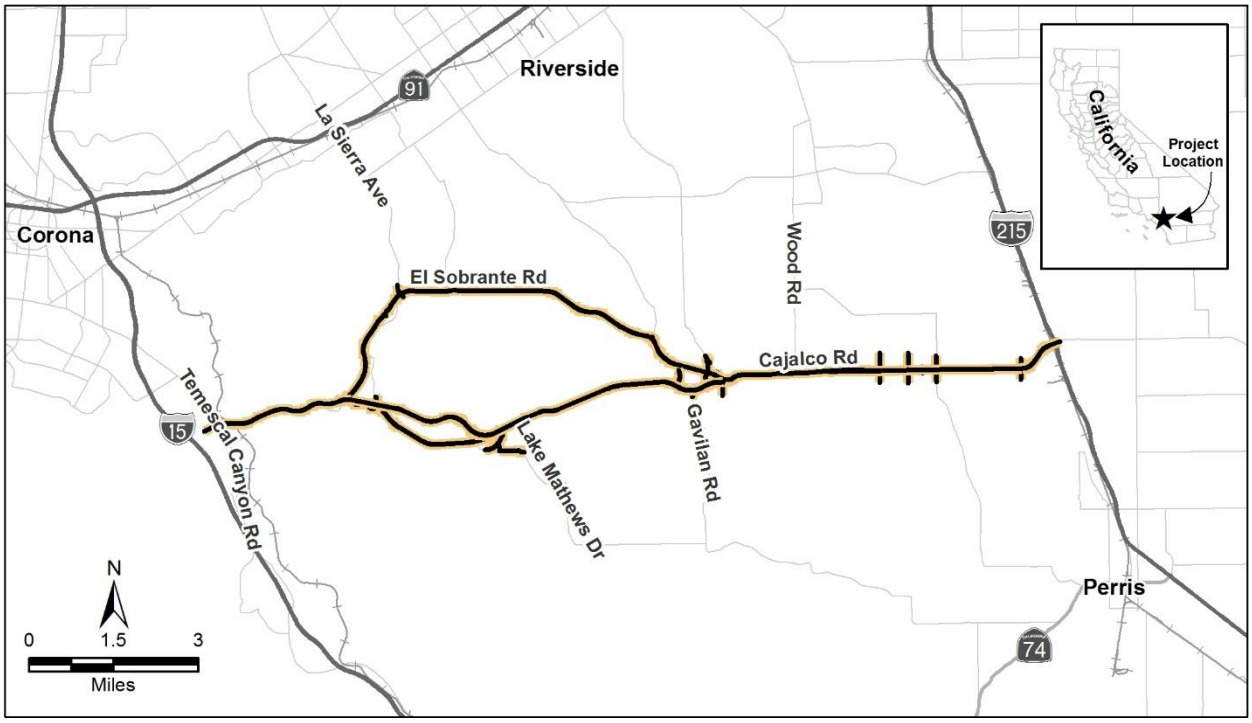
Cajalco Road Widening and Safety Enhancement Project

City of Corona and Unincorporated Riverside County, California
District 08-RIV-Cajalco
PN RIV090903/EA STPL 5956 (195)

Draft Environmental Impact Report/ Environmental Impact Statement and Draft Section 4(f) Evaluation



Prepared by the
State of California Department of Transportation and County of Riverside

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

November 2021

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General Information about This Document

What's in this document:

The Riverside County Transportation Department (County), in cooperation with the California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration (FHWA), has prepared this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) with Section 4(f), which examines the potential environmental impacts of the alternatives being considered for the proposed project located in Riverside County, California. Caltrans is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA). The document tells you why the project is being proposed, what alternatives we have considered for the project, how the existing environment could be affected by the project, the potential impacts of each of the alternatives, and the proposed avoidance, minimization, and/or mitigation measures.

What you should do:

Please read this document. Additional copies of this document and the related technical studies are available for review at:

Woodcrest Library
16625 Krameria Avenue
Riverside, CA 92504

Mead Valley Library
21580 Oakwood Street
Perris, CA 92570

El Cerrito Branch Library
7581 Rudell Road
Corona, CA 92881

Riverside County Transportation Department
3525 14th Street
Riverside, CA 92501

Caltrans, District 8
464 West 4th Street
San Bernardino, CA 92401

This document may also be downloaded at the following website: https://rcprojects.org/cajalco-road-widening.

We would like to hear what you think. If you have any comments about the proposed project, please attend the public hearing and/or send your written comments to Caltrans by the deadline.

Public Hearing:

January 6, 2022 – 6:00 p.m. – 7:30 p.m.
Virtual webinar via Zoom (with court reporter); Link: https://bit.ly/CajalcoRd-PublicHearing
Webinar ID: 989 4172 4476; Passcode: 5851. Zoom technical support: (909) 313-0351.

To attend without internet access, use the following call-in numbers: +1 (669) 900-6833, enter Webinar ID and Passcode above. Para Español: +1 (646) 749-3122, código de acceso: 829-144-717.

Send comments via postal mail to:

Mary Zambon, Environmental Project Manager
County of Riverside, Attn: Cajalco Draft EIR/EIS Comment Period
3525 14th Street, Riverside, CA 92501
Send comments via email to: cajalcoroad-rctd@rivco.org
Be sure to send comments by the deadline: January 18, 2022

What happens next:

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

Alternative formats:

For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audiocassette, or on computer disk. To obtain a copy in one of these alternate formats, please write to Aaron Burton, Branch Chief Caltrans District 8, 464 West 4th Street, San Bernardino, CA 92401; or call Mary Zambon, (951) 955-6759; or use the California Relay Service 1 (800) 735-2929 (TTY to Voice), 1 (800) 735-2922 (Voice to TTY), 1 (800) 855-3000 (Spanish TTY to Voice and Voice to TTY), 1-800-854-7784 (Spanish and English Speech-to-Speech) or 711.

SCH# 2011091015
08-RIV-Cajalco-PM
PN RIV090903
EA STPL 5956 (195)

Widen and improve Cajalco Road between Temescal Canyon Road and Interstate 215 in Riverside County, California.

DRAFT ENVIRONMENTAL IMPACT REPORT/ENVIRONMENTAL IMPACT STATEMENT and DRAFT Section 4(f) Evaluation

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

THE STATE OF CALIFORNIA
Department of Transportation
and
County of Riverside

Cooperating Agencies:
U.S. Army Corps of Engineers,
U.S. Environmental Protection Agency

Responsible Agencies:
U.S. Fish and Wildlife Service
California Department of Fish and Wildlife
Western Riverside County Regional Conservation Authority
Riverside County Habitat Conservation Agency
Metropolitan Water District of Southern California
Regional Water Quality Control Board, Santa Ana Region
California Department of Parks and Recreation - Office of Historic Preservation

11/23/2021
Date

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

11.9.2021
Date

Mary Zambon
Environmental Project Manager
County of Riverside
CEQA Lead Agency

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Riverside, CA 92501

Abstract: The Cajalco Road Widening and Safety Enhancement Project proposes to address anticipated growth and mobility needs, improve interregional travel and Improve roadway alignment and intersection design to enhance safety along Cajalco Road unincorporated Riverside County. Potential substantial environmental effects include those related to aesthetics, community character, traffic, increased noise levels, cultural resources, habitat conservation plan consistency, and greenhouse gas emissions. Please submit comments by January 18, 2022.

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Summary

S.1 NEPA Assignment

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

The Riverside County Transportation Department (County), serving as lead agency under the California Environmental Quality Act (CEQA), in cooperation with the California Department of Transportation (Caltrans), serving as lead agency under the National Environmental Policy Act (NEPA), proposes to widen Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, between Temescal Canyon Road to the west and Interstate 215 (I-215) to the east.

S.2 Overview of Project Area

The proposed project is located in Riverside County, California and covers a distance of approximately 15.7 miles. In general, Cajalco Road and El Sobrante Road through the project area are two-lane undivided roadways with one 12-foot lane in each direction and shoulders of varying widths. The proposed project includes the widening of Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, between the I-215 southbound ramps and Temescal Canyon Road in the County of Riverside. A limited portion of the westernmost part of the alignment is located in the City of Corona. The project would widen Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. (See Figure 1-1, Regional Location, and Figure 1-2, Project Vicinity Map, in Chapter 1 of this document.)

Portions of the project are located within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (WRC MSHCP) Stephens' kangaroo rat Long-term Habitat Conservation Plan (SKR HCP), Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve), Metropolitan Water District of Southern California (MWD) Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), and Lake Mathews Multiple Species Reserve

(LMR). Evaluation of the project's consistency with the plans and goals adopted by the multiple HCPs is included in this EIR/EIS.

The project is partially funded and is in the Southern California Association of Governments' (SCAG) financially constrained 2021 Federal Transportation Improvement Program (FTIP) (Project Number RIV090903), which was found to conform by FHWA on April 16, 2021.[1] The project is also included in the list of the modeled projects in the SCAG 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) (Project Number 3A04WT137), which was found to conform by FHWA on June 5, 2020. Analysis concludes that the project's operational emissions (which include the ozone precursors reactive organic gases [ROG] and NO_X) meet the transportation conformity requirements imposed by the EPA and SCAQMD. Please see copies of the listing of the project in the 2020 RTP and the 2021 FTIP in Appendix G of this document.

S.3 Purpose and Need

S.3.1 Project Purpose

The purpose of the Cajalco Road Widening and Safety Enhancement Project (project) is to:

- Improve the transportation facility to address anticipated growth and mobility needs;
- Improve interregional travel by improving east-west mobility in Riverside County; and
- Improve roadway alignment and intersection design to enhance safety.

S.3.2 Project Need

By Year 2040, the population of unincorporated Riverside County is estimated to increase by 39.1 percent and employment is projected to increase 122.1 percent. Adjacent cities are also projected to experience similar growth, with the greatest increases in population and employment anticipated for Perris at 65.1 percent and 113.2 percent, respectively, and Corona at 10.5 percent and 33.1 percent, respectively (SCAG 2016). Regional traffic is predicted to increase with the projected growth in population and employment.

In Riverside County, the circulation system is intended to accommodate a pattern of concentrated growth, providing both a regional and local linkage system between unique communities. Travel, including freight movement, extends past the Riverside County boundary and as a result, the transportation system must be capable of adequately meeting a wide range of needs. Not only

[1] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

does the County need to accommodate the traffic that it generates, it also must accommodate the pass through traffic. At the east and west terminus of the project, Cajalco Road is a four-lane facility; however, between the east and west limits of the project, the majority of Cajalco Road is a two-lane facility, creating a bottleneck between I-215 and I-15.

Numerous driveways and intersecting cross-streets present conflict points that affect safe and efficient operation of Cajalco Road. Between January 2015 and December 2017, 355 collisions occurred on Cajalco Road between Temescal Canyon Road and I-215; of the 355 collisions, seven were fatal and 150 resulted in injury. The majority of collisions occurred along the approximately 6-mile stretch of Cajalco Road between Alexander Street and Harvill Avenue, with 145 collisions over the three-year period. Compared with the statewide average accident rate for similar type facilities, the collision rate of 1.673 per million vehicle miles (MVM) is higher than the Statewide average of 1.163 per MVM.

S.4 Proposed Action

The proposed project includes the widening of Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, between the I-215 southbound ramps and Temescal Canyon Road, in the County of Riverside, California. A limited portion of the westernmost part of the alignment is located in the City of Corona. The project would widen the roadway to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety.

Portions of the project are located within the LM MSHCP. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements.

Several project alternatives have been developed and refined based on public and agency input, and minimizing environmental impacts. Alternatives that were considered but eliminated from further analysis are discussed in this EIR/EIS in Section 2.2.3, *Alternatives Considered Eliminated from Further Discussion*. The following project alternatives carried forward are described below. The alternatives are:

- **Build Alternative 1 – Cajalco Alignment:** Cajalco Road would be widened from Temescal Canyon Road at the west to I-215 at the east, replacing the two-lane roadway that currently exists. Minor alignment changes would be constructed between Temescal Canyon Road and Gustin Road. The estimated cost for this alignment is $358,699,000.
- **Build Alternative 2C – Modified Cajalco Alignment:** Cajalco Road would be widened from Temescal Canyon Road at the west to La Sierra Avenue, and from just west of Lake Mathews Drive to Interstate 215. A new four-lane segment of Cajalco Road would be constructed between La Sierra Avenue and just west of Lake Mathews Drive. The estimated cost for this alignment is $401,379,000.
- **Build Alternative 4 – El Sobrante Alignment:** Cajalco Road would be widened from Temescal Canyon Road at the west to La Sierra Avenue, and from Gustin Road east to Interstate 215. Between Gustin Road and La Sierra Avenue, El Sobrante Road would be

improved from the existing two-lane facility to a four-lane facility and would generally follow the existing El Sobrante Road from La Sierra Avenue to the east, to Cajalco Road. The estimated cost for this alignment is $514,615,000.

- **No-Build Alternative – No Project Alternative:** The existing two-lane segments of Cajalco Road and El Sobrante Road between I-215 and Temescal Canyon Road would remain as a two-lane roadway, and would not be widened or otherwise improved.

S.4.1 Identification of Locally Preferred Alternative

A comparative, conceptual-level analysis of project alternatives for the Cajalco Road Widening and Safety Enhancement Project was performed to evaluate the alternatives' performance relative to transportation objectives, benefits, impacts, and costs. A number of performance criteria were initially developed, and many screened out as preliminary findings indicated similar results among the alternatives. Criteria indicating differences in outcomes among alternatives involving transportation objectives, benefits, impacts and costs, were further compared. After comparing and weighing the benefits and impacts of all of the feasible alternatives, the County of Riverside identified Build Alternative 1 as the locally preferred alternative, subject to public review. County support of the recommendation is documented in a memorandum dated June 11, 2020. Figures showing Build Alternative 1 are in Chapter 2 of this document.

The shortest of the three east-west build alternative routes between I-15 and I-215, Build Alternative 1, provides the most direct east-west regional route of the three build alternatives, achieves the purpose and need of the project, and is expected to cost substantially less than Build Alternative 4, currently approximately $155,916,000 less, and $42,680,000 less than Build Alternative 2C. Build Alternative 1 would further provide improved safety along Cajalco Road between La Sierra Avenue and Cowan Road by fixing curves south of the lake, avoid MWD facilities located along the north and west sides of Lake Mathews, including MWD's dam, and affect 89 acres fewer of MWD-managed lands than Build Alternative 4, and 44 acres fewer than Build Alternative 2. Build Alternative 1 would further provide the greatest number of wildlife crossings of the three build alternatives, and result in less impacts involving farmland and residential relocations than Build Alternative 4.

If a planned, separate east-west transportation corridor between I-15 and I-215 identified in the regional transportation model is not implemented in the future, traffic projections indicate higher volumes along Cajalco Road between I-15 and I-215. Build Alternative 1 would include adequate right of way between Temescal Canyon Road and Harley John Road to accommodate two additional lanes in the future; if constructed, the additional lanes would help to address the increased traffic projected along Cajalco Road.

Table S-1, Summary of Potential Impacts and Proposed Measures by Alternative, on page S-7, provides additional information about the differences in potential impacts between the project alternatives. Section 2.2.2, *Comparison of Alternatives*, in Chapter 2 of this EIR/EIS provides further discussion regarding identification of Build Alternative 1 as the Locally Preferred Alternative.

S.5 Joint CEQA/NEPA Document

The project is subject to federal, as well as County of Riverside and state environmental review requirements because the County of Riverside proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The County of Riverside is the project proponent and the lead agency under CEQA. 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. With NEPA Assignment, FHWA assigned and the Department assumed all of the United States Department of Transportation (USDOT) Secretary's responsibilities under NEPA. This assignment includes projects on the State Highway System and Local Assistance Projects off the State Highway System within the State of California, except for certain categorical exclusions that FHWA assigned to the Department under the 23 USC 326 CE Assignment MOU, projects excluded by definition, and specific project exclusions.

Some impacts determined to be significant under CEQA may not lead to a determination of significance under NEPA. Because NEPA is concerned with the significance of the project as a whole, often a "lower level" document is prepared for NEPA.

After receiving comments from the public and reviewing agencies, a Final EIR/EIS will be prepared. The County and the Department may prepare additional environmental and/or engineering studies to address comments. The Final EIR/EIS will include responses to comments received on the Draft EIR/EIS and will identify the preferred alternative. After the Final EIR/EIS is circulated, if the County and the Department decide to approve the project, a Notice of Determination will be published for compliance with CEQA, and a Record of Decision will be published for compliance with NEPA.

S.5.1 Determination and Disclosure of Impacts under CEQA and NEPA

One of the primary differences between NEPA and CEQA is the way significance is determined. Under NEPA, 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, significance is used to determine whether an EIS, or some lower level of documentation, will be required. Once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require the CEQA lead agency, County of Riverside, 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.

S.6 Project Impacts

S.6.1 Summary of Potential Impacts

Table S-1 on page S-7 summarizes the potential impacts under CEQA and NEPA of the project alternatives and the proposed avoidance, minimization, and mitigation measures. This project also contains a number of standardized project measures commonly employed on Caltrans and/or Riverside County projects, as well as project design elements, collectively identified as project features (PF) or Standard Project Measures. While the Standard Project Measures are not required to mitigate otherwise significant impacts of the project, the project features enable to the project to comply with local and State design requirements, and are thus included in Table S-1 under each affected resource, as applicable.

Details for each environmental subject evaluated are presented in Chapters 3 (NEPA) and 4 (CEQA) of this EIR/EIS.

Table S-1. Summary of Potential Impacts and Proposed Measures by Alternative[2]

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
Cost	$358,699,000	$401,379,000	$514,615,000	No impact; does not preclude costs associated with necessary and ongoing maintenance of existing facilities.	None
Land Use	*Permanent:* 218 acres of permanent acquisitions required, including 122.85 acres from the LM MSHCP area. *SCAG RTP/SCS:* Consistent with funded project description and Plan goals. *County General Plan and Area Plans*: Consistent with applicable Circulation, Land Use, and Area Plan policies. *County Climate Change Action Plan:* Consistent with applicable greenhouse gas (GHG)-reduction policies, with the exception of Policy AQ 20.3. *County Comprehensive Trails Plan*: Consistent with applicable goals. *Cities of Corona and Perris General Plans*: Consistent with applicable goals and policies. *Western Riverside County MSHCP:* Generally consistent with applicable goals and policies. *Stephens' Kangaroo Rat HCP*: Inconsistent with applicable goals and policies; requires acquisition of land from Existing Core C of SKR HCP Core Reserve areas. *Lake Mathews MSHCP:* Inconsistent; does not accommodate proposed project. *Lake Mathews Reserve Management Plan*: Inconsistent with Goal 1; generally consistent with Goal 2; and consistent with Goal 3. *RCRCD Long-Range Objectives*: Generally consistent with Goal 2.	*Permanent:* 239 acres of permanent acquisitions required, including 114.44 acres from the LM MSHCP area. *SCAG RTP/SCS:* Mostly consistent with funded project description; consistent with Plan goals. *County General Plan*: Consistent with applicable Circulation and Land Use policies. *County Climate Change Action Plan:* Consistent with applicable GHG-reduction policies, with the exception of Policy AQ 20.3. *County Comprehensive Trails Plan*: Consistent with applicable goals. *Cities of Corona and Perris General Plans*: Consistent with applicable goals and policies *Western Riverside County MSHCP:* Generally consistent with applicable goals and policies. *Stephens' Kangaroo Rat HCP*: Inconsistent with applicable goals and policies; requires acquisition of land from Existing Core C of SKR HCP Core Reserve areas. *Lake Mathews MSHCP:* Inconsistent; does not accommodate proposed project. *Lake Mathews Reserve Management Plan*: Inconsistent with Goal 1; generally consistent with Goal 2; and consistent with Goal 3. *RCRCD Long-Range Objectives*: Generally consistent with Goal 2.	*Permanent:* 240 acres of permanent acquisitions required, including 110.98 acres from the LM MSHCP area. *SCAG RTP/SCS:* Inconsistent with funded project description and Plan goals. *County General Plan*: Consistent with applicable Circulation and Land Use policies. *County Climate Change Action Plan:* Consistent with applicable GHG-reduction policies, with the exception of Policy AQ 20.3. *County Comprehensive Trails Plan*: Consistent with applicable goals. *Cities of Corona and Perris General Plans*: Consistent with applicable goals and policies. *Western Riverside County MSHCP:* Generally consistent with applicable goals and policies. *Stephens' Kangaroo Rat HCP*: Consistent; would not conflict with applicable goals and policies. *Lake Mathews MSHCP:* Consistent; would not conflict with applicable goals and policies. *Lake Mathews Reserve Management Plan*: Inconsistent with Goal 1; generally consistent with Goal 2; and consistent with Goal 3. *RCRCD Long-Range Objectives*: Generally consistent with Goal 2.	No impact on land uses. *SCAG RTP/SCS:* Inconsistent with funded project description and Plan goals. *County General Plan and Area Plans*: Inconsistent with Policies C1.1, C3.2 and LU1.5, TCAP 11.1, TCAP 11.2, MVAP 9.1 and MVAP 9.2. *County Climate Change Action Plan:* Inconsistent with most applicable GHG-reduction policies. *County Comprehensive Trails Plan*: Consistent with applicable goals. *Cities of Corona and Perris General Plans*: Inconsistent with Corona General Plan Policies 1.1.3, 6.1.3 and 6.1.12, and Perris General Plan Goals I, II, VIII, and Policies I.A, II.B, and V.A. *Western Riverside County MSHCP:* Generally consistent with applicable goals and policies. *Stephens' Kangaroo Rat HCP*: Consistent with applicable goals and policies *Lake Mathews MSHCP:* Consistent; no changes would occur. *Lake Mathews Reserve Management Plan*: Generally consistent with goals, objectives, and strategies. *RCRCD Long-Range Objectives*: Generally consistent with Goal 2.	**PF FA-1**: Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway. **PF FA-2:** Farmland temporarily affected during construction activities returned to conditions that allow for continued use and function. **PF VIS-4:** Apply Minimum Lighting Standards. All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. **PF AQ-1:** Caltrans construction requirements, as specified in Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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. **PF LU-1:** Traffic Management Plan (TMP). The TMP will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities. To compensate for the loss of natural lands on the LMR and in the WRC MSHCP plan area (which includes the SKR HCP), the County will coordinate with the Lake Mathews Reserve Management Committee (LMRMC), Western Riverside County Regional Conservation Authority (RCA), U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW) to develop a suite of mitigation measures that demonstrate biological equivalency to offset the loss. Refer to measures **NC-17 (NES BIO-17)**, **NC-18 (NES BIO-31)**, **NC-19 (NES BIO-15)**, and **NC-20 (NES BIO-21)**. Temporary impact areas will be addressed through preparation of a habitat mitigation and monitoring plan (HMMP) and onsite restoration to original conditions; see Measure NC-19. **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area **NC-20 (NES BIO-21):** Replacement of Public/Quasi-Public (PQP) Lands
Farmlands/ Timberlands	*Permanent:* • Conversion of 7.69 acres (0.2%) of important farmland to nonagricultural use.	*Permanent:* • Conversion of 7.85 acres (0.2%) of important farmland to nonagricultural use.	*Permanent:* • Conversion of 23.44 acres (0.8%) of important farmland to nonagricultural use.	No impact	**PF FA-1**: Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway.

[2] Some measures listed in Table S-1 are summarized; refer to corresponding section of this EIR/EIS for full measures.

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	• Farmland Impact Conversion Rating <160. *Temporary:* 10.8 acres of farmland during construction.	• Farmland Impact Conversion Rating <160 *Temporary:* 10.8 acres of farmland during construction.	• 4.79 acres of Williamson Act farmland converted to nonagricultural use; Williamson Act land converted <100 acres. • Farmland Impact Conversion Rating <160 *Temporary:* 9.86 acres of farmland and 2.12 acres of Williamson Act land during construction.		**PF FA-2**: Farmland temporarily affected during construction activities returned to conditions that allow for continued use and function. **PF COM-1:** Signage provisions shall be made available to businesses whose temporary or permanent visibility and vehicular access changes as a result of the project. **PF COM-2**: In accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970 as amended (42 United States Code Sections 4601–4655), provide compensation to eligible recipients for property acquisitions. Relocation assistance payments and counseling will be provided by the transportation agencies to persons and businesses in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Act, as amended, to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. All eligible displacees will be entitled to moving expenses. All benefits and services will be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. In addition, the Nonresidential relocation assistance program (RAP) provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation.
Growth	Would improve accessibility of the area, allowing for higher traffic volumes and addressing anticipated growth.	Would improve accessibility of the area, allowing for higher traffic volumes and addressing anticipated growth.	Would improve accessibility of the area, allowing for higher traffic volumes and addressing anticipated growth.	Growth related impacts as a result of the No-Build Alternative would not be anticipated.	
Community Impacts	*Permanent*: • 62 complete acquisitions • 221 partial acquisitions • Displacement of 19 residential properties (62 residents) • Displacement of one commercial business (9 employees) • Displacement of one government facility (16 employees) • Community cohesion/character: - Changes semi-rural/suburban character to a more urbanized character with increased roadway pavement/lanes/structures/ lighting/traffic/truck traffic. - Would not introduce a new barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods. - Changes in access; changes to aesthetic character and aesthetics; local safety enhancements; proposed acquisitions and relocations would not substantially affect community character; would not introduce new land uses or	*Permanent*: • 62 complete acquisitions • 225 partial acquisitions • Displacement of 19 residential properties (62 residents) • Displacement of one commercial business (9 employees) • Displacement of one government facility (16 employees) • Community cohesion/character: - Changes semi-rural/suburban character to a more urbanized character with increased roadway pavement/lanes/structures/ lighting/traffic/truck traffic. - Would not introduce a new barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods. - Changes in access; changes to aesthetic character and aesthetics; local safety enhancements; proposed acquisitions and relocations would not substantially affect community character; would not introduce new land uses or	*Permanent*: • 76 complete acquisitions • 267 partial acquisitions • Displacement of 21 residential properties (69 residents) • Displacement of one commercial business (9 employees) • Displacement of one government facility (16 employees) • Community cohesion/character: - Changes semi-rural/suburban character to a more urbanized character with increased roadway pavement/lanes/structures/ lighting/traffic/truck traffic. - No development features are proposed that would divide an established community or limit movement, travel, or social interaction between established communities. - Changes in access; substantial changes to aesthetic character and aesthetics; local safety enhancements; proposed acquisitions and relocations would not substantially affect community character; would not introduce new land uses or facilities that would be incompatible with existing land uses.	No impact; no improvements would be implemented that would affect community character.	**PF LU-1:** Traffic Management Plan (TMP). The TMP will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities. **PF COM-1:** Signage provisions shall be made available to businesses whose temporary or permanent visibility and vehicular access changes as a result of the project. **PF COM-2**: In accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970 as amended (42 USC Secs. 4601-4655), provide compensation to eligible recipients for property acquisitions. Relocation assistance payments and counseling will be provided by the transportation agencies to persons and businesses in accordance with the federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act, as amended, to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. All eligible displacees will be entitled to moving expenses. All benefits and services will be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. In addition, the Nonresidential RAP provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation. **COM-3:** Prior to any partial or full property acquisitions that would result in residential or business relocations and/or loss of business revenue, a Relocation and Reimbursement Mitigation Plan will be prepared by the County of Riverside in accordance with federal Uniform Relocation Assistance and Real Property Acquisition Act of 1970, as amended (42 United States Code Sections 4601–4655) requirements, and in conjunction with the Relocation Assistance

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	facilities that would be incompatible with existing land uses. - Would not affect Victoria Grove or Lake Hills/Home Gardens communities. • Environmental Justice: - Potential disproportionately high and adverse to minority population involving property acquisitions and displacements. <u>*Temporary:*</u> • Temporary, partial roadway closures, and construction-related noise and visual impacts.	facilities that would be incompatible with existing land uses. - Would not affect Victoria Grove or Lake Hills/Home Gardens communities. • Environmental Justice: - Potential disproportionately high and adverse to minority population involving property acquisitions and displacements. <u>*Temporary:*</u> • Temporary, partial roadway closures, and construction-related noise and visual impacts.	- Widening of El Sobrante Road and La Sierra Avenue from a two-lane roadway to a four-lane roadway would change the aesthetic character of the land adjacent to El Sobrante Road and La Sierra Avenue by making a roadway wider and more urban-like. In addition, realigning La Sierra Avenue could make the roadway feel more urban-like as well. The feel of the roadway would change for travelers and residents along the roadway, specifically the residents of the community north of Lake Mathews. • Environmental Justice: - Potential disproportionately high and adverse to minority population involving property acquisitions and displacements. <u>*Temporary:*</u> • Temporary partial roadway closures, and construction-related noise and visual impacts.		Program. The purpose of the Relocation and Reimbursement Mitigation Plan is to minimize economic disruptions related to relocation and loss of property. The plan will include consultation with affected property owners to ensure full consideration of information related to property valuation, and disclosure of information regarding property rights, the relocation and reimbursement process, and available resources. **PF FA-1**: Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway. **PF FA-2:** Farmland temporarily affected during construction activities returned to conditions that allow for continued use and function. **PF UT-1:** Coordination of utility relocation work with utility companies to ensure minimum disruption to customers in the service areas during construction **PF VIS-1:** Contouring and Replanting Disturbed Areas. Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. **VIS-2:** Replace or Relocate Site Features and Landscaping Affected by the Project. Where appropriate and to the degree possible, landscaping and related appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts. **PF VIS-3:** Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity. Any noise barriers constructed as a result of the proposed project will be designed and constructed in a manner that complements and blends with nearby existing noise barriers. **PF VIS-4:** Apply Minimum Lighting Standards. All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. **PF VIS-5:** Basin and Flood Control Drainage Facility Treatments. New or expanded basins and the new flood control drainage facility would be soft-bottom where hydraulically feasible; however, some would need to be concrete-lined. The soft-bottomed basins would further be vegetated where vegetation would not interfere with the intended use of the facilities **PF VIS-6:** Temescal Creek Bridge Design. Section 14.7.1 of the City of Corona El Cerrito Specific Plan Scenic Corridor Design Standards will be applied in the design and construction of the widened Temescal Creek Bridge. **PF VIS-7:** New Bridge Architectural Treatments. Aesthetic treatments that are consistent with County design and engineering standards, and complement area conditions, will be applied to new bridge structures. **VIS-8:** Replace Disturbed Vegetation along Landscaped Freeways. The County of Riverside will work with the appropriate Caltrans district landscape architect to determine which disturbed portions of landscaped freeways within the project limits require replanting and

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
					to what extent. At a minimum, replanting will follow the guidance in Section 92.3 of the Streets and Highways Code. **HAZ-1 (a–d):** 9001 Cajalco Road (Assessor's Parcel Numbers [APNs] 279-231-004, 006, -011, and 281-140-021) **PF HAZ-2:** Health and Safety Plan **PF HAZ-3:** Waste Handling, Transport, and Disposal **HAZ-4 (a–g):** 21020 Cajalco Road (APNs 318-061-027 and -030) **PF HAZ-5:** Creosote-treated Wood Waste **HAZ-6 (a–c):** Agricultural Land Uses **HAZ-7:** Yellow Paint **HAZ-8:** Asbestos-Containing Material and Lead-Based Paint **PF NOI-1:** Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (2018 Caltrans Standard Specifications [SSP], Section 14-8.02, Noise Control). **NOI-2:** Construct soundwall S-624 at the right of way at a height of 10 feet, provided that the survey process approves soundwall S-624. **NOI-3:** Construct soundwalls S-650 and S-652 (property line) at heights of 8 feet, provided that the survey process approves. **NOI-4:** Inclusion of Quiet Pavement (CEQA Measure). The County will require the construction contractor to provide an asphalt mix that provides 5-decibel minimum tire pavement noise reduction, and will include this mix during construction and paving of the proposed project.
Utilities/Emergency Services	All effects on utilities would be temporary and would be rectified when relocations of certain utilities and project construction are complete. No demand for new or expanded emergency facilities or services. Temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours.	All effects on utilities would be temporary and would be rectified when relocations of certain utilities and project construction are complete. No demand for new or expanded emergency facilities or services. Temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours.	All effects on utilities would be temporary and would be rectified when relocations of certain utilities and project construction are complete. No demand for new or expanded emergency facilities or services. Temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours.	No impact	**PF UT-1:** The County will coordinate all utility relocation work with the affected utility companies to ensure minimum disruption to customers in the service areas during construction. All public utility lines, pipes, and cables that are disturbed or removed to accommodate the proposed project will be replaced or relocated within the project limits to continue to meet the needs of residents and businesses in the community. **HYD-1:** The County of Riverside will coordinate directly with MWD to obtain approval for right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. The County will coordinate directly with MWD in the preparation of a site-specific Drainage Study to evaluate the changes in runoff and floodplain encroachment into the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin, and determine whether the conversion of right of way would affect operation of the dam and basins. If operation of the basins is affected by the project, engineering recommendations will be provided, and implemented as necessary, to ensure continued operation of the dam and basins. **PF LU-1:** Prior to construction, the County of Riverside will develop a TMP that will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities.
Traffic and Transportation/ Pedestrian and Bicycle Facilities	*Permanent*: Safety Improvements for 15.7-mile length of Cajalco Road. Vehicle miles traveled (VMT): 14,779,906 Vehicle hours traveled (VHT): 399,326 East-west corridor distance: 15.7 miles	*Permanent*: Safety Improvements for 15.7-mile length of Cajalco Road. VMT: 14,721,152 VHT: 399,326 East-west corridor distance: 15.7 miles	*Permanent*: Safety Improvements for 9 miles of Cajalco Road. VMT: 14,811,302 VHT: 398,527 East-west corridor distance: 16.8 miles	No safety improvements. VMT: 14,659,917 VHT: 396,569 East-west corridor distance: 15.7 miles Would not accommodate additional future lanes along Cajalco Road that would address projected deficiencies.	**PF LU-1:** Traffic Management Plan (TMP). Prior to construction, the County of Riverside will develop a TMP that will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities.

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	Improvements supporting roadway, pedestrian, and cyclist safety: medians; paved roadway shoulders; left- and right-turn pockets; restrictions on left turns from Cajalco Road onto local streets; improvement of curves between Temescal Canyon Road and El Sobrante Road; adding roadway signage; improvement of existing intersections varying from minor widening and turn pockets; installation of new traffic signals, object markers, and safety lighting at intersections; and designated crosswalks at improved and new intersections. Improvements along Cajalco Road from Harley John Road to Harvill Avenue include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane. Truck traffic percentages in the future year (2044) are forecast to increase up to 1.62 percent in comparison to 2044 no-build conditions. Truck percentages are projected to increase up to 0.14 percent as compared to the existing conditions. Projected truck traffic is not anticipated to result in an increased risk to pedestrian or cyclist safety, as the projected limited increases would be consistent with the overall projected traffic volumes through most of the project limits. Average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 5–10 mph during peak hours. A cul-de-sac would be placed at the northern terminus of existing Gustin Road and Gustin Road would be realigned through undeveloped parcels to intersect with Cajalco Road west of the cul-de-sac. This change would redirect traffic away from residences east of Gustin Road and closer to the Lake Mathews Market. Access to the undeveloped parcels exists under current conditions and would not be increased or decreased as a result of the Gustin Road realignment. Between west of La Sierra Avenue and Lake Mathews Drive, includes a new connection between Dirt Road and Richey Way south of the existing segment of Cajalco Road and west of Lake Mathews Drive. The new road connection would connect Dirt Road to Richey Way. This new road connection would provide emergency access for residences and businesses west of Lake Mathews Drive as well as improved connectivity and accessibility within the Lake Mathews community. Because Dirt Road and Richey Way are existing roadways that are accessible by the public,	Improvements supporting roadway, pedestrian, and cyclist safety: medians; paved roadway shoulders; left- and right-turn pockets; restrictions on left turns from Cajalco Road onto local streets; improvement of curves between Temescal Canyon Road and El Sobrante Road; adding roadway signage; improvement of existing intersections varying from minor widening and turn pockets; installation of new traffic signals, object markers, and safety lighting at intersections; and designated crosswalks at improved and new intersections. Improvements along Cajalco Road from Harley John Road to Harvill Avenue include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane. Truck traffic percentages in the future year (2044) are forecast to increase up to 1.62 percent in comparison to 2044 no-build conditions. Truck percentages are projected to increase up to 0.14 percent as compared to the existing conditions. Projected truck traffic is not anticipated to result in an increased risk to pedestrian or cyclist safety, as the projected limited increases would be consistent with the overall projected traffic volumes through most of the project limits. Average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 5–10 mph during peak hours. A cul-de-sac would be placed at the northern terminus of existing Gustin Road and Gustin Road would be realigned through undeveloped parcels to intersect with Cajalco Road west of the cul-de-sac. This change would redirect traffic away from residences east of Gustin Road and closer to the Lake Mathews Market. Access to the undeveloped parcels exists under current conditions and would not be increased or decreased as a result of the Gustin Road realignment. Between west of La Sierra Avenue and Lake Mathews Drive, includes a new connection between Dirt Road and Richey Way south of the existing segment of Cajalco Road and west of Lake Mathews Drive. The new road connection would connect Dirt Road to Richey Way. This new road connection would provide emergency access for residences and businesses west of Lake Mathews Drive as well as improved connectivity and accessibility within the Lake Mathews community. Because Dirt Road and Richey Way are existing roadways that are accessible by the public,	Improvements supporting roadway, pedestrian, and cyclist safety: medians; paved roadway shoulders; left- and right-turn pockets; restrictions on left turns from Cajalco Road onto local streets; improvement of curves between Temescal Canyon Road and El Sobrante Road; adding roadway signage; improvement of existing intersections varying from minor widening and turn pockets; installation of new traffic signals, object markers, and safety lighting at intersections; and designated crosswalks at improved and new intersections. Improvements along Cajalco Road from Harley John Road to Harvill Avenue include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane. Truck traffic percentages in the future year (2044) are forecast to increase up to 1.07 percent in comparison to 2044 no-build conditions. Truck percentages are projected to increase up to 0.59 percent as compared to the existing conditions. Projected truck traffic is not anticipated to result in an increased risk to pedestrian or cyclist safety, as the projected limited increases would be consistent with the overall projected traffic volumes through most of the project limits. Average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 3–7 mph during peak hours. A cul-de-sac would be placed at the northern terminus of existing Gustin Road and Gustin Road would be realigned through undeveloped parcels to intersect with Cajalco Road west of the cul-de-sac. This change would redirect traffic away from residences east of Gustin Road and closer to the Lake Mathews Market. Access to the undeveloped parcels exists under current conditions and would not be increased or decreased as a result of the Gustin Road realignment. Accommodates additional future lanes between Temescal Canyon Road and El Sobrante Road only; if constructed in future, would address projected deficiencies for Cajalco Road between Temescal Canyon Road and La Sierra Avenue. *Temporary:* Temporary impacts on circulation and access would result from construction activities that require detours and partial closures of Cajalco Road, La Sierra Avenue, or El Sobrante Road and La Sierra	No improvements supporting roadway, pedestrian, or cyclist safety.	**PF AQ-1:** Caltrans construction requirements, as specified in Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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. Exhaust emissions control measures may include, but are not limited to, the following: – Develop a construction traffic management plan that includes, but is not limited to: (1) consolidating truck deliveries; (2) providing a rideshare or shuttle service for construction workers; and (3) providing dedicated turn lanes for movement of construction trucks and equipment on and off site.

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	the new connection would not create new access to previously inaccessible areas; it would enhance access and circulation within the Lake Mathews community. Accommodates additional future lanes between Temescal Canyon Road and Harley John Road; if constructed in future, would address projected deficiencies along this segment of Cajalco Road. *Temporary:* Temporary impacts on circulation and access would result from construction activities that require detours and partial closures of Cajalco Road, which could temporarily affect businesses along the project corridor. Construction-related access and delays addressed with TMP.	the new connection would not create new access to previously inaccessible areas; it would enhance access and circulation within the Lake Mathews community. Accommodates additional future lanes between Temescal Canyon Road and Harley John Road; if constructed in future, would address projected deficiencies along this segment of Cajalco Road. *Temporary:* Temporary impacts on circulation and access would result from construction activities that require detours and partial closures of Cajalco Road, which could temporarily affect businesses along the project corridor. Construction-related access and delays addressed with TMP.	Avenue, which could temporarily affect businesses along the project corridor. Construction-related access and delays addressed with TMP.		
Visual/Aesthetics	*Permanent:* Visual impacts in response to viewer response and resource change rated High for Key Views #1, 2, and 6A; Moderate-High for Key Views #3 and 4; and Moderate for Key View #5. Approximately 83 additional acres of pavement and hardscape. Widened and realigned roads, resulting in removal of vegetation, including approximately 380 small trees and shrubs, and 105 large mature trees. Substantial additional hardscape (such as structures/concrete drainages/intersection and street light standards). Within the Rural Residential Visual Assessment Unit (VAU), impacts on the existing visual character and quality would range between moderate and high, even with implementation of project measures, and therefore result in adverse visual effects. Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of project measures, and therefore result in adverse visual effects. No scenic vistas would be affected under Build Alternative 1. Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures, and therefore would not result in adverse visual effects. There are no scenic vista views within the Suburban Residential VAU; therefore, no scenic vistas would be affected. Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of	*Permanent:* Visual impacts in response to viewer response and resource change rated High for Key Views #1, 2, and 6B; Moderate-High for Key Views #3 and 4; and Moderate for Key View #5. Approximately 84 additional acres of pavement and hardscape. Widened and realigned roads, resulting in removal of vegetation, including approximately 390 small trees and shrubs, and 105 large mature trees. Substantial additional hardscape (such as structures/concrete drainages/intersection and street light standards). Within the Rural Residential VAU, impacts on the existing visual character and quality would range between moderate and high, even with implementation of standard measures, and therefore result in adverse visual effects. Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of project measures, and therefore result in adverse visual effects. In addition, Build Alternative 2C may result in adverse visual effects on scenic vistas within the Open Space VAU because roadway realignment would alter the availability of existing scenic vistas. However, the realignments may introduce new scenic vista views. Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures, and therefore would not result in adverse visual effects. There are no scenic vista views within the Suburban Residential VAU;	*Permanent:* Visual impacts in response to viewer response and resource change rated High for Key Views #1 and 2; and, Moderate-High for Key Views #3, 4 and 7. Approximately 105 additional acres of pavement and hardscape. Widened and realigned roads, resulting in removal of vegetation, including approximately 400 small trees and shrubs, and 195 large mature trees. Substantial additional hardscape (such as structures/concrete drainages/intersection and street light standards). Within the Rural Residential VAU, impacts on the existing visual character and quality would range between moderate-high and high, even with implementation of project measures, and therefore result in adverse visual effects. Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of project measures, and therefore result in adverse visual effects. The greatest visual change in this VAU would be the widening and realignment of La Sierra Avenue, which would require large areas of cut and fill to accommodate the widening and traverse the undeveloped, hilly terrain. In addition, an approximately 1,800-foot-long arch bridge would be constructed along the realigned section of La Sierra Avenue, introducing new bridge infrastructure where none presently exists. Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate-high even with implementation of project measures, and therefore would result in adverse visual effects. There are no scenic vista views	No impact	**PF VIS-1:** Contouring and Replanting Disturbed Areas. Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. **VIS-2:** Replace or Relocate Site Features and Landscaping Affected by the Project. Where appropriate and to the degree possible, landscaping and related appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts. Slopes will (1) be graded to 4:1 or flatter; (2) be gentle, smooth, and well transitioned with slope rounding, and topsoil and duff salvaged and reused; and (3) have contours naturally formed that tie gracefully into the existing adjacent roadside and landforms. Rock cut slopes will be irregular for a natural appearance, with rounding of the tops and ends of cut slopes. Steep, obvious cuts and fills will be avoided to improve project aesthetics associated with roadside slopes. Standard fence types (chain link, barbed wire, and/or wire mesh) will be used unless fences of special design need to be used in certain cases, such as for wild animal control. In special cases, alternative options such as powder-coating, the use of iron, and other enhancements will be considered. Replacement vegetation will reflect adjacent communities and natural surroundings, serve as a visual buffer for objectionable views of the roadway facility for adjacent land uses, soften visual impacts associated with graded slopes and large structures, and act to frame or enhance good views. For specific plant species within the limits of habitat conservation plan areas, replacement vegetation will be reestablished in the ratios identified in Measure NC-15 (NES BIO-14): no less than 3:1 mitigation ratio for riparian, 1:1 for riverine resources, and 2:1 for permanent shading of riparian vegetation and wetlands. Temporary impacts on riparian-riverine vegetation may be replaced through restoration at their current locations at a not-less-than 1:1 ratio or through the purchase of In-lieu Fee Program or other permittee-responsible mitigation bank credits, or through another approved mitigation program. A Tree Avoidance, Minimization, and Replacement Plan will be developed in consultation with a certified arborist for trees removed during project construction.

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	project measures, and therefore would not result in adverse visual effects. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected. No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. However, the proposed project would not result in adverse visual effects on County-eligible scenic roadways with implementation of the recommended standard measures. Views of scenic roadways would not be altered by the permanent visual changes associated with the project. Implementation of Measure VIS-2 and Standard Project Measure PF VIS-4 would ensure that project light and glare would not result in adverse visual effects. *Temporary:* Construction activities and equipment would affect views of and from the project site during the construction period.	therefore, no scenic vistas would be affected. Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures, and therefore would not result in adverse visual effects. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected. No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. However, the proposed project would not result in adverse visual effects on County-eligible scenic roadways with implementation of the recommended standard measures. Views of scenic roadways would not be altered by the permanent visual changes associated with the project. Implementation of Measure VIS-2 and Standard Project Measure PF VIS-4 would ensure that project light and glare would not result in adverse visual effects. *Temporary:* Construction activities and equipment would affect views of and from the project site during the construction period.	within the Suburban Residential VAU; therefore, no scenic vistas would be affected. Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures, and therefore would not result in adverse visual effects. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected. No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. However, the proposed project would not result in adverse visual effects on County-eligible scenic roadways with implementation of the recommended standard measures. Views of scenic roadways would not be altered by the permanent visual changes associated with the project. Implementation of Measure VIS-2 and Standard Project Measure PF VIS-4 would ensure that project light and glare would not result in adverse visual effects. *Temporary:* Construction activities and equipment would affect views of and from the project site during the construction period.		**PF VIS-3:** Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity. Existing noise barriers in the project vicinity utilize a combination of solid barriers and landscaping to improve site aesthetics. Any noise barriers constructed as a result of the proposed project will be designed and constructed in a manner that complements and blends with nearby existing noise barriers. Aesthetic treatments such as color and/or texture will be considered for the walls, and their compatibility with existing conditions, and with applicable goals and policies of the County, will be considered prior to final design. The County's Resident Engineer, or Project Engineer under contract to the County, will ensure that the aesthetic treatments included in the final Plans, Specifications, and Estimates (PS&E) are implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction. **PF VIS-4:** Apply Minimum Lighting Standards. All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements, such as intersections. In most cases, lighting will consist of County lighting standards that are up to 35 feet in height, and the minimum required for driver safety. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. Therefore, lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties or open spaces, or backscatter into the nighttime sky. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized. Light fixtures will have non-glare finishes that will not cause reflective daytime glare. **PF VIS-5:** Basin and Flood Control Drainage Facility Treatments. New or expanded basins and the new flood control drainage facility would be soft-bottom where hydraulically feasible; however, some would need to be concrete-lined. The soft-bottomed basins would further be vegetated where vegetation would not interfere with the intended use of the facilities (i.e., conveyance of water). Seeding with appropriate species would be determined in coordination with a County-approved biologist, and consistent with the requirements of the WRC MSHCP, LM MSHCP, and/or SKR HCP, where applicable. **PF VIS-6:** Temescal Creek Bridge Design. Section 14.7.1 of the City of Corona El Cerrito Specific Plan Scenic Corridor Design Standards will be applied in the design and construction of the widened Temescal Creek Bridge. **PF VIS-7:** New Bridge Architectural Treatments. Aesthetic treatments that are consistent with County design and engineering standards, and complement area conditions, will be applied to new bridge structures. **VIS-8:** Replace Disturbed Vegetation along Landscaped Freeways. The County of Riverside will work with the appropriate Caltrans district landscape architect to determine which disturbed portions of landscaped freeways within the project limits require replanting and to what extent. At a minimum, replanting will follow the guidance in Section 92.3 of the Streets and Highways Code. Landscaping will be drought resistant whenever feasible. Recycled water will be used for irrigation when practicable. When appropriate and consistent with integrated pest management strategies as defined in subdivision (d) of Section 14717 of the Government Code, landscaping will include California native wildflowers and native and climate-appropriate

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					vegetation as an integral and permanent part of the planting design, with priority given to those species of wildflowers and native and climate-appropriate vegetation that will help rebuild pollinator populations.
Cultural Resources	Adverse effects on NRHP- and CRHR-eligible Potential Prehistoric Archaeological District (PPAD), three NRHP- and CRHR-eligible individual archaeological sites, and two site loci. No adverse effects on three NRHP- and CRHR-eligible Traditional Cultural Properties (TCPs).	Adverse effects on NRHP- and CRHR-eligible PPAD, three NRHP- and CRHR-eligible individual archaeological sites, and two site loci. No adverse effects on three NRHP- and CRHR-eligible TCPs.	Adverse effects on NRHP- and CRHR-eligible PPAD, five individual archaeological sites, and two site loci. No adverse effects on three NRHP- and CRHR-eligible TCPs.	No impact	**PF CR-1:** Discovery of Human Remains. If human remains are discovered during construction, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the County Coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who, pursuant to Public Resources Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). Further provisions of PRC 5097.98 are to be followed as applicable. **PF CR-2:** Unanticipated Discoveries. 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. Unanticipated discoveries will be treated according to the Project Discovery and Monitoring Plan.
Hydrology and Floodplain	*Permanent:* • Four, nonsignificant floodplain encroachment locations: one at Temescal Creek and three at Cajalco Creek. • 4.95 acres (7% of basin) of the Cajalco Creek Dam and Detention Basin and 3.69 acres (12% of basin) of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. *Temporary:* Potential temporary impacts could occur during construction exposing soil to the potential for erosion and downstream transport of sediments to occur. A Storm Water Pollution Prevention Plan (SWPPP) and construction best management practices (BMPs) aimed at reducing pollutants of concern in stormwater runoff would be implemented under the Construction General Permit.	*Permanent:* • Four nonsignificant floodplain encroachment locations: one at Temescal Creek and three at Cajalco Creek. • 4.95 acres (7% of basin) of the Cajalco Creek Dam and Detention Basin and 3.69 acres (12% of basin) of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. *Temporary:* Potential temporary impacts could occur during construction exposing soil to the potential for erosion and downstream transport of sediments to occur. A SWPPP and construction BMPs aimed at reducing pollutants of concern in stormwater runoff would be implemented under the Construction General Permit.	*Permanent:* • Four nonsignificant floodplain encroachment locations: one at Temescal Creek and three at Cajalco Creek. • 0.12 acres (<1% of basin) of the Cajalco Creek Dam and Detention Basin and 3.55 acres (11.5% of basin) of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. *Temporary:* Potential temporary impacts could occur during construction exposing soil to the potential for erosion and downstream transport of sediments to occur. A SWPPP and construction BMPs aimed at reducing pollutants of concern in stormwater runoff would be implemented under the Construction General Permit.	No impact	**HYD-1:** The County of Riverside will coordinate directly with MWD to obtain approval for right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. The County will coordinate directly with MWD in the preparation of a site-specific Drainage Study to evaluate the changes in runoff and floodplain encroachment into the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin, and determine whether the conversion of right of way would affect operation of the dam and basins. If operation of the basins are affected by the project, engineering recommendations will be provided, and implemented as necessary, to ensure continued operation of the dam and basins. **PF WQ-1:** 401 Certification – The project proponent will obtain a 401 Certification from the Regional Water Quality Control Board (RWQCB) for activities that may result in impacts on State Water Quality Standards. **PF WQ-2:** 404 Permit – The project proponent will obtain a Section 404 permit from the U.S. Army Corps of Engineers (USACE) for activities that would discharge materials into waters of the U.S. **PF WQ-3:** Post-Construction BMPs – Post-construction BMPs will be implemented to the maximum extent practicable, consistent with the requirements of the NPDES permit and Waste Discharge Requirements for the County of Riverside's Municipal Separate Storm Sewer System Permit in place at the time of project approval. **PF WQ-4:** Construction SWPPP – The project will comply with the SWRCB Construction General Permit in effect at the time of the project goes to construction, by developing and implementing a SWPPP that calculates the site's risk level during construction, includes guidelines for monitoring and reporting, and provides Erosion Control Plan and BMP details for the construction site. **NC-6 (NES BIO-6):** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. Construction limits adjacent to sensitive resource areas will be demarcated using environmentally sensitive area (ESA) fencing (e.g., orange snow fencing, silt fencing). **NC-10 (NES BIO-10):** Plans for water pollution and erosion control (i.e., SWPPP) will be prepared in accordance with project aquatics permits. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment

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					management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (WRC MSHCP Volume I, Section 7.5.3). **NC-15 (NES BIO-14):** Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, as long as there is no net loss of riparian-riverine resources. **WET-1:** Compensation for direct permanent impacts on USACE wetland and non-wetland waters of the U.S. (WoUS), and CDFW streambed and associated riparian habitat, will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS.
Water Quality and Stormwater Runoff	*Permanent:* • 83-acre increase in impervious surface area; stormwater runoff increased ~2.6 acre-feet. Flow rates would increase ~11.4 cubic feet per second (cfs). • Improvements to drainage system. • Potential increase in pollution from stormwater due to increased traffic. *Temporary:* Disturbance of 503 acres during construction would result in an increase in erosion and sedimentation and require control measures; construction may involve possible water contaminants.	*Permanent:* • 84-acre increase in impervious surface area; stormwater runoff increased ~2.62 acre-feet. Flow rates would increase ~11.5 cfs. • Improvements to drainage system. • Potential increase in pollution from stormwater due to increased traffic. *Temporary:* Disturbance of 526 acres during construction would result in an increase in erosion and sedimentation and require control measures; construction may involve possible water contaminants.	*Permanent:* • 105-acre increase in impervious surface area; stormwater runoff increased ~3.22 acre-feet. Flow rates would increase ~14 cfs. • Improvements to drainage system. • Potential increase in pollution from stormwater due to increased traffic. *Temporary:* Disturbance of 505 acres during construction would result in an increase in erosion and sedimentation and require control measures; construction may involve possible water contaminants.	No impact	**PF WQ-1:** 401 Certification – The project proponent will obtain a 401 Certification from the Regional Water Quality Control Board (RWQCB) for activities that may result in impacts on State Water Quality Standards. **PF WQ-2:** 404 Permit – The project proponent will obtain a Section 404 permit from USACE for activities that would discharge materials into waters of the U.S. **PF WQ-3:** Post-Construction BMPs – Post-construction BMPs will be implemented to the maximum extent practicable, consistent with the requirements of the NPDES permit and Waste Discharge Requirements for the County of Riverside's Municipal Separate Storm Sewer System Permit in place at the time of project approval. **PF WQ-4:** Construction SWPPP – The project will comply with the SWRCB Construction General Permit in effect at the time of the project goes to construction, by developing and implementing a SWPPP that calculates the site's risk level during construction, includes guidelines for monitoring and reporting, and provides Erosion Control Plan and BMP details for the construction site. **PF VIS-1:** Contouring and Replanting Disturbed Areas. Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. **HYD-1:** The County of Riverside will coordinate directly with MWD to obtain approval for right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. The County will coordinate directly with MWD in the preparation of a site-specific Drainage Study to evaluate the changes in runoff and floodplain encroachment into the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin, and determine whether the conversion of right of way would affect operation of the dam and basins. If operation of the basins are affected by the project, engineering recommendations will be provided, and implemented as necessary, to ensure continued operation of the dam and basins. **NC-6 (NES BIO-6):** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. Construction limits adjacent to sensitive resource areas will be demarcated using ESA fencing (e.g., orange snow fencing, silt fencing). **NC-10 (NES BIO-10):** Plans for water pollution and erosion control (i.e., SWPPP) will be prepared in accordance with project aquatics permits. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (WRC MSHCP Volume I, Section 7.5.3).

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					NC-11 (NES BIO-11): The limits of disturbance (LOD), including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. **NC-12 (NES BIO-12):** During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by WRC MSHCP covered species that are outside of the project footprint will be avoided (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). **NC-13 (NES BIO-9):** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County-approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. **NC-15 (NES BIO-14):** Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, as long as there is no net loss of riparian-riverine resources. **WET-1:** Compensation for direct permanent impacts on USACE wetland and non-wetland WoUS, and CDFW streambed and associated riparian habitat, will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS.
Geology/Soils/ Seismicity/ Topography	*Permanent:* Liquefaction potential varies from very low to moderate in the project area. Scour could be an issue where the proposed project crosses any unlined channel, wash, drainage, or area that is subject to flooding. The project site is in a seismically active area; however, the site is not in a State of California Special Studies (“Alquist-Priolo”) Zone for fault rupture, and no known active faults are mapped as crossing or projecting toward the site. Potential for fault rupture is considered remote. *Temporary:* Construction activities would include grading, areas of cut and fill, and new slopes, exposing soil to potential erosion.	*Permanent:* Liquefaction potential varies from very low to moderate in the project area. Scour could be an issue where the proposed project crosses any unlined channel, wash, drainage, or area that is subject to flooding. The project site is in a seismically active area; however, the site is not in a State of California Special Studies (“Alquist-Priolo”) Zone for fault rupture, and no known active faults are mapped as crossing or projecting toward the site. Potential for fault rupture is considered remote. *Temporary:* Construction activities would include grading, areas of cut and fill, and new slopes, exposing soil to potential erosion.	*Permanent:* Liquefaction potential varies from very low to moderate in the project area. Scour could be an issue where the proposed project crosses any unlined channel, wash, drainage, or area that is subject to flooding. The project site is in a seismically active area; however, the site is not in a State of California Special Studies (“Alquist-Priolo”) Zone for fault rupture, and no known active faults are mapped as crossing or projecting toward the site. Potential for fault rupture is considered remote. *Temporary:* Construction activities would include grading, areas of cut and fill, and new slopes, exposing soil to potential erosion.	No impact	**PF GEO-1:** Caltrans’ procedures regarding seismic design, as detailed in Section 19, “Earthwork,” of the Caltrans Standard Specifications Manual, is also anticipated to prevent any adverse effects related to seismic ground shaking. Seismic design would also meet County of Riverside requirements for near-source design parameters under the Uniform Building Code. **PF GEO-2 (a-e):** Core Sample Tests. Borings will be taken in accordance with Table 10-1 of the American Association of State Highway and Transportation Officials’ Load and Resistance Factor Design Bridge Design Specifications for number, spacing, and depth of borings; rock core samples collected to estimate rock quality designation; seismic refraction survey and refraction microtremor survey to evaluate rock rippability and shearwave velocity, respectively; test pits or other methods to collect data for evaluation of the soil cover over the competent soil or bedrock and stability of the steep descending slope; and, sufficient field and laboratory testing to classify the subsurface materials and define liquefaction, shear strength, compressibility, and corrosion properties of the soils and rock encountered. **PF GEO-3 (a-c):** Excavation and Stabilization Techniques. Temporary excavations and installation of spread footing foundations will include techniques in accordance with Caltrans standards prior to placing fill. In the event that near-slope materials are not adequate to support spread footings, cast-in-drilled-hole piles socketing into the bedrock could be considered. Subgrade conditions and need for subgrade preparation or stabilization measures, particularly in the vicinity of the slope, should be evaluated in detail in the Plans, Specifications, and Estimates (PS&E)-level investigation. The need for foundation overexcavation or use of deep foundations should be addressed in the Foundation Report after performing the PS&E-level investigation. **PF GEO-4:** Appropriate backfill materials would be used in accordance with Caltrans standards. Select fill materials should be used for mechanically stabilized earth wall construction, and use of oversize materials generated in cuts screened prior to use as backfill materials.

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					PF GEO-5: Structure approach embankment is that portion of the fill material within approximately 150 feet longitudinally of the structure in accordance with Figure 208.11 of the Highway Design Manual. Structure abutment embankment fill would be compacted to not less than 95 percent relative compaction in accordance with Section 19-5.03B of the Standard Specifications (2015). Poor quality material, such as expansive soils, would be precluded from structure abutment embankments unless treated and placed in accordance with Caltrans Geotechnical Manual Section 3.1.2. **VIS-2:** Replace or Relocate Site Features and Landscaping Affected by the Project. **PF WQ-4:** Construction SWPPP – The project will comply with the SWRCB Construction General Permit in effect at the time of the project goes to construction, by developing and implementing a SWPPP that calculates the site's risk level during construction, includes guidelines for monitoring and reporting, and provides Erosion Control Plan and BMP details for the construction site.
Paleontology	Areas of high sensitivity for paleontological resources, and therefore, could result in permanent impacts on paleontological resources. Existing fossil localities in nearby similar rock units have produced substantial vertebrate paleontological resources, so high sensitivity for resources, especially within the Lake Mathews Formation south of Lake Mathews.	Areas of high sensitivity for paleontological resources, and therefore, could result in permanent impacts on paleontological resources. Existing fossil localities in nearby similar rock units have produced substantial vertebrate paleontological resources, so high sensitivity for resources, especially within the Lake Mathews Formation south of Lake Mathews.	Areas of high sensitivity for paleontological resources, and therefore, could result in permanent impacts on paleontological resources. Existing fossil localities in nearby similar rock units have produced substantial vertebrate paleontological resources, so high sensitivity for resources. Would not affect the Lake Mathews Formation, which is the main source of fossil localities in the project vicinity.	No impact	**PAL-1:** A Paleontological Mitigation Plan (PMP) shall be prepared by a qualified paleontologist in accordance with Caltrans, County of Riverside Planning Department, and the Society of Vertebrate Paleontology guidelines during the final design phase of the project. The PMP will detail all the measures to be implemented in the event of paleontological discoveries.
Hazardous Waste/ Materials	Two Recognized Environmental Conditions (RECs), one Historical Recognized Environmental Condition (HREC), and Areas of Concern (AOCs): • REC: Mobil Baldwin located at 21020 Cajalco Road. Involved unauthorized release of gasoline affecting onsite soils. Undergoing remediation. • REC: located at 9001 Cajalco Road. Former red clay mine and rock quarry that contains elevated concentrations of arsenic. • HREC: Lake Mathews General Store, located at 17679 Cajalco Road. Formerly associated with soil and soil vapor contamination; site granted closure May 2017. • AOCs: - Existing structures proposed for removal may contain ACMs or LBP. - Existing yellow striping proposed for removal may contain lead and chromium. - Agricultural chemicals may be present in near-surface soils. - Creosote-treated wood waste may be generated during proposed removal / relocation of utility poles. - PCBs may be encountered during the disturbance of pole-mounted transformers.	Build Alternative 2C would be subject to the same RECs, HREC, and AOC identified for Build Alternative 1. Between east of Silverton Court and west of Lake Mathews Drive, Build Alternative 2C would be subject to additional agricultural AOC.	Build Alternative 4 would be subject to the same RECs and HREC identified for Build Alternative 4 would be subject to the AOCs identified for Build Alternative 1 between Temescal Canyon Road and west of Silverton Court, and between Gustin Road and I-215. Between east of Silverton Court and west of Gustin Road, the AOCs identified under Build Alternative 1 would be located along La Sierra Avenue and El Sobrante Road.	No impact	**HAZ-1 (a–d):** 9001 Cajalco Road (Assessor's Parcel Numbers [APNs] 279-231-004, 006, -011, and 281-140-021) **(a):** Detailed Site Investigation **(b):** Riverside County Department of Environmental Health Notification and Soil Remediation, if required **(c):** Health and Safety Plan **(d):** Soil Management Plan, if required **PF HAZ-2:** Health and Safety Plan (HASP). The HASP would provide direction for the identification, evaluation, and control of the wide variety of chemical, physical, biological, and ergonomic hazards that may be encountered during construction activities. The HASP will also address the management of potential health and safety hazards to workers and the public, and will be prepared and implemented prior to initiation of the construction activities. **PF HAZ-3:** Handling, Transport, and Disposal of Waste. Wastes and petroleum products used or encountered during construction will be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Health and Safety Administration standards, including Waste Management and Materials Pollution Control Best Management Practices (BMPs) – Spill Prevention and Control, Materials; and Waste Management BMPs, Hazardous Waste Management. **HAZ-4 (a–g):** 21020 Cajalco Road (APNs 318-061-027 and -030) **(a):** Continued Coordination with Oversight Agencies **(b):** Abandonment of Existing Monitoring Structures **(c):** Soil and Groundwater Investigation (Optional) **(d):** Health and Safety Plan **(e):** Soil Management Plan; prior to construction

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					(f): SCAQMD Rule 1166 permitting and VOC monitoring **(g):** Groundwater Disposal **PF HAZ-5:** Handling, Transport, and Disposal of Creosote-treated Wood Waste **HAZ-6 (a–c):** Agricultural Land Uses **(a):** Preliminary Site Investigation (PSI) **(b):** Corrective Action (if PSI concludes contaminants present at levels above regulatory threshold standards) **(c):** Soil Management Plan – Agricultural Land Uses **HAZ-7:** Yellow thermoplastic and yellow-painted traffic stripes. Yellow paint and thermoplastic striping survey will be conducted along the project alignment for striping that will be removed. Handling of this material would be consistent with Caltrans Standard Special Provisions 36-4 and 14-11.12, or with 84-9.03C, as applicable. **HAZ-8:** Asbestos-Containing Material (ACM) and Lead-Based Paint (LBP). Surveys for hazardous building materials including ACM and LBP will be conducted for structures that will be removed in as part of the project. A certified contractor will be retained to abate any identified ACM or LBP in accordance with all applicable laws, including Occupational Health and Safety Administration guidelines. Handling of ACM waste would be conducted consistent with Caltrans SSP 14-11.16, and LBP would be handled according to SSP 36-4.
Air Quality	*Permanent:* Particulate matter 10 micrometers or smaller (PM_{10}) and 2.5 micrometers or smaller ($PM_{2.5}$) predicted to increase by 1.3%. MSAT emissions at Horizon Year 2044 are anticipated to be considerably less than Baseline Year 2014 levels. *Temporary:* During construction, short-term degradation of air quality may occur during construction due to release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction.	*Permanent:* PM_{10} and $PM_{2.5}$ predicted to increase by 0.8%. MSAT emissions at Horizon Year 2044 are anticipated to be considerably less than Baseline Year 2014 levels. *Temporary:* During construction, short-term degradation of air quality may occur during construction due to release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction.	*Permanent:* PM_{10} and $PM_{2.5}$ to increase by 1.7%. MSAT emissions at Horizon Year 2044 are anticipated to be considerably less than Baseline Year 2014 levels. *Temporary:* During construction, short-term degradation of air quality may occur during construction due to release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other activities related to construction.	Less vehicular capacity resulting in greater operational emissions for some pollutants.	**PF AQ-1:** The project would conform to Caltrans construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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. Exhaust emissions control measures will also be employed. **PF AQ-2:** South Coast Air Quality Management District Rule 403 (Fugitive Dust) further requires that fugitive dust control measures be applied to all construction projects in the South Coast Air Basin, unless said project is specifically exempted by the rule.
Noise and Vibration	*Permanent:* Noise is expected to increase for receivers in close proximity to the roadway with the increased traffic. Three receivers would exceed the noise abatement criteria (NAC) of 67 A-weighted decibels (dBA) hourly noise equivalent level ($L_{eq[h]}$). Receivers M-93, M-105, and M-118 are predicted to have a design year noise level of 74, 74, and 69 dBA $L_{eq(h)}$, respectively. No other receivers are predicted to result in a substantial increase. For the benefit of the receptor associated with receiver M-93, Noise Barrier S-624 was found to be feasible and reasonable for heights of 6, 8, and 10 feet. For the benefit of the receptors associated with receivers M-105 and M-118, Noise Barriers S-650 Property Line and S-652	*Permanent:* Noise is expected to increase for receivers in close proximity to the roadway with the increased traffic. Three receivers would exceed the NAC of 67 dBA $L_{eq(h)}$. Receivers M-93, M-105, and M-118 are predicted to have a design year noise level of 74, 74, and 69 dBA $L_{eq(h)}$, respectively. No other receivers are predicted to result in a substantial increase. For the benefit of the receptor associated with receiver M-93, Noise Barrier S-624 was found to be feasible and reasonable at barrier heights of 6, 8, and 10 feet. For the benefit of the receptors associated with receiver M-105 and M-118, Noise Barriers S-650 Property Line and S-652 Property Line would be reasonable and feasible at heights of 8, 10, and 16 feet.	*Permanent:* Noise is expected to increase for receivers in close proximity to the roadway with the increased traffic. Four receivers would approach or exceed the NAC of 67 dBA $L_{eq(h)}$. Receivers M-93, M-99, M-105, and M-118 are predicted to have a design year noise level of 75, 66, 75, and 70 dBA $L_{eq(h)}$, respectively. Receiver M-98A would increase by 15 dB (48 dBA $L_{eq(h)}$ in the existing year and 63 dBA $L_{eq(h)}$ during the design year. For receiver M-98A, Noise Barrier S-565 was found to be feasible but not reasonable, therefore, this barrier is not recommended. For the benefit of the receptor associated with receiver M-93, Noise Barrier S-624	*Permanent:* Noise is expected to increase for receivers in close proximity to the roadway with the increased traffic. Noise levels would range from 37 to 71 dBA $L_{eq(h)}$; three receivers would exceed the NAC of 67 dBA $L_{eq(h)}$. No noise abatement would be considered or implemented. *Temporary:* No project-related construction or noise would occur.	**PF NOI-1:** Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (2018 Caltrans SSP, Section 14-8.02, Noise Control). **NOI-2:** Construct soundwall S-624 at the right of way at a height of 10 feet, provided that the survey process approves soundwall S-624. If soundwall S-624 is not approved, design and construct a soundwall 8 feet in height at the same location. (Barriers were determined to be feasible and reasonable under all build alternatives.) **NOI-3:** For all build alternatives, construct soundwalls S-650 and S-652 at the property line with respective lengths of 330 and 285 feet, at heights of 8 feet, provided that the survey process approves. **NOI-4:** Inclusion of Quiet Pavement (CEQA Measure). The County will require the construction contractor to provide an asphalt mix that provides 5-decibel minimum tire pavement noise reduction, and will include this mix during construction and paving of the proposed project. **PF NOI-5:** Construction noise would be temporary and limited to the duration of the construction. Noise control measures will also be

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	ROW would be reasonable and feasible at heights of 10, 12, 14, and 16 feet. *Temporary:* Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction; measures are proposed to reduce noise impacts from construction.	*Temporary:* Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction; measures are proposed to reduce noise impacts from construction.	was found to be feasible and reasonable at barrier heights of 6, 8, and 10 feet. For the benefit of the receptors associated with receiver M-105 and M-118, Noise Barriers S-650 Property Line and S-652 ROW would be reasonable and feasible at heights of 10, 12, 14, and 16 feet. Noise Barrier S-650 (Property Line) and Noise Barrier S-652 (Property Line) were found to be feasible and reasonable at barrier heights of 8 and 10 feet. For the receptor associated with receiver M-99, noise abatement was not considered, as any noise abatement would remove access to the property's driveway. Impacts on receiver M-99 would be potentially significant. *Temporary:* Noise from construction activities may intermittently dominate the noise environment in the immediate area of construction; measures are proposed to reduce noise impacts from construction.		incorporated into the project contract specifications in order to minimize construction noise effects.
Energy	*Permanent:* Annual Energy Consumption associated with long-term operational use would require 19,601,538 million British thermal units (MMBTU) and 156,812,301 Gallons of Gasoline Equivalent. *Temporary:* Temporary construction-period activities would require the consumption of the equivalent of 462,000 gallons of diesel fuel, or approximately 64,000 MMBTU.	*Permanent:* Annual Energy Consumption associated with long-term operational use would require 19,504,966 MMBTU and 156,039,730 Gallons of Gasoline Equivalent. *Temporary:* Temporary construction-period activities would require the consumption of the equivalent of 462,000 gallons of diesel fuel, or approximately 64,000 MMBTU.	*Permanent:* Annual Energy Consumption associated with long-term operational use would require 19,623,207 MMBTU and 156,985,653 Gallons of Gasoline Equivalent. *Temporary:* Temporary construction-period activities would require the consumption of the equivalent of 462,000 gallons of diesel fuel, or approximately 64,000 MMBTU.	Annual Energy Consumption associated with long-term operational use would require 19,429,723 MMBTU and 155,437,786 Gallons of Gasoline Equivalent.	**PF LU-1:** Traffic Management Plan **PF AQ-1:** Caltrans construction requirements, as specified in Caltrans' SSP, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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. Includes grid-based electricity and/or onsite renewable electricity and/or practical powered generators, construction idle restrictions, and alternative fuels. **PF VIS-4:** Apply Minimum Lighting Standards. All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. **PF SW-1:** Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.
Natural Communities	*Permanent:* 210.04 acres permanent impacts on WRC MSHCP cores and linkages. 76.58 acres permanent impacts on Natural Communities of Concern; 28.16 acres within LM MSHCP. *Temporary:* During construction, vegetation removal and increased human presence, as well as indirect impacts due to increased noise, dust, light, reduced water quality, edge effects, and vibration. 11.46 acres temporary impacts on Natural Communities of Concern.	*Permanent:* 215.39 acres permanent impacts on WRC MSHCP cores and linkages. 85.20 acres permanent impacts on Natural Communities of Concern; 37.06 acres within LM MSHCP. *Temporary:* During construction, vegetation removal and increased human presence, as well as indirect impacts due to increased noise, dust, light, reduced water quality, edge effects, and vibration. 11.79 acres temporary impacts on Natural Communities of Concern.	*Permanent:* 82.32 acres permanent impacts on WRC MSHCP cores and linkages. 79.78 acres permanent impacts on Natural Communities of Concern; 22.24 acres within LM MSHCP. *Temporary:* During construction, vegetation removal and increased human presence, as well as indirect impacts due to increased noise, dust, light, reduced water quality, edge effects, and vibration. 10.55 acres temporary impacts on Natural Communities of Concern.	No permanent or temporary impacts on natural communities of concern beyond those that would be expected to occur from the existing facility.	**NC-1 (NES BIO-1):** Clearing of natural vegetation (including sage scrub) will be performed outside of the active breeding season for birds, as defined in the WRC MSHCP (March 1 through June 30) (WRC MSHCP Volume I, Section 7.5.3), except for RSS habitat judged to be potentially suitable and/or occupied by coastal California gnatcatcher and located within WRC MSHCP Criteria Areas and PQP lands. For these areas, the habitat removal restriction is extended from June 30 to August 15. In addition, for riparian-riverine vegetation occupied by least Bell's vireo (LBV), vegetation removal restrictions occur through September 15. Table 3.17-20 in Section 3.20, *Animal Species*, summarizes the clearing restrictions of sensitive vegetation communities. If clearing of vegetation needs to occur within these timeframes due to construction schedule, a preconstruction nesting bird survey will

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					need to be performed prior to any vegetation removal activities (refer to Measure **AS-5 [NES BIO-27]**). **NC-2 (NES BIO-2):** Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (WRC MSHCP Volume I, Section 7.5.3). **NC-3 (NES BIO-3):** When work is conducted during the fire season adjacent to any natural vegetation communities, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. **NC-4 (NES BIO-4):** A qualified biologist will prepare and present an environmental training program for project and construction personnel (WRC MSHCP Volume I, Section 7.5.3) prior to grading or staging. All sensitive areas will be fenced as presented in Measure **NC-6 (NES BIO-6)**, below. **NC-5 (NES BIO-5):** The qualified project biologist will monitor construction activities to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (WRC MSHCP Volume I, Section 7.5.3). **NC-6 (NES BIO-6):** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. Construction limits adjacent to sensitive resource areas will be demarcated using environmentally sensitive area (ESA) fencing (e.g., orange snow fencing, silt fencing). **NC-7 (NES BIO-7):** Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (WRC MSHCP Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations. **NC-8 (NES BIO-8):** Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment will occur at least 300 feet from ESA fencing to prohibit the spread of invasive species. **NC-9 (NES BIO-24):** The project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s) (WRC MSHCP Volume I, Appendix C). **NC-10 (NES BIO-10):** Plans for water pollution and erosion control (i.e., SWPPP) will be prepared in accordance with project aquatics permits. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (WRC MSHCP Volume I, Section 7.5.3). **NC-11 (NES BIO-11):** The limits of disturbance (LOD), including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. **NC-12 (NES BIO-12):** During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by WRC MSHCP covered species that are outside of the project footprint will be avoided (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). **NC-13 (NES BIO-9):** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades,

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					decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County-approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. **NC-14 (NES BIO-13) (Mitigation):** A Determination of Biological Equivalent or Superior Preservation (DBESP) report that provides analysis of direct and indirect impacts, avoidance, minimization, and compensatory mitigation, if necessary, along with the functions and values of the resources being affected as related to Section 6.1.2 of the WRC MSHCP Volume I will be prepared and submitted to RCA, USFWS, and CDFW for review and approval prior to finalization of the environmental document. **NC-15 (NES BIO-14) (Mitigation):** Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of riparian-riverine resources. Compensation can also occur through the purchase of mitigation bank credits through the Riverside-Corona Resource Conservation District In-lieu Fee Program (ILFP), Santa Ana Watershed Association ILFP, a permittee responsible mitigation bank, and/or other approved mitigation provider and/or creation of riparian-riverine resources, including federal and state jurisdictional water resources. For riparian resources a mitigation ratio of no less than 3:1 is proposed, and for riverine resources no less than a 1:1 ratio is currently proposed. A mitigation ratio of no less than 2:1 is proposed for permanent shading of riparian vegetation and wetlands[3] to address temporal loss of these habitats. Mitigation for all aquatic resources will be biologically superior or equivalent to resources occurring on site. The temporary impacts on riparian-riverine resources may be replaced through restoration of the temporarily affected area to pre-project conditions at a ratio of no less than 1:1, or through the purchase of mitigation bank credits, a permittee responsible mitigation bank, or other approved mitigation program. Details of the compensation for riparian-riverine resources will be provided in the Determination of Biologically Equivalent or Superior Preservation (Measure **NC-14 [NES BIO-13]**). Because the federally and state-listed as endangered least Bell's vireo occupies the riparian-riverine areas at Temescal Creek, Cajalco Creek, and other unnamed drainages proposed for impact, the compensation for both Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine and least Bell's vireo should also be integrated. Compensatory mitigation will be coordinated with U.S. Army Corps of Engineers (USACE) Clean Water Act (CWA) 404 authorization, Regional Water Quality Control Board (RWQCB) CWA 401 Certification, California Department of Fish and Wildlife (CDFW) Fish and Game Code 1602 Streambed Alteration Agreement acquisition (measure **WET-1** in Section 3.18), and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine requirements to ensure efficiencies with the mitigation effort. Final mitigation ratios will be determined after consultation with the USACE, RWQCB, U.S. Fish and Wildlife Service, and CDFW. **NC-16 (NES BIO-19):** A Wildlife Fencing Plan will be developed and implemented for the preferred build alternative. Prior to finalizing the wildlife fencing design, the impacts of and interaction between wildlife fencing and other fencing (e.g., Lake Mathews and other local fencing) in the project area of the preferred Build Alternative shall be fully assessed and analyzed. If it is determined that fencing

[3] Mitigation ratios may differ based on the location of riparian/riverine resources within the limits of disturbance. For example, riparian habitat within Temescal Wash may be mitigated at a higher ratio due to the quality of functions and values for wildlife movement, "live-in" habitat for sensitive species (i.e., least Bell's vireo), and water quality functions.

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					in the project area (i.e., either project-related fencing or other fencing) will hinder or interfere with wildlife movement or the function and value of wildlife crossings, the wildlife fencing plan (and project design) shall include design considerations that will lessen these impacts. **NC-17 (NES BIO-17) (Mitigation):** Compensation for permanent loss of habitat on the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area will be accomplished through the acquisition of replacement lands; a ratio no less than 1:1 is currently proposed. The County will purchase lands which will provide equivalent or greater habitat value and be located adjacent to the existing LM MSHCP area to ensure the reserve remains whole. The replacement lands will be managed by the Lake Mathews Reserve Management Committee (LMRMC) and the Metropolitan Water District of Southern California (MWD) in perpetuity as part of the larger Lake Mathews Reserve. If adequate replacement lands are not available at the time of land acquisition, the remainder of the necessary lands will be purchased from a mitigation bank (if available), and supplemental actions identified in Measure **NC-18** (**NES BIO-31**) implemented in coordination with LMRMC and MWD. **NC-18 (NES BIO-31) (Mitigation):** To compensate for the loss of natural lands on the Lake Mathew Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area, the County of Riverside will coordinate with Lake Mathews Reserve Management Committee (LMRMC) to develop a suite of mitigation measures that demonstrate biological equivalency to offset the loss, including the acquisition of adequate replacement and restoration of lands (Measures **NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]**), fencing to aid in management of the Lake Mathews Multiple Species Reserve (LMR) (Measure **NC-16 [NES BIO-19]**), and funding to be used toward LMR management. The County of Riverside will develop the funding mechanism with input from the LMRMC that will be used to support management of new reserve lands acquired for the LM MSHCP area and any existing reserve lands, along with shared maintenance and security costs for the LM MSHCP area. **NC-19 (NES BIO-15) (Mitigation):** Restoration of temporary impact areas on the Lake Mathew Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area will be accomplished through on-site restoration of those temporarily affected areas. A Habitat Mitigation and Monitoring Plan will be developed in consultation with Lake Mathews Reserve Management Committee, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife. **NC-20 (NES BIO-21) (Mitigation):** Public/Quasi-Public (PQP) lands in Existing Core C and Proposed Extension of Existing Core 2 and Proposed Linkage 3 that will be permanently removed are proposed to be replaced at a minimum 1:1 ratio. This will be coordinated with riparian-riverine compensation (**BIO-14**) and jurisdictional resources permitting (Measure **WET-1** in Section 3.18), as feasible. An evaluation of existing functions and value of PQP conserved lands within the project area will be performed as part of the Project Equivalency Determination, to provide accurate estimate of potential impacts (direct and indirect) and ensure the proposed replacement lands are equivalent or superior to those lands proposed for impact. Prior to land acquisition, an equivalency report will be provided that analyzes the existing biological resources being permanently removed compared to the biological resources supported by the lands proposed for acquisition. The resource mitigation values will need to be equivalent or superior to what is being removed. The

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					Lake Mathews Reserve Management Committee (LMRMC) will be consulted regarding mitigation lands proposed within Lake Mathews Multiple Species Reserve PQP conserved lands, and provided opportunity for input on the selection of lands. Execution of this mitigation measure will include compensatory mitigation needed for least Bell's vireo (refer to Measure **TE-2 [NES BIO-23]** in Section 3.21.4) and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine resources (Measures **NC-14 [NES BIO-13]**, **NC-15 [NES BIO-14]**, **NC-17 [NES BIO-17]**, and **NC-19 [NES BIO-15**]) as feasible. The Equivalency Determination will be reviewed by the Western Riverside County Regional Conservation Authority (RCA), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and LMRMC, and approved by RCA, USFWS, and CDFW.
Wetlands and Other Waters	*Permanent:* 3.61 acres direct impacts and 0.04 acre indirect shading effects on USACE and RWQCB jurisdictional waters. 10.2 acres of impacts and 0.18 acre indirect shading effects on CDFW streambed and associated riparian habitat. 0.08 acre of rehabilitation to USACE and RWQCB jurisdictional waters and 0.16 acre of rehabilitation on CDFW jurisdictional waters. Within the LM MSHCP, 1.19 acres of permanent impacts on USACE and RWQCB jurisdictional waters and wetlands. No permanent impact on wetlands within LM MSHCP area. *Temporary:* 2.08 acres of USACE and RWQCB jurisdictional waters (0.34 acre within LM MSHCP) temporarily affected. 5.67 acres temporary impacts on CDFW streambed and associated riparian habitat. There could be temporary impacts depending on the location of staging areas or any additional work needed for construction.	*Permanent:* 3.94 acres direct impacts and 0.04 acre indirect shading effects on USACE and RWQCB jurisdictional waters. 10.04 acres of permanent impacts and 0.17 acre indirect shading effects on CDFW streambed and associated riparian habitat. 0.07 acre rehabilitation to USACE and RWQCB jurisdictional waters and 0.17 acre of rehabilitation on CDFW jurisdictional waters. Within the LM MSHCP, 1.18 acres of permanent impacts on USACE and RWQCB jurisdictional waters and wetlands. No permanent impact on wetlands within LM MSHCP area. *Temporary:* 1.78 acres of USACE and RWQCB jurisdictional waters (0.34 acre within LM MSHCP) temporarily affected. 5.59 acres temporary impacts on CDFW streambed and associated riparian habitat. There could be temporary impacts depending on the location of staging areas or any additional work needed for construction.	*Permanent:* 1.44 acres direct impacts and 0.04 acre indirect shading effects on USACE and RWQCB jurisdictional waters. 7.08 acres of impacts and 0.17 acre of indirect shading effects on CDFW streambed and associated riparian habitat. There would also be 0.08 acre rehabilitation on USACE and RWQCB jurisdictional waters and 0.18 acre rehabilitation on CDFW jurisdictional waters. Within the LM MSHCP, 0.06 acres of permanent impacts on USACE and RWQCB jurisdictional waters. No permanent or temporary impacts on wetlands within LM MSHCP area. *Temporary:* 1.56 acres of USACE and RWQCB jurisdictional waters (0.02 acre within LM MSHCP) temporarily affected. 5.8 acres temporary impacts on CDFW streambed and associated riparian habitat. There could be temporary impacts depending on the location of staging areas or any additional work needed for construction.	No impacts	**WET-1:** Compensation for direct permanent impacts on U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) wetland and non-wetland waters of the U.S. (WoUS)/waters of the State (WoS) and California Department of Fish and Wildlife (CDFW) streambed and associated riparian habitat will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS. Compensation can occur through the purchase of mitigation bank credits through the Riverside-Corona Resources Conservation District In-lieu Fee Program (ILFP), Santa Ana Watershed Association, a permittee responsible mitigation bank, and/or other agency-approved mitigation provider. No less than a 3:1 mitigation ratio is proposed for USACE/RWQCB wetlands and CDFW riparian vegetation and wetlands. A ratio of not less than 1:1 for USACE/RWQCB non-wetland WoUS/WoS and CDFW streambed is currently proposed. A mitigation ratio of no less than 2:1 is proposed for permanent shading of USACE wetlands and CDFW riparian vegetation (including CDFW-regulated wetlands)[4] to address temporal loss. Mitigation for all jurisdictional resources will be biologically superior or equivalent to resources occurring on site. Temporary impacts on USACE/RWQCB wetland and non-wetland WoUS/WoS and CDFW streambed, and associated riparian habitat, may be replaced through restoration of the temporarily affected area to pre-project conditions at a ratio no less than 1:1 or through the purchase of ILFP or mitigation bank credits, a permittee responsible mitigation bank, or other approved mitigation program. Compensatory mitigation will be coordinated with USACE Clean Water Act (CWA) 404 authorization, Regional Water Quality Control Board (RWQCB) CWA 401 Certification, CDFW Fish and Game Code 1602 Streambed Alteration Agreement acquisition, and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine requirements to ensure efficiencies with the mitigation effort. Final mitigation ratios will be determined after consultation with USACE, RWQCB, U.S. Fish and Wildlife Service, and CDFW.
Plant Species	*Permanent:* Impacts within WRC MSHCP area covered by WRC MSHCP. Within LM MSHCP area, 120.31 acres permanent impacts on natural vegetation communities and 0.14 acre roadbed removal (beneficial impact). LM MSHCP suitable habitat would be affected for: round-leaved filaree (97.15	*Permanent:* Impacts within WRC MSHCP area covered by WRC MSHCP. Within LM MSHCP area, 111.21 acres permanent impacts on natural vegetation communities and 0.16 acre roadbed removal (beneficial impact). LM MSHCP suitable habitat would be affected for: round-leaved filaree (64.99	*Permanent:* Impacts within WRC MSHCP area covered by WRC MSHCP. Within LM MSHCP area, 56.52 acres permanent impacts on natural vegetation communities and 0.70 acre roadbed removal (beneficial impact). LM MSHCP suitable habitat would be affected for: round-leaved filaree (27.10	No impacts	Avoidance and minimization measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8) and NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** would be implemented to reduce potential indirect impacts on special-status plant species under Build Alternatives 1, 2C, and 4, and to ensure consistency with the WRC MSHCP. Paniculate tarplant seeds will be collected prior to project construction and disseminated following construction (**PL-1 [NES BIO-22]**).

[4] Mitigation ratios may differ based on the location of riparian/riverine resources within the limits of disturbance. For example, riparian habitat within Temescal Wash may be mitigated at a higher ratio due to the quality of functions and values for wildlife movement, "live-in" habitat for sensitive species (i.e., least Bell's vireo), and water quality functions.

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	acres), Coulter's matiljia poppy (28.99 acres), long-spined spineflower (100.47 acres), small-flowered morning glory (122.23 acres) would be affected. There would also be removal of 135.33 acres of suitable habitat for Palmer's grapplinghook, Parry's spineflower, smooth tarplant, and small-flowered microseris. *Temporary:* 20.79 acres temporary impacts on natural vegetation communities within LM MSHCP area.	acres), Coulter's matiljia poppy (38.86 acres), long-spined spineflower (82.38 acres), small-flowered morning glory (113.96 acres) would be affected. There would also be removal of 126.91 acres of suitable habitat for Palmer's grapplinghook, Parry's spineflower, smooth tarplant, and small-flowered microseris. *Temporary:* 22.44 acres temporary impacts on natural vegetation communities within LM MSHCP area.	acres), Coulter's matiljia poppy (24.14 acres), long-spined spineflower (33.87 acres), small-flowered morning glory (51.27 acres) would be affected. Direct impacts are anticipated over 6.80 acres on several thousand paniculate tarplant. There would also be removal of 63.03 acres of suitable habitat for Palmer's grapplinghook, Parry's spineflower, smooth tarplant, and small-flowered microseris. *Temporary:* 8.76 acres temporary impacts on natural vegetation communities within LM MSHCP area.		Replacement for the loss of potentially suitable habitat for LM MSHCP covered species will be required by MWD within the LM MSHCP area; a 1:1 ratio is proposed (**NC-17 [NES BIO-17]**). Temporary impacts will be addressed through preparation of an HMMP and onsite restoration (**NC-19 [NES BIO-15]**). **PL-1 (NES BIO-22):** Paniculate Tarplant Seed Collection – Seeds for paniculate tarplant will be collected prior to construction activities. Seeds will be stored and redistributed after construction is completed.
Animal Species	*Permanent:* • Habitat permanently affected for the following species (acres): - Burrowing ow: 211.11 - Special-status bats: 241.30 - Southern California legless lizard: 87.45 - California glossy snake: 194.55 - Coast western patch-nosed snake: 194.55 - Two-striped garter snake: 7.18 - Least bittern: 0.06 - Long-eared owl: 9.39 - Short-eared owl: 116.76 - Vaux's swift: 4.99 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 148.05 - Yellow-headed blackbird: 0.94 - Southern grasshopper mouse: 69.19 - American badger: 176.41 • Habitat indirectly affected by shading effects for the following species (acres): - Burrowing owl: 0.58 - Special-status bats: 1.35 - Southern California legless lizard: 0.70 - California glossy snake and Coast western patch-nosed snake: 0.52 - Two-striped garter snake 0.40 - Long-eared owl: 0.35 - Short-eared owl: 0.22 - Vaux's swift: 0.32 - Oregon vesper sparrow: 0.57 - Southern grasshopper mouse: 0.26 - American badger: 0.45 • Habitat beneficially affected for the following species (acres): - Burrowing owl 8.61 - Special-status bats 9.29 - Southern California legless lizard 3.08	*Permanent:* • Habitat permanently affected for the following species (acres): - Burrowing owl: 226.96 - Special-status bats: 256.76 - Southern California legless lizard: 96.02 - California glossy snake: 195.77 - Coast western patch-nosed snake: 195.77 - Two-striped garter snake: 5.77 - Least bittern: 0.06 - Long-eared owl: 8.41 - Short-eared owl: 123.33 - Vaux's swift: 4.43 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 154.82 - Yellow-headed blackbird: 16.27 - Southern grasshopper mouse: 79.56 - American badger: 176.75 • Habitat indirectly affected by shading effects for the following species (acres): - Burrowing owl 1.18 - Special-status bats 1.93 - Southern California legless lizard 1.01 - California glossy snake 1.12 - Coast western patch-nosed snake 1.12 - Two-striped garter snake 0.39 - Long-eared owl 0.38 - Short-eared owl 0.50 - Vaux's swift 0.34 - Oregon vesper sparrow 0.84 - Southern grasshopper mouse 0.58 - American badger 1.06 • Habitat beneficially affected for the following species (acres): - Burrowing owl 12.26 - Special-status bats 12.85 - Southern California legless lizard 3.44	*Permanent:* • Habitat permanently affected for the following species (acres): - Burrowing owl: 201.28 - Special-status bats: 216.37 - Southern California legless lizard: 103.11 - California glossy snake: 149.72 - Coast western patch-nosed snake: 149.72 - Two-striped garter snake: 5.08 - Least bittern: 0.06 - Long-eared owl: 6.36 - Short-eared owl: 54.95 - Vaux's swift: 2.42 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 106.62 - Yellow-headed blackbird: 2.21 - Southern grasshopper mouse: 85.91 - American badger: 138.12 • Habitat indirectly affected by shading effects for the following species (acres): - Burrowing owl: 3.97 - Special-status bats: 5.16 - Southern California legless lizard: 4.13 - California glossy snake and Coast western patch-nosed snake 4.02 - Two-striped garter snake: 0.39 - Long-eared owl: 0.38 - Short-eared owl: 0.28 - Vaux's swift: 0.35 - Oregon vesper sparrow: 0.78 - Southern grasshopper mouse: 3.56 - American badger: 3.83 • Habitat beneficially affected for the following species (acres): - Burrowing owl: 6.55 - Special-status bats: 7.39 - Southern California legless lizard: 4.36 - California glossy snake: 6.21	No impacts	Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, and **TE-3 (NES BIO-30)**, will ensure the indirect effects on non-listed special-status species from construction activities are avoided and/or minimized. The following avoidance and minimizations measures address the direct and indirect impacts on non-listed special-status animals: **AS-1 (NES BIO-25):** A burrowing owl (BUOW) management plan will be developed to ensure avoidance of impacts on BUOW within WRC MSHCP BUOW survey areas. In the plan, the following information, at a minimum, will be included and performed during each phase of project construction: a) Focused Survey for BUOW – Performed following the WRC MSHCP protocol between the window of March 1 through August 31 and in the survey season prior to scheduled construction. The survey will include the LOD of the selected Build Alternative and up to a 300-foot buffer if performed between February 1 and August 31. b) Preconstruction Survey for BUOW – Performed within 30 days prior to ground disturbance regardless of whether the species is found during the focused survey. The survey area would be the LOD and at least a 300-foot buffer and required only within WRC MSHCP BUOW survey areas. c) Protocol for Presence – Steps necessary for handling the presence of BUOW (if found during either of the two surveys), which may include full avoidance, if feasible, or passive relocation by a qualified ornithologist. d) Agency Approval – The BUOW management plan will be submitted for review by RCA, USFWS, CDFW, and LMRMC (for the LMR area only). **AS-2 (NES BIO-16):** The WRC MSHCP requires that shielding be incorporated in project designs to ensure ambient lighting in WRC MSHCP conservation areas is not increased (WRC MSHCP Volume I, Section 6.1.4). Night lighting will be directed away from natural lands within existing and proposed WRC MSHCP conservation areas in order to support potential linkage and core functions during construction. This is intended to protect species within existing and proposed WRC MSHCP conservation areas from direct night lighting during construction, if activities occur at night. Table 3.20-7 provides the areas where night lighting restrictions applies for each build alternative. **AS-3 (NES BIO-28)**: Preconstruction clearance surveys for sensitive wildlife species will be performed within three days prior to construction to flush the species from the construction footprint following the installation of ESA fencing. ESA fencing must be sufficient to prevent the entry of animals into the LOD as feasible. No nesting birds will be flushed during the nesting season. Bats will

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	- California glossy snake and Coast western patch-nosed snake: 8.81 ac.) - Two-striped garter snake 0.07 - Long-eared owl 0.38 - Short-eared owl 5.80 - Vaux's swift 0.06 - Oregon vesper sparrow 5.89 - Southern grasshopper mouse 3.01 - American badger 8.65 • Removal of 239.86 ac. suitable habitat, 1.35 ac indirect shading effects, and 9.29 ac. beneficial impacts, for WRC MSHCP covered, non-listed species. *Temporary:* • Habitat temporarily affected for the following species (acres): - Burrowing owl: 42.13 - Special-status bats: 53.97 - Southern California legless lizard: 15.89 - California glossy snake: 29.06 - Coast western patch-nosed snake: 29.06 - Two-striped garter snake: 4.12 - Least bittern: 0.06 - Long-eared owl: 5.17 - Short-eared owl: 18.18 - Vaux's swift: 3.08 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 35.11 - Yellow-headed blackbird: 0.59 - Southern grasshopper mouse: 7.18 - American badger: 23.37 • 53.61 ac suitable habitat for WRC MSHCP covered, non-listed species temporarily affected.	- California glossy snake and Coast western patch-nosed snake 12.38 - Two-striped garter snake 0.05 - Long-eared owl 0.37 - Short-eared owl 9.00 - Vaux's swift 0.05 - Oregon vesper sparrow 9.08 - Southern grasshopper mouse 3.38 - American badger 12.30 • Removal of 255.12 ac suitable habitat, 1.35 ac. indirect shading effects, and 12.85 ac beneficial impacts for WRC MSHCP covered non-listed species. *Temporary:* • Habitat temporarily affected for the following species (acres): - Burrowing owl: 45.28 - Special-status bats: 57.10 - Southern California legless lizard: 16.48 - California glossy snake: 31.41 - Coast western patch-nosed snake: 31.41 - Two-striped garter snake: 4.16 - Least bittern: 0.06 - Long-eared owl: 5.10 - Short-eared owl: 20.69 - Vaux's swift: 3.14 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 36.96 - Yellow-headed blackbird: 1.30 - Southern grasshopper mouse: 7.89 - American badger: 25.68 • 56.76 ac suitable habitat for WRC MSHCP covered, non-listed species temporarily affected.	- Coast western patch-nosed snake: 6.21 - Two-striped garter snake: 0.06 - Long-eared owl: 0.37 - Short-eared owl: 1.91 - Vaux's swift: 0.05 - Oregon vesper sparrow: 2.60 - Southern grasshopper mouse: 3.16 - American badger: 5.06 • Removal of 216.16 ac suitable habitat, 4.99 ac indirect shading effects, and 7.28 ac. beneficial impacts for WRC MSHCP covered non-listed species. *Temporary:* • Habitat temporarily affected for the following species (acres): - Burrowing owl: 38.94 - Special-status bats: 48.04 - Southern California legless lizard: 14.28 - California glossy snake: 26.05 - Coast western patch-nosed snake: 26.05 - Two-striped garter snake: 2.32 - Least bittern: 0.06 - Long-eared owl: 3.36 - Short-eared owl: 15.23 - Vaux's swift: 1.57 - Clark's marsh wren: 0.06 - Oregon vesper sparrow: 30.43 - Yellow-headed blackbird: 0.75 - Southern grasshopper mouse: 10.02 - American badger: 24.27 • 47.57 ac suitable habitat for WRC MSHCP covered, non-listed species temporarily affected.		not be flushed but will be protected as specified in **AS-4 (NES BIO-26)**. Burrowing wildlife will be relocated from the site as feasible during preconstruction clearance surveys. **AS-4 (NES BIO-26):** A bat management plan will be developed to ensure mortality to roosting bats does not occur to ensure CEQA compliance and consistency with the LM MSHCP. The following items will be included in the plan, at a minimum: a) For each location determined to be suitable for special-status bat species or large colonial roosts, a preconstruction survey will be conducted to determine if the location is occupied by roosting bats. b) For each location confirmed to be occupied by bats, the plan will provide details both in text and graphically where exclusion devices will need to be placed, the timing for exclusion work, and the timeline and methodology needed to exclude the bats. c) Monitoring activities and schedule will be included, including frequency of monitoring, which structures would need to be monitored, and reporting requirements. d) Draft plan will be submitted for review to USFWS, CDFW, and LMRMC. **AS-5 (NES BIO-27):** A nesting bird management plan will be drafted to provide a comprehensive approach to addressing nesting birds prior to the commencement of construction phases. It will include, at a minimum, the following items: a) Project biologist and monitoring biologist qualifications. b) Methods for preconstruction surveys for nesting birds protected under the Migratory Bird Treaty Act and California Fish and Game Code, which will be performed prior to the start of all project phases during the bird breeding season. Preconstruction nesting bird survey requirements may be superseded by the Lake and Streambed Alteration Agreement. c) Methods and timing (including seasonal considerations) for addressing nesting birds, raptors, and colonial nesting birds (i.e., swallows), including avoidance buffers; avoidance measures to reduce disturbances to active nests; and deterrent methods. d) Reporting requirements. This nesting bird management plan will be coordinated with and submitted for review by USFWS, CDFW, and RMC (as the plan pertains to the LMR area). **AS-6 (NES BIO-29):** Construction staff will not be permitted to bring their pets in, or adjacent to, the construction area. **AS-7 (NES BIO-20):** ESA fencing must be sufficient to prevent the entry of animals into the LOD. Once the ESA fencing has been installed (**NC-6 [NES BIO-6]**), a preconstruction reptile and amphibian clearance survey will be conducted no more than three days prior to site grubbing and grading of lands in the area. If construction is to follow in stages, then the preconstruction clearance survey would be scheduled to follow just prior to site grubbing and grading. Clearance surveys will be conducted during the appropriate time of day when reptiles and amphibians are active. Table 3.20-8 in Section 3.20, *Animal Species*, describes where this measure is applicable for various species.
Threatened and Endangered Species	*Permanent:* Habitat would be permanently affected. Listed below the total acres affected by species: Arroyo Toad: 8.08 Coastal California Gnatcatcher: 67.09	*Permanent:* Habitat would be permanently affected. Listed below the total acres affected by species: Arroyo Toad: 6.66 Coastal California Gnatcatcher: 76.21	*Permanent:* Habitat would be permanently affected. Listed below the total acres affected by species: Arroyo Toad: 6.24 Coastal California Gnatcatcher: 88.40	No impact	In addition to the measures listed below, Measures **NC-2 (NES BIO-2)** through **NC-13 (NES BIO-9)** and Measures **AS-1 (NES BIO-25)** and **AS-7 (NES BIO-20)** would be implemented. **TE-1 (NES BIO-18):** Between March 15 and September 15, all heavy equipment will install and maintain mufflers or other noise-reducing features will be installed when working at Temescal Creek

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	Least Bell's Vireo: 7.85 Stephens' Kangaroo Rat: 125.29 Habitat would be permanently beneficially affected through roadbed removal. Listed below the total acres affected by species: Coastal California Gnatcatcher: 2.85 Least Bell's Vireo: 0.07 Stephens' Kangaroo Rat: 5.80 Habitat would be indirectly affected by shading effects. Listed below are the total acres affected by species: Arroyo Toad: 0.41 Coastal California Gnatcatcher: 0.22 Least Bell's Vireo: 0.36 Stephens' Kangaroo Rat: 0.22 *Temporary:* Arroyo Toad: 3.74 Coastal California Gnatcatcher: 7.60 Least Bell's Vireo: 4.78 Stephens' Kangaroo Rat: 19.49	Least Bell's Vireo: 6.43 Stephens' Kangaroo Rat: 116.53 Habitat would be permanently beneficially affected through roadbed removal. Listed below the total acres affected by species: Coastal California Gnatcatcher: 3.30 Least Bell's Vireo: 0.05 Stephens' Kangaroo Rat: 9.00 Habitat would be indirectly affected by shading effects. Listed below are the total acres affected by species: Arroyo Toad: 0.39 Coastal California Gnatcatcher: 0.56 Least Bell's Vireo: 0.34 Stephens' Kangaroo Rat: 0.50 *Temporary:* Arroyo Toad: 3.77 Coastal California Gnatcatcher: 8.12 Least Bell's Vireo: 4.81 Stephens' Kangaroo Rat: 21.30	Least Bell's Vireo: 5.75 Stephens' Kangaroo Rat: 63.11 Habitat would be permanently beneficially affected through roadbed removal. Listed below the total acres affected by species: Coastal California Gnatcatcher: 4.30 Least Bell's Vireo: 0.06 Stephens' Kangaroo Rat: 3.30 Habitat would be indirectly affected by shading effects. Listed below are the total acres affected by species: Arroyo Toad: 0.40 Coastal California Gnatcatcher: 3.56 Least Bell's Vireo: 0.35 Stephens' Kangaroo Rat: 1.09 *Temporary:* Arroyo Toad: 2.38 Coastal California Gnatcatcher: 10.39 Least Bell's Vireo: 3.11 Stephens' Kangaroo Rat: 15.51		and Cajalco Creek. Additionally, a biological monitor shall be present for activities occurring within or adjacent to riparian habitats where the potential for noise levels to exceed 60 dBA may occur at the edge of suitable habitat. If construction noise is negatively affecting LBV, or other nesting birds, as determined by the biological monitor, work shall cease (unless authorized by the wildlife agencies) until adequate sound barriers can be constructed to reduce noise levels at the edge of the riparian corridor. It may be most effective to construct noise barriers prior to March 15 to ensure construction delays do not occur. All noise barriers will need to be placed within the LOD. **TE-2 (NES BIO-23):** The permanent removal of occupied LBV habitat will be mitigated; a 2:1 ratio is proposed, with compensatory mitigation occurring as creation and/or restoration. For all LBV occupied habitat temporarily removed during construction, restoration would occur at the original location; a 1:1 ratio, including meeting performance criteria, is proposed. Temporal loss of riparian habitat will be addressed by mitigation for riparian-riverine resources (see Section 3.17, *Natural Communities*). Compensatory mitigation for LBV impacts should be coordinated with the riparian-riverine resources mitigation (**NC-15 [NES BIO-14]**), PQP lands mitigation (**NC-20 [NES BIO-21]**), and aquatics permitting mitigation (WET-1). **TE-3 (NES BIO-30):** Prior to the start of construction activities, an SKR management plan will be developed for project activities occurring on the Riverside County Habitat Conservation Agency (RCHCA) SKR Reserve to minimize direct impacts on the species. At a minimum this measure will include: (1) Preconstruction surveys by a qualified biologist; and (2) Avoidance and minimization measures to reduce impacts on SKR. The SKR management plan will be consistent with existing reserve management guidelines that will be coordinated with RCHCA. In addition, the management plan will submitted for review by RCHCA, USFWS, CDFW, and LMRMC (as the plan pertains to the Lake Mathews Multiple Species Reserve area).
Invasive Species	*Permanent:* Some affected areas within the right of way would remain undeveloped to serve as a shoulder and/or maintenance buffer. Areas left as bare ground could create favorable conditions for invasive plants and promote the spread of these species. *Temporary:* Construction vehicles and equipment could transport invasive plant species from previous work sites to project limits of disturbance and adjacent buffer areas.	*Permanent:* Some affected areas within the right of way would remain undeveloped to serve as a shoulder and/or maintenance buffer. Areas left as bare ground could create favorable conditions for invasive plants and promote the spread of these species. *Temporary:* Construction vehicles and equipment could transport invasive plant species from previous work sites to project limits of disturbance and adjacent buffer areas.	*Permanent:* Some affected areas within the right of way would remain undeveloped to serve as a shoulder and/or maintenance buffer. Areas left as bare ground could create favorable conditions for invasive plants and promote the spread of these species. *Temporary:* Construction vehicles and equipment could transport invasive plant species from previous work sites to project limits of disturbance and adjacent buffer areas.	No Impact	**NC-2 (NES BIO-2):** Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (WRC MSHCP Volume I, Section 7.5.3). **NC-3 (NES BIO-3):** When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to any natural vegetation communities, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (WRC MSHCP Volume I, Section 7.5.3). **NC-5 (NES BIO-5):** The qualified project biologist will monitor construction activities to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (WRC MSHCP Volume I, Section 7.5.3). Special attention will be provided to ensure that the ESA fencing required in Measure **NC-6 (NES BIO-6)** is maintained. Additionally, ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices. This will be done in concert with Measure **NC-6**, below, which includes the fencing of sensitive areas (e.g.,

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
					riparian-riverine resources and jurisdictional waters and wetlands adjacent to the LOD and conserved lands). **NC-6 (NES BIO-6):** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using ESA fencing (e.g., orange snow fencing, silt fencing). The ESA fencing will be reviewed at a frequency deemed necessary by the biological monitor (as indicated in Measure **NC-5 [NES BIO-5]**) until the completion of all construction activities. For the ESA fencing installed within WRC MSHCP Core Reserve (RCHCA SKR Reserve and LM MSHCP area), the fencing must exclude reptiles and amphibians (to greatest extent feasible) from entering the LOD. Employees will be instructed that their activities are restricted to the construction areas (WRC MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). **NC-7 (NES BIO-17):** Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (WRC MSHCP Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations. **NC-8 (NES BIO-8):** Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment will occur at least 300 feet from ESA fencing to prohibit the spread of invasive species. **NC-10 (NES BIO-10):** Plans for water pollution and erosion control (i.e., SWPPP) will be prepared in accordance with project aquatics permits. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County prior to construction (WRC MSHCP Volume I, Section 7.5.3). **NC-12 (NES BIO-12):** During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by WRC MSHCP covered species that are outside of the project footprint will be avoided (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). **NC-13 (NES BIO-9):** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County-approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. **NC-19 (NES BIO-15) (Mitigation):** Restoration of temporary impact areas on the LM MSHCP area will be accomplished through onsite restoration of those temporarily affected areas. A Habitat Mitigation and Monitoring Plan will be developed in consultation with LMRMC, RCA, USFWS, and CDFW.
Short-Term Use – Long-Term Productivity	*Permanent:* Long-term losses would include: • Permanent removal of residential and nonresidential uses and a possible permanent loss of those uses in the	Long-term and short-term losses and gains would be the same as those identified for Build Alternative 1.	Long-term and short-term losses and gains would be the same as those identified for Build Alternative 1.	No impact	

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	community along the ultimate, Cajalco Road alignment if they are not relocated in the immediate project vicinity; • Permanent conversion of FMMP important farmland and open space to roadway use; • Permanent, limited impacts on residents, business patrons, and travelers such as altered viewsheds, the visual presence of noise barriers, and a change in the aesthetic character of the land adjacent to the corridor due to the wider roadway; • Permanent limited increases in noise and vibration at certain locations along the project corridor; • Permanent loss of archaeological sites and the values associated with those sites; • Permanent loss of paleontologically-sensitive land; • Permanent increase in impervious surfaces resulting in increased stormwater runoff and requiring new drainage facilities, and; • Permanent impacts on plant resources, wildlife resources and open space. Long-term gains would include: • An improved transportation facility to address anticipated growth and mobility needs, as identified in the County of Riverside General Plan Circulation Element Policy 1.5; • Improved interregional travel by improving east-west mobility in Riverside County; • Increased efficiency of the movement of people and goods along Cajalco Road, which is expected to provide regional economic benefits; • Reduction in travel times to community facilities due to roadway efficiency, and; • Improved roadway alignment and intersection design to enhance safety along Cajalco Road. *Temporary / Short-term:* Short-term losses would include: • Economic losses experienced by businesses from temporary displacements, relocations, or traffic detours; • Temporary construction impacts on residents and visitors such as increased noise, impaired air quality from dust and debris, blocked viewsheds, and				

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	motorized and non-motorized traffic delays or detours; • Temporary loss of productivity on and near sites used as temporary construction staging areas. • Temporary increase in travel time to community facilities; • Temporary, localized disturbance of FMMP important farmlands; • Temporary disturbance of soils during construction increasing the chance of erosion and temporary water quality impacts, and; • Temporary impacts on plant resources, wildlife resources and open space. Short-term benefits would include: • Increased revenue for the local region generated during construction, and possibly limited temporary employment opportunities.				
Irreversible Commitments	Considerable amounts of fossil fuels, labor, public capital, and highway construction materials such as cement, aggregate, and bituminous material would be expended and would not be retrievable following construction. Large amounts of labor and natural resources would be used in the production of construction materials, and are generally not retrievable. However, they are not in short supply, and their use would not have an adverse effect upon continued availability of these resources. Lands currently committed to conservation, including those in the LM MSHCP, LM-EM Reserve, and RCRCD, would be converted to other uses. Construction would require a substantial, one-time expenditure of both state and federal funds; ongoing costs would also be required for roadway maintenance. Savings in travel time and improved transportation system efficiency would offset the use of these materials, labor, resources, and funds.	The commitment of resources would be similar to those identified for Build Alternative 1.	The commitment of resources would be similar to those identified for Build Alternative 1.	No impact	
4(f) Resources	Lake Mathews-Estelle Mountain Core Reserve: 127.16 acres of permanent use (1% of total Reserve) and 22.29 acres of temporary use. De minimis use. Lake Mathews Multiple Species Reserve: 121.51 acres of permanent use (2.4% of total Reserve) and 22.13 acres of temporary use. De minimis use. Mead Valley Potential Prehistoric Archaeological District (PPAD): 202.52 acres permanently incorporated to transportation and 55.08 acres of temporary use (0.88% of PPAD).	Lake Mathews-Estelle Mountain Core Reserve: 148.08 acres of permanent use (1.22% of total Reserve) and 25.59 acres of temporary use. De minimis use. Lake Mathews Multiple Species Reserve: 113.2 acres of permanent use (2.2% of total Reserve) and 25.63 acres of temporary use. De minimis use. Mead Valley PPAD: 225.66 acres permanently incorporated to transportation and 55.08 acres of temporary use (0.97% of PPAD).	Lake Mathews-Estelle Mountain Core Reserve: 62.51 acres of permanent use (0.51% of total Reserve) and 8.3 acres of temporary use. De minimis use. Lake Mathews Multiple Species Reserve: 58.39 acres of permanent use (1.1% of total Reserve) and 10.06 acres of temporary use. De minimis use. Mead Valley PPAD: 140.59 acres permanently incorporated to transportation and 34.96 acres of temporary use (0.6% of PPAD). PPAD Contributing features (CA-RIV-4403, -4407, -4408, and -4409): 5.98 acres permanently incorporated to	No impact	**BIO-1:** Seasonal Vegetation Clearing Restrictions (NC-1 [NES BIO-1]) **BIO-2:** Watering for dust control. Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (NC-2 [NES BIO-2]) **BIO-3:** Use of appropriate firefighting equipment for construction-caused wildfires. Educate personnel on fire hazards and fire risk (NC-3 [NES BIO-3]) **BIO-4:** Biological resource training for construction personnel (NC-4 [NES BIO-4]) **BIO-5:** Biological construction monitoring (NC-5 [NES BIO-5]) **BIO-6:** Establish environmentally sensitive area fencing and avoid environmentally sensitive areas (NC-6 [NES BIO-6] and AS-7 [NES BIO-20])

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	Site CA-RIV-7843, Locus 816: 1.69 acres permanently incorporated to transportation and 0.24 acre of temporary use. T u'uv, Qax alku Pay mik, and Qax alku Kw imik Traditional Cultural Properties (TCPs): 211.89 acres permanently incorporated to transportation and 61.7 acres of temporary use (0.96% of Traditional Cultural Properties). De minimis use.	Site CA-RIV-7843, Locus 816: 1.69 acres permanently incorporated to transportation and 0.24 acre of temporary use. T u'uv, Qax alku Pay mik, and Qax alku Kw imik TCPs: 232.04 acres permanently incorporated to transportation and 65.08 acres of temporary use (1% of Traditional Cultural Properties). De minimis use.	transportation and 0.78 acre of temporary use. Site CA-RIV-7843, Locus 816: 1.69 acres permanently incorporated to transportation and 0.24 acre of temporary use. T u'uv, Qax alku Pay mik, and Qax alku Kw imik TCPs: 234.03 acres permanently incorporated to transportation and 62.67 acres of temporary use (1% of Traditional Cultural Properties). De minimis use.		**BIO-7:** Removal of vegetation and exotic species during construction (NC-7 [NES BIO-7]) **BIO-8:** Reduce potential for spread of noxious weeds (NC-8 [NES BIO-8]) **BIO-9:** Hydroseeding bare ground after construction is completed (NC-13 [NES BIO-9], PF VIS-1) **BIO-10:** Water Pollution and Erosion Control Plans. Plans for water pollution and erosion control (i.e., Storm Water Pollution Prevention Plan [SWPPP]) will be prepared in accordance with project aquatics permits. The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. (NC-10 [NES BIO-10], PF WQ-1, PF WQ-2, PF WQ-4) **BIO-11:** Defining the Limits of Disturbance. The limits of disturbance (LOD), including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the LOD prior to initiation of construction activities (NC-11 [NES BIO-11]) **BIO-12:** Placement of Construction Equipment. During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) covered species that are outside of the project footprint will be avoided (NC-12 [NES BIO-12]) **BIO-13:** Determination of Biologically Equivalent or Superior Preservation (DBESP) report (NC-14 [NES BIO-13]) **BIO-14:** Compensation for permanent impacts on riparian-riverine resources (NC-15 [NES BIO-14]) **BIO-15:** Restoration of temporarily affected lands on the Lake Mathews Reserve and creation of a Habitat Mitigation and Monitoring Plan (NC-19 [NES BIO-15]) **BIO-16:** Night light shielding within potential WRC MSHCP conservation areas (AS-2 [NES BIO-16]) **BIO-17:** Compensation for permanent loss of habitat within LM MSHCP (NC-17 [NES BIO-17]) **BIO-18:** Noise Reduction for Equipment. Between March 15 and September 15, all heavy equipment will install and maintain mufflers or other noise-reducing features will be installed when working at Temescal Creek and Cajalco Creek. Additionally, a biological monitor shall be present for activities occurring within or adjacent to riparian habitats where the potential for noise levels to exceed 60 A-weighted decibels may occur at the edge of suitable habitat. If construction noise is negatively affecting least Bell's vireo or other nesting birds, as determined by the biological monitor, work shall cease (unless authorized by the wildlife agencies) until adequate sound barriers can be constructed to reduce noise levels at the edge of the riparian corridor. Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (TE-1 [NES BIO-18]; PF NOI-1) **BIO-19:** Wildlife Fencing Plan. A Wildlife Fencing Plan will be developed and implemented for the preferred build alternative. (NC-16 [NES BIO-19]) **BIO-20:** Environmentally sensitive area (ESA) fencing sufficient to prevent the entry of animals into the limits of disturbance will be installed prior to, and maintained during, construction. (AS-7 [NES BIO-20]) **BIO-21:** Replace PQP lands in Core C and Proposed Linkage 3 at a 1:1 ratio (NC-20 [NES BIO-21])

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
					BIO-22: Collection of Paniculate Tarplant Seeds (PL-1 [NES BIO-22]) **BIO-23:** Apply Minimum Lighting Standards (PF VIS-4) **BIO-24:** Removal of trash and debris (NC-9 [NES BIO-24]) **BIO-25:** Post-construction best management practices (BMPs. Post-Construction BMPs will be implemented to the maximum extent practicable, consistent with the requirements of the National Pollutant Discharge Elimination System permit and Waste Discharge Requirements for the County of Riverside's Municipal Separate Storm Sewer System Permit in place at the time of project approval. (PF WQ-3) **BIO-26:** Exhaust emissions control measures during construction (PF AQ-1) **BIO-27:** Fugitive dust control measures (PF AQ-2) **BIO-28:** Handling, Transport, and Disposal of Wastes. Wastes and petroleum products used or encountered during construction will be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Health and Safety Administration standards, including Waste Management and Materials Pollution Control BMPs – Spill Prevention and Control, Materials; and Waste Management BMPs, Hazardous Waste Management. (PF HAZ-3) **BIO-29:** Pet Policy. No pets will be allowed in, or adjacent to, conserved lands (AS-6 [NES BIO-29]) **BIO-30:** Stephens' Kangaroo Rat Management Plan. Prior to the start of construction activities, a Stephens' kangaroo rat (SKR) management plan will be developed for project activities occurring on the Riverside County Habitat Conservation Agency (RCHCA) SKR Reserve to minimize direct impacts on the species. (TE-3 [NES BIO-30]) **BIO-31:** Preconstruction Surveys (AS-3 [NES BIO-28]) **BIO-32:** Funding for reserve management, maintenance, and security on Lake Mathews Reserve (NC-18 [NES BIO-31]) **BIO-33:** Cajalco Creek Dam and Detention Basin, and Cajalco Creek Sedimentation Basin (HYD-1) **CR-1:** Discovery of Human Remains **CR-2:** Unanticipated Discoveries **PF NOI-1:** Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (2018 California Department of Transportation Standard Specifications, Section 14-8.02, Noise Control). **NOI-2:** Construct soundwall S-624 at the right of way at a height of 10 feet, provided that the survey process approves soundwall S-624. **NOI-3:** Construct soundwalls S-650 and S-652 (property line) at heights of 8 feet, provided that the survey process approves. **NOI-4:** Inclusion of Quiet Pavement (CEQA Measure). The County will require the construction contractor to provide an asphalt mix that provides 5-decibel minimum tire pavement noise reduction, and will include this mix during construction and paving of the proposed project. **PF NOI-5:** Construction noise would be temporary and limited to the duration of the construction. Noise control measures will also be incorporated into the project contract specifications in order to minimize construction noise effects.
Cumulative Impacts	Would not contribute to cumulative adverse impacts related to air quality, geology, hazardous materials/wastes, traffic, utilities	Would not contribute to cumulative adverse impacts related to air quality, geology, hazardous materials/wastes, traffic, utilities	Would not contribute to cumulative adverse impacts related to air quality, geology, hazardous materials/wastes, traffic, utilities	No impact	Measures for each resource affected are identified in Section 3.25, *Cumulative Impacts*. No new, additional avoidance, minimization, or

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
	and emergency services, energy, parks and recreational facilities, land use, community, environmental justice, noise, visual/aesthetics, hydrology, water quality, natural communities, wetlands and other waters, plant species, threatened and endangered species, animal species, and paleontological resources. Would contribute to a cumulative loss of farmlands and cultural resources. Anticipated cumulative impacts include the permanent loss of farmlands and adverse effects on cultural resources, as a result of construction and other future land development and infrastructure projects.	and emergency services, energy, parks and recreational facilities, land use, community, environmental justice, noise, visual/aesthetics, hydrology, water quality, natural communities, wetlands and other waters, plant species, threatened and endangered species, animal species, and paleontological resources. Would contribute to a cumulative loss of farmlands and cultural resources. Anticipated cumulative impacts include the permanent loss of farmlands and adverse effects on cultural resources, as a result of construction and other future land development and infrastructure projects.	and emergency services, energy, parks and recreational facilities, land use, community, environmental justice, hydrology, water quality, natural communities, wetlands and other waters, plant species, threatened and endangered species, animal species, and paleontological resources. Would contribute to a cumulative loss of farmlands and cultural resources, and cumulatively considerable contribution to impacts involving visual/aesthetics and noise. Anticipated cumulative impacts include the permanent loss of farmlands, adverse effects on cultural resources, increased ambient noise level and loss of scenic resources, as a result of construction and other future land development and infrastructure projects.		mitigation measures are identified that would avoid cumulative impacts identified for the build alternatives.
Climate Change	*Permanent:* Annual GHG emissions estimated to increase 0.88 percent.[5] Carbon dioxide (CO_2) emissions predicted to be 1,377,419 metric tons per year by 2044; 0.88 percent increase over 2044 No-Build Conditions. *Temporary:* Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction.	*Permanent:* Annual GHG emissions estimated to increase 0.38 percent.[3] CO_2 emissions predicted to be 1,370,635 metric tons per year by 2044; 0.38 percent increase over 2044 No-Build Conditions. *Temporary:* Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction.	*Permanent:* Annual GHG emissions estimated to increase 0.99 percent. CO_2 emissions predicted to be 1,378,941 metric tons per year by 2044; 0.99 percent increase over 2044 No-Build Conditions. *Temporary:* Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction.	CO_2 emissions are predicted to be 1,365,350 metric tons per year by 2044.	**GHG-1:** The project will incorporate the use of energy efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—consume less electricity than traditional lights, which will also help reduce the project's carbon dioxide emissions. **PF LU-1:** Traffic Management Plan. **PF VIS-1:** Contouring and Replanting Disturbed Areas. Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. **VIS-2:** Replace or Relocate Site Features and Landscaping Affected by the Project. Where appropriate and to the degree possible, landscaping and related appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts. **PF VIS-4:** Apply Minimum Lighting Standards. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized. Lighting will be designed for energy efficiency, with daylight sensors or timers with an on/off program. **VIS-8:** Replace Disturbed Vegetation along Landscaped Freeways. The County of Riverside will work with the appropriate Caltrans district landscape architect to determine which disturbed portions of landscaped freeways within the project limits require replanting and to what extent. **PF AQ-1:** The project would conform to Caltrans construction requirements, as specified in Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). Measures may include, but are not limited to: maintain and operate construction equipment; trucks and vehicles in loading and unloading queues would have their engines turned off when not in use; all equipment shall be properly tuned and maintained; restrict idling of construction vehicles to no longer than 5 consecutive minutes; use electricity from power poles, rather than temporary diesel- or gasoline powered generators if or where feasible; use onsite mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible; use solar-powered signal boards.

[5] Differences in VMT and CO_2 emissions between Alternatives 1 and 2C based on results of traffic modeling conducted for each alternative.

Affected Resources	Build Alternative 1 Cajalco Alignment	Build Alternative 2C Modified Cajalco Alignment	Build Alternative 4 El Sobrante Alignment	No-Build Alternative No Project Alternative	Avoidance, Minimization and Compensation Measures
					NC-13 (NES BIO-9): Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. **NC-15 (NES BIO-14):** Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, as long as there is no net loss of riparian-riverine resources. **WET-1:** Compensation for direct permanent impacts on USACE wetland and non-wetland WoUS, and CDFW streambed and associated riparian habitat, will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS. **PF SW-**1**:** Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.

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S.6.2 Significant Impacts and/or Substantial Adverse Effects

As summarized in Table S-1 and discussed in detail in Chapter 4, the following impacts of the build alternatives were determined to be significant, adverse, and unavoidable under CEQA, after implementation of avoidance, minimization, and mitigation measures, as well as project design features:

- Long-term aesthetic impacts
- Conflict with provisions of an adopted Habitat Conservation Plan and Natural Community Conservation Plan
- Long-term increase in ambient noise levels in the project vicinity above levels existing without the project (Build Alternative 4)
- Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b) as it relates to evaluating a project's transportation impacts in the context of vehicle miles traveled.
- Impacts on cultural resources
- Generation of direct and indirect greenhouse gas emissions

Also summarized in Table S-1 and discussed in detail in Chapter 4, the following impacts of the Build Alternatives were determined to be significant under CEQA, but with the incorporation of identified avoidance, minimization, and/or mitigation measures, the impacts have been avoided, minimized or reduced, thereby resulting in less-than-significant impacts:

- Long-term and short-term effects on species identified as a candidate, sensitive, or special-status species
- Long-term and short-term effects on state and federally protected wetlands, riparian habitat, and other sensitive natural community
- Impacts on native wildlife nursery sites
- Impacts on paleontological resources
- Hazards involving routine transport, use, or disposal of hazardous materials, and/or upset and accident conditions involving the release of hazardous materials
- Conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect
- Long-term increase in ambient noise levels in the project vicinity above levels existing without the project (Build Alternatives 1 and 2C)
- Short-term exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels
- Short-term substantial or periodic increase in ambient noise levels in the project vicinity

- Redirection of flood flows through alteration of the existing drainage pattern of the site or area, or through the addition of impervious surfaces
- New source of substantial glare that would negatively affect daytime or nighttime views in the area
- Short-term impacts on traffic and public services associated with the provision of new or physically altered governmental facilities
- Installation or maintenance of associated infrastructure that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment

S.7 Coordination with Public and Other Agencies

As part of the NEPA and CEQA process, a scoping meeting is required as part of the preparation of an EIR and EIS. In September 2011, a Notice of Preparation (NOP) of an EIR was received and accepted by the State Clearinghouse on September 6, 2011, and advertised to the public and mailed to elected officials and local, state, and federal agencies having jurisdiction or discretionary approval within the project corridor. Public scoping meetings were held September 26 and 29, 2011. At the time of NOP issuance, a complex Environmental Assessment was proposed for addressing analysis of the proposed project under NEPA.

In September 2012, following receipt of comments and agency feedback in response to the NOP, a Notice of Intent (NOI) to prepare an EIS was advertised to the public and mailed to elected officials and local, state, and federal agencies having jurisdiction or discretionary approval within the project corridor. The NOI was published in the Federal Register on September 26, 2012, and public scoping meetings held October 24 and 25, 2012. An agency Scoping Meeting was also held on October 24, 2012.

Various agencies were invited to participate in the project as cooperating, participating, and/or responsible agencies, as applicable. Under 23 USC 139, letters of Invitation requesting various agencies' involvement as cooperating and/or participating agencies were distributed October 1, 2012. Based on responses to the letters of invitation, a list of cooperating and participating agencies interested in involvement in the project were identified and interagency review roles established. A summary of consultation and coordination is provided in Chapter 5, *Comments and Coordination*. All agencies on this list have been requested to comment on key components of the environmental document prior to public circulation.

Public outreach efforts include public information meetings held October 10, October 16, and November 14, 2013, and July 14 and August 5, 2015. Additional community meetings have been held and are described in Chapter 5.

S.8 Permits and Approvals

Table S-2. Permits and Approvals Needed

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	• Section 7 consultation for Threatened and Endangered Species • Section 7 consultation with USACE on Section 404 permit • Joint Project Review (JPR) • Concurrence with County Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) Consistency Determination • Approval of minor amendment to WRC MSHCP • Concurrence with Determination of Biologically Equivalent or Superior Preservation (DBESP) • Equivalency Analysis of Public/Quasi-Public Lands Replacement • Approval of replacement lands pursuant to the Habitat Conservation Plan (HCP) for the Stephens' kangaroo rat (SKR) • Approval of Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) discretionary action • Approval of SKR HCP Minor Amendment	1. Section 7 consultations are to be conducted following identification of a Preferred Alternative and preparation of the WRC MSHCP Consistency Determination, which will serve as the Biological Assessment. 2. MSHCP Consistency Determination and DBESP to be prepared and submitted for USFWS concurrence following identification of a Locally Preferred Alternative and prior to approval of the Final EIS. 3. The JPR Application will be submitted following preparation of the MSHCP Consistency Determination and DBESP. 4. Minor amendment to the WRC MSHCP will be requested by the County EIS Record of Decision (ROD). 5. JPR finding following approval of Minor Amendment, and after EIS ROD. 6. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action will be requested by the County after the EIS ROD is approved.
United States Army Corps of Engineers (USACE)	Section 404 Permit for fill or dredging waters of the United States	Application to be submitted prior to construction.
California Department of Fish and Wildlife (CDFW)	• Section 1602 Lake and Streambed Alteration Agreement • JPR • Concurrence with County MSHCP Consistency Determination • Approval of WRC MSHCP Minor Amendment • Approval of replacement lands pursuant to the SKR HCP • Concurrence on DBESP • Approval of LM MSHCP discretionary action • Approval of SKR HCP Minor Amendment	1. Section 1602 Notification is to be submitted and agreement obtained prior to the start of construction. 2. The MSHCP Consistency Determination and DBESP will be prepared and submitted for concurrence following identification of a Preferred Alternative and prior to certification of the Final EIR. 3. Amendment to the WRC MSHCP to be requested by the County after the Final EIR is certified. 4. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action will be requested by the County after certification of the Final EIR.

Agency	Permit/Approval	Status
California State Water Resources Control Board	• Coverage under the General Permit for Discharges of Stormwater associated with Construction Activity (Construction General Permit, Order No. 2009-0009-DWQ) • Water Discharge Permit, approval of NOI to comply with General Construction Activity • National Pollutant Discharge Elimination System (NPDES) Permit	• Following completion of the Final Design phase of the project. • NOI to be submitted prior to construction. • Application to be submitted prior to construction.
Western Riverside County Regional Conservation Authority (RCA)	• Minor Amendment under Section 7.2.2 • Concurrence with County MSHCP Consistency Determination and JPR finding	• Minor amendment to the WRC MSHCP will be requested by the County following approval of a Preferred Alternative. • JPR finding and concurrence with County MSHCP Consistency Determination following approval of Minor Amendment, and prior to EIS ROD.
County of Riverside, Riverside County Habitat Conservation Agency (RCHCA)	• Approval of replacement lands pursuant to the SKR HCP • Section 4(f) consultation • LM MSHCP discretionary action	• Approval of replacement lands pursuant to the SKR HCP will be requested by the County after certification of the Final EIR. • Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.
Regional Water Quality Control Board 8 (RWQCB)	Section 401 Water Quality certification	Application to be submitted prior to construction.
County of Riverside	Temporary construction permits and relinquishment of County right of way to MWD	To be coordinated during Final Design phase of the project.
City of Corona	Approval of encroachment permits and street construction permits, and improvements within public right of way	Actions/permits would be issued prior to start of construction.
Riverside County Flood Control and Water Conservation District (RCFCWCD)	Encroachment permits for improvements affecting RCFCWCD facilities	Application(s) to be submitted prior to construction.
Caltrans, District 8	Encroachment Permit for work within I-215 right of way	Application to be submitted prior to construction.
Metropolitan Water District of Southern California (MWD)	• LM MSHCP discretionary action • Section 4(f) consultation • Land transfers between MWD and County	• Consultation and discretionary action following approval of Preferred Alternative; land transfers following Final EIR/EIS. • Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.

Agency	Permit/Approval	Status
Burlington Northern Santa Fe (BNSF)	• Encroachment permit • Required for work performed within railroad right of way	To be acquired prior to any construction activity occurring within BNSF right of way.
California Public Utilities Commission	Compliance with Public Utilities Code Sections 1201 through 1205, for grade separated structure over BNSF rail line	Application to the California Public Utilities Commission to occur during Final Design phase of the project.
State Historic Preservation Officer (SHPO)	• Concurrence with agencies' determinations of eligibility and findings of effect • Memorandum of Agreement	• SHPO concurrence with determinations of eligibility and findings of effect confirmed. • Memorandum of Agreement consultation will be completed prior to completion of the Final EIR/EIS.
Participating Native American Tribes	Required consultation under National Historic Preservation Act, Section 106, including (but not limited to): determinations of eligibility, findings of effect, and future work that includes involvement with the Memorandum of Agreement, Archaeological Monitoring Plan, and Data Recovery Plan	Native American consultation for the project is ongoing.

S.9 Unresolved Issues

The LM MSHCP does not currently accommodate the roadway widening and improvements through the LM MSHCP area, including the Lake Mathews Multiple Species Reserve (LMR), proposed by the build alternatives. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements. Coordination between the County, MWD, RCHCA, and Lake Mathews Reserve Management Committee (LMRMC), including member resource agencies, has been ongoing since 2011 to address concerns involving the design and placement of the build alternatives, wildlife crossing opportunities, protection of wetland resources, and the management and security of LMR and Lake Mathews facilities. As a result of the coordination, a number of design modifications have been made to the build alternatives to avoid or otherwise minimize impacts on Lake Mathews facilities and LMR wetland resources, and enhance wildlife crossing opportunities. Additional measures to aid in the management and security of LMR and Lake Mathews facilities have been discussed with MWD and RMC member agencies, and will be further coordinated as part of the discretionary action.

While no other specific unresolved issues are noted at this time for the project, through the public review of this Draft EIR/EIS, other issues may be identified that would require resolution prior to approval of the Final EIR/EIS, the Notice of Determination under CEQA, and the issuance of a Record of Decision under NEPA.

S.10 Areas of Controversy

Based on comments received on the Notice of Preparation and Notice of Intent for project, as well as input received from the public, environmental advocacy groups, and resource agencies, areas of

controversy may include changes in traffic circulation, trucking and traffic speed, community impacts, growth, business and residential relocations, impacts involving the WRC MSHCP, LM MSHCP, SKR HCP, including threatened/endangered species and wildlife crossing opportunities, impacts on cultural resources, and impacts involving greenhouse gas emissions.

Chapter 1. **Proposed Project**

1.1 Introduction

The Riverside County Transportation Department (County), in cooperation with the California Department of Transportation (Caltrans), proposes to widen Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, between Temescal Canyon Road to the west and Interstate 215 (I-215) to the east. Caltrans, as assigned by the Federal Highway Administration (FHWA), is the lead agency under the National Environmental Policy Act (NEPA). The County is the lead agency under the California Environmental Quality Act (CEQA). The proposed project is located in Riverside County, California, and covers a distance of approximately 15.7 miles. In general, Cajalco Road and El Sobrante Road through the project area are two-lane undivided roadways with one 12-foot lane in each direction and shoulders of varying widths. Please refer to Figures 1-1 and 1-2 for project location and vicinity maps.

Between Temescal Canyon Bridge and Harvill Avenue, the project would widen the existing two-lane roadway to four lanes, and between Temescal Canyon Road and Temescal Canyon Bridge, and Harvill Avenue and the I-215 southbound ramps, the project would widen the existing four-lane roadway to six lanes, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. Portions of the project are located within the Metropolitan Water District of Southern California (MWD) Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) (see Figure 1-2). Because the LM MSHCP does not currently accommodate roadway improvements, or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. The total cost of the proposed project, including right of way, would range from $358,699,000 to $514,615,000, depending upon the build alternative selected.

The project is partially funded and is in the Southern California Association of Governments' (SCAG) financially constrained 2021 Federal Transportation Improvement Program (FTIP) (Project Number RIV090903), which was found to conform by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) on April 16, 2021.[1] The project is also included in the list of the modeled projects in the SCAG 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) (Project Number

[1] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

3A04WT137), which was found to conform by FHWA and FTA on June 5, 2020. Analysis concludes that the project's operational emissions (which include the ozone precursors reactive organic gases [ROG] and nitrogen oxides [NOx]) meet the transportation conformity requirements imposed by the U.S. Environmental Protection Agency (EPA) and South Coast Air Quality Management District (SCAQMD). Please see copies of the listing of the project in the 2020 RTP and the 2021 FTIP in Appendix G of this document.

1.2 Purpose and Need

1.2.1 Project Purpose

The purpose of the Cajalco Road Widening and Safety Enhancement Project (project) is to:

- Improve the transportation facility to address anticipated growth and mobility needs.
- Improve interregional travel by improving east-west mobility in Riverside County.
- Improve roadway alignment and intersection design to enhance safety.

1.2.2 Project Need

1.2.2.1 Capacity, Transportation Demand, and Safety

Existing Capacity and Level of Service

The proposed project is located within western Riverside County between two major transportation corridors, Interstate 15 (I-15) and I-215, and traverses through a number of local communities. The ability of the transportation facility to facilitate east-west movement between the two corridors, while serving the transportation needs of the local communities, relies heavily upon capacity and level of service. Roadway capacity is determined by the number of vehicles that can reasonably pass over a given section of roadway in a given period of time. Level of service (LOS) is a measurement of the ability of a roadway to accommodate traffic. LOS conditions are designated as "A," indicating best free-flow conditions, through "F," indicating worst-case, congested conditions.

Maximum traffic volumes measured in terms of average daily traffic (ADT) for each LOS (A through E), for arterial roadways in Riverside County, are listed in Table 1-1, below.

Table 1-1. Arterial Level of Service

Number of Lanes	Maximum Two-Way Traffic Volume (ADT)				
	LOS A	LOS B	LOS C	LOS D	LOS E
2	10,800	12,600	14,400	16,200	18,000
4	21,540	25,130	28,700	32,300	35,900
6	32,340	37,730	43,100	48,500	53,900

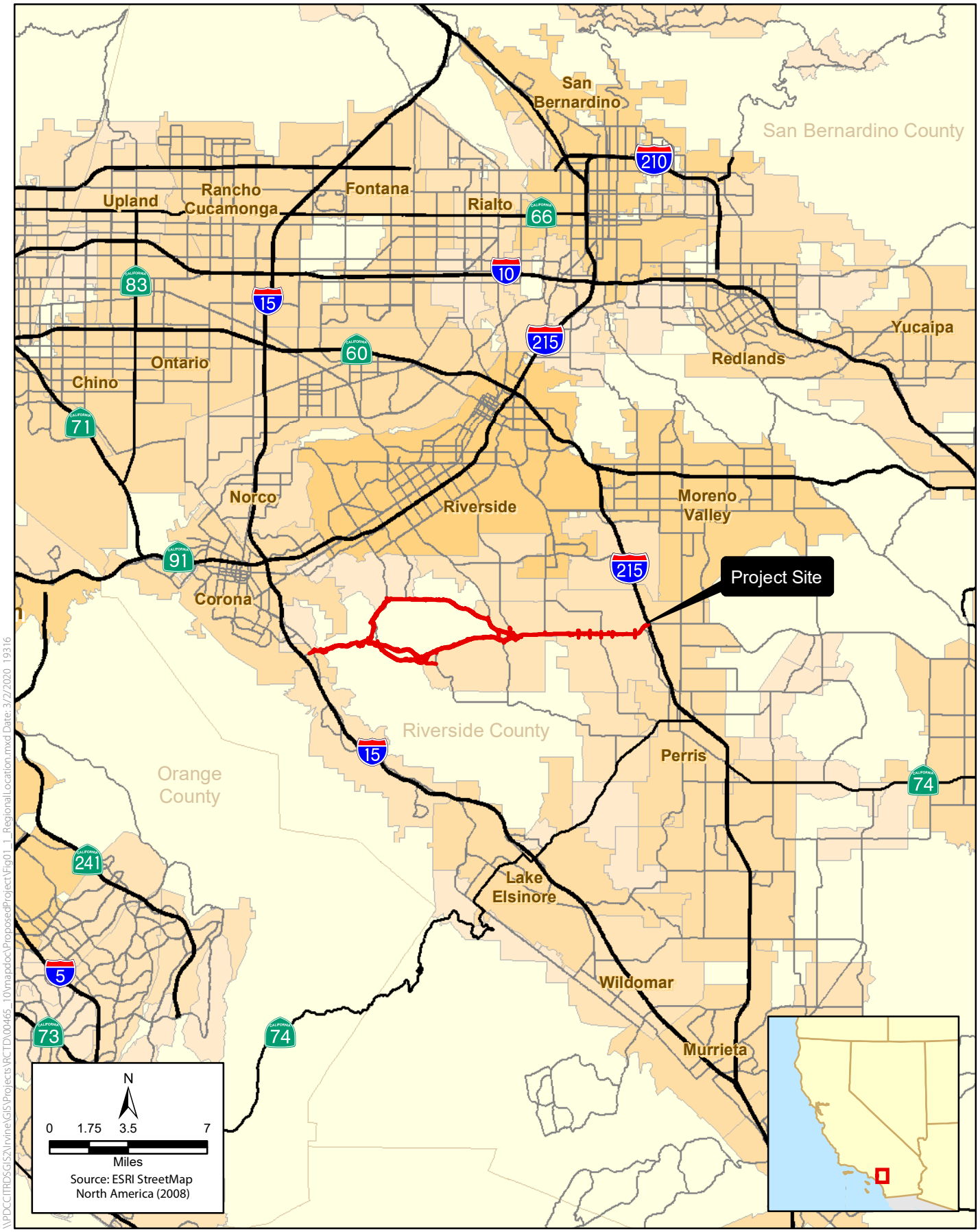

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Figure 1-1
Regional Location
Cajalco Road Widening and Safety Enhancement Project

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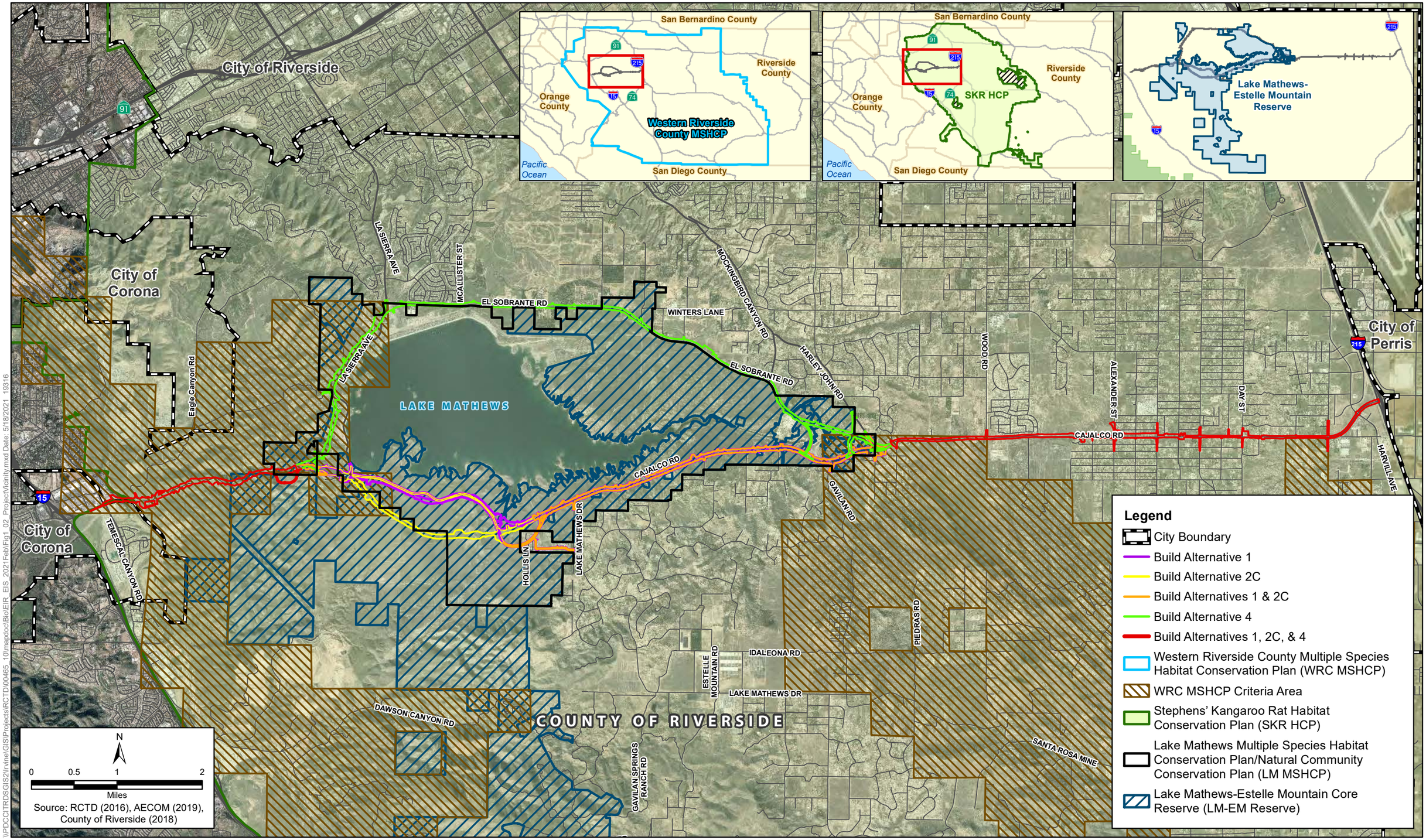

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Figure 1-2
Project Vicinity Map
Cajalco Road Widening and Safety Enhancement Project

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Table 1-2 indicates the existing ADT and LOS for traffic along mainline Cajalco Road and El Sobrante Road within the project limits.

Table 1-2. Average Daily Traffic and Level of Service – Baseline Conditions

Roadway Segment	Baseline Conditions		
	Number of Lanes	ADT	LOS
Cajalco Road east of Temescal Canyon Road	2	13,340	C
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	2	9,321	A
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	8,740	A
Cajalco Road between Lake Mathews Drive to El Sobrante Road	2	7,540	A
El Sobrante Road east of La Sierra Avenue	2	11,591	B
Cajalco Road between El Sobrante Road to Gavilan Road	2	18,280	F
Cajalco Road between Gavilan Road to Harley John Road	2	18,670	F
Cajalco Road between Harley John Road and Day Street	2	19,890	F
Cajalco Road east of Day Street	2	26,390	F
Source: Caltrans 2017a. Shaded cells represent unacceptable LOS (LOS standard exceeded)			

Under existing conditions, two-lane Cajalco Road currently operates at unsatisfactory LOS F between El Sobrante Road and Day Street, and satisfactory LOS C and A between Temescal Canyon Road and El Sobrante Road. El Sobrante Road currently operates at satisfactory LOS B east of La Sierra Avenue.

Sixty-nine roadway intersection were studied within the project area and compared with LOS criteria for both signalized and unsignalized intersections, measured as the delay associated with each LOS grade, as well as a qualitative description of intersection operations at each corresponding grade, as presented in Table 1-3, below. In order to maintain consistency with County standards, LOS D was established as the design standard for intersections.

Table 1-3. Intersection Level of Service Definitions

LOS	Description	Signalized Intersection Delay (seconds per vehicle)	Unsignalized Intersection Delay (seconds per vehicle)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤10	≤10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	>10 and ≤20	>10 and ≤15
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	>20 and ≤35	>15 and ≤25
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues.	>35 and ≤55	>25 and ≤35
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	>55 and ≤80	>35 and ≤50
F	Forced flow. Represents jammed conditions. Backups form locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	>80.0 or V/C >1	>50

Existing LOS for each of the study area intersections is presented in Table 1-4, below.

Table 1-4. Intersection Level of Service – Baseline Conditions

	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 southbound (SB) ramps and Magnolia Avenue	Signal	28.9	C	38.9	D
2	I-15 northbound (NB) ramps and Magnolia Avenue	Signal	16.9	B	15.4	B
3	I-15 SB ramps and Ontario Avenue	Signal	58.9	E	22.9	C
4	I-15 NB ramps and Ontario Avenue	Signal	51.8	D	15.1	B
5	Bedford Canyon Road and El Cerrito Road	Signal	22.9	C	31.2	C
6	I-15 SB ramps and El Cerrito Road	Signal	12.4	B	10.4	B
7	I-15 NB ramps and El Cerrito Road	Signal	37.3	D	24.1	C
8	Temescal Canyon Road and El Cerrito Rd	Signal	10.3	B	9.2	A
9	Cajalco Road and Bedford Canyon Road	Signal	8.5	A	11.9	B
10	Cajalco Road and I-15 SB ramps	Signal	33.0	C	25.3	C
11	I-15 NB ramps and Cajalco Road	Signal	46.6	D	27.7	C
12	Cajalco Road and Temescal Canyon Road	Signal	40.9	D	30.7	C
13	I-15 SB ramps and Weirick Road	Signal	16.3	B	28.5	C
14	I-15 NB ramps and Weirick Road	Signal	11.1	B	12.3	B
15	La Sierra Avenue and Victoria Avenue	Signal	33.0	C	31.6	C
16	La Sierra Avenue and McAllister Parkway	Signal	20.6	C	17.1	B
17	La Sierra Avenue and El Sobrante Road	AWSC	26.3	D	35.7	E
18	Cajalco Road and La Sierra Avenue	Signal	14.4	B	14.8	B
19	Lake Mathews Drive and Cajalco Road	TWSC	3.2	A	1.5	A
20	Mockingbird Canyon Road and Harley John Road	AWSC	7.9	A	8.6	A
21	El Sobrante Road and Mockingbird Canyon Road	TWSC	2.6	A	3.7	A
22	Cajalco Road and El Sobrante Road	Signal	7.6	A	12.3	B
23	Gavilan Road and Cajalco Road	Signal	9.8	A	14.9	B
24	Gavilan Road and Lake Mathews Drive	TWSC	3.5	A	4.8	A
25	Harley John Road and Washington Road	TWSC	1.7	A	3.1	A
26	Cajalco Road and Harley John Road	Signal	18.7	B	18.0	B
27	Wood Road and Markham Street	Signal	18.9	B	13.3	B
28	Cajalco Road and Wood Road	Signal	29.9	C	21.3	C
29	Alexander Street and Markham Street	AWSC	50.2	F	10.3	B
30	Alexander Street and Cajalco Road	Signal	31.7	C	16.4	B
31	Rider Street and Alexander Street	TWSC	3.4	A	4.9	A
32	Brown Street and Markham Street	TWSC	2.4	A	1.9	A
33	Brown Street and Cajalco Road	Signal	11.6	B	12.1	B
34	Brown Street and Rider Street	AWSC	8.7	A	8.1	A
35	Clark Street and Markham Street	AWSC	12.1	B	11.0	B
36	Clark Street and Cajalco Road	Signal	31.7	C	32.2	C
37	Old Elsinore Road/Clark Street and Rider Street	Signal	16.5	B	13.4	B
38	Day Street and Markham Street	AWSC	11.2	B	10.0	A
39	Day Street and Cajalco Road	TWSC	3.4	A	1.9	A
40	Day Street and Rider Street	TWSC	0.0	A	0.0	A
41	Seaton Avenue and Markham Street	AWSC	12.1	B	12.6	B
42	Seaton Avenue and Cajalco Road	TWSC	4.4	A	5.9	A
43	Rider Street and Seaton Avenue	TWSC	4.7	A	6.3	A

	Intersection	Control Type	AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
44	Harvill Avenue and Markham Street	AWSC	10.4	B	11.3	B
45	Cajalco Expressway and Harvill Avenue	Signal	18.5	B	5.8	A
46	Harvill Avenue and Rider Street	TWSC	1.2	A	1.3	A
47	Harvill Avenue and Placentia Avenue	TWSC	5.1	A	5.3	A
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	16.6	B	13.3	B
49	SR-60/I-215 NB ramps and Fair Isle Drive/Box Springs Road	Signal	38.0	D	14.5	B
50	Day Street and SR-60 westbound (WB) ramps	Signal	16.0	B	33.8	C
51	Day Street and SR-60 eastbound (EB) ramps	Signal	13.9	B	23.2	C
52	I-215 ramps and Eucalyptus Avenue	Signal	19.3	B	24.6	C
53	Alessandro Boulevard and I-215 SB ramp	Signal	8.9	A	10.4	B
54	I-215 NB ramps and Alessandro Boulevard	Signal	26.1	C	20.9	C
55	I-215 SB ramps and Cactus Avenue	Signal	5.4	A	13.6	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	18.9	B	6.1	A
57	I-215 SB ramps and Van Buren Boulevard	Signal	10.1	B	17.9	B
58	I-215 NB ramps and Van Buren Boulevard	Signal	17.8	B	14.1	B
59	I-215 SB ramps and Harley Knox Boulevard	Signal	20.4	C	20.6	C
60	I-215 NB ramps and Harley Knox Boulevard	Signal	9.1	A	12.9	B
61	I-215 SB ramps and Cajalco Expressway/Cajalco Expressway	Signal	87.3	F	32.2	C
62	I-215 NB ramps and Cajalco Expressway/Ramona Expressway	Signal	67.4	E	40.8	D
63	I-215 SB Frontage Road and Placentia Avenue	*Future*	-	-	-	-
64	I-215 NB Frontage Road and Placentia Avenue	*Future*	-	-	-	-
65	I-215 SB ramps and Nuevo Road	Signal	30.2	C	35.5	D
66	I-215 NB ramps and Nuevo Road	Signal	46.4	D	44.5	D
67	Webster Avenue and Ramona Expressway	Signal	16.1	B	18.8	B
68	Indian Street and Ramona Expressway	Signal	16.7	B	19.3	B
69	Ramona Expressway and Perris Boulevard	Signal	29.6	C	25.4	C

Source: Caltrans 2017a.
TWSC – Two Way Stop Control
AWSC – All Way Stop Control
SR-60 = State Route 60
Delay – Average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)

As indicated in Table 1-4, five intersections currently operate at unsatisfactory LOS E or F during AM or PM peak hours:

- I-15 SB ramps and Ontario Avenue
- La Sierra Avenue and El Sobrante Road
- Alexander Street and Markham Street
- I-215 SB ramps and Cajalco Expressway/Cajalco Expressway
- I-215 NB ramps and Cajalco Expressway/Ramona Expressway

The 13 study intersections along Cajalco Road between Temescal Canyon Road and Harvill Avenue currently operate at satisfactory LOS A, B, C or D.

Regional Population Forecasts

Using socioeconomic data, including growth forecasts and economic trends, SCAG evaluates the need for and identification of long-range transportation projects throughout the Southern California region, including Riverside County, for the RTP/SCS. The 2016 SCAG RTP/SCS indicates that the population for Riverside County in 2015 was 2,316,000 and estimated that the County population would be 3,183,000 in 2040. Given these numbers, there will be a nearly 40% increase in the County population between 2015 and 2040. Regional traffic is predicted to increase with the projected growth in population.

Compared to eastern Riverside County, the western portion of the County contains the greatest concentration of population and has experienced the greatest growth pressures. The majority of this population is concentrated in the incorporated cities.

The County of Riverside General Plan Circulation Element Policy 1.5 states: "Evaluate the planned circulation system as needed to enhance the arterial highway network to respond to anticipated growth and mobility needs."

Table 1-5 indicates growth trends, and projected population and employment, for Riverside County, Riverside County unincorporated areas, and for cities adjacent to the project (Corona, Perris and Riverside).

Table 1-5. Population/Employment Projections and Growth Trends

	Population				Employment			
Area	2012	2040	Annual Growth Rate	Total Growth 2012–2040	2012	2040	Annual Growth Rate	Total Growth 2012–2040
Riverside County[1]	2,253,312	3,139,038	1.39%	39.3%	573,600	888,600	1.55%	54.9%
Unincorporated Riverside County	359,000	499,200	1.39%	39.1%	70,500	156,600	4.36%	122.1%
Corona	156,000	172,300	0.37%	10.5%	66,400	88,400	1.18%	33.1%
Perris	70,700	116,700	2.32%	65.1%	15,100	32,200	4.04%	113.2%
Riverside (City)	310,700	386,600	0.87%	24.4%	120,000	200,500	2.4%	67.1%

Sources: SCAG 2016a.
[1] Caltrans 2019.

By Year 2040, the population of unincorporated Riverside County is estimated to increase by 39.1% and employment is projected to increase 122.1%. Adjacent cities are also projected to experience similar growth, with the greatest increase in population and employment anticipated for Perris at 65.1% and 113.2%, respectively.

Level of Service Projections

Riverside County includes RTP/SCS-listed projects, as well as Western Riverside Council of Governments' (WRCOG) Transportation Uniform Mitigation Fee (TUMF), Measure A networks, and local Capital Improvement Programs (CIP), in their travel demand model for the County, Riverside Traffic Analysis Model (RIVTAM). Traffic forecasts based on RIVTAM and baseline data were developed for the proposed project study area, and include projected ADT, LOS, vehicle speed, Vehicle Miles Traveled (VMT), Vehicle Hours Traveled (VHT) and Vehicle Hours Delay (VHD). A comparison of existing and projected ADT and LOS for

roadway segments within the project limits and intersections within the project study area, is provided in Tables 1-7 and 1-8 on the following pages.

Table 1-6 indicates the projected ADT and LOS in Year 2044 for traffic along mainline Cajalco Road within the project limits.

Table 1-6. Traffic Volumes and Level of Service – Existing and 2044 No-Build Forecast Conditions

Baseline 2014 and Year 2044 Forecast Conditions – No-Build				
	Baseline 2014		Year 2044	
Roadway Segment	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road east of Temescal Canyon Road	13,340	C	15,530	C
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	9,321	A	13,460	C
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	8,740	A	4,310	A
Cajalco Road between Lake Mathews Drive and El Sobrante Road	7,540	A	5,770	A
El Sobrante Road east of La Sierra Avenue	11,591	B	19,410	F
Cajalco Road between El Sobrante Road and Gavilan Road	18,280	F	23,800	F
Cajalco Road between Gavilan Road and Harley John Road	18,670	F	27,330	F
Cajalco Road between Harley John Road and Day Street	19,890	F	26,420	F
Cajalco Road east of Day Street	26,390	F	28,800	F
Source: Caltrans 2017a. Shaded cells represent unacceptable LOS (LOS standard exceeded)				

As indicated in Table 1-6, two-lane Cajalco Road is projected to continue operating at unsatisfactory LOS F between El Sobrante Road and Day Street in future Year 2044. When compared with existing conditions, ADT traffic on Cajalco Road is estimated to increase an average of 38.2% by Year 2044.

Projected LOS for each of the study area intersections are presented in Table 1-7.

Table 1-7. Intersection Level of Service – Baseline 2014 and 2044 No-Build Forecast Conditions

		Baseline 2014					Year 2044				
			AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
	Intersection	Control Type	Delay (sec)	LOS	Delay (sec)	LOS	Control Type	Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 SB ramps and Magnolia Avenue	Signal	28.9	C	38.9	D	Signal	42.2	D	45.9	D
2	I-15 NB ramps and Magnolia Avenue	Signal	16.9	B	15.4	B	Signal	18.6	B	22.9	C
3	I-15 SB ramps and Ontario Avenue	Signal	58.9	E	22.9	C	Signal	96.3	F	93.7	F
4	I-15 NB ramps and Ontario Avenue	Signal	51.8	D	15.1	B	Signal	156.4	F	146.6	F
5	Bedford Canyon Road and El Cerrito Road	Signal	22.9	C	31.2	C	Signal	38.3	D	174.6	F
6	I-15 SB ramps and El Cerrito Road	Signal	12.4	B	10.4	B	Signal	25.1	C	7.7	A
7	I-15 NB ramps and El Cerrito Road	Signal	37.3	D	24.1	C	Signal	9.4	A	7.8	A
8	Temescal Canyon Road and I-15 NB ramps	Signal	10.3	B	9.2	A	Signal	12.6	B	13.6	B
9	Cajalco Road and Bedford Canyon Road	Signal	8.5	A	11.9	B	Signal	103.9	F	207.6	F
10	Cajalco Road and I-15 SB ramps	Signal	33.0	C	25.3	C	Signal	8.7	A	122.3	F
11	I-15 NB ramps and Cajalco Road	Signal	46.6	D	27.7	C	Signal	13.6	B	52.5	D
12	Cajalco Road and Temescal Canyon Road	Signal	40.9	D	30.7	C	Signal	140.2	F	160.7	F
13	I-15 SB ramps and Weirick Road	Signal	16.3	B	28.5	C	Signal	29.3	C	26.0	C

		Baseline 2014					Year 2044				
			AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
	Intersection	Control Type	Delay (sec)	LOS	Delay (sec)	LOS	Control Type	Delay (sec)	LOS	Delay (sec)	LOS
14	I-15 NB ramps and Weirick Road	Signal	11.1	B	12.3	B	Signal	108.6	F	25.8	C
15	La Sierra Avenue and Victoria Avenue	Signal	33.0	C	31.6	C	Signal	175.4	F	326.2	F
16	La Sierra Avenue and McAllister Parkway	Signal	20.6	C	17.1	B	Signal	17.6	B	9.8	A
17	La Sierra Avenue and El Sobrante Road	AWSC	26.3	D	35.7	E	AWSC	47.4	E	50.2	F
18	Cajalco Road and La Sierra Avenue	Signal	14.4	B	14.8	B	Signal	18.6	B	41.6	D
19	Lake Mathews Drive and Cajalco Road	TWSC	3.2	A	1.5	A	TWSC	2.3	A	1.2	A
20	Mockingbird Canyon Road and Harley John Road	AWSC	7.9	A	8.6	A	AWSC	9.1	A	12.2	B
21	El Sobrante Road and Mockingbird Canyon Road	TWSC	2.6	A	3.7	A	TWSC	3.1	A	5.2	A
22	Cajalco Road and El Sobrante Road	Signal	7.6	A	12.3	B	Signal	10.2	B	11.9	B
23	Cajalco Road and Gavilan Road	Signal	9.8	A	14.9	B	Signal	24.8	C	110.6	F
24	Gavilan Road and Lake Mathews Drive	TWSC	3.5	A	4.8	A	TWSC	0.7	A	199.2	F
25	Harley John Road and Washington Road	TWSC	1.7	A	3.1	A	TWSC	2.2	A	51.0	F
26	Cajalco Road and Harley John Road	Signal	18.7	B	18.0	B	Signal	116.5	F	86.3	F
27	Wood Road and Markham Street	Signal	18.9	B	13.3	B	Signal	11.2	B	10.3	B
28	Cajalco Road and Wood Road	Signal	29.9	C	21.3	C	Signal	26.9	C	12.6	B
29	Alexander Street and Markham Street	AWSC	50.2	F	10.3	B	AWSC	37.9	E	50.8	F
30	Alexander Street and Cajalco Road	Signal	31.7	C	16.4	B	Signal	35.7	D	27.1	C
31	Rider Street and Alexander Street	TWSC	3.4	A	4.9	A	TWSC	8.2	A	7.4	A
32	Brown Street and Markham Street	TWSC	2.4	A	1.9	A	AWSC[1]	7.8	A	8.1	A
33	Brown Street and Cajalco Road	Signal	11.6	B	12.1	B	Signal	14.1	B	20.6	C
34	Brown Street and Rider Street	AWSC	8.7	A	8.1	A	AWSC	9.0	A	8.7	A
35	Clark Street and Markham Street	AWSC	12.1	B	11.0	B	AWSC	9.9	A	10.8	B
36	Clark Street and Cajalco Road	Signal	31.7	C	32.2	C	Signal	46.8	D	99.1	F
37	Old Elsinore Road/Clark Street and Rider Street	Signal	16.5	B	13.4	B	Signal	23.3	C	18.0	B
38	Day Street and Markham Street	AWSC	11.2	B	10.0	A	AWSC	10.5	B	10.3	B
39	Day Street and Cajalco Road	TWSC	3.4	A	1.9	A	TWSC	8.9	A	30.6	D
40	Day Street and Rider Street	TWSC	0.0	A	0.0	A	TWSC	13.4	A	3.9	A
41	Seaton Avenue and Markham Street	AWSC	12.1	B	12.6	B	AWSC	22.0	C	25.4	D
42	Seaton Avenue and Cajalco Road	TWSC	4.4	A	5.9	A	TWSC	426.2	F	1.5	A
43	Rider Street and Seaton Avenue	TWSC	4.7	A	6.3	A	TWSC	6.0	A	9.3	A
44	Harvill Avenue and Markham Street	AWSC	10.4	B	11.3	B	AWSC	14.4	B	19.9	C
45	Cajalco Expressway and Harvill Avenue	Signal	18.5	B	5.8	A	Signal	20.0	C	24.3	C
46	Harvill Avenue and Rider Street	TWSC	1.2	A	1.3	A	TWSC	4.8	A	4.2	A
47	Harvill Avenue and Placentia Avenue	TWSC	5.1	A	5.3	A	Signal	19.5	B	40.8	D
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	16.6	B	13.3	B	Signal	136.6	F	116.7	F
49	SR-60/I-215 NB ramps and Fair Isle Drive/ Box Springs Road	Signal	38.0	D	14.5	B	Signal	233.0	F	62.0	E
50	Day Street and SR-60 WB ramps	Signal	16.0	B	33.8	C	Signal	16.3	B	207.0	F
51	Day Street and SR-60 EB ramps	Signal	13.9	B	23.2	C	Signal	29.2	C	64.4	E
52	I-215 ramps and Eucalyptus Avenue	Signal	19.3	B	24.6	C	Signal	22.9	C	205.9	F
53	Alessandro Boulevard and I-215 SB ramp	Signal	8.9	A	10.4	B	Signal	18.0	B	21.1	C
54	I-215 NB ramps and Alessandro Boulevard	Signal	26.1	C	20.9	C	Signal	60.7	E	35.5	D
55	I-215 SB ramps and Cactus Avenue	Signal	5.4	A	13.6	B	Signal	7.8	A	16.1	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	18.9	B	6.1	A	Signal	83.8	F	67.5	E
57	I-215 SB ramps and Van Buren Boulevard	Signal	10.1	B	17.9	B	Signal	11.5	B	35.2	D

		Baseline 2014					Year 2044				
			AM Peak Hour		PM Peak Hour			AM Peak Hour		PM Peak Hour	
	Intersection	Control Type	Delay (sec)	LOS	Delay (sec)	LOS	Control Type	Delay (sec)	LOS	Delay (sec)	LOS
58	I-215 NB ramps and Van Buren Boulevard	Signal	17.8	B	14.1	B	Signal	16.2	B	22.9	C
59	I-215 SB ramps and Harley Knox Boulevard	Signal	20.4	C	20.6	C	Signal	32.0	C	22.4	C
60	I-215 NB ramps and Harley Knox Boulevard	Signal	9.1	A	12.9	B	Signal	23.5	C	95.9	F
61	I-215 SB ramps and Cajalco Expressway/ Cajalco Expressway	Signal	**87.3**	F	32.2	C	Signal	130.4	F	35.6	D
62	I-215 NB ramps and Cajalco Expressway/ Ramona Expressway	Signal	67.4	E	40.8	D	Signal	74.4	E	67.6	E
63	I-215 SB Frontage Road and Placentia Avenue	*Future*	-	-	-	-	Signal	16.9	B	17.5	B
64	I-215 NB Frontage Road and Placentia Avenue	*Future*	-	-	-	-	Signal	49.8	D	48.5	D
65	I-215 SB ramps and Nuevo Road	Signal	30.2	C	35.5	D	Signal	27.8	C	101.0	F
66	I-215 NB ramps and Nuevo Road	Signal	46.4	D	44.5	D	Signal	59.7	E	46.5	D
67	Webster Avenue and Ramona Expressway	Signal	16.1	B	18.8	B	Signal	51.4	D	97.1	F
68	Indian Street and Ramona Expressway	Signal	16.7	B	19.3	B	Signal	61.6	E	132.5	F
69	Ramona Expressway and Perris Boulevard	Signal	29.6	C	25.4	C	Signal	40.0	D	41.5	D

Source: Caltrans 2017a.
AM Peak Hour – 6 a.m. to 9 a.m.
PM Peak Hour – 3 p.m. to 7 p.m.
TWSC – Two Way Stop Control
AWSC – All Way Stop Control
Delay – Average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)
[1] Two Way Stop Control under 2024 conditions.

In 2044, 30 of the 69 study intersections are forecast to operate at unsatisfactory LOS under year 2044 No-Build conditions. Eighteen intersections are forecast to operate at unsatisfactory LOS during AM peak hour and 25 during PM peak hour. Between Temescal Canyon Road and Harvill Avenue, Cajalco Road is projected to operate at an unsatisfactory LOS at five of the 13 study intersections along Cajalco Road under year 2044 No-Build conditions:

- No. 12 Cajalco Road and Temescal Canyon Road
- No. 23 Cajalco Road and Gavilan Road
- No. 26 Cajalco Road and Harley John Road
- No. 36 Clark Street and Cajalco Road
- No. 42 Seaton Avenue and Cajalco Road

The remaining eight study intersections located on Cajalco Road between Temescal Canyon Road and Harvill Avenue are projected to operate at satisfactory LOS under year 2044 No-Build conditions.

Projected Capacity Needs

Traffic forecasts for Year 2044 are provided in Tables 1-6 and 1-7, above. Table 1-6 indicates ADT along Cajalco Road between Harley John Road and Day Street is forecast to increase from between 18,280 and 19,890 vehicles (2014) to between 23,800 and 27,330 vehicles (2044) under

the No-Build Alternative (2044). Increased ADT along segments of Cajalco Road between Temescal Canyon Road and Harley John Road, and between Day Street and I-215, and along El Sobrante Road, in Year 2044 are also predicted. Table 1-7 indicates the following five intersections within the project study area currently operate at an unacceptable LOS (2014):

- I-15 southbound ramps and Ontario Avenue – LOS E in the AM peak hour
- La Sierra Avenue and El Sobrante Road – LOS E in the PM peak hour
- Alexander Street and Markham Street – LOS F in the AM peak hour
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM peak hour

In addition, and as presented in Table 1-7, the following 30 intersections are projected to operate at an unacceptable LOS in the forecast Year (2044) No-Build condition:

- I-15 southbound ramps and Ontario Avenue – LOS F in the AM and PM peak hour
- I-15 northbound ramps and Ontario Avenue – LOS F in the AM and PM peak hour
- Bedford Canyon Road and El Cerrito Road – LOS F in the PM peak hour
- Cajalco Road and Bedford Canyon Road – LOS in the AM and PM peak hour
- Cajalco Road and I-15 Southbound ramps – LOS F in the PM peak hour
- Cajalco Road and Temescal Canyon Road – LOS F in the AM and PM peak hour
- I-15 northbound ramps and Weirick Road – LOS F in the AM peak hour
- La Sierra Avenue and Victoria Avenue – LOS F in the AM and PM peak hour
- La Sierra Avenue and El Sobrante Road – LOS E in the AM peak hour, and LOS F in the PM peak hour
- Cajalco Road and Gavilan Road – LOS F in the PM peak hour
- Gavilan Road and Lake Mathews Drive – LOS F in the PM peak hour
- Harley John Road and Washington Road – LOS F in the PM peak hour
- Cajalco Road and Harley John Road – LOS F in the AM and PM peak hour
- Alexander Street and Markham Street – LOS E in the AM peak hour, and LOS F in the PM peak hour
- Clark Street and Cajalco Road – LOS F in the PM peak hour
- Seaton Avenue and Cajalco Road – LOS F in the AM peak hour
- Sycamore Canyon Road and State Route 60 (SR-60)/I-215 southbound ramps – LOS F in the AM and PM peak hour
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road – LOS F in the AM peak hour, and LOS E in the PM peak hour

- Day Street and SR-60 westbound ramps – LOS F in the PM peak hour
- Day Street and SR-60 eastbound ramps – LOS E in the PM peak hour
- I-215 ramps and Eucalyptus Avenue – LOS F in the PM peak hour
- I-215 northbound ramps and Alessandro Boulevard – LOS E in the AM peak hour
- I-215 northbound ramps/Old 215 Frontage Road and Cactus Avenue – LOS F in the AM peak hour, and LOS E in the PM peak hour
- I-215 northbound ramps and Harley Knox Boulevard – LOS F in the PM peak hour
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM and PM peak hour
- I-215 southbound ramps and Nuevo Road – LOS F in the PM peak hour
- I-215 northbound ramps and Nuevo Road – LOS E in the AM peak hour
- Webster Avenue and Ramona Expressway – LOS F in the PM peak hour
- Indian Street and Ramona Expressway – LOS E in the AM peak hour, and LOS F in the PM peak hour

East–West Mobility in Riverside County

In Riverside County, the circulation system is intended to accommodate a pattern of concentrated growth, providing both a regional and local linkage system between unique communities. Travel, including freight movement, extends beyond the Riverside County boundary, and, as a result, the transportation system must be capable of adequately meeting a wide range of needs. Not only does the County need to accommodate the traffic that it generates, it also must accommodate the pass through traffic. Regional east-west transportation corridors that connect I-15 and I-215 are limited; the nearest east-west corridors are State Route 74 (SR-74) located approximately 4.5 miles south of Cajalco Road/Cajalco Expressway at I-215, and State Route 91 (SR-91) approximately 4.5 miles north of Cajalco Road at I-15 (refer to Figure 1-3). Thus, Cajalco Road serves as an important regional link between I-15 and I-215 and would require improvements in order to meet increasing transportation demands and to continue to function as a transportation corridor.

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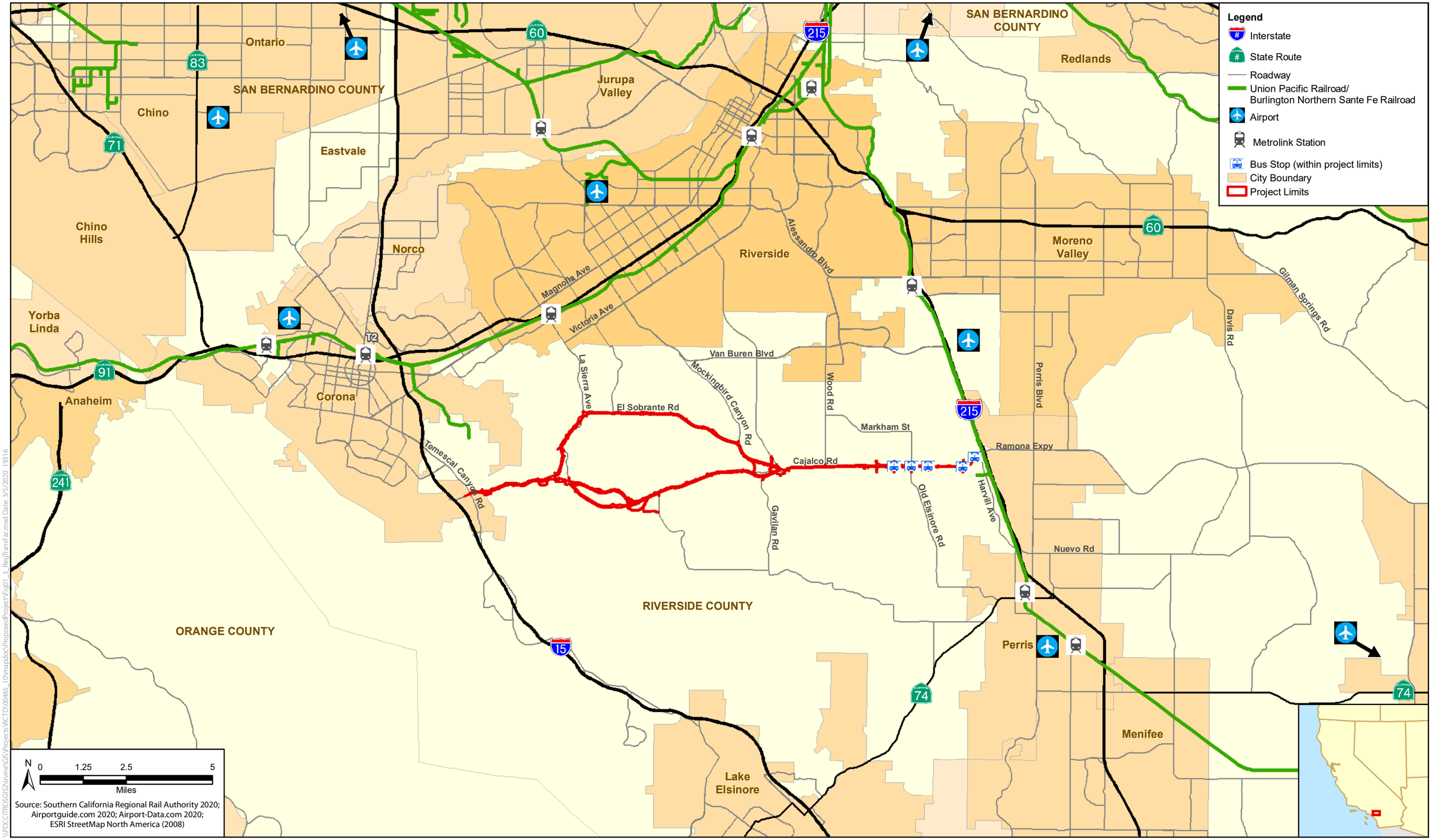

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Figure 1-3
Public Transportation Facilities
Cajalco Road Widening and Safety Enhancement Project

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VMT is a key transportation indicator that represents the total miles traveled by all vehicles throughout a particular study area or a region. VHT represents total hours traveled by vehicles considering system-wide traffic congestion in a given study area. VHD represents total hours of delay for vehicles across a particular study or a region. Table 1-8, below, presents summaries of daily VMT, VHT, and average speed within the study area under existing conditions, and projected daily VMT, VHT, and average speeds under Year 2044 No-Build conditions.

Table 1-8. Baseline and Year 2044 VMT, VHT, VHD, and Average Speed Summary – No-Build

Indicator	AM Peak Period (6 AM to 9 AM)		PM Peak Period (3 PM to 7 PM)		Daily	
	Baseline	2044 No-Build	Baseline	2044 No-Build	Baseline	2044 No-Build
VMT	1,681,352	2,861,258	2,795,721	4,859,804	8,585,374	14,659,917
VHT	50,618	80,884	91,554	162,260	234,475	396,569
VHD	17,166	27,460	35,000	69,595	66,516	125,131
Average Speed	33.2	35.4	30.5	30.0	36.6	37.0

The VMT is forecast to increase nearly 71% from existing conditions, and the VHT is forecast to increase by more than 69% over existing conditions. The average speed is projected to increase by 0.4 mile per hour (mph) as compared to the existing conditions. The projected minor increase in average speed may be attributable in part to the redirection of traffic to a separate proposed transportation corridor between I-15 and I-215. This separate corridor is included in RIVTAM as the Community Environmental Transportation Acceptability Process (CETAP) western transportation corridor between I-15 and I-215, and would provide an alternate east-west route to Cajalco Road if constructed in the future. Based on a comparative analysis of projected future traffic conditions that assumes inclusion of the CETAP transportation corridor between I-15 and I-215, and projected future traffic conditions without CETAP, future No-Build traffic conditions are projected to improve along certain study area segments and intersections with inclusion of the CETAP transportation corridor. Without the separate western CETAP transportation corridor between I-15 and I-215, however, future No-Build traffic conditions are projected to worsen along study area segments, as indicated in Table 1-9 on the following page and illustrated on Figure 1-4 (see page 1-21).

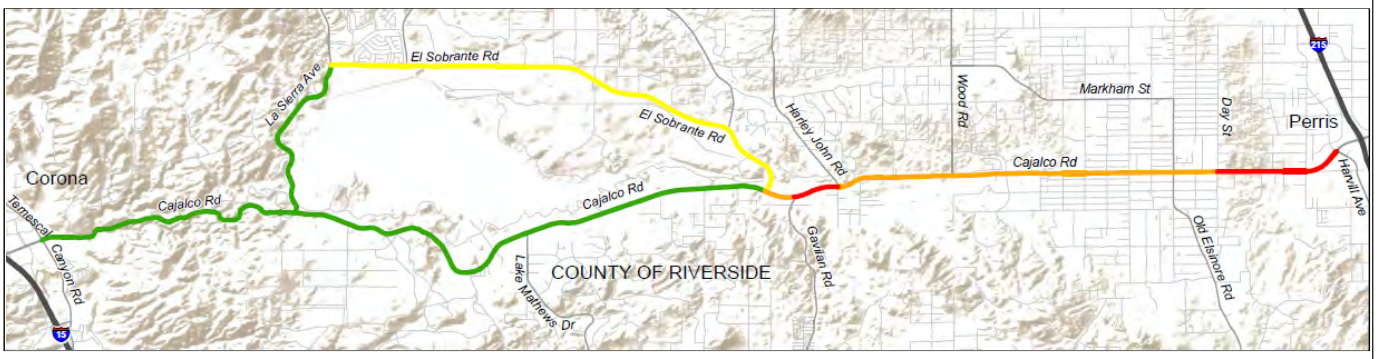
Under 2044 "Without CETAP" conditions, two-lane Cajalco Road is projected to experience higher volumes than the "With CETAP" conditions included in the traffic analysis because regional, east-west traffic between I-215 and I-15 would be expected to continue to use Cajalco Road in the absence of a CETAP corridor. The differences in projected volumes between "With" and "Without" CETAP along Cajalco Road are projected to range between 5,210 and 7,590 ADT west of Harley John Road, and between 4,430 and 5,010 ADT east of Harley John Road. These differences would result in a projected LOS F (instead of LOS C) for the segment of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, and LOS B (instead of LOS A) between La Sierra Avenue and El Sobrante Road. Without additional capacity or other planned improvements to accommodate increased volumes under "Without CETAP" conditions, segments of Cajalco Road would be expected to operate at a lower capacity than the traffic volumes modeled "With CETAP" conditions.

Table 1-9. Traffic Volumes and Level of Service – Forecast Conditions with and without CETAP

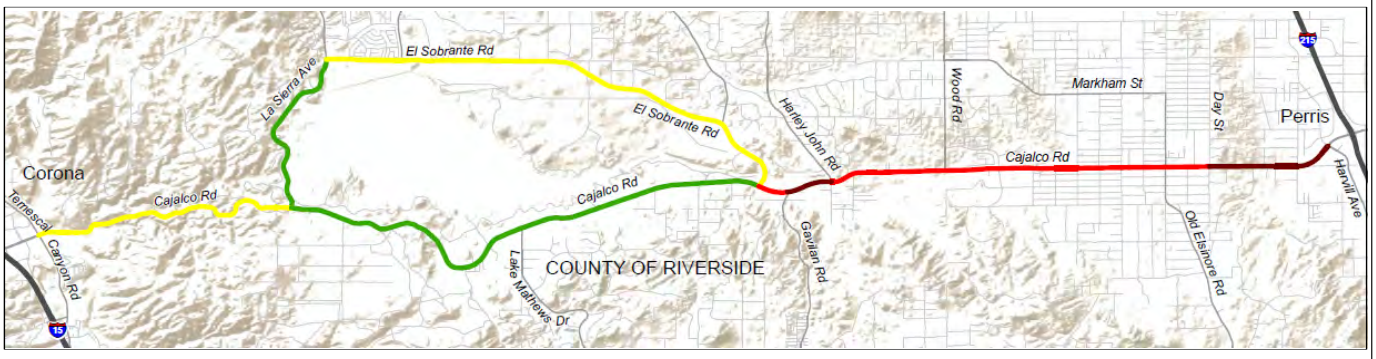
Baseline 2014 and Year 2044 Forecast Conditions with and without CETAP – No-Build						
	Baseline 2014		Year 2044 With CETAP[1]		Year 2044 Without CETAP[2]	
Roadway Segment	Volume (ADT)	LOS	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	9,321	A	13,460	C	21,050	F
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	8,740	A	4,310	A	11,340	B
Cajalco Road between Lake Mathews Drive and El Sobrante Road	7,540	A	5,770	A	11,440	B
Cajalco Road between El Sobrante Road and Gavilan Road	18,280	F	23,800	F	29,800	F
Cajalco Road between Gavilan Road and Harley John Road	18,670	F	27,330	F	32,540	F
Cajalco Road between Harley John Road and Day Street	19,890	F	26,420	F	31,430	F
Cajalco Road East of Day Street	26,390	F	28,800	F	33,230	F

Source: Caltrans 2017a.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
[1] Traffic volumes and LOS projections with CETAP included per Riverside Traffic Analysis Model (Caltrans 2017a).
[2] Traffic volumes and LOS projections without CETAP based on screening-level traffic analysis (Iteris 2018).

As indicated in Table 1-8, current peak period traffic speeds within the project corridor range between 30.5 and 33.2 mph, with an average daily speed of 36.6 mph. Projected traffic speeds increase only slightly, by 0.4 mph, compared with existing conditions.



Forecast 2044 No-Build Traffic Conditions - With CETAP[1]



Forecast 2044 No-Build Traffic Conditions - Without CETAP[2]

Congestion Levels[3]

- **LOS A - C (Not Congested)**
- **LOS F - Light Congestion (V/C exceeded 1 - 1.25)**
- **LOS F - Moderate Congestion (V/C exceeded 1.25 - 1.5)**
- **LOS F - Severe Congestion (V/C exceeded 1.5 - 1.75)**
- **LOS F - Extreme Congestion (V/C exceeded > 1.75)**

[1] With Community Environmental Transportation Acceptability Process (CETAP) project included in traffic model per Riverside Traffic Analysis Model (Caltrans 2017).

[2] Without CETAP based on screening-level traffic analysis. Iteris. December 10, 2018. Draft Technical Memorandum.

[3] Congested segments are locations where daily volumes are forecast to exceed capacity (i.e. V/C > 1.00).

Figure 1-4
Forecast 2044 Traffic Conditions - With and Without CETAP
Cajalco Road Widening and Safety Enhancement Project

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System Safety Needs – Existing Accident Rates

Traffic collision data obtained from the County for the 3-year period from January 2015 to December 2017 was reviewed for Cajalco Road between Temescal Canyon Road and Harvill Avenue (a distance of approximately 16 miles), for La Sierra Avenue between Cajalco Road and El Sobrante Road, and for El Sobrante Road between La Sierra Avenue and Cajalco Road (a combined distance of approximately 8 miles) (County 2018a). Table 1-10 on the following page compares the actual collision rate to the statewide average collision rate for the roadway segments identified above.

During the 3-year period, there were 355 collisions on Cajalco Road between Temescal Canyon Road and I-215, including seven fatal accidents. The majority of collisions occurred along the approximately 6-mile stretch of Cajalco Road between Alexander Street and Harvill Avenue, with 145 collisions over the 3-year period. Compared with the statewide average accident rate for similar type facilities, the total collision rate of 1.673 per million vehicle miles (MVM) for this section of Cajalco Road is higher than the statewide average of 1.163 per MVM. The next highest number of recorded collisions for Cajalco Road, 82, occurred along the approximately 3.2-mile-long section of Cajalco Road between Temescal Canyon Road and La Sierra Avenue. Compared with the statewide average accident rate of 1.680 per MVM, the actual total collision rate, 1.765 per MVM for this section of Cajalco Road, is higher than the statewide average. Statewide average accident rates were also exceeded along Cajalco Road between Harvill Avenue and I-215.

Of the 355 total collisions along Cajalco Road, 150 resulted in fatalities or injuries, with the majority, 56, occurring between Alexander Street and Harvill Avenue. The next highest number of recorded collisions resulting in fatalities or injuries along Cajalco Road, 41, occurred along the approximately 3.2-mile-long section of Cajalco Road between Temescal Canyon Road and La Sierra Avenue. Both stretches of Cajalco Road are two-lane facilities that lack raised medians between opposing traffic. Between Alexander Street and Harvill Avenue, most intersections lack left- and/or right-turn pull-outs, and a number of four-way intersections lack traffic signals. A number of residential driveways also connect directly with Cajalco Road along the north and south sides of Cajalco Road. Between Temescal Canyon Road and La Sierra Avenue, roadway conditions include steep slopes and tight curves.

Table 1-10. January 2015 to December 2017 Collision Data – Roadway Segments

Road Segment	Collision Type								
	Fatal			Fatal plus Injury			Total		
	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	1	0.022	0.035	41	0.883	0.845	82	1.765	1.680
Cajalco Road between La Sierra Avenue and Harley John Road	1	0.007	0.029	18	0.132	0.636	44	0.324	1.319
Cajalco Road between Harley John Road and Alexander Street	3	0.048	0.040	34	0.548	0.566	71	1.144	1.168
Cajalco Road between Alexander Street and Harvill Avenue	2	0.023	0.040	56	0.646	0.564	145	1.673	1.163
Between Harvill Avenue and I-215	0	0.000	0.040	1	0.091	0.564	13	1.184	1.163
Cajalco Road Segments Total:	**7**	-	-	**150**	-	-	**355**	-	-
El Sobrante Road between La Sierra Avenue and Cajalco Road	4	0.054	0.040	19	0.259	0.572	39	0.531	1.180
La Sierra Avenue between Cajalco Road and El Sobrante Road	2	0.177	0.042	16	1.414	0.597	21	1.856	1.230
La Sierra Avenue and El Sobrante Road Segments Total:	**6**	-	-	**35**	-	-	**60**	-	-

Sources: County 2018a; Iteris 2019.
MVM = Million vehicle miles
Shaded cells represent exceedance of statewide average.
[1] Statewide average based on averages for similar facility type:
Comparative facility used for roadways between Temescal Canyon Road and Harley John Road is a two-lane, mountainous rural highway with design speed less than or equal to 55 mph.
Comparative facility used for roadways between La Sierra Avenue and Harley John Road is a two-lane, rolling rural highway with design speed less than or equal to 55 mph.
Comparative facility used for roadways east of Harley John Road is a two-lane, flat rural highway with design speed less than or equal to 55 mph.

Collision data for the sections of La Sierra Avenue and El Sobrante Road within the project limits indicated a total of 60 collisions, including six fatal accidents. The majority of collisions occurred along the approximately 5.8-mile stretch of El Sobrante Road, with 39 collisions over the 3-year period. However, the statewide average accident rate of 1.230 per MVM for the approximately 2.4-mile section of La Sierra Avenue between Cajalco Road and El Sobrante Road is exceeded at 1.856 per MVM.

Table 1-11 on the following page indicates the total number and types of collisions at, or in the vicinity of, individual intersections along Cajalco Road within the project area during the 3-year period. As indicated in the table, the majority of accidents (49) occurred in the area of the La Sierra Avenue intersection; 16 of the collisions involved hit objects and nine were head-on. A total of 44 persons were injured. The next highest volumes of collisions occurred at or near Clark Street and Temescal Canyon Road, respectively, with 35 collisions at Clark Street and 32 at Temescal Canyon Road. Of the 35 collisions at or near Clark Street, 22 were rear-end and six were broadside; 23 persons were injured. Of the 32 collisions at or near Temescal Canyon Road, one person was fatally injured and 22 others were injured; the majority of collisions involved hit objects (10) and overturns (8). Additional intersection areas that had high collision volumes are Alexander Street (25), Haines Street (22), Wood Road (21), Lake Mathews Drive and Brown Street (20), and Day Street (19).

Table 1-11. January 2015 to December 2017 Collision Data – Intersection Areas

Location (Cajalco Road)	Existing Traffic Control	Total Collisions	Collision Detail			
			Collision Type (occurrence)	Fatal (total)	Injury (total)[1]	Property Damage Only (occurrence)
Temescal Canyon Road	Signal	32	Hit object (10) Overturn (8) Head-on (5) Rear-End (4) Sideswipe (4)	1	22	16
La Sierra Avenue	Signal	49	Hit object (16) Head-on (9) Overturn (8) Sideswipe (6) Broadside (4) Rear-End (4) Other (2)		44	24
Lake Mathews Drive	2WSC	20	Hit object (11) Broadside (4) Head-on (2) Overturn (1) Rear-End (1) Sideswipe (1)	1	9	13
Archer Road	2WSC	2	Hit object (1) Overturn (1)		2	
El Sobrante Road	Signal	7	Rear-End (2) Broadside (1) Hit object (1) Head-on (1) Overturn (1) Sideswipe (1)		4	5
Gavilan Road	Signal	1	Rear-End (1)		1	
Harley John Road	Signal	8	Rear-End (4) Broadside (1) Hit object (1) Overturn (1) Sideswipe (1)		3	5
Cowan Road	2WSC	2	Rear-End (2)		1	1
Gustin Road	2WSC	5	Hit object (2) Rear-End (1) Head-on (1) Vehicle-Pedestrian (1)	2	6	2
Wood Road	Signal	21	Rear-End (10) Hit object (7) Head-on (2) Broadside (1) Sideswipe (1)	2	16	1
Carpinus Drive	2WSC	7	Hit object (2) Sideswipe (2) Broadside (1) Overturn (1) Rear-End (1)		3	5
Barton Street	2WSC	2	Hit object (1) Overturn (1)		2	
Una Street	2WSC	9	Rear-End (6) Hit object (2) Broadside (1)		14	4
Alexander Street	Signal	25	Rear-End (17) Broadside (2)		17	16

Location (Cajalco Road)	Existing Traffic Control	Total Collisions	Collision Detail			
			Collision Type (occurrence)	Fatal (total)	Injury (total)[1]	Property Damage Only (occurrence)
			Head-on (2) Hit object (2) Overturn (1) Sideswipe (1)			
Mead Street	2WSC	8	Rear-End (4) Broadside (2) Hit object (1) Sideswipe (1)		3	6
Brown Street	Signal	20	Rear-End (12) Broadside (5) Pedestrian (1) Sideswipe (2)	1	9	14
Florence Street	2WSC	3	Broadside (2) Rear-end (1)		1	2
Haines Street	2WSC	22	Broadside (12) Rear-End (7) Head-on (2) Sideswipe (1)		17	13
Clark Street	Signal	34	Rear-End (22) Broadside (6) Head-on (2) Sideswipe (4)		11	23
Carroll Street	2WSC	9	Broadside (3) Hit object (2) Rear-End (2) Sideswipe (2)		8	4
Robinson Street	2WSC	7	Rear-end (4) Sideswipe (1) Broadside (1) Hit object (1)		1	6
Day Street	2WSC	19	Broadside (7) Rear-End (4) Sideswipe (4) Head-on (2) Overturn (1) Vehicle-Pedestrian (1)		11	10
Decker Road	2WSC	5	Rear-End (3) Hit object (1) Sideswipe (1)		2	3
Seaton Avenue	2WSC	8	Broadside (4) Head-on (2) Rear-End (2)	1	12	3
Cajalco Expressway and Harvill Avenue	Signal	9	Rear-End (4) Broadside (2) Hit object (2) Sideswipe (1)		1	7

Sources: County 2018a; Iteris 2019.
2WSC = 2 Way Stop Control
[1] Total number of persons injured.

As shown in Table 1-11, the types of collisions occurring at intersection areas within the project limits during the 3-year period varies; the majority of collisions were rear-end, hit object, and broadside.

The existing roadway along Cajalco Road is generally a two-lane undivided facility between Temescal Canyon Road east of I-15 and Harvill Avenue west of I-215, with left-turn lanes primarily limited to signalized intersections. The only divided segment of Cajalco Road is

between Wood Road and Carpinus Drive where an unpaved median exists. Within the project limits, 11 intersections along Cajalco Road and two along El Sobrante Road are currently signalized. The remaining 26 intersections along Cajalco Road and 10 intersections along El Sobrante Road are unsignalized, some with "STOP" sign controls, and others lacking any stop controls. The proposed project includes roadway improvements that would enhance safety, including, but not limited to, additional travel lanes, curve reductions, signalized intersections, and raised medians. These safety enhancements, in addition to those listed in Table 1-12, would be expected to reduce the number of the accidents along Cajalco Road.

Table 1-12. Safety Enhancement Measures

Accident Type	Safety Enhancement Measures
Head-on	Improve striping and marking, paint centerlines and turn area, re-examine speed limits, and improve alignment (e.g., improve curves to meet design speed).
Sideswipe	Provide separate turn lane and/or left-turn signal phase (if signalized), install street name sign, widen roadway, and re-examine speed limits.
Rear-End	Improve intersection and/or traffic signal visibility (upgrade to mast arms, large lenses, street name signs, better street lighting), increase yellow intervals, provide left-turn lanes, and re-examine speed limits.
Broadside	Install traffic signal, install stop sign, improve intersection lighting/visibility, provide separate left-turn lanes and/or signal phase, add all red intervals, prohibit left turns, provide two-way left-turn lane, install raised median, and paint centerline and lane line striping.
Hit Object	Improve intersection lighting, stripe intersection, install object markers, and install advance warning signs.
Overturn	Widen roadway, widen shoulders, improve sight distance, install object markers, install advance warning signs, install striping, and re-examine speed limits.
Auto-Pedestrian	Install stop signs/traffic signal, install crosswalk at controlled intersections, remove crosswalk at uncontrolled intersections, provide pedestrian signal/phase, improve intersection lighting/visibility, prohibit pedestrian crossing certain legs, provide left-turn lanes, paint limit lines, prohibit parking, examine potential for signal timing improvements, and re-examine speed limits.
Source: AECOM 2011.	

Roadway realignments to reduce curves, improved striping, and construction of medians separating the roadbeds would be expected to reduce head-on collisions. Sideswipe accidents would be reduced by constructing separate left-turn lanes, widening the roadway, and improving street signing and signal phasing. Rear-end collisions would be reduced by improving intersection turn controls, signing, and signal visibility. Broadside collisions would be reduced by improving signing and signal visibility or restricting mid-block left-turns, and by controlling left-turn moves. Accidents that result in hitting roadside objects or rollovers would be reduced by improving the alignment to meet current design standards for the design speeds, installing object markers, widening paved shoulders, and improving striping and signage. Design speeds for the project corridor are anticipated to range between 45 and 55 mph, similar to existing speed limits, and would be confirmed during final design in accordance with County of Riverside Roadway Design Requirements Standard No. 114.

The improvements identified above would also benefit cyclists and pedestrians along the project corridor as there are limited sidewalks and crosswalks for pedestrians, and roadway shoulder areas for cyclists. The addition of new traffic signals with designated crosswalks—and Americans with Disabilities Act (ADA)-compliant sidewalks along one side of Cajalco Road in some locations where residential and commercial properties are present—would provide more

opportunities for pedestrians to use and cross Cajalco Road safely. Improvements that would support cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue would include proposed curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane.

Refer to Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, for additional discussion regarding project safety benefits.

1.2.2.2 Roadway Deficiencies

Driveways and Intersecting Roadways

The existing two-lane roadway of Cajalco Road has numerous driveways and intersecting cross-streets, which present conflict points that affect the operation of the roadway. Vehicles currently enter and exit Cajalco Road to access residences and businesses located directly along Cajalco Road, as well as to areas accessed via connecting cross-streets. There are numerous cross-streets and driveways on Cajalco Road where these turning movements occur. Vehicles using these access points must slow in speed during their approach and sometimes stop within the travel lane to avoid turning into cross traffic; vehicles entering Cajalco Road from these access points initially travel at a slow rate of speed, impeding traffic flow. Uncontrolled access points reduce the overall capacity of the roadways and increase the potential for vehicular accidents. The proposed project would address direct access points with controlled median, designated turn lanes, and intersection improvements.

Route Continuity

At the east and west terminus of the project, and between east of Wood Road and Carpinus Drive, Cajalco Road is a four-lane facility; however, between the east and west limits of the project, the majority of Cajalco Road is a two-lane facility. The narrower roadway sections within the project area create bottlenecks between the existing four-lane sections and decreases route continuity.

Structural Section Limitations

Regional travel trips, commuting, and freight movement extend beyond limits of the project area and Riverside County; therefore, the transportation system must be capable of adequately accommodating a wide range of transportation system needs and pass-through traffic. Caltrans has identified roadway design standards to provide for safe transportation of regional truck traffic, including oversized trucks under the Surface Transportation Assistance Act (STAA) of 1982. The STAA requires specific lengths, width limits, structural composition, and turning radii for travel lanes for large trucks to operate on the Interstate System, the non-Interstate Federal-aid Primary System, and certain primary routes (collectively referred to as the National Network). While Cajalco Road is not identified as a National Network facility, the roadway currently lacks design features such as adequate widths for truck turning movements and additional travel lanes for vehicle passing opportunities. The project is proposing to incorporate STAA standards to better accommodate trucks that currently use Cajalco Road to safely pass through the project area. Roadway design will accommodate trucks of up 53 feet in length for semitrailers, and up to 28 feet 6 inches for each trailer on double semitrailer trucks, by reducing curves to allow larger

trucks to travel safely through the corridor. Current and projected (Year 2044) percentages of truck use for roadway facilities within the project corridor are presented in Table 1-13, below.

Table 1-13. Truck Traffic Volumes (Percentage) – Existing (2014) and Forecast-Year (2044) No-Build Conditions

Roadway Segment	Existing (2044) Conditions		2044 No-Build Conditions	
	Eastbound	Westbound	Eastbound	Westbound
Cajalco Road West of Temescal Canyon Road	11.90%	11.97%	12.01%	11.98%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	11.90%	12.02%	11.99%	12.01%
La Sierra Avenue between Cajalco Road and El Sobrante Road	4.14%	4.17%	3.92%	3.89%
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	6.74%	6.85%	6.78%	6.73%
El Sobrante Road East of Mockingbird Canyon Road	3.07%	2.75%	3.22%	3.30%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	3.36%	3.55%	3.18%	3.36%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	3.13%	2.88%	1.64%	1.76%
Cajalco Road between El Sobrante Road and Gavlin Road	4.02%	3.99%	2.44%	2.37%
Cajalco Road between Gavlin Road and Harley John Road	3.38%	3.33%	2.07%	2.04%
Cajalco Road between Harley John Road and Wood Road	2.65%	2.69%	1.66%	1.63%
Cajalco Road between Wood Road and Alexander Street	2.35%	2.40%	2.30%	2.37%
Cajalco Road between Alexander Street and Brown Street	3.14%	3.24%	3.27%	3.19%
Cajalco Road between Brown Street and Clark Street	2.64%	2.66%	2.65%	2.75%
Cajalco Road between Clark Street and Day Street	4.30%	4.26%	4.24%	4.18%
Cajalco Road between Day Street and Seaton Avenue	3.36%	3.40%	3.36%	3.44%
Cajalco Road between Seaton Avenue and Harvill Avenue	3.60%	3.56%	3.64%	3.56%
Cajalco Road East of Harvill Avenue	3.31%	3.30%	3.29%	3.39%
Source: Caltrans 2019.				

As indicated in Table 1-13, truck traffic volumes within the project corridor represent between approximately 2.35 and 12.02 percent of the total traffic volumes, with the highest percentage of trucks occurring at the west end, east of I-15 on- and off-ramps. Continued use of the corridor by trucks is anticipated, with a projected increase of up to 0.54 percent of the total traffic volumes by Year 2044.

The existing 40.67-foot-wide Temescal Creek Bridge (Bridge No. 56C-155) currently accommodates two lanes of traffic (one lane each direction) and does not allow for additional lanes that would accommodate projected increased traffic demand without widening or replacement. In addition, the bridge has a sufficiency rating of 77.1 (fair) per National Bridge Inspection Standards; bridges that have a sufficiency rating of 80 or less and are structurally deficient qualify for rehabilitation under the Federal Highway Bridge Program. Bridges that have a sufficiency rating of 50 or less and are structurally deficient qualify for replacement under the Federal Highway Bridge Program (Caltrans 2017b).

Improvements that promote access control and facilitate local circulation as well as regional traffic would address operational needs within the project area. Additionally, construction of a new structural section that would extend overall pavement life and meet standards for STAA

trucks would address existing structural section limitations. Less frequent pavement maintenance would reduce future maintenance costs as well as the number and frequency of delays for the traveling public.

1.2.2.3 Social Demands and Economic Development

As discussed above, a nearly 40% increase in the County population is projected to occur between 2015 and 2040, and employment is projected to increase 122.1%. Adjacent cities are also projected to experience similar growth, with the greatest increase in population and employment anticipated for Perris at 65.1 and 113.2%, respectively. Regional traffic is predicted to increase with the projected growth in population.

Local land use plans that guide growth and future development in the project area include the County of Riverside Temescal Canyon Area Plan, Lake Mathews/Woodcrest Area Plan, and Mead Valley Area Plan; the City of Corona Dos Lagos Specific Plan and El Cerrito Specific Plan; and the City of Perris General Plan. Each plan contains goals and policies regarding existing and future land uses within their respective plan areas. Please refer to Section 3.1, *Land Use*, for specific goals and policies of each plan that relate to the project. The proposed project is primarily located within a largely semi-rural, undeveloped part of Riverside County with limited remaining land permitted for development, as community land use designations severely limit the amount of development per acre and designated open space and conservation areas prohibit development. Large areas of land are committed to conservation under the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), LM MSHCP and Stephen's Kangaroo Rat Habitat Conservation Plan (SKR HCP), and these areas would not accommodate development. Growth that is expected to occur within the project vicinity is anticipated to occur primarily through infill development in designated parts of the county and cities per the local land use plans and zoning. For a list of planned projects within the project vicinity, please refer to Table 3.1-2 in Section 3.1, *Land Use*, of this EIR/EIS.

Cajalco Road and El Sobrante Road through the project area are currently two-lane facilities for most roadway segments; between El Sobrante Road and Day Street, Cajalco Road currently operates at LOS F during peak hours due to traffic volumes that exceed roadway capacity. Thus, Cajalco Road as it is currently designed would not accommodate projected additional future traffic. Circulation Element Policy C1.1 of the Riverside County General Plan states that the County transportation system is to be designed to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the Circulation Plan, Figure C-1. Policy C1.5 adds that the planned circulation system is to be evaluated as needed to enhance the arterial highway network to respond to anticipated growth and mobility needs.

The Circulation Plan classifies Cajalco Road as a six- or eight-lane Expressway, 128 to 220 feet in width; El Sobrante Road is classified as a four- or six-lane Arterial Roadway, 128 feet in width. While the proposed project would not include the full six or eight lanes for Cajalco Road as described in the Circulation Element, the project would increase the current capacity of Cajalco Road with an additional two lanes, thus responding to anticipated growth and mobility needs. The proposed project would not preclude future improvements to Cajalco Road as such improvements may be constructed as development occurs and as funding becomes available.

1.2.2.4 Modal Interrelationships and System Linkages

Situated between the cities of Perris, Corona, and Riverside, and between I-15 and I-215, Cajalco Road serves as a connecting link between regional airport, rail, port, and mass transit facilities. Cajalco Road is also used by Riverside Transit Agency for public commuter and transportation services in the project area with bus routes that serve Metrolink users and regional commuters, as well as the local communities of Mead Valley and Woodcrest, and nearby cities of Corona, Riverside, Moreno Valley, and Perris (Riverside Transit Agency 2019). The arterial roadway system, which includes Cajalco Road and El Sobrante Road, also plays a critical role in goods movement, providing first and last-mile connections to regional ports, manufacturing facilities, intermodal terminals, warehousing and distribution centers and retail outlets (SCAG 2016).

Interface with Airport, Rail, Port, and Mass Transit Facilities

Airports regionally located in the project area such as March Inland Port Airport, Corona Municipal Airport, San Bernardino International Airport, and Ontario International Airport, rely on roadway and rail networks that pass through or near the proposed project, in order to transport and transfer cargo, and provide commuter air travel services (Caltrans 2014). These roadway and rail networks include I-15 and I-215, and Burlington Northern Santa Fe (BNSF) railroad. Under the Fixing America's Surface Transportation (FAST) Act, I-15 and I-215 were designated as part of the Primary Highway Freight System and are key transportation facilities for goods movement between ports, airports, rail and distribution centers (FHWA 2015; SCAG 2016b). SCAG also identifies I-15 as a Major Freight Highway Corridor. Cajalco Road supports these key transportation facilities, serving as a connecting corridor between I-15 and I-215.

BNSF Intermodal Yard (18 miles north) and San Diego BNSF (78 miles south) transport goods along BNSF railroad facilities that parallel with I-215 through the project area. The Metrolink 91/Perris Valley Line (91/PVL), a north-south public commuter and rail service using BNSF railroad facilities between 4th Street in Perris and Central Avenue in Riverside, provides local and interregional commuter services between south Perris and Downtown Riverside Station, and to connecting rail stations for interregional travel. Opened in June 2016, the 91/PVL is one of seven regional Metrolink routes in Southern California, and provides access to stations with connecting trains to Los Angeles, Ontario, San Bernardino, Santa Ana, and Carlsbad. Refer to Figure 1-3 for area Metrolink stations and other public transportation facilities. Ridership on 91/PVL averages 3,034 riders/day during weekdays and 610 on weekends (Southern California Regional Rail Authority 2019). Interregional mass transit encompasses multiple modes of service, including high-speed rail, intercity rail, and interregional bus services that carry people long distances and provide connections between regions. Effective mass transit is important because it increases the diversity of options available to serve various needs. (Caltrans 2015).

In addition to intercity rail, interregional bus services, such as Amtrak Thruway, Greyhound, and Megabus, offer an important interregional mass transit mode using the existing interregional system. Interregional bus services utilize the existing interregional system—not only freeways and highways, but also local streets and roads, which are generally used for the first and last miles of trips. As mentioned above, Riverside Transit Agency includes bus routes that rely on local arterial roadways, such as Cajalco Road, to serve Metrolink users and regional commuters.

It is important for roadways to be designed in a manner that accommodates bus service; travel lanes and intersections must be wide enough for the buses to maneuver safely, and roads

designed to ensure safe bus stops and transfer of passengers (Caltrans 2015). Furthermore, regional east-west transportation corridors that connect I-15 and I-215 are limited; the nearest east-west corridors are SR-74 located approximately 4.5 miles south of Cajalco Road, and SR-91 approximately 4.5 miles north of Cajalco Road (refer to Figure 1-3). Therefore, Cajalco Road, as an important facility for public transportation routes and connections, and regional link between I-15 and I-215, would require improvements in order to meet increasing transportation demands, anticipated growth, and continue to function as a transportation corridor.

1.2.2.5 Air Quality Improvements

In addition to serving as an important regional link between I-15 and I-215, Cajalco Road serves public commuter and transportation needs of the local communities by providing access to Riverside Transit Agency transfer locations and Metrolink stations, via transfers, located in Corona and Perris. Riverside Transit Agency and Metrolink accommodate a large volume of regional and intra-regional commuters that would otherwise use I-15, I-215, and other roadway facilities. Continued use of Cajalco Road for this purpose in the future would require improvements in order to meet increasing transportation demands and to enable Cajalco Road to continue to function as a transportation corridor. Some of the improvements proposed by the project that support public transportation, community access to transportation, and alternative transportation include additional travel lanes, bike lane/shoulder, crosswalks, and bus turnouts; these improvements would aid in increased future mobility and would support air quality improvement by encouraging efficient transportation use (County 2018b). Improved community access to public transportation, as well as community pedestrian and equestrian use, would be accommodated with the addition of new traffic signals with designated crosswalks and ADA-compliant sidewalks along one side of Cajalco Road in some locations where residential and commercial properties are present. Improvements that would support cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue would include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane.

1.3 Independent Utility and Logical Termini

Logical termini are defined as the (1) rational end points for a transportation improvement project and (2) rational end points for a review of environmental impacts. Logical termini prevent segmentation, which may arise if a transportation need extends throughout an entire corridor, but environmental issues and transportation need are inappropriately discussed for only a segment of the corridor.

A project with independent utility or independent significance (1) can function as a standalone improvement and not force immediate transportation improvements elsewhere, or on the remainder of the facility (highway) and (2) does not restrict consideration of other reasonably foreseeable transportation improvements in an adjoining section.

FHWA regulations (23 Code of Federal Regulations [CFR] 771.111(f)) require that a proposed project:

- Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
- Have independent utility or independent significance (be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made); and

- Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

1.3.1 Logical Termini and Sufficiency in Length

This Environmental Impact Report/Environmental Impact Study (EIR/EIS) assesses operational and safety conditions on Cajalco Road and El Sobrante Road between Temescal Canyon Road and I-215; as well as the operational conditions of a larger study area that encompasses Cajalco Road and El Sobrante Road, and areas within the project vicinity affected by projected population and employment growth, and increased traffic, along the east-west Cajalco Road corridor, as well as portions of the north-south I-15 and I-215 corridors located at the western and eastern limits of the proposed project.

The approximately 15.7-mile Cajalco Road project alignment begins at Temescal Canyon Road in the City of Corona and terminates at the I-215/Ramona Expressway Interchange in Riverside County. West of Temescal Canyon Road, Cajalco Road is currently undergoing improvements that include widening to meet roadway profiles of the new I-15/Cajalco Road Interchange. Thus, the intersection of Cajalco Road and Temescal Canyon Road serves as a logical point from a traffic perspective to terminate the project at its western limits. The eastern limits of the project terminate at the I-215/Ramona Expressway Interchange. The proposed project would be designed to match the profile of the I-215/Ramona Expressway Interchange and thus serves as a logical point for the eastern terminus.

The proposed build alternatives extend approximately 15.7 miles between Temescal Canyon Road and I-215 in western Riverside County, providing local circulation and safety improvements as well as connections to north-south travel routes (I-15, La Sierra Avenue, El Sobrante Road, Harley John Road, Gavilan Road, Wood Road, and I-215) while also improving an east-west travel route. As a result, the proposed project meets the definition of logical termini and is of sufficient length to address environmental matters on a broad scope.

1.3.2 Independent Utility

The proposed project would provide a usable facility that meets travelers' needs for east-west travel in this part of western Riverside County even if no other improvements, such as construction of a western CETAP corridor, are implemented. Therefore, the build alternatives would have independent utility/independent significance and would be usable and a reasonable expenditure even if no additional transportation improvements in the area are made.

1.3.3 Nonrestrictive Alternatives

FHWA Regulation 23 CFR 771.111(f)(3) requires that proposed transportation improvements "…not restrict consideration of alternatives for other reasonably foreseeable transportation improvements."

The western end of the proposed project is adjacent to the eastern limits of the I-15/Cajalco Road Interchange Improvement Project (EA0J6100, RIV010208). The geometric improvements recommended by the I-15/Cajalco Road Interchange project were reviewed and considered in developing traffic forecasts and subsequent traffic analysis in this project for consistency purposes. The western end of the proposed project is also in the vicinity of the northern limits of the I-15 Express Lanes Project Southern Extension, which includes the addition of two tolled

express lanes within the median of I-15 in each direction for a distance of 14.5 miles between Cajalco Road in Corona and SR-74 in Lake Elsinore. Preliminary studies are under way, and construction could begin as early as 2025.

The eastern end of the proposed project is adjacent to the western limits of the Mid County Parkway Project (RIV031218). The Mid County Parkway will connect to State Route 79 (SR-79), I-215, and multimodal bus and rail facilities that support Metrolink's 91/PVL. Construction of the new I-215 Placentia Avenue Interchange, the first of several design packages for the project, began in August 2020. The eastern end of the proposed project is also adjacent to the I-215 North Project, which includes the widening of a 10.75-mile section of I-215 from Nuevo Road to 60/215 Interchange, for one carpool lane added to I-215 in each direction and a northbound auxiliary lane to improve traffic merging onto SR-60.

The proposed project would not physically affect the ability of the I-15/Cajalco Road Interchange Improvement Project or I-15 Express Lanes Project Southern Extension to be constructed east or west of I-15, or on I-15. The proposed project would also not physically affect the ability of the Mid County Parkway Project or I-215 North Project to be constructed east or south of I-215, or on I-215. Therefore, the build alternatives of the proposed project would not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

Chapter 2. Project Alternatives

This section describes the project action and the design alternatives that were developed to meet the identified need through accomplishing the defined purposes, while avoiding or minimizing environmental impacts. The alternatives are:

- Build Alternative 1 – Cajalco Alignment
- Build Alternative 2C – Modified Cajalco Alignment
- Build Alternative 4 – El Sobrante Alignment, and
- No-Build Alternative – No Project Alternative

This chapter defines the project in further detail and discusses the project alternatives considered.

2.1 Project Description

The proposed project is located in Riverside County, California, and includes the widening of Cajalco Road, or a combination of Cajalco Road and El Sobrante Road, between the Interstate 215 (I-215) southbound ramps and Temescal Canyon Road. A small portion of the westernmost part of the alignment is located in the City of Corona. The proposed project covers a distance of approximately 15.7 miles.

Within the project limits, existing Cajalco Road and El Sobrante Road are two-lane undivided roadways with one 12-foot lane in each direction and shoulders of varying widths.

The project would widen the roadway to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety.

2.2 Alternatives

2.2.1 Project Alternatives

Several project alternatives have been developed and refined based on public and agency input, and minimizing environmental impacts. Two project build alternatives, Build Alternative 1 and Build Alternative 2, were originally identified for the proposed project. Design variations of Build Alternative 2 were developed in response to public and agency input, and minimization of environmental impacts; impact potential of the design variations were compared, and Build Alternative 2C carried forward as a result. Two additional project alternatives, Alternative 3 and Alternative 4, were also added to the proposed project in response to public and agency input. Alternative 3 was eliminated from further consideration due to environmental constraints, and the following three build alternatives (Alternatives 1, 2C and 4) are currently proposed to address the project purpose along with a No-Build (No Project) Alternative. The project alternatives are described below.

2.2.1.1 Common Design Features of the Build Alternatives

The project would widen and improve segments of Cajalco Road between the I-215 southbound ramps and Temescal Canyon Road in the County of Riverside. Proposed roadway widening and improvements under all alternatives would include:

- Two 12-foot standard lanes in each direction along segments of Cajalco Road between west of Temescal Creek Bridge and Harvill Avenue;
- Three lanes in each direction along segments of Cajalco Road between the I-215 southbound ramps and east of Harvill Avenue, and between Temescal Canyon Road and west of Temescal Creek Bridge;
- Combined 8-foot shoulder/bike lane;
- Roadway medians of varying widths[1];
- Safety enhancements;
- Intersection improvements and safety lighting;
- Standardized project measures;
- Wildlife crossings and fencing;
- Erosion control features and practices;
- Utility relocations and right of way acquisitions;
- Landscaping and tree planting;
- Bridges, culverts, detention basins and drainage facilities; and
- Temporary construction easements (TCEs) and staging.

Standardized Project Measures

This project contains a number of standardized project measures that are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. These measures are listed under their respective topics below and are addressed in more detail in the Environmental Consequences sections found in Chapter 3.

In addition to the standardized project measures commonly employed on Caltrans projects, the proposed project incorporates standard project measures commonly employed on County transportation projects as well as project design elements, collectively identified as project features (PF) or Standard Project Measures.

[1] Final design will comply with the policies, principles, and standards contained in Caltrans' *Highway Design Manual*.

Roadway Widening and Safety Enhancements

Roadway Widening

The project would widen an east-west roadway alignment between I-215 and Temescal Canyon Road, from two to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue, to improve east-west mobility, and to provide increased capacity and improved traffic flow and safety. The widened roadbed would allow for the addition of median areas to separate cross traffic, and turn lanes and turn pockets at designated locations to accommodate through traffic and control cross-traffic movement. New striping is proposed along Cajalco Road, between Temescal Canyon Road and Grand Oaks, and between the I-215 southbound and northbound ramps; however, the limit of roadway construction at the west end of the project would end at Temescal Canyon Road, and at the I-215 southbound ramps at the east end of the project. See Figure 2.2-1 for typical cross-sections that would apply for all build alternatives.

Safety Enhancements

Safety enhancements proposed for the project include the following:

- Construct medians;
- Pave roadway shoulders;
- Add left- and right-turn pockets in select locations;
- Restrict left turns from Cajalco Road onto local streets except in locations where traffic signals are present;
- Restrict north-south cross traffic to designated intersection areas;
- Construct Americans with Disabilities Act (ADA)-compliant sidewalks along one side of the portions of the project where residential and commercial properties are present;
- Improve curves between Temescal Canyon Road and El Sobrante Road;
- Add roadway signage;
- Improve existing traffic signals along Cajalco Road and install new traffic signals at select locations;
- Install object markers and safety lighting at intersections; and
- Construct designated bus pull-outs at select locations along Cajalco Road.

Medians and Intersection Improvements

Medians of various widths and types are proposed to provide for the separation of opposing traffic, control cross traffic, provide a recovery area for out of control vehicles, allow space for speed changes and for left- and U-turns, and minimize headlight glare. The median between Temescal Canyon Road and La Sierra Avenue along Cajalco Road would be designed wide enough to accommodate two additional travel lanes (one in each direction) in the future. The actual construction of these lanes is not proposed and is not an option that is being considered for

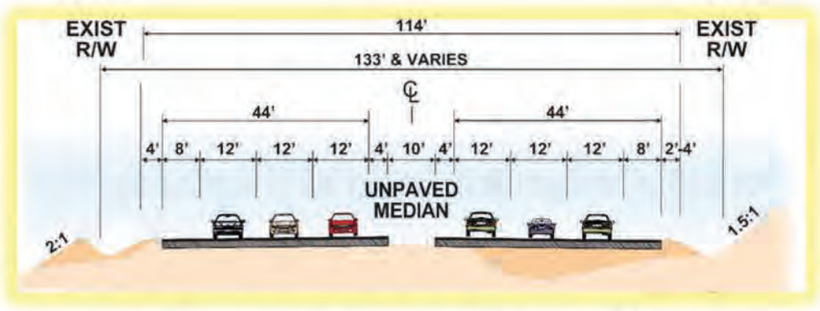
inclusion as part of the proposed project. The intent of including the additional median area is to ensure that future impacts on the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), Lake Mathews Multiple Species Reserve (LMR), Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve), and Western Riverside County Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (WRC MSHCP) Criteria Areas would be minimized to the extent feasible if the roadway is widened to six lanes in the future. Any future roadway improvements would occur independently of the proposed Cajalco Road Widening and Safety Enhancement Project and would therefore be subject to separate environmental review and approvals under the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and all applicable laws.

The proposed project is not an allowable use or activity under the LM MSHCP. Because the LM MSHCP does not currently accommodate the roadway improvements that are designated in the Circulation Element of the General Plan, or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and the LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements.

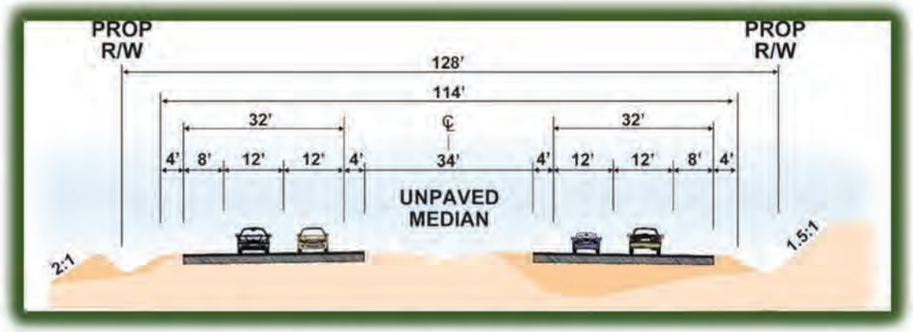
Between Temescal Canyon Road and west of La Sierra Avenue, and between Wood Road and Alexander Street, the median of Cajalco Road would be unpaved, except for roadway intersections, bridges, and intersection and bridge approaches, where the full roadway would be paved and striped for turn lanes, through lanes and crosswalks where crosswalks are provided. Low growing vegetation may be considered within the unpaved median areas; however, taller vegetation and trees are not currently proposed to accommodate safe sightlines. Between Cowan Road and Wood Road, and between Alexander Street and I-215, the median of Cajalco Road would be paved to accommodate turn lanes and raised medians for traffic control, as well as intersections and crosswalks where crosswalks are provided. See Figure 2.2-1 for typical cross-sections common to all build alternatives.

Some deviations from the existing alignment are proposed for reducing impacts on existing properties, reducing roadway curves, and improving access. Left-turn lanes and right-turn pocket lanes are proposed to be constructed along the roadway at selected intersections to accommodate through traffic and control cross-traffic movement. These left- and right-turn lanes would be designed to accommodate vehicles with trailers and provide alternate access options for local residents and business owners.

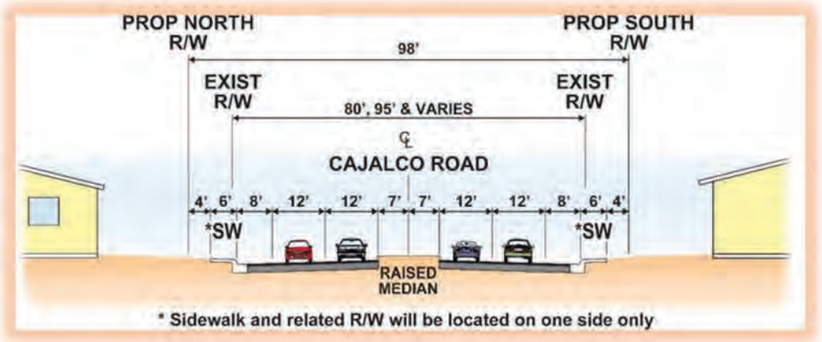
Improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. Under all build alternatives, new signals with pedestrian crosswalks are proposed at the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue. The signals would replace the “STOP” signs currently used to control traffic entering Cajalco Road at these intersections. They would allow for improved control of cross-traffic and traffic flow, safer pedestrian crossing, intersection safety lighting, signing, and striping. Please refer to Sheets 1A and 6 of Figures 2.2-2 and 2.2-5, Sheets 1A through 4 of Figure 2.2-3, and Sheets 1A and 7 of Figure 2.2-4 for intersection improvement locations under all build alternatives. Refer to Section 2.2.1.2, *Unique Features of the Build Alternatives*, for additional intersection improvements proposed for each build alternative.



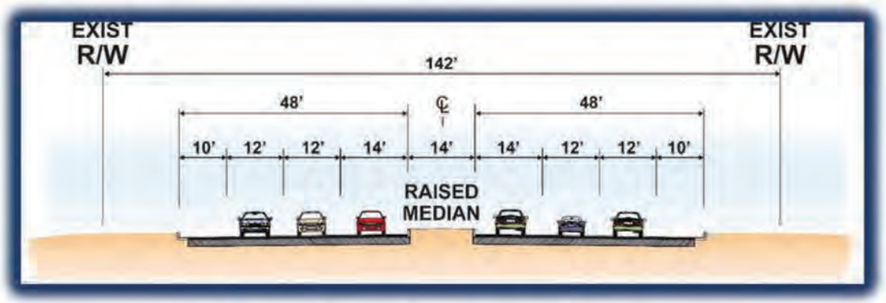
Temescal Canyon Road to Temescal Creek Bridge*



Temescal Creek Bridge to La Sierra Avenue*
East of Wood Road to Alexander Street



Cowan Road to east of Wood Road*
Alexander Street to Harvill Avenue



Harvill Avenue to Interstate 215

*Refer to Figure 2.2.6 Typical Cross-Sections Unique to Build Alternatives 1, 2C and 4, for additional areas of the project this cross-section applies to.

Figure 2.2-1
Typical Cross-Sections Common to Build Alternatives 1, 2C and 4
Cajalco Road Widening and Safety Enhancement Project

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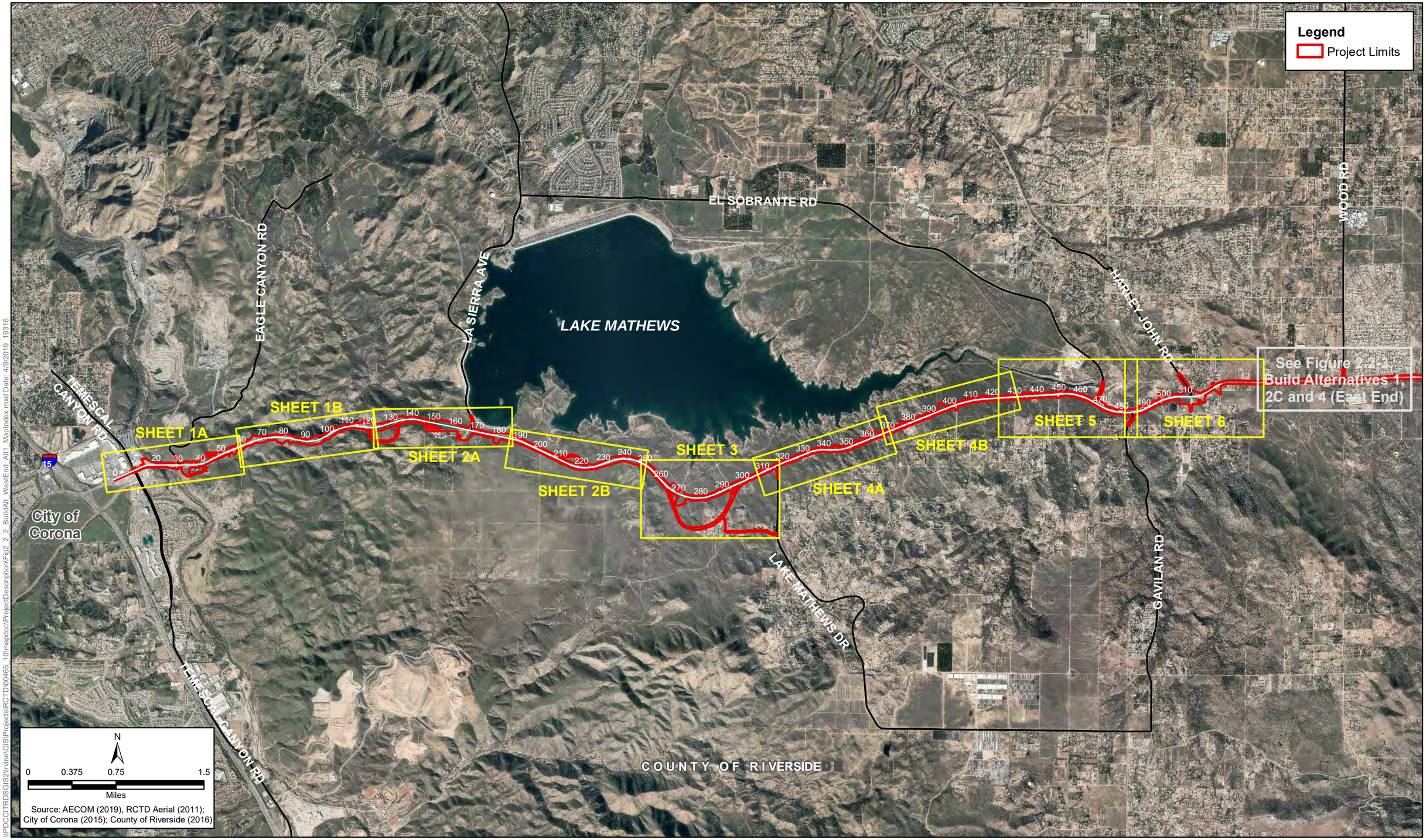

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Figure 2.2-2 - Map Index
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

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Sheet 1A

Sheet 1B

CROSSINGS AT CORONA

GRAND OAKS

TEMESCAL CANYON RD

Temescal Creek/Wash

EAGLE CANYON RD

CAJALCO RD

Western Project Limits

MATCH LINE

MATCH SHEET 1B

MATCH SHEET 1A

MATCH SHEET 2A

Roadbed Removal

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-2 - Sheets 1A and 1B
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

[This page left blank intentionally.]

MATCH SHEET 1B

MATCH SHEET 2B

MATCH SHEET 2A

MATCH SHEET 3A

Sheet 2A

Sheet 2B

CAJALCO RD

LA SIERRA AVE

SILVERTON CT

Roadbed Removal

MATCH LINE

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-2 - Sheets 2A and 2B
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 2B

MATCH SHEET 4A

CAJALCO RD

LAKE MATHEWS DR

LYNETTE LN

HOLLIS DR

HIGH RES WAY

HOLLIS LN

RICHEY WAY

MATCH LINE

MATCH LINE

N

Sheet 3

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400

Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-2 - Sheet 3
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 3B

MATCH SHEET 4B

MATCH SHEET 4A

MATCH SHEET 5A

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-2 - Sheets 4A and 4B
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 4B

MATCH SHEET 6

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-2 - Sheet 5
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

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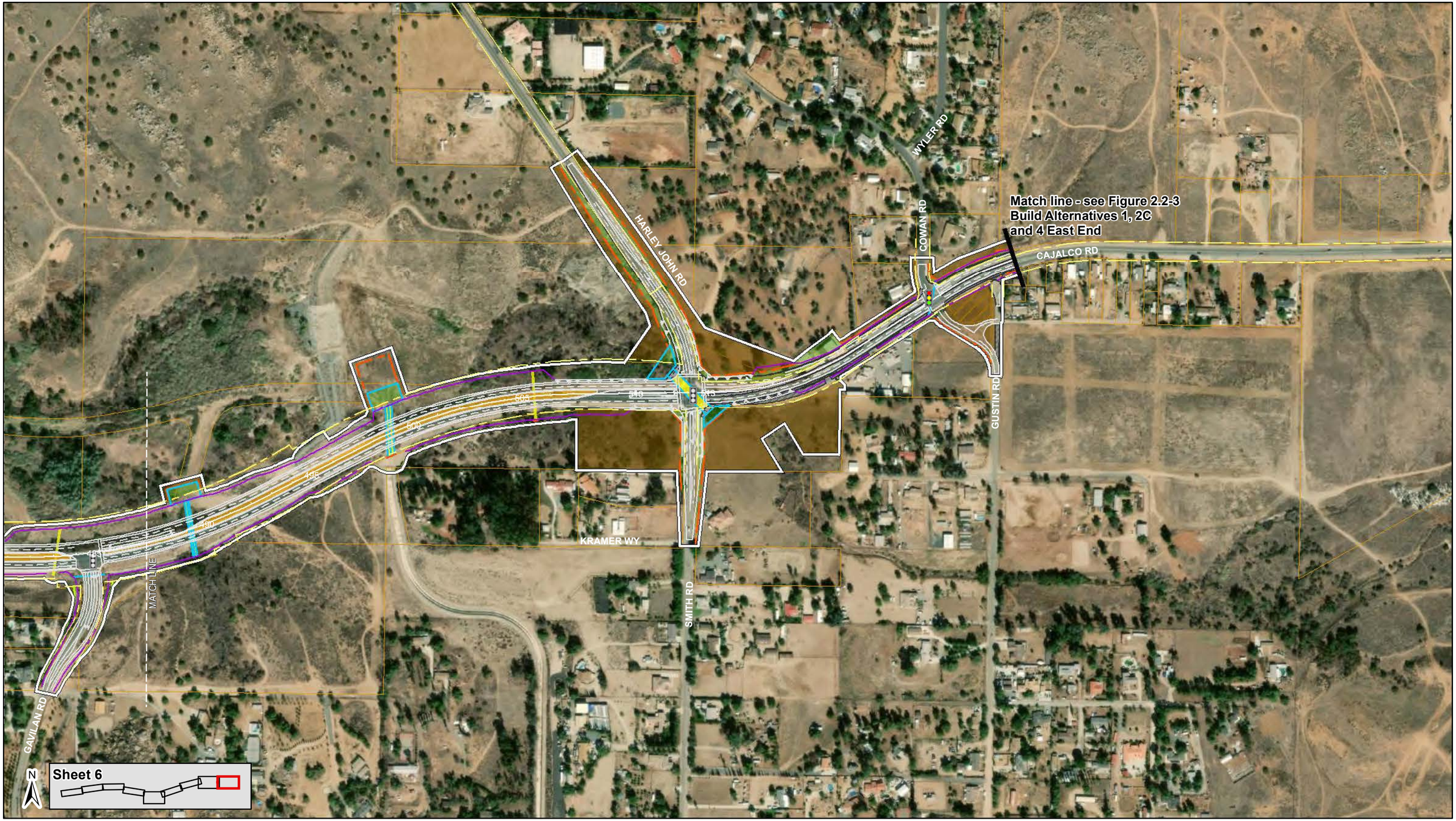
MATCH SHEET 5



Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-2 - Sheet 6
Build Alternative 1 (West End)
Cajalco Road Widening and Safety Enhancement Project

MATCH FIGURE 2.2-3

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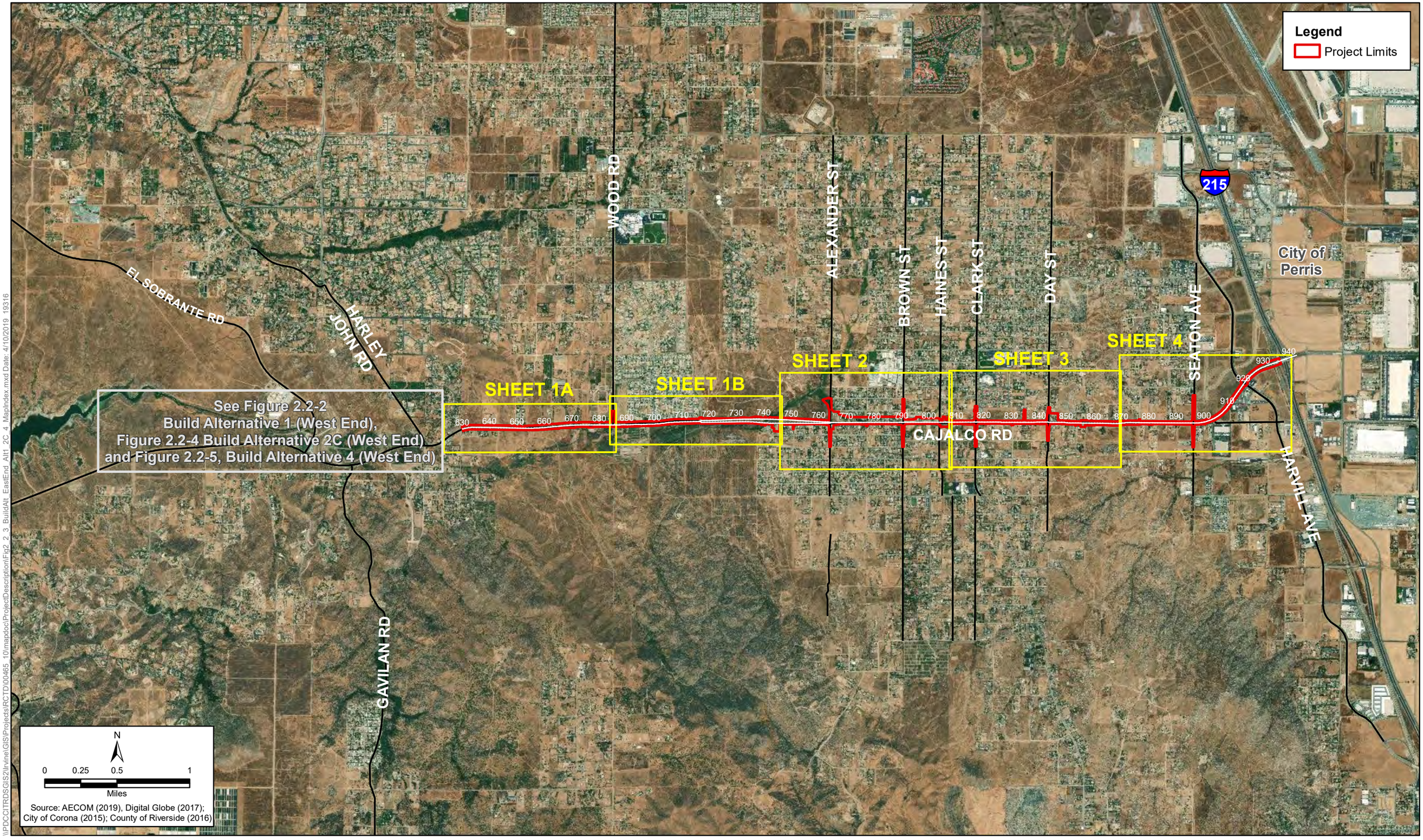

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Figure 2.2-3 - Map Index
Build Alternatives 1, 2C and 4 (East End)
Cajalco Road Widening and Safety Enhancement Project

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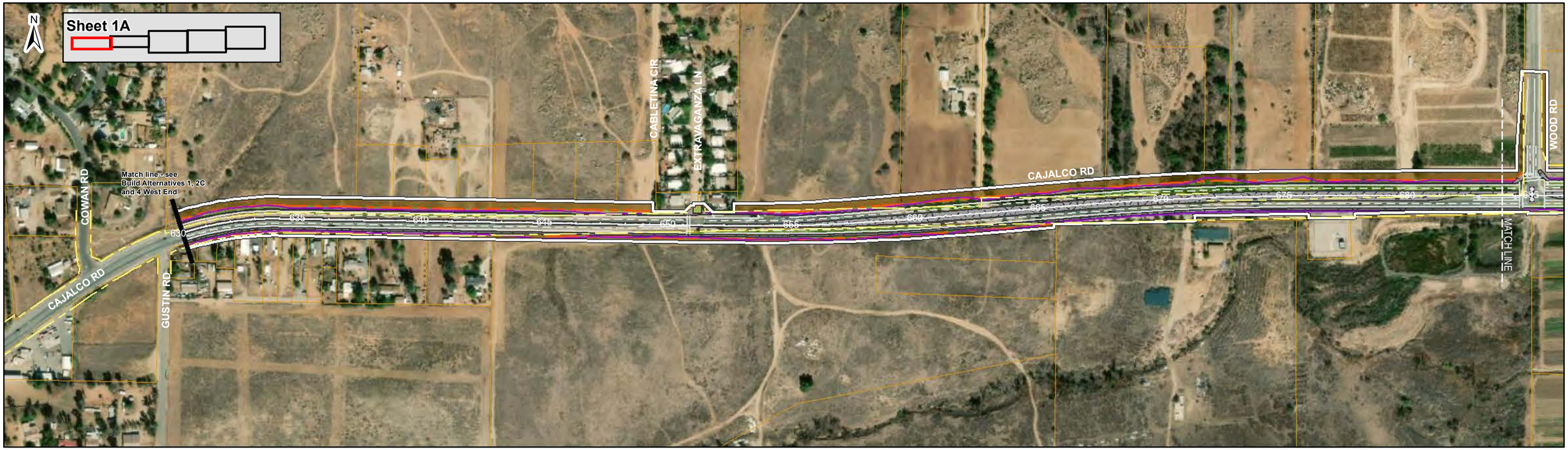

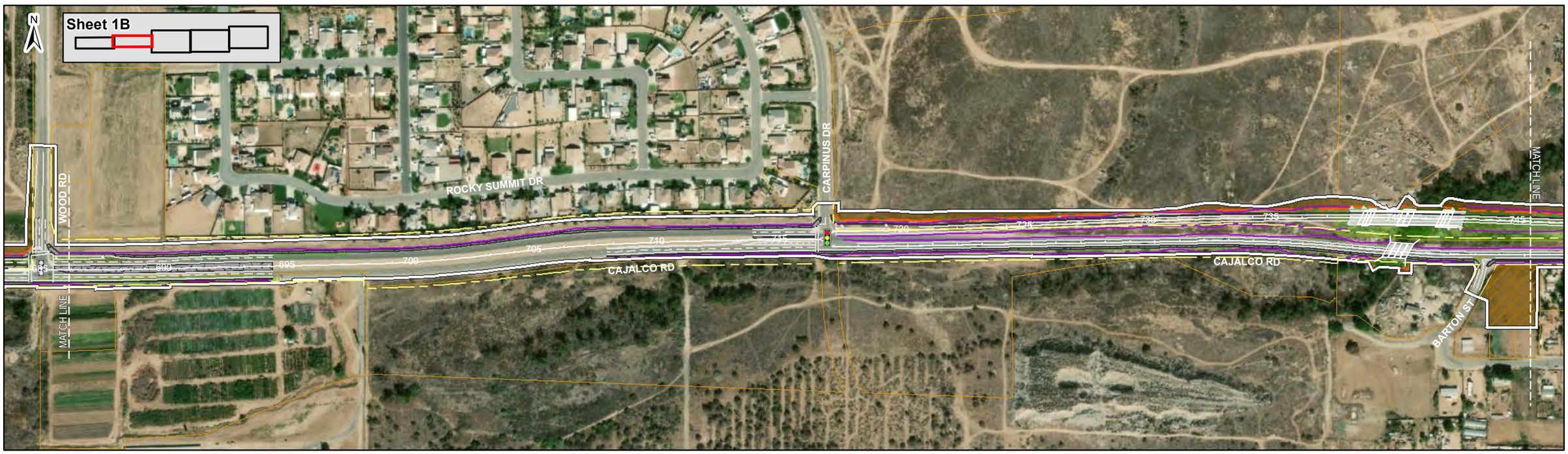

MATCH SHEET 1A

MATCH SHEET 1B

MATCH SHEET 2

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Drainage/Detention Basin/BMPs
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-3 - Sheets 1A and 1B
Build Alternative 1, 2 and 4 (East End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEETS 1B

MATCH SHEET 3

MATCH LINE

MATCH LINE

MOORE ST

WELLS ST

ALEXANDER ST

BROWN ST

FLORENCE ST

HAINES ST

SHORTRIDGE ST

JOHNSON ST

CAJALCO RD

CAJALCO RD

SOUDER ST

MEAD ST

UNA ST

ELMWOOD ST

750

755

760

108+00

765

770

775

780

785

790

795

800

805

N

Sheet 2

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Drainage/Detention Basin/BMPs
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400

Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-3 - Sheet 2
Build Alternative 1, 2C and 4 (East End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 2

MATCH SHEET 4

SHORTRIDGE ST

WINDSTONE WAY

JOHNSON ST

CLARK ST

ROBINSON ST

Day St

DAY ST

MATCH LINE

MATCH LINE

CAJALCO RD

CARROLL ST

TYLER RD

ELMWOOD ST

ELMWOOD ST

Sheet 3

N

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Drainage/Detention Basin/BMPs
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400

Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-3 - Sheet 3
Build Alternative 1, 2C and 4 (East End)
Cajalco Road Widening and Safety Enhancement Project

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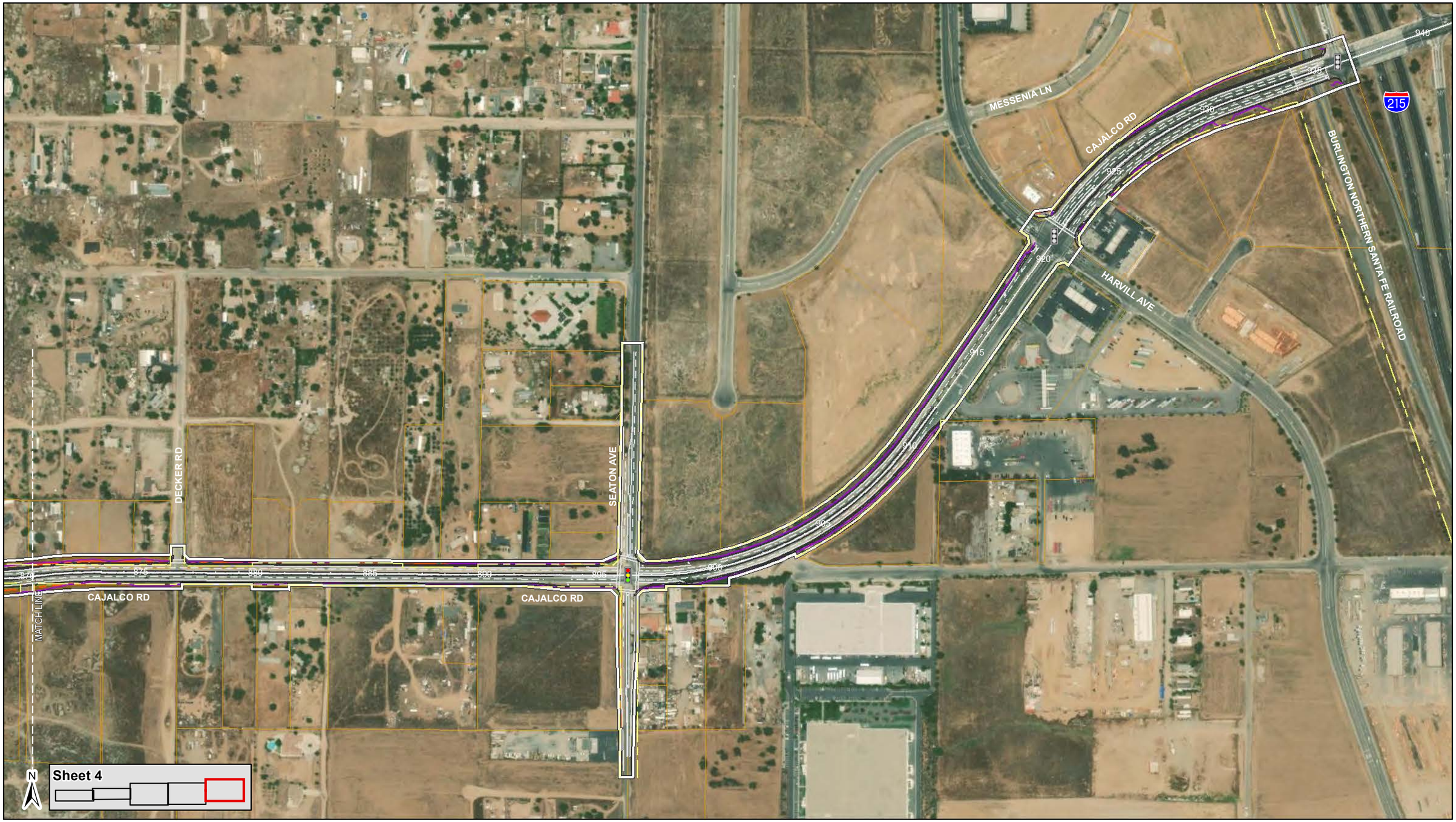

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Drainage/Detention Basin/BMPs
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-3 - Sheet 4
Build Alternative 1, 2C and 4 (East End)
Cajalco Road Widening and Safety Enhancement Project

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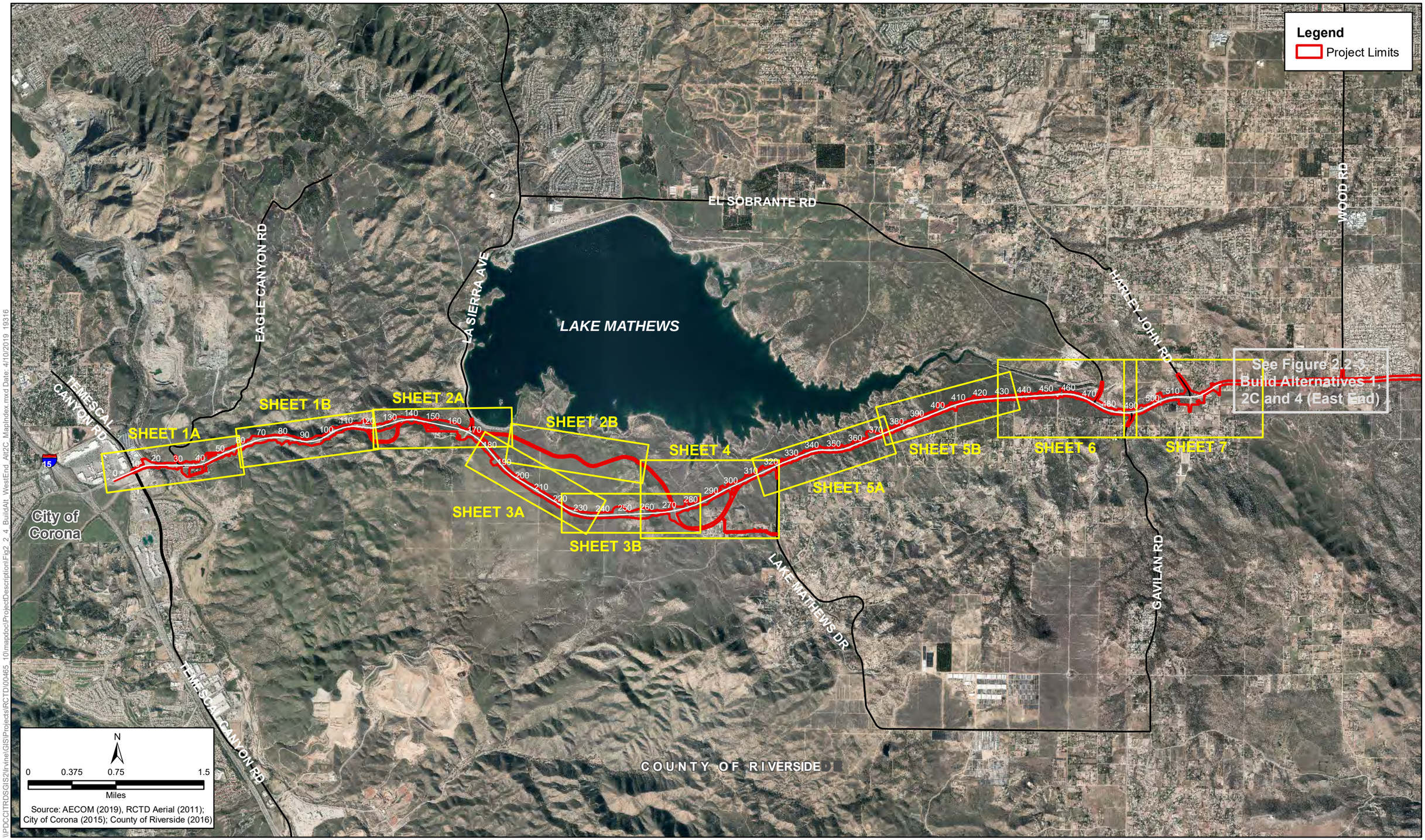

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Figure 2.2-4 - Map Index
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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Sheet 1A

Sheet 1B

CROSSINGS AT CORONA

GRAND OAKS

TEMESCAL CANYON RD

Temescal Creek Wash

EAGLE CANYON RD

CAJALCO RD

Western Project Limits

MATCH LINE

MATCH SHEET 1B

MATCH SHEET 1A

MATCH SHEET 2A

Roadbed Removal

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-4 - Sheets 1A and 1B
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 1B

MATCH SHEET 2B

MATCH SHEET 2A

MATCH SHEET 3A

Sheet 2A

Sheet 2B

N

CAJALCO RD

LA SIERRA AVE

SILVERTON CT

Roadbed Removal

MATCH LINE

125 130 135 140 145 150 155 160 165 170 175

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400

Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-4 - Sheets 2A and 2B
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 2B

MATCH SHEET 3B

MATCH SHEET 3A

MATCH SHEET 4A

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-4 - Sheets 3A and 3B
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEETS 2B & 3B

MATCH SHEET 5A

MATCH LINE

CAJALCO RD

LAKE MATHEWS DR

LYNETTE LN

HOLLIS DR

HIGH RES WAY

HOLLIS LN

RICHEY WAY

Sheet 4

N

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
- Access Road
- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-4 - Sheet 4
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 4B

MATCH SHEET 5B

MATCH SHEET 5A

MATCH SHEET 6A

Sheet 5A

Sheet 5B

MATCH LINE

CAJALCO RD

LAKE MATHEWS DR

ARCHER RD

LOUNSBERRY RD

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
- Proposed Right of Way
- # Station No.
- Proposed Acquisition and/or Easement
- Temporary Construction Easements
- Retaining Wall
- Proposed Cut & Fill
- Proposed Slope Easement
- Proposed Drainage/Detention Basin/BMPs
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- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400

Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-4 - Sheets 5A and 5B
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 5B

MATCH SHEET 7

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
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- Proposed Roadbed Removal or Reduction
- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-4 - Sheet 6
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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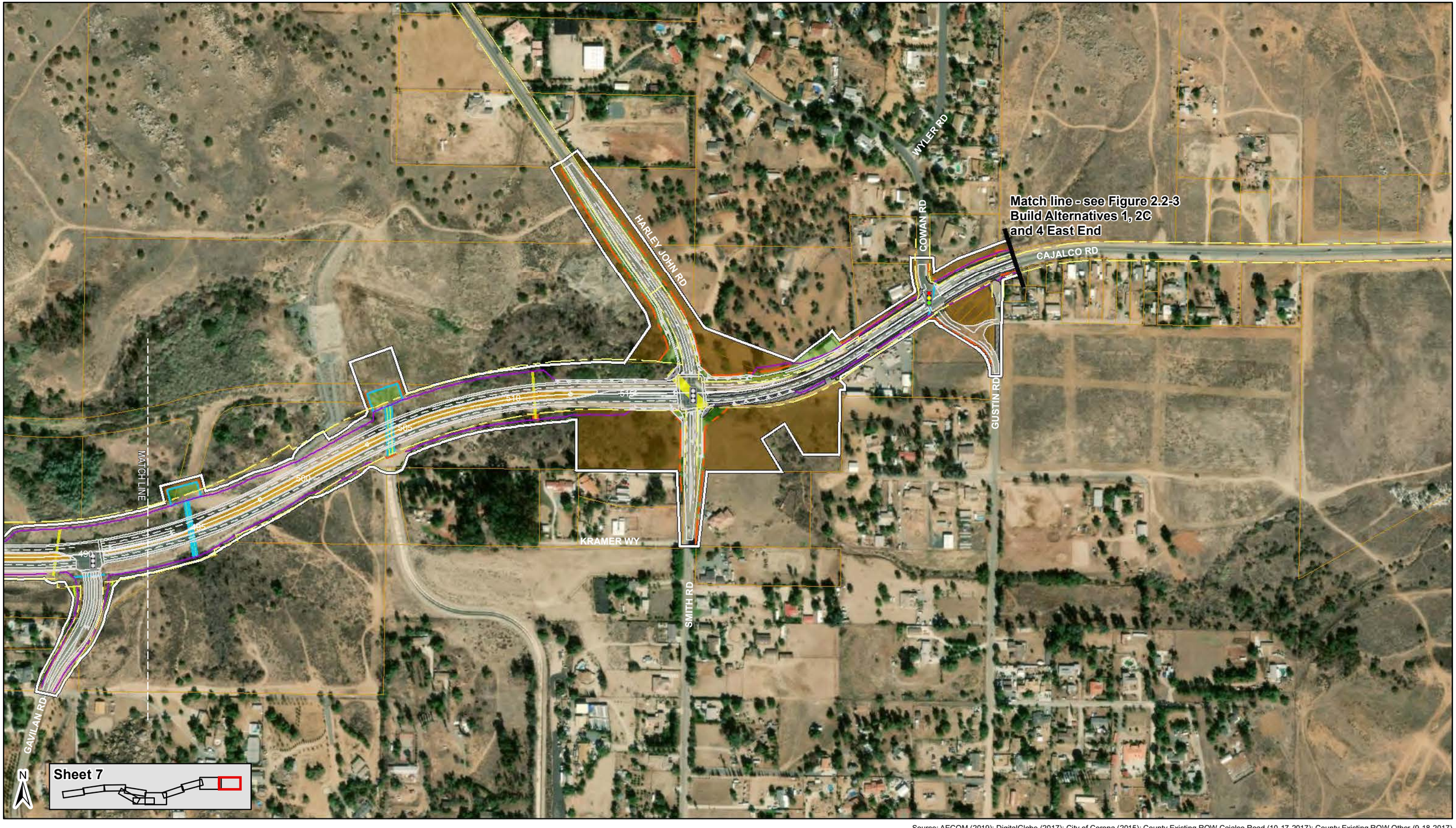
MATCH SHEET 6

MATCH FIGURE 2.2-3



Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
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- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-4 - Sheet 7
Build Alternative 2C (West End)
Cajalco Road Widening and Safety Enhancement Project

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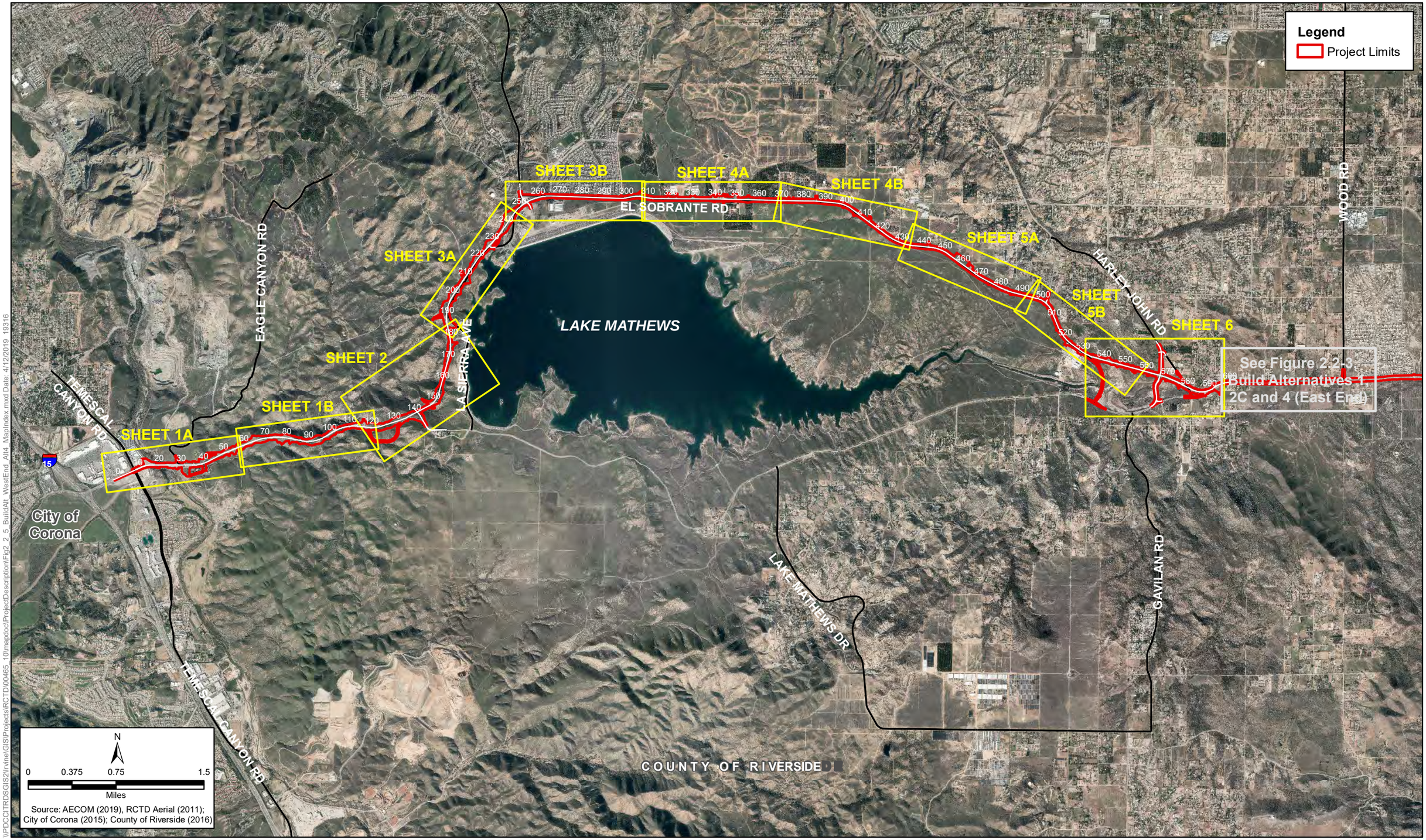

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Figure 2.2-5 - Map Index
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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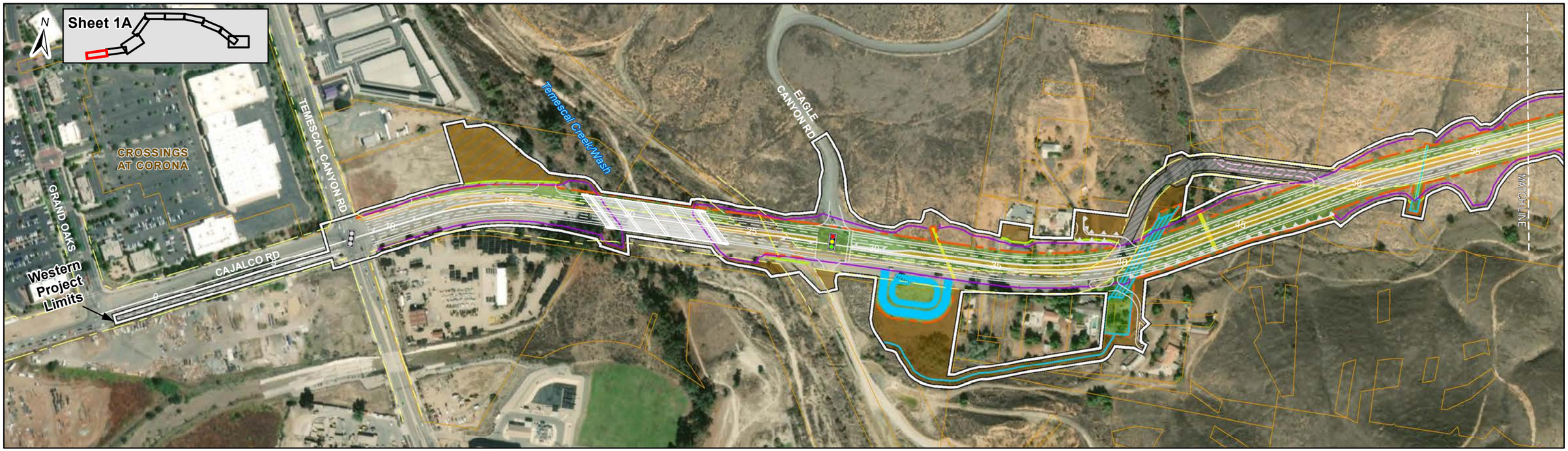

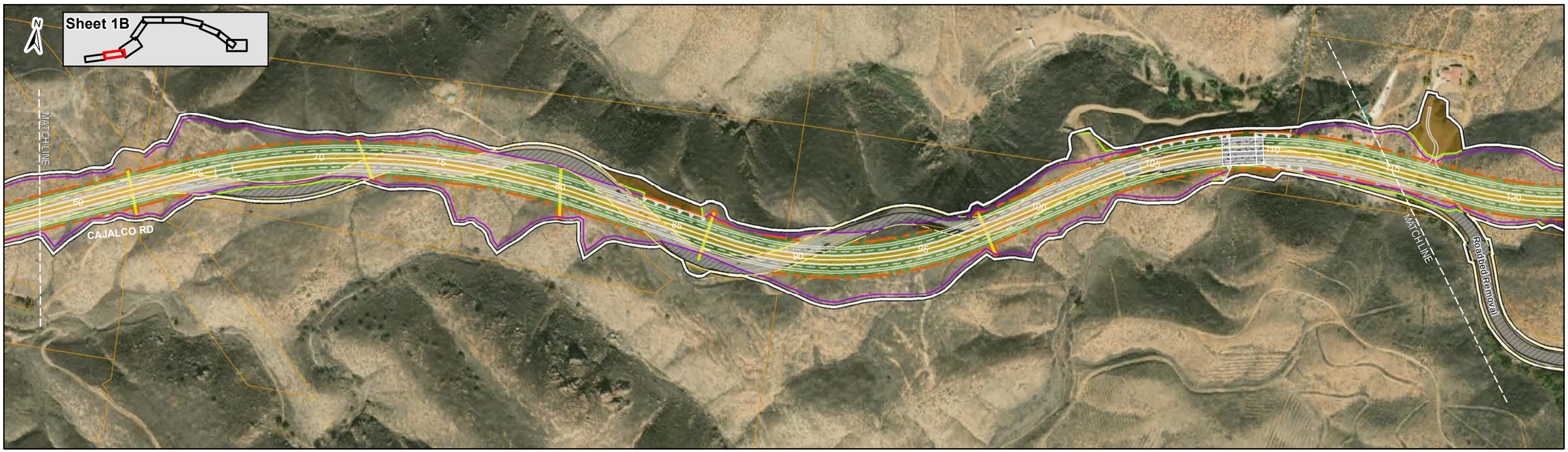

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
- Project Limits
- Existing Right of Way
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- Proposed Wildlife Crossing
- Proposed Bridge
- Proposed Staging Area
- Unpaved Median
- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-5 - Sheets 1A and 1B
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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SHEET 1B

SHEET 3A

MATCH LINE

MATCH LINE

CAJALCO RD

ACCESS RD (FORMERLY LA SIERRA AVE)

Roadbed Removal

Roadbed Removal

OLD CAJALCO RD

Sheet 2

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

- New Signalized Intersection
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- Raised Median/Sidewalk/ Curb & Gutter
- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-5 - Sheet 2
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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MATCH SHEET 2B

MATCH SHEET 3B

MATCH SHEET 3A

MATCH SHEET 4A

Sheet 3A

Sheet 3B

TIN MINE RD

CAJALCO RD

ACCESS RD (FORMERLY LA SIERRA AVE)

MATCH LINE

LA SIERRA AVE

MIMOSA LN

ORANGEWOOD LN

MANGO LN

WILLOW DR

ALOE LN

ROBUSTA DR

MCALISTER ST

EL SOBRANTE ROAD

Roadbed Removal

LEGEND

- New Signalized Intersection
- Existing Signalized Intersection to be Improved
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- Existing Parcel Lines

0 100 200 400
Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-5 - Sheets 3A and 3B
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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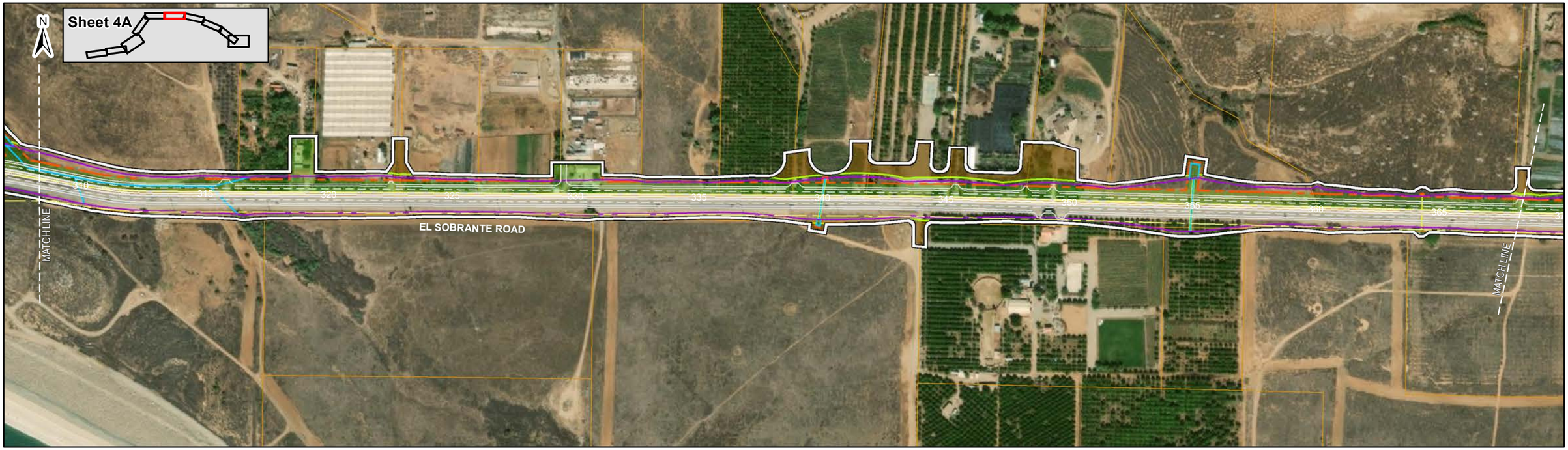
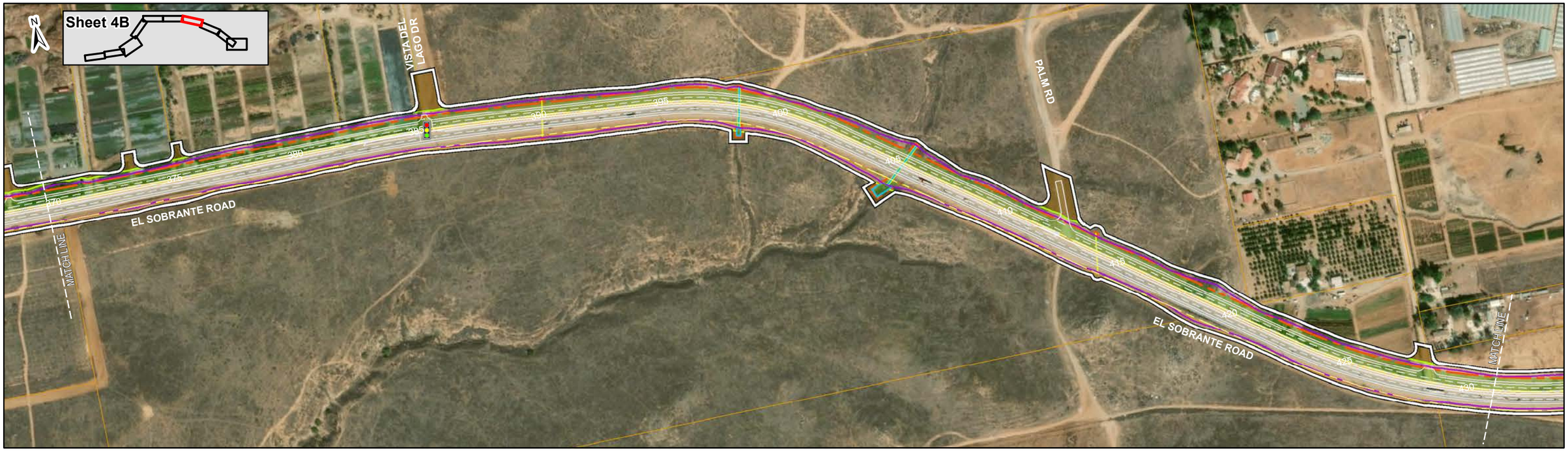
MATCH SHEET 3B

MATCH SHEET 4B



MATCH SHEET 4A

MATCH SHEET 5A



Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

LEGEND

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0 100 200 400
Feet

Figure 2.2-5 - Sheets 4A and 4B
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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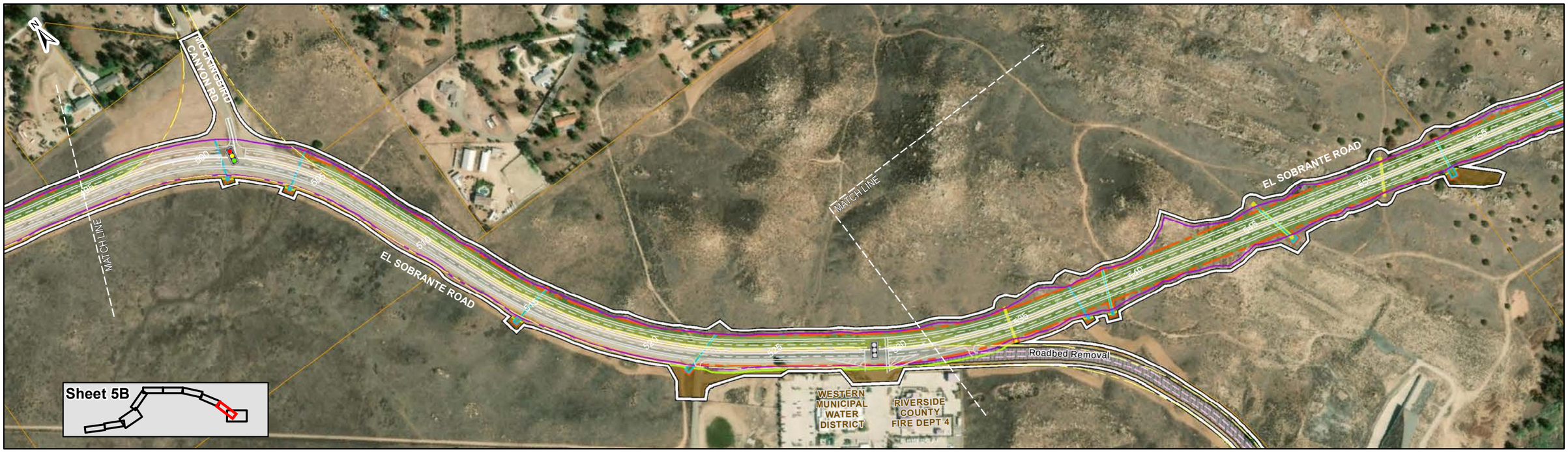
MATCH SHEET 4B

MATCH SHEET 5B

MATCH SHEET 5A

MATCH SHEET 6A



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Feet

Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

Figure 2.2-5 - Sheets 5A and 5B
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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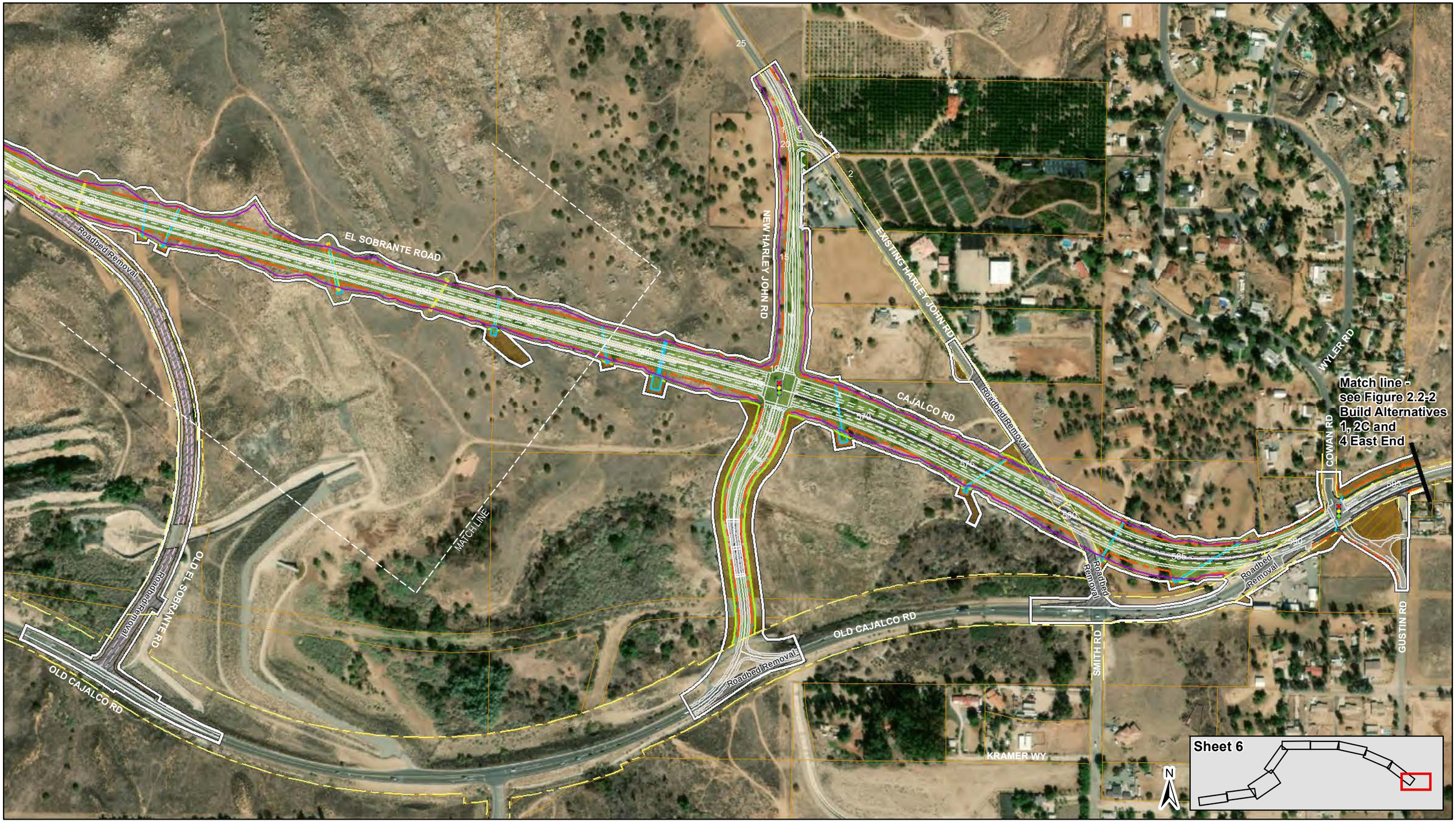
SHEET 5B



Source: AECOM (2019); DigitalGlobe (2017); City of Corona (2015); County Existing ROW Cajalco Road (10-17-2017); County Existing ROW Other (9-18-2017)

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- Existing Parcel Lines

0 100 200 400
Feet

Figure 2.2-5 - Sheet 6
Build Alternative 4 (West End)
Cajalco Road Widening and Safety Enhancement Project

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New and relocated street lighting is proposed at new and existing intersections that are improved within the project limits. Changes in lighting would be addressed with Standard Project Measures **PF VIS-4** and **AS-2 (NES BIO-16)**, listed below. Refer to Section 3.7, *Visual/ Aesthetics*, and Section 3.20, *Animal Species*, of this Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for additional detail.

- **PF VIS-4: Apply Minimum Lighting Standards:** All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements, such as intersections. In most cases, lighting will consist of County lighting standards that are up to 35 feet in height, and the minimum required for driver safety. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. Therefore, lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties or open spaces, or backscatter into the nighttime sky. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized. Light fixtures will have non-glare finishes that will not cause reflective daytime glare.
- **AS-2 (NES BIO-16): Light Shielding –** The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) requires that shielding be incorporated in project designs to ensure ambient lighting in WRC MSHCP conservation areas is not increased (WRC MSHCP Volume I, Section 6.1.4). Night lighting will be directed away from natural lands within existing and proposed WRC MSHCP conservation areas in order to support potential linkage and core functions during construction. This is intended to protect species within existing and proposed WRC MSHCP conservation areas from direct night lighting during construction, if activities occur at night.

Roadway Curves and Realignments

Various sections of Cajalco Road would be realigned, bypassing existing roadway curves with new sections of widened roadway with decreased or eliminated curves. Limited realignments for all build alternatives would occur along sections of Cajalco Road between east of Temescal Creek Bridge and west of La Sierra Avenue and would vary in lengths from approximately 600 feet to 2,200 feet. Please refer to Sheets 1A through 2A of Figure 2.2-2 for realignment locations. An approximately 430-foot-long section of Gustin Road south of Cajalco Road would also be realigned. Where existing roadways would be bypassed, existing pavement would be partially or completely removed depending on adjacent property access need, and partially or fully graded, and contoured, to maintain slope stability. Where site conditions allow, removed roadbed areas would be returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation. Additional and different sections of Cajalco Road would be realigned under Build Alternatives 1, 2C, and 4, and sections of La Sierra Avenue, El Sobrante Road, and Harley John Road would be realigned under Build Alternative 4. Please refer to corresponding discussions under each build alternative in Section 2.2.1.2, *Unique Features of the Build Alternatives*.

Where Cajalco Road intersects with existing roads within the project limits, intersection improvements would be made to accommodate the widened Cajalco Road and maintain continuity with intersecting street operations. Some intersecting roadways would be widened and regraded at the improved intersections to match the new roadway profile, and new striping would be added to accommodate new through and turn lanes within the widened portions of the roadways. The intersection of Gustin Road and Cajalco Road would be redesigned and relocated west to intersect with Cowan Road, an intersecting roadway on the north side of Cajalco, creating a new four-way intersection west of the existing Gustin Road/Cajalco Road intersection. The existing intersection of Gustin Road with Cajalco Road would be replaced with a new cul-de-sac at the northern terminus of existing Gustin Road.

All access roads within Metropolitan Water District of Southern California (MWD)– and other resource agency–managed areas would be retained, or alternate access would be provided in coordination with MWD and resource agencies.

The proposed project would involve excavation and fill activities for roadbed removal, realignments, grading, and other project features, such as bridges and retaining walls. Earthwork in the project area would be performed in accordance with the requirements of applicable government agencies, and recommendations from the preliminary geotechnical reports, including the following (refer to Section 3.11, *Geology/Soils/Seismic/Topography*, of this EIR/EIS for additional detail):

- **PF GEO-1:** Implement the California Department of Transportation's (Caltrans') procedures regarding seismic design, as detailed in Section 19, "Earthwork," of the Caltrans Standard Specifications Manual. Seismic design would also meet County of Riverside (County) requirements for near-source design parameters under the Uniform Building Code (UBC).
- **PF GEO-2(a-e):** The following fieldwork and laboratory testing will be performed prior to construction: Borings will be taken in accordance with Table 10-1 of the American Association of State Highway and Transportation Officials' Load and Resistance Factor Design Bridge Design Specifications for number, spacing, and depth of borings; rock core samples collected to estimate rock quality designation; seismic refraction survey and refraction microtremor survey to evaluate rock rippability and shearwave velocity, respectively; test pits or other methods to collect data for evaluation of the soil cover over the competent soil or bedrock and stability of the steep descending slope; and sufficient field and laboratory testing to classify the subsurface materials and define liquefaction, shear strength, compressibility, and corrosion properties of the soils and rock encountered.

If cultural materials and/or human remains are discovered during earthmoving activities, Standard Project Measures **PF CR-1** and/or **PF CR-2**, below, would be employed. Refer to Section 3.8, *Cultural Resources,* of this EIR/EIS for additional detail.

- **PF CR-1: Unanticipated Discoveries.** 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. Unanticipated discoveries will be treated according to the Project Discovery and Monitoring Plan.
- **PF CR-2: Discovery of Human Remains.** If human remains are discovered during construction, further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought

by the County Coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who, pursuant to Public Resources Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD) on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Pedestrian, Bicycle and Transit Facilities

ADA-compliant sidewalks would be constructed or replaced along one side of the portions of the project where residential and commercial properties are present. Pedestrian crosswalks that cross Cajalco Road would be added at Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue. The crosswalks would include safety lighting, signing, and striping. Along Cajalco Road from Harley John Road to Harvill Avenue, 8-foot shoulders that would serve as a combined shoulder/Class II and Class III bike lanes would also be constructed.[2] New or replacement bus pull-outs are proposed for the following locations (refer to Figure 2.2-3):

- East of Brown Street, eastbound Cajalco Road (south side of road) (STA #792);
- East of Brown Street, westbound Cajalco Road (north side of road) (STA #794);
- West of Clark Street, westbound Cajalco Road (north side of road) (STA #815);
- East of Clark Street, eastbound Cajalco Road (south side of road) (STA #821);
- West of Day Street, westbound Cajalco Road (north side of road) (STA #841);
- East of Day Street, eastbound Cajalco Road (south side of road) (STA #846);
- West of Seaton Avenue, westbound Cajalco Road (north side of road) (STA #894);
- East of Seaton Avenue, eastbound Cajalco Road (south side of road) (STA #899);
- West of Harvill Avenue, westbound Cajalco Road (north side of road) (STA #920); and
- East of Harvill Avenue, eastbound Cajalco Road (south side of road) (STA #925).

Wildlife Crossings and Fencing

Wildlife Crossings

Between Temescal Creek Bridge and Harley John Road, wildlife crossings of various widths and types would be constructed beneath the roadway; a wildlife undercrossing with bridge structure may also be constructed between Temescal Canyon Road and La Sierra Avenue (refer to Sheet 1B of Figures 2.2-2, 2.2-4, and 2.2-5). Roadway features such as shoulders, fencing, and

[2] County of Riverside defines Class II and Class III Bikeways as follows:
Class II Bikeways, or bike lanes, are intended for preferential use by bicycles, and are provided for within the paved areas of roadways. Bike lane pavement striping and other markings, and bikeway signs are intended to promote an orderly flow of traffic by establishing demarcations between lanes designated for bicycles and lanes designated for motor vehicles. Bike lanes are one-way facilities that follow the flow of motor vehicle movement.
Class III Bikeways, or bike routes, are intended to provide continuity within the bikeways system, usually by connecting discontiguous segments of Class I and Class II Bikeways. Bike routes are shared facilities, either with motor vehicles on roads or with pedestrians on sidewalks, and bicycle usage of the facilities is considered secondary. Bike routes are not marked on pavement but are supported by signs. (County of Riverside 2020).

bridges would be designed to support and facilitate wildlife use of the wildlife crossings. Placement and design of the wildlife crossings are based primarily on guidance provided in Section 7.5.2 of the WRC MSHCP, *Guidelines for Construction of Wildlife Crossings*; however, modifications were applied as needed to accommodate site conditions, species requirements, and design specifications. The design process included consideration of resource agency guidelines and recommendations, consultations with mule deer and puma experts as well as biologists experienced in wildlife crossing design, and current literature on wildlife crossings (Beier and Loe 1992; Bissonette and Hammer 2000; Caltrans Division of Research, Innovation and System Information 2014; Clevenger and Huijser 2011; Cramer et al. 2014; Foreman and Alexander 1998; Foreman et al. 2003; Jacobson et al. 2016; Meese et al. 2009; Road Ecology Center 2017; Soule and Gilpin 1991; Spencer et al. 2010; Van der Ree et al. 2015).

A landscape-scale approach in conjunction with the methods described above was applied and the results coordinated with local managing resource entities, including the Western Riverside County Regional Conservation Authority (RCA) and the Lake Mathews Reserve Management Committee (LMRMC), to determine the appropriate modifications necessary for effective crossing locations for a variety of wildlife species, including mule deer, mountain lion, and medium and small mammals. The approach included a review of land and aerial species as well as consideration of geography, land use (current and future), vegetation/land cover, water courses (perennial and intermittent), topography, WRC MSHCP linkages, and contiguity and connectivity between areas of preserved open space within a five-mile radius of the west end of the proposed project. In addition, species ecological needs and behavior were considered when assessing the landscape for potential small, medium, and large wildlife crossing locations. Please refer to Appendix J, Table J-1, for a listing of wildlife crossings proposed under each build alternative and Figure J-1 for their locations.

Although not required, all proposed small and medium wildlife crossings would be designed with widths two times the WRC MSHCP established height (width = 2 x height) for increased openness and better facilitation of animal movement. In addition, large and extra-large crossings would be designed to accommodate large animals and mule deer movement. Minimum crossing dimensions and their frequency within the project are provided in Table 2.2-1.

Table 2.2-1. Minimum Adopted Crossing Dimensions and Frequencies

Wildlife Crossing Size	Minimum Height/Width[1]	Maximum Recommended Crossing Length	Maximum Target Distance Between Crossings[2]	Species Facilitated
Small	Height 1.5–3 feet Width 3–6 feet	210 feet	984 feet	Small animals
Medium	Height 3–5 feet Width 6–10 feet	210 feet	984 feet	Medium (e.g., coyote, raccoon) and small animals
Large	Diameter and/or height/width 5.1-14.9 feet (minimum 10 feet targeted)	210 feet	0.93 mile	Large animals (e.g., mountain lion), medium animals, and small animals

Wildlife Crossing Size	Minimum Height/Width[1]	Maximum Recommended Crossing Length	Maximum Target Distance Between Crossings[2]	Species Facilitated
Extra Large	Height 15 feet Width 30 feet	210 feet	0.93 mile	Mule deer, mountain lion, medium animals, and small animals

Sources: RCA 2003; Caltrans 2018a

[1] Dimensions derived from WRC MSHCP minimum size requirements and agency input. WRC MSHCP specifies minimum sizes for small, medium, and mule deer crossings; refer to Section 7.5.2 for details. Large crossing sizes were determined as the minimum size required to facilitate mountain lion and elements such as a dry shelf. All small and medium crossing widths would be double the crossing height.

[2] Distances as indicated in the WRC MSHCP have been converted from meters to feet and kilometers to miles.

At locations near wildlife crossings, 3-foot walls with an 18-inch lip projecting into the adjacent open space would be constructed where feasible to direct small wildlife toward the crossings. Additional design elements have been incorporated based on agency guidance and updated best management practices in road ecology. All of the crossings would have earthen bottoms and many would also function as drainage facilities or culverts; these "wet" crossings would be designed to allow for animal passage using shelf features above the water flow.

Fencing

Fencing would be installed along project roadways through the LMR and LM-EM Reserve areas to provide security for MWD facilities, protect sensitive resources, and deter access into preserve areas. At wildlife crossing locations, fencing would be designed to integrate with and support the crossings, and facilitate use of the crossings by wildlife. Fencing placement and design details would be included in a Wildlife Fencing Plan coordinated between the County, MWD, and agencies involved in management of preserve areas. Placement and design of the fencing will take into consideration the guidance provided in Section 7.5.2 of the WRC MSHCP, *Guidelines for Construction of Wildlife Crossings*, as well as the results of coordination described above for the accommodation of reserve management, maintenance, access, and security. The Wildlife Fencing Plan will be developed as detailed in Standard Project Measure **NC-16 (NES BIO-19)**, below. Refer to Section 3.17, *Natural Communities*, of this EIR/EIS for additional detail.

- **NC-16 (NES BIO-19):** A Wildlife Fencing Plan will be developed and implemented for the preferred build alternative. Prior to finalizing the wildlife fencing design, the impacts of and interaction between wildlife fencing and other fencing (e.g., Lake Mathews and other local fencing) in the project area of the preferred build alternative shall be fully assessed and analyzed. If it is determined that fencing in the project area (i.e., either project-related fencing or other fencing) will hinder or interfere with wildlife movement or the function and value of wildlife crossings, the wildlife fencing plan (and project design) shall include design considerations that will lessen these impacts. Final Wildlife Fencing Plans will include the following considerations at a minimum:
  - guidelines on fencing design;
  - access gates design;
  - construction requirements for fence ends; and
  - facilitation of escape opportunities.

Security fencing 6 to 10 feet in height would be installed within the right of way along Cajalco Road where detention basins are proposed, for open channel drainage facilities proposed between Alexander Street and east of Haines Street. Security fencing would also be considered for limited, undeveloped areas adjacent to Cajalco Road for the protection of cultural resources. Standard fence types (chain link, barbed wire, or wire mesh) would be used unless fences of special design need be used in certain cases, such as for wild animal control. In special cases, alternative options such as powder-coating, the use of iron, and other enhancements would be considered. Iron fencing and/or block wall, or a similar type of ornamental fencing, would be considered in lieu of chain link fencing for separating Cajalco Road from the open channel and residences north of the open channel between Alexander Street and Brown Street, and for large detention basin areas. (Refer to Sheet 2 of Figure 2.2-3 for the open channel location; refer to Sheet 1A of Figures 2.2-2, 2.2-4, and 2.2-5 for large detention basin location.)

Erosion Control

Retaining Walls

Retaining walls would be constructed where feasible to avoid or otherwise minimize permanent right of way acquisition and utility impacts, as well as to accommodate construction staging. Please refer to Figures 2.2-2 through 2.2-5 for proposed retaining wall locations.

Slope Easements

Slope easements are proposed in the more steep and hilly terrain areas of the build alignments between Temescal Creek and Harley John Road. The slope easements would be used for the construction and maintenance of slopes located along steep areas adjacent to the proposed roadway right of way. Please refer to Figures 2.2-2 through 2.2-5 for proposed slope easement locations for all build alternatives. Any temporary cuts for the proposed project shall be safely sloped in accordance with Occupational Safety and Health Administration (OSHA) guidelines, or properly shored. Property owners would be compensated for areas proposed to be utilized as slope easement.

Best Management Practices

Best management practices (BMPs) for erosion control would be provided as part of the proposed project where feasible. Each project build alternative would include the following standard project measures as part of the project. Refer to Sections 3.7, *Visual/Aesthetics*, 3.10, *Water Quality*, 3.11, *Geology/Soils/Seismic/Topography*, and 3.17, *Natural Communities*, of this EIR/EIS for additional detail.

- **PF VIS-1: Contouring and Replanting Disturbed Areas.** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory.
- **PF WQ-3**: **Post-Construction BMPs** – Post-construction best management practices will be implemented to the maximum extent practicable, consistent with the requirements of the National Pollutant Discharge Elimination System permit and Waste Discharge Requirements

for the County of Riverside's Municipal Separate Storm Sewer System Permit in place at the time of project approval.

- **PF WQ-4: Construction SWPPP** – The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time the project goes to construction, including developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction. The SWPPP would also include post-construction erosion control measures such as re-vegetation of disturbed soil areas. A Qualified SWPPP Practitioner (QSP) would be required to regularly inspect and maintain the BMPs to ensure they are in good working order, as required in the Construction General Permit. The QSP would implement appropriate hazardous material management practices, spill prevention measures, and other good housekeeping measures to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge off site. Construction-related impacts on water quality would be avoided or otherwise minimized with the implementation of construction BMPs identified in the SWPPP, such as fiber rolls, silt fence, stabilized construction entrance/exit, and concrete washouts.
- **PF GEO-4:** Appropriate backfill materials would be used in accordance with California Department of Transportation standards. Select fill materials should be used for mechanically stabilized earth wall construction, and use of oversize materials generated in cuts screened prior to use as backfill materials.
- **PF GEO-5:** Structure approach embankment is that portion of the fill material within approximately 150 feet longitudinally of the structure in accordance with Figure 208.11 of the Highway Design Manual. Structure abutment embankment fill should be compacted to not less than 95 percent relative compaction in accordance with Section 19-5.03B of the Standard Specifications (Caltrans 2018). Poor quality material, such as expansive soils, must be precluded from structure abutment embankments unless treated and placed in accordance with California Department of Transportation Geotechnical Manual Section 3.1.2. Expansive soil materials for this requirement are defined as having either an Expansion Index (ASTM D 4829) greater than 50, or a Sand Equivalent (California Test Method 217) less than 20. This requirement is exclusive of the structure backfill and pervious backfill material requirements as shown on the plans and set forth in the Standard Specifications under Sections 19-3.02B and 19-3.03E, Structure Backfill, and 19-3.02C and 19-3.03G, Pervious Backfill Material, respectively.
- **NC-10 (NES BIO-10):** Plans for water pollution and erosion control (i.e., Storm Water Pollution Prevention Plan [SWPPP]) will be prepared in accordance with project aquatics permits (refer to Section 3.10, *Water Quality*, for additional details for the SWPPP). The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County of Riverside prior to construction (Western Riverside County Multiple Species Habitat Conservation Plan [WRC MSHCP] Volume I, Section 7.5.3). The following measures will be incorporated into the plans, as applicable, to ensure consistency with the WRC MSHCP:

- Water pollution and erosion control plans will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements (WRC MSHCP Volume I, Appendix C) and will ensure that no fluids or sediment from construction will enter into the environmentally sensitive area (ESA) fenced areas.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized (WRC MSHCP Volume I, Section 7.5.3).
- No erodible materials will be deposited into watercourses or areas demarcated with ESA fencing. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).
- Projects that cannot be conducted without placing equipment or personnel in riparian vegetation areas should be timed to avoid the breeding season of riparian-associated species identified in WRC MSHCP Global Species Objective No. 7 (WRC MSHCP Volume I, Appendix C). Breeding season as defined by the WRC MSHCP is March 1 through June 30.
- If stream flows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream. Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). Short-term diversions will consider impacts on wildlife (WRC MSHCP Volume I, Section 7.5.3).
- Equipment storage, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions will be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities, including, but not limited to, the applicable jurisdictional city, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas (WRC MSHCP Volume I, Appendix C).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the proposed grading limits of the project site. These designated areas will be clearly marked and located in such a manner as to contain runoff (WRC MSHCP Volume I, Section 7.5.3).

- **NC-13 (NES BIO-9):** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory.

Right of Way Acquisitions and Relocations

Property Acquisitions and Relocations

Partial and full property acquisitions are proposed to accommodate the widened roadway, areas of realigned roadway, utility relocations, cut and fill, and related project facilities. Where relocations may be required, relocation assistance payments and counseling would be provided in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. This commitment is included in the project as Standard Project Measure **PF COM-1**, below. Please refer to Section 3.4.2, *Relocations and Real Property Acquisitions*, of this EIR/EIS for additional detail.

- **PF COM-1:** As part of project implementation, relocation assistance payments and counseling would be provided by the County of Riverside to persons and businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended (42 United States Code Sections 4601-4655). The County of Riverside will provide compensation to eligible recipients for property acquisitions. All eligible displacees would be entitled to moving expenses. In addition, assistance to businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation, would be provided.

Partial acquisitions and temporary occupation of farmland would also occur; Standard Project Measures **PF FA-1** and **PF FA-2**, below, would ensure continued access, viability, and use of remaining farmland. Please refer to Section 3.2, *Farmlands*, of this EIR/EIS for additional detail.

- **PF FA-1**: Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway.
- **PF FA-2**: Farmland temporarily affected during construction activities will be returned to conditions that allow for continued use and function as farmland following construction of the project. Any compensation deemed necessary for continuation of pre-project farming operations affected by the project will be negotiated in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 United States Code Sections 4601-4655).

Partial and full property acquisitions may require the removal of existing landscaping such as fencing, walls, and vegetation. Measure **VIS-2** and Standard Project Measure **PF VIS-3** would address affected properties by replacing landscape features to the degree possible. Please refer to Section 3.7, *Visual/Aesthetics*, of this EIR/EIS for Measure **VIS-2** and additional detail regarding Standard Project Measure **PF VIS-3**.

- **PF VIS-3: Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity.** Existing noise barriers in the project vicinity utilize a combination of solid barriers and landscaping to improve site aesthetics. Any noise barriers constructed as a result of the proposed project will be designed and constructed in a manner that complements and blends with nearby existing noise barriers. Aesthetic treatments such as color and/or texture will be considered for the walls, and their compatibility with existing conditions, and with applicable goals and policies of the County, will be considered prior to final design. The County's Resident Engineer, or Project Engineer under contract to the

County, will ensure that the aesthetic treatments included in the final Plans, Specifications, and Estimates (PS&E) are implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

Utility Relocations

Existing utility poles/lines along Cajalco Road between Temescal Canyon Road and La Sierra Avenue, and between Cowan Road and I-215, would be relocated as needed under all build alternatives to accommodate the widening. Additional utilities within the project limits—including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic—may also be relocated as necessary. At bridge locations within the project limits, utilities would be relocated either into the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements.

Avoidance or relocation of the following utilities within the project limits would be coordinated with local providers:

- AT&T – cable lines near the intersections of Cajalco Road/Seaton Avenue and Seaton Avenue/Marquez Road
- Western Municipal Water District – water pipelines near where Cajalco Road intersects Cowan Road, Carpinus Drive, Hollis Lane, Gustin Road, Extravaganza Lane, and Silverton Court, as well as sewage pipelines where Cajalco Road intersects Wood Road and Carpinus Drive
- Century Link – fiber optic cables near the intersection of Wood Road and Clark Street

While changes in the placement of some utilities would be considered permanent, any effects during their relocation would be temporary and would be rectified once relocations and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated footprint of this project. Standard Project Measure **PF UT-1**, below, is included in the project to avoid or otherwise minimize related impacts. Please refer to Section 3.5, *Utilities/Emergency Services*, of this EIR/EIS for additional detail.

- **PF UT-1:** The County of Riverside will coordinate all utility relocation work with the affected utility companies to ensure minimum disruption to customers in the service areas during construction.

U.S. Postal Service Mailbox Relocations

U.S. Postal Service (USPS) mailbox receptacles within the limits of proposed roadway improvements would be relocated and replaced with grouped mailboxes placed in accordance with Sections 631.441 (Delivery Requirements), 632.524 (Location), and 632.525 (Grouping), of the USPS Postal Operations Manual. Mailboxes would be designed in accordance with USPS requirements as well as County of Riverside Standard No. 812 (Multiple Mailbox Installation for New Sidewalk).

Bridges, Culverts, Detention Basins and Drainage Facilities

Bridges

The following proposed replacement, widened, and new bridges, are proposed for all build alternatives:

- Bridge No. 56C-155: The existing 40.67-foot-wide, 171-foot-long Temescal Creek Bridge over Temescal Creek along Cajalco Road at STA #22, would be removed and replaced with a widened, 120.33-foot-wide, 440-foot-long, four-span bridge structure (see Figure 2.2-2).

  A single-span bridge replacement design was originally proposed for this location and was subsequently modified in response to input received from resource agencies, as well as environmental constraints and engineering factors. The current bridge design minimizes impacts on the Temescal Wash Mitigation area managed by the Riverside-Corona Resource Conservation District (RCRCD) while providing additional capacity for accommodating Temescal Creek flows. Bridge column placements and design were refined to minimize obstructions to flow and impacts on the creek bed.

- New bridge (STA #110): A new bridge along Cajalco Road would be constructed between slopes west of La Sierra Avenue at STA #110 (see Figure 2.2-2). The new, 112.8-foot-wide, 106-foot-long, single-span bridge would serve as a wildlife crossing for animal movement between critical habitat areas north and south of Cajalco Road in this area, currently constrained by the existing roadway.

- New bridge (STA #740): A new bridge for westbound lanes of Cajalco Road would be constructed over Cajalco Creek north of existing Cajalco Road near Barton Street at STA #740 (see Figure 2.2-3). The new, 57.2-foot-wide, 301.5-foot-long, two-span bridge would cross Cajalco Creek upstream of existing Cajalco Road. Existing Cajalco Road south of the new bridge would serve eastbound traffic with two eastbound lanes. Existing 102-inch and 48-inch culverts beneath the eastbound lanes of Cajalco Road at this location would be replaced with a four-cell, 20-foot-wide, and 14-foot-high reinforced concrete box (RCB) culvert.

  An at-grade roadway with culvert replacement design originally proposed for this location was modified in response to input received from resource agencies and Tribal interests, as well as environmental constraints and engineering factors. The current bridge design minimizes impacts on the Alexander Wetlands Mitigation area managed by RCRCD while providing the necessary capacity to accommodate Cajalco Creek flows. Bridge column placements and design were refined to avoid, or otherwise minimize impacts on, specific locations within the Cajalco Creek area that have been deemed highly sensitive by local Native American Tribes.

- Bridge No. 56-C196: The existing 83.8-foot-wide, 125-foot-long, three-span Ramona Expressway Overhead Bridge over Burlington Northern Santa Fe Railroad along Cajalco Road at STA #935, would be widened to a 119.8-foot-wide, 125-foot-long bridge structure (see Figure 2.2-3).

Cast-in-drilled-hole piles, or shallow-spread footings, would produce less vibration during use and may be used at bridge locations depending on engineering designs and geotechnical

conditions. The following standard measures—in addition to Measures **PF GEO-4** and **PF GEO-5** identified under *Erosion Control*, above—are further included in the project to address bridge construction, including geotechnical conditions and aesthetic treatments. Refer to Section 3.7, *Visual/Aesthetics*, and Section 3.11, *Geology/Soils/Seismic/Topography*, of this EIR/EIS for additional detail.

- **PF VIS-6: Temescal Creek Bridge Design**. Section 14.7.1 of the City of Corona El Cerrito Specific Plan Scenic Corridor Design Standards, shall be applied in the design and construction of the widened Temescal Creek Bridge:

  1. Outstanding scenic vistas and visual features shall be preserved and protected for the enjoyment of the traveling public as viewed from the roadway.

  2. The design and appearance of new structures and/or equipment within scenic corridors shall be compatible with the setting or environment.

  6. Trees and other roadside planting shall be utilized to protect and enhance the view from the roadway.

  7. Earthmoving operations which expose soil surfaces which would be visible from the scenic corridors shall be required to reestablish vegetation to bind the soil, prevent water or wind erosion and reestablish a natural vegetative appearance.

- **PF VIS-7: New Bridge Architectural Treatments.** Aesthetic treatments that are consistent with County design and engineering standards, and complement area conditions, will be applied to new bridge structures.

- **PF GEO-3: Excavation and Stabilization Techniques**. Temporary excavations and installation of spread footing foundations will include the following techniques. If loose or otherwise unsuitable materials are present below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils.

  – **GEO-3(a):** In the event that near-slope materials are not adequate to support spread footings, cast-in-drilled-hole (CIDH) piles socketing into the bedrock could be considered.

  - **GEO-3(b):** Subgrade conditions and need for subgrade preparation or stabilization measures, particularly in the vicinity of the slope, should be evaluated in detail in the Plans, Specifications, and Estimates (PS&E)-level investigation.

  – **GEO-3(c):** The need for foundation overexcavation or use of deep foundations should be addressed in the Foundation Report after performing the PS&E-level investigation.

Additional bridges are proposed along each of the build alternative alignments between the Temescal Creek Bridge and Barton Street; these additional bridges are described under their respective build alternative in Section 2.2.1.2, *Unique Features of the Build Alternatives*.

Culverts

Existing culverts within the roadway alignment of all build alternatives would be replaced with improved culverts and additional, new culverts constructed to accommodate drainage and

channel water flows. As mentioned under *Wildlife Crossings and Fencing*, some culverts would also be designed to accommodate use as a wildlife crossing.

Between Alexander Street and Clark Street, a series of several pipe culverts, as well as a trapezoidal channel, and an open rectangular concrete channel with an overflow inlet structure, would be constructed along Cajalco Road crossings of Cajalco Creek (refer to Figure 2.2-3). These interconnected facilities would include the construction of a new three-cell 14-foot-wide, 8-foot-high RCB culvert at Alexander Street; a trapezoidal channel with 80-foot-wide bottom along the north side of Cajalco Road; a three-cell, 10-foot-wide by 5-foot-high RCB culvert under Brown Street and Florence Street, along the north side of Cajalco Road; an open rectangular concrete channel, 30-foot width bottom, 6 feet deep with an overflow inlet; and a three-cell, 10-foot-wide by 5-foot-high RCB beneath Cajalco Road and Haines Street. An inlet structure would be constructed immediately upstream of Haines Street along the south side of Cajalco Road to collect flow from the upper portion of Cajalco Creek.

Detention Basins

Detention basins are included in the project design in order to minimize concentration of stormwater flow crossing the roadway. Several small stormwater detention basins would be constructed along the north and south sides of the roadway under all alternatives, and a few, larger basins would be constructed for locations anticipated to experience additional stormwater volumes. For all build alternatives, a large detention basin is proposed along the south side of Cajalco Road just east of Temescal Creek at STA #32 (see Sheet 1A of Figures 2.2-2, 2.2-4 and 2.2-5). Additional basins are proposed along each of the build alternative alignments; these additional basins are described under their respective build alternative in Section 2.2.1.2, *Unique Features of the Build Alternatives*.

Under each of the build alternatives, modifications to the existing Cajalco Creek Detention Basin and Sedimentation Basin, and Inlet Channel (connecting the two basins), located north of Cajalco Road and east of El Sobrante Road, would occur. The proposed project would include Standard Project Measure **PF VIS-5** for proposed basins and larger drainages to ensure the most natural appearance feasible for the introduced features.

- **PF VIS-5: Basin and Flood Control Drainage Facility Treatments**. New or expanded basins and the new flood control drainage facility would be soft-bottom where hydraulically feasible; however, some would need to be concrete-lined. The soft-bottomed basins would further be vegetated where vegetation would not interfere with the intended use of the facilities (i.e., conveyance of water). Seeding with appropriate species would be determined in coordination with a County-approved biologist, and consistent with the requirements of the WRC MSHCP, LM MSHCP, and/or SKR HCP, where applicable.

Drainage Facilities

In more hilly areas, cross-slopes would be included where appropriate to better conform to the natural terrain and handle drainage. Along the more populated sections of Cajalco Road from Harley John Road to Harvill Avenue, curb and gutter would be installed along with the drainage facilities described above to handle on-site as well as off-site storm runoff and limit drainage flows across the roadway.

BMPs for water quality treatment would be provided as part of the proposed project where feasible. Each project build alternative would include the following standard project measures—in addition to Measures **PF WQ-3**, **PF WQ-4**, **NC-10 (NES BIO-10)**, and **NC-13 (BIO-9)**—identified under *Erosion Control*, above, as part of the project. Refer to Sections 3.10, *Water Quality*, and 3.17, *Natural Communities*, of this EIR/EIS for additional detail.

- **PF WQ-1: 401 Certification –** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.
- **PF WQ-2: 404 Permit** – The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.
- **NC-11 (NES BIO-11):** The limits of disturbance (LOD), including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the LOD prior to initiation of construction activities (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3 and Appendix C). This will ensure avoidance of jurisdictional areas and riparian habitat.
- **NC-12 (NES BIO-12):** During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) covered species that are outside of the project footprint will be avoided (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).

Temporary Construction Activities, Easements, and Staging

During construction, materials needed for and generated by the project would require transport between the site and material source sites and landfills. Table 2.2-2 presents the volumes under each build alternative that are anticipated as a result of the project.

Table 2.2-2. Construction Haul Estimates

Alternative	Quantity and Type of Earthwork (cubic yards)				Days
	Excavation	Fill	Imported Borrow	Export Disposal	
1	1,859,300 CY	1,859,100 CY		200 CY	1
2C	2,511,200 CY	2,587,000 CY	75,800 CY		169
4	2,855,400 CY	1,243,300 CY		1,612,100 CY	274
Source: Caltrans 2017a.					

Haul routes between the project site and would occur predominantly along the existing Cajalco Road, El Sobrante Road, and La Sierra Avenue. Possible import and export sites within 40 miles of the project include, but are not limited to, All American Asphalt Quarry, Mobile Sand Company, Sierra Plant Pit, and El Sobrante Landfill.

The following standard project measures incorporated into the project would be employed during construction activities to address noise, temporary changes in access, wastes generated during construction, and temporary changes in air quality. Refer to Sections 3.1, *Land Use*; 3.4, *Community Impacts*; 3.13, *Hazardous Waste/Materials*; 3.14, *Air Quality*; 3.15, *Noise and Vibration*; 3.17, *Natural Communities*, and 4.2.19, *Utilities and Service Systems*, of this EIR/EIS for additional detail.

- **PF LU-1**: Prior to construction, the County of Riverside (County) will develop a Traffic Management Plan (TMP) that will include the following elements: **construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies**. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities as described below:
  - Prior to construction, the County will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access, circulation, and parking.
  - Prior to construction, the County will coordinate with local jurisdictions to adjust signal timing on arterial streets during construction to minimize traffic congestion.
  - Prior to construction, the County will provide appropriate signage as needed throughout construction. The construction contractor will maintain appropriate signage to direct pedestrians, bicyclists, and vehicular traffic via alternate routes. Disabled access will be maintained during construction.
  - Prior to construction, the County will coordinate with public transportation agencies to provide rerouting information, including operating schedules, to the public.
  - The County will maintain pedestrian access points to businesses, parks, and schools within the construction area throughout the construction period, where feasible. If usual access points are lost, provisions for alternative access to the affected parcels will be made. Appropriate signage will be placed to inform pedestrians and bicyclists of the alternative access to local businesses. Disabled access will be maintained during construction where feasible.
  - Appropriate signage and advanced warning will be implemented to direct pedestrian, bicycle, and vehicular traffic to alternate routes as deemed necessary.
  - If short-term full roadway closure is necessary, it will be scheduled for nighttime to minimize impacts on motorists.
- **PF COM-2:** Signage provisions shall be made available to businesses whose temporary or permanent visibility and vehicular access changes as a result of the project. Temporary and permanent sign relocations will conform with County of Riverside Codes 17.254.030(A), 17.252.030, 17.252.040, and 17.252.070 and placed within the project limits. Relocated signs will be placed at heights that do not exceed surrounding structures or obstruct views.
- **PF HAZ-2. Health and Safety Plan.** The Health and Safety Plan (HASP) would provide direction for the identification, evaluation, and control of the wide variety of chemical, physical, biological, and ergonomic hazards that may be encountered during construction activities. The HASP will also address the management of potential health and safety hazards to workers and the public, and will be prepared and implemented prior to initiation of the

construction activities. Instructions, guidelines, and requirements for handling hazardous materials to ensure employee safety as provided in Chapter 16, "Hazardous Materials Communication Program," of the California Department of Transportation's Safety Manual will be included in the HASP. The HASP should be prepared and stamped by a Certified Industrial Hygienist (CIH) and will provide appropriate administrative controls, engineering controls, and personal protective equipment necessary to eliminate or reduce hazards to both project personnel and the community.

- **PF HAZ-3. Handling, Transport, and Disposal of Wastes.** Wastes and petroleum products used or encountered during construction will be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Health and Safety Administration standards, including Waste Management and Materials Pollution Control Best Management Practices (BMPs) – Spill Prevention and Control, Materials; and Waste Management BMPs, Hazardous Waste Management. The following California Department of Transportation (Caltrans) and other regulations will also be followed, as applicable:
  - All hazardous waste will be stored, transported, and disposed of as required in California Code of Regulations (CCR) Title 22, Division 4.5; Code of Federal Regulations (CFR) Title 49, Parts 261–263;
  - Applicable Caltrans requirements as stated in Section 7-109, Solid Waste Disposal and Recycling Reporting, of the Caltrans Construction Manual, Waste Management and Materials Pollution Control BMPs, and Standard Special Provisions (SSPs), will be implemented.
  - Handling of thermoplastic material would be conducted in accordance with Caltrans SSPs 36-4 and 14-11.12, or with 84-9.03C, as applicable. Thermoplastic waste will be disposed of in accordance with SSP 36-4. Environmental Rules and Requirements as outlined in the Caltrans Construction Manual—7-103H (1) Caltrans & Contractor Designated Disposal, Staging, and Borrow Sites—will be followed as required.
  - Handling, transport, and disposal of any contaminated media determined to exceed maximum concentration levels will be performed in accordance with all applicable state and federal regulations. If a commercial landfill will be used to dispose of soils: (1) soils will be transported to a landfill appropriately permitted to receive the material and (2) the contractor is responsible for identifying the appropriately permitted landfill to receive said soils.
- **PF HAZ-5. Creosote-treated Wood Waste.** When handling creosote-treated wood waste (TWW), the following should be observed:
  - Proper removal and disposal of any materials or waste will be consistent with Caltrans' Standard Special Provision (SSP) 14-11.14.
  - Proper removal and disposal of all stained pole-mounted and/or pad-mounted transformers will be required for the utility company or agency operating them.
  - TWW material (being stored) should be labeled TREATED WOOD WASTE - DO NOT BURN OR SCAVENGE, and should include the handler's name and address as well as the accumulation date.

  - TWW will not be stored directly on the ground. TWW will be segregated from other wastes and stored in containers or on plastic sheeting, covered, and secured.
  - TWW will not be burned, scavenged, reused, recycled, or commingled with other waste prior to disposal.
  - TWW will be hauled by a Department of Toxic Substances Control (DTSC)-registered hazardous waste transporter.
  - All TWW will be disposed of at an approved landfill (liner-equipped/ permitted Class I landfill).
  - TWW handlers that generate more than 10,000 pounds in any calendar year will obtain a DTSC ID Number and submit the notification within 30 days of exceeding the 10,000-pound limit.

- **PF SW-1**: Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.

- **PF AQ-1**: The project would conform to California Department of Transportation (Caltrans) construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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. Exhaust emissions control measures may include, but are not limited to, the following:

  1. General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would have their engines turned off when not in use to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.
  2. All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. The equipment must be checked by an Automotive Service Excellence–certified mechanic and determined to be running in proper condition before it is operated.
  3. All on-road and off-road equipment shall comply with California Air Resources Board (ARB) commercial vehicle idle regulations. California Code of Regulations Title 13, Section 2449(d)(3), which was adopted by ARB on June 15, 2008, restricts idling of construction vehicles to no longer than 5 consecutive minutes.
  4. Use electricity from power poles, rather than temporary diesel- or gasoline powered generators if or where feasible.
  5. Use onsite mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible.
  6. Use solar-powered signal boards.
  7. Develop a construction traffic management plan that includes, but is not limited to: (1) consolidating truck deliveries; (2) providing a rideshare or shuttle service for construction workers; and (3) providing dedicated turn lanes for movement of construction trucks and equipment on and off site.

- **PF AQ-2:** South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust) requires that fugitive dust control measures be applied to all construction projects in the South Coast Air Basin, unless said project is specifically exempted by the rule. Construction projects that are classified as "large operations" (i.e., 20 hectares [50 acres] or larger) are required to submit a fully executed Large Operation Notification Form (Form 403 N) to the Executive Office of SCAQMD within 7 days of qualifying as a large operation and to maintain daily records to document the specific control actions taken. The control measures incorporated in the rule are available in a Rule 403 Implementation Handbook, and include:
  - Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.
  - Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas.
  - Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.
  - Equipment and materials storage sites will be located as far away from residential and park uses as practical. Construction areas will be kept clean and orderly.
  - Track-out reduction measures, such as gravel pads at project access points, will be used to minimize dust and mud deposits on roads affected by construction traffic.
  - All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to reduce PM10 and deposition of particulate during transportation.
  - Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease PM.
  - During construction, dust palliatives will be used as specified in the Department's Standard Specifications, Section 18-1.03A, General.
  - Construction equipment fleets will be in compliance with Best Available Control Technology requirements.
- **PF NOI-1:** Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (2018 California Department of Transportation Standard Specifications, Section 14-8.02, Noise Control[3]).
- **PF NOI-5:** Construction noise would be temporary and limited to the duration of the construction. The following noise control measures will also be incorporated into the project contract specifications in order to minimize construction noise effects:
  - Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6 p.m. and 6 a.m. during the months of June through September and between the hours of 6 p.m. and

[3] The 2018 SS 14-8.02 was released following completing of the project Noise Study Report; however, the time requirements of 9:00 p.m. and 6:00 a.m. remain unchanged between the 2015 and 2018 versions of SS 14-8.02.

7 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official (County of Riverside Code).

- All noise-producing project equipment and vehicles using internal combustion engines will be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise-control features that are readily available for that type of equipment.
- To the extent feasible, sound control blankets shall be placed such that the line of sight from ground-level construction equipment and sensitive receptors would be blocked. For example, an 8-foot-high sound control blanket that has a minimum Sound Transmission Class rating of 28 would provide a noise level reduction of 11 A-weighted decibels when the construction equipment is approximately 50 feet from the sound control blanket while the receptor is approximately 10 feet on the other side.
- All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of project activity.
- Electrically powered equipment will be used instead of pneumatic or internal combustion–powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas will be located as far as practicable from noise-sensitive receptors.
- Construction site and access road speed limits will be established and enforced during the construction period.
- The hours of construction, including noisy maintenance activities and all spoils and material transport, will be restricted to the periods and days permitted by the local noise or other applicable ordinance. Noise-producing project activity will comply with local noise control regulations affecting construction activity or obtain exemptions therefrom.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- No project-related public address or music system will be audible at any adjacent receptor.
- All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule. A sign, legible at a distance of 50 feet, shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities.

- **NC-2 (NES BIO-2):** Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3).
- **NC-3 (NES BIO-3):** When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to any natural vegetation communities, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the

chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3).

- **NC-4 (NES BIO-4):** A qualified biologist will prepare and present an environmental training program for project and construction personnel (Western Riverside County Multiple Species Habitat Conservation Plan [WRC MSHCP] Volume I, Section 7.5.3) prior to grading or staging. As new personnel are added to the project, they will be required to participate in the training. The training will include a description of the species of concern and their habitats, the general provisions of the federal Endangered Species Act and California Endangered Species Act and the WRC MSHCP, the need to adhere to the provisions of the acts and the WRC MSHCP, the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes to and project site boundaries within which the project activities must be accomplished (WRC MSHCP Volume I, Appendix C). All sensitive areas will be fenced as presented in Measure **NC-6**, below.
- **NC-5 (NES BIO-5):** The qualified project biologist will monitor construction activities to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and species of concern outside the project footprint (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3). Special attention will be provided to ensure that the environmentally sensitive area fencing required in Measure **NC-6** is maintained. Additionally, ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices. This will be done in concert with Measure **NC-6**, below, which includes the fencing of sensitive areas (e.g., riparian-riverine resources and jurisdictional waters and wetlands adjacent to the limits of disturbance and conserved lands).
- **NC-6 (NES BIO-6):** Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using environmentally sensitive area (ESA) fencing (e.g., orange snow fencing, silt fencing). The ESA fencing will be reviewed at a frequency deemed necessary by the biological monitor (as indicated in Measure **NC-5** [**NES BIO-5**]) until the completion of all construction activities. For the ESA fencing installed within Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) Core Reserve (Riverside County Habitat Conservation Authority Stephens' Kangaroo Rat Reserve and Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area), the fencing must exclude reptiles and amphibians (to greatest extent feasible) from entering the limits of disturbance. Employees will be instructed that their activities are restricted to the construction areas (WRC MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).

- **NC-7 (NES BIO-7):** Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.
- **NC-8 (NES BIO-8):** Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment will occur at least 300 feet from environmentally sensitive area fencing to prohibit the spread of invasive species.
- **NC-9 (NES BIO-24):** To avoid attracting predators of special-status species, the project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s) (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Appendix C).

Temporary Construction Easements

TCEs would be necessary during construction of the project; it is anticipated that the project will be constructed in phases and localized TCEs utilized for each area of the project being constructed only. Preliminary locations proposed for TCEs under each build alternative are shown in Figures 2.2-2 through 2.2-5.

Temporary Staging Areas

Designated staging areas would also be utilized during construction and geotechnical borings would be conducted within the project's limits of disturbance (LOD) as needed for design of the project. Preliminary locations identified for staging under all build alternatives are:

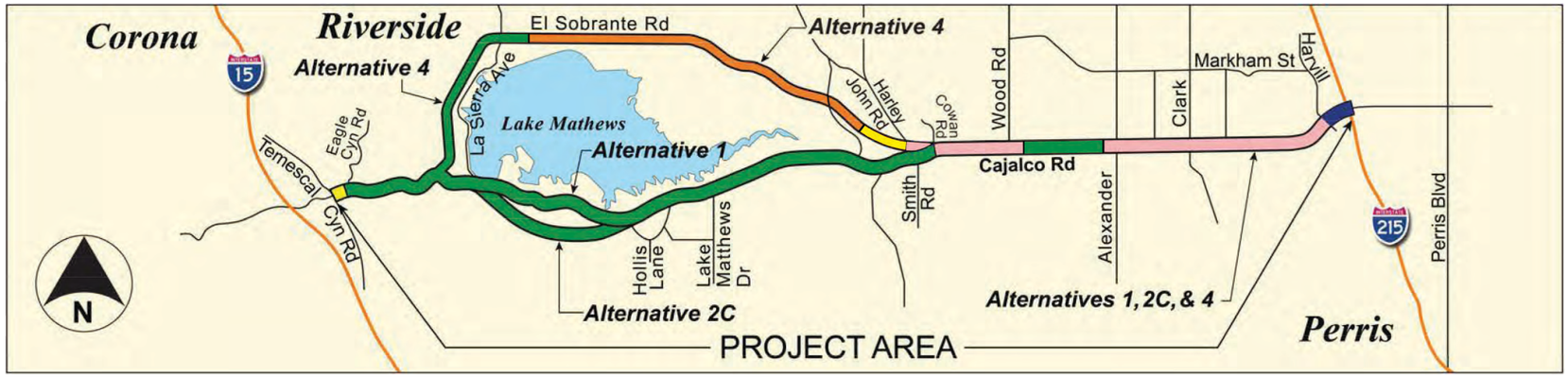
- Between Temescal Canyon Road and Temescal Creek (STA #15, Sheet 1A of Figures 2.2-2, 2.2-4, and 2.2-5);
- Southeast corner of Cajalco Road and realigned Gustin Road (STA #593, Sheet 6 of Figure 2.2-2, Sheet 7 of Figure 2.2-4, and Sheet 6 of Figure 2.2-5); and
- Southeast corner of Cajalco Road and Barton Street (STA #745, Sheet 1B of Figure 2.2-3).

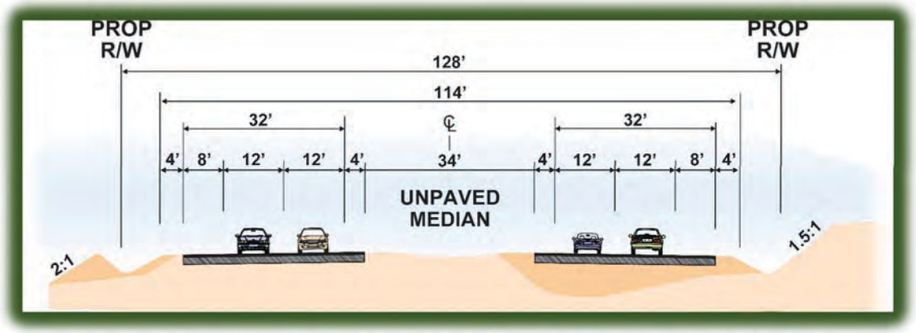
Additional staging areas are proposed along each of the build alternative alignments; these are described under their respective build alternative in Section 2.2.1.2, *Unique Features of the Build Alternatives*. Staging plans would be developed during the design phase of the project, coordinated with the County, and finalized prior to project construction. Temporary advanced signage during construction would be required, which would involve portable changeable message signs or other temporary signage that would not require any ground disturbance.

2.2.1.2 Unique Features of the Build Alternatives

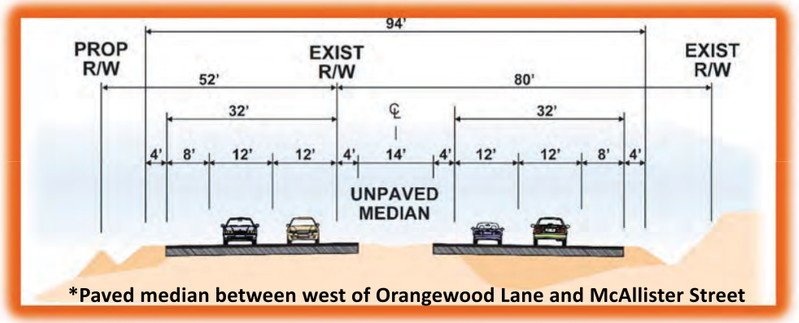
Build Alternative 1 (Cajalco Alignment): Widen Existing Cajalco Road from Temescal Canyon Road to I-215 including Minor Alignment Changes between Temescal Canyon Road and Gustin Road

As indicated in the summarized description of Build Alternative 1, above, Build Alternative 1 would include improvements only to those segments of Cajalco Road identified. Improvements to, or the decommissioning of, other area roadways not directly associated with intersection improvements (i.e., intersecting roadways) are not proposed under this alternative.

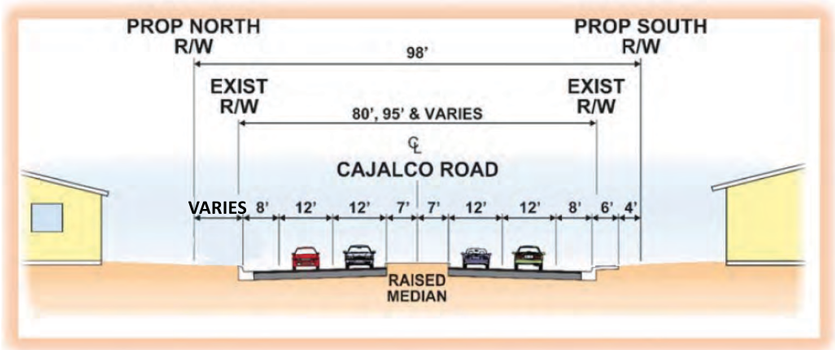




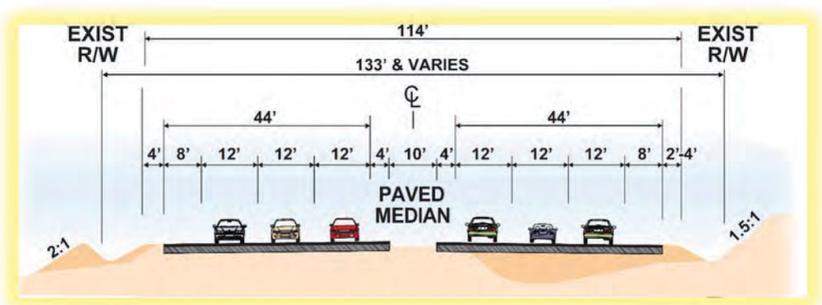
Temescal Creek Bridge to Cowan Road (Build Alternatives 1 and 2C)
Temescal Creek Bridge to El Sobrante Road (Build Alternative 4)



El Sobrante Road - East of La Sierra Avenue to West of Harley John Road (Build Alternative 4)*



Harley John Road to Cowan Road (Build Alternative 4)



El Sobrante Road - West of Harley John Road (Build Alternative 4)

Refer to Figure 2.2-1 Typical Cross-Sections Common to Build Alternatives 1, 2C and 4, for additional areas of the project this cross-section applies to.

Figure 2.2-6
Typical Cross-Sections Unique to Build Alternatives 1, 2C and 4
Cajalco Road Widening and Safety Enhancement Project

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Safety Enhancements

Proposed safety enhancements unique to Build Alternative 1 are described below.

Medians and Intersection Improvements

Between Temescal Canyon Road and Harley John Road, portions of the alignment travel through the boundaries of the LM MSHCP with limited opportunities for roadway expansion; thus, for the segment of Cajalco Road between Temescal Creek Bridge and Harley John Road, the median would be designed wide enough to accommodate two additional travel lanes (one in each direction) if constructed in the future (see Figure 2.2-6). For this segment of Cajalco Road, the median would be unpaved, except for roadway intersections, bridges, and intersection and bridge approaches, where the full roadway would be paved and striped for turn lanes, through lanes, and crosswalks where crosswalks are provided. Medians for remaining segments of Cajalco Road under Build Alternative 1 would be consistent with those described for all build alternatives in Section 2.2.1.1, *Common Features of the Build Alternatives*, and depicted in Figure 2.2-1. Improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. In addition to the installation of new traffic signals at the intersections identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, new signals would be installed and intersection improvements applied at the following intersections with Cajalco Road: Cajalco Road west of Lake Mathews Drive (new intersection), Lake Mathews Drive, Archer Road, and Kirkpatrick Road.

Roadway Curves and Realignments

Under Build Alternative 1 (see Figure 2.2-2), the project would generally follow the existing alignment of Cajalco Road between Temescal Canyon Road and I-215. West of Lake Mathews Drive and north of Lynette Lane, Cajalco Road would be realigned, bypassing the Hollis Lane residential area to the south, and would include the construction of a bridge south of Lake Mathews. The new bridge would reduce grading impacts and provide opportunities for improving connectivity between habitat areas. A cul-de-sac would be added at a new terminus of existing Cajalco Road west of Hollis Lane/Lynette Lane, and the remaining segment of existing Cajalco Road west to the new, realigned Cajalco Road would be removed. A connection between Dirt Road and Lake Mathews Drive would also be constructed for secondary access to residences in the Hollis Lane/Lynette Lane area. Refer to Figure 2.2-2 for realignment locations.

Wildlife Crossings and Fencing (Build Alternative 1)

Between Temescal Canyon Road and Harley John Road, and at Cajalco Creek, 73 wildlife crossings of various widths beneath Cajalco Road would be constructed. Fencing would be installed along Cajalco Road through the LMR and LM-EM Reserve to provide security for MWD facilities, protect sensitive resources, and deter access into preserve areas. Fencing placement and design details would be included in a Wildlife Fencing Plan coordinated between the County, MWD, and agencies involved in management of preserve areas. The Wildlife Fencing Plan will be developed as detailed in Measure **NC-16 (NES BIO-19)**. Refer to Section 3.17, *Natural Communities*, of this EIR/EIS for additional detail. Security fencing 6 to 10 feet in height would also be installed within the right of way along Cajalco Road where detention basins

are proposed (refer to Sheets 2A through 6 of Figure 2.2-2 for large detention basin locations specific to Build Alternative 1).

Right of Way Acquisitions and Relocations (Build Alternative 1)

Under Build Alternative 1, approximately 147 acres composed of 223 partial and 62 complete property acquisitions are proposed to accommodate the widened roadway, areas of realigned roadway, utility relocations, cut and fill, and related project facilities. Where relocations may be required, relocation assistance payments and counseling would be provided in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents.

Approximately 202 existing utility poles are located within the project limits of Build Alternative 1 along Cajalco Road. Affected utility poles/lines would be relocated within the project limits as needed to accommodate the roadway widening between Temescal Canyon Road and Harvill Avenue.

Bridges, Culverts, and Detention Basins (Build Alternative 1)

Bridges

In addition to the proposed new and replacement bridges identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following new bridge and large culverts are proposed under Build Alternative 1:

- New bridge: A new bridge along realigned Cajalco Road west of Lake Mathews Drive would be constructed over a drainage at STA #268 (see Figure 2.2-2). The new, 112.8-foot-wide, 160-foot-long, single-span bridge would also serve as a wildlife crossing for movement between the north and south sides of Cajalco Road in this area.
- Large culvert replacement: Three 48-inch culverts located at the intersection of Cajalco Road and Harley John Road, at STA #512 (see Figure 2.2-2), would be replaced with a four-cell, 20-foot-wide by 10-foot-high RCB.

In addition to the proposed standard measures identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, Standard Project Measure **PF GEO-3**, Excavation Techniques, would also be included for the proposed bridge at STA #268.

Detention Basins

In addition to the proposed, large detention basins and Standard Project Measure **PF VIS-5** identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following large detention basins are proposed under Build Alternative 1:

- South side of Cajalco Road just east of La Sierra Avenue at STA #179 (see Figure 2.2-2).
- North side of realigned Cajalco Road west of Hollis Lane at STA #266 (see Figure 2.2-2).
- North side of Cajalco Road east of Lake Mathews Drive at STA #362 (see Figure 2.2-2).
- North side of Cajalco Road west of Archer Road at STA #397 (see Figure 2.2-2).

In addition to the proposed staging area locations identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following preliminary staging area location has been identified for Build Alternative 1 where right of way may not be adequate to accommodate construction:

- Southwest corner of Cajalco Road and realigned Silverton Court (STA #163, Figure 2.2-2).

Build Alternative 2C (Modified Cajalco Alignment): Widen Existing Cajalco Road between Temescal Canyon Road and from just west of Lake Mathews Drive to Interstate 215; Construct New Segment of Cajalco Road between La Sierra Avenue and just west of Lake Mathews Drive

As indicated in the summarized description of Build Alternative 2C, above, Build Alternative 2C would include improvements only to those segments of Cajalco Road identified. Improvements to, or the decommissioning of, other area roadways not directly associated with intersection improvements (i.e., intersecting roadways) are not proposed under this alternative.

Safety Enhancements

Proposed safety enhancements unique to Build Alternative 2C are described below.

Medians and Intersection Improvements

Between Temescal Canyon Road and Harley John Road, portions of the alignment travel through the boundaries of the LM MSHCP with limited opportunities for roadway expansion; therefore, for the segment of Cajalco Road between Temescal Creek Bridge and Harley John Road, the median would be designed wide enough to accommodate two additional travel lanes (one in each direction) if constructed in the future (see Figure 2.2-6). For this segment of Cajalco Road, the median would be unpaved, except for roadway intersections, bridges, and intersection and bridge approaches, where the full roadway would be paved and striped for turn lanes, through lanes, and crosswalks where crosswalks are provided. Medians for remaining segments of Cajalco Road under Build Alternative 2C would be consistent with those described for all build alternatives in Section 2.2.1.1, *Common Features of the Build Alternatives*, and depicted in Figure 2.2-1.

Similar to Build Alternative 1, improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. In addition to the installation of new traffic signals at the intersections identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, new signals would also be installed at the following intersections with Cajalco Road: Cajalco Road west of Lake Mathews (new intersection), Lake Mathews Drive, Archer Road, and Kirkpatrick Road.

Roadway Curves and Realignments

Under Build Alternative 2C (see Figure 2.2-4), the project would generally follow the existing alignment of Cajalco Road between I-215 to west of Lake Mathews Drive Road, and between La Sierra and Temescal Canyon Road. Between west of Lake Mathews Drive and La Sierra Avenue, a new four-lane segment of Cajalco Road would be constructed north of existing Cajalco Road. Existing Cajalco Road between La Sierra and just west of Lake Mathews Drive would be closed to public traffic. The existing pavement in this portion of existing Cajalco Road would be partially or completely removed, and fenced to prevent access. The remaining dirt, gravel or

partially paved road may be used by MWD for access in managing the Lake Mathews dam and reservoir facilities, and by MWD and the Riverside County Habitat Conservation Agency (RCHCA) for managing areas of the LMR and LM-EM Reserve.[4]

Similar to Build Alternative 1, a cul-de-sac would be added at a new terminus of existing Cajalco Road west of Hollis Lane/Lynette Lane, and the remaining segment of existing Cajalco Road west to the new, realigned Cajalco Road, removed. A connection between Dirt Road and Lake Mathews Drive would also be constructed for secondary access to residences in the Hollis Lane/Lynette Lane area.

In addition to the proposed realignment of sections of Cajalco Road identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, additional sections of Cajalco Road would be realigned between west of La Sierra Avenue and west of Lake Mathews Drive. Please refer to Figure 2.2-4 for realignment locations.

Wildlife Crossings and Fencing (Build Alternative 2C)

Between Temescal Canyon Road and Harley John Road, and at Cajalco Creek, 70 wildlife crossings of various widths beneath Cajalco Road would be constructed. Fencing would be installed along Cajalco Road through the LMR and LM-EM Reserve to provide security for MWD facilities, protect sensitive resources, and deter access into preserve areas. Fencing placement and design details would be included in a Wildlife Fencing Plan coordinated between the County, MWD, and agencies involved in management of preserve areas. The Wildlife Fencing Plan will be developed as detailed in Measure **NC-16 (NES BIO-19)**. Refer to Section 3.17, *Natural Communities*, of this EIR/EIS for additional detail. Security fencing 6 to 10 feet in height would also be installed within the right of way along Cajalco Road where detention basins are proposed (refer to Sheets 3B through 6 of Figure 2.2-3 for large detention basin locations specific to Build Alternative 2C).

Right of Way Acquisitions and Relocations (Build Alternative 2C)

Under Build Alternative 2C, approximately 198 existing utility poles are within the project's LOD along Cajalco Road. Affected electrical poles/lines would be relocated within the project limits as needed to accommodate the roadway widening between Temescal Canyon Road and Harvill Avenue.

Under Build Alternative 2C, approximately 158 acres composed of 224 partial and 62 complete property acquisitions are proposed to accommodate the widened roadway, areas of realigned roadway, utility relocations, cut and fill, and related project facilities. Where relocations may be required, relocation assistance payments and counseling would be provided in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents.

[4] The Lake Mathews Multiple Species Reserve (LMR) was established under the LM MSHCP in 1995. In 1996, the Stephen's Kangaroo Rat Habitat Conservation Plan established the Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve); the northern portion of the LM-EM Reserve encompasses the LMR. MWD partners with RCHCA in management of the LMR and northern portion of the LM-EM Reserve.

Bridges, Culverts, and Detention Basins (Build Alternative 2C)

In addition to the proposed new and replacement bridges identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following new bridges and large culverts are proposed under Build Alternative 2C:

- Large culvert replacement: Three 48-inch culverts located at the intersection of Cajalco Road and Harley John Road, at STA #512 (see Figure 2.2-4) would be replaced with a four-cell, 20-foot-wide by 10-foot-high RCB.
- New bridge: A new bridge along realigned Cajalco Road east of La Sierra Avenue would be constructed over a drainage at STA #175 (see Figure 2.2-4). The 112.8-foot-wide, 80-foot-long, single-span bridge would also serve as a wildlife crossing for movement between the north and south sides of Cajalco Road in this area.
- New bridge: A new bridge along realigned Cajalco Road west of Lake Mathews Drive would be constructed at STA #242 (see Figure 2.2-4). The 112.8-foot-wide, 200-foot-long, two-span bridge would also serve as a wildlife crossing for movement between the north and south sides of Cajalco Road in this area.
- New bridge: A new bridge along realigned Cajalco Road west of Lake Mathews Drive would be constructed at STA #267 (see Figure 2.2-4). The 112.8-foot-wide, 200-foot-long, two-span bridge would also serve as a wildlife crossing and LM-EM Reserve maintenance undercrossing, and would be designed with a minimum 15-foot clearance height for mule deer passage, and 50-feet width each side of the bridge footings for sheep passage.

In addition to the proposed standard measures identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, Standard Project Measure **PF GEO-2**, Excavation Techniques, would also be included for the proposed bridge at STA #242.

In addition to the proposed, larger detention basins identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following large detention basins are proposed under Build Alternative 2C:

- South side of Cajalco Road east of La Sierra Avenue at STA #184 (see Figure 2.2-4).
- North side of Cajalco Road east of Lake Mathews Drive at STA #367 (see Figure 2.2-4).
- North side of Cajalco Road west of Archer Road at STA #402 (see Figure 2.2-4).
- Northeast corner of Cajalco Road and El Sobrante Road at STA #474 (see Figure 2.2-4).

In addition to the proposed staging area locations identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following preliminary staging area locations are identified for Build Alternative 2C where right of way may not be adequate to accommodate construction:

- Southwest corner of Cajalco Road and realigned Silverton Court (STA #163, Figure 2.2-4)
- Along new segment of realigned Cajalco Road west of Hollis Lane (STA #247, Figure 2.2-4)
- Along new and removed segments of realigned Cajalco Road west of Hollis Lane (STA #270, Figure 2.2-4)

Build Alternative 4 (El Sobrante Alignment): Widen Existing Cajalco Road between I-215 and Gustin Road; Realign El Sobrante Road from a Point Approximately One Mile West of Harley John Road to Gustin Road; Widen and Improve El Sobrante Road between Gustin Road and La Sierra Avenue; Realign La Sierra Avenue between El Sobrante Road and Cajalco Road; Widen Existing Cajalco Road with Minor Alignment Changes between La Sierra Avenue and Temescal Canyon Road

As indicated in the summarized description of Build Alternative 4, above, Build Alternative 4 would include improvements only to those segments of Cajalco Road, La Sierra Avenue, and El Sobrante Road identified. Improvements to, or the decommissioning of, other sections of Cajalco Road or La Sierra Avenue are not proposed under this alternative.

Safety Enhancements

Proposed safety enhancements unique to Build Alternative 4 are described on the following page.

Medians and Intersection Improvements

Between Temescal Canyon Road and Harley John Road, portions of the alignment travel through the boundaries of the LM MSHCP with limited opportunities for roadway expansion; therefore, for the segments of Cajalco Road and La Sierra Avenue between Temescal Creek Bridge and El Sobrante Road, the median would be designed wide enough to accommodate two additional travel lanes (one in each direction) if constructed in the future (see Figure 2.2-6). For these segments of Cajalco Road and La Sierra Avenue, and the segment of El Sobrante Road between McAllister Street to west of the new Harley John Road intersection, the median would be unpaved, except for roadway intersections, bridges, and intersection and bridge approaches, where the full roadway would be paved and striped for turn lanes, through lanes, and crosswalks where crosswalks are provided. Medians for remaining segments of Cajalco Road under Build Alternative 4 would be consistent with those described for all build alternatives in Section 2.2.1.1, *Common Features of the Build Alternatives*, and depicted in Figure 2.2-1.

Improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. In addition to the installation of new traffic signals at the intersections identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, new signals would also be installed at the following intersections under Build Alternative 4: Cajalco Road west of La Sierra Avenue (new intersection), El Sobrante Road and La Sierra Avenue, El Sobrante Road and McAllister Street, and El Sobrante Road and Harley John Road (new intersection).

Roadway Curves and Realignments

Between Gustin Road and I-215, the improvements would be identical to Build Alternatives 1 and 2C. Between Gustin Road and Temescal Canyon Road, El Sobrante Road would be improved from the existing two-lane facility to a four-lane facility and would generally follow the existing El Sobrante Road from La Sierra Avenue to the east. The El Sobrante Road intersection with La Sierra Avenue would be improved. La Sierra Avenue would be slightly realigned to the west from the intersection with El Sobrante Road to just west of Tin Mine Road.

At a point approximately 1 mile west of Harley John Road, El Sobrante Road would be realigned to provide a smoother transition from Cajalco Road to El Sobrante Road. In addition, existing Cajalco Road would be realigned to the west of Harley John Road to tie into El Sobrante Road.

In addition to the proposed realignment of sections of Cajalco Road identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, additional sections of Cajalco Road, and sections of La Sierra Avenue, El Sobrante Avenue and Harley John Road, would be realigned between west of La Sierra Avenue and Gustin Road. Please refer to Figure 2.2-5 for realignment locations.

Between La Sierra Avenue and Temescal Canyon Road, the western portion of Build Alternative 4 would extend south to existing Cajalco Road, and then west along Cajalco Road to Temescal Canyon Road. Between El Sobrante Road and Cajalco Road, La Sierra Avenue would be realigned to the west of the existing La Sierra Avenue alignment, and an approximately 1,115-foot-long arch bridge constructed along the realigned section of La Sierra Avenue, north of the transition with Cajalco Road.

Between the realigned La Sierra Avenue intersection with Cajalco Road and Temescal Canyon Road, the roadway improvements would be the same as proposed under Build Alternatives 1 and 2C. The portion of Cajalco Road between La Sierra Avenue and Gustin Road would remain in its current configuration. Additional new traffic signals would be installed at the realigned intersection of El Sobrante Road with La Sierra Avenue/main MWD Lake Mathews facility entrance, and the new intersection of El Sobrante and Harley John Road.

Wildlife Crossings and Fencing (Build Alternative 4)

Between Temescal Canyon Road and Harley John Road, and at Cajalco Creek, 51 wildlife crossings of various widths beneath Cajalco Road, La Sierra Avenue and El Sobrante Road, would be constructed. Fencing would be installed along Cajalco Road, La Sierra Avenue and El Sobrante Road through the LMR and LM-EM Reserve to provide security for MWD facilities, protect sensitive resources, and deter access into preserve areas. Fencing placement and design details would be included in a Wildlife Fencing Plan coordinated between the County, MWD, and agencies involved in management of preserve areas. The Wildlife Fencing Plan will be developed as detailed in Measure **NC-16 (NES BIO-19)**. Refer to Section 3.17, *Natural Communities*, of this EIR/EIS for additional detail.

Right of Way Acquisitions and Relocations (Build Alternative 4)

Under Build Alternative 4, approximately 159 acres composed of 274 partial and 71 complete property acquisitions are proposed to accommodate the widened roadway, areas of realigned roadway, utility relocations, cut and fill, and related project facilities. Where relocations may be required, relocation assistance payments and counseling would be provided in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents.

Under Build Alternative 4, approximately 281 existing utility poles are within the project's LOD along Cajalco Road, La Sierra Avenue and El Sobrante Road. Affected utility poles/lines would be relocated within the project limits as needed to accommodate the roadway widening between Temescal Canyon Road and Harvill Avenue. Piezometers located within MWD-managed areas that are within the project limits would require relocation and additional engineering to ensure

continued protection and stability of MWD Upper and Lower Feeder Pipelines and Northern Lake Mathews Dike facilities.

Bridges, Culverts, and Detention Basins (Build Alternative 4)

In addition to the proposed new and replacement bridges identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following new bridges and large culverts are proposed under Build Alternative 4:

- New bridge: A new bridge along realigned La Sierra Avenue northeast of a new intersection with Cajalco Road, would be constructed over a drainage at STA #145 (see Figure 2.2-5). The new, 108.8-foot-wide, 301.5-foot-long, two-span bridge would also serve as a wildlife crossing for movement between the north and south sides of Cajalco Road in this area.
- New bridge: A new bridge along realigned La Sierra Avenue northeast of a new intersection with Cajalco Road, would be constructed at STA #157 – 169 (see Figure 2.2-5). The new, 120.4-foot-wide, 1,115-foot-long arch bridge would span MWD facilities associated with the Lake Mathews Dam and accommodate maintenance access roads associated with Lake Mathews' facilities beneath the bridge between the east and west sides of La Sierra Avenue.

  A shorter bridge structure positioned closer to Lake Mathews was originally proposed at this location and was subsequently modified in response to input received from MWD, as well as environmental constraints and engineering factors. Multiple variations of bridge designs were developed and considered by MWD, and the current design selected, with additional refinements, to avoid or otherwise minimize impacts on MWD facilities and access.
- New bridge: A new bridge along realigned La Sierra Avenue northeast of new intersection with Cajalco Road, would be constructed over a spillway at STA #179 (see Figure 2.2-5). The new, 112.8-foot-wide, 200-foot-long, two-span bridge would also accommodate maintenance access roads associated with Lake Mathews' facilities beneath the bridge between the east and west sides of La Sierra Avenue in this area.
- Replacement bridge: An existing bridge along an MWD access road that crosses over an existing inlet channel between realigned El Sobrante Road and existing Cajalco Road, at approximately STA #565 (see Figure 2.2-5), would be replaced with an approximately 43-foot-wide, 245-foot-long, two-span vehicular bridge that would accommodate the inlet channel between an existing MWD detention basin and sedimentation basin.

No additional large detention basins from those identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, are proposed under Build Alternative 4.

In addition to the proposed staging area locations identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, the following preliminary staging area locations have been identified where right of way may not be adequate to accommodate construction:

- At new southwest corner of realigned La Sierra Avenue and Cajalco Road (STA #140, Figure 2.2-5)
- Along realigned La Sierra Avenue midway between Cajalco Road and El Sobrante Road (STA #185, Figure 2.2-5)
- Along north side of El Sobrante Road, west of Rawhide Lane (STA #458, Figure 2.2-5)

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

Transportation Systems Management (TSM)/Transportation Demand Management (TDM) measures are strategies to enhance the efficiency of the transportation system while lowering cost. TSM measures seek to increase the number of vehicle trips that can be carried without adding lanes. TDM focuses on regional strategies for reducing vehicle trips and miles traveled and increasing vehicle occupancy. The total population of the nine census tracts within the project study area was approximately 73,679 in 2016, and the populations of the Cities of Corona and Perris were 167,836 and 77,879, respectively, in 2017 (U.S. Census Bureau 2018). As identified in California Government Code § 65080 (b) (1) the policy element of transportation planning agencies is based on populations that exceed 200,000 persons for their regional transportation plans in regards to the development of measures of mobility and traffic congestion, including, but not limited to, daily vehicle hours of delay per capita and vehicle miles traveled per capita.

The populations within and nearest to the project area are not larger than 200,000 persons, as a result does not meet the requirements of California Government Code §65080. Therefore, a separate TSM/TDM alternative was not evaluated for the project.

Although TSM measures alone could not satisfy the purpose and need of the project, the following Transportation System Management measures have been incorporated into the build alternatives for this project: construction of new and improvements to existing traffic signals; inclusion of turning lanes and turn pockets; bus turn-outs; and sidewalks.

2.2.1.4 No-Build (No Project) Alternative

Under the No-Build (No Project) Alternative, existing two-lane segments of Cajalco Road and El Sobrante Road between I-215 and Temescal Canyon Road would remain as a two-lane roadway, and would not be widened or otherwise improved. The roadways would remain as constructed with the exception of the portion of Cajalco Road between Brown Street to Day Street where a center turn lane is in the planning stages and is schedule to be constructed well in advance of the proposed project. Many segments of Cajalco Road would continue to operate at unacceptable traffic levels, similar to existing conditions, and would worsen without transportation improvements. Implementation of this alternative would not address regional growth trends expected for this portion of the county. Additionally, current grade deficiencies in the existing roadway would not be addressed or corrected under this alternative.

Security and wildlife benefits from the implementation of improved and new fencing, and the construction of between 51 and 73 new wildlife crossings proposed under the build alternatives that would facilitate improved safe animal movement, would not occur.

Implementation of this alternative would not improve connectivity between I-215 and I-15 in Riverside County and would not meet project objectives of providing improved speed, capacity, and turning movements to an existing roadway. This alternative would not provide the safety features associated with the proposed project and hence will not improve traffic safety of the existing Cajalco Road.

2.2.2 Comparison of Alternatives

A comparative, conceptual-level analysis of project alternatives for the Cajalco Road Widening and Safety Enhancement Project was performed to evaluate the alternatives' performance relative to transportation objectives, benefits, impacts, and costs. A number of performance criteria were initially developed, and many screened out as preliminary findings indicated similar results among the alternatives. Criteria indicating differences in outcomes among alternatives involving transportation objectives, benefits, impacts and costs, were further compared, and the results summarized in Table 2.2-3 on the following page.

Table 2.2-3. Alternatives Comparison Table

Project Feature or Environmental Effect	Build Alternative 1	Build Alternative 2C	Build Alternative 4	No-Build (No Project)
Project Purpose and Need				
Improve the transportation facility to address anticipated growth and mobility needs	Yes; improvements to 15.7 miles of Cajalco Road. Cajalco Road capacity increased with two additional through lanes and multiple turn pockets between Temescal Canyon Road and I-215; future Cajalco Road improvements that would address projected growth and mobility needs would be accommodated with right of way for two additional future lanes between Temescal Canyon Road and Harley John Road.	Yes; improvements to 15.7 miles of Cajalco Road. Cajalco Road capacity increased with two additional through lanes and multiple turn pockets between Temescal Canyon Road and I-215; future Cajalco Road improvements that would address projected growth and mobility needs would be accommodated with right of way for two additional future lanes between Temescal Canyon Road and Harley John Road.	Yes; improvements to 8.9 miles of Cajalco Road. Cajalco Road capacity increased with two additional through lanes and multiple turn pockets between Temescal Canyon Road and La Sierra Avenue, and Cowan Road and I-215; future Cajalco Road improvements that would address projected growth and mobility needs would be accommodated with right of way for two additional future lanes between Temescal Canyon Road and La Sierra Avenue.	No transportation facility Improvements
Improve interregional travel by improving east-west mobility in Riverside County	Yes; Cajalco Road capacity increased with two additional through lanes, multiple turn pockets and controlled median between Temescal Canyon Road and I-215. Most direct route between I-15 and I-215.	Yes; Cajalco Road capacity increased with two additional through lanes, multiple turn pockets and controlled median between Temescal Canyon Road and I-215.	Yes; capacity increased for segments of Cajalco Road, La Sierra Avenue and El Sobrante Road with two additional through lanes, multiple turn pockets and controlled median between Temescal Canyon Road and I-215. Travel distance would increase, however, affecting east-west mobility in comparison to Build Alternatives 1 and 2C.	No east-west mobility Improvements
Improve roadway alignment and intersection design to enhance safety	Yes; safety Improvements to 15.7 miles of Cajalco Road: Reduced curves, intersection controls, center median, and residential cul-de-sac.	Yes; safety Improvements to 15.7 miles of Cajalco Road: Reduced curves, intersection controls, center median, and residential cul-de-sac.	Yes; less than Alternatives 1 and 2C. Safety Improvements to 8.9 miles of Cajalco Road: Reduced curves, intersection controls, center median, and residential cul-de-sac. No improvements to 6.8 segment between La Sierra Avenue and Harley John Road.	No safety Improvements
Traffic / Circulation				
Vehicle miles traveled (Year 2044)	14,779,906 VMT	14,721,152 VMT	14,811,302 VMT	14,659,917 VMT
Travel distance / project length	15.7 miles	15.7 miles	16.8 miles	15.7 miles

Project Feature or Environmental Effect	Build Alternative 1	Build Alternative 2C	Build Alternative 4	No-Build (No Project)
Cajalco Road between Temescal Canyon Creek and La Sierra Avenue (Year 2044)	18,530 ADT / LOS A	18,530 ADT / LOS A	30,810 ADT / LOS D	13,460 ADT / LOS C
Projected Cajalco Road Capacity Deficiencies between west of Hollis Lane and Lake Mathews Drive, and between Lounsberry Road and Harley John Road (Year 2040)	Addresses projected Cajalco Road capacity deficiency by adding two additional lanes and turn pocket. Includes right of way for two additional future lanes.	Addresses projected Cajalco Road capacity deficiency by adding two additional lanes and turn pocket. Includes right of way for two additional future lanes.	Does not address projected Cajalco Road capacity deficiency between west of Hollis Lane and Lake Mathews Drive, and between Lounsberry Road and Harley John Road.	Does not address projected Cajalco Road capacity deficiency between west of Hollis Lane and Lake Mathews Drive, and between Lounsberry Road and Harley John Road.
Biological and Water Resources				
Wetlands and Other Waters impacts (USACE-RWQCB / CDFW)	3.61 acres / 10.2 acres	3.94 acres / 10.04 acres	1.44 acres / 7.08 acres	None
Riparian/riverine impacts	17.1 acres	15.41 acres	10.23 acres	None
Sensitive natural communities permanent impacts (total)	76.58 acres	85.2 acres	79.78 acres	None
Sensitive natural communities permanent impacts (LMR and LM-EM Reserve)	28.16 acres	37.06 acres	22.24 acres	None
Vegetation community benefit (addition due to roadbed removal)	23.08 acres	28.84 acres	18.04 acres	None
Threatened and Endangered Species Habitat Impacts (acres)	Arroyo Toad: 8.08 Coastal California Gnatcatcher: 67.09 Least Bell's Vireo: 7.85 Stephens' Kangaroo Rat: 125.29 *Shading effects:* Arroyo Toad: 0.41 Coastal California Gnatcatcher: 0.22 Least Bell's Vireo: 0.36 Stephens' Kangaroo Rat: 0.22 *Roadbed removal benefits:* Coastal California Gnatcatcher: 2.85 Least Bell's Vireo: 0.07 Stephens' Kangaroo Rat: 5.8	Arroyo Toad: 6.66 Coastal California Gnatcatcher: 76.21 Least Bell's Vireo: 6.43 Stephens' Kangaroo Rat: 116.53 *Shading effects:* Arroyo Toad: 0.39 Coastal California Gnatcatcher: 0.56 Least Bell's Vireo: 0.34 Stephens' Kangaroo Rat: 0.5 *Roadbed removal benefits:* Coastal California Gnatcatcher: 3.30 Least Bell's Vireo: 0.05 Stephens' Kangaroo Rat: 9	Arroyo Toad: 6.24 Coastal California Gnatcatcher: 88.4 Least Bell's Vireo: 5.75 Stephens' Kangaroo Rat: 63.11 *Shading effects:* Arroyo Toad: 0.4 Coastal California Gnatcatcher: 3.56 Least Bell's Vireo: 0.35 Stephens' Kangaroo Rat: 1.09 *Roadbed removal benefits:* Coastal California Gnatcatcher: 8.12 Least Bell's Vireo: 0.06 Stephens' Kangaroo Rat: 3.3	No adverse or beneficial impacts.
Lake Mathews Multiple Species Reserve impacts	121.51 acres	113.2 acres	58.39 acres	None

Project Feature or Environmental Effect	Build Alternative 1	Build Alternative 2C	Build Alternative 4	No-Build (No Project)
RCHCA impacts	7 acres	32.91 acres	7 acres	None
WRC MSHCP impacts	114.41 acres	124.53 acres	58 acres	None
Wildlife movement (improved and increased opportunities)	Security fencing along Cajalco Road south of Lake Mathews replaced with improved security/wildlife fencing and implementation of multiple wildlife crossings.	Security fencing along Cajalco Road south of Lake Mathews replaced with improved security/wildlife fencing and implementation of multiple wildlife crossings.	Security fencing along Cajalco Road south of Lake Mathews would remain in place; wildlife crossings would not be added. Obstructions to wildlife movement would not be addressed.	Would not improve ability of wildlife to cross roadways or provide crossing opportunities south of Lake Mathews. Obstructions to wildlife movement would not be addressed.
Proposed wildlife crossings (total)	73 crossings	71 crossings	51 crossings	0
Proposed wildlife crossings (Large and Extra Large)	27 crossings	31 crossings	15 crossings	0
Improved/new fencing opportunity (approximate)	96,000 linear feet	107,400 linear feet	81,400 linear feet	0
Water Quality and Stormwater Runoff (permanent impacts)	83-acre increase in impervious surface area; stormwater runoff increased ~2.6 acre-feet. Flow rates would increase ~11.4 cubic feet per second (cfs).	84-acre increase in impervious surface area; stormwater runoff increased ~2.62 acre-feet. Flow rates would increase ~11.5 cfs.	105-acre increase in impervious surface area; stormwater runoff increased ~3.22 acre-feet. Flow rates would increase ~14 cfs.	No impact
Community				
Property Acquisitions (total area)	147.2 acres	158.2 acres	159 acres	None
Property Acquisitions (parcels)	62 complete properties 221 partial properties	62 complete properties 225 partial properties	76 complete properties 267 partial properties	None
Property Acquisitions (occupied)	93 properties	93 properties	107 properties	None
Residences displaced (total)	19 residences	19 residences	21 residences	None
Businesses displaced	2 businesses	2 businesses	2 businesses	None
Farmland/agricultural impacts (converted)	7.69 acres	7.85 acres	23.44 acres	None
Noise: Residential receptors exposed to 67 dBA or greater (with abatement)	0 receptors exposed	0 receptors exposed	2 receptors exposed	-
Visual: Visual Character and Quality (overall change)	Least	Moderate	Greatest	None
Air Quality: Particulate Matter (PM10 PM2.5)	PM10 and PM2.5 predicted to increase by 1.3%.	PM10 and PM2.5 predicted to increase by 0.8%.	PM10 and PM2.5 to increase by 1.7%.	Less vehicular capacity resulting in greater operational emissions for some pollutants.
MWD Facilities and Operations				
Total MWD lands affected	177.16 acres	160.69 acres	206.33 acres	None

Project Feature or Environmental Effect	Build Alternative 1	Build Alternative 2C	Build Alternative 4	No-Build (No Project)
Beneficial impacts (existing ROW transferred to MWD and reduced roadbed [acres])	13 acres	12.41 acres	11.69 acres	None
Additional/improved fencing (security and wildlife)	76,520 linear feet	77,320 linear feet	74,600 linear feet	No improvement
Northern Lake Mathews Dike	Not affected	Not affected	Major excavation in 1,000-foot restricted zone.	Not affected
Upper and Lower Feeder Pipelines	Not affected	Not affected	Encroaches; requires additional engineering for pipeline protection.	Not affected
MWD Future CPA Pipe Route	Not affected	Not affected	Encroaches; may require additional roadway modification to accommodate.	Not affected
Piezometers	Not affected	Not affected	Requires relocations of affected units along El Sobrante Road; may interfere with planned future units	Not affected
Lake Mathews Dam interface and embankment boundary	Not affected	Not affected	Possible encroachment with bridge piers; DOSD coordination required	Not affected
Outlet Tower Mitigation Site[5]	Not affected	Not affected	Affected	Not affected
Cajalco Creek Dam and Detention Basin / Cajalco Creek Sedimentation Basin (impacts)	4.95 acres / 3.69 acres Continuity between Cajalco Creek Dam/ Detention Basin and Sedimentation Basin maintained	4.95 acres / 3.69 acres Continuity between Cajalco Creek Dam/ Detention Basin and Sedimentation Basin maintained	0.12 acres / 3.55 acres Bisects Cajalco Creek Dam/ Detention Basin and Sedimentation Basin. Adds public throughway between water supply facilities.	Not affected
Cost				
Right of Way	$64,091,824	$65,844,023	$68,637,363	-
Construction	$161,848,376	$186,267,670	$271,644,057	-
Design/Engineering	$16,185,000	$18,626,900	$27,164,600	-
Biological Mitigation	$43,742,000	$46,820,000	$24,929,000	-
Mobilization/Administration/ Oversight/Contingency	$72,831,800	$83,820,410	$122,239,980	-
Total:	**$358,699,000**	**$401,379,000**	**$514,615,000**	**-**
Construction Timeframe				
Approximate duration	4 years	4 years	4.5 years	-

[5] 0.124 acre MWD Outlet Tower Mitigation Site located west of La Sierra Avenue.

As indicated in Table 2.2-3, the shortest of the three east-west build alternative routes between Temescal Canyon Road and I-215, Build Alternative 1, achieves the purpose and need of the project and is expected to cost substantially less than Build Alternative 4, currently approximately $155,916,000 less, and $42,680,000 less than Build Alternative 2C. Build Alternative 1 would further provide improved safety along Cajalco Road between La Sierra Avenue and Cowan Road by fixing curves south of the lake, avoid MWD facilities located along the north and west sides of Lake Mathews, including MWD's dam, and affect 89 acres fewer of MWD-managed lands than Build Alternative 4, and 44 acres fewer than Build Alternative 2. Build Alternative 1 would further provide the greatest number of wildlife crossings of the three build alternatives, and result in fewer impacts involving farmland and residential relocations than Build Alternative 4.

The project alignments traverse areas managed by MWD for the operation of Lake Mathews and related facilities. Total impacts on MWD-managed areas would be approximately 117 acres under Build Alternative 1, 161 acres under Build Alternative 2C, and 206 acres under Build Alternative 4. Through close coordination with MWD, the project alternatives have been designed to avoid many facilities; some facilities remain within the project footprint, and would be affected. MWD facilities affected by any of the build alternatives include the Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins (MWD 2011). These facilities are located along the north side of Cajalco Road between El Sobrante Road and Harley John Road. Some impacts may be offset by the transfer of portions of existing County right of way areas to MWD, and removal of sections roadbed within the LMR and LM-EM Reserve, and other habitat areas. Total beneficial impacts would be approximately 13 acres under Build Alternative 1, 12.4 acres under Build Alternative 2C, and 11.7 acres under Build Alternative 4.

All other MWD facilities would be affected by Build Alternative 4 only. The Northern Lake Mathews Dike includes a "1,000-foot restricted zone" in which MWD prefers avoidance of excavation activity for the protection of the dike and related facilities (AECOM 2012). Within this zone are a number of piezometers and segments of the Upper and Lower Feeder Pipelines. Piezometers within the project limits would require relocation and additional engineering would be required to ensure continued protection and stability of the pipeline and dike facilities. Along La Sierra Avenue, the Build Alternative 4 alignment crosses an MWD proposed future CPA Pipe Route, encroaches within an existing mitigation area established by MWD, and crosses over the Lake Mathews Dam interface and embankment boundary. Coordination with MWD resulted in a large span bridge in place of fill within the Lake Mathews Dam interface and embankment boundary; however, MWD has expressed continued concern with any project elements in the vicinity of this area (MWD 2015, 2017).

All build alternatives would result in the acquisition of property for right of way. Under Build Alternatives 1 or 2C, acquisitions of partial and complete properties would affect 92 occupied properties, resulting in the displacement of 19 residences and two businesses. Under Build Alternative 4, 101 occupied properties would be affected, resulting in the displacement of 21 residences and two businesses (Caltrans 2018b).

Approximately 23.72 acres of farmland would be converted to nonagricultural use under Build Alternative 4; Build Alternatives 1 and 2C would result in the conversion of approximately 6.88 and 6.5 acres of farmland, respectively.

2.2.2.1 Identification of a Locally Preferred Alternative

The designation of the locally preferred alternative is intended to convey the County's preference, as the CEQA lead agency, for a specific alternative based on the information available prior to public review of the Draft EIR/EIS, including potential impacts and reasonable mitigation measures. After comparing and weighing the benefits and impacts of all of the feasible alternatives, the County identified Build Alternative 1 as the locally preferred alternative, subject to public review. County support of the recommendation is documented in a memorandum dated June 11, 2020. Final identification of a preferred alternative will occur after the public review and comment period. Refer to Figure 2.2-2 for Build Alternative 1.

The rationale for identification of the preferred alternative follows.

Build Alternative 1 would achieve the purpose and need of the project, and provides similar operational improvement as the other two build alternatives (Build Alternative 2C and Build Alternative 4).

According to the *2018 Collision Summary Report* for the project area, between January 2015 and December 2017, 44 vehicular accidents occurred along the 6.8-mile stretch of Cajalco Road between La Sierra Avenue and Harley John Road; 17 of the accidents resulted in injury and one resulted in a fatality (County 2018). Build Alternatives 1 and 2C would include roadway and intersection improvements such as reduced curves, intersection controls, center median, and residential cul-de-sac, that are anticipated to reduce the number of types of vehicle-involved accidents for this 6.8-mile section of Cajalco Road. Build Alternative 4 would not include improvements to this section of Cajalco Road (AECOM 2018).

Collision data also indicates the 5.8-mile stretch of El Sobrante Road between La Sierra Avenue and Cajalco Road warrants attention in terms of traffic safety improvement. During the same 3-year period, 39 vehicular accidents occurred along the 5.8-mile section of El Sobrante Road; 15 of the accidents resulted in injury and four resulted in fatalities. While Build Alternative 4 would include some improvements that would address traffic safety along this section of El Sobrante Road, such as improved intersections and a center median, the 6.8-mile section of Cajalco Road between La Sierra Avenue Harley John Road would remain as is, without safety improvements. El Sobrante Road is identified in the Riverside County General Plan Circulation Element as a planned 128-foot-wide arterial roadway; thus, future improvements to the roadway are planned for independently of, and in addition to, the proposed Cajalco Road Widening and Safety Enhancement Project.

A separate east-west transportation corridor between I-5 and I-215 is also proposed under Community Environmental Transportation Acceptability Process (CETAP); construction of this separate corridor is currently included as an assumption in the analysis of future traffic in the project *Traffic Operations Analysis Report*. If the separate east-west corridor is not constructed, traffic projections indicate higher volumes along Cajalco Road between I-5 and I-215. Between Temescal Creek Bridge and La Sierra Avenue, projected volume increases without the other east-west corridor would range between an additional 15,330 to 22,640 ADT in Year 2044 (Caltrans 2017b). Between La Sierra Avenue and Harley John Road, projected volume increases without the other east-west corridor would range between an additional 6,650 to 24,680 ADT. To meet minimum LOS standards and accommodate the additional traffic volumes, additional travel lanes would be necessary.

Build Alternatives 1 and 2C include the accommodation of two additional traffic lanes in the future, within the roadway median of Cajalco Road between Temescal Creek Bridge and Harley John Road. Build Alternative 4 would also accommodate two additional traffic lanes in the future, but only for the segment of Cajalco Road between Temescal Creek Bridge and La Sierra Avenue. Between La Sierra Avenue to east of McAllister Street, additional future widening of El Sobrante Road would be constrained by existing residences along the north side of El Sobrante Road and MWD's Lake Mathews northern dike facility to the south. Additional roadway capacity would be needed east of La Sierra to accommodate future traffic volumes.

In the absence of the CETAP Corridor, regional traffic volumes connecting between I-215 and I-15 are expected to use Cajalco Road. Under Future (2044) without CETAP conditions, Cajalco Road would require a total of six lanes between Temescal Canyon Road and Lake Mathews Drive in order to achieve an acceptable County level of service target of LOS D along this segment of Cajalco Road.

According to input received from participating and cooperating agencies, Build Alternative 4 would be the least desirable by California Department of Fish and Wildlife (CDFW) but preferable for United States Fish and Wildlife Service (USFWS) and RWQCB.[6] CDFW also indicated interest in a project alternative that would (a) align with existing Cajalco Road; (b) take into consideration wildlife movement patterns and needs; and (c) provide opportunity to improve crossings that are currently barriers to wildlife movement. Build Alternative 1 would be consistent with "a" (align with existing Cajalco Road) and would also address "b" (wildlife movement patterns and needs) and "c" (opportunity to improve crossings that are currently barriers to wildlife movement), by adding multiple wildlife crossings, and fencing to protect wildlife from the roadway and guide them to the crossings, along Cajalco Road south of Lake Mathews. Build Alternative 2C would be somewhat consistent with "a" and would also address "b" and "c," by adding multiple wildlife crossings, and fencing to protect wildlife from the roadway and guide them to the crossings, along Cajalco Road and realigned portions of Cajalco Road, south of Lake Mathews. Build Alternative 4 would be the least consistent with "a" and would partially address "b" and "c," by adding multiple wildlife crossings, and fencing to protect wildlife from the roadway and guide them to the crossings, along portions of Cajalco Road and La Sierra Avenue, and along El Sobrante Road. Wildlife crossings would not be added along Cajalco Road south of Lake Mathews, and existing security fencing along Cajalco Road between La Sierra Avenue and Harley John Road would remain in place.

Engineering, mitigation and right of way estimates prepared for the project indicate overall project cost would be greatest for Build Alternative 4 at $514,615,000. This would be $155,916,000 higher than the cost of Build Alternative 1 ($358,699,000), and $113,236,000 higher than the cost of Build Alternative 2C ($401,379,000).

Factors considered by the County in identifying the locally preferred alternative included agency and community input, the ability to mitigate impacts on biological resources, the ability to minimize impacts on MWD LMR and facilities, and the ability to mitigate impacts on existing residences and businesses located in the project area.

[6] CDFW email April 29, 2015; FWS letter December 11, 2015; Santa Ana RWQCB letter March 29, 2016.

2.2.2.2 Planned Project Schedule (Major Milestones) through Construction

After the public circulation period, all comments will be considered, and the Project Development Team (PDT) will confirm selection of a preferred alternative and make the final determination of the project's effect on the environment. Under CEQA, the County will certify that the project complies with CEQA, prepare findings for all significant impacts identified, prepare a Statement of Overriding Considerations for impacts that will not be mitigated below a level of significance, and certify that the findings and Statement of Overriding Considerations have been considered prior to project approval. The County will then file a Notice of Determination with the State Clearinghouse that will identify whether the project will have significant impacts, if mitigation measures were included as conditions of project approval, that findings were made, and that a Statement of Overriding Considerations was adopted. With respect to NEPA, Caltrans, as assigned by the Federal Highway Administration (FHWA), will document and explain its decision regarding the selected alternative, project impacts, and mitigation measures in a Record of Decision.

The anticipated schedule for the three major project development milestones; project approval, final design, and construction, all based on the timing of funding availability, is as follows (as of preparation of this EIR/EIS):

- Project Approval and Environmental Document (PA&ED) – fall 2022
- Completion of Final Design – spring 2023
- Completion of Right of Way acquisition process – spring 2023
- Begin construction – fall 2023
- End construction/Open to traffic – fall 2027

2.2.3 Alternatives Considered but Eliminated from Further Discussion

2.2.3.1 Build Alternatives 2, 2A and 2B

At the time of filing the Notice of Intent to prepare an EIS for the proposed project in September 2012 (FR. Document No. 2012-23679), the alignment of Build Alternative 2, between Temescal Canyon and I-215, followed the alignment included in the 2008 Riverside County General Plan Circulation Element (County 2008). Between I-215 and Hollis Lane, the alignment shared the same design and alignment of Build Alternative 1; between Hollis Lane and Eagle Canyon Road, this western portion of Build Alternative 2 deviated from existing Cajalco Road and established a new four-lane roadway segment through undeveloped land south of existing Cajalco Road. Specifically, just east of the Hollis Lane intersection with Cajalco Road, the alignment of Cajalco Road deviated from the existing alignment, extended west through undeveloped land, and turned north to transition back to join existing Cajalco Road, east of Eagle Canyon Road. From this point to the western terminus at Temescal Canyon Road, the alignment followed the existing roadway and included reconstruction of the bridge at Temescal Canyon Creek, as described for Build Alternatives 1 and 4. Refer to Figure 2.2-7 for a map of alternative alignments previously considered.

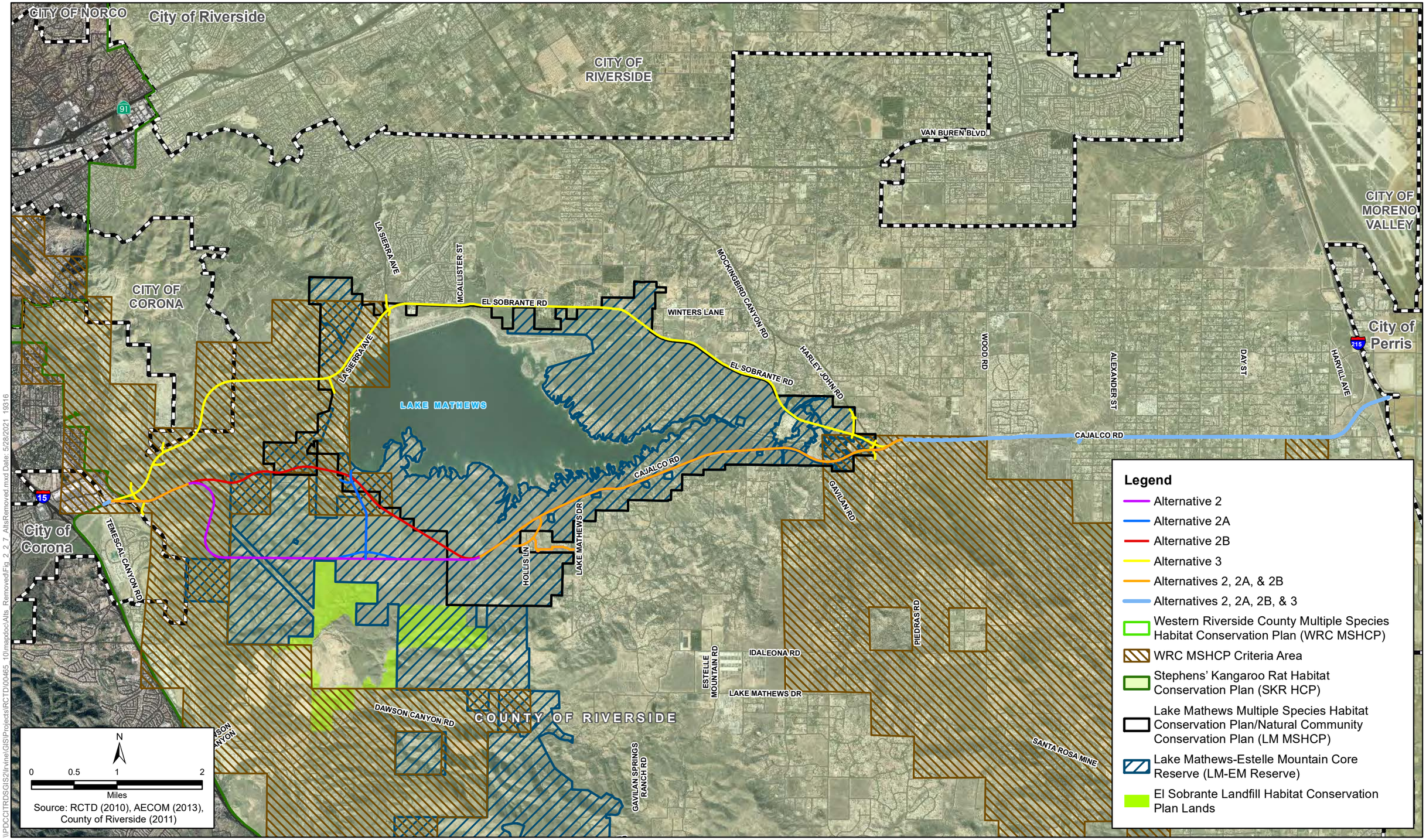

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Figure 2.2-7
Alternatives Considered but Eliminated 2A, 2B, and 3
Cajalco Road Widening and Safety Enhancement Project

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Alternative 2A, a design variation of Build Alternative 2, was developed in response to public and agency comments concerning access between La Sierra Avenue and residents located south of Lake Mathews. Alternative 2A added a southern extension of La Sierra Avenue that would connect with realigned Cajalco Road. (Refer to Figure 2.2-7.)

Under Alternative 2A, both the new segment of Cajalco Road and southern extension of La Sierra Avenue would traverse through an existing Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) Core Reserve (managed by RCHCA) as well as a portion of the LM MSHCP LMR, managed by MWD and RCHCA. The reserves are also part of the WRC MSHCP Core A and are classified as Public/Quasi-Public (PQP) lands under the plan.

Through discussion and coordination with RCHCA, MWD, USFWS, CDFW, and the RCA, regarding Alternatives 2 and 2A, further design options were explored to address two major environmental constraints:

- The La Sierra Avenue extension would not be a covered activity under the WRC MSHCP and would require a Major Amendment to the plan; and
- The La Sierra Avenue extension would (in addition to the Alternative 2 greater alignment) significantly and substantially disrupt the ecosystem function of the existing SKR HCP Core Reserve by placing an additional barrier to wildlife movement.

Build Alternative 2B, another variation of Build Alternative 2, was developed in consideration of the above constraints, and included an alignment with fewer impacts on Core Reserve lands and biological resources than the alignments of Build Alternatives 2 and 2A. Under Alternative 2B, the La Sierra Avenue extension was removed and the alignment modified to follow the boundary of the two existing reserves (LM-EM Reserve and LMR) instead of splitting the SKR HCP LM-EM Reserve lands into three parts. Between I-215 and just west of Hollis Lane, the Alternative 2B alignment shared the same design and alignment of Build Alternatives 2 and 2A; west of Hollis Lane, the realigned Cajalco Road turned northwest at a roughly 45 degree angle until intersecting with La Sierra Avenue at its' intersection with existing Cajalco Road. At this point, the Alternative 2B alignment shares the same design and alignment of Build Alternatives 1, 2 and 2A west to Temescal Canyon Road (see Figure 2.2-7).

Further design improvements were applied to Alternative 2B for safety and resource management purposes, resulting in the development of the current Build Alternative 2C.

2.2.3.2 Build Alternative 3

Build Alternative 3 was introduced along with Build Alternative 4 in 2013 in response to public and agency input for the consideration of east-west routes north of Lake Mathews. The alignment of Build Alternative 3 was the same as that for Build Alternative 4 between the intersection of La Sierra Avenue and El Sobrante Road, and the eastern project limits at I-15. Between Temescal Canyon Road and El Sobrante Road, the alignment of Build Alternative 3 traveled through undeveloped lands northeast from Temescal Canyon Road, turning east where it intersected with existing La Sierra Avenue (Figure 2.2-7). Variations of this segment of Build Alternative 3 were developed in effort to avoid or otherwise minimize impacts on sensitive conservation areas and MWD facilities.

In November 2016, Build Alternative 3 was eliminated from further consideration following environmental surveys, and additional feedback regarding the alternative from resource agencies

and MWD. The alternative was eliminated due to environmental constraints and potential conflict with planned MWD facilities.

2.3 Permits and Approvals Needed

Table 2.2-4 provides a list of permits, licenses, agreements, and certifications that would be required for project construction.

Table 2.2-4. Permits and Approvals Needed

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	• Section 7 consultation for Threatened and Endangered Species • Section 7 consultation with USACE on Section 404 permit • Joint Project Review (JPR) • Concurrence with County Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) Consistency Determination • Approval of minor amendment to WRC MSHCP • Concurrence with Determination of Biologically Equivalent or Superior Preservation (DBESP) • Equivalency Analysis of PQP Lands Replacement • Approval of replacement lands pursuant to the Habitat Conservation Plan (HCP) for the Stephens' kangaroo rat (SKR) • Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) discretionary action • Approval of SKR HCP Minor Amendment	1. Section 7 consultations are to be conducted following identification of a Preferred Alternative and preparation of the WRC MSHCP Consistency Determination, which will serve as the Biological Assessment. 2. MSHCP Consistency Determination and DBESP to be prepared and submitted for concurrence following identification of a Locally Preferred Alternative and prior to approval of the Final EIS. 3. The JPR application will be submitted following preparation of the MSHCP Consistency Determination and DBESP. 4. Minor amendment to the WRC MSHCP will be requested by the County EIS Record of Decision (ROD). 5. JPR finding following approval of Minor Amendment, and after EIS ROD. 6. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action will be requested by the County after the EIS ROD is approved.
United States Army Corps of Engineers (USACE)	Section 404 Permit for filling or dredging waters of the United States	Application to be submitted prior to construction.
California Department of Fish and Wildlife (CDFW)	• Section 1602 Lake and Streambed Alteration Agreement • JPR • Concurrence with County MSHCP Consistency Determination • WRC MSHCP Minor Amendment approval • Approval of replacement lands pursuant to the SKR HCP • DBESP Concurrence • LM MSHCP discretionary action • SKR HCP Minor Amendment approval	1. Section 1602 Notification is to be submitted and agreement obtained prior to the start of construction. 2. The MSHCP Consistency Determination and DBESP will be prepared and submitted for concurrence following identification of a Preferred Alternative and prior to certification of the Final EIR. 3. Amendment to the WRC MSHCP to be requested by the County after the Final EIR is certified. 4. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action will be requested by the County after certification of the Final EIR.

Agency	Permit/Approval	Status
California State Water Resources Control Board	• Coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit, Order No. 2009-0009-DWQ) • Water Discharge Permit, approval of Notice of Intent (NOI) to comply with General Construction Activity • National Pollutant Discharge Elimination System (NPDES) Permit	Following completion of the Final Design phase of the project. NOI to be submitted prior to construction. Application to be submitted prior to construction.
Western Riverside County Regional Conservation Authority (RCA)	• Minor Amendment under Section 7.2.2 • Concurrence with County MSHCP Consistency Determination and JPR finding	Minor amendment to the WRC MSHCP will be requested by the County following approval of a Preferred Alternative. JPR finding and concurrence with County MSHCP Consistency Determination following approval of Minor Amendment, and prior to EIS ROD.
County of Riverside, Riverside County Habitat Conservation Agency (RCHCA)	• Approval of replacement lands pursuant to the SKR HCP • Section 4(f) consultation • LM MSHCP discretionary action	Approval of replacement lands pursuant to the SKR HCP will be requested by the County after certification of the Final EIR. Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.
Regional Water Quality Control Board 8 (RWQCB)	Section 401 Water Quality certification	Application to be submitted prior to construction.
County of Riverside	Temporary construction permits and relinquishment of County right of way to MWD	To be coordinated during Final Design phase of the project.
City of Corona	Approval of encroachment permits and street construction permits, and improvements within public right of way	Actions/permits would be issued prior to start of construction.
Riverside County Flood Control and Water Conservation District (RCFCWCD)	Encroachment permits for improvements affecting RCFCWCD facilities	Application(s) to be submitted prior to construction.
Caltrans, District 8	Encroachment Permit for work within I-215 right of way	Application to be submitted prior to construction.
Metropolitan Water District of Southern California (MWD)	• LM MSHCP discretionary action • Section 4(f) consultation • Land transfers between MWD and County	Discretionary action and consultation following approval of Preferred Alternative; Land transfers following Final EIR/EIS. Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.
Burlington Northern Santa Fe (BNSF)	• Encroachment permit • Required for work performed within railroad right of way	To be acquired prior to any construction activity occurring within BNSF right of way.
California Public Utilities Commission	Compliance with Public Utilities Code Sections 1201 through 1205, for grade separated structure over BNSF rail line	Application to the California Public Utilities Commission to occur during Final Design phase of the project
State Historic Preservation Officer (SHPO)	Concurrence with agencies' determinations of eligibility and findings of effect	SHPO concurrence with determinations of eligibility and findings of effect confirmed. Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.

Agency	Permit/Approval	Status
Participating Native American Tribes	Required consultation under National Historic Preservation Act, Section 106, including (but not limited to): determinations of eligibility, findings of effect, and future work that includes involvement with the Memorandum of Agreement, Archaeological Monitoring Plan, and Data Recovery Plan	Native American consultation for the project is ongoing.

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

Chapter 3 includes the identification of regulations, description of environmental setting and conditions, and explanation of methodologies applicable to the resource topics discussed, as they relate to the proposed project. These are discussed under the Regulatory Setting and Affected Environment sections for each resource topic. This information is used to establish setting and context for assessing the potential for the proposed project alternatives to result in permanent and/or temporary direct, indirect, and cumulative effects. The analysis of potential effects, and the identification of proposed avoidance, minimization and/or mitigation measures, where applicable, is in conformance with the National Environmental Policy Act (NEPA), 40 Code of Federal Regulations (CFR) 1508.8, and consistent with the NEPA lead agency's guidance for the preparation of joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS) documents. For this EIR/EIS, the guidance used is the California Department of Transportation's (Caltrans') current Standard Environmental Reference. The analysis and proposed measures, as applicable, are provided under the Environmental Consequences section for each environmental topic. Analysis of the proposed project alternatives under the California Environmental Quality Act (CEQA) is provided in Chapter 4 of this EIR/EIS.

This project contains a number of standardized project measures that are employed on most, if not all, Caltrans projects and were not developed in response to any specific environmental impact resulting from the proposed project. In addition to the standardized project measures commonly employed on Caltrans projects, the proposed project includes the incorporation of standard project measures commonly employed on Riverside County transportation projects, as well as project design elements, collectively identified as project features (PF) or Standard Project Measures. These Standard Project Measures are identified and described in the *Environmental Consequences* sections of each resource topic, as applicable, within this chapter. The proposed project alternatives analyzed in this chapter include three build alternatives and a No-Build Alternative:

- Build Alternative 1 – Cajalco Alignment
- Build Alternative 2C – Modified Cajalco Alignment
- Build Alternative 4 – El Sobrante Alignment
- No-Build Alternative – No Project Alternative

Because the alignments of each build alternative extend through the boundaries of the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), and Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), and include design elements that are either inconsistent with or that exceed requirements of the current plans, actions that would allow for the LM MSHCP, WRC MSHCP, and SKR HCP to

accommodate the proposed project would be required and are therefore included in the analysis of each build alternative, where applicable.

While the LM MSHCP includes procedures for four types of amendments that facilitate course corrections and other amendments to the LM MSHCP and accompanying agreements, the LM MSHCP does not include a prescribed amendment or process to allow changes to the plan in response to public safety and/or access needs. Therefore, an appropriate discretionary action or actions coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements, and may include a new LM MSHCP amendment along with the development of procedures for the amendment.

Because the LM MSHCP involves multiple management areas, managing documents, governing structures, and existing agreements, the amendment or other discretionary action or actions necessary to accommodate the project would address the various agreements, conservation easements, permits, and approvals associated with the areas managed within the LM MSHCP, including the existing State Ecological Reserve and Mitigation Bank lands within the LMR, and Lake Mathews facility and operations areas. Such agreements may include:

- Implementation Agreement with U.S. Fish and Wildlife Service (USFWS) for implementation of the LM MSHCP and the ESA authorizations and assurances;
- Section 2081/2835 Memorandum of Understanding/Permit with California Department of Fish and Wildlife (CDFW) regarding approval and implementation of the LM MSHCP as an NCCP and the ESA/NCCP authorizations and assurances;
- Cooperative Management Agreement with USFWS and CDFW concerning management of the combined Reserve;
- Mitigation Banking Agreement for establishment and use of the mitigation credits assigned to the Mitigation Bank lands; and
- Settlement and General Release Agreement between Metropolitan, CDFW, Riverside County Habitat Conservation Agency (RCHCA), and the San Bernardino Valley Audubon Society that specifies requirements for the management of LMR lands and new development or construction within the LMR by the signatories and stakeholders, including MWD.

The agreements above include multiple responsible parties that would be notified of the proposed action or actions, and included in the coordination of the modifications necessary to accommodate the project while maintaining the intent, framework and integrity of the agreements and LM MSHCP. It is anticipated that MWD, as the primary managing entity of Lake Mathews and surrounding operations, will be included in the development of procedures for the discretionary action; however, it should be noted that MWD is not a joint project lead nor co-sponsor of the project.

Modifications to the LM MSHCP and associated agreements, easements, and permits, including the identification of proposed mitigation, requires approvals by regulatory and responsible parties, and is subject to NEPA where such agreements, easements, and permits apply, and to CEQA. Therefore, analyses involving the LM MSHCP are provided under separate headings in Chapter 3 (NEPA) and Chapter 4 (CEQA) for each build alternative, *Lake Mathews MSHCP*.

As a part of the proposed actions involving the LM MSHCP, WRC MSHCP, and SKR HCP, the portions of the project alternatives that travel through the LM MSHCP area would be designed wide enough to accommodate two additional travel lanes (one in each direction) in the future. The actual construction of these lanes is not an option that is being considered for inclusion as part of the proposed project. The intent of including the additional roadway right of way is to ensure that future impacts on conserved lands protected under the WRC MSHCP, LM MSHCP, and SKR HCP, would be minimized to the extent feasible if the roadway is widened to six lanes in the future. Although this is not an alternative that is being considered as part of the proposed project, impacts associated with the potential future construction of these two additional travel lanes are being disclosed in the impact discussion included in this EIR/EIS, and are provided under a separate heading for each build alternative, *Future Six-Lane Facility*.

Resources Evaluated in this Chapter

This chapter evaluates the potential effects of the project involving the following resource topics:

Human Environment

3.1 Land Use, including:
- 3.1.1 Existing and Future Land Use
- 3.1.2 Consistency with State, Regional, and Local Plans and Programs
- 3.1.3 Parks and Recreational Facilities

3.2 Farmland

3.3 Growth

3.4 Community Impacts, including:
- 3.4.1 Community Character and Cohesion
- 3.4.2 Relocations and Real Property Acquisition
- 3.4.3 Environmental Justice

3.5 Utilities/Emergency Services

3.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

3.7 Visual/Aesthetics

3.8 Cultural Resources

Physical Environment

3.9 Hydrology and Floodplain

3.10 Water Quality and Storm Water Runoff

3.11 Geology/Soils/Seismic/Topography

3.12 Paleontology

3.13 Hazardous Waste/Materials

3.14 Air Quality

3.15 Noise and Vibration

3.16 Energy

Biological Environment

3.17 Natural Communities

3.18 Wetlands and Other Waters

3.19 Plant Species

3.20 Animal Species

3.21 Threatened and Endangered Species

3.22 Invasive Species

3.23 Short-Term Use – Long-Term Productivity

3.24 Irreversible Commitments

3.25 Cumulative Impacts

Resources Considered but Determined Not to Be Relevant

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

- Coastal Zone: There will be no effect on coastal resources because the project is not within a coastal zone.
- Wild and Scenic Rivers: The project is not located near a designated Wild or Scenic River.
- Timberlands: There are no Timberland Production Zones within the project area; therefore, this topic is not discussed further.
- Sole-Source Aquifer: The project is not within a designated Sole-Source Aquifer.
- This project is located outside of National Marine Fisheries Service (NMFS) jurisdiction; therefore, an NMFS species list is not required and no effects on NMFS species are anticipated.

3.1 Land Use

Unless otherwise noted, this section of the Draft EIR/EIS is based on the *Community Impact Assessment* and *Errata* prepared for the project (Caltrans 2018a, 2021).

3.1.1 Existing and Future Land Use

3.1.1.1 Affected Environment

The proposed project is located within Riverside County, predominantly within unincorporated parts of the county, but also in limited portions of the City of Corona and the City of Perris. The portion of the project within the city limits of Corona would include improvements from the western terminus of the project to Eagle Canyon Road. The portion of the project within the city limits of Perris would accommodate the placement of temporary signs during construction and potential restriping of the bridge over Interstate 215 (I-215), only. The project would also pass through or directly adjacent to six communities within the study area: Mead Valley, Lake Mathews/ Gavilan Hills, Woodcrest/Mockingbird Canyon, Victoria Grove, and Lake Hills/Home Gardens.

The study area is defined as a 0.5-mile radius of proposed project right of way and includes the populations and communities within those portions of unincorporated Riverside County and the Cities of Corona and Perris that are most likely to experience potential impacts or fragmentation from the physical improvements associated with the project.

Regional Setting

Riverside County

Riverside County is east of Orange County, north of San Diego and Imperial Counties, and south of San Bernardino and Los Angeles Counties. Riverside County is the fourth-largest county in the state, encompassing approximately 7,400 square miles and extending westward from the Colorado River to within 14 miles of the Pacific Ocean (County 2020).

Riverside County is roughly divided into eastern and western portions by the San Jacinto and Santa Rosa Mountains. The proposed project is located within the western portion of the county.

The eastern portion of Riverside County is bounded by the Colorado River on the east and the Santa Rosa and San Jacinto Mountains on the west. Desert terrain and less-populated communities distinguish this portion of the county from the western portion of the county. The majority of eastern Riverside County's population is concentrated in the Coachella Valley.

City of Corona

The City of Corona is located within the western half of Riverside County and extends from approximately 1 mile west of the intersection of State Route 91 (SR-91) and State Route 71 (SR-71) to the intersection of Buchanan Street and SR-91. Land uses in the City of Corona range from residential in the southeastern part of the city east of Temescal Canyon Road, industrial uses adjacent to Temescal Canyon Road, commercial uses west of Temescal Canyon Road, and agriculture and open space east of Temescal Canyon Road. Additional residential land uses are present north and south of the study area.

City of Perris

The City of Perris is located within the western half of Riverside County. It extends from Harley Knox Boulevard in the north, to Goetz Road in the south, to Lukens Lane in the west, and to Sherman Road in the east. The proposed project's eastern terminus is at the city's western limit, at land designated as Perris Valley Commerce Center Specific Plan.

Local Communities

Mead Valley

Mead Valley is located within unincorporated Riverside County, west of the City of Perris and north of the Cities of Lake Elsinore and Canyon Lake. Cajalco Road is the primary east-west road through Mead Valley. The main land use within Mead Valley is residential single-family homes. In addition, there are some commercial and industrial developments and open space.

Lake Mathews/Gavilan Hills

The Lake Mathews/Woodcrest community is located within unincorporated Riverside County, and surrounds Lake Mathews. Single-family homes and conservation/open space are the primary land uses within the area. Other land uses include agricultural and limited commercial and industrial developments.

Woodcrest/Mockingbird Canyon

The community of Woodcrest is northeast/east of Lake Mathews, north of Cajalco Road and El Sobrante Road, and shares this area with the community of Mockingbird Canyon, herein referred to as Woodcrest/Mockingbird Canyon. Conservation/open space, agriculture, and single-family homes are the primary land uses for Woodcrest/Mockingbird Canyon.

Victoria Grove

The community of Victoria Grove, which contains 1,120 homes, is located immediately northwest of McAllister Street. Land uses west and southwest of the intersection of La Sierra Avenue and El Sobrante Road include single-family residences within the Lake Hills community and open space.

Lake Hills/Home Gardens

Situated west of the community of Victoria Grove and La Sierra Avenue, and east of Home Gardens, is the community of Lake Hills. While Home Gardens is not directly in the vicinity of the project, it is in close proximity to the Lake Hills community and therefore the communities are herein referred to as Lake Hills/Home Gardens. Conservation/open space, single-family homes, and facilities/utilities are the primary land uses in the area.

Temescal Canyon

Temescal Canyon is north and south of Cajalco Road at the western end of the project. Undeveloped land, residential, and industrial uses are the primary land uses in this project area.

Habitat Conservation Plan and Natural Community Plan Areas

Western Riverside County Multiple Species Habitat Conservation Plan Reserve Lands and Lake Mathews-Estelle Mountain Core Reserve

The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) areas encompass approximately 1.26 million acres and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. It covers multiple species and habitats within a diverse landscape, from urban centers to undeveloped foothills and montane forests, all under multiple jurisdictions. Lands with the WRC MSHCP plan area are designated for the protection of 146 native species of plants, birds, and animals, and the preservation of a half-million acres of their habitats (RCA 2003).

The Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve) is a habitat reserve that is a component of the WRC MSHCP for the SKR HCP and the LM MSHCP. The LM-EM Reserve encompasses approximately 11,243 acres and is jointly owned and managed by Metropolitan Water District of Southern California (MWD), CDFW, USFWS, RCHCA, Bureau of Land Management, and Western Municipal Water District (RCHCA 1996; MWD 2021a). It is one of seven Core Reserves of the SKR Core Reserve system in Riverside County, located between southeast of Corona to north of Lake Elsinore and from east of Interstate 15 (I-15) to Lake Mathews. This Core Reserve was established under the SKR HCP and is currently considered public/quasi-public (PQP) conserved lands and Existing Core C under the WRC MSHCP.

Portions of the project would occur within WRC MSHCP lands designated for species protection and LM-EM Reserve lands.

Lake Mathews Multiple Species Reserve

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) encompasses 5,993.5 acres owned by MWD around Lake Mathews in western Riverside County. The LM MSHCP includes 728.6 acres designated for MWD operations and maintenance activities at Lake Mathews, 154.5 acres for water facility improvements and related projects, and 5,110.4 acres of the Lake Mathews Multiple Species Reserve (LMR), a multi-jurisdictional reserve managed for various species of flora and fauna indigenous to western Riverside County (MWD 2021b). The LMR is comprised of a 2,565.50-acre State Ecological Reserve and 2,544.90-acre Mitigation Bank for use by MWD and RCHCA (MWD and RCHCA 1995; MWD 2021). The Mitigation Bank also accounts for 1,269.3 acres of Stephens' kangaroo rat occupied habitat intended to fulfill conservation requirements of the SKR HCP. The Conservation Easement that covers Mitigation Bank lands was conveyed to the County by MWD and the Conservation Easement is managed by RCHCA. Portions of the project would occur within LM MSHCP plan areas, including State Ecological Reserve and Mitigation Bank areas of the LMR.

Riverside-Corona Resource Conservation District Lands

The Riverside-Corona Resource Conservation District (RCRCD) is a local government agency (special district) that helps conserve the natural resources of areas within western Riverside and

San Bernardino Counties. The district includes 200,000 acres (312 square miles) of land in western Riverside and San Bernardino Counties. RCRCD owns and manages 135-acres in the Temescal Canyon area that adjoins the LM-EM Reserve, and holds multiple conservation easements along Temescal Wash, which support a number of sensitive plant and animal species (RCRCD 2016). Portions of the project would occur within RCRCD conservation areas.

Lake Mathews Tower Outlet Mitigation Site

The 0.124-acre Lake Mathews Outlet Tower-Facilities Riparian Habitat Restoration/Enhancement site is located within an MWD operations area west of La Sierra Avenue. It was established as mitigation in cooperation with USACE. Portions of the project would affect the site under Build Alternative 4.

Study Area

Existing land uses in the 0.5-mile radius study area are shown on Figure 3.1-1 and General Plan land use designations are shown on Figure 3.1-2. Both existing and planned land uses within the western limits of the study area that surround the intersection of Temescal Canyon Road and Cajalco Road are a mix of commercial, industrial, and residential uses. Immediately northwest of the intersection is a strip mall that contains a mix of commercial businesses, including restaurants and retail stores. The Crossings at Corona shopping center is located immediately east of I-15. Directly southwest of the intersection is undeveloped land, and farther southwest is a trucking center, an office building, and single-family homes. Southeast of the intersection is another trucking center and farther southeast is the community of Dos Lagos, which contains single-family homes and the Dos Lagos Golf Course. Northeast of the intersection is undeveloped land, and farther northeast is a commercial storage center.

From Eagle Canyon Road to Lake Mathews Drive, predominant land uses within the study area are mining and open space. This stretch of the study area also includes scattered rural estates and communities of single-family houses. Land uses within the study area from Lake Mathews Drive to the I-215 southbound ramps are a mix of open space, residences of rural communities, and commercial businesses. Businesses located along Cajalco Road include automobile-oriented services, restaurants, financial service stores, retail stores, a movie theater, and agricultural stands. These businesses are located primarily near the intersections of Cajalco Road with I-15, Brown Street, Harvill Avenue and I-215.

Between La Sierra Avenue and Gustin Road, the alignment of Build Alternative 4 differs from the alignments of Build Alternatives 1 and 2C. Under Build Alternative 4, El Sobrante Road would be widened and improved between La Sierra Avenue and Gustin Road, and Cajalco Road would not be widened and improved the length of this segment. In addition, Build Alternative 4 would realign La Sierra Avenue between El Sobrante Road and Cajalco Road. The community of Victoria Grove, which contains 1,120 homes, is located immediately northwest of El Sobrante Road and McAllister Street. Land uses west and southwest of the intersection of La Sierra Avenue and El Sobrante Road include single-family residences within the Lake Hills community and open space. Between McAllister Street and Palm Road, primary land uses along El Sobrante Road are farmland and open space. Between Palm Road and Gustin Road, primary land uses along El Sobrante Road are open space and rural residences. This portion of the study area also includes farmland and commercial businesses.

Zoning in the study area is shown on Figure 3.1-3 and the zoning designations for Riverside County are defined in Table 3.1-1. The portion of the study area within the City of Corona is zoned as commercial, commercial/office, agricultural, general industrial, low-density residential, and golf. East of Temescal Canyon Road, within unincorporated Riverside County, the primary zoning designations are rural residential, residential agricultural, mining, and conservation areas. Areas around Lake Mathews are zoned as conservation areas, rural residential, and residential agricultural. To the east of Wood Road, zoning is primarily residential, commercial, and light agriculture, or governed by a specific plan. Around the intersection with I-215, land is zoned as manufacturing-service commercial, rural residential, and Perris Valley Commerce Center Specific Plan Zone.

Table 3.1-1. Riverside County Zoning Definitions

Zoning Code	Definition
A-1	Light Agriculture
A-1-1	
A-1-5	
A-1-10	
A-2-2	Heavy Agriculture
A-2-10	
A-P	Light Agriculture with Poultry
C-1/C-P	General Commercial
C-O	Commercial Office
C-P-S	Scenic Highway Commercial
I-P	Industrial Park
M-H	Manufacturing-Heavy
M-R	Mineral Resources
M-R-A	Mineral Resources & Related Manufacturing
M-SC	Manufacturing-Service Commercial
N-A	Natural Assets
R-1	One Family Dwellings
R-4	Planned Residential
R-5	Open Area Combining Zone Residential Developments
R-A-1	Residential Agricultural
R-A-1/2	
R-A-2	
R-A-2 1/2	
R-A-5	
R-A-10	
R-R	Rural Residential
R-R-1	
R-R-1/2	
R-T	Mobile Home Subdivisions & Mobile Home Parks
SP ZONE	Specific Plan Zone
W-1	Watercourse, Watershed & Conservation Areas
W-2	Controlled Development Areas
W-2-10	
W-2-M-1/2	Controlled Development Area with Mobile homes
Source: County of Riverside Planning Department 2018.	

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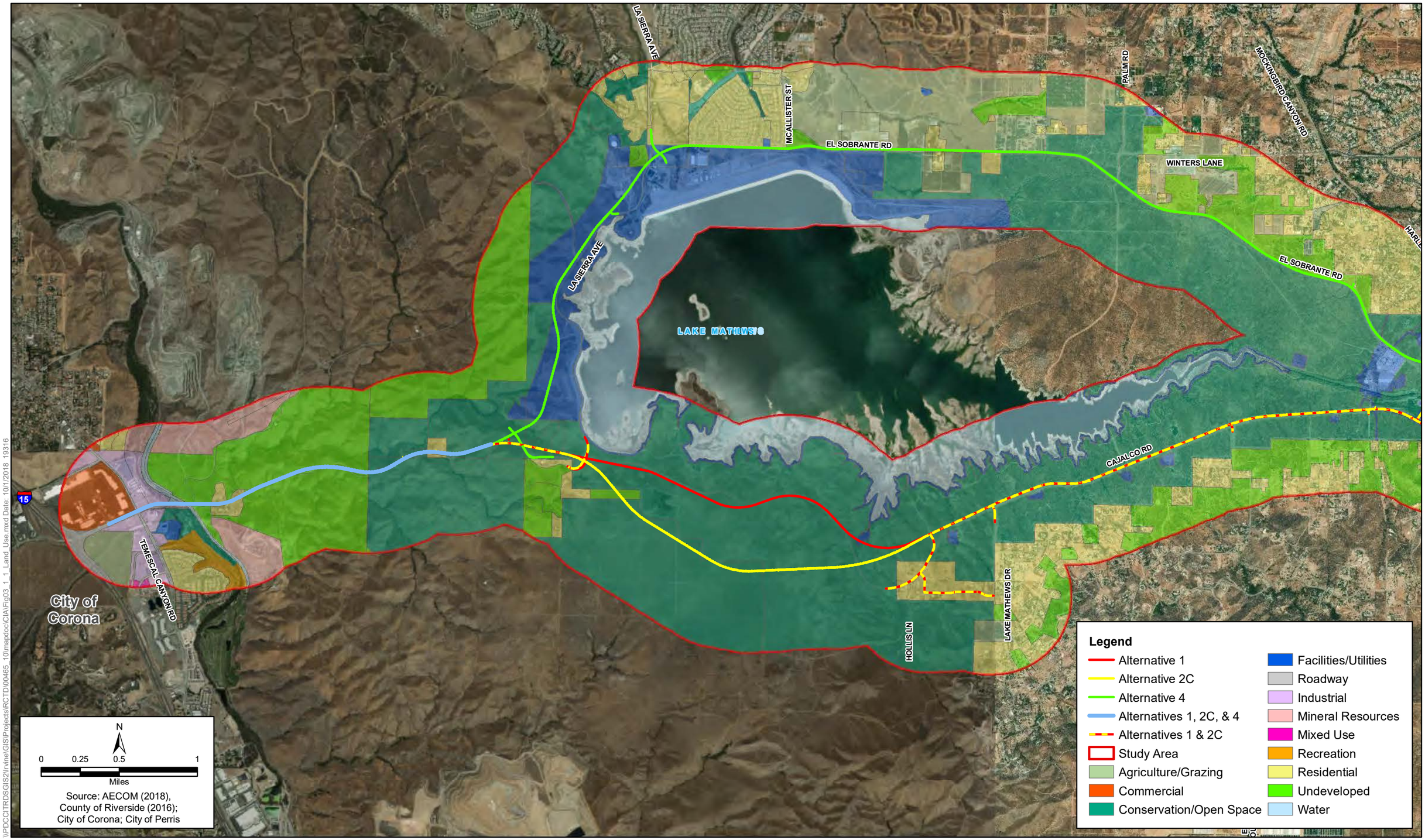

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Figure 3.1-1 Sheet 1
Existing Land Uses - Study Area
Cajalco Road Widening and Safety Enhancement Project

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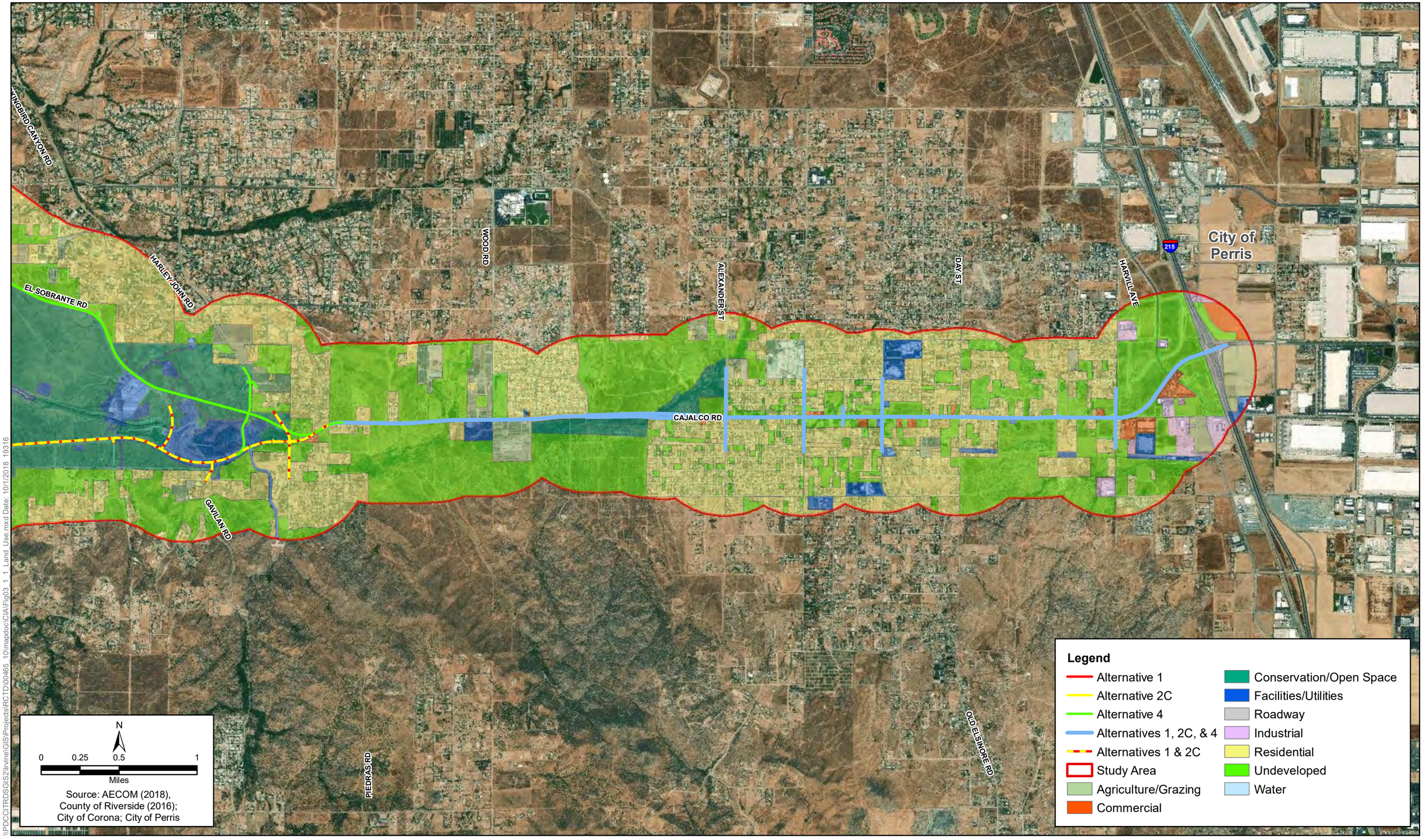

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Figure 3.1-1 Sheet 2
Existing Land Uses - Study Area
Cajalco Road Widening and Safety Enhancement Project

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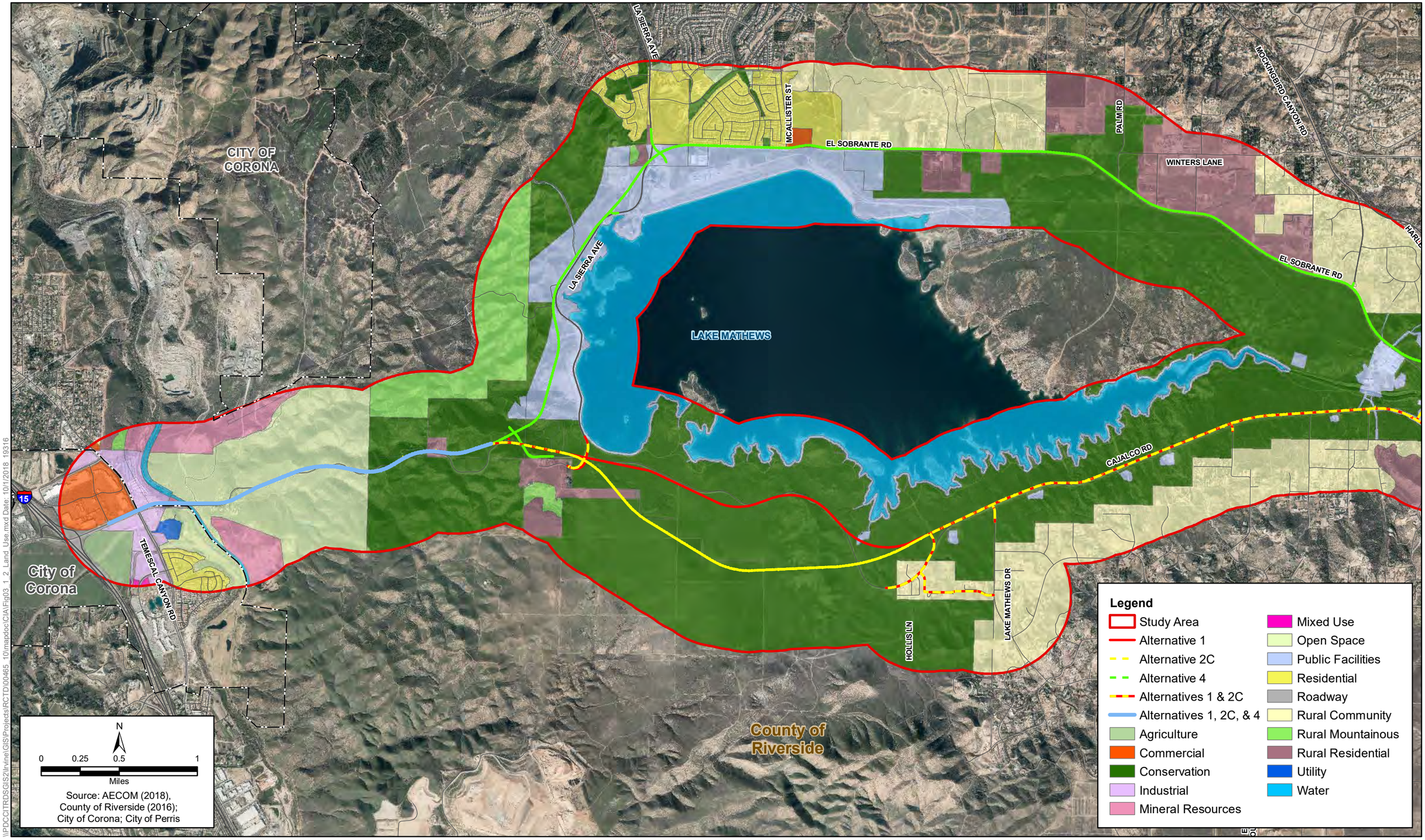

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Figure 3.1-2 Sheet 1
General Plan Land Use Designations - Study Area
Cajalco Road Widening and Safety Enhancement Project

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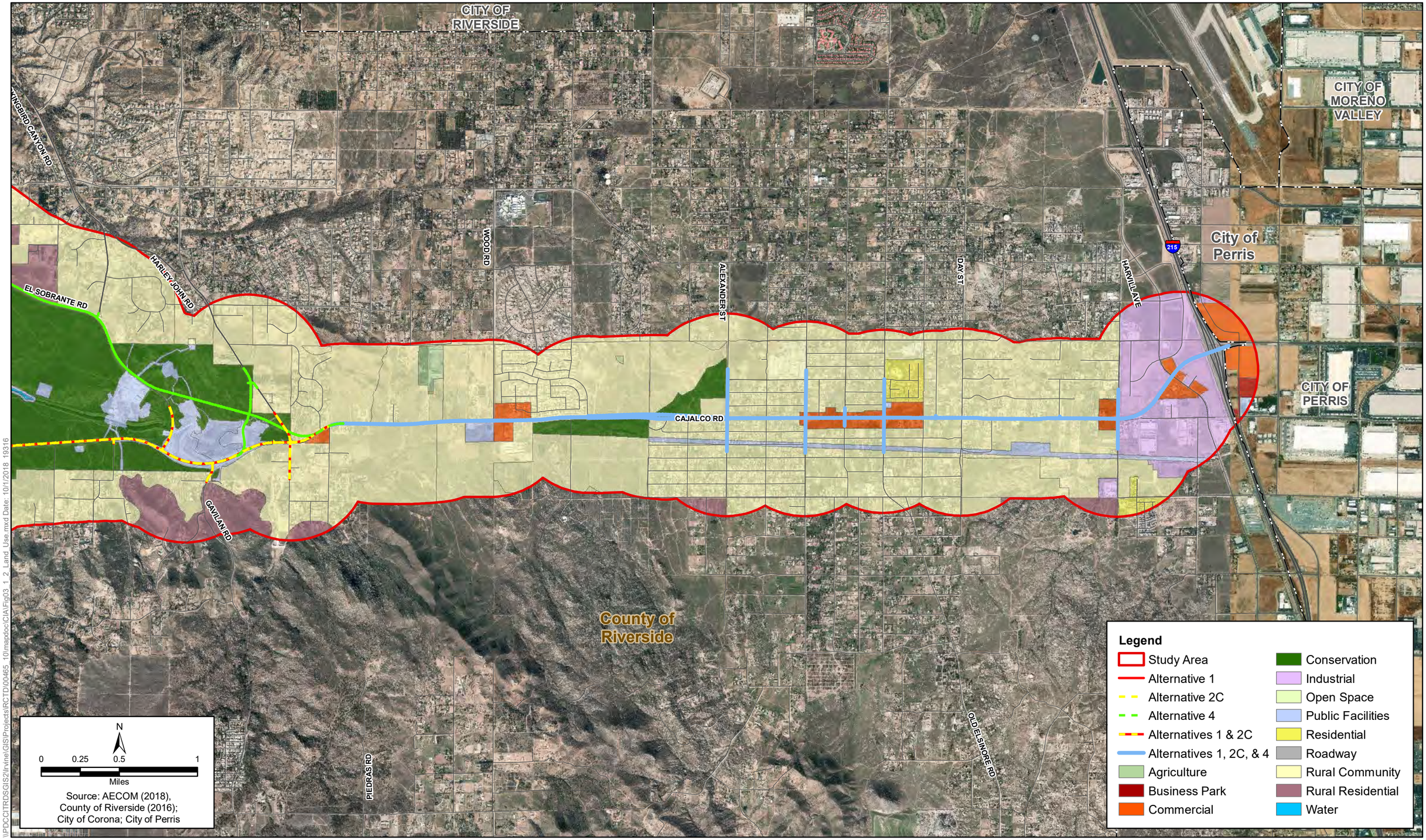

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Figure 3.1-2 Sheet 2
General Plan Land Use Designations - Study Area
Cajalco Road Widening and Safety Enhancement Project

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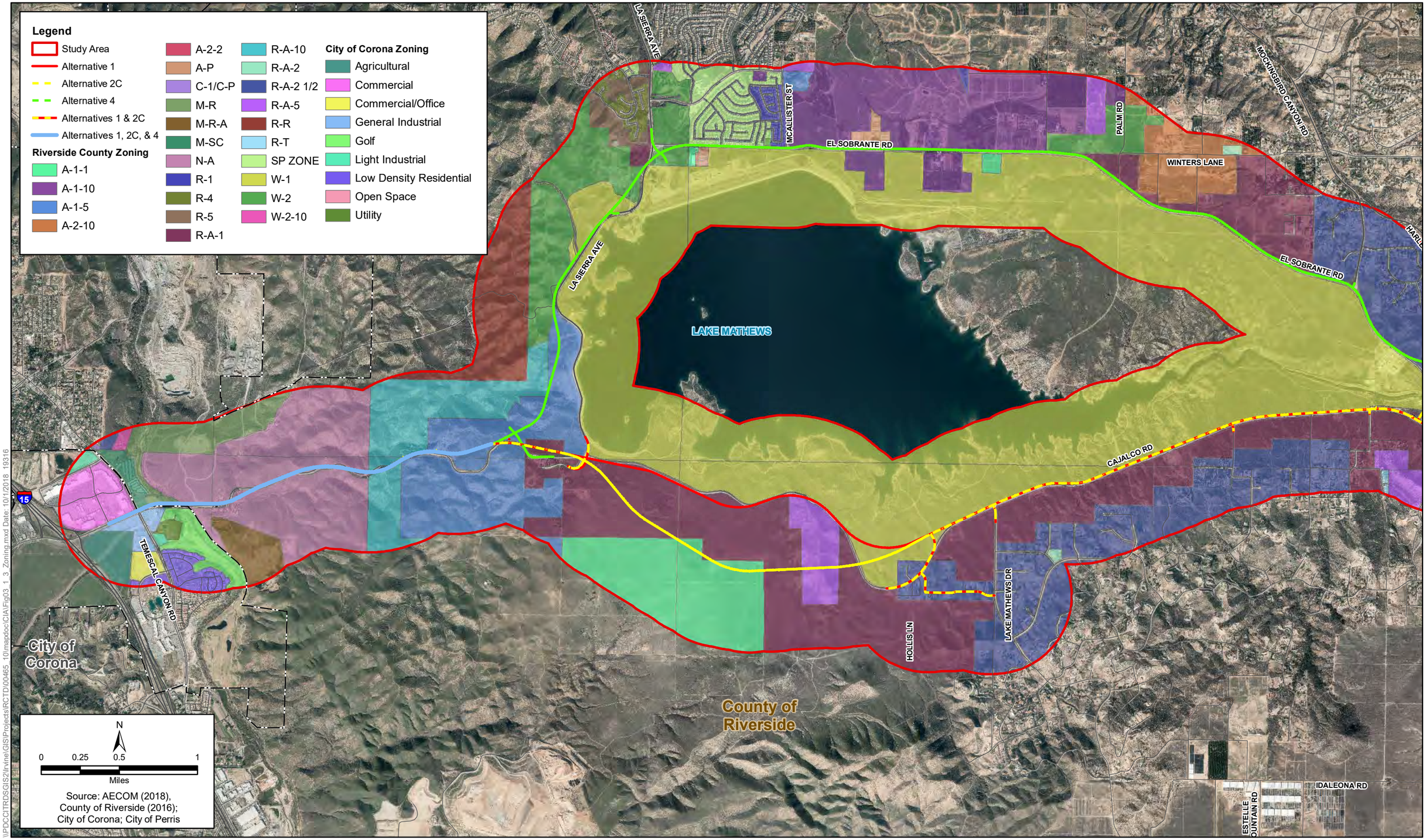

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Figure 3.1-3 - Sheet 1
County/City Zoning - Study Area
Cajalco Road Widening and Safety Enhancement Project

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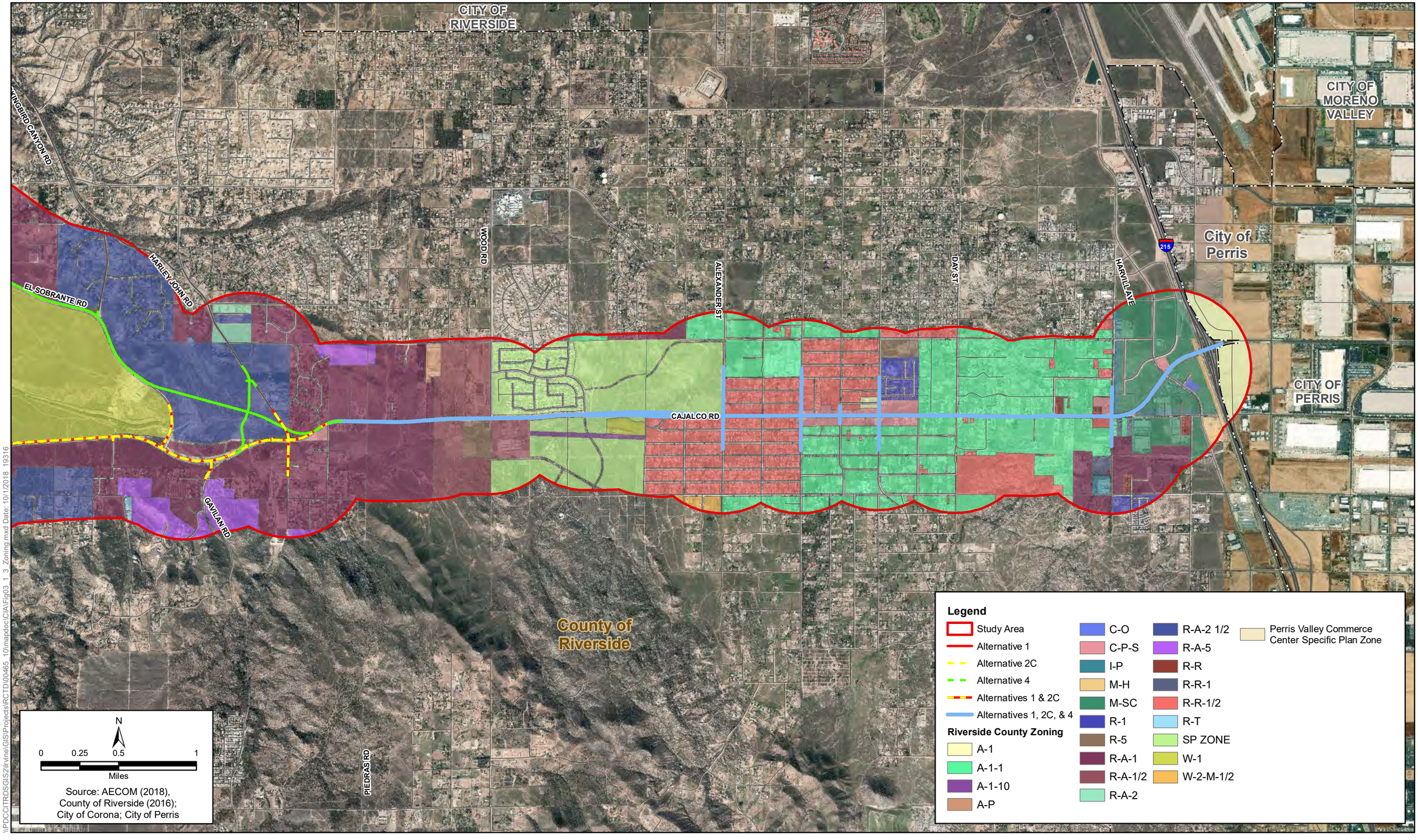

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Figure 3.1-3 - Sheet 2
County/City Zoning - Study Area
Cajalco Road Widening and Safety Enhancement Project

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Table 3.1-2 presents development and transportation projects identified within the study area.

Table 3.1-2. Planned Development and Transportation Projects within or Near Project Vicinity

ID	Name	Jurisdiction/Location	Proposed Uses	Status
1	Magnolia Avenue Bridge Widening	City of Corona Magnolia Avenue from All American Way to El Camino Avenue	Widening Magnolia Avenue from four lanes to six lanes and widening the existing bridge over the Temescal Creek Channel.	Design phase; environmental studies in progress. Plans, Specifications, and Estimates anticipated to begin May 2021.
2	Ontario Avenue Widening	City of Corona Ontario Avenue from California Avenue to State Street	Widen the north side of Ontario Avenue to increase the vehicle capacity.	Planning and design in progress; traffic studies anticipated 2020.
3	I-15 Express Lanes Project	County of Riverside I-15 from Cajalco Road to State Route 60	Addition of two tolled express lanes to I-15 in each direction, a distance of approximately 15 miles.	Construction initiated April 2018 and continuing through 2020.
4	Arantine Hills Specific Plan	City of Corona	A specific plan that proposes 1621 residential units on 129 acres, 38 acres of general commercial development, 40 acres of mixed-use development, 37 acres of open space, and 15 acres of park land.	Precise Plan (PP16-012) and a merchant builder map (TTM37030) approved for the first phase of development; under construction. Second phase is under plan check. City Approved 12/19/2018. General Plan Amendment (GPA2018-0001) with Specific Plan Amendment (SPA2018-0001), Parcel Map (PM 37036), and amendment to the Development Agreement (AEC724, DA15-001).
5	Cajalco Road/ I-15 Interchange	City of Corona Cajalco Road and I-15, on- and off-ramp	Replace existing two-lane Cajalco/I-15 interchange bridge with a standard six-lane bridge and to reconfigure the on- and off-ramps to meet the projected traffic volumes for year 2035.	Construction completed.
6	Convenience store, car wash and gas station	County of Riverside North of Cajalco Road, east of Temescal Canyon Road, and west of Eagle Canyon Road	Approximately 5,881-square-foot convenience store, 1,262-square-foot car wash facility, and a 6,549-square-foot fuel canopy area that will house 10 fuel dispensers. In addition, 2.6 acres dedicated in accordance with MSHCP.	Constructed.
7	Two 30,000-square-foot industrial buildings	City of Corona East of Temescal Canyon Road and south of Cajalco Road	Parcel map to subdivide two lots. Two new 30,000–square-foot industrial buildings on 3.60 acres.	Construction completed.
8	McKinley Grade Separation	City of Corona McKinley Street and BNSF crossing	Build a grade separation on the McKinley railroad BNSF crossing.	Design contract awarded July 2018. Construction anticipated to begin mid-2021.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
9	I-15 Express Lanes Southern Extension	County of Riverside I-15 between Cajalco Road in Corona and State Route 74 (Central Avenue) in Lake Elsinore	Add two Express Lanes in both directions within the I-15 median.	Undergoing engineering and environmental study; initiation of construction anticipated 2025.
10	Lake Hills Specific Plan #144	County of Riverside	1,650-acre residential development; 1704 units.	Specific Plan adopted January 1998. Partially built out.
11	91,000-square-foot shopping center	County of Riverside North of La Sierra Avenue and El Sobrante Road intersection. APNs 270190017 and 270190022	91,000-square-foot shopping center.	Pre-application review approved; permits are in process.
12	Victoria Grove Specific Plan #270	County of Riverside North of El Sobrante Road, east of La Sierra Avenue	86.8-acre residential development.	Specific plan adopted 12/1999. Nearly built out. 12.55-acre residential parcel remains undeveloped. SP00270A1: Add 86.8 acres (residential); approved. TR29282: Division of 7.7 acres into 24 single family lots; approved and construction completed
13	103-acre residential subdivision	County of Riverside 13100 El Sobrante Road	103-acre residential subdivision; 271 units.	TR36730: Approved TR36730E01: Approved extension of time. IP180069: Undergoing review.
14	Greentree Ranch Specific Plan #394	County of Riverside North of El Sobrante Road between McAllister Street and Mockingbird Canyon Road	Development of 513 residential units on 327.4 acres of land.	Notice of Preparation May 2017. Undergoing review.
15	Van Buren Boulevard and Little Court	City of Riverside 18171 Van Buren Boulevard	Development of a retail commercial center on 2 contiguous parcels; 7.17 acres; 10,700-square-foot retail, 10,000-square-foot daycare, 2,500-square-foot drive-thru restaurant, 10,000-square-foot office, and 8,000-square-foot medical office	Revised design plans submitted September 24, 2019; undergoing review.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
16	117.7-acre residential subdivision	County of Riverside South of Cajalco Road, east of Gustin Road and west of Wood Road	Subdivision of 117.7 acres into 112 single family residential lots.	TR30752: Sched B Division 117 AC into 112 Res Lots W/9 Open Space Lots; Approved. TR30752E03: Third extension of time expires July 2021. TR31608: Subdivide 41 acres into 65-sq. ft. open space lot; approved. TR31608E02: Second extension for TTM31608; expires July 2021.
17	18-hole golf course with clubhouse and ancillary facilities	County of Riverside South of Cajalco Road and west of Wood Road	18-hole golf course with clubhouse and ancillary facilities.	Approved.
18	Boulder Springs Specific Plan #229	County of Riverside North of Cajalco Road; east of Wood Road and west of Alexander Street	981-acre specific plan that proposes 1421 dwelling units on 798 acres of land. H.B. Ranches: Subdivision of 283.3 acres into 468 residential lots.	Specific plan adopted 10/4/1988. Permits obtained or in process; some parcels constructed. Time extensions granted for H.B. Ranches Tentative Tract Maps Subdivision to January 9, 2021.
19	I-215 North Project	County of Riverside I-215 between Nuevo Road in Perris and State Route 60 in Riverside	Widen 10.75-mile section of I-215 from Nuevo Road to 60/215 Interchange for one carpool lane added to I-215 in both directions.	Final design and environmental permitting, although funding is required to complete project.
20	Majestic Freeway Business Center Specific Plan #341	County of Riverside North of Cajalco Expressway, south of Nandina Avenue, west of I-215 and east of Decker Road	Construction of 6.2 million square feet of light industrial buildings and 1.2 million square feet of manufacturing, distribution, and warehouse facilities on 325 acres of land. Development of 1,138,800-square-foot industrial building.	Under construction.
21	26.73-acre industrial development	County of Riverside West and east of Harvill Avenue, south of Cajalco Expressway, and north of Cajalco Road	Subdivide 26.73 acres into 10 industrial lots. Five office buildings and light industrial.	Approved; under construction.
22	Hotel	County of Riverside Northeast of Dree Circle and Harvill Avenue	A three-story 51,994-square-foot, 103-room hotel with 5,656-square-foot banquet/conference/restaurant area on 3.2 acres	Under construction.
23	Villa Verona Apartment Community	City of Perris	Multi-family residential development on 17.33 acres; includes two- and three-story buildings with one-, two-, three-, and four-bedroom units.	Project approved. Project has not been submitted for construction.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
24	Duke Warehouse – Perry Street	City of Perris Southeast corner of Perry Street and Barrett Avenue	Industrial development project; 148,297 square feet including 3,000 square feet of office and 3,000 square feet of mezzanine office space on 7.26-acre site.	Approved late 2019.
25	Duke Warehouse – Perris Boulevard	City of Perris Northeast corner of Perris Boulevard and Markham Street	Industrial development project; 55 acres; 1.2 million square feet.	Completed.
26	Duke Warehouse – Patterson Avenue	City of Perris Southeast corner Patterson Avenue and Markham Street	Industrial development project; 37.5 acres; 811,260 square feet.	Completed.
27	Mid County Parkway	County of Riverside 16-mile transportation freeway between I-215 and State Route 79	16-mile transportation corridor (freeway) between I-215 and State Route 79.	Construction of I-215/ Placentia Avenue interchange completed.
28	First Perry Logistics Project	City of Perris Adjacent to Redlands Avenue, north of Ramona Expressway	Industrial development project; 11 acres; 240,000 square feet.	Completed.
29	Stratford Ranch Residential Project	City of Perris West of Evans Road, north of Ramona Expressway	Residential development project; 270 lots.	Partially constructed.
30	Nuevo Road and Nuevo Bridge Replacement Project	City of Perris Nuevo Road from Wilson Avenue to Perris Valley Storm Drain Channel	Widen Nuevo Road to its ultimate width (i.e., 128-foot curb-to-curb street section with a 14-foot median and 10-foot sidewalks on either side), including replacement of the Nuevo Road Bridge at the Perris Valley Storm Drain Channel.	Under construction.

Sources: County of Riverside Planning Department 2017, 2018; County of Riverside Building & Safety Department 2020; City of Corona 2020; City of Riverside Planning Division 2020; City of Corona Community Development Department 2020; City of Perris Planning Division 2018, 2020; City of Perris 2020; Duke Realty 2019; Google Earth 2020; Millie and Severson n.d.; Riverside County Transportation Commission 2018, 2019.

3.1.1.2 Environmental Consequences (Existing and Future Land Use)

Permanent Impacts

Build Alternative 1—Cajalco Alignment

Build Alternative 1 would permanently acquire 218 acres of property and would require the following acquisitions: full acquisition of 17 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 67 residential parcels, partial acquisition of five nonresidential parcels, and partial acquisition of 149 vacant parcels. In addition, roadway alignment modifications along Cajalco Road would result in the acquisition and conversion of lands from the LM MSHCP area, including the LMR; construction of a new, secondary access between Lake Mathews Drive and Dirt Road would also result in the conversion of portions of

residential-agricultural zoned properties to transportation. These acquisitions would change land uses from their current uses to that of a transportation facility. However, the acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and business within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the County (U.S. Census Bureau 2015).

The project is planned for in the Riverside County General Plan. Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. This is discussed in more detail in the opening discussion of Chapter 3.

Future Six-Lane Facility (Build Alternative 1)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not change existing land uses because additional property acquisitions are not anticipated.

Lake Mathews MSHCP (Build Alternative 1)

Build Alternative 1 would result in the acquisition and removal of approximately 122.85 acres of land from the LM MSHCP area, including 121.51 acres from the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies. There has been extensive, ongoing coordination between the County and MWD, and the Lake Mathews Reserve Management Committee (LMRMC), to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP. Please refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, for additional information on mitigation.

Modification of the LM MSHCP and LMR to allow for the proposed project, as well as address areas removed or otherwise affected by the build alternatives, will be coordinated between the County and LM MSHCP responsible parties.

Table 3.1-3 on the following page presents permanent impacts on existing land uses, planned land uses, and zoned land uses under Build Alternative 1.

Table 3.1-3. Land Use and Zoning Impacts – Build Alternative 1

Land Use/Zoning	Existing Land Use Impact (acres)	Designated/ Planned Land Use Impact (acres)	Zoned Land Use Impact (acres)
Residential/Rural Community *Zoning:* R-1, R-4, R-5, R-A-1, R-A-1/2, R-A-5, R-A-10, R-A-2, R-A-2 ½, R-R, R-T	48.70	83.32	88.34
Commercial/Business Park *Zoning:* C-1/C-P, C-O, C-P-S	5.69	24.50	8.47
Industrial/Mineral Resources *Zoning:* I-P, M-H, M-R, M-R-A, M-SC	4.05	14.31	2.63
Agricultural/Grazing *Zoning:* A-1, A-1-1, A-1-5, A-1-10, A-2-2, A-2-10, A-P	3.12	None	26.33
Conservation/Open Space/Water *Zoning:* N-A, W-1	200.02	235.38	90.91
Public Facilities/Utilities	31.23	29.42	None
Roadway/County Right of Way	2.05	2.05	None
Vacant/Undeveloped *Zoning:* W-2, W-2-10, W-2-M-1/2	94.28	None	None

Western Riverside County Multiple Species Habitat Conservation Plan Reserve Lands and Lake Mathews-Estelle Mountain Core Reserve

Build Alternative 1 would directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is proposed to compensate for the loss of land and habitat in WRC MSHCP PQP lands and SKR HCP Core Reserve Area.

Riverside-Corona Resource Conservation District Lands

Build Alternative 1 would impact RCRCD conservation areas within Temescal Wash and an area located south of Cajalco Road near Wood Road. Mitigation Measures **NC-15 (NES BIO-14)** listed in Section 3.17, *Natural Communities*, and **WET-1** listed in Section 3.18, *Wetlands and Other Waters*, are proposed to compensate for the loss of riparian-riverine and wetland and non-wetland resources.

Lake Mathews Tower Outlet Mitigation Site

Build Alternative 1 would not affect the Lake Mathews Outlet Tower-Facilities Riparian Habitat Restoration/Enhancement site located within the MWD operations area.

Build Alternative 2C—Modified Cajalco Alignment

Build Alternative 2C would permanently acquire 239 acres of property and would require the following acquisitions: full acquisition of 17 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 67 residential parcels, partial acquisition of five nonresidential parcels, and partial acquisition of 153 vacant parcels. Furthermore, Alternative 2C would result in the acquisition and removal of lands from the SKR HCP and LM MSHCP areas, including the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. The acquired residences and businesses that require relocation represent

a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and business within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the county (U.S. Census Bureau 2015). Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies.

Future Six-Lane Facility (Build Alternative 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not change existing land uses because additional property acquisitions are not anticipated.

Lake Mathews MSHCP (Build Alternative 2C)

As mentioned above, Build Alternative 2C would result in the acquisition and removal of approximately 114.44 acres of land from the LM MSHCP area, including 113.2 acres from the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies. There has been extensive, ongoing coordination between the County and MWD, and the LMRMC, to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP. Please refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, for additional information on mitigation.

Modification of the LM MSHCP and LMR to allow for the proposed project, as well as address areas removed or otherwise affected by the build alternatives, will be coordinated between the County and LM MSHCP responsible parties.

Table 3.1-4 presents permanent impacts on existing land uses, planned land uses, and zoned land uses under Build Alternative 2C.

Table 3.1-4. Land Use and Zoning Impacts – Build Alternative 2C

Land Use/Zoning	Existing Land Use Impact (acres)	Designated/ Planned Land Use Impact (acres)	Zoned Land Use Impact (acres)
Residential/Rural Community *Zoning:* R-1, R-4, R-5, R-A-1, R-A-1/2, R-A-5, R-A-10, R-A-2, R-A-2 ½, R-R, R-T	48.68	85.96	99.62
Commercial/Business Park *Zoning:* C-1/C-P, C-O, C-P-S	5.69	24.50	8.47
Industrial/Mineral Resources *Zoning:* I-P, M-H, M-R, M-R-A, M-SC	4.05	14.31	2.63
Agricultural/Grazing *Zoning:* A-1, A-1-1, A-1-5, A-1-10, A-2-2, A-2-10, A-P	3.12	None	41.15
Conservation/Open Space/Water *Zoning:* N-A, W-1	207.55	242.91	84.17

Land Use/Zoning	Existing Land Use Impact (acres)	Designated/ Planned Land Use Impact (acres)	Zoned Land Use Impact (acres)
Public Facilities/Utilities	30.25	28.44	None
Roadway/County Right of Way	2.05	2.05	None
Vacant/Undeveloped *Zoning:* W-2, W-2-10, W-2-M-1/2	96.77	None	None

Western Riverside County Multiple Species Habitat Conservation Plan Reserve Lands and Lake Mathews-Estelle Mountain Core Reserve

Build Alternative 2C would directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is proposed to compensate for the loss of land and habitat in WRC MSHCP PQP lands and SKR HCP Core Reserve Area.

Riverside-Corona Resource Conservation District Lands

Impacts to RCRCD lands under Build Alternative 2C would be the same as those identified under Build Alternative 1.

Lake Mathews Tower Outlet Mitigation Site

Build Alternative 2C would not affect the Lake Mathews Outlet Tower-Facilities Riparian Habitat Restoration/Enhancement site located within the MWD operations area.

Build Alternative 4—El Sobrante Alignment

Build Alternative 4 would permanently acquire 240 acres of property and would require the following acquisitions: full acquisition of 18 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 69 residential parcels, partial acquisition of 12 nonresidential parcels, and partial acquisition of 186 vacant parcels. Partial acquisition of the vacant and residential parcels would be necessary for construction of a new connection between Cajalco Road and El Sobrante Road south of Harley John Road, and new terminus of Harley John Road with cul-de-sac north of the new connection. These acquisitions would change land uses from their current uses to that of a transportation facility. However, the acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and business within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the county (U.S. Census Bureau 2015). Therefore, appreciable land use change would not occur as a result of the implementation of Build Alternative 4. However, the new connection between El Sobrante Road and Cajalco Road, as well as other roadway alignment modifications along El Sobrante Road, Cajalco Road, and La Sierra Avenue, would result in the acquisition and conversion of lands from the LM MSHCP area, as well as impact the Lake Mathews Outlet Tower-Facilities Riparian Habitat Restoration/Enhancement site located within the MWD operations area.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not change existing land uses because additional property acquisitions are not anticipated.

Lake Mathews MSHCP (Build Alternative 4)

As mentioned above, the new connection between El Sobrante Road and Cajalco Road, as well as other roadway alignment modifications along El Sobrante Road, Cajalco Road, and La Sierra Avenue, would result in the acquisition and conversion of approximately 110.98 acres of land from the LM MSHCP area, including 58.39 acres from the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies. There has been extensive, ongoing coordination between the County and MWD, and the LMRMC, to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP. Please refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, for additional information on mitigation.

Modification of the LM MSHCP and LMR to allow for the proposed project, as well as address areas removed or otherwise affected by the build alternatives, will be coordinated between the County and LM MSHCP responsible parties.

Table 3.1-5 presents permanent impacts on existing land uses, planned land uses, and zoned land uses under Build Alternative 4.

Table 3.1-5. Land Use and Zoning Impacts – Build Alternative 4

Land Use/Zoning	Existing Land Use Impact (acres)	Designated/ Planned Land Use Impact (acres)	Zoned Land Use Impact (acres)
Residential/Rural Community *Zoning:* R-1, R-4, R-5, R-A-1, R-A-1/2, R-A-5, R-A-10, R-A-2, R-A-2 ½, R-R, R-T	59.52	137.70	88.90
Commercial/Business Park *Zoning:* C-1/C-P, C-O, C-P-S	5.71	27.20	8.47
Industrial/Mineral Resources *Zoning:* I-P, M-H, M-R, M-R-A, M-SC	4.06	14.31	2.64
Agricultural/Grazing *Zoning:* A-1, A-1-1, A-1-5, A-1-10, A-2-2, A-2-10, A-P	24.69	None	65.82
Conservation/Open Space/Water *Zoning:* N-A, W-1	101.58	137.35	47.87
Public Facilities/Utilities	78.05	76.14	None
Roadway/County Right of Way	2.05	2.05	None
Vacant/Undeveloped *Zoning:* W-2, W-2-10, W-2-M-1/2	119.09	None	24.55

Western Riverside County Multiple Species Habitat Conservation Plan Reserve Lands and Lake Mathews-Estelle Mountain Core Reserve

Build Alternative 4 would directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is proposed to compensate for the loss of land and habitat in WRC MSHCP PQP lands and SKR HCP Core Reserve Area.

Riverside-Corona Resource Conservation District Lands

Impacts to RCRCD lands under Build Alternative 4 would be the same as those identified under Build Alternative 1.

Lake Mathews Tower Outlet Mitigation Site

Build Alternative 4 would affect the Lake Mathews Outlet Tower-Facilities Riparian Habitat Restoration/Enhancement site located within the MWD operations area. Mitigation Measures **NC-15 (NES BIO-14)** listed in Section 3.17, *Natural Communities*, and **WET-1** listed in Section 3.18, *Wetlands and Other Waters*, are proposed to compensate for the loss of riparian-riverine and wetland and non-wetland resources.

No-Build Alternative

The No-Build Alternative would not affect existing land uses because the proposed project would not be constructed, avoiding conversion of existing land uses.

Temporary Impacts

Build Alternatives 1, 2C, and 4

Construction activities would result in temporary impacts on circulation and access due to detours and short-term partial closures of Cajalco Road, Richey Way, and Harley John Road, as well as temporary closure of sidewalks or crosswalks under any of the build alternatives. Under Build Alternative 4, detours and short-term partial closures of La Sierra Avenue and El Sobrante Road would also occur. Only temporary signage during construction and potential restriping along the freeway overpass would occur within the City of Perris; all other construction activities would occur in unincorporated Riverside County or the City of Corona. Temporary circulation impacts may result in some disruption for residents within the study area who use Cajalco Road, La Sierra Avenue, and/or El Sobrante Road to commute within the area and region, including to and from schools. Construction activities and partial lane closures may also affect business access along Cajalco Road and El Sobrante Road. However, effects on access to residents, schools, and businesses would be temporary, and emergency access would be maintained at all times via detours and through implementation of a Transportation Management Plan (TMP) as part of Standard Project Measure **PF LU-1**. Therefore, temporary construction activities would not cause changes to land use due to the coordination with businesses, residents, commuters, and emergency service providers through a public awareness campaign that would occur.

- **PF LU-1**: Prior to construction, the County of Riverside (County) will develop a Traffic Management Plan (TMP) that will include the following elements: **construction staging**

plans, **public awareness campaign**, **analysis of impacts on traffic**, **options for lane closures**, **and alternate route strategies**. In addition, the TMP will address access, circulation, parking, public transportation, and pedestrian and bicycle facilities as described below:

- Prior to construction, the County will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access, circulation, and parking.
- Prior to construction, the County will coordinate with local jurisdictions to adjust signal timing on arterial streets during construction to minimize traffic congestion.
- Prior to construction, the County will provide appropriate signage as needed throughout construction. The construction contractor will maintain appropriate signage to direct pedestrians, bicyclists, and vehicular traffic via alternate routes. Disabled access will be maintained during construction.
- Prior to construction, the County will coordinate with public transportation agencies to provide rerouting information, including operating schedules, to the public.
- The County will maintain pedestrian access points to businesses, parks, and schools within the construction area throughout the construction period, where feasible. If usual access points are lost, provisions for alternative access to the affected parcels will be made. Appropriate signage will be placed to inform pedestrians and bicyclists of the alternative access to local businesses. Disabled access will be maintained during construction where feasible.
- Appropriate signage and advanced warning will be implemented to direct pedestrian, bicycle, and vehicular traffic to alternate routes as deemed necessary.
- If short-term full roadway closure is necessary, it will be scheduled for nighttime to minimize impacts on motorists.

Temporary construction easements (TCEs) would be required during the construction period to facilitate access to construction work areas, resulting in temporary acquisition of 61 acres of property under Build Alternative 1, 66 acres under Build Alternative 2C, and 63 acres under Build Alternative 4. These TCEs would occur on parcels adjacent to the project corridor, as discussed in Section 3.4.2, *Relocations and Real Property Acquisitions*. These would not affect existing land uses adjacent to the project corridor because the need for these TCEs would be temporary, and the parcels would be returned to the landowner after construction is complete.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, construction may result in intermittent traffic delays until the project is completed; however, the delays would be temporary and are not anticipated to be substantial enough to interfere with existing land uses.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Construction would temporarily affect approximately 22.13 acres of land within the LM MSHCP area under Build Alternative 1, 25.63 acres under Build Alternative 2C, and 10.06 acres under Build Alternative 4. This is not anticipated to affect existing land uses adjacent to the project corridor because the TCEs would be temporary, the temporary effects on these properties would not prevent long-term use for conservation purposes, and the land would be returned to conservation use after construction is complete.

Table 3.1-6 presents temporary land use impacts anticipated under each build alternative.

Table 3.1-6. Build Alternatives 1, 2C, and 4 – Temporary Land Use and Zoning Impacts

Land Use/Zoning	Existing Land Use (acres)			Designated/ Planned Land Use (acres)			Zoned Land Use (acres)		
	Build Alternative			Build Alternative			Build Alternative		
	1	2C	4	1	2C	4	1	2C	4
Residential/Rural Community *Zoning:* R-1, R-4, R-5, R-A-1, R-A-1/2, R-A-5, R-A-10, R-A-2, R-A-2 ½, R-R, R-T	20.88	20.90	19.52	37.23	37.27	37.81	35.12	41.16	26.40
Commercial/Business Park *Zoning:* C-1/C-P, C-O, C-P-S	3.15	3.15	3.16	6.80	6.80	7.05	1.82	1.82	1.92
Industrial/Mineral Resources *Zoning:* I-P, M-H, M-R, M-R-A, M-SC	2.32	2.32	2.31	6.04	6.04	6.03	2.70	2.70	2.69
Agricultural/Grazing *Zoning:* A-1, A-1-1, A-1-5, A-1-10, A-2-2, A-2-10, A-P	1.22	1.22	4.12	--	--	--	5.45	6.14	14.11
Conservation/Open Space/Water *Zoning:* N-A, W-1	23.81	31.86	13.20	29.38	37.43	18.80	16.20	12.39	12.18
Public Facilities/Utilities	5.20	4.84	13.97	5.07	4.71	13.83	--	--	--
Roadway/County Right of Way	3.84	3.84	3.84	3.84	3.84	3.84	--	--	--
Vacant/Undeveloped *Zoning:* W-2, W-2-10, W-2-M-1/2	28.50	28.71	27.23	--	--	--	--	--	3.62

WRC MSHCP Reserve Lands, LM-EM Reserve, RCRCD Lands and Tower Mitigation Site (Build Alternatives 1, 2C, and 4)

Temporary impacts to WRC MSHCP, LM-EM Reserve, and RCRCD lands would be addressed by Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12), NC-14 (NES BIO-13)** and **NC-15 (NES BIO-14),** Measure **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*.

No-Build Alternative

The No-Build Alternative would not affect existing land uses because the proposed project would not be constructed, avoiding conversion of existing land uses.

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

3.1.2.1 Affected Environment

Southern California Association of Governments Federal Transportation Improvement Program

The Southern California Association of Governments (SCAG) Federal Transportation Improvement Program (FTIP) is a capital listing of all transportation projects proposed over a 6-year period for the SCAG region. The projects include highway improvements; transit, rail, and bus facilities; high-occupancy vehicle lanes; signal synchronization; intersection improvements; and freeway ramps, among others.

The FTIP is prepared to implement projects and programs listed in the Regional Transportation Plan (RTP) and is developed in compliance with state and federal requirements. The project is fully funded and is in the SCAG financially constrained 2021 FTIP as Project Number RIV090903, which was found to conform by the Federal Highway Administration and Federal Transit Administration on April 16, 2021.[1]

Southern California Association of Governments 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) is a long-range transportation plan that is developed and updated by SCAG every 4 years. The RTP/SCS provides a vision for transportation investments throughout the region. Using growth forecasts and economic trends that project out over a 20-year period, the RTP/SCS considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs.

County of Riverside General Plan

The Riverside County General Plan is a comprehensive, long-term general plan, adopted in 2015. The elements of the general plan make up the framework for decision-making regarding growth and development in the county and contain goals and policies that are pertinent to the proposed project (County 2015).

[1] The project is currently described in the 2021 FTIP as "IN RIVERSIDE COUNTY ON CAJALCO RD – CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

Temescal Canyon Area Plan

Temescal Canyon is an area within western Riverside County. The Temescal Canyon Area Plan contains a Land Use Plan, statistical summaries, policies, and accompanying exhibits that explain the physical, environmental, and regulatory characteristics of the area (County 2018a). The Temescal Canyon Area Plan has limited applicability to the project because the project would only overlap with the plan area at the western end of the proposed alignment; the majority of the project would be within unincorporated Riverside County.

Lake Mathews/Woodcrest Area Plan

Lake Mathews/Woodcrest is a community within unincorporated Riverside County. The Lake Mathews/Woodcrest Area Plan contains a Land Use Plan and identifies issues, articulates community visions, and recommends strategies for improvement and for achieving the visions. The purpose of the plan is to serve as a guide for the future development and improvement of the community (County 2016).

Mead Valley Area Plan

Mead Valley is a community within unincorporated Riverside County. The Mead Valley Area Plan contains a Land Use Plan and identifies issues, articulates community visions, and recommends strategies for improvement and for achieving the visions. The purpose of the plan is to serve as a guide for the future development and improvement of the community (County 2018b).

County of Riverside Climate Action Plan

The County of Riverside Climate Action Plan (CAP), adopted in 2015 and updated November 2019, includes greenhouse gas (GHG) inventories of community-wide and municipal sources, GHG reduction targets, and measures to aid in the reduction of GHG to meet reduction targets (County 2019). In addition to the identification of new measures designed to reduce GHG emissions, the CAP references relevant General Plan policies that also support GHG emissions reduction. Because the new measures included in the CAP apply to new development and long-term planning, the General Plan policies relevant to both GHG emissions reduction and the proposed project have been included in this section and assessed for consistency. The application of the relevant General Plan policies in the reduction of GHG related to the proposed project and Climate Change are assessed in Chapter 4, *California Environmental Quality Act Evaluation*, Section 4.4, *Climate Change*.

County of Riverside Comprehensive Trails Plan

The February 2018 Riverside County Regional Park and Open-Space District Comprehensive Trails Plan defines policies, operational and maintenance requirements, implementation guidance, funding and partnership recommendations, and design standards for trails within Riverside County (Riverside County Regional Park and Open-Space District 2018).

City of Corona General Plan

The City of Corona's General Plan addresses a multitude of land use-related issues and is designed to provide policy guidance for the next 20 years and beyond. The most recent complete General Plan was approved by the City Council in 2004, but it has been amended numerous times since to address changes in the direction of development, as well as to meet statutory and regulatory requirements (City of Corona 2004). The City of Corona General Plan has limited applicability to the project because the project limits extend within the plan area at the western end of the proposed alignment, near Temescal Canyon Road; the majority of the project would be within unincorporated Riverside County.

Dos Lagos Specific Plan and El Cerrito Specific Plan

The portion of the project within the limits of Corona, south of Cajalco Road and west of Temescal Creek, is within the Dos Lagos Specific Plan (City of Corona 2012); the portion of the project within the limits of Corona north of Cajalco Road and west of Temescal Creek is within the El Cerrito Specific Plan (City of Corona 2011). The specific plans provide guidelines for development within each of the two plan areas and have minimal influence on existing County facilities that occur along the plan area boundaries, such as Cajalco Road. However, the guidelines and policies of the plans are reviewed for consistency with the proposed project where the project would occur adjacent to or within the plan areas. Dos Lagos Specific Plan guidelines are primarily for residential development and defer to policies of the City's General Plan. El Cerrito Specific Plan guidelines are primarily for commercial development; however, the El Cerrito Specific Plan also includes design standards applicable to the plan area. For both specific plan areas, the project would minimally encroach beyond existing County right of way.

City of Perris General Plan

The City of Perris 2030 General Plan was adopted in 2005, but has undergone updates in 2008, 2013, 2015, and 2016. The General Plan is a 30-year guide for local government decisions on growth, capital investment, and physical development in the City of Perris. It guides future development plans and gives direction on how to implement future projects (City of Perris 2005). The City of Perris General Plan has limited applicability to the project because a limited portion of the eastern end of the proposed project alignment is adjacent to the plan area; the majority of the project would be within unincorporated Riverside County.

Western Riverside County Multiple Species Habitat Conservation Plan

The WRC MSHCP is a comprehensive, multi-jurisdictional habitat conservation plan focusing on conservation of species and their associated habitats in western Riverside County. The WRC MSHCP's goal is maintenance of biological and ecological diversity within an urbanizing region. As described in Section 3.1.1, *Existing and Future Land Use,* the WRC MSHCP plan area encompasses approximately 1.26 million acres. The Western Riverside County Regional Conservation Authority (RCA) is a government agency formed in 2004 with the core activity of acquiring reserve land. The agency implements the WRC MSHCP, which outlines a plan to protect 146 native species of plants, birds, and animals and preserve a half-million acres of their habitats (RCA 2003). The County signed the Implementation Agreement on December 15, 2003.

This plan provides, among other things, impact mitigation for future County projects on circulation element roads in the covered area of western Riverside County.

The project would be located within the boundaries of the WRC MSHCP and would therefore be subject to its requirements (RCA 2003).

Habitat Conservation Plan for the Stephens' Kangaroo Rat

The SKR HCP provides for the establishment, expansion, and ongoing management of permanent reserves in a manner that will ensure conservation of the Stephens' kangaroo rat in western Riverside County, while also providing opportunities to benefit other species of concern. The area covered by the plan includes 533,954 acres within the jurisdictions of RCHCA member agencies in western Riverside County (RCHCA 1996). Portions of the project would be located within the boundaries of the SKR HCP and would be subject to its requirements in those areas.

Lake Mathews MSHCP

The LM MSHCP functions as a comprehensive conservation and management program for 65 wildlife and plant species within a 5,993.5-acre planning area around Lake Mathews in western Riverside County. The LM MSHCP was developed in response to the creation of the 5,110.4-acre LMR in 1995 through a Cooperative Management Agreement (CMA) among MWD, the RCHCA, CDFW, and the USFWS. The LM MSHCP also serves as an implementation agreement between MWD and the RCHCA to address and mitigate impacts to sensitive species and resources resulting from MWD activities and operations within the plan area, future MWD projects in the region, and conservation goals of the SKR HCP. The LM MSHCP serves to protect natural habitat types within the LMR, restore degraded habitat conditions for covered species through improvements to suitable habitat, and ensure the continuation of operations and maintenance of MWD facilities.

The 5,993.5-acre plan area is comprised of a 2,565.5-acre State Ecological Reserve and 2,544.90-acre Mitigation Bank for use by MWD and RCHCA, that together form the 5,110.4-acre LMR, and 883.1 acres designated for lake facilities, operations, maintenance, and future projects (MWD and RCHCA 1995; MWD 2021). The State Ecological Reserve was created in 1979 as mitigation for impacts of the State Water Project on wildlife within property owned by the Department of Water Resources (DWR) and MWD. The Mitigation Bank was created by the LM MSHCP as a preemptive agreement to mitigate for potential impacts to sensitive species within the Plan Area Projects areas. The remaining 883.1 acres of planning area includes 154.5 acres allocated for future Plan Area Projects and 728.6 acres of Operations Areas currently utilized by MWD. (Dudek 2013).

Portions of the project would be located within the boundaries of the LM MSHCP plan areas and would therefore be subject to requirements of the LM MSHCP and related Lake Mathews Reserve Management Plan, and the existing agreements described below for those areas.

Lake Mathews Reserve Management Plan

The Lake Mathews Reserve Management Plan (RMP) guides management goals, objectives, and strategies of the LMR for a 15-year period (2013–2028); it is considered a living document that is changed and updated as needed. The primary objective of the RMP is to outline management

of the LMR to maintain viable populations of sensitive wildlife and plant species (covered species) through a habitat approach, by managing large habitat blocks for these species. The plan outlines the biological resources and sensitive species to be considered during management activities, the general and species-specific goals for the LMR, and the plans and schedules needed to achieve these goals. (Dudek 2013). The RMP identifies the following three primary goals for guiding Reserve management within the LM MSHCP:

1. Protect existing natural habitat types on the Combined Reserve;
2. Improve degraded habitat by enhancing or restoring suitable habitat for Covered Species within the Reserve;
3. Ensure that operation and maintenance of Lake Mathews as a water supply facility are not impaired.

Lake Mathews Agreements and Easements

Cooperative Management Agreement

The CMA (December 1995) established the framework for creating the LMR and LM MSHCP, and also established the LMRMC as the governing body for the LMR. The LMRMC consists of one representative from each of the four agencies with jurisdiction in the LMR, each with assigned roles and duties: MWD, RCHCA, CDFW, and USFWS. The purpose of the LMRMC is to manage the Reserve in such a way that the goals and objectives of the plan are attained in accordance with all governing documents. Daily management is the responsibility of the Reserve Manager and additional staff (e.g., Assistant Manager, Field Crew) as determined based on appropriate needs. Funding is provided through an endowment established by the RCHCA and managed by MWD. (Dudek 2013).

Mitigation Banking Agreement

The Mitigation Banking Agreement (December 1995) was established among MWD, RCHCA, CDFG, and USFWS, to mitigate for MWD's water delivery, treatment, and storage facilities in western Riverside County. In creating the Mitigation Bank, MWD mitigated for projects located within the Plan Area (as defined in the MSHCP) as well as projects located outside of the Plan Area. A total of 2,544.9 acres owned by MWD in the vicinity of Lake Mathews were dedicated as a Mitigation Bank per the aforementioned agreement. Further, the Mitigation Banking Agreement provided for the Existing Reserve, adjoining the Mitigation Bank, to be incorporated into the Lake Mathews Reserve that is to be managed conjunctively with the remainder of the Lake Mathews-Estelle Mountain Core Reserve designated by RCHCA under the SKR HCP. (Dudek 2013).

Memoranda of Understanding

Two separate Memoranda of Understanding (MOU) were authorized as part of the approval of the LM MSHCP, CMA, and Mitigation Banking Agreement. A Fish and Game Code Sections 2081 and 2835 MOU was entered into agreement in December 1995 among MWD, RCHCA, and CDFW. A second MOU was entered into by MWD, RCHCA, and USFWS. The MSHCP/NCCP was prepared to ensure issuance of appropriate incidental take permits for listed

species and species that may become listed in the future through Section 10(a) of the Federal Endangered Species Act and Section 2081 of the California Endangered Species Act.

Audubon Settlement Agreement

A lawsuit following the establishment of the Reserve resulted in the Settlement and General Release Agreement (Audubon Settlement Agreement, Audubon 2002) between the San Bernardino Valley Audubon Society (Audubon), MWD, CDFW, and RCHCA which resulted in the settlement and release of claims Audubon had against MWD. This agreement also provided for conditional public access to the LMR.

Lake Mathews Reserve Conservation Easement Grant

On June 21, 2005, MWD granted a conservation easement, Lake Mathews Reserve Conservation Easement Grant, to the RCHCA, to ensure that the area covered by the easement will be retained as open space in perpetuity. It restricts uses of the property that would significantly impair or interfere with the property's conservation values and authorizes the credit for 1,269.3 acres of occupied SKR habitat toward the RCHCA's obligations under the SKR HCP.

RCRCD Long-Range Objectives 2016-2021

The Long-Range Objectives 2016-2021 is a long-term action plan prepared by RCRCD that defines objectives used by RCRCD to plan future projects, programming, and district operations, and assess resource management and outreach needs (RCRCD 2016). The RCRCD is a non-regulatory local agency (special district) that works to permanently protect land that has habitat, scenic, and/or agricultural values through preservation (donations of land and conservation easements), restoration, and management.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

In November of 2014, the Riverside County Airport Land Use Commission adopted the *March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan* (ALUCP), which provides detail for land use compatibility planning around the March Air Reserve Base/Inland Port Airport (Riverside County Airport Land Use Commission 2014).

3.1.2.2 Environmental Consequences

Table 3.1-7 analyzes the consistency of the proposed project and the No-Build Alternative with the relevant plans and programs. As detailed in Table 3.1-7, Build Alternatives 1, 2C, and 4 would conflict with the current LM MSHCP. Because the LM MSHCP does not currently accommodate the transportation improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Changes in the LM MSHCP as well as changes to the lands managed by the LM MSHCP would be addressed by mitigation coordinated with MWD and other responsible agencies. Build Alternatives 1, 2C, and 4 are not anticipated to conflict with the goals or policies of any other relevant plans and programs.

Consistency with each plan is discussed in more detail in the sections following Table 3.1-7.

Table 3.1-7. Consistency with State, Regional, and Local Plans and Programs

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
SCAG RTP/SCS 2020–2045			
Funded Project Description	**Consistent.** Build Alternative 1 would be consistent with the funded project description; Build Alternative 2C would be mostly consistent.	**Inconsistent.** Build Alternative 4 would not be consistent with the funded project description.	**Inconsistent.** The No-Build Alternative would not be consistent with the funded project description.
Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods	**Consistent**. Build Alternatives 1 and 2C would include design improvements that would enhance safety as well as increase the capacity of Cajalco Road and its ability to accommodate traffic.	**Consistent.** Build Alternative 4 would include design improvements that would enhance safety as well as increase the capacity of segments of Cajalco Road, El Sobrante Road, and La Sierra Avenue and their ability to accommodate traffic.	**Inconsistent**. No improvements would be made that would support mobility, accessibility, or travel safety.
Goal 3: Enhance the preservation, security, and resilience of the regional transportation system	**Consistent**. Build Alternatives 1 and 2C would retain most segments of existing Cajalco Road and improve the facility as a component of the existing regional transportation system.	**Consistent.** Build Alternative 4 would retain most segments of existing Cajalco Road, El Sobrante Road, and La Sierra Avenue and would improve segments of the facilities as components of the existing regional transportation system.	**Consistent**. Existing transportation facilities would remain and future improvements would not be precluded.
Goal 4: Increase person and goods movement and travel choices within the transportation system	**Consistent**. Build Alternatives 1 and 2C would increase the capacity of Cajalco Road, better accommodate goods movement, and support choices in transportation such as bus and train by improving a connecting facility and local bus stops.	**Consistent.** Build Alternative 4 would increase the capacity of segments of Cajalco Road, El Sobrante Road, and La Sierra Avenue; better accommodate goods movement; and support choices in transportation such as bus and train by improving a connecting facility and local bus stops.	**Inconsistent**. No transportation improvements would be made that would support productivity of the transportation system.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
County of Riverside General Plan			
C 1.1: Design the transportation system to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the Circulation Plan, Figure C-1.	**Consistent**. Build Alternatives 1 and 2C would increase the capacity of Cajalco Road, responding to transportation needs of population and employment activities. The roadway right of way would vary between 85 and 230 feet, and the Circulation Element classifies Cajalco Road as an Expressway with minimum right of way widths of 184 to 230 feet. The build alternatives would not preclude the construction of future transportation facilities identified in the Circulation Plan.	**Consistent**. Build Alternative 4 would increase the capacity of segments of Cajalco Road, El Sobrante Road, and La Sierra Avenue, responding to transportation needs of population and employment activities. The roadway right of way would vary between 120 and 150 feet and the Circulation Element classifies La Sierra Avenue and El Sobrante Road as Mountain Arterial (110-foot right of way) and Arterial (128-foot right of way), respectively. Build Alternative 4 would not preclude the construction of future transportation facilities identified in the Circulation Plan.	**Inconsistent**. No improvements would be made that would respond to concentrations of population and employment activities.
C 1.3: Support the development of transit connections between Riverside County and regional activity centers in other counties as well as transit connections that link the community centers located throughout the county and as identified in the Land Use Element and in the individual Area Plans.	**Consistent**. Build Alternatives 1 and 2C would expand the existing network and provide for the development of alternative travel modes, including additional bus turnouts for bus routes.	**Consistent**. Build Alternative 4 would expand the existing network and provide for the development of alternative travel modes, including additional bus turnouts for bus routes.	**Inconsistent**. No transportation improvements would be made that would support the development of transit connections in the area.
C 1.4: Utilize existing infrastructure and utilities to the maximum extent practicable and provide for the logical, timely, and economically efficient extension of infrastructure and services.	**Consistent**. Build Alternatives 1 and 2C would primarily use existing roadways in order to improve efficiency.	**Consistent**. Build Alternative 4 would partially use existing roadways in order to improve efficiency.	**Inconsistent**. Would not utilize existing infrastructure and utilities to the maximum extent practicable.
C 1.5: Evaluate the planned circulation system as needed to enhance the arterial highway network to respond to anticipated growth and mobility needs.	**Consistent**. Build Alternatives 1 and 2C would enhance the arterial highway network and respond to anticipated growth and mobility needs.	**Consistent**. Build Alternative 4 would enhance the arterial highway network and respond to anticipated growth and mobility needs.	**Inconsistent**. No transportation improvements would be made that would respond to anticipated growth and mobility needs.
C 1.6: Cooperate with and where appropriate lead local, regional, state, and federal agencies to establish an efficient circulation system.	**Consistent**. The County is coordinating with multiple agencies and jurisdictions to improve mobility, transportation, and traffic congestion.	**Consistent**. The County is coordinating with multiple agencies and jurisdictions to improve mobility, transportation, and traffic congestion.	**Inconsistent**. No transportation improvements would be made in support of establishing an efficient circulation system.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 3.1: Design, construct, and maintain Riverside County roadways as specified in the Riverside County Road Improvement Standards and Specifications. The standards shown in Figure C-4 may be modified by Specific Plans, Community Guidelines, or as approved by the Director of Transportation if alternative roadway standards are desirable to improve sustainability for the area.	**Consistent**. Build Alternatives 1 and 2C would design, construct, and maintain Riverside County roadways as specified in the Riverside County Road Improvement Standards and Specifications.	**Consistent**. Build Alternative 4 would design, construct, and maintain Riverside County roadways as specified in the Riverside County Road Improvement Standards and Specifications.	**Consistent**. Would maintain Riverside County roadways as specified in the Riverside County Road Improvement Standards and Specifications.
C 3.2: Maintain the existing transportation network, while providing for future expansion and improvement based on travel demand, and the development of alternative travel modes.	**Consistent**. Build Alternatives 1 and 2C would expand the existing network and provide for the development of alternative travel modes, including additional bus turnouts for bus routes.	**Consistent**. Build Alternative 4 would expand the existing network and provide for the development of alternative travel modes, including additional bus turnouts for bus routes.	**Inconsistent**. No improvements would be made and congestion would continue to worsen, impeding mobility and accessibility for people and goods in the region.
C 3.3: Implement design guidelines that identify intersection improvements consistent with the lane geometrics in Table C-2 unless additional lanes are needed to maintain consistency with Policy C 2.2. Where roadway classifications change on a continuous alignment, the standards of the higher classification will normally be transitioned on a portion of the roadway that has the lower classification, particularly where the change takes place at roadway intersections. This may result in additional right of way or lanes being required above the standards shown in Figure C-4 for the segment with the lower classification to accommodate the transition.	**Consistent**. Build Alternatives 1 and 2C would implement design guidelines for intersections consistent with lane geometrics in Table C-2.	**Consistent**. Build Alternative 4 would implement design guidelines for intersections consistent with lane geometrics in Table C-2.	**Consistent**. No improvements would be made or design guidelines implemented.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 3.12: Improve highways serving as arterials through mountainous and rural areas to adequately meet travel demands and safety requirements while minimizing the need for excessive cut and fill.	**Consistent.** Build Alternatives 1 and 2C would implement design guidelines that utilize existing alignments where appropriate to adequately meet travel demands and safety requirements while minimizing the need for excess cut and fill.	**Consistent:** Build Alternative 4 would implement design guidelines that utilize existing alignments where appropriate to adequately meet travel demands and safety requirements while minimizing the need for excess cut and fill.	**Inconsistent**: No transportation improvements would be made to highways serving as arterials through mountainous and rural areas.
C 3.13: Design street intersections, where appropriate, to assure the safe, efficient passage of through-traffic and the negotiation of turning movements.	**Consistent**. Build Alternatives 1 and 2C would design street intersections to ensure safe, efficient passage of through-traffic and the negotiation of turning movements.	**Consistent**. Build Alternative 4 would design street intersections to ensure safe, efficient passage of through-traffic and the negotiation of turning movements.	**Inconsistent**. No new street intersections would be designed and any existing unsafe intersections would remain.
C 3.14: Design curves and grades to permit safe movement of vehicular traffic at the road's design speed. Design speed should be consistent with and complement the character of the adjacent area.	**Consistent**. Build Alternatives 1 and 2C would design curves and grades to permit safe movement of vehicular traffic at the road's design speed.	**Consistent**. Build Alternative 4 would design curves and grades to permit safe movement of vehicular traffic at the road's design speed.	**Inconsistent**. No new curves would be designed and any existing unsafe curves would remain.
C 3.15: Provide adequate sight distances for safe vehicular movement at a road's design speed and at all intersections.	**Consistent**. Build Alternatives 1 and 2C would provide adequate sight distances for safe vehicular movement at a road's design speed and at all intersections.	**Consistent**. Build Alternative 4 would provide adequate sight distances for safe vehicular movement at a road's design speed and at all intersections.	**Inconsistent**. No changes to sight distance would be made and any existing unsafe sight distances would remain.
C 3.17: Ensure dedications are made, where necessary, for additional rights-of-way or easements outside the road rights-of-way that are needed to establish slope stability, or drainage and related structures. These dedications shall be made by land dividers or developers to the responsible agency during the land division and land use review process.	**Consistent**. Build Alternatives 1 and 2C would ensure dedications are made for additional rights of way or easements.	**Consistent**. Build Alternative 4 would ensure dedications are made for additional rights of way or easements.	**Not Applicable**. No dedications would be required because no improvements would be made.
C 3.18: Align right-of-way dedications with existing dedications along adjacent parcels and maintain widths consistent with the ultimate design standard of the road, including required turning lanes.	**Consistent**. Build Alternatives 1 and 2C would align right of way dedications with existing dedications along adjacent parcels and maintain widths consistent with the ultimate design standard of the road.	**Consistent**. Build Alternative 4 would align right of way dedications with existing dedications along adjacent parcels and maintain widths consistent with the ultimate design standard of the road.	**Not Applicable**. No dedications would be required because no improvements would be made.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 3.20: Determine location of General Plan road rights of way and levels of road improvements needed based primarily upon land uses and travel demand.	**Consistent**. The alignment and level of improvements for Build Alternatives 1 and 2C were developed based upon land uses and travel demand.	**Consistent**. The alignment and level of improvements for Build Alternative 4 were developed based upon land uses and travel demand.	**Inconsistent**. No improvements would be made, which does not take into account land uses and travel demand.
C 3.24: Provide a street network with quick and efficient routes for emergency vehicles, meeting necessary street widths, turn-around radius, secondary access, and other factors as determined by the Transportation Department in consultation with the Fire Department and other emergency service providers.	**Consistent**. Build Alternatives 1 and 2C would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to emergency service providers to ensure adequate service. During operations, conditions for emergency vehicles would improve due to additional lanes at standard widths.	**Consistent**. Build Alternative 4 would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to emergency service providers to ensure adequate service. During operations, conditions for emergency vehicles would improve due to additional lanes at standard widths.	**Inconsistent**. No improvements would be made and congestion would continue to worsen, impeding emergency routes.
C 3.28: Reduce transportation noise through proper roadway design and coordination of truck and vehicle routing.	**Inconsistent**. Build Alternatives 1 and 2C would be constructed in accordance with roadway design requirements; however, the alternatives would result in some increases in noise levels at sensitive receptors due to additional traffic lanes.	**Inconsistent**. Build Alternative 4 would be constructed in accordance with roadway design requirements; however, the alternative would result in some increases in noise levels at sensitive receptors due to additional traffic lanes.	**Inconsistent**. No improvements would be made and existing noise levels would remain.
C 3.29: Include noise mitigation measures in the design of new roadway projects in the County of Riverside.	**Consistent**. Build Alternatives 1 and 2C include noise mitigation measures.	**Consistent**. Build Alternative 4 includes noise mitigation measures.	**Not Applicable**. Noise mitigation measures would not be required for the No-Build Alternative.
C 3.30: Design roadways to accommodate wildlife crossings whenever feasible and necessary.	**Consistent**. Build Alternatives 1 and 2C include wildlife crossings in the design.	**Consistent**. Build Alternative 4 includes wildlife crossings in the design.	**Inconsistent**. No wildlife crossings are included for the No-Build Alternative.
C 4.4: Plan for pedestrian access that is consistent with road design standards while designing street and road projects. Provisions for pedestrian paths or sidewalks and timing of traffic signals to allow safe pedestrian street crossing shall be included.	**Consistent**. Build Alternatives 1 and 2C include pedestrian access and facilities and changes to signal timing to allow safe pedestrian crossings.	**Consistent**. Build Alternative 4 includes pedestrian access and facilities and changes to signal timing to allow safe pedestrian crossings.	**Inconsistent**. No pedestrian facilities or improvements are included for the No-Build Alternative.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 4.9: Review all existing roadways without pedestrian facilities when they are considered for improvements to determine if new pedestrian facilities are warranted. New roadways should also be assessed for pedestrian facilities.	**Consistent**. Build Alternatives 1 and 2C evaluated if pedestrian facilities should be added where there are none now, and added them if warranted.	**Consistent**. Build Alternative 4 evaluated if pedestrian facilities should be added where there are none now, and added them if warranted.	**Inconsistent**. No pedestrian facilities or improvements would be included.
C 6.1: Provide dedicated and recorded public access to all parcels of land, except as provided for under the statutes of the State of California.	**Consistent**. Build Alternatives 1 and 2C would ensure access to all parcels is maintained.	**Consistent**. Build Alternative 4 would ensure access to all parcels is maintained.	**Not Applicable**. No changes to access would occur.
C 6.3: Limit access points and intersections of streets and highways based upon the road's General Plan classification and function. Require that access points be located so that they comply with Riverside County's minimum intersection spacing standards. Under special circumstances the Transportation Department may consider exceptions to this requirement.	**Consistent**. Build Alternatives 1 and 2C would limit direct access along Cajalco Road but would ensure access to all parcels is maintained while meeting the County's minimum design standards.	**Consistent**. Build Alternative 4 would limit direct access along segments of Cajalco Road, La Sierra Avenue, and El Sobrante Road, but would ensure access to all parcels is maintained while meeting the County's minimum design standards.	**Inconsistent**. No changes to access would occur, resulting in no limitations on access points.
C 6.4: Discourage parcel access points taken directly off General Plan designated highways. Access may be permitted off of General Plan designated highways only if no local streets are present.	**Consistent**. Build Alternatives 1 and 2C would limit direct access along Cajalco Road but would ensure access to all parcels is maintained.	**Consistent**. Build Alternative 4 would limit direct access along segments of Cajalco Road, La Sierra Avenue, and El Sobrante Road, but would ensure access to all parcels is maintained.	**Not Applicable**. No changes to access would occur, resulting in no limitations on access points.
C 6.5: Provide common access via shared driveways and/or reciprocal access easements whenever access must be taken directly off a General Plan designated highway. Parcels on opposite sides of a highway shall have access points located directly opposite each other, whenever possible, to allow for future street intersections and increased safety.	**Consistent**. Both build alternatives would limit direct access along Cajalco Road but would ensure access to all parcels is maintained.	**Consistent**. Build Alternative 4 would limit direct access along segments of Cajalco Road, La Sierra Avenue, and El Sobrante Road, but would ensure access to all parcels is maintained.	**Inconsistent**. No changes to access would occur, resulting in no limitations on access points.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 11.3: Design the physical layout of arterial and collector highways to facilitate bus operations. Locations of bus turn outs and other design features should be considered.	**Consistent**. Build Alternatives 1 and 2C have been designed to facilitate bus operations and include additional bus turnouts for bus routes.	**Consistent**. Build Alternative 4 was designed to facilitate bus operations and include additional bus turnouts for bus routes.	**Inconsistent**. No improvements for bus operations would be made.
C 20.1: Ensure preservation of trees identified as superior examples of native vegetation within road rights-of-way through development proposals review process. Where the County of Riverside deems preservation to be infeasible, relocation and/or replacement shall be evaluated by a qualified arborist to ensure that impacts are mitigated.	**Consistent**. Neither build alternative would affect trees identified as superior examples of native vegetation within road rights of way.	**Consistent**. Build Alternative 4 would not affect trees identified as superior examples of native vegetation within road rights of way.	**Consistent**. The No-Build Alternative would not affect trees identified as superior examples of native vegetation within road rights of way.
C 20.2: Provide all roadways located within identified flood areas with adequate flood control measures.	**Consistent**. Build Alternatives 1 and 2C would provide larger openings to more efficiently convey flows at Temescal and Cajalco Creeks, which is expected to result in lowering of the upstream water surface and improvement of flood areas.	**Consistent**. Build Alternative 4 would provide larger openings to more efficiently convey flows at Temescal and Cajalco Creeks, which is expected to result in lowering of the upstream water surface and improvement of flood areas.	**Inconsistent**. No improvements at Temescal and Cajalco Creeks would be made, which would not improve flood areas.
C 20.3: Locate roadways outside identified flood plains whenever possible.	**Consistent**. Build Alternatives 1 and 2C would encroach into the floodplain, but it would not be a significant encroachment. Both build alternatives would provide larger openings to more efficiently convey flows at Temescal and Cajalco Creeks, which is expected to result in lowering of the upstream water surface and improvement of flood areas.	**Consistent**. Build Alternative 4 would encroach into the floodplain, but it would not be a significant encroachment. Build Alternative 4 would provide larger openings to more efficiently convey flows at Temescal and Cajalco Creeks, which is expected to result in lowering of the upstream water surface and improvement of flood areas.	**Consistent**. No improvements would occur within floodplains.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 20.4: New crossings of watercourses by local roads shall occur at the minimum frequency necessary to provide for adequate neighborhood and community circulation and fire protection. Wherever feasible, new crossings shall occur using bridging systems that pass over entire watercourses and associated floodplains and riparian vegetation in single spans Dip or culvert crossings shall be avoided, but, where their use is unavoidable, they shall be designed to minimize impacts on watercourses.	**Consistent**. Build Alternatives 1 and 2C would implement designs that minimize impacts on watercourses and improve circulation for the community and emergency services.	**Consistent**. Build Alternative 4 would implement designs that minimize impacts on watercourses and improve circulation for the community and emergency services.	**Consistent**. No improvements would occur within watercourses; therefore, no impacts on neighborhood and community circulation would occur.
C 20.5: In order to protect the watershed, water supply, groundwater recharge, and wildlife values of watercourses, the County of Riverside will avoid siting utility infrastructure and associated grading, fire clearance, and other disturbances within or adjacent to watercourses, if there are feasible alternatives available, and discourage special districts and other governmental jurisdictions outside of Riverside County's authority, from doing so. Where such watershed utility siting locations cannot be avoided, the impacts on watercourses shall be minimized.	**Consistent**. Build Alternatives 1 and 2C would implement designs that minimize impacts on watercourses.	**Consistent**. Build Alternative 4 would implement designs that minimize impacts on watercourses.	**Consistent**. No improvements would occur within watercourses; therefore, no new impacts would occur.
C 20.6: Control dust and mitigate other environmental impacts during all stages of roadway Construction.	**Consistent**. Build Alternatives 1 and 2C would implement best management practices to control dust and mitigate environmental impacts during roadway construction.	**Consistent**. Build Alternative 4 would implement best management practices to control dust and mitigate environmental impacts during roadway construction.	**Consistent**. No improvements would occur therefore no mitigation for dust and environmental impacts would be necessary.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 20.8: Protect Riverside County residents from transportation generated noise hazards. Increased setbacks, walls, landscaped berms, other sound absorbing barriers, or a combination thereof shall be provided along freeways, expressways, and four-lane highways in order to protect adjacent noise-sensitive land uses from traffic-generated noise impacts. Additionally, noise generators such as commercial, manufacturing, and/or industrial activities shall use these techniques to mitigate exterior noise levels to no more than 60 decibels.	**Consistent**. Build Alternatives 1 and 2C would implement designs to mitigate transportation noise impacts on adjacent noise-sensitive land uses.	**Consistent**. Build Alternative 4 would implement designs to mitigate transportation noise impacts on adjacent noise-sensitive land uses.	**Consistent**. No improvements would occur; therefore, noise mitigation measures would not be necessary.
C 20.10: Avoid, where practicable, disturbance of existing communities and biotic resource areas when identifying alignments for new roadways, or for improvements to existing roadways and other transportation system improvements.	**Consistent**. Build Alternatives 1 and 2C would avoid, where practical, disturbance to communities and biotic resources areas.	**Consistent**. Build Alternative 4 would avoid, where practical disturbance, to communities and biotic resources areas.	**Consistent:** No improvements would occur; therefore, existing communities and biotic resources areas would not be affected.
C 20.11: Implement the Circulation Plan in a manner consistent with federal, state, and local environmental quality standards and regulations.	**Consistent**. Build Alternatives 1 and 2C would be consistent with the circulation plan and adhere to federal, state, and local environmental standards and regulations.	**Consistent**. Build Alternative 4 would be implemented to be consistent with the circulation plan and adhere to federal, state, and local environmental standards and regulations.	**Inconsistent**. The No-Build Alternative would not improve circulation and existing safety concerns.
C 20.14: Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit into the design to encourage use of alternative transportation.	**Consistent**. Build Alternative 4 would incorporates bus transit into the design to encourage use of alternative transportation.	**Inconsistent**. The No-Build Alternative does not encourage alternative transportation use.
C 20.15: Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting the groundwater supply	**Consistent**. Build Alternatives 1 and 2C would implement best management practices to mitigate environmental impacts during roadway construction.	**Consistent**. Build Alternative 4 would implement best management practices to mitigate environmental impacts during roadway construction	**Consistent**. No improvements would occur; therefore, no mitigation for dust and environmental impacts would be necessary.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 21.4: Construct and improve traffic signals at appropriate intersections. Whenever possible, traffic signals should be spaced and operated as part of coordinated systems to optimize traffic operation and reduce congestion.	**Consistent**. Build Alternatives 1 and 2C would include placement and signaling synchronization to optimize and reduce congestion.	**Consistent**. Build Alternative 4 would include placement and signaling synchronization to optimize and reduce congestion.	**Inconsistent**. No improvements would be made; therefore, spacing and signal optimization would not assist in reducing congestion.
C 23.1: Implement street and highway projects to provide safe, sustainable, and economical goods movement in areas where large concentrations of truck traffic exist or are anticipated to exist.	**Consistent**. Build Alternatives 1 and 2C would improve existing transportation infrastructure and improve and facilitate goods movement throughout the area.	**Consistent**. Build Alternative 4 would improve existing transportation infrastructure and improve and facilitate goods movement throughout the area.	**Inconsistent**. No improvements would be made, impeding mobility, accessibility, and economic development in the region.
C 23.2: Implement roadway standards, where practicable, to accommodate large trucks where extensive truck travel involving regional movement of bulk goods is anticipated.	**Consistent**. Build Alternatives 1 and 2C would implement established roadway standards to facilitate regional movement of bulk goods through the region.	**Consistent**. Build Alternative 4 would implement established roadway standards to facilitate regional movement of bulk goods through the region.	**Inconsistent**. No improvements would be made, impeding mobility, accessibility, and economic development in the region.
LU 1.5: The County of Riverside shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, watershed and habitat management with cities, local and regional agencies, stakeholders, Indian nations, and surrounding jurisdictions.	**Consistent**. Riverside County is actively participating in regional efforts to improve mobility, transportation, traffic congestion, and economic development.	**Consistent**. Riverside County is actively participating in regional efforts to improve mobility, transportation, traffic congestion, and economic development.	**Inconsistent**. No improvements would be made and congestion would continue to worsen, impeding mobility, accessibility, and economic development in the region.
LU 14.1 Preserve and protect outstanding scenic vistas and visual features for the enjoyment of the traveling public.	**Consistent**. As described in the Visual Impact Assessment prepared for the project, both build alternatives would add some obstructive components, such as bridges, but they would not obstruct scenic vistas or other visual features for the enjoyment of the traveling public (Caltrans 2018b).	**Consistent**. As described in the Visual Impact Assessment prepared for the project, Build Alternative 4 would add some obstructive components, such as bridges, but would not significantly obstruct scenic vistas or other visual features for the enjoyment of the traveling public (Caltrans 2018b).	**Consistent**. Scenic views or visual features would not be altered because no improvements would be made.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
LU 15.2: Proposed project shall be consistent with applicable Airport Land Use Compatibility Plan.	**Consistent:** Changes to the roadway alignment for both build alternatives would not affect the Airport Land Use Compatibility Plan, as the alignment would be consistent with approved land use within the March Air Reserve Base/Inland Port ALUCP Zone D (Flight Corridor Buffer).	**Consistent:** Changes to the roadway alignment would have no impact, as the alignment would be consistent with approved land use within the March Air Reserve Base/Inland Port ALUCP Zone D (Flight Corridor Buffer).	**Consistent.** No improvements would be made; therefore, there would be no impacts on the March Air Reserve Base/Inland Port ALUCP Zone D (Flight Corridor Buffer).
Temescal Canyon Area Plan			
TCAP 11.1 Design and develop the vehicular roadway system per Figure 7, Circulation, and in accordance with the functional classifications and standards specified in the Circulation Element.	**Consistent**. Build Alternatives 1 and 2C would increase the capacity of Cajalco Road and would not preclude future construction of a six-lane roadway within this area plan, which would be consistent with Figure 7 and the functional classifications and standards specified.	**Consistent**. Build Alternative 4 would increase the capacity of sections of Cajalco Road and would not preclude future construction of a six-lane roadway within this area plan, which would be consistent with Figure 7 and the functional classifications and standards specified.	**Inconsistent**. No improvements would be made and the vehicular roadway system would not be developed in accordance with Figure 7.
TCAP 11.2 Maintain Riverside County's roadway Level of Service standards as described in the Circulation Element.	**Consistent**. Build Alternatives 1 and 2C would increase the capacity of Cajalco Road and decrease LOS for certain roadway segments and intersections.	**Consistent**. Build Alternative 4 would increase the capacity of sections of Cajalco Road. It would increase the capacity of El Sobrante Road and La Sierra Avenue and would decrease LOS for certain roadway segments and intersections.	**Inconsistent**. No transportation improvements would be made and LOS would worsen.
Lake Mathews/Woodcrest Area Plan			
LMWAP 5.1 Adhere to the Riverside County Right-To-Farm Ordinance and any subsequent ordinance assuring the ability of farmers to continue with long-established agricultural activities throughout the Lake Mathews/Woodcrest area.	**Consistent**. Build Alternative 1 would affect 7.69 acres and Build Alternative 2C would affect 7.85 acres of FMMP Important Farmland. There is also the potential for temporary, limited interference with some farm activities during construction.	**Consistent.** Build Alternative 4 would affect 23.44 acres of FMMP Important Farmland. There is also the potential for temporary, limited interference with some farm activities during construction.	**Consistent**. Under the No-Build Alternative, no improvements would be made and no farmland or agricultural activities would be affected.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
Mead Valley Area Plan			
MVAP 9.1 Design and develop the vehicular roadway system per Figure 8, Circulation, and in accordance with the Functional Classifications section in the General Plan Circulation Element.	**Consistent**. Build Alternatives 1 and 2C would increase the capacity of Cajalco Road, which would be mostly consistent with the planned transportation facilities in the Circulation Plan and would not preclude future facilities that would be consistent.	**Consistent**. Build Alternative 4 would increase the capacity of sections of Cajalco Road; and it would increase the capacity of El Sobrante Road and La Sierra Avenue. While the current design of the build alternatives would not be consistent with Figure 8 and the functional classifications and standards specified, which specifies Cajalco Road as a 220-foot-wide expressway, Build Alternative 4 would not preclude implementation of this facility in the future.	**Inconsistent**. No improvements would be made and the vehicular roadway system would not be developed in support of the classifications identified in Figure 8.
MVAP 9.2 Maintain Riverside County's roadway Level of Service standards as described in the Level of Service section of the General Plan Circulation Element.	**Generally Consistent**. Both build alternatives would increase the capacity of Cajalco Road and decrease LOS for certain roadway segments and intersections.	**Generally Consistent**. Build Alternative 4 would increase the capacity of portions of Cajalco Road. It would increase the capacity of El Sobrante Road and La Sierra Avenue and would decrease LOS for certain roadway segments and intersections.	**Inconsistent**. No transportation improvements would be made and LOS would worsen.
County of Riverside Climate Action Plan – Policies Supporting Greenhouse Gas Emissions Reduction			
Energy Efficiency in Buildings			
AQ 4.1: Require the use of all feasible building materials/methods which reduce emissions.	**Consistent**. Build Alternatives 1 and 2C would be constructed using materials and methods that comply with all relevant County of Riverside Uniform Building Code (UBC) requirements.	**Consistent**. Build Alternative 4 would be constructed using materials and methods that comply with all relevant County of Riverside UBC requirements.	**Consistent**. No construction would occur that would require the use of building materials or methods.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
AQ 4.6: Require stationary air pollution sources to comply with applicable air district rules and control measures.	**Consistent**. The project would conform to Caltrans construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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.	**Consistent**. The project would conform to Caltrans construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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.	**Consistent**. No stationary air pollution sources would be used for construction.
AQ 4.7: To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SCAB, the Environmental Protection Agency and the California Air Resources Board.	**Consistent**. Build Alternatives 1 and 2C would include measures to mitigate anticipated emissions, including: • Maintenance and operation of construction equipment so as to minimize exhaust emissions. • All on-road and off-road equipment shall comply with California Air Resources Board (ARB) commercial vehicle idle regulations. California Code of Regulations Title 13, Section 2449(d)(3). • Use electricity from power poles, rather than temporary diesel- or gasoline-powered generators if or where feasible. • Mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible. • Solar-powered signal boards. • Construction traffic management plan that includes: (1) consolidating truck deliveries; (2) rideshare or shuttle service for construction workers; and (3) dedicated turn lanes for movement of construction	**Consistent**. Build Alternative 4 would include measures to mitigate anticipated emissions; including: • Maintenance and operation of construction equipment so as to minimize exhaust emissions. • All on-road and off-road equipment shall comply with California ARB commercial vehicle idle regulations. California Code of Regulations Title 13, Section 2449(d)(3). • Use electricity from power poles, rather than temporary diesel- or gasoline-powered generators if or where feasible. • Mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible. • Solar-powered signal boards. • Construction traffic management plan that includes: (1) consolidating truck deliveries; (2) rideshare or shuttle service for construction workers; and (3) dedicated turn lanes for	**Consistent**. No emissions sources would be used for construction.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
	trucks and equipment on and off site.	movement of construction trucks and equipment on and off site.	
OS 16.3: Implement public transportation systems that utilize alternative fuels when possible, as well as associated urban design measures that support alternatives to private automobile use.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Consistent**. Build Alternative 4 would incorporate bus transit i and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Inconsistent**. The No-Build Alternative would not encourage alternative transportation use.
OS 16.4: Undertake proper maintenance of County physical facilities to ensure that optimum energy conservation is achieved.	**Consistent**. Build Alternatives 1 and 2C would include routine and non-routine County maintenance performed in compliance with all relevant County requirements.	**Consistent**. Build Alternative 4 would include routine and non-routine County maintenance performed in compliance with all relevant County requirements.	**Consistent**. The No-Build Alternative would include routine and non-routine County maintenance performed in compliance with all relevant County requirements.
OS 16.8: Promote coordination of new public facilities with mass transit service and other alternative transportation services, including bicycles, and design structures to enhance mass transit, bicycle, and pedestrian use.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Consistent**. Build Alternative 4 would incorporate bus transit i and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Inconsistent**. The No-Build Alternative would not encourage alternative transportation use.
Regional Agency Coordination/ Education and Outreach			
LU 1.5: The County of Riverside shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, watershed and habitat management with cities, local and regional agencies, stakeholders, Indian nations, and sur-rounding jurisdictions.	**Consistent**. The County is coordinating with multiple agencies and jurisdictions to improve mobility, transportation, and traffic congestion.	**Consistent**. The County is coordinating with multiple agencies and jurisdictions to improve mobility, transportation, and traffic congestion.	**Inconsistent**. No transportation improvements would be made in support of establishing an efficient circulation system.
Water Conservation			
AQ 20.14: Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance 859 and increase use of non-potable water.	**Consistent**. Build Alternatives 1 and 2C would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Consistent**. Build Alternative 4 would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Inconsistent**. The No-Build Alternative would not include changes that would reduce the amount of water used for landscaping irrigation or increase use of non-potable water.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
C 5.2: Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping.	**Consistent**. Build Alternatives 1 and 2C would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Consistent**. Build Alternative 4 would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Inconsistent**. The No-Build Alternative would not encourage the use of drought-tolerant native plants or recycled water for roadway landscaping.
Reduce Automobile Use			
AQ 20.3: Reduce VMT and GHG emissions by improving circulation network efficiency.	**Inconsistent**. While Build Alternatives 1 and 2C would improve circulation network efficiency, slight increases in vehicle miles traveled (VMT) and GHG would be anticipated.	**Inconsistent**. While Build Alternatives 1 and 2C would improve circulation network efficiency, slight increases in VMT and GHG would be anticipated.	**Inconsistent**. No improvements would be made to improve circulation network efficiency.
C 4.1: Provide facilities for the safe movement of pedestrians within developments, as specified in the Riverside County Ordinances Regulating the Division of Land of the County of Riverside.	**Consistent**. Build Alternatives 1 and 2C incorporate sidewalks into the design where feasible for the safe movement of pedestrians.	**Consistent**. Build Alternative 4 incorporates sidewalks into the design where feasible for the safe movement of pedestrians.	**Inconsistent**. The No-Build Alternative does not include the addition of sidewalks.
C 4.9: Review all existing roadways without pedestrian facilities when they are considered for improvements to determine if new pedestrian facilities are warranted. New roadways should also be assessed for pedestrian facilities.	**Consistent**. Build Alternatives 1 and 2C incorporate sidewalks into the design where feasible for the safe movement of pedestrians.	**Consistent**. Build Alternative 4 incorporates sidewalks into the design where feasible for the safe movement of pedestrians.	**Inconsistent**. The No-Build Alternative does not include the addition of sidewalks.
C 5.2: Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping.	**Consistent**. Build Alternatives 1 and 2C would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Consistent**. Build Alternative 4 would include the use of drought-resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.	**Inconsistent**. The No-Build Alternative would not encourage the use of drought-tolerant native plants or recycled water for roadway landscaping.
LU 2.1: Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Map (Figure LU-1) and the Area Plan Land Use Maps.	**Consistent**. Build Alternatives 1 and 2C would accommodate planned land use developments with the provision of improved roadway, transit, and pedestrian facilities.	**Consistent**. Build Alternative 4 would accommodate planned land use developments with the provision of improved roadway, transit, and pedestrian facilities.	**Inconsistent**. No improvements would be made that would accommodate planned land use developments.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
LU 11.4: Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit bus stops, sidewalks, and roadway shoulders for bicycle use, into the design.	**Consistent**. Build Alternative 4 would incorporate bus transit bus stops, sidewalks, and roadway shoulders for bicycle use, into the design.	**Inconsistent**. The No-Build Alternative would not options to automobile use.
OS 16.3: Implement public transportation systems that utilize alternative fuels when possible, as well as associated urban design measures that support alternatives to private automobile use.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Consistent**. Build Alternative 4 would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Inconsistent**. The No-Build Alternative does not encourage alternative transportation use.
OS 16.8: Promote coordination of new public facilities with mass transit service and other alternative transportation services, including bicycles, and design structures to enhance mass transit, bicycle, and pedestrian use.	**Consistent**. Build Alternatives 1 and 2C would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Consistent**. Build Alternative 4 would incorporate bus transit and sidewalks, and roadway shoulders for bicycle use, into the design to encourage use of alternative transportation.	**Inconsistent**. The No-Build Alternative does not encourage alternative transportation use.
Renewable Energy/Alternative Fuel			
AQ 13.2: Cooperate with local, regional, state, and federal jurisdictions to better manage transportation facilities and fleets.	**Consistent**. Through Build Alternatives 1 and 2C, the County is coordinating with multiple agencies and jurisdictions to better manage transportation facilities.	**Consistent**. Through Build Alternative 4, the County is coordinating with multiple agencies and jurisdictions to better manage transportation facilities.	**Inconsistent**. No transportation improvements would be made in support of improved management of transportation facilities.
County of Riverside Comprehensive Trails Plan			
Goal: Provide Accessible Trails. The County shall create a trail system that is accessible to all users, whenever feasible, is enhanced for users with different abilities, and promotes a safe system.	**Consistent**. Both build alternatives are traversed by planned Regional and Community Trails as future improvements. The design of the build alternatives does not include these improvements; however, neither of the build alternatives contain any components that would prevent access to any future trails that could be constructed.	**Consistent**. Build Alternative 4 is traversed by planned Regional and Community Trails as future improvements. The design of the build alternative does not include these improvements; however, Build Alternative 4 does not contain any components that would prevent access to any future trails that could be constructed.	**Consistent**. Trail systems would not be altered or access impeded.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
Goal: Simultaneously Develop Land, Transportation, and Trail Improvements. Development in Riverside County will blend development and transportation impacts into the considerations and needs of the Countywide Trail System. The County will identify trail alignments to be incorporated into plans and to market potential return on investment to developers and commercial areas.	**Consistent**. Both build alternatives are traversed by planned Regional and Community Trails as future improvements. The right of way does not include these improvements; however, neither of the build alternatives contain any components that would prevent access to any future trails that could be constructed.	**Consistent**. Build Alternative 4 is traversed by planned Regional and Community Trails as future improvements. The right of way does not include these improvements; however, Build Alternative 4 does not contain any components that would prevent access to any future trails that could be constructed.	**Consistent**. Trail systems would not be altered or access impeded.
City of Corona General Plan			
6.1.3: Provide for safe roadway conditions by adhering to nationally recognized improvement standards and uniform construction and maintenance practices.	**Consistent**. Both build alternatives would adhere to nationally recognized improvement standards and uniform construction and maintenance practices.	**Consistent**. Build Alternative 4 would adhere to nationally recognized improvement standards and uniform construction and maintenance practices.	**Inconsistent**. No transportation improvements would be made that would address roadway safety.
6.1.12: Provide all residential, commercial, and industrial areas with efficient and safe access for emergency vehicles.	**Consistent**. Both build alternatives would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to emergency service providers to ensure adequate service.	**Consistent**. Build Alternative 4 would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to emergency service providers to ensure adequate service.	**Inconsistent**. No transportation improvements would be made that would support efficient and safe access for emergency vehicles.
6.2.3: Coordinate impacts of new roadway connections with adjacent cities and Riverside County to ensure consistency in design and operations of the new facilities and connections.	**Consistent**. Public meetings, which are open to all, have been held and have allowed for discussion and coordination of impacts of both build alternatives.	**Consistent**. Public meetings, which are open to all, have been held and have allowed for discussion and coordination of impacts of Build Alternative 4.	**Consistent**. No impacts would occur, negating the need for coordination of impacts.
Goal 9.1: Ensure that there is an adequate service level of law enforcement provided for all residents, visitors, and businesses throughout the City of Corona	**Consistent**. Both build alternatives would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to law enforcement to ensure adequate service. The operation of either build alternative would not result in growth; therefore, operation would not prevent an adequate service level of law enforcement.	**Consistent**. Build Alternative 4 would require partial lane closures of Cajalco Road and/or El Sobrante Road and La Sierra Avenue. However, the TMP would provide construction project information to law enforcement to ensure adequate service. The operation of Build Alternative 4 would not result in growth; therefore, operation would not prevent an adequate service level of law enforcement.	**Consistent**. Would not result in growth or other impacts that would adversely affect level of service.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
Goal 9.2: Ensure that there is an adequate service level of fire protection provided for all residents, visitors, and businesses throughout the City of Corona	**Consistent**. Both build alternatives would require partial lane closures of Cajalco Road. However, the TMP would provide construction project information to fire protection providers to ensure adequate service. The operation of either build alternative would not result in growth; therefore, operation would not prevent an adequate service level of fire protection providers.	**Consistent**. Build Alternative 4 would require partial lane closures of Cajalco Road and/or El Sobrante Road and La Sierra Avenue. However, the TMP would provide construction project information to fire protection providers to ensure adequate service. The operation of Build Alternative 4 would not result in growth; therefore, operation would not prevent an adequate service level of fire protection providers.	**Consistent**. Would not result in growth or other impacts that would adversely affect level of service.
City of Perris General Plan			
Goal I: A comprehensive transportation system that will serve projected future travel demand, minimize congestion, achieve the shortest feasible travel times and distances, and address future growth and development in the City.	**Consistent**. Both build alternatives would increase the capacity of Cajalco Road. A limited portion of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this goal.	**Consistent**. Build Alternative 4 would increase the capacity of a portion of Cajalco Road. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this goal.	**Inconsistent**. No improvements would be made and congestion would continue to worsen, impeding mobility and accessibility for people and goods in the region.
Policy I.A: Design and develop the transportation system to respond to concentrations of population and employment activities, as designated by the Land Use Element and in accordance with the designated Transportation System, Exhibit 4.2 Future Roadway Network	**Consistent**. Both build alternatives would increase the capacity of existing roadways. A limited portion of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this policy.	**Consistent**. Build Alternative 4 would increase the capacity of existing roadways. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this policy.	**Inconsistent**. No improvements would be made and congestion would continue to worsen.
Goal II: A well planned, designed, constructed and maintained street and highway system that facilitates the movement of vehicles and provides safe and convenient access to surrounding developments.	**Consistent**. Both build alternatives would increase the capacity of Cajalco Road. A limited portion of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this goal.	**Consistent**. Build Alternative 4 would increase the capacity of a portion of Cajalco Road. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this goal.	**Inconsistent**. No improvements would be made and congestion would continue to worsen.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
Policy II.B: Maintain the existing transportation network while providing for future expansion and improvement based on travel demand, and the development of alternative travel modes.	**Consistent**. Both build alternatives would expand the existing network. A limited portion of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this policy.	**Consistent**. Build Alternative 4 would expand the existing network. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this policy.	**Inconsistent**. No improvements would be made and congestion would continue to worsen.
Policy V.A: Provide for safe movement of goods along the street and highway system.	**Consistent**. Both build alternatives would increase the capacity of existing roadways and their ability to accommodate traffic. A limited of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this policy.	**Consistent**. Build Alternative 4 would increase the capacity of existing roadways and their ability to accommodate traffic. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this policy.	**Inconsistent**. No improvements would be made and congestion would continue to worsen, decreasing safety and reliability for people and goods in the region.
Goal VIII: Enhanced traffic flow, reduced travel delay, reduced reliance on single-occupant vehicles, and improved safety along the City and State roadway system.	**Consistent**. Both build alternatives would increase the capacity of Cajalco Road. A limited portion of the project is adjacent to Perris; the build alternatives would not interfere with, nor impede, implementation of this goal.	**Consistent**. Build Alternative 4 would increase the capacity of a portion of Cajalco Road, which would improve mobility. Because only a very small portion of the project is adjacent to Perris, Build Alternative 4 would not interfere with, nor impede, implementation of this goal.	**Inconsistent**. No improvements would be made and congestion would continue to worsen.
Western Riverside County Multiple Species Habitat Conservation Plan			
7.2.2: Planned Roads Within Existing Public/Quasi-Public Lands Circulation Element Roads: New Circulation Element roads, or improvements to existing Circulation Element roads proposed within existing Public/Quasi-Public Lands include Cajalco Road, Butterfield Stage Road, Anza Road, Bautista Canyon Road, Gilman Springs Road and Roads crossing the Santa Ana River, including a potential new crossing at Schleisman Avenue.	**Generally Consistent**. The proposed roadway widths would be within the allowable right of way limits for the facility; however, related roadway improvements, slope easements, and/or appurtenant facilities are anticipated to extend beyond 128 feet in limited areas. This would require the acquisition of land within Criteria and PQP designated areas. A minor amendment is anticipated to be required to accommodate the additional right of way needed. Mitigation Measure **NC-20 (NES BIO-21)** (Section 3.17, *Natural Communities*) is proposed to compensate for the loss of land and habitat on WRC MSHCP PQP lands.	**Generally Consistent**. The proposed roadway widths would be within the allowable right of way limits for the facility; however, related roadway improvements, slope easements, and/or appurtenant facilities are anticipated to extend beyond 196 feet in limited areas. This would require the acquisition of land within Criteria and PQP designated areas. A minor amendment may be required to accommodate the additional right of way needed. Mitigation Measure **NC-20 (NES BIO-21)** (Section 3.17, *Natural Communities*) is proposed to compensate for the loss of land and habitat on WR MSHCP PQP lands.	**Not Applicable.** Transportation facilities would not be proposed; the No-Build Alternative would not preclude future implementation of Covered Activities. Transportation facilities or wildlife crossings would not be proposed. No construction would occur that would require Standard Best Management Practices.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
	Both build alternatives would include the construction of wildlife crossings consistent with WRC MSHCP Guidelines and include Standard Best Management Practices as outlined in Appendix C of the WRC MSHCP.	Build Alternative 4 would include the construction of wildlife crossings consistent with WRC MSHCP Guidelines and would include Standard Best Management Practices as outlined in Appendix C of the WRC MSHCP.	
7.5.1: Guidelines for the Siting and Design of Planned Roads Within the Criteria Area and Public/Quasi-Public Lands	**Generally Consistent**. The proposed roadway widths would be within the allowable right of way limits for the facility; however, related roadway improvements, slope easements, and/or appurtenant facilities are anticipated to extend beyond 128 feet in limited areas. A minor amendment is anticipated to be required to accommodate the additional right of way needed.	**Generally Consistent**. The proposed roadway widths would be within the allowable right of way limits for the facility; however, related roadway improvements, slope easements, and/or appurtenant facilities are anticipated to extend beyond 196 feet in limited areas.	**Not Applicable.** Transportation facilities would not be proposed; the No-Build Alternative would not preclude future implementation of Covered Activities.
7.5.2: Guidelines for Construction of Wildlife Crossings. Pursuant to Section 6.6.2 E(2) of this document, roads that have the potential to result in impediments to wildlife movement will include both general considerations and specific design guidelines for the construction of wildlife crossings where appropriate	**Consistent**. Both build alternatives would include the construction of wildlife crossings consistent with WRC MSHCP Guidelines.	**Consistent**. Build Alternative 4 would include the construction of wildlife crossings consistent with WRC MSHCP Guidelines.	**Not Applicable.** Transportation facilities or wildlife crossings would not be proposed.
7.5.3: Construction Guidelines and Appendix C – Standard Best Management Practices	**Consistent**. Both build alternatives designs would include Standard Best Management Practices as outlined in Appendix C of the WRC MSHCP.	**Consistent**. Build Alternative 4 design would include Standard Best Management Practices as outlined in Appendix C of the WRC MSHCP.	**Not Applicable**. No construction would occur that would require Standard Best Management Practices.
Habitat Conservation Plan for the Stephens' Kangaroo Rat			
Established conservation of approximately 15,000 acres in Core Reserves within the plan's boundary for Stephens' Kangaroo Rat. Managed under the WRC MSHCP.	**Inconsistent**. Both build alternatives would require the acquisition of land from one of the long-term SKR HCP Core Reserve areas, Existing Core C. Mitigation Measure **NC-20 (NES BIO-21)** (Section 3.17, *Natural Communities*) is proposed to compensate for the loss of land and habitat in this area.	**Inconsistent**. Build Alternative 4 would require the acquisition of land from one of the long-term SKR HCP Core Reserve areas, Existing Core C. Mitigation Measure **NC-20 (NES BIO-21)** (Section 3.17, *Natural Communities*) is proposed to compensate for the loss of land and habitat in this area.	**Consistent**. No changes to the SKR HCP or area would occur.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan			
5,110.4-acre Multiple Species Reserve at Lake Mathews in western Riverside County created through a mitigation banking agreement that conserves 2,544.9 acres (Mitigation Bank) adjacent to 2,565.5-acre State Ecological Reserve (Existing Reserve)	**Inconsistent.** The current plan does not include provisions for the improvement of non-MWD transportation facilities. Both build alternatives would involve the construction of transportation facilities within the LM MSHCP area. Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)** (Section 3.17, *Natural Communities*) are proposed and would reduce potential direct and indirect impacts and ensure that any removed and disturbed breeding habitat is replaced and restored.	**Inconsistent**. The current plan does not include provisions for the improvement of non-MWD transportation facilities. Build Alternative 4 would involve the construction of transportation facilities within the LM MSHCP area. Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)** (Section 3.17, *Natural Communities*) are proposed to reduce potential direct and indirect impacts and ensure that any removed and disturbed breeding habitat is replaced and restored.	**Consistent**. No changes to the LM MSHCP or area would occur.
Lake Mathews Reserve Management Plan			
Primary Goal 1: Protect existing natural habitat types on the Combined Reserve	**Inconsistent.**	**Inconsistent.**	**Generally Consistent**.
Primary Goal 2: Improve degraded habitat by enhancing or restoring suitable habitat for Covered Species within the Reserve	**Generally Consistent**.	**Generally Consistent**.	**Inconsistent.**
Primary Goal 3: Ensure that operation and maintenance of Lake Mathews as a water supply facility are not impaired	**Consistent**.	**Consistent**.	**Not Applicable**. No construction or operations would occur that would affect Lake Mathews.
RCRCD Long-Range Objectives 2016-2021			
Goal 1: Assist Land Users with Resource Planning and Management; GOAL 3: Foster Stewardship through Education, Citizen Science, and Outreach; Goal 4: Help Create Sustainable Communities and Partnerships; Goal 5—Conduct Programs Efficiently	**Not Applicable.** The project does not propose programs that would involve or hinder RCRCD Goals 1, 3, 4 or 5.	**Not Applicable.** The project does not propose programs that would involve or hinder RCRCD Goals 1, 3, 4 or 5.	**Not Applicable.** No programs or actions would involve or hinder RCRCD Goals 1, 3, 4 or 5.
Goal 2: Conserve Habitat Land and Species	**Generally Consistent**. Both build alternatives would involve impacts to habitat land and species; project	**Generally Consistent**. Build Alternative 4 would involve impacts to habitat land and species; project	**Generally Consistent**. No changes to habitat land or species would be anticipated.

Policy	Build Alternatives 1 and 2C	Build Alternative 4	No-Build (No Project) Alternative
	alignment and design adjustments have been applied to avoid or otherwise minimize impacts, and measures are proposed to compensate for impacts.	alignment and design adjustments have been applied to avoid or otherwise minimize impacts, and measures are proposed to compensate for impacts.	
March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan			
The March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan contains no relevant policies because the project does not involve the construction of structures that would have any effect on airport land use or operations.			
Sources: City of Corona 2004; City of Perris 2005; County of Riverside 2015, 2016, 2018a, 2018b, 2020; MWD and RCHCA 1995; Riverside County Airport Land Use Commission 2014; SCAG 2020a; RCA 2003.			

Build Alternatives 1 and 2C - Cajalco Alignment and Modified Cajalco Alignment

SCAG FTIP and RTP/SCS 2020–2045

Build Alternatives 1 and 2C are consistent with the scope included in the 2021 FTIP under ID RIV090903 (SCAG 2021). In addition, Build Alternatives 1 and 2C would be consistent with the project description provided in the 2020–2045 SCAG RTP/SCS as project ID 3A04WT137, because both alternatives include widening Cajalco Road from Temescal Canyon Road to I-215 (SCAG 2020b).

Build Alternatives 1 and 2C would also be consistent with the goals of the SCAG RTP/SCS because both alternatives would increase the capacity of Cajalco Road, which would improve mobility and accessibility for people and goods in the region. This would increase the roadway's ability to accommodate traffic, which would result in improved travel safety and reliability for all people and goods in the region. These improvements would also help preserve and ensure a sustainable regional transportation system and maximize the productivity of the transportation system.

County of Riverside General Plan, CAP, and Comprehensive Trails Plan

Build Alternatives 1 and 2C would be consistent with the County of Riverside General Plan and Riverside County Regional Park and Open-Space District Comprehensive Trails Plan. Riverside County is actively participating in regional efforts to improve mobility, transportation, traffic congestion, and economic development by proposing both build alternatives. Both build alternatives would increase the capacity of Cajalco Road, which would accommodate increased concentrations of population and employment activities, improving the efficiency of transportation within Riverside County; however, the build alternatives would be inconsistent with the planned transportation facilities outlined in the Circulation Plan.

The General Plan Circulation Element, Figure C-1, classifies Cajalco Road as an Expressway, with a minimum right of way of 184 feet to 220 feet. The proposed right of way for Cajalco Road varies throughout the project limits. Between Temescal Canyon Road and Temescal Canyon Bridge, the proposed roadway right of way would vary between approximately 115 and 145 feet; between Temescal Canyon Bridge and Carpinus Drive, between approximately 120 and 128 feet; between Carpinus Drive and Alexander Street, between approximately 120 and 230 feet; between Alexander Street and Harvill Avenue, between approximately 85 and 135 feet; and between Harvill Avenue and I-215, between approximately 120 and 145 feet.

Between Carpinus Drive and Alexander Street, a new bridge over Cajalco Creek is proposed just west of Barton Street, for Cajalco Road westbound traffic; due to the spacing between the eastbound and westbound lanes at the proposed bridge, the maximum right of way width at this location is anticipated to be approximately 230 feet. While the total roadway right of way width exceeds the width identified for Cajalco Road in the General Plan (220 feet), the approximately 400-foot section of right of way would be necessary to accommodate the proposed bridge while avoiding sensitive resources between the east- and westbound lanes.

Between Temescal Canyon Bridge and Harley John Road, project impacts would extend beyond the proposed 128-foot roadway right of way to accommodate slope easements and appurtenant

facilities. This would be consistent with the general plan designation and would not preclude future widening up to 220 feet[2].

Both build alternatives also provide for the expansion of the existing transportation network and the development of alternative travel modes, including additional bus turnouts for bus routes. In addition, neither build alternative contains elements that would significantly obstruct scenic vistas or other visual features for the enjoyment of the traveling public (Caltrans 2018b).

Build Alternatives 1 and 2C would be consistent with relevant policies of the County of Riverside CAP, with the exception of Policy AQ 20.3. While Build Alternatives 1 and 2C would include bus transit facilities, sidewalks, and roadway shoulders for bicycle use that would encourage use of alternative transportation, and roadway improvements that would improve circulation network efficiency, slight increases in VMT and GHG would still be anticipated.

The proposed project alignment traverses areas where Regional and Community Trails are currently planned as future improvements in the vicinity (County General Plan Circulation Element Figure C-7) of Build Alternatives 1 and 2C. Development of these trails is not included as part of the defined project right of way; however, these alternatives would not impede implementation of the Comprehensive Trails Plan because neither alternative includes components that would prevent development of or access to future trails.

Area Plans - Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley

Build Alternatives 1 and 2C would be consistent with the Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans. Only very small portions of the project would be included in the Temescal Canyon Area Plan. Because of this, Build Alternatives 1 and 2C would not interfere with, nor impede, implementation of this area plan.

Both build alternatives would increase the capacity of Cajalco Road, which would improve level of service (LOS) standards for people and goods in the region over no project conditions. For example, the number of deficient intersections and freeway segments would be greatest under the No-Build Alternative and decrease under all build alternatives (Caltrans 2017).

Build Alternative 1 would affect 7.69 acres and Build Alternative 2C would affect 7.85 acres of Farmland Mapping and Monitoring Program (FMMP) Important Farmland, resulting in impacts on 23 farms in the Lake Mathews/Woodcrest Area Plan. There is also the potential for temporary, limited interference with some farm activities during construction. However, given the small percentage of the total FMMP Important Farmland that would be converted within the entire study area, adverse impacts on FMMP Important Farmland would not result. Farmers would still be able to use their land. See Section 3.2, *Farmlands*, for additional information about impacts on farmlands.

In the Temescal Canyon Area Plan, neither build alternative would preclude future construction of a six-lane roadway within this area plan, which would be consistent with Temescal Canyon Area Plan Figure 7 and the functional classifications and standards specified. In the Mead Valley Area Plan, the current design of the build alternatives would not preclude the functional classifications and standards specified in the Mead Valley Area Plan in Figure 8, which specifies Cajalco Road as a 220-foot-wide expressway.

[2] Future widening up to 220 feet is not currently proposed as part of any build alternative.

Cities of Corona and Perris General Plans

Build Alternatives 1 and 2C would be consistent with the Cities of Corona and Perris General Plans. Only very small portions of the project would be included in or adjacent to either the City of Corona or Perris. Because of this, Build Alternatives 1 and 2C would not interfere with, nor impede, implementation of either city's policies.

Even though the build alternatives would be only partially within or adjacent to the cities, the build alternatives would still improve existing transportation infrastructure and increase the capacity of Cajalco Road in or adjacent to both cities, which would enhance both cities' fiscal viability by improving the efficiency of the transportation of goods and services, adhere to nationally recognized improvement standards and uniform construction and maintenance practices, improve mobility and accessibility and reduce congestion and travel times for people and goods in the region, and accommodate increased concentrations of population and employment activities. Both build alternatives would require partial lane closures of Cajalco Road during construction, which could result in delays for emergency service providers who use these roadways. However, the implementation of the TMP (see Standard Project Measure **PF LU-1**) would provide construction project information to emergency service providers to ensure adequate service. During operations, conditions along Cajalco Road, including delay and LOS, would improve, which would benefit emergency service providers because Cajalco Road is the most direct route between the Cities of Corona and Perris and the communities in between.

As discussed in Section 3.3, *Growth*, the operation of Build Alternatives 1 and 2C would not result in growth; therefore, operation would not prevent an adequate service level of law enforcement or fire protection services. During operations, conditions along Cajalco Road, including delay and LOS, would improve, which would benefit law enforcement and fire protection services because Cajalco Road is the most direct route between the Cities of Corona and Perris and the communities in between.

Public meetings, which are open to all agencies, and coordination with participating and cooperating agencies as part of the Efficient Environmental Review (23 U.S. Code 139) process, have occurred and have allowed for discussion and coordination of impacts of Build Alternatives 1 and 2C.

Western Riverside County MSHCP and Stephens' Kangaroo Rat HCP

The proposed roadway improvements of Build Alternatives 1 and 2C would be Covered Activities under Volume I, Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP. Compliance with WRC MSHCP Volume I, Sections 7.5.1 (Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasi-public Lands), 7.5.2 (Guidelines for Construction of Wildlife Crossings), and 7.5.3 (Construction Guidelines), and Appendix C (Standard Best Management Practices) is required. Impacts associated with the proposed roadway improvements that would include slope easements and appurtenant facilities are anticipated to extend beyond the 128-foot right of way and would require a minor amendment to the WRC MSHCP to accommodate the additional right of way needed. Build Alternatives 1 and 2C would directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). Because impacts that extend beyond the 128-foot right of way would exceed the allowable impact area under Section 7.2.2, Build Alternatives 1 and 2C

would conflict with Section 7.2.2 of the WRC MSHCP, and with the SKR HCP, and the acquisition of replacement lands would be required.

WRC MSHCP Volume I, Figure 7-1, identifies that Riverside County General Plan Circulation Element roadway for Build Alternatives 1 and 2C allow for a 128-foot-wide roadway right of way. While the proposed roadway right of way width for Build Alternatives 1 and 2C within the Criteria Area is 128 feet, project impacts associated with related roadway improvements and/or slope easements and appurtenant facilities are anticipated to extend beyond the 128-foot right of way. For this reason, a minor amendment of the WRC MSHCP, as described in Volume I, Section 6.10.2, would be required for Build Alternatives 1 and 2C. As part of the amendment, the County may coordinate with RCA to negotiate an adjustment of right of way for another County facility to accommodate the additional right of way needed for Build Alternatives 1 and 2C. A consistency review by RCA, USFWS, and CDFW would also be performed to ensure that the project is consistent with the requirements of the WRC MSHCP.

Build Alternatives 1 and 2C would occur in Existing Core C of the SKR HCP. Public facilities projects receive coverage under this HCP for potential take of SKR; however, because the proposed project would affect SKR Core Reserve lands, a Core Reserve Land Disturbance Report would be prepared that documents the impacts on SKR and identifies compensatory mitigation. The report would be submitted to the RCHCA Board of Directors for final approval and the fully executed report included in RCHCA's annual report to the CDFW and USFWS.

Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is also proposed to compensate for the loss of land and habitat in WRC MSHCP PQP lands and SKR HCP Core Reserve Area.

Lake Mathews MSHCP and Reserve Management Plan

Under Build Alternatives 1 and 2C, Cajalco Road would be expanded and realigned within the LM MSHCP and LMR; appurtenant facilities including drainage basins, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate the right of way necessary for construction of these facilities, a discretionary action coordinated between the County and LM MSHCP responsible parties a would be required in order to accommodate the proposed project. Build Alternatives 1 and 2C would also encroach into the LM MSHCP and remove habitat for LM MSHCP target species, which is not currently permissible under the LM MSHCP. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties. This coordination will include the consideration of the 1995 Cooperative Management Agreement and Mitigation Banking Agreement, and Memoranda of Understanding, involving MWD, RCHCA, CDFW, and USFWS, the 2002 Audubon Settlement and General Release Agreement involving MWD, CDFW, and RCHCA; and, the Lake Mathews Reserve Conservation Easement Grant and utility easements with RCHCA and various utility providers.

Following selection of the preferred alternative, any adjustments to the right of way or another County road facility may be negotiated with RCA during the WRC MSHCP minor amendment process to accommodate the project alternative. Additionally, there has been extensive, ongoing coordination between the County and MWD, and the LMRMC, to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP.

Please refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, for additional information on mitigation.

RCRCD Long-Range Objectives 2016-2021

As indicated in Table 3.1-7, Build Alternatives 1 and 2C would be generally consistent with Goal 2 of the RCRCD long-term action plan. In response to early coordination with RCRCD in the project development process, alignment and design modifications have been applied to the project to minimize impacts to RCRCD lands. The following standard project measures and mitigation measures are further proposed to reduce or otherwise compensate for impacts: **PF WQ-1** through **PF WQ-3** in Section 3.10, *Water Quality and Stormwater Runoff*, **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **NC-15 (NES BIO-14)**, and **NC-16 (NES BIO-19)**, in Section 3.17, *Natural Communities*, and **WET-1** in Section 3.18, *Wetlands and Other Waters.*

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The March Air Reserve Base/Inland Port ALUCP contains no relevant policies; Build Alternatives 1 and 2C would not involve the construction of structures that would have any effect on airport land use or operations.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

SCAG FTIP and RTP/SCS 2020–2045

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, the future expansion would not be fully consistent with the scope in the SCAG RTP/SCS because the SCAG RTP/SCS only includes construction of four lanes. However, the Future Six-Lane Facility would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternatives 1 and 2C.

County of Riverside General Plan and Comprehensive Trails Plan

The addition of two lanes, if constructed in the future, would also be consistent with the County of Riverside General Plan and Comprehensive Trails Plan for the same reasons as described for Build Alternatives 1 and 2C. No additional right of way would be anticipated; therefore, the widths of Cajalco Road would be consistent with the General Plan.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

The addition of two lanes, if constructed in the future, would be consistent with the Temescal Canyon Area Plan and Lake Mathews/Woodcrest Area Plan for the same reasons as described for Build Alternatives 1 and 2C. No new right of way would be required, avoiding any additional impacts on farmland.

Within the Temescal Canyon Area Plan, two additional lanes within the median of Cajalco Road, if constructed in the future, would be consistent with Temescal Canyon Area Plan Figure 7 and the functional classifications and standards specified, which include construction of a six-lane

roadway within this area plan. Median design that would potentially accommodate additional lanes in the future would not extend east of Harley John Road under Build Alternatives 1 and 2C and is thus not anticipated to affect the Mead Valley Area Plan area.

Cities of Corona and Perris General Plans

The addition of two lanes, if constructed in the future, would be consistent with the Corona General Plan for the same reasons as described for Build Alternatives 1 and 2C. The limits of the median design that would accommodate two additional lanes would not be within the Perris General Plan area.

Western Riverside County MSHCP and Stephens' Kangaroo Rat HCP

No additional right of way within the WRC MSHCP or SKR HCP areas would be anticipated; thus, the two additional travel lanes, if constructed in the future, would be consistent with Volume I, Figure 7-1, of the WRC MSHCP, and would not involve additional impacts on the SKR HCP.

Lake Mathews MSHCP and Reserve Management Plan

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the LM MSHCP area would be acquired; thus, the two additional travel lanes would be consistent with the LM MSHCP.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The Future Six-Lane Facility, if constructed, would not occur within the March Air Reserve Base/Inland Port ALUCP area.

Build Alternative 4 - El Sobrante Alignment

SCAG FTIP and RTP/SCS 2020–2045

Build Alternative 4 would be partially but not fully consistent with the FTIP. In addition, Build Alternative 4 would be partially but not fully consistent with the scope in the SCAG RTP/SCS. The project description in the SCAG RTP/SCS does not match Build Alternative 4, because the RTP only describes the project as an expansion of Cajalco Road, not La Sierra Avenue or El Sobrante Road. If Build Alternative 4 is selected as the preferred alternative, an amendment to the SCAG RTP/SCS would be required to modify the project description. However, Build Alternative 4 would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternatives 1 and 2C.

County of Riverside General Plan, CAP, and Comprehensive Trails Plan

Build Alternative 4 would be consistent with the Riverside County Regional Park and Open-Space District Comprehensive Trails Plan for the same reasons as described for Build Alternatives 1 and 2C. The proposed alignment and roadway right of way widths for Cajalco Road between Temescal Canyon Road and La Sierra Avenue and between Cowan Road and I-

215, under Build Alternative 4, would also be inconsistent with County of Riverside General Plan designated roadway right of way widths for the same reasons as described for Build Alternatives 1 and 2C.

Build Alternative 4 would also include modifications to the alignments and roadway widths of La Sierra Avenue and El Sobrante Road. The County General Plan Circulation Element, Figure C-1, classifies La Sierra Avenue and El Sobrante Road as Mountain Arterial (110-foot right of way) and Arterial (128-foot right of way), respectively. The proposed roadway right of way for La Sierra Avenue under Build Alternative 4 would vary between 135 and 145 feet, and the proposed roadway right of way for El Sobrante Road would vary between 120 and 150 feet. Both roadways would also involve project impacts extending beyond the roadway right of way to accommodate slope easements and appurtenant facilities. While the proposed modifications to La Sierra Avenue and El Sobrante Road would be consistent with the number of lanes identified in the County of Riverside General Plan for each type of roadway facility (two to four lanes for Mountain Arterial, and four to six lanes for Arterial), the proposed roadway right of way widths would not be consistent with those identified for their respective facility types.

Build Alternative 4 would be consistent with relevant policies of the County of Riverside CAP, with the exception of Policy AQ 20.3. While Build Alternative 4 would include bus transit facilities, sidewalks, and roadway shoulders for bicycle use that would encourage use of alternative transportation, and roadway improvements that would improve circulation network efficiency, slight increases in VMT and GHG would still be anticipated.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

Build Alternative 4 would be consistent with the Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans. Only very small portions of the project would be included in the Temescal Canyon Area Plan. Because of this, Build Alternative 4 would not interfere with, nor impede, implementation of this area plan.

Build Alternative 4 would increase the capacity of portions of Cajalco Road and El Sobrante Road, which would improve mobility for people and goods in the region over no project conditions; however, areas between El Sobrante Road and La Sierra Avenue would experience a minor decrease in LOS. For example, the number of deficient intersections and freeway segments would be greatest under the No-Build Alternative and decrease under Build Alternative 4 (Caltrans 2017).

Build Alternative 4 would affect 23.44 acres of FMMP Important Farmland, resulting in impacts on 46 farms in the Lake Mathews/Woodcrest Area Plan. There is also the potential for temporary, limited interference with some farm activities during construction. However, given the small percentage of the total FMMP Important Farmland that would be converted within the entire study area, adverse impacts on FMMP Important Farmland would not result. Farmers would still be able to use their land for agricultural activities. See Section 3.2, *Farmlands*, for additional information about impacts on farmlands.

Similar to Build Alternatives 1 and 2C, Build Alternative 4 would not preclude implementation of the facilities specified in the Temescal Canyon Area Plan or Mead Valley Area Plan.

Cities of Corona and Perris General Plans

Build Alternative 4 would be consistent with the Cities of Corona and Perris General Plans for the same reasons as described for Build Alternatives 1 and 2C. This is because the portions of Build Alternative 4 that fall within the Cities of Corona and Perris have the same design as the design for Build Alternatives 1 and 2C.

Western Riverside County MSHCP and Stephens' Kangaroo Rat HCP

The roadway improvements proposed under Build Alternative 4 are a Covered Activity under Volume I, Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP. Compliance with WRC MSHCP Volume I, Sections 7.5.1 (Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasi-public Lands), 7.5.2 (Guidelines for Construction of Wildlife Crossings), and 7.5.3 (Construction Guidelines), and Appendix C (Standard Best Management Practices) is required. Related roadway improvements including slope easements and appurtenant facilities may extend beyond the 196-foot right of way and would require a minor amendment to the WRC MSHCP to accommodate the additional right of way needed. Build Alternative 4 would also directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). Because impacts that extend beyond the 196-foot right of way in limited areas of the project would exceed the allowable impact area under Section 7.2.2, Build Alternative 4 would conflict with Section 7.2.2 of the WRC MSHCP, and with the SKR HCP, and the acquisition of replacement lands would be required.

WRC MSHCP Volume I, Figure 7-1 identifies the Riverside County General Plan Circulation Element roadway right of way for El Sobrante Road as 196 feet. While the proposed roadway right of way width for Build Alternative 4 is not anticipated to exceed the 196-foot right of way through the Criteria Area, related roadway improvements and/or slope easements and appurtenant facilities may exceed the 196-foot roadway width in limited areas, such as sections between McAllister Street and Vista Del Lago Drive, just west and east of Palm Road, and west of Lockwood Avenue, along El Sobrante Road. Therefore, a minor amendment of the WRC MSHCP, as described in Volume I, Section 6.10.2, may be required for Build Alternative 4. As part of the amendment, the County may coordinate with RCA to negotiate an adjustment of right of way for another County facility to accommodate the additional right of way needed. A consistency review by RCA, USFWS, and CDFW would also be performed to ensure that the project is consistent with the requirements of the WRC MSHCP.

Build Alternative 4 would occur in Existing Core C of the SKR HCP. Public facilities projects receive coverage under this HCP for potential take of SKR; however, because the proposed project would affect SKR Core Reserve lands, a Core Reserve Land Disturbance Report would be prepared that documents the impacts on SKR and compensatory mitigation. The report would be submitted to the RCHCA for Board approval.

Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is also proposed to compensate for the loss of land and habitat in WRC MSHCP PQP lands and SKR HCP Core Reserve Area.

Lake Mathews MSHCP and Reserve Management Plan

Build Alternative 4 would expand and realign La Sierra Avenue and El Sobrante Road within the LM MSHCP and LMR; appurtenant facilities including drainage basins, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Build Alternative 4 would also encroach into the LM MSHCP and remove habitat for LM MSHCP target species, which is not currently permissible under the LM MSHCP. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties. This coordination will include the consideration of the 1995 Cooperative Management Agreement and Mitigation Banking Agreement, and Memoranda of Understanding, involving MWD, RCHCA, CDFW, and USFWS, the 2002 Audubon Settlement and General Release Agreement involving MWD, CDFW, and RCHCA; and, the Lake Mathews Reserve Conservation Easement Grant and utility easements with RCHCA and various utility providers.

Following selection of the preferred alternative, any adjustments to the right of way or another County road facility may be negotiated with RCA during the WRC MSHCP minor amendment process to accommodate the project alternative. Additionally, there has been extensive, ongoing coordination between the County and MWD and the LMRMC to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP. Please refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, for additional information on mitigation.

RCRCD Long-Range Objectives 2016-2021

As indicated in Table 3.1-7, Build Alternative 4 would be generally consistent with Goal 2 of the RCRCD long-term action plan. In response to early coordination with RCRCD in the project development process, alignment and design modifications have been applied to the project to minimize impacts to RCRCD lands. The following standard project measures and mitigation measures are further proposed to reduce or otherwise compensate for impacts: **PF WQ-1** through **PF WQ-3** in Section 3.10, *Water Quality and Stormwater Runoff*, **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **NC-15 (NES BIO-14)**, and **NC-16 (NES BIO-19)**, in Section 3.17, *Natural Communities*, and **WET-1** in Section 3.18, *Wetlands and Other Waters.*

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The March Air Reserve Base/Inland Port ALUCP contains no relevant policies; Build Alternative 4 would not involve the construction of structures that would have any effect on airport land use or operations.

Future Six-Lane Facility (Build Alternative 4)

SCAG FTIP and RTP/SCS 2020–2045

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, the future expansion would not be fully consistent with the scope in the SCAG RTP/SCS because the SCAG RTP/SCS only includes construction of four lanes. However, the Future Six-Lane Facility under Build Alternative 4 would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternative 4.

County of Riverside General Plan and Comprehensive Trails Plan

The addition of two lanes, if constructed in the future, would be consistent with the County of Riverside General Plan and Comprehensive Trails Plan for the same reasons as described for Build Alternative 4. No new right of way would be anticipated and the widths of Cajalco Road and La Sierra Avenue would be consistent with the general plan.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

The addition of two lanes, if constructed in the future, would be consistent with the Temescal Canyon and Lake Mathews/Woodcrest Area Plan for the same reasons as described for Build Alternative 4. No new right of way would be required, avoiding any additional impacts on farmland.

In the Temescal Canyon Area Plan, two additional lanes within the median of Cajalco Road and La Sierra Avenue, if constructed in the future, would be consistent with Temescal Canyon Area Plan Figure 7 and the functional classifications and standards specified, which include construction of a six-lane roadway within this area plan.

Median design that would potentially accommodate additional lanes in the future would not extend east of Cowan Road under Build Alternative 4 and is thus not anticipated to affect the Mead Valley Area Plan area.

Cities of Corona and Perris General Plans

The addition of two lanes, if constructed in the future, would be consistent with the Corona General Plan for the same reasons as described for Build Alternative 4. The limits of the median design that would accommodate two additional lanes would not be within the Perris General Plan area.

Western Riverside County MSHCP and Stephens' Kangaroo Rat HCP

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the WRC MSHCP or SKR HCP areas would be acquired; thus, the two additional travel lanes would be consistent with Volume I, Figure 7-1, of the WRC MSHCP, and would not involve additional impacts on the SKR HCP.

Lake Mathews MSHCP and Reserve Management Plan

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the LM MSHCP area would be acquired; thus, the two additional travel lanes would be consistent with the LM MSHCP.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The Future Six-Lane Facility, if constructed, would not occur within the March Air Reserve Base/Inland Port ALUCP area.

No-Build Alternative

SCAG FTIP and RTP/SCS 2020–2045

The No-Build Alternative would be inconsistent with the FTIP and SCAG RTP/SCS because it would not implement the project, making it inconsistent with the funded project description. The No-Project Alternative would also be inconsistent with the goals of the SCAG RTP/SCS because no improvements would be made and congestion would continue to worsen. This would not maximize mobility or accessibility for people and goods in the region, ensure travel safety and reliability, preserve and ensure a sustainable transportation system, or maximize the productivity of the transportation system.

County of Riverside General Plan and Comprehensive Trails Plan

The No-Build Alternative would be inconsistent with many of the policies from the County of Riverside General Plan. No improvements would be made and congestion would continue to worsen, affecting mobility, accessibility, and economic development in the region. It would also not respond to concentrations of population and employment activities.

The No-Build Alternative would be consistent with policies stating that existing utilities should be utilized and scenic vistas and visual features protected because it would not require the extension of infrastructure or services, and scenic views or visual features would not be altered because no improvements would be made. The No-Build Alternative would also be consistent with the Comprehensive Trails Plan because trail systems would not be altered or access impeded.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

The No-Build Alternative would be inconsistent with many of the policies from the Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans. Under the No-Build Alternative, no improvements would be made and the vehicular roadway system would not be developed in accordance with Figure 7 from the Temescal Canyon Area Plan, and mobility would worsen. In addition, the vehicular roadway system would not be developed in support of the classifications identified in Figure 8 from the Mead Valley Area Plan.

The No-Build Alternative would be consistent with the agricultural policies from the Lake Mathews/Woodcrest Area Plan because no improvements would be made and no farmland or agricultural activities would be affected.

Cities of Corona and Perris General Plans

The No-Build Alternative would be inconsistent with many of the policies from the Cities of Corona and Perris General Plans. Under the No-Build Alternative, no improvements would be made and mobility would continue to worsen, decreasing safety and reliability. This would also impede mobility and accessibility for people and goods in the region.

Western Riverside County MSHCP and Stephens' Kangaroo Rat HCP

The No-Build Alternative would be consistent with the WRC MSHCP and SKR HCP because no changes to the plan area would occur, and the alternative would not preclude future implementation of Covered Activities.

Lake Mathews MSHCP and Reserve Management Plan

The No-Build Alternative would be consistent with the LM MSHCP because no changes to the LM MSHCP or area would occur.

RCRCD Long-Range Objectives 2016-2021

The No-Build Alternative would be consistent with the RCRCD long-term action plan because no changes to RCRCD lands would

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The No-Build Alternative would be consistent with the March Air Reserve Base/Inland Port ALUCP because no changes to the area would occur.

3.1.2.3 Avoidance, Minimization, and/or Mitigation Measures

The proposed project would include the preparation and use of a TMP under Standard Project Measure **PF LU-1** that would address temporary effects during construction from changes in access and roadway closures and detours, which will ensure access is maintained for all modes of transportation for residents and businesses in the study area. Standard Project Measure **PF LU-1** further includes a public awareness campaign that would inform and coordinate with motorists, business owners/operators, residents, elected officials and government agencies, and emergency service providers regarding construction activities and associated impacts. Please refer to Section 3.1.1.2, *Environmental Consequences (Existing and Future Land Use)*, for Standard Project Measure **PF LU-1**. No additional avoidance, minimization, or mitigation measures are proposed.

Build Alternatives 1, 2C, and 4 would conflict with three goals or policies of relevant regional and local plans and programs: the LM MSHCP, the WRC MSHCP, and the SKR HCP. To compensate for the loss of natural lands on the LMR and in the WRC MSHCP plan area (which includes the SKR HCP), the County will coordinate with the LMRMC, RCA, USFWS, and CDFW to develop a suite of mitigation measures that demonstrate biological equivalency to offset the loss. Please refer to Measures **NC-17 (NES BIO-17)** through **NC-20 (NES BIO-21)** in Section 3.17, *Natural Communities*. Temporary impact areas will be addressed through preparation of a habitat mitigation and monitoring plan (HMMP) and on-site restoration to original conditions; see Measure **NC-19 (NES BIO-15)** in Section 3.17 for additional information.

3.1.3 Parks and Recreational Facilities

3.1.3.1 Regulatory Setting

The Park Preservation Act (California Public Resources Code [PRC] Sections 5400–5409) prohibits local and state agencies from acquiring any property that is in use as a public park at the time of acquisition unless the acquiring agency pays sufficient compensation or land, or both, to enable the operator of the park to replace the park land and any park facilities on that land.

3.1.3.2 Affected Environment

Parks and recreational resources include any park, recreational facility, open space area, recreational bikeway, or other recreational trails within 0.5 mile of the proposed project. There are eight parks and recreational areas within 0.5 mile of the build alternatives. Of these eight properties, five are public schools with outdoor playgrounds and other recreational facilities, which are assumed to be open to the general public. Two of the remaining properties are outdoor parks, and one is a privately owned golf course. Table 3.1-8 provides a description of these resources and the distance of each from the proposed project.

Table 3.1-8. Parks and Recreational Facilities within the Study Area

Park/Recreation Resource	Location	Description	Distance from Project
Charles Meigs (Mead Valley) Community Center	21091 Rider Street Perris, CA 92570	Community center includes outdoor playground, picnic area, basketball courts, and large multiple use turf area.	0.3 mile
Victoria Grove Park	Schoolhouse Road Riverside, CA 92503	Victoria Grove Park contains a playground, basketball court, baseball field, and large multiple use turf area.	0.4 mile from Build Alternative 4 only
Lake Mathews Elementary School	12252 Blackburn Road Riverside, CA 92503	Elementary school; includes 14.5-acre recreation space with open play field, baseball field, basketball court, and blacktop with children's game areas.	0.3 mile from Build Alternative 4 only
Dos Lagos Golf Course	4507 Cabot Drive, Corona, CA 92883	Approximately 115-acre public golf course located within the Dos Lagos mixed-use development.	0.1 mile
Tomas Rivera Middle School	21675 Martin Street Perris, CA 92570	Middle school; includes 13.5-acre recreation space with track, open play field, three baseball fields, and blacktop with children's game areas.	0.3 mile
Manuel L. Real Elementary School	19150 Clark Street Perris, CA 92570	Elementary school; includes large multiple-use area, two baseball backstops, and multiple-use turf area.	0.1 mile
Columbia Elementary School	21350 Rider Street Perris, CA 92570	Elementary school; includes a 3.9-acre recreation space with two baseball fields and blacktop with children's games.	0.2 mile
Val Verde High School	972 Morgan Street Perris, CA 92571	High school; includes 4.5-acre recreation space with one baseball field, open play field, and blacktop with children's games.	0.3 mile

Riverside County currently has one developed trail and one partially developed trail. The Santa Ana River Trail is fully developed and is maintained by the Riverside County Regional Park and Open Space District. The developed trail is not within the project study area. In addition, the

partially constructed 16-mile-long Class 1 bike path and pedestrian trail in the cities of Hemet and Menifee, known as the Salt Creek Trail, finished construction of one segment in 2020 (County of Riverside Transportation Department n.d.). However, the multiuse trail is over 11 miles south/southeast of Cajalco Road Project and will not be affected by construction or operation of any of the build alternatives. However, a number of future planned trail facilities identified on Figure C-7 of the County of Riverside General Plan Circulation Element are within the project study area:

- A Combination Trail (Regional Trail/Class I Bike Path) north of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, along La Sierra Avenue north to the City of Riverside, along El Sobrante Road between La Sierra Avenue and Cajalco Road, and along Cajalco Road between El Sobrante Road and approximately Barton Street
- Southern Emigrant Trail/Butterfield Overland Trail in the area of Interstate 5 (I-5) and Temescal Canyon Road
- Regional Trail (Urban/Suburban) that intersects Cajalco Road at Temescal Canyon Road, La Sierra Avenue, Harley John Road, and Wood Road, and intersects El Sobrante Road at McAllister Street and Mockingbird Canyon Road
- A Class II Bike Path along Cajalco Road, between approximately Barton Street and I-215

Additional future planned trail facilities within the study area are also identified in the Riverside County Regional Park and Open-Space District Comprehensive Trails Plan:

- Tier 1 (Backbone) facility: Southern Emigrant Trail/Butterfield Overland Trail in the area of I-5 and Temescal Canyon Road
- Tier 2 facilities that surround Lake Mathews and follow the existing alignments of Cajalco Road, La Sierra Avenue, and El Sobrante Road
- Tier 3 facilities that follow existing roadways throughout the project study area

Tier 1 trails incorporate historical alignments, regional trails with dedicated plans, trails currently existing or under construction, and trails with long-distance connectivity. Tier 2 trails often form networks internal to parks, often without providing external connectivity. Tier 3 trails are local and community trails, which generally either fall outside County jurisdiction or are composed of trail networks with only local connectivity.

No formally designated bicycle routes or facilities, such as marked bicycle lanes, are currently located along Cajalco Road, La Sierra Avenue, or El Sobrante Road, within the project limits. Cyclists that use these roadways currently use roadway shoulders where available.

According to input received from the community during public scoping meeting and in response to the Notice of Preparation for the EIR, equestrians currently use roadways north and south of Lake Mathews Market and Lake Mathews Feed and Pet Supply to access these businesses. No formally designated horse trails are within the project limits; however, roadways and roadway shoulder areas that are anticipated to be used for equestrian purposes based on community characteristics and input (i.e., rural residences and availability of unpaved roads and roadway shoulders) include, but are not limited to, limited sections of Cajalco Road and El Sobrante

Road; Gavilan Road, Harley John Road, Smith Road, Gustin Road, Cowan Road, and Mockingbird Canyon Road; and roads that intersect with the roads identified above.

In addition to existing parks and recreational facilities and planned trail networks, there are four resource conservation areas within the study area that allow limited public use or access related to the purpose of the conservation area only, as described in Table 3.1-9. Of the four resource conservation areas, the LM-EM Reserve and LMR are considered Section 4(f) properties due to the primary purpose of the reserve as a wildlife refuge.

Table 3.1-9. Protected Lands within the Study Area

Park/Recreation Resource	Location	Description	Distance from Project
Lake Mathews-Estelle Mountain Core Reserve	Riverside County	This reserve and wildlife refuge encompasses 11,243 acres and is jointly owned and managed by MWD, CDFW, USFWS, and RCHCA. It is a habitat reserve that is a component of the WRC MSHCP for the SKR HCP and the LM MSHCP. The core reserve is home to the Stephens' kangaroo rat habitat. Other primary conserved vegetation communities include coastal sage scrub, chamise chaparral, European grassland, and mixed European grassland/coastal sage scrub.	Within limits of disturbance
Lake Mathews Multiple Species Reserve	Riverside County	The LMR is a 5,110-acre area around Lake Mathews for the preservation of native habitats supporting 65 sensitive plan and animal species. The LMR was established following approval of the 5,994-acre LM MSHCP. Owned by MWD; MWD partners with RCHCA to manage the Reserve. Management overseen by the Reserve Management Committee comprising representatives from MWD, RCHCA, CDFW, and USFWS.	Within limits of disturbance
Riverside Corona Resource Conservation District Mitigation Lands	Riverside County	RCRCD is a local government agency that helps conserve the natural resources of areas within western Riverside and San Bernardino Counties. The district includes 200,000 acres (312 square miles) of land in western Riverside and San Bernardino Counties. Approximately 92 acres of conserved land are in the project study area along Bedford Wash and Cajalco Creek/Wash.	Within limits of disturbance
Western Riverside County Regional Conservation Authority Conserved Lands	Riverside County	RCA is a government agency formed in 2004 with the core activity of acquiring reserve land. The agency developed the WRC MSHCP, which outlines a plan to protect 146 native species of plants, birds, and animals, and preserve a half-million acres of their habitats (RCA 2003). The WRC MSHCP encompasses approximately 1.26 million acres (1,966 square miles) and includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto. As of January 2018, RCA under the WRC MSHCP has acquired 56,945 acres of conservation land and has identified a total of 500,000 acres of land that will constitute conservation land.	Within limits of disturbance

As indicated above, public access and use of the conservation areas are limited; advance coordination with the managing agencies would be necessary to access the areas, and use would be limited to the purpose of the conservation area. Recreational activities that the conservation areas may support, depending on the plan provisions, include bird watching, walking/hiking,

nature exploration, and environmental research, and advance coordination would be required for such uses.

3.1.3.3 Environmental Consequences

Permanent Impacts

Build Alternatives 1, 2C, and 4

Build Alternatives 1, 2C, and 4 would not require partial or full acquisition of any parks or recreational facilities. The nearest recreational facilities to the project are Dos Lagos Golf Course and Manuel L. Real Elementary School, which are approximately 0.1 mile from the project limits. According to the traffic analysis prepared for the project, the proposed project would not result in a substantial change in traffic or traffic patterns that would affect the primary roadways used for access to the golf course, Temescal Canyon Road, or Manuel L. Real Elementary School (Cajalco Road and Clark Street). Due to the distance of the golf course and school facilities from the project, a notable difference in noise levels would not be anticipated as a result of the project. The golf course and school are located within residential communities. No impacts are expected on the properties surrounding the golf course or school, or on roadways that directly access the golf course or school; therefore, no direct or indirect adverse effects would be anticipated. Pedestrian safety and access to Manuel L. Real Elementary School may improve with additional sidewalks and designated bus turnouts proposed along Cajalco Road.

The remaining recreational facilities listed in Table 3.1-8 would similarly be protected from direct or indirect adverse effects based on the results of the traffic and noise analyses, and their distances from the project limits. Access to the Charles Meigs (Mead Valley) Community Center, Columbia Elementary School, and Tomas Rivera Middle School may also benefit from additional sidewalks and designated bus turnouts proposed along Cajalco Road.

While trails, or Class I or II bike paths, are not proposed as part of the project, improvements that would support pedestrian, equestrian, and cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue include curb, gutter, and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane. The project would not preclude future consideration of trail and bicycle facilities identified in local plans or interfere with continued use of local, unpaved roadways for equestrian uses.

Land from agency-managed conservation areas would be permanently acquired, as shown in Table 3.1-10. The LM-EM Reserve and LMR would experience the greatest impacts of the agency-managed conservation areas. Build Alternative 2C would result in the greatest amount of permanent and temporary land acquisition of the LM-EM Reserve, followed by Build Alternative 1 and Build Alternative 4. The RCRCD Mitigation Lands and RCA Conserved Lands would experience a much smaller acquisition impact under all three build alternatives, less than 2 acres.

Table 3.1-10. Conserved Lands Permanent Impacts Summary – Build Alternatives 1, 2C, and 4

Conservation Area	Build Alternative 1 (acres)	Build Alternative 2C (acres)	Build Alternative 4 (acres)
Lake Mathews Multiple Species Reserve	121.51	113.20	58.39
Lake Mathews-Estelle Mountain Core Reserve	128.51	147.31	65.39
Riverside Corona Resource Conservation District Mitigation Lands	1.44	1.44	1.44
Western Riverside County Regional Conservation Authority Conserved Lands	1.65	1.65	1.65

Existing roadways currently travel through wildlife refuges and result in traffic noise. Build Alternatives 1, 2C, and 4 would widen these existing roadways and would cause increased levels of traffic noise in areas already exposed to traffic noise. Increased noise from traffic would be unlikely to affect how users interact with and use the wildlife refuges because the increased traffic noise would not be substantially perceptible by people. However, increased traffic noise may alter wildlife behavior or use of areas adjacent to the roadway. Impacts on wildlife are discussed in more detail in Section 3.17, *Natural Communities*. Therefore, impacts on parks, recreational facilities, and wildlife refuges during operation would be minor.

There are wildlife refuges within the project vicinity that are protected by Section 4(f) of the Department of Transportation Act of 1966. This project will result in a "use" of those facilities as defined by Section 4(f). Please see Appendix A, Section 4(f), for additional details. As indicated above, the LM-EM Reserve and LMR are considered Section 4(f) properties and would be affected by Build Alternatives 1, 2C, and 4.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not affect parks and recreational facilities, trails, or bicycle uses. This is because the two additional lanes would be added into the median, requiring no additional land or right of way.

Lake Mathews MSHCP (Build Alternatives 1, 2C and 4)

Table 3.1-10 identifies the impacts on the LM MSHCP area, which is owned by MWD and includes the LMR. Build Alternative 1 would result in the permanent acquisition of 121.51 acres of conserved LMR lands, Build Alternative 2C would result in the permanent acquisition of 113.20 acres of conserved LMR lands, and Build Alternative 4 would result in the permanent acquisition of 58.39 acres of conserved LMR lands. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties.

Temporary Impacts

Build Alternatives 1, 2C, and 4

Build Alternatives 1, 2C, and 4 would not require temporary construction easements within any parks or recreational facilities. The nearest recreational facilities to the project are Dos Lagos Golf Course and Manuel L. Real Elementary School, which are approximately 0.1 mile from the project limits. Although construction of Build Alternatives 1, 2C, and 4 would require the use of construction equipment that would generate temporary increases in noise and dust, the noise and dust would not prevent the regular use or enjoyment of the golf course or any other facility within the study area due to the distances from the project limits and because the activities would be intermittent and temporary. Implementation of the project would result in a temporary increase noise related to construction activities that may intermittently dominate the noise environment in the immediate area of construction. However, no adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications, Section 14.8-02 (Standard Project Measure **PF NOI-1**). Additionally, these effects are not anticipated to affect the regular use or enjoyment of these facilities beyond what they currently experience from existing traffic noise from freeways and roadways. This would also be the case for wildlife refuges.

The anticipated areas of agency-managed conservation lands that would be temporarily occupied or otherwise affected are shown in Table 3.1-11.

Table 3.1-11. Conserved Lands Temporary Impacts Summary – Build Alternatives 1, 2C, and 4

Conservation Area	Build Alternative 1 (acres)	Build Alternative 2C (acres)	Build Alternative 4 (acres)
Lake Mathews Multiple Species Reserve	21.59	23.21	9.37
Lake Mathews-Estelle Mountain Core Reserve	22.13	25.63	10.06
Riverside Corona Resource Conservation District Mitigation Lands	1.56	1.56	1.56
Western Riverside County Regional Conservation Authority Conserved Lands	0.5	0.5	0.5

Construction would also result in intermittent traffic delays under all build alternatives until the project is completed; however, the delays would be temporary and are not anticipated to be substantial enough to affect parks and recreational facilities. Temporary impacts on pedestrians, cyclists, and equestrians would be minimized with Standard Project Measure **PF LU-1** (TMP).

With regard to Section 4(f) resources, all of the parks and recreational resources identified in Table 3.1-8 are protected under Section 4(f), with the exception of Dos Lagos Golf Course and Victoria Grove park, which are privately owned. As wildlife refuges, the LM-EM Reserve and LMR are protected by Section 4(f). Both the LM-EM Reserve and LMR would experience temporary use from all build alternatives. More information regarding Section 4(f) resources and impacts are included in Appendix A, Section 4(f) Evaluation.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, construction may result in intermittent traffic delays until the project is completed; however, such delays would be temporary and would not be anticipated to be substantial enough to affect parks and recreational facilities.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Table 3.1-11 identifies the temporary impacts on the LM MSHCP area, which is owned by MWD and includes the LMR. Build Alternatives 1, 2C, and 4 would result in 21.59, 23.21, and 9.37 acres of temporary easements of conserved LMR lands, respectively. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives would be coordinated between the County and LM MSHCP responsible parties.

No-Build Alternative

The No-Build Alternative would not result in impacts on parks and recreation facilities because construction activities would not occur.

3.1.3.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to the avoidance and minimization measures for property acquisitions identified in Section 3.4.2, *Relocations and Real Property Acquisition*, replacement for the permanent loss of habitat within the LM MSHCP by Build Alternatives 1, 2C, or 4 will be required by MWD at a minimum 1:1 ratio (see Measures **NC-17 [NES BIO-17]** and **NC-19** [**NES BIO-15]** in Section 3.17, *Natural Communities*). Temporary impact areas would be addressed through preparation of a TMP (see Standard Project Measure **PF LU-1** in Section 3.1.1.2) and an HMMP, on-site restoration to original conditions (see Measures **NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17), and compliance with noise-reducing measures (see Standard Project Measure **PF NOI-1** in Section 3.15, *Noise and Vibration*)

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3.2 Farmlands

3.2.1 Regulatory Setting

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

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

3.2.2 Affected Environment

Information from the *Cajalco Road Widening and Safety Enhancement Project Community Impact Assessment* and *Errata* (Caltrans 2018, 2021) and the United States Department of Agriculture (USDA) "Farmland Conversion Impact Rating" (Form CPA 106, Appendix I of this EIR/EIS) were used in the preparation of this section of the document.

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

- *Prime farmland* is rural land with the best combination of physical and soil characteristics for the production of crops and used for irrigated agricultural production at some point during the 4 years prior to the mapping date.
- *Unique farmland* is land other than prime farmland that has lesser quality soils that are used for the production of high-value specialty crops (e.g., citrus and nuts) and has been cropped at some time during the 4 years prior to mapping.
- *Farmland of statewide importance* is land that does not qualify as prime or unique farmland and has been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- *Farmland of local importance* is defined by, and under the authority of, the Board of Supervisors of each county. Riverside County defines farmland of local importance as "Soils that would be classified as Prime and Statewide but lack available irrigation water. Lands planted to dryland crops of barley, oats, and wheat; lands producing major crops for Riverside County but that are not listed as Unique crops. These crops are identified as returning one million or more dollars on the 1980 Riverside County Agriculture Crop Report.

> Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons; Dairylands, including corrals, pasture, milking facilities, hay and manure storage areas if accompanied with permanent pasture or hayland of 10 acres or more; Lands identified by city or county ordinance as Agricultural Zones or Contracts, which includes Riverside City "Proposition R" lands. Lands planted to jojoba which are under cultivation and are of producing age."

The FMMP mapping inventory of lands within the 0.5-mile study area indicates a total of approximately 4,280 acres of important farmland composed of 63.2 acres of Prime Farmland, 305.3 acres of Unique Farmland, 88 acres of Farmland of Statewide Importance, and 3,823.4 acres of Farmland of Local Importance (California Department of Conservation 2016a). These FMMP important farmland acreages are listed in Table 3.2-1, below, and their locations within the study area are shown on Figure 3.2-1a.

Table 3.2-1 further indicates additional FMMP inventory acreages for lands within the study area designated as Grazing Land, Urban and Built-Up, Other Land, and Water, as well as the acreages within each FMMP inventoried land use type that are committed to urban development and water storage per 7 CFR 658.2(a). Lands committed to urban development and water storage are shown on Figure 3.2-1b. These areas were factored into the FMMP inventory totals to determine an adjusted total of approximately 2,869 acres of important farmland within the study area composed of 61 acres of Prime Farmland, 281.3 acres of Unique Farmland, 82.7 acres of Farmland of Statewide Importance, and 2,444 acres of Farmland of Local Importance. Combined, the 2,869 acres of important farmland represent approximately 31% of the total study area.

Table 3.2-1. FMMP Important Farmland and Other Lands within Study Area

Categories	FMMP Inventory (acres)[1]	Urban Development - Roadway (acres)[2]	Urban Development - Water (acres)[3]	Urban Development – Other (acres)[4]	Total FMMP (acres)
Prime Farmland	63.18	2.08	0.14	-	60.97
Unique Farmland	305.28	23.5	0.31	0.15	281.32
Farmland of Statewide Importance	87.84	4.44	0	0.75	82.66
Farmland of Local Importance	3,823.38	326.95	430.12	622.34	2,443.97
Total Important Farmland:	**4,279.68**	**356.97**	**430.56**	**623.24**	**2,868.91**
Grazing Land	3,190.48	176.12	30.05	649.12	2,335.17
Urban and Built-Up Land	2,433	515.44	164.45	856.5	896.61
Other Land	6,163.23	526.01	2,076.02	394.57	3,166.62
Water	1,107.88	0.03	1,107.85	-	0.00
Study Area Totals:	17,174.26	1,574.57	3,719.7	2,523.43	9,267.32

Sources: California Department of Conservation 2016a; County of Riverside 2016, 2018; City of Corona 2004; City of Perris 2005.
[1] California Department of Conservation Farmland Mapping and Monitoring Program inventory, 2016.
[2] Lands committed to urban development for future roadway per the City and County zoning and General Plans (7 CFR 658.2(a)).
[3] Lands committed to urban development for water storage per County zoning (7 CFR 658.2(a)).
[4] Lands committed to urban development for utilities, commercial and residential development per County zoning (7 CFR 658.2(a)).

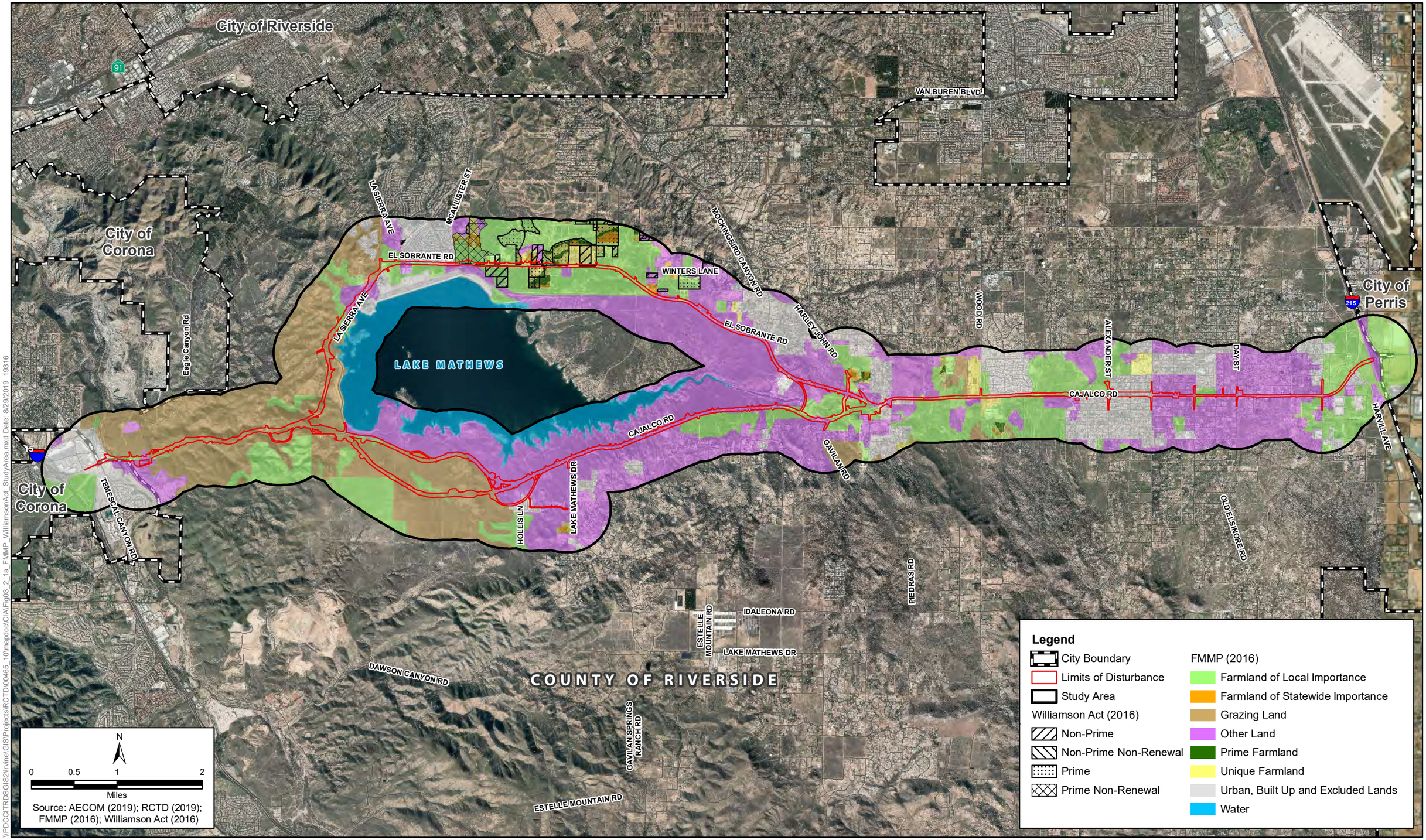

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Figure 3.2-1a
FMMP Inventory and Williamson Act Land - Study Area
Cajalco Road Widening and Safety Enhancement Project

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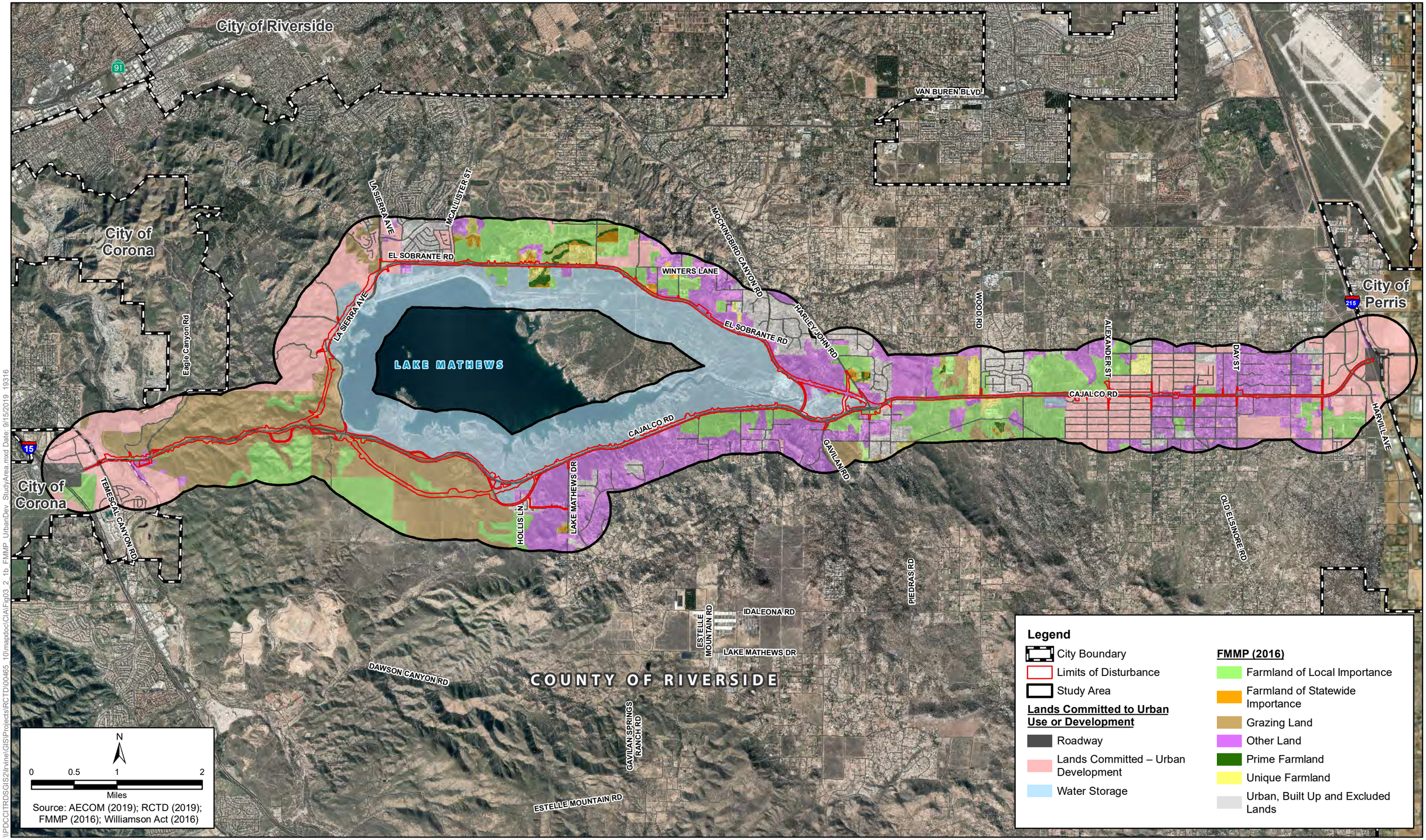

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Figure 3.2-1b
FMMP Inventory and Lands Committed to Urban Development - Study Area
Cajalco Road Widening and Safety Enhancement Project

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As shown on Figure 3.2-1a, within the study area, limited farmlands are mapped between Temescal Canyon Road and Harley John Road. East of Harley John Road, farmland occurs intermittently within the study area, along Cajalco Road and north of the intersection of Cajalco Road and Harley John Road. Important farmland is also adjacent to Cajalco Road northwest and southeast of the intersection with Wood Road, and in the vicinity of the Lake Mathews Multiple Species Reserve (LMR). FMMP important farmland also exists intermittently within the study area along El Sobrante Road at the following locations: northwest of the intersection of El Sobrante Road and Lockwood Road; northwest of the intersection of El Sobrante Road and Vista Del Lago Drive; and west of the intersection of El Sobrante Road and Vista Del Lago Drive.

3.2.2.1 Williamson Act Contract Land

The California Land Conservation Act of 1965, commonly known as the Williamson Act, provides incentives through reduced property taxes to deter the conversion of agricultural and open space lands. The act enables local governments to enter into contracts with private landowners for promoting the preservation of agricultural land. In return, landowners receive property tax assessments that are based on farming and open space uses instead of property tax assessments based on full market value of the property. Local governments receive an annual subvention (subsidy) of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

A total 353.32 acres of land under Williamson Act contract occur within the 0.5-mile study area for all build alternatives. As shown on Figure 3.2-2, the alignment of Build Alternative 4 is the only build alternative that includes Williamson Act land within the study area. Williamson Act land is intermittently within the study area north and south of El Sobrante Road from La Sierra Avenue to Mockingbird Canyon Road. There is Williamson Act land located adjacent to El Sobrante Road at the following locations:

- Immediately northeast of the intersection of Cajalco Road and McAllister Street.
- North and south of El Sobrante Road approximately 0.7 mile west of the intersection of El Sobrante Road and Vista Del Lago Drive.

According to CEQA Guidelines, Section 15206, cancellation of Williamson Act contracts for parcels exceeding 100 acres is considered to be "of statewide, regional, or area wide significance," and would be subject to additional noticing and review requirements under CEQA.

3.2.2.2 Lake Mathews MSHCP

Within the project study area, the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) and the LMR span approximately 5,994 acres and 5,110 acres, respectively, of open land around Lake Mathews. The LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews' reservoir and dam facilities. While there are lands that meet the California Department of Conservation's FMMP Important Farmland criteria within the LM MSHCP area—primarily Farmland of Local Importance—they are committed to preservation purposes of the LM MSHCP. These limited areas are not actively farmed and are sometimes grazed by sheep for vegetation management purposes. There are no lands under agricultural preservation contract, including the Williamson Act, within the LM MSHCP.

3.2.3 Environmental Consequences

Table 3.2-2 below and Figure 3.2-2 show the acres of FMMP important farmland and Williamson Act land that would be temporarily affected and permanently acquired under all build alternatives. Consistent with 7 CFR 658.2(a), lands committed to urban development (existing and planned roadway right of way) and water storage (Metropolitan Water District) were not factored into the total farmland impacts of each build alternative (refer to Figure 3.2-1b).

Table 3.2-2. FMMP Important Farmland and Williamson Act Land Impacts

	Build Alternative 1		Build Alternative 2C		Build Alternative 4	
Categories	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**	**Permanent (acres)**	**Temporary (acres)**
Prime Farmland	0	0	0	0	0.47	0.05
Unique Farmland	0.19	0.82	0.19	0.82	3.08	2.42
Farmland of Statewide Importance	0	0	0	0	0.99	0.96
Farmland of Local Importance	7.5	9.97	7.66	9.98	18.89	6.43
Total Important Farmland	**7.69**	**10.8**	**7.85**	**10.8**	**23.44**	**9.86**
Williamson Act Land	**0**	**0**	**0**	**0**	**4.79**	**2.12**

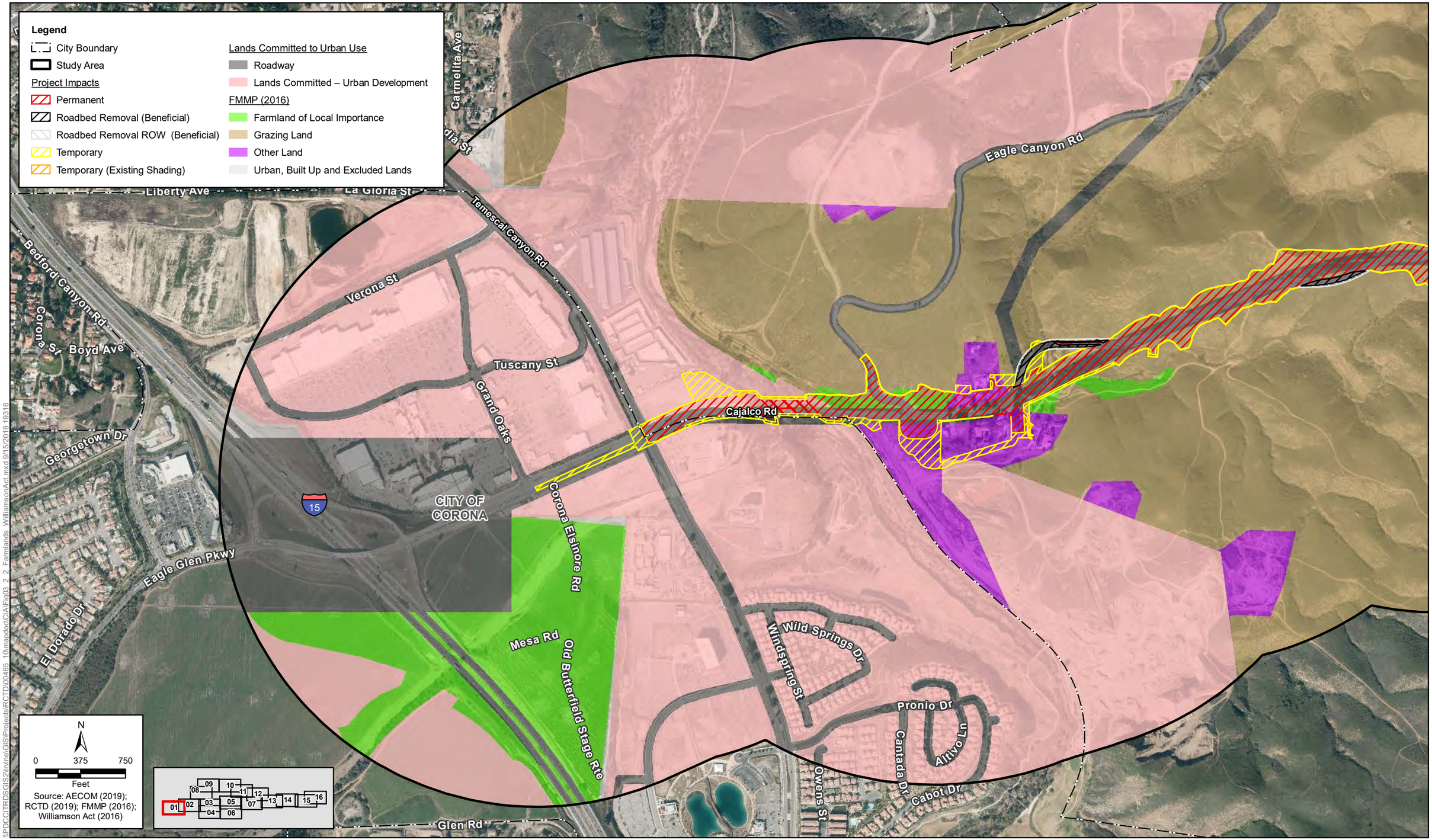
Source: California Department of Conservation 2016a
Note: Lands committed to urban development per the city and county zoning codes, public right of way, and designated roadway widths for Cajalco Road and El Sobrante Road per the General Plan have been excluded from these FMMP calculations (7 CFR 658.2(a)).

3.2.3.1 Permanent Impacts

Build Alternative 1—Cajalco Alignment

Table 3.2-2 and Figure 3.2-1b indicate the acreage and locations of FMMP important farmland that would be temporarily and permanently acquired under Build Alternative 1. Proposed project improvements involving the acquisition of farmland and permanent easements would affect FMMP important farmlands mapped as Unique Farmland and Farmland of Local Importance. Because no Prime farmland would be converted, Build Alternative 1 would not result in the conversion or loss of Prime farmland within the County. Build Alternative 1 would require permanent conversion of 7.69 acres of FMMP important farmland, which represents 0.27 percent of the FMMP important farmland in the study area. Build Alternative 1 would not affect land under Williamson Act contract.

Impacts on mapped farmland were evaluated using the USDA "Farmland Conversion Impact Rating" (Form CPA 106, Appendix I of the EIR/EIS), which was completed in coordination with NRCS. Form CPA 106 helps determine the impact the project may have on farmlands within the study area. NRCS and the applicable federal agency review criteria for projects including, but not limited to, soil productivity, water conditions, proximity to other urban and rural land uses, impacts on remaining farmland after the conversion, and indirect or secondary effects of the project on agricultural and other local factors. NRCS must complete the land evaluation part of the form, and the federal lead agency completes the site assessment portion. Up to 100 points for relative value—and up to 160 points for the site assessment—are possible, for a total combined score of up to 260 points. Projects sites receiving a total score of less than 160 need not be given further consideration for protection, and no further evaluation is required under the FPPA (CFR 658.4(c)(2)).



*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 1 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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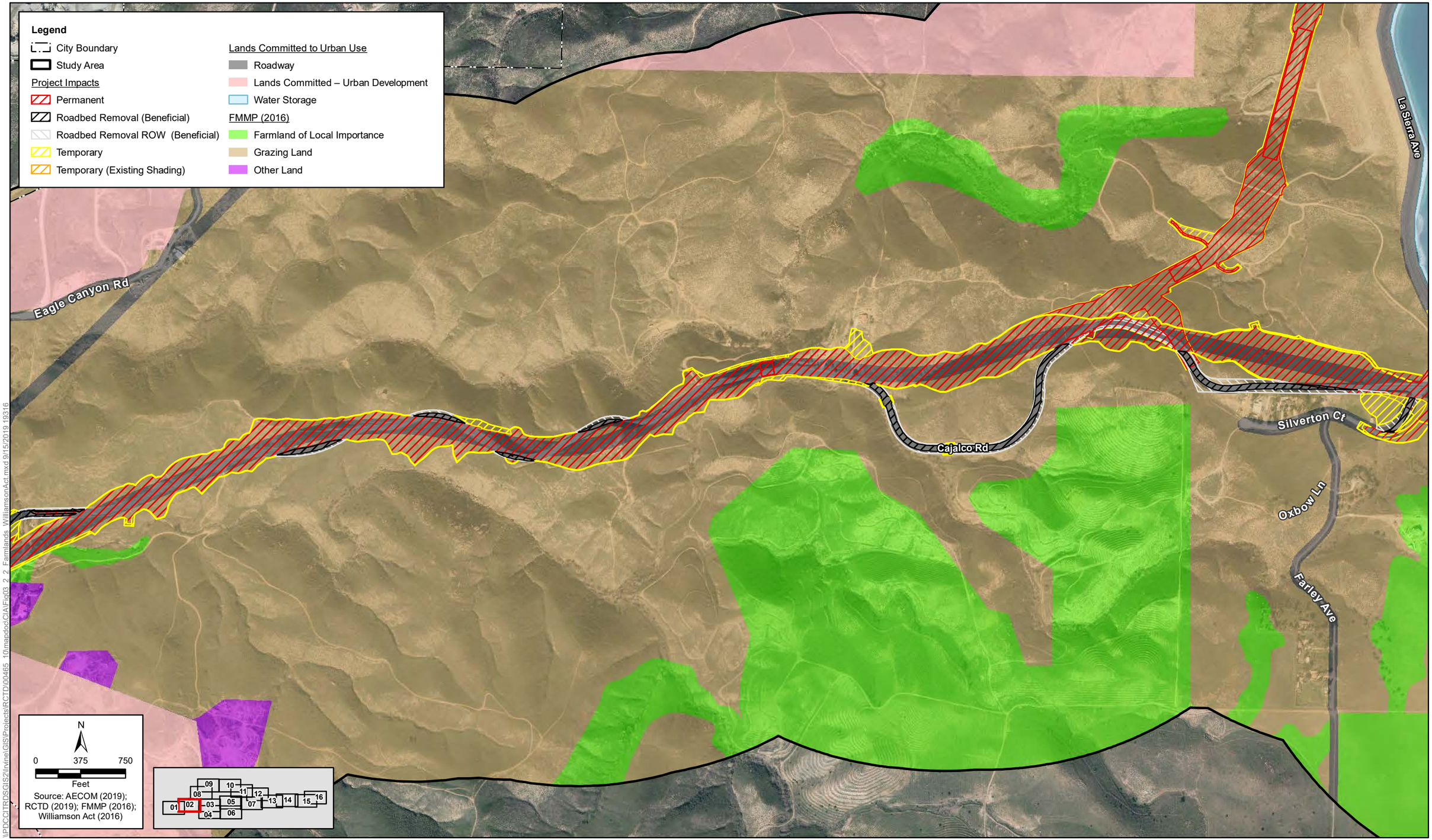

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 2 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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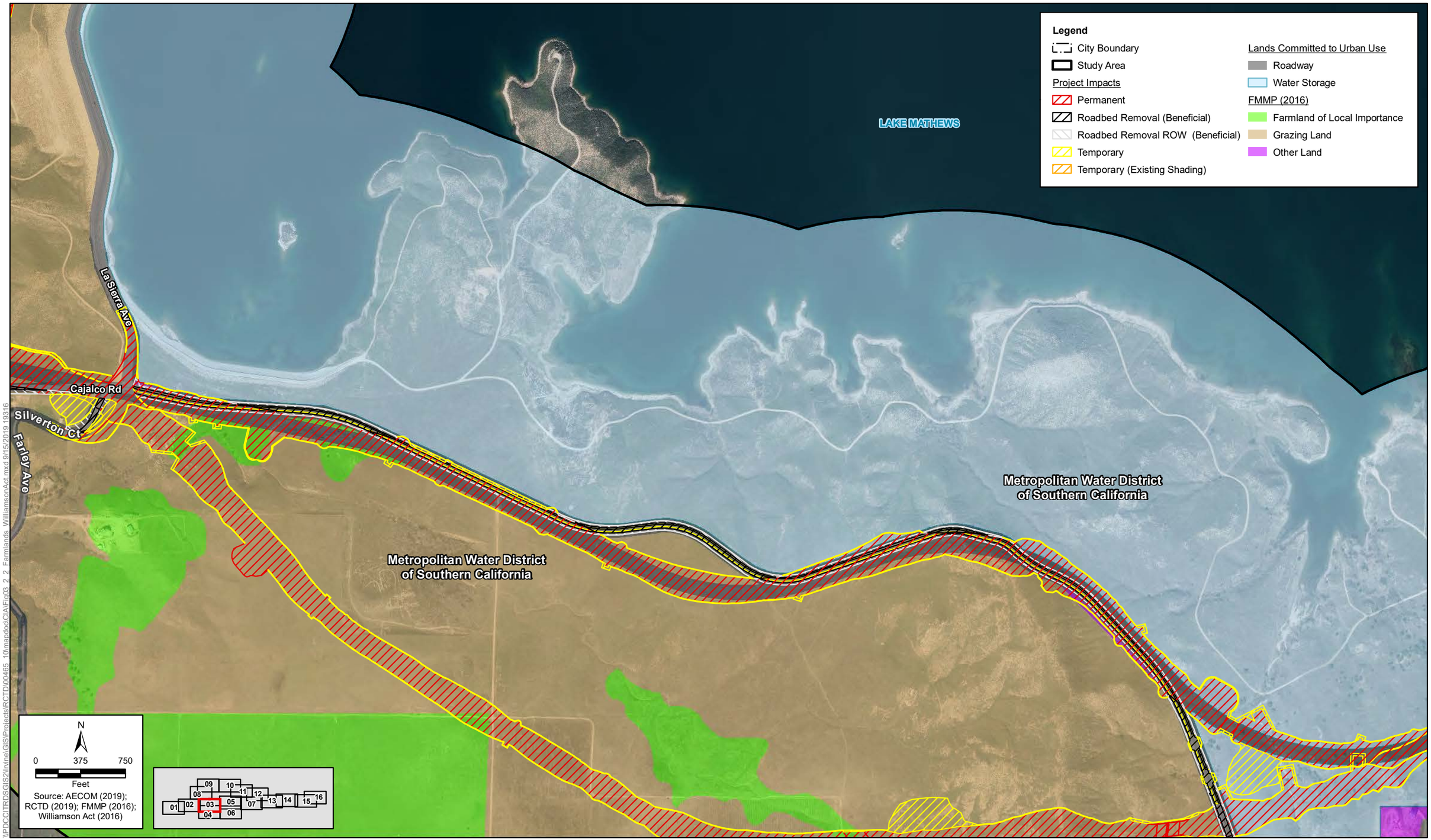

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 3 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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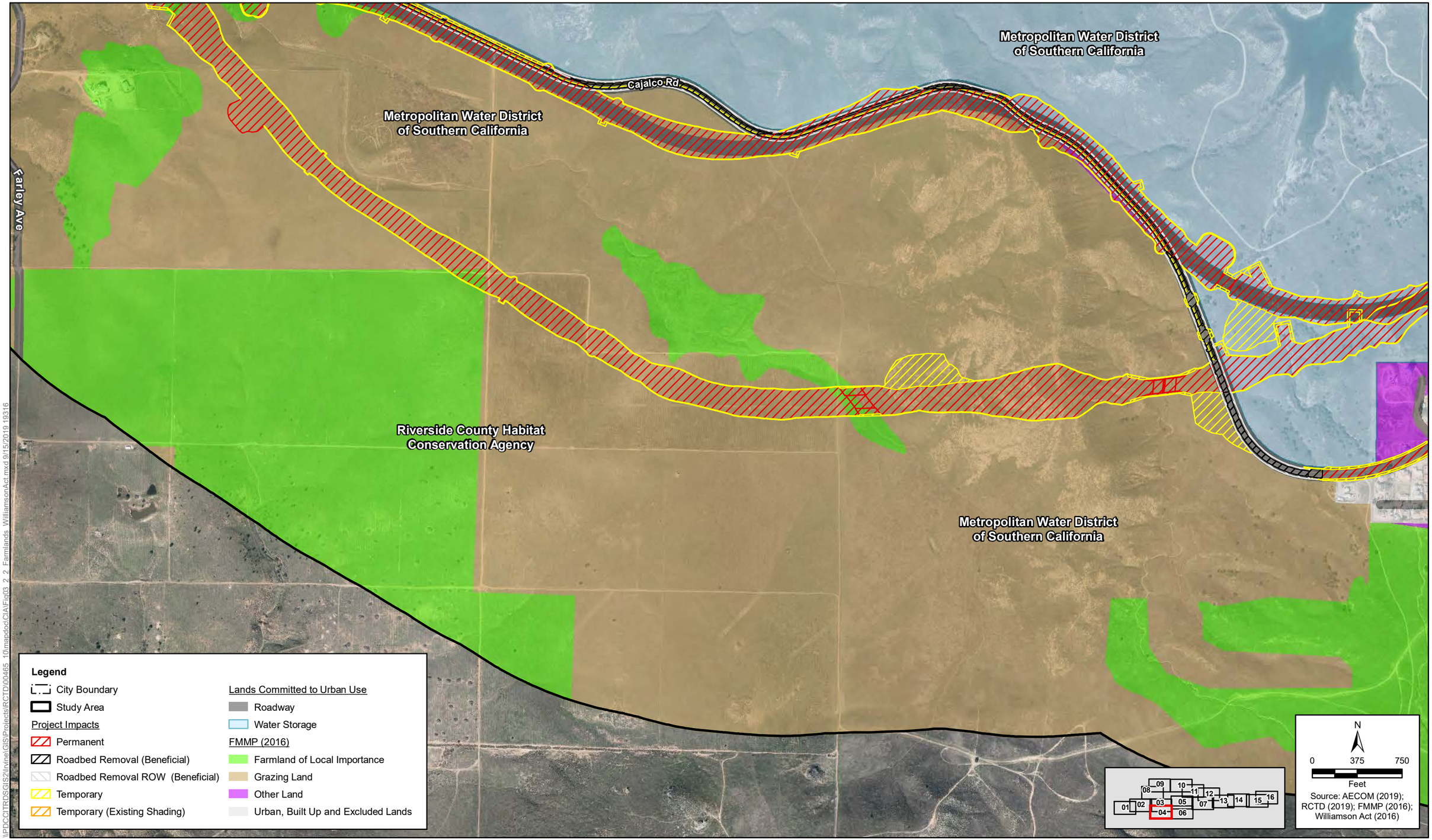

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 4 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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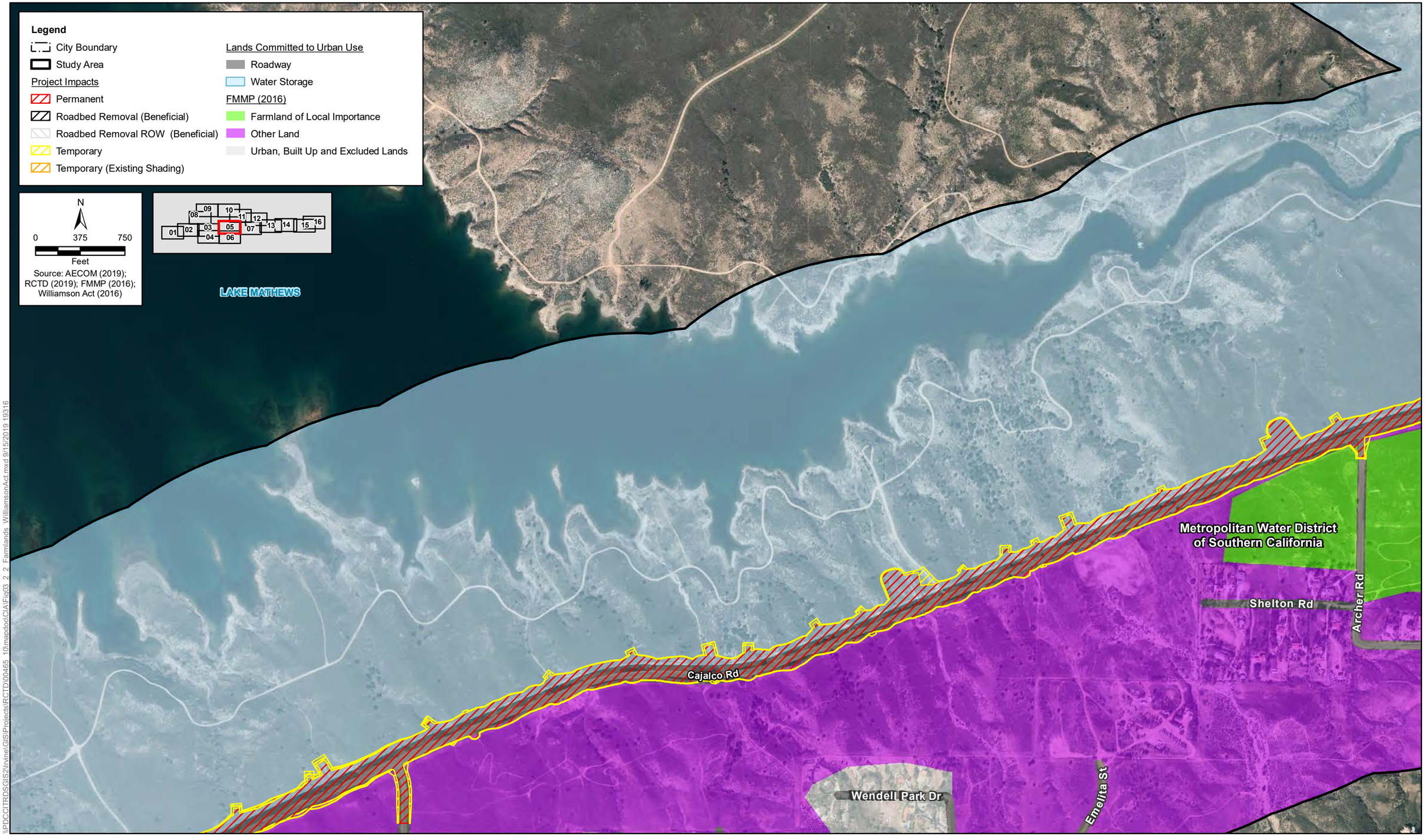

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 5 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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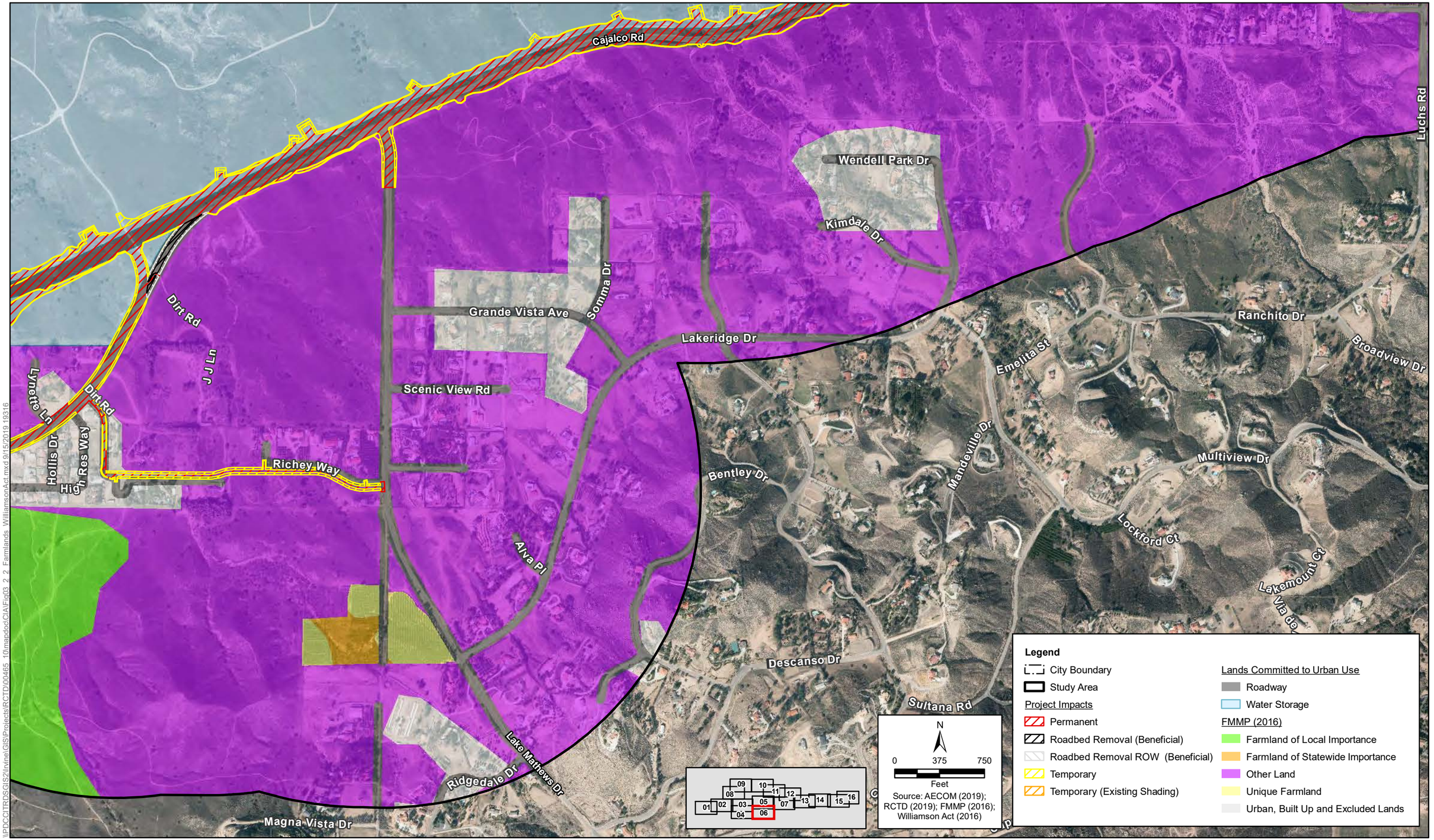

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 6 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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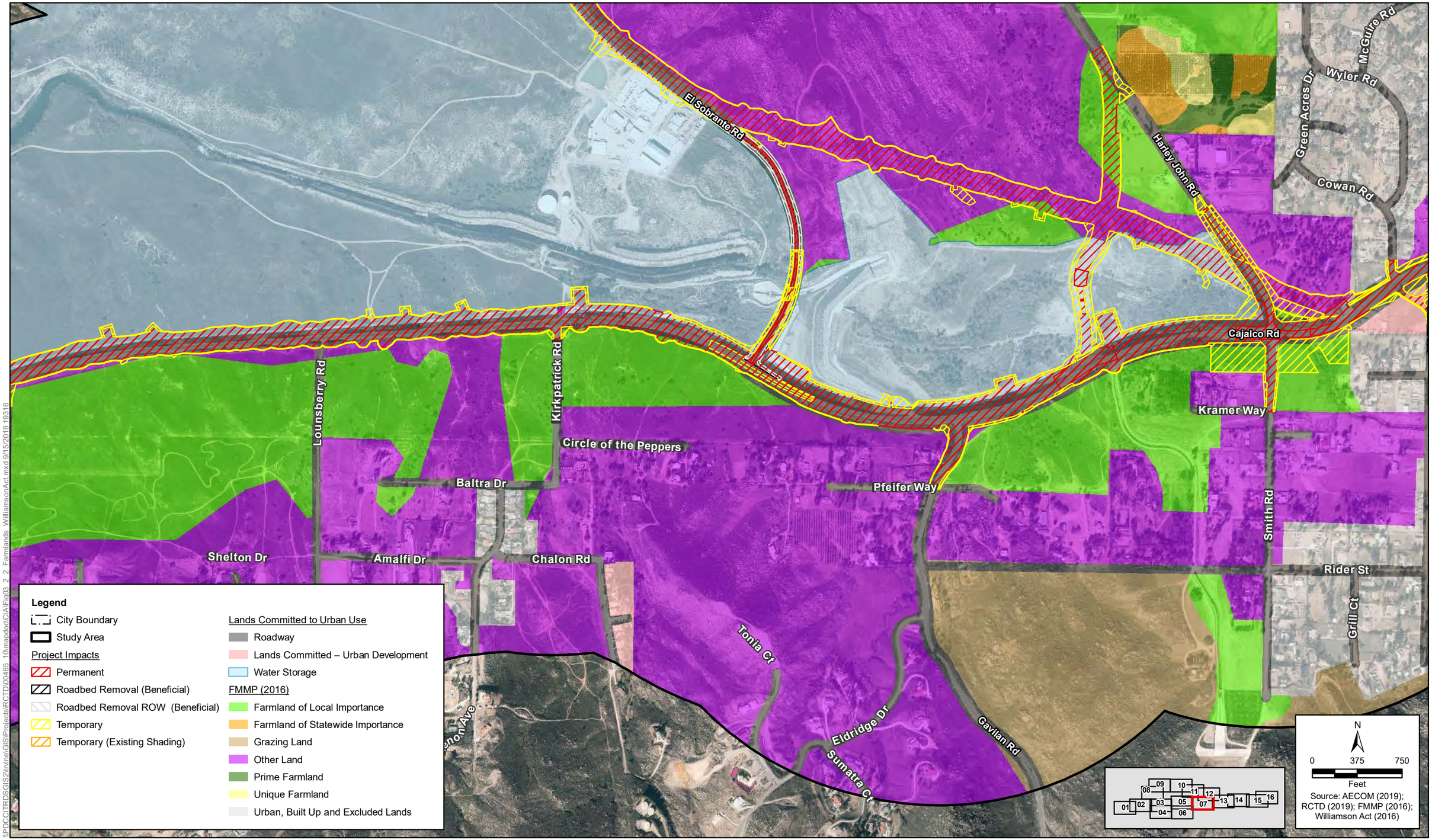

*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 7 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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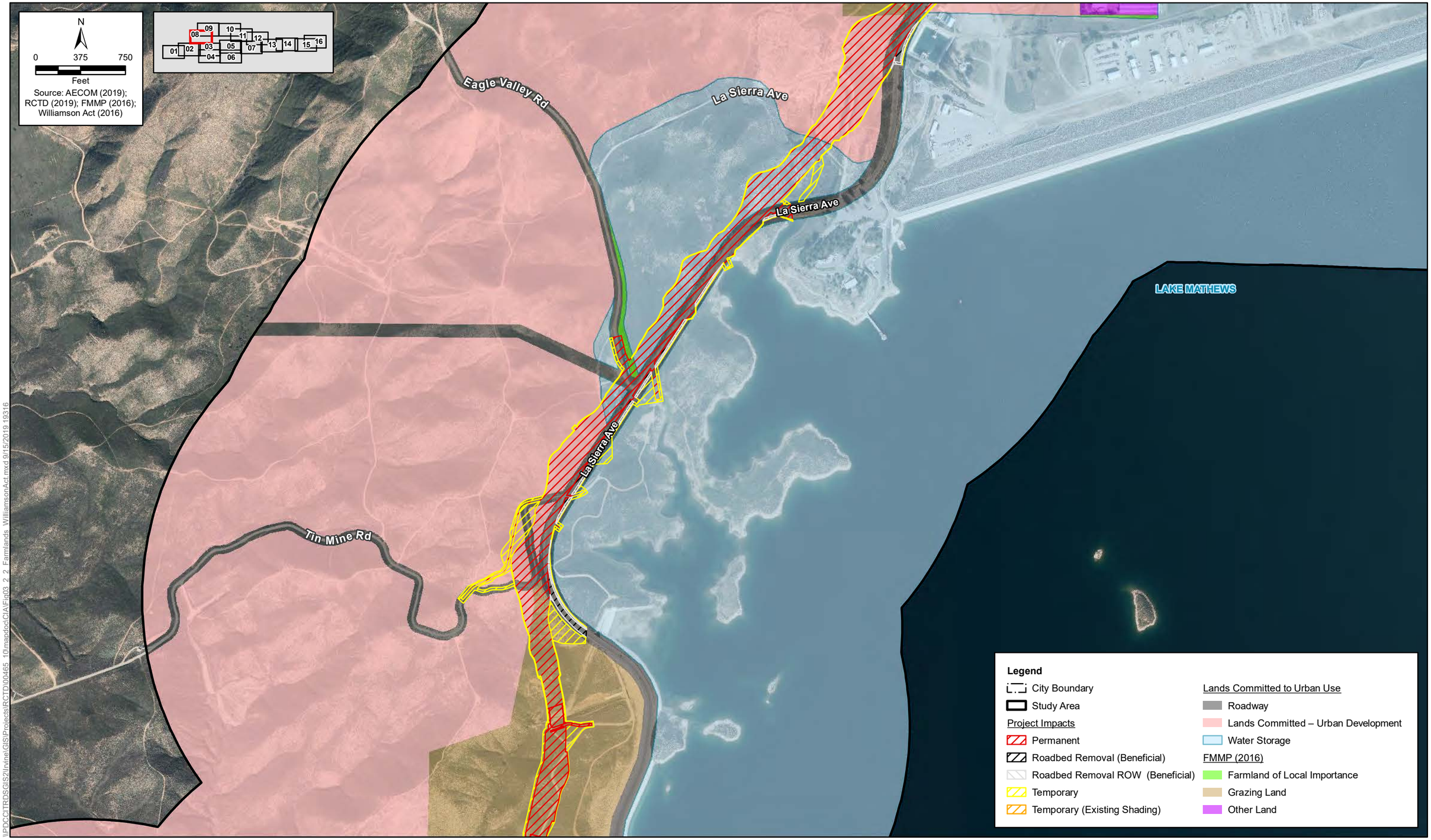

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 8 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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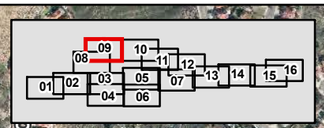
N

0 375 750

Feet

Source: AECOM (2019); RCTD (2019); FMMP (2016); Williamson Act (2016)



Oleander Ave
Briarwood Dr
Sandlewood Dr
Mesa Grove Dr
Schoolhouse Rd
Sunrise Ridge Dr
Heights Ln
McAllister St
Blackburn Rd
Avocado Ln
Greentree Dr
Lake Crest Dr
Mountain Ct
Lakepointe Dr
Oe's Quest Ln
Cedarwood Dr
Poinsetta Dr
Willow Dr
Royal Palm Ln
Robusta Dr
Orangeblossom Ln
Fan Palm Ln
Orangewood Ln
Boxwood Dr
Bougainvillea Way
Avocado Way
Peach Dr
Aloe Ln
Mimosa Ln
Mango Ln
El Sobrante Rd
Eagle Valley Rd
La Sierra Ave
La Sierra Ave
Tin Mine Rd
LAKE MATHEWS

Legend

City Boundary
Study Area

Project Impacts
Permanent
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary
Temporary (Existing Shading)

Lands Committed to Urban Use
Roadway
Lands Committed – Urban Development
Water Storage

Williamson Act (2016)
Non-Prime
Non-Prime Non-Renewal
Prime
Prime Non-Renewal

FMMP (2016)
Farmland of Local Importance
Farmland of Statewide Importance
Grazing Land
Other Land
Prime Farmland
Unique Farmland
Urban, Built Up and Excluded Lands

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 9 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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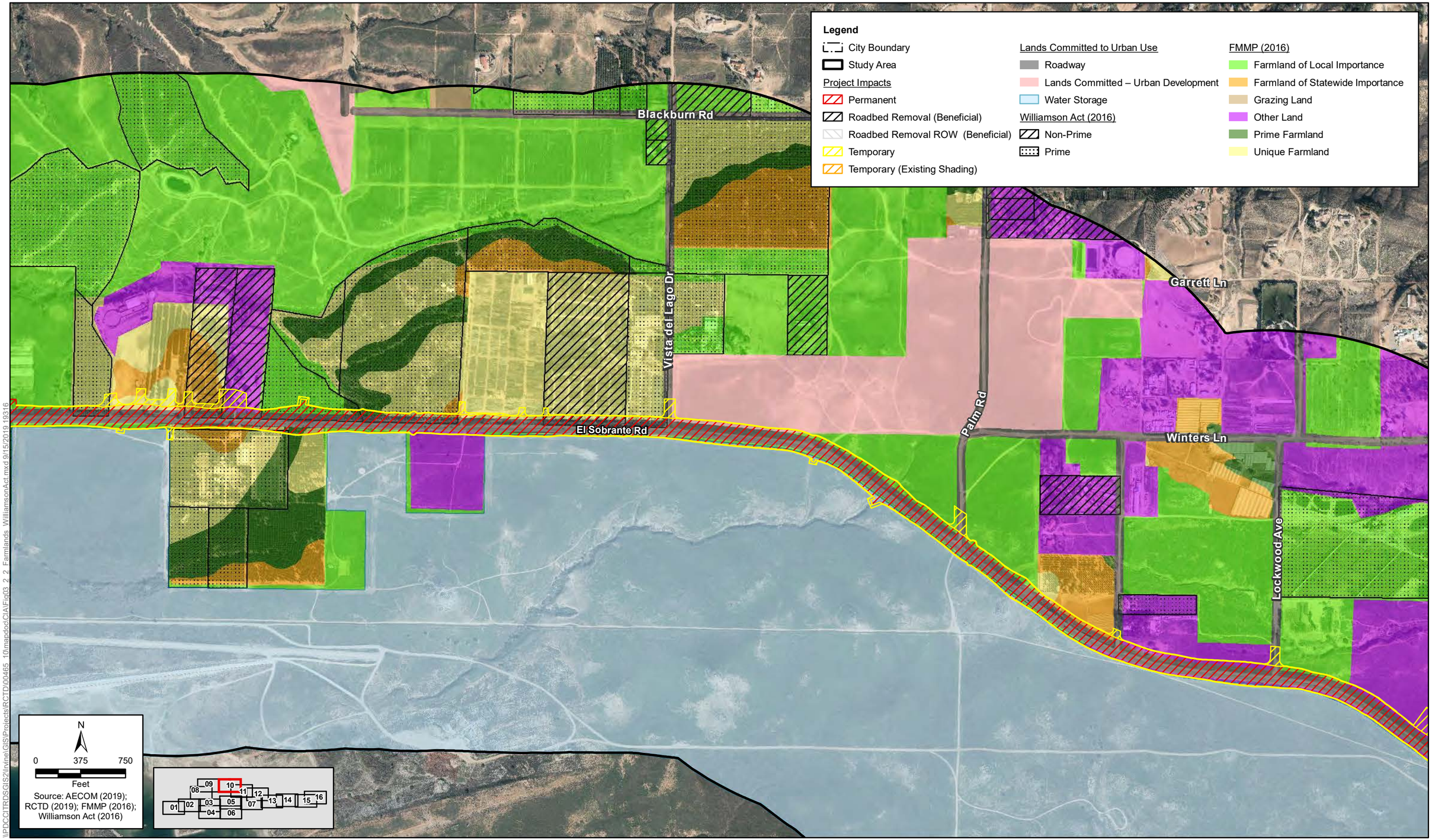

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 10 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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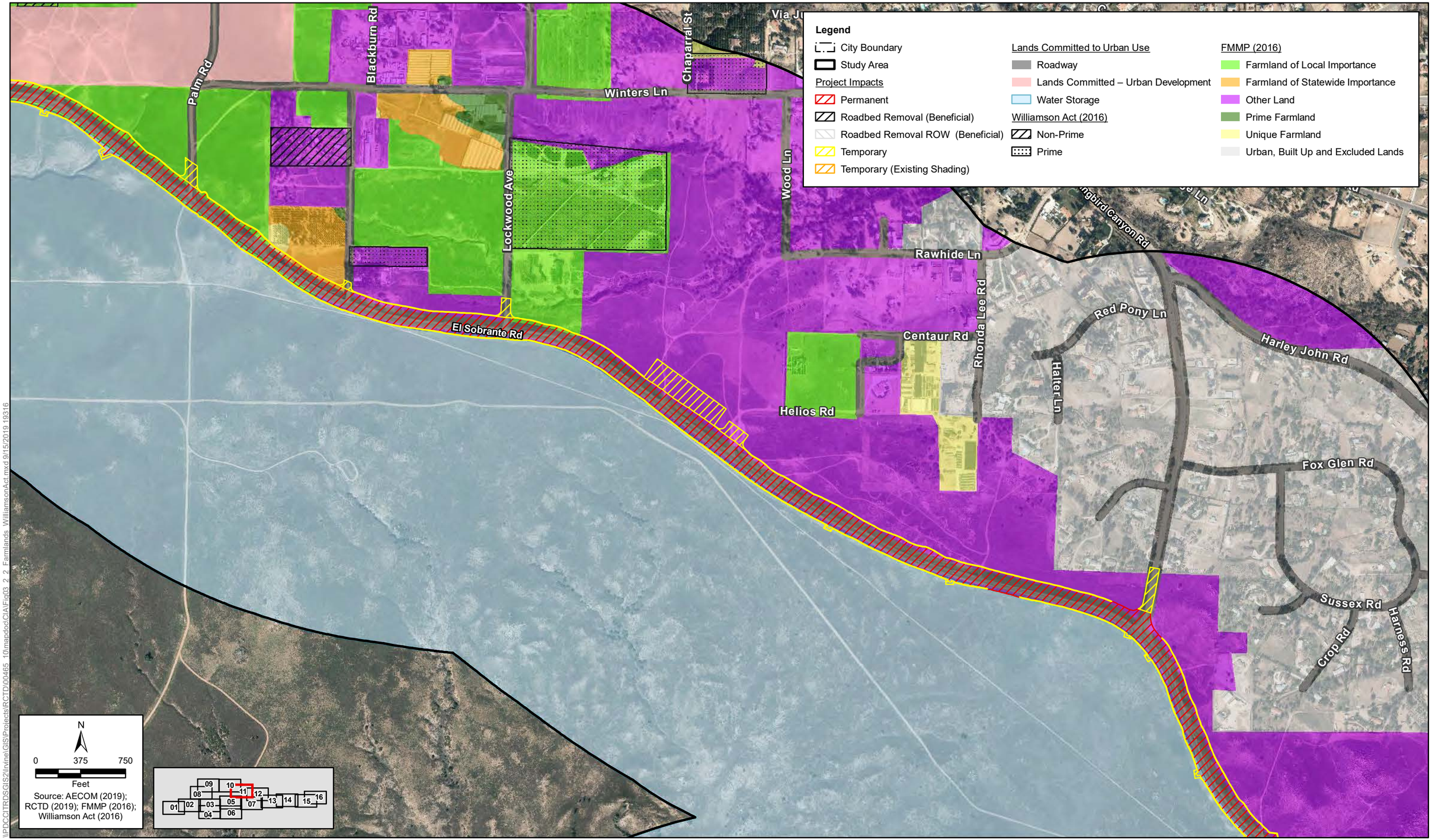

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 11 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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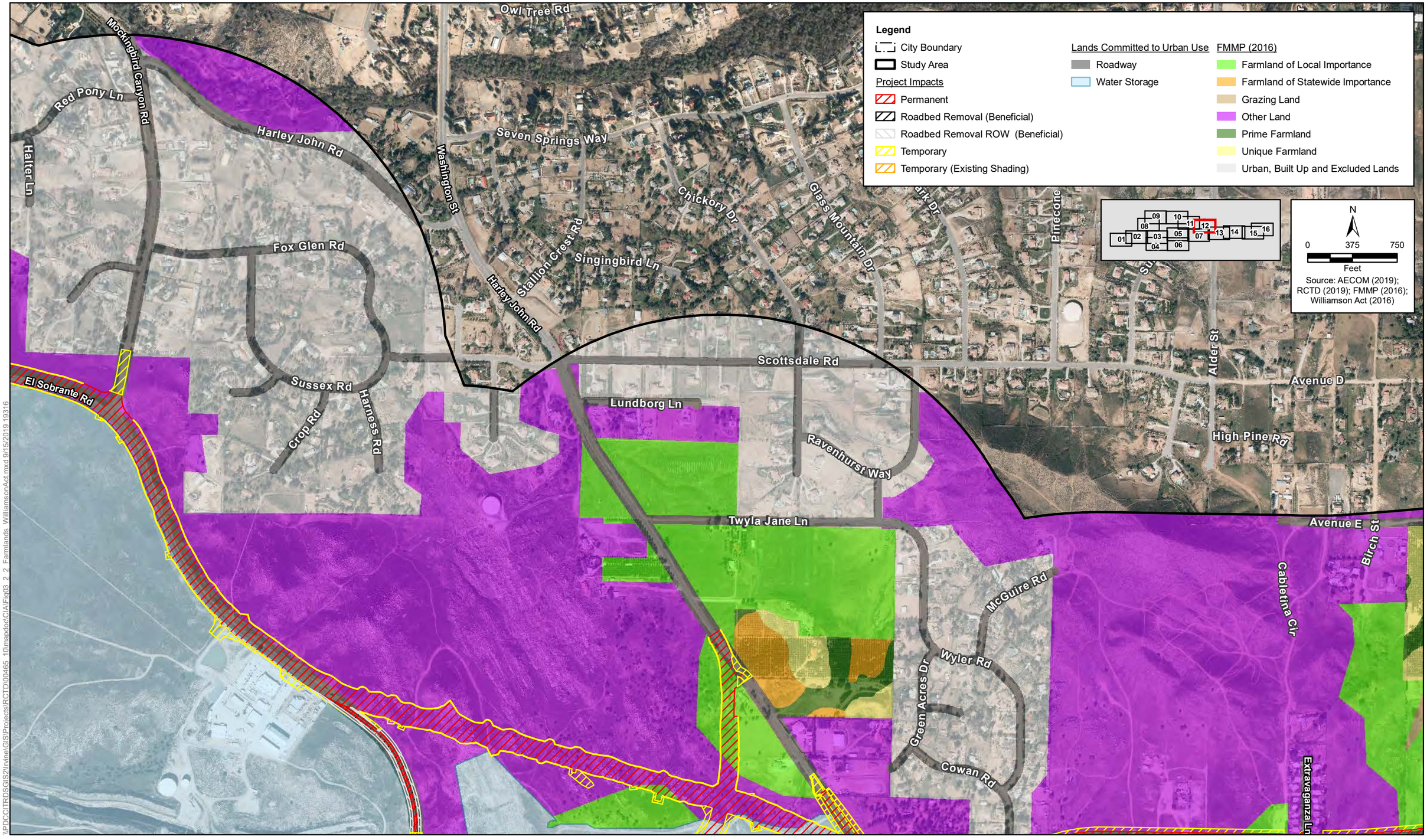

*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 12 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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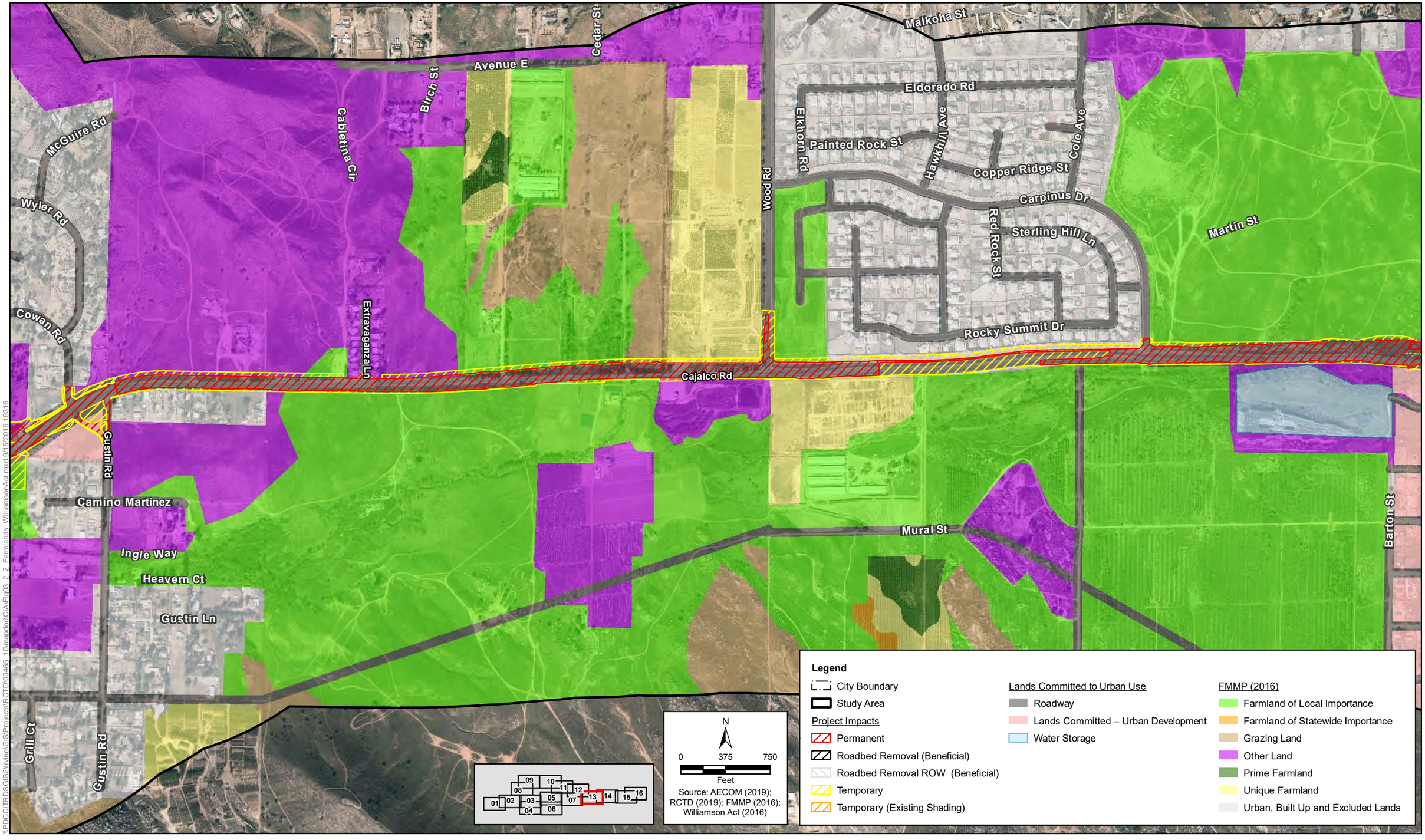

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 13 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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Legend

City Boundary
Study Area

Project Impacts
Permanent
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary
Temporary (Existing Shading)

Lands Committed to Urban Use
Roadway
Lands Committed – Urban Development
Water Storage

FMMP (2016)
Farmland of Local Importance
Grazing Land
Other Land
Unique Farmland
Urban, Built Up and Excluded Lands

Luttrell Ln
Ila Ln
Hallett St
Jean St
China Ln
Byron St
Martin St
Kinney St
Arruda Ct
Hicks St
Carpinus Dr
Sterling Hill Ln
Burns St
Dawes St
Moore St
Short Ridge St
Alexander St
Florence St
Clark St
Wells St
Johnson St
Brown St
Rocky Summit Dr
Cajalco Rd
Barton St
Souder St
Mead St
Elmwood St
Hunter St
Mural St
Una St
Oakwood St
Haines St
Myron St
Pinewood St
Verta St
Rider St
Barnes Rd
Lee Dr
Old Elsinore Rd
Cedar St

N
0 375 750
Feet
Source: AECOM (2019); RCTD (2019); FMMP (2016); Williamson Act (2016)

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 14 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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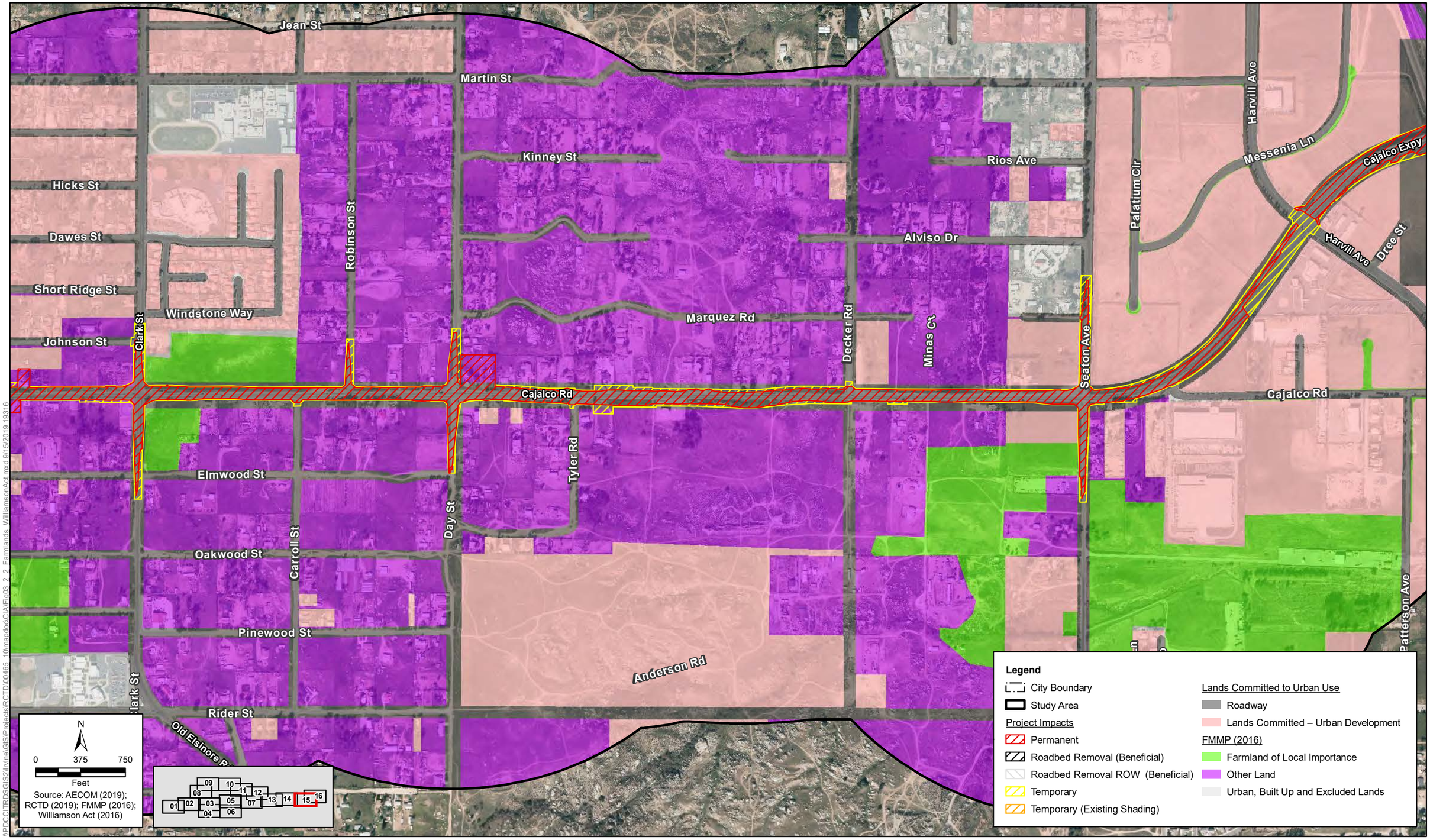

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 15 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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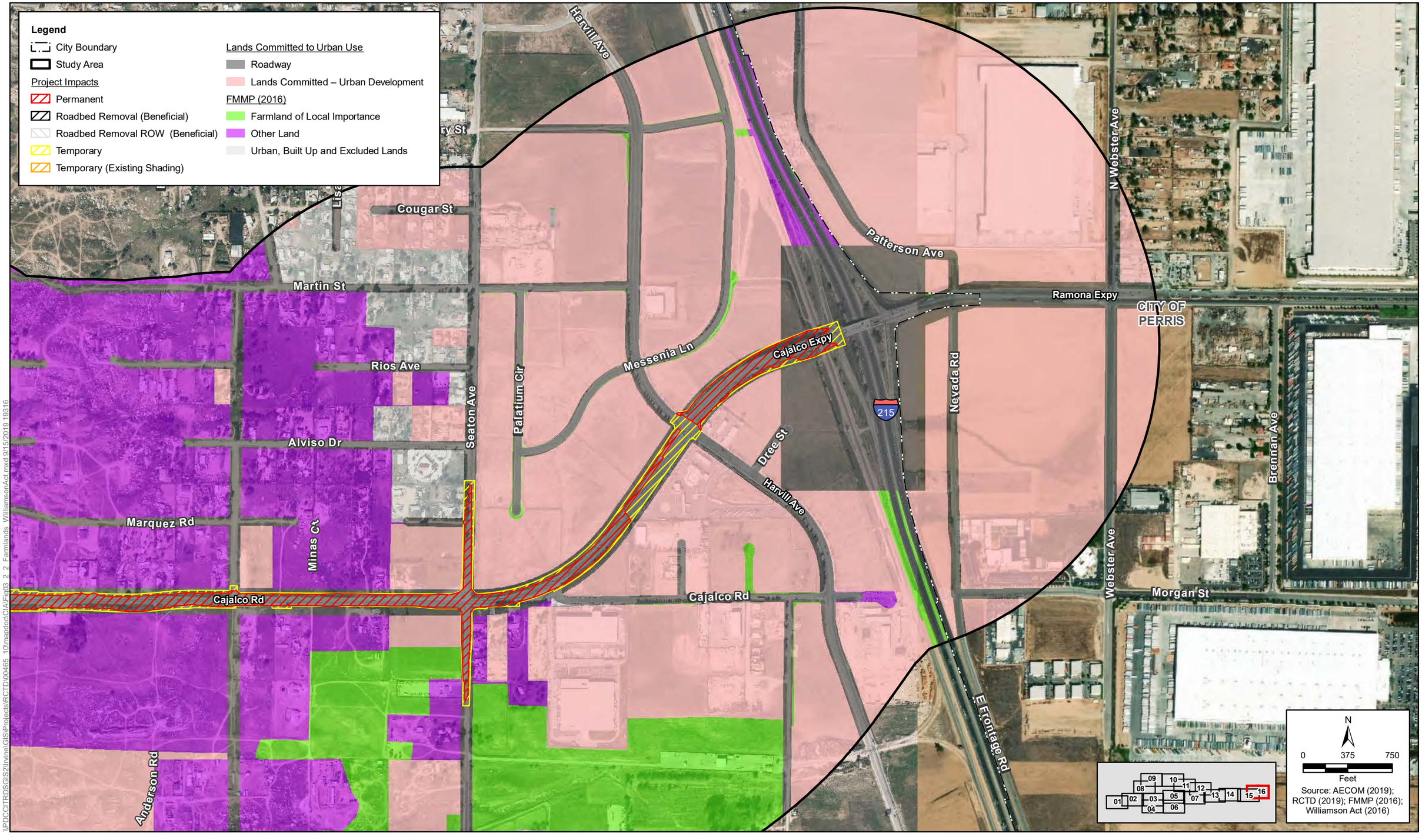

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*Lands committed to urban development per City and County zoning codes have been excluded from this analysis

Figure 3.2-1 - Sheet 16 of 16
FMMP Designated Farmland and Williamson Act Land
Cajalco Road Widening and Safety Enhancement Project

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NRCS reviewed and completed Parts II, IV, and V of the form on September 27, 2019. Refer to Appendix I for the completed Form CPA 106 for all build alternatives of the proposed project. The total site assessment rating for Build Alternative 1 is 90, well below the threshold score of 160 (CFR 658.4(c)(2)), largely due to the location of the acquisition on each parcel and the small size of project encroachment relative to the overall parcel. With the proposed improvements to, and realignments of, an existing roadway facility, and acquisitions as proposed, no agricultural parcels would be bisected, and the remainder of each parcel could continue to be used for agricultural purposes. Access to remaining areas of agricultural parcels would be ensured with the implementation of Standard Project Measure **PF FA-1**, below.

- **PF FA-1**: Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway.

Compensation to individual landowners for property impacts would be addressed and negotiated through the right of way acquisition process, as warranted (refer to Standard Project Measure **PF COM-1** in Section 3.4.1, *Community Character and Cohesion*).

Given the limited percentage of FMMP important farmland that would be converted within the study area, viability and quantity of, and access to, the remaining farmland of affected properties for agricultural use, and total assessment rating comparative to the threshold score, substantial adverse impacts on FMMP important farmland are not anticipated as a result of Build Alternative 1.

Future Six-Lane Facility (Build Alternative 1)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not affect farmland resources because no further acquisition of right of way or easements within designated farmlands are proposed for the six-lane facility.

Lake Mathews MSHCP (Build Alternative 1)

Under Build Alternative 1, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities—including a drainage basin, culverts, bridges, and wildlife crossings—would also be constructed. As indicated under Affected Environment, above, the LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews reservoir and dam facilities. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Changes to the LM MSHCP that allow for the proposed project would result in the conversion of limited areas of FMMP-criteria farmland within the LM MSHCP area. Given the limited percentage of FMMP important farmland that would be converted and low site assessment rating under Build Alternative 1, and further limited farmland areas within the LM MSHCP, substantial adverse impacts on FMMP important farmland would not occur.

Build Alternative 2C—Modified Cajalco Alignment

As shown in Table 3.2-2 and Figure 3.2-1, Build Alternative 2C would require permanent conversion of 7.85 acres of FMMP important farmland composed of 0.19 acre of Unique Farmland and 7.66 acres of Farmland of Local Importance, which represents 0.27 percent of the FMMP important farmland in the study area. Because no Prime farmland would be converted, Build Alternative 2C would not result in the conversion or loss of Prime farmland within the County. Build Alternative 2C would not affect any Williamson Act land.

The completed Form CPA 106 for the proposed project indicates the total site assessment rating for Build Alternative 2C is 90, well below the threshold score of 160 (CFR 658.4(c)(2)), largely due to the location of the acquisition on each parcel and the small size of project encroachment relative to the overall parcel. Refer to Appendix I for the completed Form CPA 106 for all build alternatives of the proposed project. With the proposed improvements to, and realignments of, an existing roadway facility, and acquisition as proposed, no agricultural parcels would be bisected and the remainder of each parcel could continue to be used for agricultural purposes. Access to remaining areas of agricultural parcels would be ensured with the implementation of Standard Project Measure **PF FA-1**. Compensation to individual landowners for property impacts would be addressed and negotiated through the right of way acquisition process, as warranted (refer to Standard Project Measure **PF COM-1** in Section 3.4.1, *Community Character and Cohesion*).

Given the limited percentage of FMMP important farmland that would be converted within the study area, viability and quantity of, and access to, the remaining farmland of affected properties for agricultural use, and total assessment rating comparative to the threshold score, substantially adverse impacts on FMMP important farmland are not anticipated as a result of Build Alternative 2C.

Future Six-Lane Facility (Build Alternative 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not affect farmland resources because no further acquisitions of right of way within designated farmlands are proposed for the six-lane facility.

Lake Mathews MSHCP (Build Alternative 2C)

Under Build Alternative 2C, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities—including a drainage basin, culverts, bridges, and wildlife crossings—would also be constructed. As indicated under Affected Environment, above, the LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews reservoir and dam facilities. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Changes to the LM MSHCP that allow for the proposed project would result in the conversion of limited areas of FMMP-criteria farmland within the LM MSHCP area. Given the limited percentage of FMMP important farmland that would be converted and low site assessment rating under Build Alternative 2C, and

further limited farmland areas within the LM MSHCP, substantial adverse impacts on FMMP important farmland would not occur.

Build Alternative 4—El Sobrante Alignment

FMMP Important Farmland

As indicated in Table 3.2-2 and shown on Figure 3.2-1, Build Alternative 4 would require permanent conversion of 23.72 acres of FMMP important farmland composed of 0.47 acre of Prime Farmland, 3.08 acres of Unique Farmland, 0.99 acre of Farmland of Statewide Importance, and 18.89 acres of Farmland of Local Importance, which represents 0.83 percent of the FMMP important farmland in the study area. The conversion of 0.47 acre of Prime farmland under Build Alternative 4 would represent the conversion or loss of 0.04 percent of the 117,484 total acres of Prime Farmland within the County (California Department of Conservation 2016b).

The completed Form CPA 106 for the proposed project indicates the total assessment rating for Build Alternative 4 is 130, below the threshold score of 160 (CFR 658.4(c)(2)), largely due to the location of the acquisition on each parcel and the small size of project encroachment relative to the overall parcel. Refer to Appendix I for Form CPA 106 for all build alternatives. With the proposed improvements to, and realignments of, existing roadway facilities, and acquisition as proposed, no agricultural parcels would be bisected and the remainder of each parcel could continue to be used for agricultural purposes. Access to remaining areas of agricultural parcels would be ensured with the implementation of Standard Project Measure **PF FA-1**. Compensation to individual landowners for property impacts would be addressed and negotiated through the right of way acquisition process, as warranted.

Given the limited percentage of FMMP important farmland that would be converted within the study area, viability and quantity of, and access to, the remaining farmland of affected properties for agricultural use, and total assessment rating comparative to the threshold score, adverse impacts on FMMP important farmland are not anticipated as a result of Build Alternative 4.

Williamson Act Contract Land

A total of 4.79 acres of land from the eight properties currently under Williamson Act contract listed in Table 3.2-3 would be permanently acquired and incorporated into the transportation system under Build Alternative 4.

Table 3.2-3. Williamson Act Land Impacts – Build Alternative 4

Assessor's Parcel Number (APN)	Contract No.	Parcel Size (acres)	Acquisition Area (acres)
270-140-001	19479	36.88	0.96
270-140-004	19063	19.4	0.82
270-140-005	20110	9.70	0.41
270-160-010	19288	8.24	1.12
270-160-016	20143	9.7	0.35
270-160-022	20510	4.41	0.36
270-160-026	20145	9.44	0.40
270-160-027	19508	9.55	0.37
Source: County of Riverside, Carla Reis-Trovillion, Assessor-County Clerk-Recorder, (email) September 5, 2019.			

Because Build Alternative 4 would not exceed the state threshold of 100 acres of Williamson Act contract cancellations, an adverse impact on Williamson Act land would not occur.

Section 51291 of the Williamson Act requires notification to the Director of Conservation and the local governing body responsible for the administration of agricultural preserves of the intended acquisition of lands within an agricultural preserve or property restricted by Williamson Act contract for public use. Because Build Alternative 4 is one of three build alternatives under consideration for the proposed project, the Director of the Department of Conservation was notified of potential acquisition of the properties listed in Table 3.2-3, above, on September 17, 2019.[1] The notification is included in Appendix I of this EIR/EIS and includes the following:

- Explanation of its preliminary considerations of the findings of Government Code §51292 (a) and (b);
    a. "The location is not based primarily on a consideration of the lower cost of acquiring land in an agricultural preserve (§51292(a))."
    b. "There is no other land within or outside of the preserve on which it is reasonably feasible to locate the public improvement (§51292(b))."
- A description of the agricultural preserve land it intends to acquire; and
- A copy of the Land Conservation Act contract on property that pertains to any land subject to the restrictions of such a contract between the local governing body, city, or county responsible for the administration of the agricultural preserve where the property to be acquired is located.

In response to the notification, the Department of Conservation responded in an email to the County on September 27, 2019, stating that the Department of Conservation offers no comments to the proposed acquisition of the property and advising that Government Code §51291(c) requires Riverside County to notify the Department of Conservation once the property is acquired. Refer to Appendix I for full response.

If Build Alternative 4 is identified as the preferred alternative, a second notice would be provided to the Department of Conservation within 10 working days following acquisition of the properties, and include the following:

- General explanation of the decision and the findings made pursuant to Government Code §51292.
- General description, in text or by diagram, of the agricultural preserve land acquired (a vicinity map is good); and
- Copy of the applicable Land Conservation Act contract(s).

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of

[1] The County of Riverside serves as the local governing body responsible for administration of the contracts listed in Table 3.2-3.

the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not affect farmland resources. Construction may result in intermittent traffic delays that may temporarily affect farming operations until the project is completed; however, with the implementation of a Traffic Management Plan (TMP), the delays would be temporary and are not anticipated to be substantial enough to interfere with farming operations. Please refer to Section 3.1, *Land Use*, for Standard Project Measure **PF LU-1**.

Lake Mathews MSHCP (Build Alternative 4)

Under Build Alternative 4, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities—including a drainage basin, culverts, bridges, and wildlife crossings—would also be constructed. As indicated under Affected Environment, above, the LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews reservoir and dam facilities. As such, FMMP-criteria farmland within the LM MSHCP is not currently used for farming purposes. Further, conversions of FMMP within the LM MSHCP would not occur. No Williamson Act land would be affected within the LM MSHCP.

No-Build Alternative

The No-Build Alternative would not affect FMMP-designated farmland or Williamson Act land because the proposed project would not be constructed, avoiding any conversion of FMMP-designated farmland or Williamson Act land.

3.2.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

Table 3.2-2 indicates the acres of FMMP important farmland and Williamson Act land that would be temporarily affected under each build alternative. Construction of the project would involve temporary, localized disturbance and temporary construction easements, affecting some FMMP Important Farmlands within the project study area. Build Alternatives 1 and 2C would involve temporary occupation of 10.8 acres of FMMP important farmland during construction, and Build Alternative 4 would involve temporary occupation of 9.86 acres of FMMP important farmland. The temporarily impacted acreages under each build alternative represent approximately 0.4 percent of all the total FMMP important farmland in the study area. Given the small percentage of FMMP Important Farmland with temporary impacts within the study area and implementation of Standard Project Measure **PF FA-2**, below, adverse impacts on FMMP important farmland would not be anticipated as a result of the build alternatives.

- **PF FA-2**: Farmland temporarily affected during construction activities will be returned to conditions that allow for continued use and function as farmland following construction of the project. Any compensation deemed necessary for continuation of pre-project farming operations affected by the project will be negotiated in accordance with the federal Uniform Relocation Assistance and Property Acquisition Act of 1970, as amended (42 United States Code Sections 4601-4655).

Build Alternatives 1 and 2C would not involve temporary impacts on Williamson Act land. Under Build Alternative 4, however, 2.12 acres of Williamson Act land would be temporarily

occupied and would experience impacts during construction. Because the temporary impacts of Build Alternative 4 would not exceed the state threshold of 100 acres of Williamson Act contract cancellations, and be returned to conditions that allow for continued use and function as farmland following construction of the project under Standard Project Measure **PF FA-2**, the proposed project would not result in an adverse temporary impact on Williamson Act lands.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road under Build Alternatives 1 and 2C, and within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that construction activities would be limited to median areas and previously acquired roadway right of way; therefore, the additional lanes would not affect farmland resources.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, temporary construction activities and associated impacts on FMMP Important Farmland within the LM MSHCP area would be the same as those described under Build Alternatives 1, 2C, and 4, above.

3.2.4 Avoidance, Minimization, and/or Mitigation Measures

Standard Project Measures **PF FA-1**, **PF FA-2**, **PF LU-1** (TMP) in Section 3.1.1, *Land Use*, and **PF COM-1** (property acquisitions) in Section 3.4.1, *Community Character and Cohesion*, would be included in the proposed project to address impacts identified above.

3.3 Growth

3.3.1 Regulatory Setting

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

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

3.3.2 Affected Environment

The Community Impact Assessment (CIA) and *Errata* prepared for this project (Caltrans 2018, 2021) was used in the preparation of this section of the document.

Many factors other than a project's construction affect the amount, location, and rate of growth in a project study area, including the following:

- Market demand for new development
- The availability of other access, existing roads, or planned roads
- Developable land
- National and regional economic trends
- The availability of other infrastructure, such as water and sewer systems
- Governmental policies
- Climate

The population of Riverside County has grown since 2015 and is expected to continue growing through 2040. Population growth projections developed for the Southern California Association of Government's (SCAG's) 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) indicate that the population of Riverside County is expected to increase from 2,316,000 to 3,183,000 between 2015 and 2040, which is a 37.4-percent increase (SCAG 2016). The same report indicates that the population of the City of Corona is expected to increase from 156,000 to 172,300 between 2012 and 2040, which is a 10.5-percent increase, while the City of Perris is expected to increase from 70,700 to 116,700, which is a 65-percent increase. See Section 1.2.2.1 (*Regional Population Forecasts*) in Chapter 1, *Proposed Project*, for a detailed discussion of regional population trends.

Population growth is an important factor in determining future travel demand. Increases in population, housing, and employment, as projected by SCAG's 2016–2040 RTP/SCS, and the more recently adopted 2020–2045 RTP/SCS, result in greater demand for transportation facilities and services. Increased travel demand results in congestion on roadways if capacity does not keep up with the demand. Cajalco Road between Temescal Canyon Road and Interstate 215 (I-215) has been identified as needing additional capacity to address existing and projected demands from the growth and development that is currently taking place in communities close by, and this growth is expected to continue. The general plans of Riverside County and the Cities of Corona, Riverside, and Perris promote transportation improvements to help support their anticipated population growth. The City of Riverside is included in this analysis because it is a large city in the project region, even though it is not within a half mile of the project alignments.

SCAG's RTP/SCS explains that one of the building blocks of creating more sustainable communities is managing demands on the transportation system in ways that reduce or eliminate traffic congestion during peak periods of demand.

With the project study area, the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) and Lake Mathews Multiple Species Reserve (LMR), span 5,993.5 acres and 5,110.4 acres, respectively, of open land around Lake Mathews. The LM MSHCP does not allow for development within its boundaries that is not directly associated with management of the LMR or Lake Mathews' reservoir and dam facilities.

3.3.3 Environmental Consequences

In 2006, the California Department of Transportation (Caltrans), in conjunction with the Federal Highway Administration (FHWA) and the United States Environmental Protection Agency (U.S. EPA), developed guidance to address California's specific challenges relating to growth-related impacts, focusing on the influence that transportation projects may have on growth and development. The guidance includes a two-phase approach for the evaluation of growth-related impacts; "first-cut screening" utilizes the questions below to identify potential for growth-related effects, and whether further analysis is necessary.

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

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

c. If there is project-related growth, is it reasonably foreseeable as defined by NEPA?

d. If project-related growth is reasonably foreseeable, would it affect resources of concern?

The following presents the results of the first-cut screening for each project alternative.

3.3.3.1 Areas of Potential Future Growth

Because growth-related effects represent permanent impacts of a project, there is no discussion of temporary impacts in this section aside from the creation of short-term construction jobs. Impacts would be considered significant for growth if the project influences growth in excess of what is projected in general plans (land use elements) or in forecasts made by regional planning agencies (such as SCAG). The extension of services and facilities to an individual site can reduce development constraints for other nearby areas and can serve to induce further development in

the vicinity. Indirect or secondary growth-inducing impacts consist of growth in the area by additional demand for housing, employment, and goods and services associated with population increases caused by, or attached to, new development.

As part of the environmental review for the project, public and agency comments were taken into consideration in the analysis. Relevant to this section, the San Jacinto Chamber of Commerce commented that it believes that the project is critical to promoting growth to the east of the project boundaries and that it is a "true catalyst of economic development." The expanded discussion provided below addresses San Jacinto Chamber of Commerce concerns.

The boundary for the identification of areas of potential growth is a 0.5-mile buffer from the build alternative alignments, as this should supply a sufficient area to analyze potential localized growth impacts. The boundary on the eastern and western project limits ends at Interstate 15 (I-15) at the western terminus and I-215 at the eastern terminus, as the benefits of the project would end at the larger freeways. The project is a local project along existing roadways in a semi-rural, partially developed area of unincorporated Riverside County. The project would not add regional connectivity, but would enhance interregional travel by improving east-west mobility in Riverside County and would enhance localized travel and relieve existing patterns of congestion. The new roadway would provide greater capacity and reduced travel times, and therefore improved accessibility for the area.

Identification of the areas of potential future growth within the boundary involved locating cumulative projects in the project vicinity, examining land use and zoning regulations within the project area, and reviewing relevant general plan goals and policies. Combined, these items provide a holistic picture of current growth trends in the area as well as how the proposed project could induce or influence growth within the project area and general region of western Riverside County.

Cumulative Projects

In addition to the project, there are a number of development and transportation projects that have been identified as planned, approved, or recently constructed within the general project vicinity that are anticipated to occur regardless of implementation of this proposed project. Each of these projects would be subject to all applicable federal and state environmental compliance requirements, as appropriate. A list of the projects considered in this analysis is provided in Table 3.25-1 in Section 3.25, *Cumulative Impacts*, and the locations of the projects are depicted on Figure 3.3-1, below.

General Plans

In addition to the projects identified within the project area, general plans also play an important role in development patterns of a place or region. General plans typically consist of development policies and text setting forth objectives, principles, standards, and expectations. They are essentially establishing long-term plans for the physical development of the county or city for which they have been authored. Under NEPA and CEQA, growth inducement is not necessarily considered detrimental, beneficial, or environmentally significant. Typically, the growth-inducing potential of a project is considered significant if it fosters growth or a concentration of population in excess of what is assumed in relevant master plans, land use plans, or projections made by regional planning agencies.

The growth-inducing potential of a project could be considered significant if it influences growth in excess of what is projected in general plans (land use elements) or in forecasts made by regional planning agencies. See Table 3.1-7, Consistency with State, Regional, and Local Plans and Programs, in Section 3.1, *Land Use*, for a consistency analysis of the proposed project and the No-Build Alternative with the relevant plans and programs.

County of Riverside General Plan

The Riverside County General Plan is a comprehensive, long-term general plan adopted in 2015. The elements of the general plan make up the framework for decision-making regarding growth and development in the county and contain goals and policies that are pertinent to the proposed project (County 2015).

Lake Mathews/Woodcrest Area Plan

Lake Mathews/Woodcrest is a community within unincorporated Riverside County. The Lake Mathews/Woodcrest Area Plan contains a Land Use Plan and identifies issues, articulates community visions, and recommends strategies for improvement and for achieving the visions. The purpose of the plan is to serve as a guide for the future development and improvement of the community (County 2016). Victoria Grove and Lake Hills are developed communities for residential uses and include a limited number of various home-based businesses. The communities are situated between businesses in Mead Valley, Temescal Canyon, and the City of Riverside.

Mead Valley Area Plan

Mead Valley is a community within unincorporated Riverside County. The Mead Valley Area Plan contains a Land Use Plan and identifies issues, articulates community visions, and recommends strategies for improvement and for achieving the visions. The purpose of the plan is to serve as a guide for the future development and improvement of the community (County 2018a).

City of Corona General Plan

The City of Corona's General Plan addresses a multitude of land use-related issues and is designed to provide policy guidance for the next 20 years and beyond. The most recent complete general plan was approved by the City Council in 2004, but it has been amended numerous times since to address changes in the direction of development, as well as to meet statutory and regulatory requirements (City of Corona 2004). The City of Corona General Plan has limited applicability to the project because the project limits extend within the plan area at the western end of the proposed alignment, near Temescal Canyon Road; the majority of the project would be within unincorporated Riverside County.

Temescal Canyon Area Plan

Temescal Canyon is an area within western Riverside County. The Temescal Canyon Area Plan contains a Land Use Plan, statistical summaries, policies, and accompanying exhibits that explain the physical, environmental, and regulatory characteristics of the area (County 2018b). The Temescal Canyon Area Plan has limited applicability to the project because the project

would only overlap with the plan area at the western end of the proposed alignment; the majority of the project would be within unincorporated Riverside County.

City of Perris General Plan

The City of Perris 2030 General Plan was adopted in 2005, but has undergone updates in 2008, 2013, 2015, and 2016. The general plan is a 30-year guide for local government decisions on growth, capital investment, and physical development in the City of Perris. It guides future development plans and gives direction on how to implement future projects (City of Perris 2005). The City of Perris General Plan has limited applicability to the project because a limited portion of the eastern end of the proposed project alignment is adjacent to the plan area; the majority of the project would be within unincorporated Riverside County.

3.3.3.2 Areas of Potential Growth Analysis

Areas of potential growth in the general vicinity of the project have been identified by pinpointing Vacant/Undeveloped lands with the zoning W-2, W-2-10, W-2-M-1/2 designations, Controlled Development Areas and Controlled Development Areas with Mobile Homes, within or near the project area. As shown in Table 3.3-1 below, the Riverside County General Plan supports areas for infill and development in economically underutilized, obsolete, and dilapidated commercial and industrial sites within existing urbanized areas, and vacant lands on the periphery of existing development. As can be shown in the table below, area-specific plans applicable to the project area anticipate infill in vacant and undeveloped lands as well as residential, commercial, and business areas. Given the project is approximately 16 miles in length, it would be beyond the scope for this effort to identify each economically underutilized, obsolete, and dilapidated commercial and industrial site, as that process would be too speculative and subjective. Therefore, vacant and undeveloped lands have been identified as areas for potential development and infill as areas with controlled development within a half mile of the project. These areas have been calculated into acres and are reflected in the table below. Areas where potential future planned development could occur are shown on Figure 3.3-1 as "Undeveloped" and described in detail in Table 3.3-1.

Table 3.3-1. Areas of Potential Future Growth

Location/Type of Growth (numbers correspond to Figure 3.3-1)	Resources of Concern and Constraints (e.g., natural resources, cultural resources, other sensitivity)
City of Corona	
Infill: The City of Corona 2020–2040 General Plan anticipates that future infill would include vacant lands in the city, redevelopment of existing sites, and effective reuse of obsolete industrial lands.	• Future infill development is anticipated to occur within obsolete industrial lands and vacant lands, and existing sites could expose people or structures to wildland fires. • Development allowed under the proposed general plan could result in substantial adverse impacts either directly or indirectly through habitat modifications to candidate, sensitive, or special-status plant and wildlife species. • New urban uses may affect scenic vistas within the Planning Area.
Note that the City of Corona General Plan is the overarching document for the area-specific plan for Temescal Canyon specified below. Therefore, acres calculated below for the area-specific	Development constraints include many areas of the city already being developed/urbanized; the Cleveland National Forest to the south/southwest and the Prado Basin are natural areas that limit outward growth.

Location/Type of Growth (numbers correspond to Figure 3.3-1)	Resources of Concern and Constraints (e.g., natural resources, cultural resources, other sensitivity)
Temescal Canyon community falls within this general plan purview.	
City of Perris	
Infill: The City of Perris 2014–2021 Housing Element (adopted 2013) anticipates that housing growth is expected to occur in vacant lots.	• Loss of agricultural land, as it is expected to be converted for urban uses • Impacts on biological resources can be expected as a result of infill. • Ninety-eight historic sites occur in the city limits. • Areas sensitive to archaeological resources located throughout the city. • Availability and quality of water • Sensitive geologic and seismic conditions • March Air Reserve Base
Potential Growth Area City of Perris Approximate acreage: 13 acres	As identified in the City's general plan, development constraints could include governmental, market, infrastructure, and environmental factors, such as land use controls, outdated zoning, seismic hazard zones, flooding, etc.
Riverside County	
Infill: The County of Riverside General Plan (2015) supports infill in economically underutilized, obsolete, and dilapidated commercial and industrial sites within existing urbanized areas, and vacant lands on the periphery of existing development.	• Areas sensitive to floods • San Andreas fault and county fault zones • Land use compatibility • Biological resources • Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan
Note that the Riverside County General Plan is the overarching document for the area-specific plans specified below. Therefore, acres calculated below for area-specific communities in unincorporated Riverside County fall within this general plan purview.	Development constraints include multiple conservation and mitigation lands, historic resources, archaeological and tribal resources, biological resources including candidate, sensitive, or special-status plant and wildlife species, and lands subject to severe natural hazards.
Unincorporated Community of Temescal Canyon	
The Temescal Canyon Area Plan (2018) intensifies and mixes uses at a development node adjacent to I-15, more accurately reflects topography and natural resources in the Santa Ana Mountains and Gavilan Hills with appropriate land use designations, and avoids high-intensity development in natural hazard areas. The plan utilizes more detailed land use designations than what are applied than for the countywide general plan.	• Santa Ana Mountains • Cleveland National Forest • Santa Ana River • Gavilan Hills • Temescal Wash • Flooding and dam inundation • Wildland fire hazard • Seismic and slope hazards
Potential Growth Area Temescal Canyon Approximate acreage: 497 acres	The Open Space Foundation Component land uses compose the majority of the unincorporated planning area for this community. The Cleveland National Forest and Prado Basin account for much of this acreage. Therefore, the Temescal Canyon community has a wealth of natural resources that provide natural barriers to development, which puts the emphasis on the importance of the remaining limited land area to house and employ the existing population, to accommodate the growth pressures in western Riverside County.

Location/Type of Growth (numbers correspond to Figure 3.3-1)	Resources of Concern and Constraints (e.g., natural resources, cultural resources, other sensitivity)
Unincorporated Community of Mead Valley	
The Mead Valley Area Plan (2018) states that growth is focused in areas that are well served by public facilities and services or where they can readily be provided. Note that the County of Riverside General Plan establishes standards and policies for development within the entire unincorporated Riverside County territory, into which Mead Valley falls.	• Open space and rural setting • Flooding and dam inundation • Wildland fire hazard • Seismic and slope hazards • Mount Palomar Observatory
Potential Growth Area Mead Valley Approximate acreage: 1,100 acres	Constraints to development include local open space policies, floodplain hazard areas, preservation of agricultural lands, and many of the policies in the area's general plan have an emphasis to protect local open space areas.
Lake Mathews/Gavilan Hills/Woodcrest/Mockingbird Canyon/Lake Hills/Victoria Grove	
Infill: The communities of Lake Mathews, Gavilan Hills, Woodcrest, and Mockingbird Canyon are covered under the Lake Mathews/Woodcrest Area Plan (Revised 2016). Specific land use areas already targeted for development: Open Space, Agriculture, Rural, Rural Community, and Community Development.	• Loss of agricultural land, as it is expected to be converted for urban uses • Lake Mathews reservoir • Harford Springs Wildlife Reserve • Open space and rural setting • Flooding and dam inundation • Wildland fire hazard • Seismic and slope hazards
Potential Growth Area *Lake Mathews/ Gavilan Hills/Woodcrest/Mockingbird Canyon/Lake Hills/Home Garden/ Victoria Grove* Areas[1]: Approximate acreage Lake Hills/Home Gardens: 10 acres Approximate acreage Lake Mathews/ Gavilan Hills: 1,507 acres Approximate acreage Victoria Grove: 11 acres Approximate acreage Woodcrest/ Mockingbird Canyon: 770 acres	Constraints to development include Lake Mathews reservoir and watershed area, open space and conservation areas, flood hazard areas, and hills, mountains, and watercourses that frame the valley that work as natural barriers. In addition, many policies are geared toward preserving the rural nature of the area and emphasize the need for adequate and available infrastructure to support proposed development.
Sources: City of Perris 2008, 2013; County of Riverside 2015, 2018a, 2018b	

As can be seen in the table, within a half mile of the project, the local general plans have identified approximately 3,908.46 acres where growth is anticipated. As can be seen on Figure 3.3-1, the planned projects in the project vicinity are primarily located along the shared portion of the project alignment on the western end of the project terminus near Temescal Canyon Road in Corona (projects 4-7), near the shared portion of the alignment on the eastern terminus near Cajalco Road in Mead Valley (Projects 16 through 18 and 20 through 22), and in the City of Perris near the Ramona Expressway (Projects 24 through 29). In addition, there are three planned projects near El Sobrante Road where Build Alternative 4 would be constructed (Projects 11 through 13, with 14 a little farther to the north). Planned growth is already anticipated to occur near the alignments, regardless of which build alternative is chosen.

[1] According to the County of Riverside General Plan Lake Mathews/Woodcrest Area Plan (2003), the Lake Hills and Victoria Grove communities are covered under the Lake Mathews/Woodcrest Area Plan.

These projects nearest the proposed alignments are a mixture of residential, transportation, recreational (golf course), business, and industrial projects. Each of these projects would be subject to its own environmental review.

Both existing and planned land uses within the western limits of the study area that surround the intersection of Temescal Canyon Road and Cajalco Road are a mix of commercial, industrial, and residential uses. Immediately northwest of the intersection is a strip mall that contains a mix of commercial businesses, including restaurants and retail stores. The Crossings at Corona shopping center is immediately east of I-15. Directly southwest of the intersection is undeveloped land, and farther southwest is a trucking center, an office building, and single-family homes. Southeast of the intersection is another trucking center and farther southeast is the community of Dos Lagos, which contains single-family homes and the Dos Lagos Golf Course. Northeast of the intersection is undeveloped land, and farther northeast is a commercial storage center.

These areas are consistent with the County's plan for infill and development to occur in undeveloped/vacant lands, and in residential and business/industrial areas (see Figure 3.3-2). This indicates that the planned development of the project area would occur regardless of implementation or operation of any of the build alternatives. The widened and realigned roadway proposed by the project would provide greater capacity and reduced travel times, and therefore improved accessibility for the area. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

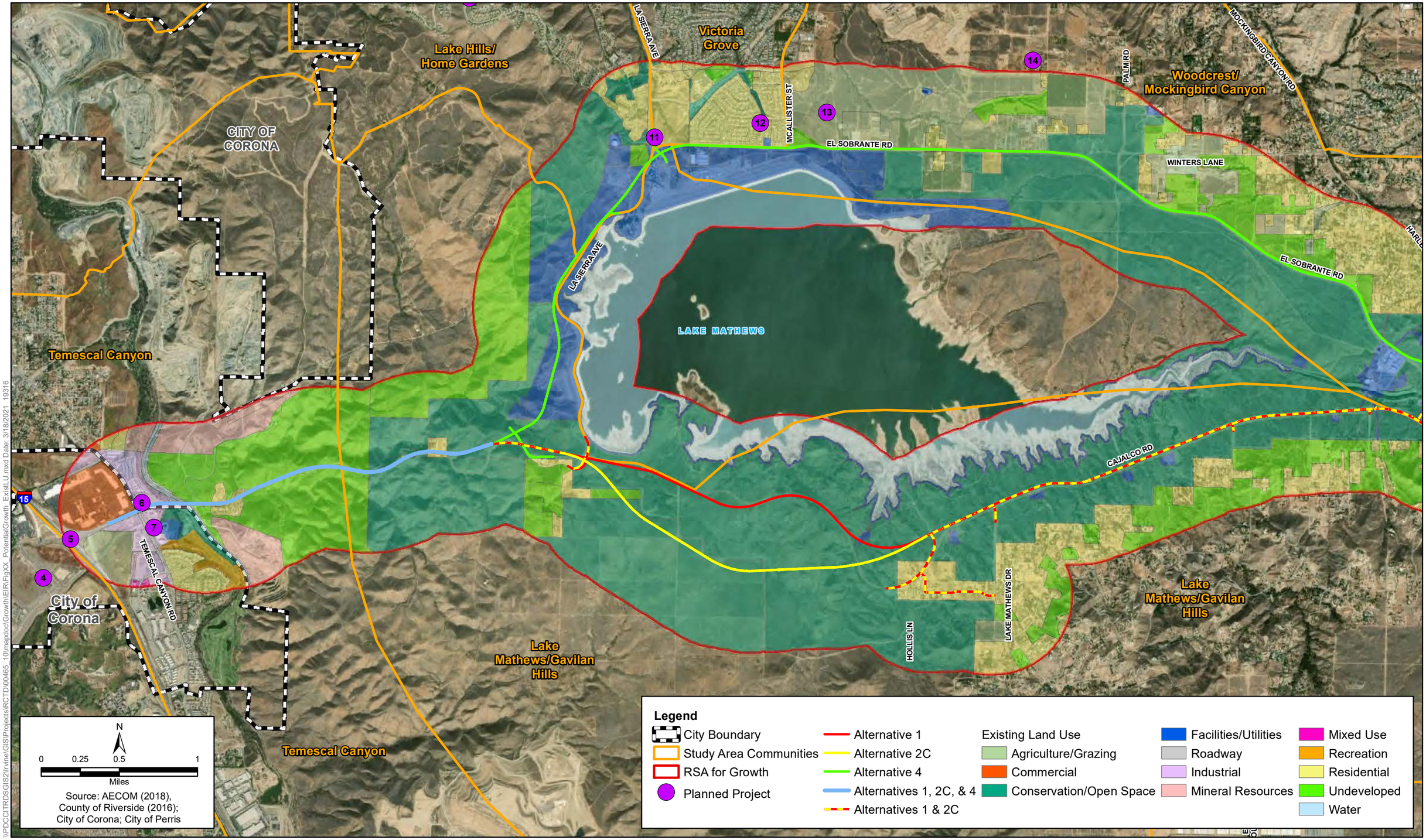

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Figure 3.3-1 Sheet 1
Areas of Potential Growth Map
Cajalco Road Widening and Safety Enhancement Project

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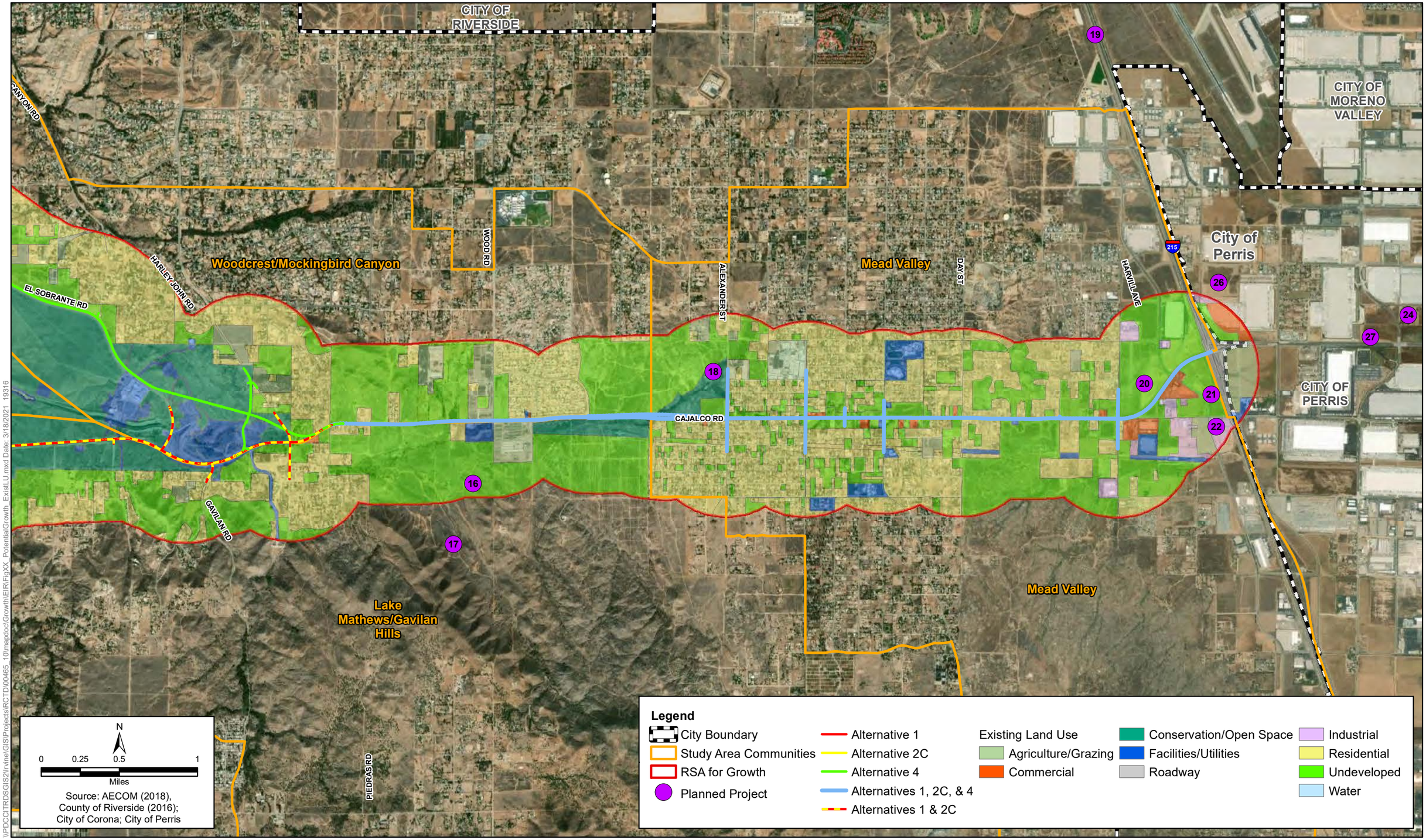

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Figure 3.3-1 Sheet 2
Areas of Potential Growth Map
Cajalco Road Widening and Safety Enhancement Project

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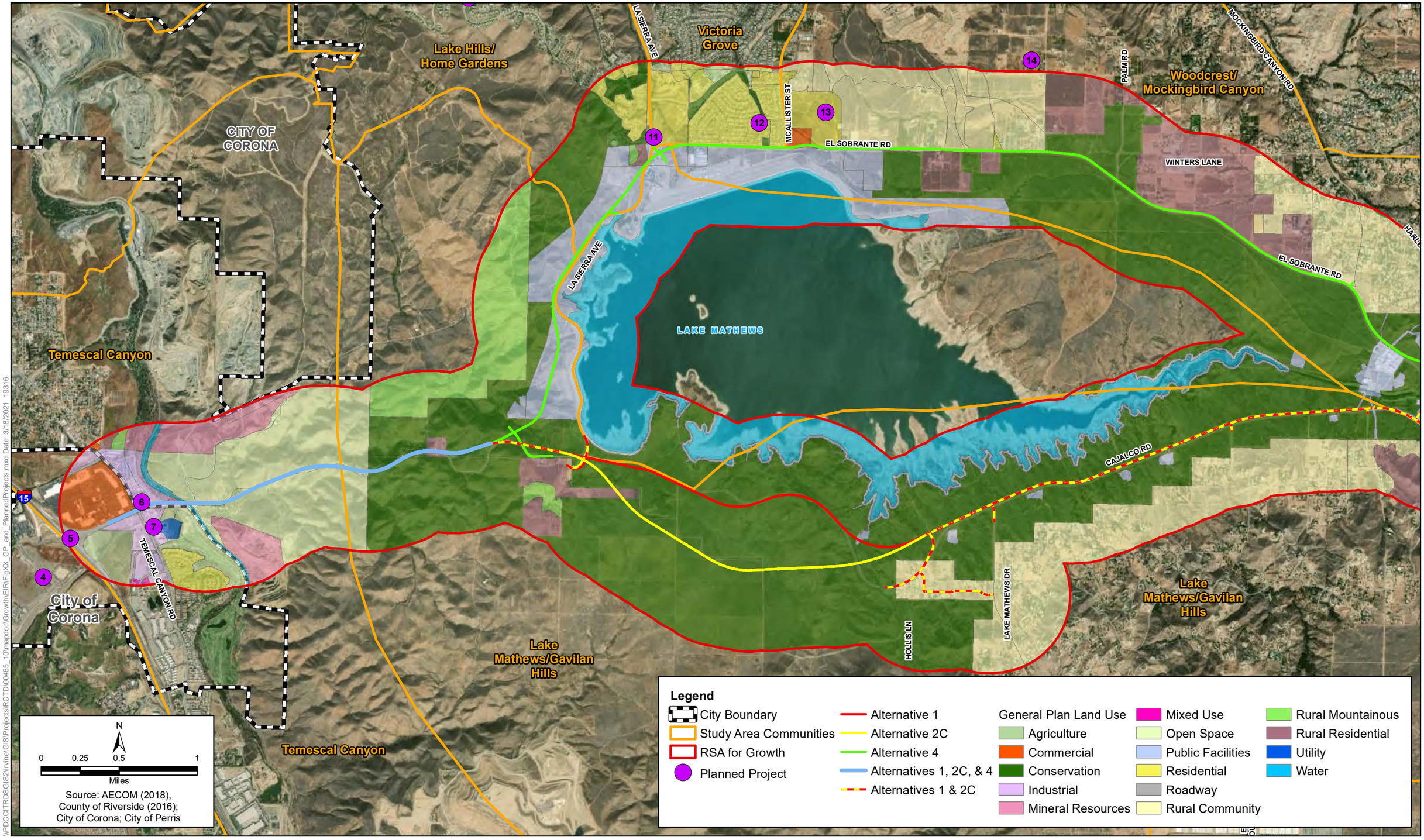

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Figure 3.3-2 Sheet 1
General Plan Designations and Planned Projects
Cajalco Road Widening and Safety Enhancement Project

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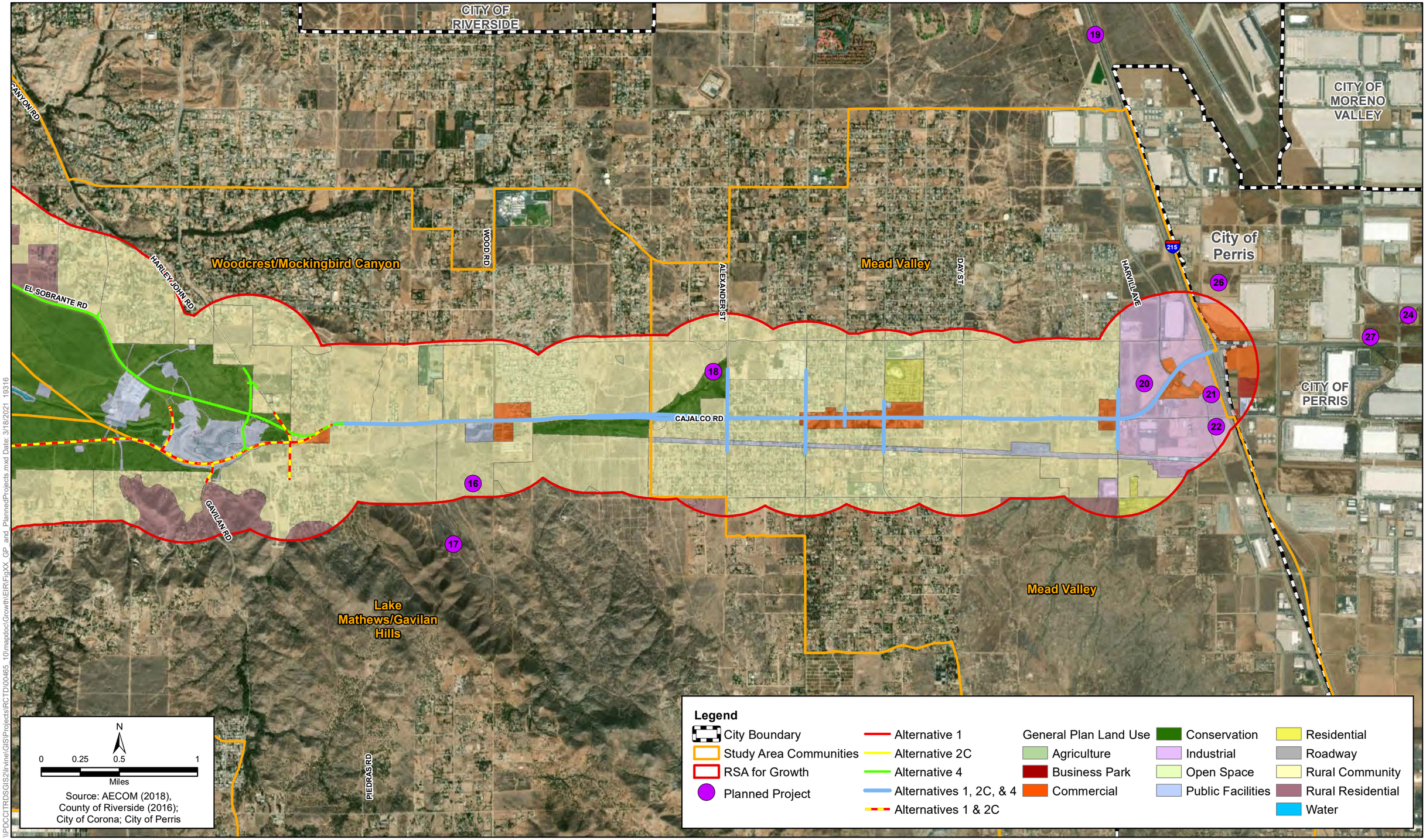

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Figure 3.3-2 Sheet 2
General Plan Designations and Planned Projects
Cajalco Road Widening and Safety Enhancement Project

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3.3.3.3 Build Alternative 1—Cajalco Road Alignment

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

Build Alternative 1 would result in modifications to accessibility by increasing the capacity of Cajalco Road, adding traffic flow controls such as center medians and turn lanes, realigning sections of Cajalco Road and intersecting roadways, adding a new roadway connection, constructing designated bus pull-outs, and adding crosswalks and sidewalks.

Increased Capacity

Under Build Alternative 1, the existing two-lane Cajalco Road facility would be widened to four lanes (two eastbound and two westbound) between east of Temescal Creek Bridge and Harvill Avenue. Between Temescal Canyon Road and Temescal Creek Bridge, two eastbound lanes would be added, and between Harvill Avenue and I-215 southbound ramps, two additional through lanes (one in each direction) would be added, for a total of six through lanes along these segments of Cajalco Road. Refer to Figures 2.2-1 and 2.2-3 in Chapter 2, *Project Alternatives*.

Undeveloped lands directly along Cajalco Road, and along certain intersecting roadways, are primarily committed for conservation under the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), LM MSHCP, Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), and Metropolitan Water District of Southern California (MWD) water management facilities; however, limited undeveloped parcels occur along Cajalco Road. Furthermore, undeveloped parcels not limited by habitat conservation plan restrictions also occur along intersecting roadways with Cajalco Road and may be more accessible from anticipated improvements in east-west mobility, traffic flow, and travel times along Cajalco Road.

The increased capacity of Cajalco Road is anticipated to improve east-west mobility, traffic flow, and travel times along Cajalco Road. This can allow for increased access to businesses along Cajalco Road and to undeveloped areas—which exclude conservation lands, as those cannot be developed—that can be accessed by roadways that connect with Cajalco Road. The project would widen the roadway to four lanes between Harvill Avenue and Temescal Canyon Road, and to six lanes between the I-215 southbound ramps and Harvill Avenue, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. However, no new access will be provided regionally, as this is an existing transportation corridor. This build alternative addresses projected Cajalco Road capacity deficiency by adding two additional lanes, and turn pockets and includes right of way for two additional future lanes for the segment of Cajalco Road between Temescal Creek Bridge and Harley John Road. The intent of including the additional median area is to ensure that future impacts on the conservation areas, which the majority of the proposed six-lane alignment is located within, would be minimized to the extent feasible if the roadway is widened to six lanes in the future. Increased capacity could provide easier accessibility for motorists in the project area.

Roadway Realignments and Connections

Under Build Alternative 1, Cajalco Road would be realigned between west of Lake Mathews Drive and La Sierra Avenue. The purpose of the realignment is to reduce the curves required along Cajalco Road, which improves the safety of the roadway and allows for increased speeds.

This realignment benefits the Lake Mathews community by placing the new segment of widened and higher-capacity roadway farther from existing homes, and vehicles traveling between Corona and Perris would no longer need to travel directly through the portion of the Lake Mathews residential community that fronts Cajalco Road. The redirection of traffic north of the residences would occur within the LM MSHCP area that would be fenced from access.

South of the existing segment of Cajalco Road west of Lake Mathews Drive, a new road connection approximately 1,350 feet in length would connect Dirt Road to Richey Way. The eastern terminus of Richey Way at Lake Mathews Drive would also be widened slightly and graded. This new road connection would provide emergency access as well as improved connectivity and accessibility within the Lake Mathews community. Because Dirt Road and Richey Way are existing roadways that are accessible by the public, the new connection would not create new access to previously inaccessible areas; it would remove an existing curve on Cajalco Road and enhance access and circulation within the Lake Mathews community.

The intersection of Gustin Road with Cajalco Road would be shifted approximately 265 feet to the west to align with Cowan Road and create a new four-way intersection. A cul-de-sac would be placed at the northern terminus of the existing Gustin Road and Gustin Road would be realigned through undeveloped parcels to intersect with Cajalco Road west of the cul-de-sac. The change would redirect traffic away from residences east of Gustin Road and closer to the Lake Mathews Market. Access to the undeveloped parcels exists under current conditions and would not be increased or decreased as a result of the Gustin Road realignment. Because the Lake Mathews Market is currently accessible available via Gustin Road and Cowan Road, the realignment of Gustin Road would not introduce new access to the market.

Between Carpinus Drive and Alexander Street, Cajalco Road eastbound and westbound lanes would be divided, and a maximum right of way width of approximately 400 feet utilized to accommodate a new bridge over Cajalco Creek just west of Barton Street. Access to undeveloped lands north and south of the divided road segment would not increase because design elements that would promote access such as roadway turnoffs or parking areas would not be included, and the roadway would be fenced on the north side between Carpinus Drive and Alexander Street and on the south side between Carpinus Drive and Barton Street.

Build Alternative 1 would not provide new access to areas that are currently undeveloped; however, the increased capacity of Cajalco Road is anticipated to improve east-west mobility, traffic flow, and travel times along Cajalco Road. This can allow for increased access to businesses along Cajalco Road and to undeveloped areas that can be accessed by roadways that connect with Cajalco Road. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

Traffic Flow Controls

A comprehensive field review of intersection lane configurations and traffic control devices was completed for all build alternatives for this project. Median areas, turn lanes, and turn pockets would be placed at designated locations to accommodate through traffic and control cross-traffic movement. Under Build Alternative 1, new signals are proposed at the following intersections with Cajalco Road: Eagle Canyon Road, Cajalco Road west of Lake Mathews Drive (new

intersection), Lake Mathews Drive, Archer Road, Kirkpatrick Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue. The signals would replace the stop signs currently used to control traffic entering Cajalco Road at these intersections. The signals would allow for improved control of cross-traffic and traffic flow, as well as pedestrian crossing, intersection safety lighting, signing, and striping.

Medians of various widths and types are proposed to provide for the separation of opposing traffic, control cross-traffic, provide a recovery area for out-of-control vehicles, and allow space for speed changes and for left and U-turns. Left-turn lanes and right-turn pocket lanes are also proposed to be constructed along the roadway at selected intersections to accommodate through traffic and control cross-traffic movement. These left- and right-turn lanes would be designed to accommodate vehicles with trailers and provide alternate access options for local residents and business owners. These changes would affect current local access patterns for residents and businesses that directly front Cajalco Road. Regional access patterns would not be changed under this alternative. However, Build Alternative 1 would improve interregional travel by improving east-west mobility in Riverside County.

Transit and Pedestrian Facilities

Build Alternative 1 would replace existing bus stops utilized by Riverside Transit Agency (RTA) along Cajalco Road with improved bus pull-outs that would allow for buses to fully exit travel lanes and through traffic at designated stops. The improved mobility along Cajalco Road between Corona and Perris would be expected to benefit both local and regional commuters that use Cajalco Road and RTA to connect with Metrolink's 91/Perris Valley Line in Perris and the Corona Transit Center in Corona.

Americans with Disabilities Act (ADA)-compliant sidewalks would be constructed along one side of Cajalco Road in some locations through the Mead Valley community where residential and commercial properties are present to improve local pedestrian movement. Traffic signal and crosswalk improvements are also proposed to assist with crossing Cajalco Road, which would benefit community members and schools and would provide more pedestrian access to local community members.

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

Roadway widening and capacity-increasing projects have potential to indirectly influence growth by creating conditions that attract additional residents or new economic activity. In general, a roadway widening project may affect the overall growth in the area studied, the location of growth within the area, and the rate of growth by providing new access, more direct access, or an improved level of service (LOS) on existing roadways. Growth expected to occur within the project vicinity is anticipated to occur primarily through infill development in designated parts of the county and cities per local land use plans and zoning.

As can be seen on Figure 3.3-1, the planned projects in the project vicinity are primarily along the shared portion of the project alignment on the western end of the project terminus near Temescal Canyon Road in Corona (Projects 4 through 7), near the shared portion of the alignment on the eastern terminus near Cajalco Road in Mead Valley (Projects 16 through 18 and 20 through 22), and in the City of Perris near the Ramona Expressway Projects 24 through

29). These areas are consistent with the County's plan for infill and development to occur in undeveloped/vacant lands, and in residential and business/industrial areas (see Figure 3.3-1). This indicates that the planned development of the project area would occur regardless of implementation or operation of any of the build alternatives.

Project Type

This project is a capacity-increasing transportation project. Under Build Alternative 1, the existing two-lane Cajalco Road facility would be widened to four lanes (two eastbound and two westbound) between east of Temescal Creek Bridge and Harvill Avenue. Between Temescal Canyon Road and Temescal Creek Bridge, two eastbound lanes would be added, and between Harvill Avenue and I-215 southbound ramps, two additional through lanes (one in each direction) would be added, for a total of six through lanes along these segments of Cajalco Road. Roadway realignments would also occur between the Temescal Creek Bridge and Lake Mathews Drive to reduce existing curves. Median areas, turn lanes, and turn pockets would be placed at designated locations to accommodate through traffic and control cross-traffic movement. Refer to Figures 2.2-1 and 2.2-3 in Chapter 2, *Project Alternatives*.

As described in Section 3.1, *Land Use*, Cajalco Road is being improved in accordance with the County of Riverside General Plan Circulation Element. The General Plan Circulation Element, Figure C-1, classifies Cajalco Road as an Expressway, with a minimum right of way of 184 feet to 220 feet. The proposed right of way for Cajalco Road varies throughout the project limits. Between Temescal Canyon Road and Temescal Canyon Bridge, the proposed roadway right of way would vary between approximately 115 and 145 feet; between Temescal Canyon Bridge and Carpinus Drive, approximately 120 and 128 feet; between Carpinus Drive and Alexander Street, approximately 120 and 400 feet; between Alexander Street and Harvill Avenue, approximately 85 and 135 feet; and between Harvill Avenue and I-215, approximately 120 and 145 feet.

While the total roadway right of way width exceeds the width identified for Cajalco Road in the General Plan (220 feet) between Alexander Street and Carpinus Drive, the approximately 400-foot section of right of way would be necessary to accommodate the proposed bridge while avoiding sensitive resources between the east- and westbound lanes. Between Temescal Canyon Bridge and Harley John Road, project impacts would extend beyond the proposed 128-foot roadway right of way to accommodate slope easements and appurtenant facilities. This would be consistent with the general plan designation.

Project Location

The proposed project is largely in a semi-rural, partially developed area of unincorporated Riverside County. The cities of Corona, Riverside, and Perris are to the west, north, and east, respectively. Build Alternative 1 generally follows existing Cajalco Road through the established communities of Mead Valley, Lake Mathews, and Temescal Canyon, as well as adjacent to lands committed to conservation under the WRC MSHCP, LM MSHCP, and SKR HCP, and lands committed to water storage and management (Lake Mathews).

Build Alternative 1 is intended to alleviate existing patterns of congestion rather than create a new route to an area not currently served by major transportation routes. Build Alternative 1 would promote better circulation and safety along Cajalco Road. While the improvements would increase capacity of Cajalco Road, Build Alternative 1 is not expected to substantially influence

growth within the region because it is identified in the SCAG RTP/SCS regional projections and would not subject new areas to development that are not currently accessible. Build Alternative 1 is consistent with the SCAG RTP/SCS. Build Alternative 1 would conflict with the current LM MSHCP. Because the LM MSHCP does not currently accommodate the transportation improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Changes in the LM MSHCP as well as changes to the lands managed by the LM MSHCP would be addressed by mitigation coordinated with MWD and other responsible agencies. Build Alternative 1 is not anticipated to conflict with the goals or policies of any other relevant plans and programs.

Growth Pressure

Compared to eastern Riverside County, the western portion of the County contains the greatest concentration of population and has experienced the greatest growth pressures. The majority of this population is concentrated in the incorporated cities.

Because this is a transportation project, along with the semi-rural, partially developed conditions of the project area and the constraints to growth, such as the limited quantity of developable land and considerable environmental constraints, the proposed project is not expected to result in direct impacts related to growth in the form of providing access to new areas that are currently inaccessible. However, it is possible that the project, including the associated increased capacity and reduced travel times, could make areas surrounding employment centers, where developable land is still available, more appealing for future development if peak travel commute times are reduced. This could result in indirect effects related to growth in the form of growth pressure on surrounding areas that can support future growth. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

Build Alternative 1 would not directly promote additional growth within the region. Build Alternative 1 could indirectly contribute to growth pressure in the region near the shared alignment near Temescal Canyon Road where there are residential and industrial land uses, and the eastern end of the proposed project that is shared among the three build alternatives where there is residential, undeveloped, industrial, and commercial land uses, more appealing for future growth by reducing congestion and resulting in travel time savings for commuters. Planned growth in the region is not dependent on the proposed project and is not expected to be substantially influenced by the proposed project.

Growth in the Cities of Corona, Riverside, and Perris is expected to be planned infill development that would occur independent of the proposed project. Although the limits of the City of Riverside are not within a half mile of the project alignments, the City is included in this analysis because it is a large city in the project region that connects with the project via La Sierra Avenue and other north/south County roadways. The Cities of Corona and Perris are included, as small portions are within the project footprint. Additionally, with limited remaining land permitted for development, as community land use designations severely limit the amount of development per acre and designated open space and conservation areas prohibit development,

the project, as proposed, would not accommodate development or potential growth-inducing facilities.

Therefore, in terms of project location, the proposed project would not be anticipated to result in substantial direct growth-related impacts; however, it could result in indirect impacts in the form of growth pressure for areas in the vicinity of the shared alignment near Temescal Canyon Road on the western terminus of the project, and also on shared project alignment near the eastern terminus where additional development could occur. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans

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

Project-related growth is not reasonably foreseeable. As discussed above, transportation improvements under Build Alternative 1 would occur in an area with limited potential for development and would not provide access to areas previously inaccessible to the general public. Thousands of acres within the project study area are committed to conservation under the WRC MSHCP, LM MSHCP, and SKR HCP, and would not accommodate development or potential growth-inducing facilities.

Build Alternative 1 is identified in SCAG's 2021 Federal Transportation Improvement Program (FTIP) as a planned and programmed project, and is consistent with facilitating existing and planned growth rather than influencing regional growth. There are a variety of existing and planned land uses within the project area, such as residential, commercial, industrial, mixed-use, and open space. The circulation elements of the general plans of Riverside County and the cities that comprise the project area promote transportation improvements to help address planned growth. Refer to Section 3.1, *Land Use*, for a full list of the relevant policies. In addition, Build Alternative 1 would improve interregional travel by improving east-west mobility in Riverside County without influencing regional growth.

Based on the aforementioned semi-rural and dedicated conservation lands condition of the project area and the fact that the project type is a planned transportation project planned to anticipate future growth rather than facilitate it, the proposed project is not expected to result in substantial direct impacts related to growth. It is reasonably foreseeable that the reduced congestion and travel time savings on Cajalco Road between Corona and Perris achieved by the proposed project could indirectly contribute to growth pressure in areas where additional growth could occur by increasing accessibility in the region. The proposed project would not remove or change existing obstacles to growth, such as the availability of water or other utilities or service systems, the presence of resource constraints, public attitudes toward growth, land use policy or zoning constraints, or other market constraints; therefore, growth that could occur is expected to be primarily in the form of planned growth, not unplanned growth. This planned growth is expected to occur in areas where developable land that is already zoned or designated for residential and/or commercial land uses is available.

d. If project-related growth is reasonably foreseeable, would it affect resources of concern?

While Build Alternative 1 would result in modifications to accessibility, the transportation improvements would occur in areas with limited potential for development due to land use constraints and the fact that the majority of the Build Alternative 1 alignment is along an existing transportation corridor, and access to areas previously inaccessible would not occur.

Build Alternative 1 would permanently acquire 218 acres of property and would require the following acquisitions: full acquisition of 17 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 67 residential parcels, partial acquisition of five nonresidential parcels, and partial acquisition of 149 vacant parcels. In addition, roadway alignment modifications along Cajalco Road would result in the acquisition and conversion of lands from the LM MSHCP area, including the LMR; construction of a new, secondary access between Lake Mathews Drive and Dirt Road would also result in the conversion of portions of residential-agricultural zoned properties to transportation. These acquisitions would change land uses from their current uses to that of a transportation facility. However, the acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and businesses within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the County (U.S. Census Bureau 2015).

The project is planned for in the Riverside County General Plan. Land use changes as a result of the conversion of conservation lands to a transportation facility would require the coordination of mitigation, including replacement lands, with the managing resource agencies. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements.

Future planned development in the Cities of Riverside, Corona, and Perris is anticipated to be primarily developments that are currently in progress and infill development. Infill development is not expected to result in impacts on resources of concern other than water, as many of the other resources of concern, such as geologic conditions or the March Air Reserve, are unlikely to be affected by potential growth. If water availability is constrained at the time of future development then construction of the project would put more stress on the resource of concern. However, future infill projects would be subject to environmental review and would be required to identify adequate water supplies prior to development; therefore, impacts related to water supply from infill projects are not expected to be significant and should not constrain future growth in the project vicinity.

New development or redevelopment is expected to occur in the form of planned development within existing undeveloped areas that are zoned or otherwise designated for residential and/or commercial development in the Cities of Corona and Perris and the unincorporated communities of Mead Valley, Lake Mathews/Gavilan Hills, Victoria Grove, Woodcrest/Mockingbird Canyon, Lake Hills/Home Gardens, and Temescal Canyon. Such areas that meet these criteria have been identified to assess the potential for impacts on resources of concern. The build alternatives would not be expected to substantially influence the amount, location, and/or distribution of growth in the cities, unincorporated areas, or the portion of Riverside County within the project

study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors.

Build Alternative 1 is not anticipated to substantially influence growth to an extent that other resources of concern, as identified in each of the general plans or area specific plans, would be negatively affected by any secondary growth impacts related to the project, as the project would not necessitate the construction of housing, employment, and goods and services associated with population increases caused by, or attached to, new development.

Based on the analysis provided in this section, reasonably foreseeable growth is expected to be primarily planned growth that could occur as a result of growth pressure that could be indirectly influenced by the reduced congestion and travel time savings on Cajalco Road achieved by the proposed project.

Future Six-Lane Facility (Build Alternative 1)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not result in additional growth because accessibility would not change and new roadways would not be constructed in currently undeveloped areas. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

Lake Mathews MSHCP (Build Alternative 1)

Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. The implementation of roadway improvements within the LM MSHCP boundary, however, would not facilitate or otherwise substantially influence growth as the LM MSHCP restricts development within its boundaries, and lands would continue to be committed to conservation. Therefore, growth is not planned for, nor would it occur, within its boundaries. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

3.3.3.4 Build Alternative 2C—Modified Cajalco Road Alignment

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

Build Alternative 2C would have similar effects on accessibility as those described under Build Alternative 1. Under Build Alternative 2C, a segment of Cajalco Road south of Lake Mathews, between La Sierra Avenue to just west of Lake Mathews Drive, would be realigned as part of a new roadway segment, as opposed to widening of an existing roadway. The purpose of the realignment of Cajalco Road is to reduce the curves required along Cajalco Road, which improves the safety of the roadway and allows for increased speeds.

Increased Capacity

Build Alternative 2C includes improvements to 16.3 miles of Cajalco Road, with increased capacity on Cajalco Road with two additional through lanes and multiple turn pockets between Temescal Canyon Road and I-215; future Cajalco Road improvements that would address projected growth and mobility needs would be accommodated with right of way for two additional future lanes between Temescal Canyon Road and Harley John Road.

The increased capacity of Cajalco Road is anticipated to improve east-west mobility, traffic flow, and travel times along Cajalco Road, which is an existing transportation corridor. This can allow for increased access to businesses along Cajalco Road and to undeveloped areas that can be accessed by roadways that connect with Cajalco Road. However, no new access will be provided regionally, as this is an existing transportation corridor. This build alternative addresses projected Cajalco Road capacity deficiency by adding two additional lanes and turn pockets and includes right of way for two additional future lanes. Increased capacity could provide easier accessibility for motorists in the project area.

Roadway Realignments and Connections

Under Build Alternative 2C, the project would generally follow the existing alignment of Cajalco Road between I-215 to west of Lake Mathews Drive, and between La Sierra and Temescal Canyon Road. Between west of Lake Mathews Drive and La Sierra Avenue, a new four-lane segment of Cajalco Road would be constructed north of existing Cajalco Road. Existing Cajalco Road between La Sierra and just west of Lake Mathews Drive would be closed to public traffic. The existing pavement in this portion of existing Cajalco Road would be partially or completely removed and fenced to prevent access. The remaining dirt, gravel, or partially paved road may be used by MWD for access in managing the Lake Mathews dam and reservoir facilities, and by MWD and the Riverside County Habitat Conservation Agency for managing areas of the LMR and Lake Mathews-Estelle Mountain Core Reserve.

Similar to Build Alternative 1, a cul-de-sac would be added at a new terminus of existing Cajalco Road west of Hollis Lane/Lynette Lane, and the remaining segment of existing Cajalco Road west to the new, realigned Cajalco Road would be removed. A connection between Dirt Road and Lake Mathews Drive would also be constructed for secondary access to residences in the Hollis Lane/Lynette Lane area.

In addition to the proposed realignment of sections of Cajalco Road identified in Section 2.2.1.1, *Common Features of the Build Alternatives*, in Chapter 2, *Project Alternatives*, additional sections of Cajalco Road would be realigned between west of La Sierra Avenue and west of Lake Mathews Drive.

Existing Cajalco Road between La Sierra and just west of Lake Mathews Drive contains conservation lands on either side of it, and it would be closed to public traffic. The existing pavement in this portion of existing Cajalco Road would be partially or completely removed, and fenced to prevent access. The remaining dirt, gravel, or partially paved road may be used by MWD for access in managing the LMR, and Lake Mathews dam and reservoir. This new roadway would not substantially change accessibility because there would be no public access to adjacent MWD properties along this portion of the roadway. Because no new public access points would be created by the new roadway, access to this area would not change. However,

there is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

Traffic Flow Controls

Similar to Alternative 1, Alternative 2C would offer medians of various widths and types to provide for the separation of opposing traffic, control cross traffic, provide a recovery area for out-of-control vehicles, and allow space for speed changes and for left and U-turns. Additionally, similar to Build Alternative 1, a cul-de-sac would be added at a new terminus of existing Cajalco Road west of Hollis Lane/Lynette Lane, and the remaining segment of existing Cajalco Road west to the new, realigned Cajalco Road would be removed. As stated above, a connection between Dirt Road and Lake Mathews Drive would also be constructed for secondary access to residences in the Hollis Lane/Lynette Lane area, thus changing local access patterns in this area. Regional access patterns would not be changed under this alternative. However, Build Alternative 2C would improve interregional travel by improving east-west mobility in Riverside County.

Transit and Pedestrian Facilities

Build Alternative 2C would replace the same bus stops along Cajalco Road as Build Alternative 1 and result in the improved mobility identified under Build Alternative 1 for Cajalco Road between Corona and Perris; therefore, Build Alternative 2C would be expected to benefit both local and regional commuters that use Cajalco Road and RTA to connect with Metrolink's 91/Perris Valley Line in Perris and Corona Transit Center in Corona.

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

As with Build Alternative 1, Build Alternative 2C has limited potential to influence growth because it is in an area with limited potential for development and would not create a new route to an area not currently served by a major transportation route. It is also included in the SCAG RTP/SCS regional projections and would not subject new areas to development.

As can be seen on Figure 3.3-1, the planned projects in the project vicinity are primarily along the shared portion of the project alignment on the western end of the project terminus near Temescal Canyon Road in Corona (Projects 4 through 7), near the shared portion of the alignment on the eastern terminus near Cajalco Road in Mead Valley (Projects 16 through 18 and 20 through 22), and in the City of Perris near the Ramona Expressway (Projects 24 through 29). In addition, there are three planned projects near El Sobrante Road where Build Alternative 4 would be constructed (Projects 11 through 13, with 14 a little more to the north). These areas are consistent with the County's plan for infill and development to occur in undeveloped/vacant lands, and in residential and business/industrial areas (see Figure 3.3-1). This indicates that the planned development of the project area would occur regardless of implementation or operation of any of the build alternatives.

Project Type

This project is a capacity-increasing transportation project. Under Build Alternative 2C (see Figure 2.2-4 in Chapter 2, *Project Alternatives*), the project would generally follow the existing alignment of Cajalco Road between I-215 to west of Lake Mathews Drive, and between La Sierra and Temescal Canyon Road. Between west of Lake Mathews Drive and La Sierra Avenue, a new four-lane segment of Cajalco Road would be constructed north of existing Cajalco Road. Existing Cajalco Road between La Sierra and just west of Lake Mathews Drive would be closed to public traffic. The existing pavement in this portion of existing Cajalco Road would be partially or completely removed and fenced to prevent access. The remaining dirt, gravel, or partially paved road may be used by MWD for access in managing the Lake Mathews dam and reservoir facilities, and by MWD and the Riverside County Habitat Conservation Agency for managing areas of the LMR and Lake Mathews-Estelle Mountain Core Reserve.

Build Alternative 2C is also being improved in accordance with the County of Riverside General Plan Circulation Element, as it has the same proposed right of way along Cajalco Road. See the discussion above for Build Alternative 1, or refer to Section 3.1.2.2 in Section 3.1, *Land Use*, for more information. Therefore, Build Alternative 2C would be consistent with the general plan designation.

Project Location

The proposed project is in a largely semi-rural, partially developed area of unincorporated Riverside County. The Cities of Corona, Riverside, and Perris are to the west, north, and east, respectively. Under Build Alternative 2C, the project would generally follow the existing alignment of Cajalco Road between I-215 to west of Lake Mathews Drive, and between La Sierra and Temescal Canyon Road. Between west of Lake Mathews Drive and La Sierra Avenue, a new four-lane segment of Cajalco Road would be constructed north of existing Cajalco Road. Existing Cajalco Road between La Sierra and just west of Lake Mathews Drive would be closed to public traffic.

The discussion under *Project Location* for Build Alternative 1 also applies for Build Alternative 2C.

Growth Pressure

The discussion under *Growth Pressure* for Build Alternative 1, above, also applies for Build Alternative 2C.

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

For the same reasons as those described under Build Alternative 1, project-related growth is not reasonably foreseeable under Build Alternative 2C.

d. If project-related growth is reasonably foreseeable, would it affect resources of concern?

Build Alternative 2C would permanently acquire 239 acres of property and would require the following acquisitions: full acquisition of 17 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 67 residential parcels, partial acquisition of five nonresidential parcels, and partial acquisition of 153 vacant parcels. Furthermore, Build

Alternative 2C would result in the acquisition and removal of lands from the SKR HCP and LM MSHCP areas, including the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. The acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and businesses within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the county (U.S. Census Bureau 2015). Land use changes as a result of the conversion of conservation lands to a transportation facility, however, would require the coordination of mitigation, including replacement lands, with the managing resource agencies.

While Build Alternative 2C would result in modifications to accessibility, the transportation improvements would occur in areas with limited potential for development due to land use constraints, and access to areas previously inaccessible would not occur. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans

Build Alternative 2C is not anticipated to substantially influence growth to an extent that other resources of concern, as identified in each of the general plans or area specific plans, would be negatively affected by any secondary growth impacts related to the project, as the project would not necessitate the construction of housing, employment, and goods and services associated with population increases caused by, or attached to, new development.

Based on the preceding first-cut screening, project-related growth is not reasonably foreseeable, and further analysis of growth-related effects is not required.

Future Six-Lane Facility (Build Alternative 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not result in additional growth because accessibility would not change and new roadways would not be constructed in currently undeveloped areas. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

Lake Mathews MSHCP (Build Alternative 2C)

Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. The implementation of roadway improvements within the LM MSHCP boundary, however, would not facilitate or otherwise substantially influence growth as the LM MSHCP restricts development within its boundaries and lands would continue to be committed to conservation. Therefore, growth is not planned for, nor would it occur, within its boundaries. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

3.3.3.5 Build Alternative 4—El Sobrante Alignment

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

The widening of Cajalco Road, La Sierra Avenue, and El Sobrante Road has potential to indirectly influence growth by reducing barriers to growth by creating conditions that attract additional residents or new economic activity. In general, a roadway widening project may affect the overall growth in the area studied, the location of growth within the area, and the rate of growth by providing new access, more direct access, or an improved LOS on existing roadways. Build Alternative 4 would result in modifications to accessibility by increasing the capacity of portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road, and adding traffic flow controls such as center medians and turn lanes. The increased capacities of Cajalco Road, La Sierra Avenue, and El Sobrante Road are anticipated to improve east-west mobility and traffic flow along these roadways.

Increased Capacity

Build Alternative 4 includes improvements to 9.4 miles of Cajalco Road. Cajalco Road capacity would be increased with two additional through lanes and multiple turn pockets between Temescal Canyon Road and La Sierra Avenue, and Cowan Road and I-215; future Cajalco Road improvements that would address projected growth and mobility needs would be accommodated within the right of way for two additional future lanes between Temescal Canyon Road and La Sierra Avenue and an additional two lanes on Cajalco from El Sobrante Road to I-215.

Build Alternative 4 would increase capacity of Cajalco Road, La Sierra Avenue, and El Sobrante Road with two additional through lanes (one eastbound and one westbound), and multiple turn pockets and turn lanes, between Temescal Canyon Road and I-215. Travel distance would increase, however, affecting east-west mobility in comparison to Build Alternatives 1 and 2C. This build alternative does not address projected Cajalco Road capacity deficiency between west of Hollis Lane and Lake Mathews Drive, and between Lounsberry Road and Harley John Road. Increased capacity could provide easier accessibility for motorists in the project area but is not anticipated to provide increased access on a regional scale, as the widenings would occur on existing roadways.

Roadway Realignments and Connections

Between Gustin Road and I-215, the improvements would be identical to those under Build Alternatives 1 and 2C. Between La Sierra Avenue and Temescal Canyon Road, the western portion of Build Alternative 4 would extend south to existing Cajalco Road, and then west along Cajalco Road to Temescal Canyon Road. Between El Sobrante Road and Cajalco Road, La Sierra Avenue would be realigned to the west of the existing La Sierra Avenue alignment, and an approximately 1,800-foot-long arch bridge constructed along the realigned section of La Sierra Avenue, north of the transition with Cajalco Road.

Between the realigned La Sierra Avenue intersection with Cajalco Road and Temescal Canyon Road, the roadway improvements would be the same as proposed under Build Alternatives 1 and 2C. The portion of Cajalco Road between La Sierra Avenue and Gustin Road would remain in its current configuration. Additional new traffic signals would be installed at the realigned

intersection of El Sobrante Road with La Sierra Avenue/main MWD Lake Mathews facility entrance, and the new intersection of El Sobrante and Harley John Road.

Build Alternative 4 would include realignment of segments of Cajalco Road, La Sierra Avenue, and El Sobrante Road, in addition to widening existing segments of roadway. The realigned, new segments would occur east of existing La Sierra Avenue, where there would be a new transition between Cajalco Road and La Sierra Avenue; another new segment would occur east of Lake Mathews where El Sobrante Road would transition and connect with Cajalco Road. The southern terminus of Harley John Road would become a cul-de-sac north of the new El Sobrante/Cajalco Road transition. These new roadway segments would not create new public access because there are limited entrances and exits along these roadway segments, primarily limited to MWD lands, which are not available for development, and the realigned roadway segments would connect to existing roadways. Because Build Alternative 4 would increase the capacity of existing roadways, and not construct new roadways in currently undeveloped areas, Build Alternative 4 would not provide new access to areas that are currently undeveloped. There is potential for commercial and residential development with increased accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

Traffic Flow Controls

Under Build Alternative 4, improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. New signals are proposed at the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue. New signals are proposed at the following intersections with El Sobrante Road: La Sierra Avenue, McAllister Street, and Mockingbird Canyon Road. The signals would replace the stop signs currently used to control traffic entering Cajalco Road at these intersections. They would allow for improved control of cross-traffic and traffic flow, and would add pedestrian crossing, intersection safety lighting, signing, and striping.

Similar to Build Alternative 1, Build Alternative 4 would offer medians of various widths and types to provide for the separation of opposing traffic, control cross-traffic, provide a recovery area for out-of-control vehicles, and allow space for speed changes and for left and U-turns. Build Alternative 4 would not provide access to areas that were previously inaccessible, and intensification of land uses or removal of residential communities would not occur. The shift in the alignment of La Sierra Avenue would not provide new access to previously inaccessible areas because the new alignment of La Sierra Avenue would still mostly be in an area where roads and access currently exist, not in a new, inaccessible area. However, segments of Build Alternative 4 would extend through an area of conservation land that is currently inaccessible. This area would remain inaccessible to vehicles because Build Alternative 4 would not provide any right or left turns into this conservation area. In addition, the area would remain inaccessible because development is not permitted in the conservation area. Cajalco and El Sobrante Roads are major transportation corridors and would continue to function as such with the implementation of Build Alternative 4.

Transit and Pedestrian Facilities

ADA-compliant sidewalk would be constructed along sections of Cajalco Road within the Mead Valley area. The sidewalk would be designed such that it is consistent with the local general plan Circulation Element. Along Cajalco Road from Harley John Road to Harvill Avenue, curb and gutter and 8-foot-wide shoulders would be provided as part of the proposed project to serve as a combined shoulder/bike lane.

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

As with Build Alternatives 1 and 2C, Build Alternative 4 has limited potential to influence growth because it is located in an area with limited potential for development due to land use and zoning controls such as county and local city general plan land use designations, development restrictions, lands committed to conservation, and lands currently or in the process of being developed. In addition, Build Alternative 4 would not create a new route to an area not currently served by a major transportation route.

Project Type

This project is a capacity-increasing transportation project. For Build Alternative 4, between Gustin Road and I-215, the improvements would be identical to that under Build Alternatives 1 and 2C. Between La Sierra Avenue and Gustin Road, the alignment of Build Alternative 4 differs from the alignments of Build Alternatives 1 and 2C. Under Build Alternative 4, El Sobrante Road would be widened and improved between La Sierra Avenue and Gustin Road, and Cajalco Road would not be widened and improved the length of this segment. In addition, Build Alternative 4 would realign La Sierra Avenue between El Sobrante Road and Cajalco Road.

In the areas that differ from Build Alternatives 1 and 2C, Build Alternative 4 traverses areas zoned for facilities/utilities, agricultural/grazing, undeveloped lands, and conservation/open space (see Figure 3.1-1, Existing Land Uses, in Section 3.1, *Land Use*). Build Alternative 4 would increase the capacity of segments of Cajalco Road, El Sobrante Road, and La Sierra Avenue, responding to transportation needs of population and employment activities. The roadway right of way would vary between 120 and 150 feet and the Circulation Element of the County of Riverside General Plan classifies La Sierra Avenue and El Sobrante Road as Mountain Arterial (110-foot right of way) and Arterial (128-foot right of way), respectively. Build Alternative 4 would not preclude the construction of future transportation facilities identified in the Circulation Element. This would be consistent with the County of Riverside General Plan designation.

Project Location

The proposed project is in a largely semi-rural, partially developed area of unincorporated Riverside County. The Cities of Corona, Riverside, and Perris are to the west, north, and east, respectively. Between La Sierra Avenue and Gustin Road, the alignment of Build Alternative 4 differs from the alignments of Build Alternatives 1 and 2C. Under Build Alternative 4, El Sobrante Road would be widened and improved between La Sierra Avenue and Gustin Road, and Cajalco Road would not be widened and improved the length of this segment. In addition,

Build Alternative 4 would realign La Sierra Avenue between El Sobrante Road and Cajalco Road.

Build Alternative 4 is intended to alleviate existing patterns of congestion rather than create a new route to an area not currently served by major transportation routes. Build Alternative 4 would promote better circulation and safety along Cajalco Road. While the improvements would increase capacity of Cajalco Road, Build Alternative 4 is not expected to substantially influence growth within the region because it is identified in the SCAG RTP/SCS regional projections and would not subject new areas to development that are not currently accessible. Build Alternative 4 is inconsistent with the SCAG RTP/SCS funded project description, although it is consistent with and the SCAG RTP/SCS goals 1 through 5. Additionally, Build Alternative 4 would conflict with the current LM MSHCP. Changes in the LM MSHCP as well as changes to the lands managed by the LM MSHCP would be addressed by mitigation coordinated with MWD and other responsible agencies. Build Alternative 4 is not anticipated to conflict with the goals or policies of any other relevant plans and programs.

Growth Pressure

The discussion under *Growth Pressure* for Build Alternative 1, above, also applies for Build Alternative 4.

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

For the same reasons as those described under Build Alternative 1, project-related growth is not reasonably foreseeable under Build Alternative 4.

d. If project-related growth is reasonably foreseeable, would it affect resources of concern?

While Build Alternative 4 would result in modifications to accessibility, the transportation improvements would occur in areas with limited potential for development due to land use constraints, and access to areas previously inaccessible would not occur.

Build Alternative 4 would permanently acquire 240 acres of property and would require the following acquisitions: full acquisition of 18 residential parcels, full acquisition of two nonresidential parcels, partial acquisition of 69 residential parcels, partial acquisition of 12 nonresidential parcels, and partial acquisition of 186 vacant parcels. Partial acquisition of the vacant and residential parcels would be necessary for construction of a new connection between Cajalco Road and El Sobrante Road south of Harley John Road, and new terminus of Harley John Road with cul-de-sac north of the new connection. These acquisitions would change land uses from their current uses to that of a transportation facility. However, the acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and businesses within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the county (U.S. Census Bureau 2015). Therefore, appreciable land use change would not occur as a result of the implementation of Build Alternative 4. However, the new connection between El Sobrante Road and Cajalco Road, as well as other roadway alignment modifications along El Sobrante Road, Cajalco Road, and La Sierra Avenue, would result in the acquisition and conversion of lands from the LM MSHCP area.

Future planned development in the Cities of Riverside, Corona, and Perris is anticipated to be primarily developments that are currently in progress and infill development. Infill development is not expected to result in impacts on resources of concern other than water, if water availability is constrained at the time of future development. Future infill projects would be subject to environmental review and would be required to identify adequate water supplies prior to development; therefore, impacts related to water supply from infill projects are not expected to be significant.

The build alternatives would not be expected to substantially influence the amount, location, and/or distribution of growth in the cities, unincorporated areas, or the portion of Riverside County within the project study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors.

Build Alternative 4 is not anticipated to substantially influence growth to an extent that other resources of concern, as identified in each of the general plans or area specific plans, would be negatively affected by any secondary growth impacts related to the project, as the project would not necessitate the construction of housing, employment, and goods and services associated with population increases caused by, or attached to, new development.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not result in additional growth because accessibility would not change and new roadways would not be constructed in currently undeveloped areas. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

Lake Mathews MSHCP (Build Alternative 4)

Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. The implementation of roadway improvements within the LM MSHCP boundary, however, would not facilitate or otherwise substantially influence growth as the LM MSHCP restricts development within its boundaries and lands would continue to be committed to conservation. Therefore, growth is not planned for, nor would it occur, within its boundaries. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

Conclusion for Build Alternatives 1, 2C, and 4

The widened and realigned roadway would provide greater capacity and reduced travel times, and therefore improved accessibility for the area, and this may be an attractant for growth that is anticipated. There is potential for commercial and residential development with increased

accessibility and traffic, which may result in some development and conversion of open space land; however, this growth is consistent with local plans and is anticipated in these plans.

Although only Build Alternative 1 is specifically mentioned in the 2021 FTIP, the proposed project as a whole is identified in the 2021 FTIP as a planned and programmed project and is consistent with facilitating planned growth. While the proposed project may result in a change in travel patterns for some drivers in the area, as many may choose to use Cajalco Road under Alternative 1 or 2C, and El Sobrante Road under Alternative 4, the proposed project itself would not cause development to occur in the region due to land use controls such as County and local city general plan land use designations, development restrictions, lands committed to conservation, and lands currently or in the process of being developed.

The build alternatives would not be expected to substantially influence the amount, location, and/or distribution of growth in the cities, unincorporated areas, or the portion of Riverside County within the project study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors. In addition, under the Community and Environmental Transportation Acceptability Process project, which would provide a western transportation corridor between I-15 and I-215 and an alternate east-west route to Cajalco Road, the anticipated traffic conditions would remain relatively similar, with or without the proposed project. Therefore, the build alternatives would not induce traffic to be diverted to Cajalco Road. Consequently, the build alternatives are not anticipated to substantially affect the rate or location of future development within the project area or region.

Based on the preceding first-cut screening, project-related growth is not reasonably foreseeable, and further analysis of growth-related effects is not required.

3.3.3.6 No-Build Alternative

The No-Build Alternative would not address projected Cajalco Road capacity deficiency between west of Hollis Lane and Lake Mathews Drive, and between Lounsberry Road and Harley John Road. The No-Build Alternative would not result in growth impacts because an expanded transportation facility would not be constructed. However, all projects identified in Table 3.25-1, Planned Projects within Project Vicinity, would be constructed even if the No-Build Alternative were selected. The anticipated growth in Riverside County by SCAG and as identified in the relevant general and area specific plans remains unchanged under the No-Build Alternative. Because project-related growth is not reasonably foreseeable, further analysis of growth-related effects is not required.

3.3.4 Avoidance, Minimization, and/or Mitigation Measures

Because project-related growth is not reasonably foreseeable, and thus is anticipated to have a less-than-significant impact on growth, avoidance, minimization, and/or mitigation measures are not required.

3.4 Community Impacts

3.4.1 Community Character and Cohesion

3.4.1.1 Regulatory Setting

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

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

3.4.1.2 Affected Environment

Unless otherwise noted, this section of the Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) was prepared based on information from the *Community Impact Assessment* (CIA) and *Errata* (Caltrans 2018a, 2021) and *Draft Relocation Impact Report* (DRIR) (Caltrans 2018b); public input received during public scoping meetings (September 26 and 29, 2011, and October 25, 2012) and community information meetings; and comments received in response to the Notice of Preparation (NOP) of an EIR (September 2011) and Notice of Intent to Prepare an EIS (September 2012). For a full list of public meetings held and their locations, please refer to Table 5-15 in Chapter 5, *Comments and Coordination*.

The study area for community impacts has been defined to include the following 2015 U.S. Census Bureau census tracts located within 0.5 mile of the proposed project: 414.09, 419.09, 419.10, 420.07, 420.08, 420.09, 420.10, 429.03, and 429.04 (see Figure 3.4-1) (U.S. Census Bureau 2015). The study area is intended to encompass an area where the potential population, housing, and neighborhood impacts of construction and operation of the project would be reasonably foreseeable. Population characteristics such as age, ethnicity, and income are further studied at the census block group level to aid in the characterization of local communities and evaluation of impacts related to the project. Housing characteristics are based on data at the census tract level to include residents in less densely populated areas outside of established neighborhoods. Data for Riverside County (County), City of Corona, and City of Perris are also provided for reference and comparative purposes.

The study area for economic conditions is Riverside County and the Cities of Corona and Perris. The study area for community facilities is the area within 0.5 mile of the build alternatives.

Community characteristics include an array of information reflecting the history, present conditions, and anticipated future of an area and its population. *Cohesion*, an important characteristic of a community, is the degree to which residents have a "sense of belonging" to their neighborhood, a level of commitment of the residents to the community, or a strong attachment to neighbors, groups, and institutions, usually as a result of continued association over time. Cohesion also refers to the degree of interaction among the individuals, groups, and institutions that make up a community.

Study Area Communities

As indicated above, input received from the public was considered in the identification and characterization of communities within the study area. Two public scoping meetings were held in September 2011; the first meeting was held on September 26, 2011, at Tomas Rivera Middle School (21675 Martin Street, Perris, CA 92570), and the second was held on September 29, 2011, at Lake Mathews Elementary School (12252 Blackburn Road, Riverside, CA 92503). Notices for the meetings were distributed to agencies, organizations, interested groups, individuals, and residents within 500 feet of the proposed project and made available on a website and at the County office and local libraries. Two additional public scoping meetings were also held in October 2012; the first meeting was held on October 24, 2012, at Lake Mathews Elementary School in Riverside, and the second was held on October 25, 2012, at Tomas Rivera Middle School in Perris. Multiple community meetings regarding the project were also held; refer to Table 5-15 in Chapter 5, *Comments and Coordination*, for a full list of public meetings held.

Attendees of each scoping meeting had the opportunity to learn about the project and ask questions of representatives from the County involved with the planning process. Attendees were also able to provide input on the proposed alternative alignments and issues to be addressed in the EIR/EIS through comment cards made available at the meetings. A court reporter was present at the public meetings. Verbal comments and comment cards received during the meeting and calls, emails, and comment cards submitted during the public scoping period are summarized in Tables 5-5 and 5-6 in Chapter 5, *Comments and Coordination,* and included in Appendix H.

Comments received from the public, community groups, environmental stakeholder groups, and agencies included following topics: environmental impacts involving biological resources, cultural resources, air quality, and noise; community impacts involving safety, traffic, property access, and property acquisition; and general project inquiries and comments involving project phasing, the project as an economic catalyst, funding equity, information requests, and statements in support of or against the project.

Information provided during the public meetings and public scoping periods was considered along with the information provided in the CIA and DRIR to identify communities within the project area. Based on the information and geographic scale of the project, multiple communities were identified.

There are six distinct communities in the project vicinity: Mead Valley, Lake Mathews, Woodcrest, Victoria Grove, Lake Hills, and Temescal Canyon (see Figure 3.4-2). The community of Mead Valley is immediately west of Interstate 215 (I-215) and is situated north and south of Cajalco Road west to approximately Barton Street. The community of Woodcrest is northeast/east of Lake Mathews, north of Cajalco Road and El Sobrante Road, and shares this

area with the community of Mockingbird Canyon, herein referred to as Woodcrest/Mockingbird Canyon. The community of Lake Mathews is west and south of Lake Mathews and west of the community of Gavilan Hills. While Gavilan Hills is not directly within the vicinity of the project, it is in close proximity to the Lake Mathews community and therefore the communities are herein referred to as Lake Mathews/Gavilan Hills. The community of Victoria Grove is a planned residential community of 1,120 homes immediately northwest of McAllister Street and El Sobrante Road. Situated west of the community of Victoria Grove and La Sierra Avenue, and east of Home Gardens, is the community of Lake Hills. While Home Gardens is not directly within the vicinity of the project, it is in close proximity to the Lake Hills community and therefore the communities are herein referred to as Lake Hills/Home Gardens. Temescal Canyon is north and south of Cajalco Road at the western end of the project. Population characteristics of each community are based in part on the census tract and block group data associated with each community, as identified in Table 3.4-1.

Table 3.4-1. Community Census Tract and Block Groups

Community	Census Tract and Block Group
Mead Valley	Census Tract 420.08 (Block Group 1)[1]
	Census Tract 420.09 (Block Group 3)
	Census Tract 420.10
	Census Tract 429.04
Lake Mathews/Gavilan Hills	Census Tract 414.09 (Block Group 4)[1]
	Census Tract 420.07[1]
	Census Tract 420.08 (Block Group 1)[1]
	Census Tract 429.03 (Block Group 1)[1]
Woodcrest/Mockingbird Canyon	Census Tract 420.08 (Block Groups 1 and 2)
Victoria Grove	Census Tract 414.09 (Block Group 1)
Lake Hills/Home Gardens	Census Tract 414.09 (Block Group 2)
	Census Tract 414.09 (Block Group 3)
Temescal Canyon Community	Census Tract 414.09 (Block Group 4)
	Census Tract 419.09 (Block Group 1)
	Census Tract 419.09 (Block Group 3)
	Census Tract 419.10 (Block Group 1)
	Census Tract 420.07 (Block Group 2)[1]
[1] Census Tracts 414.09 (Block Group 4), 420.07 (Block Group 2) and 420.08 (Block Group 1) encompass more than one community.	

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) Lake Mathews Multiple Species Reserve (LMR) is a conservation area that is included in the analysis of community impacts due to changes proposed to the LM MSHCP to allow for the proposed project. The LMR does not contain any residential populations, neighborhoods, housing, or community facilities other than a water resource facility. The communities of Woodcrest, Mockingbird Canyon, Lake Hills, and Victoria Grove border the northern and eastern boundaries of the conservation area, and the Lake Mathews and Gavilan Hills communities border the southern boundary.

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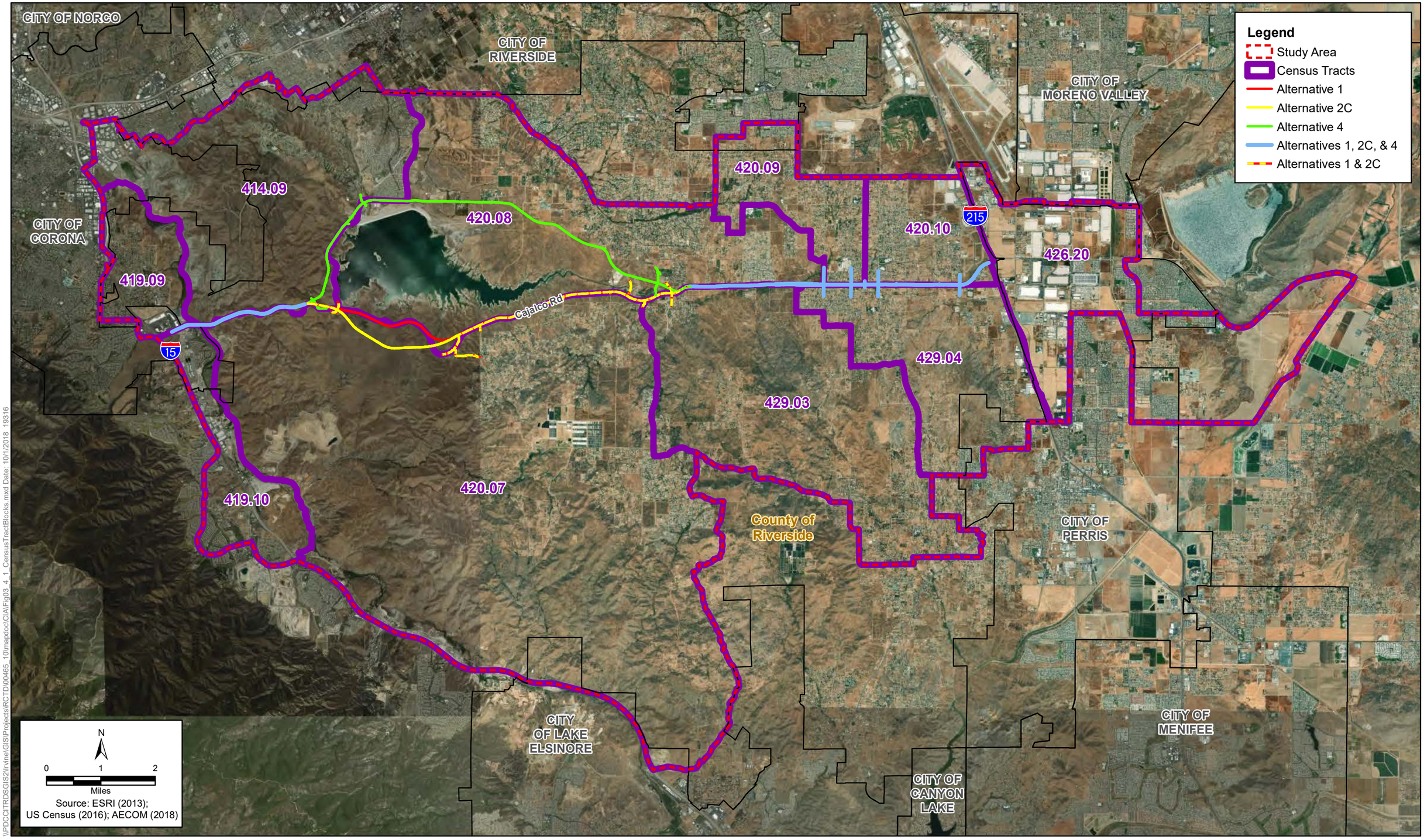

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Figure 3.4-1
Study Area Census Tracts Map
Cajalco Road Widening and Safety Enhancement Project

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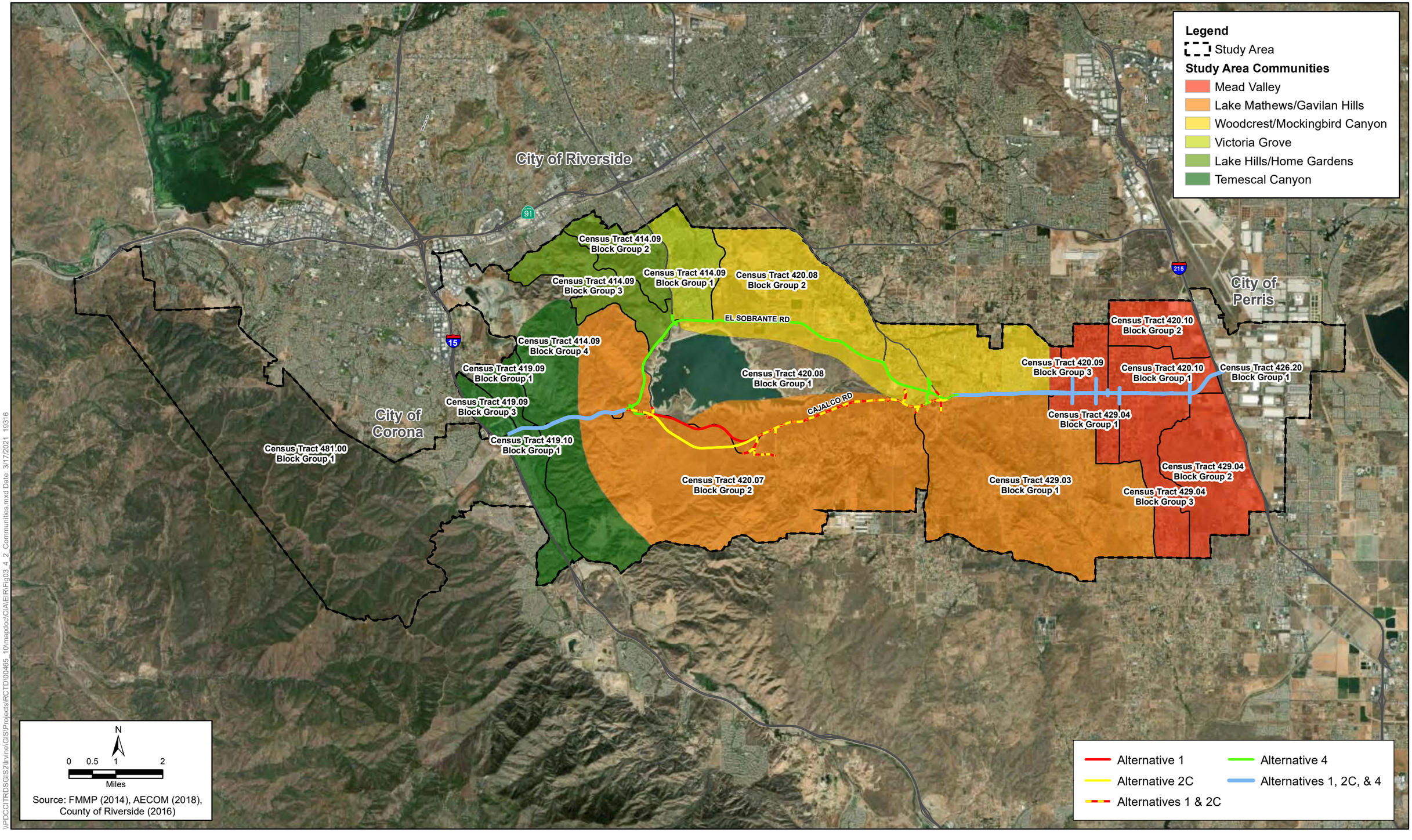

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Figure 3.4-2
Study Area Communities and Census Block Groups
Cajalco Road Widening and Safety Enhancement Project

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Housing Characteristics

As shown in Table 3.4-2, 52.5 percent of housing units in the study area, which includes portions of the Cities of Perris and Corona, are owner-occupied, while 47.5 percent are renter-occupied. The majority of housing in the study area is occupied (93.8 percent), and only 6.2 percent of housing units are vacant (see Table 3.4-2). In addition, as shown in Table 3.4-3, the majority of householders have lived in their housing units for more than 5 years, with 67.6 percent of householders having moved into their housing in 2009 or earlier. A comparison of housing characteristics of the study area with the adjacent Cities of Perris and Corona indicates that the study area has a higher percentage of renter-occupied units (47.5 percent) than the Cities of Corona (34.1 percent) and Perris (40.9 percent). The vacancy rate within the study area (6.2 percent) is similar to the rates in the Cities of Corona (4.2 percent) and Perris (6.4 percent).

Housing characteristics within the study area vary between the communities of Mead Valley, Lake Mathews/Gavilan Hills, Woodcrest/Mockingbird Canyon, Victoria Grove, Lake Hills/ Home Gardens, and Temescal Canyon and share some similarities with the housing characteristics of Riverside County in terms of housing ownership and rentals. The percentages of owner-occupied housing units and renter-occupied housing units within the study area and within Riverside County are 52.5 percent and 55.6 percent, respectively. However, the study area holds a higher percentage of occupied units and a lower vacancy rate (93.8 percent and 6.2 percent) than the County (85.8 percent and 14.2 percent), as well as a higher average number of persons per household for owner- and renter-occupied units (3.75 and 3.88 percent) when compared to the County (3.2 and 3.31 percent).

A comparison of the housing characteristics for each of the communities within the study area indicates a higher percentage of home ownership within the communities (between 64.4 and 86.4 percent) compared to that of the overall study area (52.5 percent) and Riverside County (55.6 percent). Housing characteristics specific to each of the study area communities are described further under each community, below and following Tables 3.4-2 and 3.4-3.

Mead Valley

Within Mead Valley, there are approximately 8,243 housing units, the majority of which are occupied (93.5 percent). Of the occupied units, 64.4 percent are owner-occupied and 35.6 percent are renter-occupied (see Tables 3.4-2 and 3.4-3). The average household size of the owner-occupied units is 4.11 persons per household, and the average household size of renter-occupied units is 4.51 persons per household. In addition, as shown in Table 3.4-3, the majority of householders have lived in their housing units for more than 5 years.

Compared to the housing characteristics of the County and overall study area, the Mead Valley community has a higher percentage of owner-occupied housing units and a lower percentage of renter-occupied housing units. Mead Valley also has a higher percentage of occupied units than that of the County, nearly equal to that of the study area. Of the owner-occupied units, the percentage of householders that have lived in their housing units for more than 5 years is similar to that of the overall study area. Average household sizes for both owner-occupied and renter-occupied units within Mead Valley are greater than those identified for the County and study area.

Table 3.4-2. Regional and Local Housing Characteristics—Tenure

Area	Total Housing Units	% of Owner-Occupied Housing Units	% of Renter-Occupied Housing Units	Year Householder Moved into Unit by Percentage					
				2015 or Later	2010–14	2000–09	1990–99	1980–89	1979 or Earlier
Riverside County	815,322	55.6%	44.4%	1.3%	30.6%	35.0%	11.5%	4.6%	2.8%
City of Corona	50,247	65.9%	34.1%	1.4%	36.7%	37.0%	15.9%	5.9%	3.0%
City of Perris	17,408	59.1%	40.9%	1.5%	36.1%	41.6%	10.7%	2.6%	1.0%
Study Area[1]	20,409	52.5%	47.5%	1.3%	24.8%	41.8%	15.3%	7.3%	3.2%
Mead Valley	8,243	64.4%	35.6%	2.3%	24.5%	41.8%	13.7%	8.4%	3.5%
Census Tract 420.08[2]	2,368	84.3%	15.7%	2.6%	21.8%	36.4%	14.9%	14.2%	3.0%
Census Tract 420.09	1,980	72.3%	27.7%	0.0%	22.4%	45.4%	14.4%	7.4%	4.4%
Census Tract 420.10	1,620	49.9%	50.1%	1.2%	27.7%	42.7%	13.1%	5.6%	2.5%
Census Tract 429.04	2,275	51.1%	48.9%	5.5%	26.0%	40.3%	12.2%	6.2%	4.1%
Lake Mathews/Gavilan Hills	10,451	77.5%	22.5%	0.8%	23.0%	38.7%	15.9%	9.5%	4.0%
Census Tract 414.09[2]	4,917	86.4%	13.6%	0.0%	23.8%	48.1%	20.2%	4.4%	0.9%
Census Tract 420.07[2]	1,554	70.7%	29.3%	0.6%	21.6%	31.0%	16.6%	13.0%	2.8%
Census Tract 420.08[2]	2,368	84.3%	15.7%	2.6%	21.8%	36.4%	14.9%	14.2%	3.0%
Census Tract 429.03	1,612	60.7%	39.3%	0.0%	24.7%	39.3%	12.0%	6.2%	9.1%
Woodcrest/Mockingbird Canyon Census Tract 420.08[2]	2,368	84.3%	15.7%	2.6%	21.8%	36.4%	14.9%	14.2%	3.0%
Victoria Grove/Lake Hills Census Tract 414.09[2]	4,917	86.4%	13.6%	0.0%	23.8%	48.1%	20.2%	4.4%	0.9%
Temescal Canyon Community	10,554	78.2%	21.8%	0.9%	25.2%	39.1%	17.0%	7.8%	2.9%
Census Tract 414.09[2]	4,917	86.4%	13.6%	0.0%	23.8%	48.1%	20.2%	4.4%	0.9%
Census Tract 419.09	1,509	75.6%	24.4%	2.7%	25.3%	28.0%	23.0%	9.1%	7.8%
Census Tract 419.10	2,574	80.0%	20.0%	0.6%	30.1%	49.3%	8.1%	4.5%	0.0%
Census Tract 420.07[2]	1,554	70.7%	29.3%	0.6%	21.6%	31.0%	16.6%	13.0%	2.8%

[1] The study area for housing comprises the census tracts in which the proposed project would be located (see Figure 3.4-1).
[2] Census Tracts 414.09, 420.07, and 420.08 encompass more than one community.
Source: U.S. Census Bureau 2016c.

Table 3.4-3. Regional and Local Housing Characteristics—Occupancy

Area	Total Housing Units	Occupied Units	% of Occupied Units	Vacant Units	% of Vacant Units	Persons Per Household (Owner-Occupied Units)	Persons Per Household (Renter-Occupied Units)
Riverside County	815,322	699,232	85.8%	116,090	14.2%	3.20	3.31
City of Corona	50,247	48,156	95.8%	2,091	4.2%	3.41	3.09
City of Perris	17,408	16,297	93.6%	1,111	6.4%	4.31	4.65
Study Area[1]	20,409	19,134	93.8%	1,275	6.2%	3.75	3.88
Mead Valley	8,243	7,711	93.5%	532	6.5%	4.11	4.51
Census Tract 420.08[2]	2,368	2,201	92.9%	167	7.1%	3.41	4.35
Census Tract 420.09	1,980	1,862	94.0%	118	6.0%	4.54	4.81
Census Tract 420.10	1,620	1,502	92.7%	118	7.3%	4.36	4.36
Census Tract 429.04	2,275	2,146	94.3%	129	5.7%	4.12	4.50
Lake Mathews/Gavilan Hills	10,451	9,790	93.7%	661	6.3%	3.55	3.97
Census Tract 414.09[2]	4,917	4,788	97.4%	129	2.6%	3.79	4.28
Census Tract 420.07[2]	1,554	1,329	85.5%	225	14.5%	3.15	2.62
Census Tract 420.08[2]	2,368	2,201	92.9%	167	7.1%	3.41	4.35
Census Tract 429.03	1,612	1,472	91.3%	140	8.7%	3.83	4.62
Woodcrest/Mockingbird Canyon Census Tract 420.08[2]	2,368	2,201	92.9%	167	7.1%	3.41	4.35
Victoria Grove/Lake Hills Census Tract 414.09[2]	4,917	4,788	97.4%	129	2.6%	3.79	4.28
Temescal Canyon Community	10,554	9,951	92.9%	603	7.1%	3.44	3.51
Census Tract 414.09[2]	4,917	4,788	97.4%	129	2.6%	3.79	4.28
Census Tract 419.09	1,509	1,448	96.0%	61	4.0%	3.95	3.59
Census Tract 419.10	2,574	2,386	92.7%	188	7.3%	2.88	3.55
Census Tract 420.07[2]	1,554	1,329	85.5%	225	14.5%	3.15	2.62

[1] The study area for housing comprises the census tracts in which the proposed project would be located (see Figure 3.4-1).
[2] Census Tracts 414.09, 420.07, and 420.08 encompass more than one community.
Source: U.S. Census Bureau 2016c.

Lake Mathews/Gavilan Hills

Within the Lake Mathews/Gavilan community, there are approximately 10,451 housing units, the majority of which are occupied (93.7 percent). Of the occupied units, 77.5 percent are owner-occupied and 22.5 percent are renter-occupied (see Tables 3.4-2 and 3.4-3). The average household size of the owner-occupied units is 3.55 persons per household, and the average household size of renter-occupied units is 3.97 persons per household. In addition, as shown in Table 3.4-3, the majority of householders have lived in their housing units for more than 5 years.

Compared to the housing characteristics of the County and overall study area, Lake Mathews/ Gavilan Hills has a substantially higher percentage of owner-occupied housing units and a lower percentage of renter-occupied housing units. The community also has a higher percentage of occupied units than that of the County but a lower percentage than that of the study area. Of the owner-occupied units, the percentage of householders that have lived in their housing units for more than 5 years is lower than that of the overall study area. Average household sizes for both

owner-occupied and renter-occupied units within Lake Mathews are greater than those identified for the County but lower than that of the study area.

Woodcrest/Mockingbird Canyon

Housing characteristics within the study area portion of the Woodcrest/Mockingbird Canyon community (Tract 420.08) indicate that there are approximately 2,370 housing units, the majority of which are occupied (92.9 percent); 84.3 percent of the housing units are occupied by their owners and 15.7 percent are renter-occupied (see Tables 3.4-2 and 3.4-3). The average household size of owner-occupied units is 3.41 persons per household, and the average household size of renter-occupied units is 4.35 persons per household. In addition, as shown in Table 3.4-3, the majority of householders have lived in their housing units for more than 5 years.

Compared to the housing characteristics of the County and overall study area, Woodcrest/ Mockingbird Canyon has a higher percentage of occupied units than that of the County but a lower percentage than that of the study area. Of the occupied units, the percentage of owner-occupied units is substantially higher, and renter-occupied units lower, than that of the County and study area. Of the owner-occupied units, the percentage of householders that have lived in their housing units for more than 5 years is lower than that of the overall study area. Average household sizes for owner-occupied units are higher within Woodcrest than the County, but lower than for the study area; the percentage of renter-occupied units within Woodcrest is greater than that of both the County and study area.

Victoria Grove and Lake Hills/Home Gardens

Because the Victoria Grove and Lake Hills/Home Gardens communities share the same census tract and have similar characteristics of planned housing developments, their housing characteristics are described collectively. There are 4,917 housing units, 1,120 of which are in the Victoria Grove community. Of the total combined housing units, most are occupied (97.4 percent). Of the occupied units, 86.4 percent are owner-occupied and 13.6 percent are renter-occupied (see Tables 3.4-2 and 3.4-3). The average household size of the owner-occupied units is 3.79 persons per household, and the average household size of renter-occupied units is 4.28 persons per household. In addition, as shown in Table 3.4-3, the majority of householders have lived in their housing units for more than 5 years.

Compared to the housing characteristics of the County, overall study area, and other communities within the study area, the Victoria Grove and Lake Hills communities have a higher percentage of occupied units and the highest percentage in comparison with the other study area communities. Of the occupied units, the percentage of owner-occupied units is substantially higher, and renter-occupied units lower, than that of the County and study area, with the highest and lowest, respectively, of the study area communities. Of the owner-occupied units, the percentage of householders that have lived in their housing units for more than 5 years is higher than that of the overall study area. Average household sizes for both owner-occupied and renter-occupied units within Victoria Grove and Lake Hills/Home Gardens are greater than those identified for the County and study area.

Temescal Canyon

Within the Temescal Canyon community, there are approximately 10,550 housing units, the majority of which are occupied (92.9 percent). Of the occupied units, 78.2 percent are owner-occupied and 21.8 percent are renter-occupied (see Tables 3.4-2 and 3.4-3). The average household size of the owner-occupied units is 3.44 persons per household, and the average household size of renter-occupied units is 3.51 persons per household. In addition, as shown in Table 3.4-2, the majority of householders have lived in their housing units for more than 5 years, with 65.2 percent of householders having moved into their housing in 2009 or earlier.

Compared to the housing characteristics of the County and overall study area, the Temescal Canyon community has a higher percentage of occupied units than that of the County but a lower percentage than that of the study area. Of the occupied units, the percentage of owner-occupied units is higher, and renter-occupied units lower, than that of the County and study area. Of the owner-occupied units, the percentage of householders that have lived in their housing units for more than 5 years is lower than that of the overall study area. Average household sizes for owner-occupied units and renter-occupied units are higher within Temescal Canyon than the County, but lower than that of the study area.

Business and Economic Characteristics

Major employers in Riverside and San Bernardino Counties include, but are not limited to, March Air Reserve Base; University of California, Riverside; University of Redlands; Amazon Fulfillment Center; various tribal casinos and resorts; and numerous hospitals and medical centers. Employment in nearby Orange County can be accessed via State Route 91 with the additional toll lanes recently constructed in the Corona area.

Businesses within the study area include automobile-oriented services, restaurants, convenience stores, financial service stores, retail stores, a movie theater, and agricultural products. The majority of businesses are primarily near the intersections of Cajalco Road and I-215 and Cajalco Road and Interstate 15 (I-15), with some businesses along Cajalco Road and El Sobrante Road between I-215 and I-15. Access to businesses in the study area generally depend upon freeway and roadway access.

Properties in the project area generate both property and sales tax revenue for Riverside County. As detailed in Riverside County's 2016–2017 Comprehensive Annual Financial Report, overall tax revenues in the county were approximately $417 million, representing approximately 12 percent of total revenues (County of Riverside Auditor-Controller/Treasurer/Tax Collector 2017). In terms of sales and receipts, the largest business sectors specific to Riverside County are retail trade, wholesale trade, and health care and social assistance, as shown in Table 3.4-4. The largest business sectors in the county, in terms of employees, are accommodation and food services, health care and social assistance, and administrative and support and waste management and remediation services.

Table 3.4-4. Riverside County Economic Statistics, 2012

Business Type	Number of Businesses	Sales or Receipts ($1,000)	Annual Payroll ($1,000)	Number of Employees
Utilities	58	N/A	150,610	1,803
Wholesale trade	1,568	18,716,807	1,071,927	21,800
Retail trade	4,996	25,058,857	2,128,922	81,017
Transportation and warehousing	1,082	1,552,499	800,581	19,993
Information	484	N/A	394,921	7,956
Finance & insurance	1,723	N/A	605,040	11,511
Real estate and rental and leasing	2,038	1,684,915	303,781	8,466
Professional, scientific, and technical services	3,182	2,148,959	811,339	16,261
Administrative and support and waste management and remediation services	1,985	2,201,786	948,620	35,483
Educational services	297	151,285	52,509	2,700
Health care and social assistance	4,199	8,412,078	3,037,699	66,036
Arts, entertainment, and recreation	505	1,392,429	364,306	15,085
Accommodation and food services	3,350	5,230,919	1,376,810	75,061
Other services	2,444	1,331,675	372,941	14,761
Source: U.S. Census Bureau 2012.				

As of 2018, there were approximately 1,084,900 people in the Riverside County labor force (California Employment Development Department [CEDD] 2018b). Table 3.4-5 shows the labor force, unemployment percentage, and median household income for the Cities of Perris and Corona and Riverside County.

According to the CEDD, in January 2018, approximately 1,034,100 persons were employed and 50,800 persons were unemployed in Riverside County, resulting in an unemployment rate of 4.7 percent, as shown in Table 3.4-5. This decreased from 5.2 percent in 2017 (CEDD 2018b, 2018c). The unemployment rate in California in January 2018 was 4.6 percent (CEDD 2018a). This suggests that unemployment in the region is on par with that of the state. The decrease in unemployment within Riverside County from 2017 to 2018 suggests that job growth is occurring within the county.

Table 3.4-5. Labor Force, Unemployment, and Per Capita Income

Jurisdiction	Labor Force	Percentage Unemployed	Median Household Income ($)
Riverside County	1,084,900	4.7%	56,603
City of Corona	81,600	3.1%	74,149
City of Perris	30,800	6.0%	49,325
Source: CEDD 2018b; U.S. Census Bureau 2016b.			

As shown in Table 3.4-5, the median household income within Riverside County is $56,603, which is lower than the median household income in the City of Corona ($74,149) but higher than the median household income in the City of Perris ($49,325). Median household incomes within the communities within the project area are presented in Table 3.4-6 on the following page.

Table 3.4-6. Study Area Median Household Incomes

Jurisdiction/Census Tract	Total Population	Median Household Income
Riverside County	2,298,032	$56,603
City of Corona	159,595	$74,149
City of Perris	72,547	$49,325
Study Area[1]	65,988	$69,623
Mead Valley	12,947	$54,871
Census Tract 420.08 (Block Group 1)[2]	4,032	$112,105
Census Tract 420.09 (Block Group 3)	2,328	$39,583
Census Tract 420.10	6,587	$35,856
Census Tract 429.04	9,434	$31,942
Lake Mathews/Gavilan Hills	9,912	$67,725
Census Tract 414.09 (Block Group 4)[2]	1,092	$42,944
Census Tract 420.07 (Block Group 2)[2]	1,698	$69,028
Census Tract 420.08 (Block Group 1)[2]	4,032	$112,105
Census Tract 429.03 (Block Group 1)	3,090	$46,821
Woodcrest/Mockingbird Canyon Census Tract 420.08 (Block Groups 1 and 2)	7,744	$103,344
Victoria Grove Community Census Tract 414.09 (Block Group 1)	8,174	$99,048
Lake Hills/Home Gardens	9,191	$95,205
Census Tract 414.09 (Block Group 2)	5,077	$85,018
Census Tract 414.09 (Block Group 3)	4,114	$105,391
Temescal Canyon Community	9,472	$60,014
Census Tract 414.09 (Block Group 4)[2]	1,092	$42,944
Census Tract 419.09 (Block Group 1)	1,355	$51,033
Census Tract 419.09 (Block Group 3)	1,261	$58,750
Census Tract 419.10 (Block Group 1)	4,066	$78,313
Census Tract 420.07 (Block Group 2)[2]	1,698	$69,028
City of Perris Census Tract 426.20 (Block Group 1)[3]	2,948	$60,160
City of Corona Census Tract 481.00[3]	7,020	$103,388

[1] The study area for income comprises the census tract block groups in which the proposed project would be located plus two additional block groups to capture populations at the eastern and western ends of the project (see Figure 3.4-3).
[2] Census Tracts 414.09, 420.07 (Block Group 2), and 420.08 (Block Group 1) encompass more than one community.
[3] Census tracts located within study area but outside of project limits.
Sources: U.S. Census Bureau 2016a, 2016b.

Mead Valley

Local residents within the Mead Valley community can access businesses via walking, driving, public transportation (bus), and bicycle. Businesses along Cajalco Road within Mead Valley include a 76 gas station and Circle K Market at the intersection of Cajalco Road and Brown Street, Mead Valley Market (El Mercado de Mead Valley) at the intersection of Cajalco Road and Florence Street, automobile-oriented services, restaurants, and liquor stores. Major businesses are on the eastern fringe of Mead Valley at the intersection of Cajalco Road and Harvill Avenue, and include an Arco gas station with car wash and ampm convenience store, 76 gas station, Circle K Market, Jack in the Box restaurant, and Farmer Brothers restaurant.

As indicated in Table 3.4-6, median household income within the Mead Valley community ranges between $31,942 and $112,105, with an average of $54,871.

Lake Mathews/Gavilan Hills

The Lake Mathews/Gavilan community is primarily rural residential and includes a limited number of businesses, primarily along Cajalco Road. Local businesses include Palm Plantation, on the north side of Cajalco Road west of Lynette Lane; K-9 Companions, south of Cajalco Road on JJ Lane; and Lake Mathews Market and Feed Store on the south side of Cajalco Road west of Gustin Road. Local residents within the Lake Mathews/Gavilan Hills community can access businesses via walking, driving, public transportation (bus), and bicycle. According to input received from members of the Greater Lake Mathews Rural Trails Association, the Lake Mathews Market and Feed Store are also accessed by equestrians.

As indicated in Table 3.4-6, median household income within the Lake Mathews/Gavilan Hills community ranges between $42,944 and $112,105, with an average of $67,725.

Woodcrest/Mockingbird Canyon

Businesses within the Woodcrest/Mockingbird Canyon community along the north side of Cajalco Road between El Sobrante Road and Barton Street include the Sand Haven Pines tree farm at the intersection of Cajalco Road and Wood Road. Businesses along El Sobrante Road include the La Vista Nursery, GoneStraw Farms, Rancho Gozales (nursery), Dos Pinos Ranch and Nursery, Greensource Nursery/Harvest Growers Incorporated, Trinity Therapy Riding Center. Businesses along Harley John Road within the study area include Better K9, Wholesale Nursery, and Nava's Growers.

As indicated in Table 3.4-6, the average median household income within the Woodcrest community is $103,344.

Victoria Grove and Lake Hills/Home Gardens

Victoria Grove and Lake Hills are developed communities for residential uses and include a limited number of various home-based businesses. The communities are situated between businesses in Mead Valley, Temescal Canyon, and the City of Riverside.

As indicated in Table 3.4-6, median household income within the Victoria Grove and Lake Hills communities are similar and range between $85,018 and $105,391, with an average of $97,127.

Temescal Canyon

A major shopping center, Crossings at Corona, is immediately northwest of the Cajalco Road and Temescal Canyon intersection, within the Temescal Canyon community, and includes multiple restaurants, department stores, clothing stores, furniture store, banks, a liquor store, a salon, a pet store, a bookstore, and a movie theater. Local residents within the Temescal Canyon community can access the businesses via walking, driving, public transportation, and bicycle. Just east of the shopping center, at the northeast corner of Cajalco Road and Temescal Canyon Road, a recently constructed Circle K gas station with minimarket fronts Cajalco Road. Farther east along Cajalco Road, there are several large mining and rock quarry operations, including Robertson's Corona Quarry on the south side of Cajalco Road just west of Temescal Canyon Road and Hanson's Eagle Valley Quarry and 3M Company Main FST Quarry north of Cajalco Road.

As indicated in Table 3.4-6, median household income within the Temescal Canyon community ranges between $42,944 and $78,313, with an average of $60,014.

Population Characteristics

According to the 2011–2015 American Community Survey released by the U.S. Census Bureau, the total population of Riverside County in 2015 was 2,298,032, as shown in Table 3.4-7. As shown, 26.8 percent of Riverside County's population is under 18 years of age, while 12.8 percent of the population is 65 years of age and over. The study area's age composition is similar to that of the county, with a slightly higher percentage of the population under 18 years of age (27.3 percent) and a lower percentage of seniors (9.9 percent). Population characteristics within the study area communities indicate 30 percent of the Victoria Grove community and 29.5 percent of the Mead Valley community are under 18 years of age, while 15.6 percent of the Lake Mathews community and 15.5 percent of the Temescal Canyon community are 65 years of age and over.

Table 3.4-7. Population and Age Distribution

Area	Total Population	Age			
		Under 18	Percentage	65 and Over	Percentage
Riverside County	2,298,032	615,873	26.8%	294,148	12.8%
City of Corona	159,595	42,931	26.9%	13,725	8.6%
City of Perris	72,547	25,537	35.2%	3,700	5.1%
Study Area[1]	65,988	19,611	28.3%	5,516	8.0%
Mead Valley	22,381	6,817	52.7%	1,292	10.0%
Census Tract 420.08 (Block Group 1)[2]	4,032	934	23.2%	594	14.7%
Census Tract 420.09 (Block Group 3)	2,328	887	38.1	160	6.9
Census Tract 420.10	6,587	2,062	31.3%	507	7.7%
Census Tract 429.04	9,434	2,934	31.1%	538	5.7%
Lake Mathews/Gavilan Hills	9,912	2,428	24.5%	309	3.1%
Census Tract 414.09 (Block Group 4)[2]	1,092	452	23.8%	22	2.0%
Census Tract 420.07 (Block Group 2)[2]	1,698	250	14.7%	306	18.0%
Census Tract 420.08 (Block Group 1)[2]	4,032	934	23.2%	594	14.7%
Census Tract 429.03 (Block Group 1)[2]	3,090	792	25.6%	312	10.1%
Woodcrest/Mockingbird Canyon Census Tract 420.08 (Block Groups 1 and 2)	7,744	1,758	22.7%	945	12.2%
Victoria Grove Census Tract 414.09 (Block Group 1)	8,174	2,413	29.5%	741	9.1%
Lake Hills/Home Gardens	9,191	2,682	29.2%	373	4.1%
Census Tract 414.09 (Block Group 2)	5,077	1,338	26.4%	273	5.4%
Census Tract 414.09 (Block Group 3)	4,114	1,344	32.7%	100	2.4%
Temescal Canyon	9,472	2,510	26.5%	999	10.5%
Census Tract 414.09 (Block Group 4)[2]	1,092	452	23.8%	22	2.0%
Census Tract 419.09 (Block Group 1)	1,355	295	21.8%	114	8.4%
Census Tract 419.09 (Block Group 3)	1,261	270	21.4%	166	13.2%
Census Tract 419.10 (Block Group 1)	4,066	1,243	30.6%	391	9.6%
Census Tract 420.07 (Block Group 2)[2]	1,698	250	14.7%	306	18.0%
City of Perris Census Tract 426.20 (Block Group 1)[3]	2,948	952	32.3%	35	1.2%
City of Corona Census Tract 481.00[3]	7,020	1,768	25.2%	625	8.9%

[1] The study area, for the purposes of this chapter, comprises the census tract block groups in which the proposed project would be located plus two additional block groups to capture populations at the eastern and western ends of the project (see Figure 3.4-1).
[2] Census Tracts 414.09, 420.07, and 420.08 (Block Group 1) encompass more than one community.

Area	Total Population	Age			
		Under 18	Percentage	65 and Over	Percentage

[3] Census tracts located within study area but outside of project limits.
Source: U.S. Census Bureau 2016d.

As shown in Table 3.4-8 on the following page, the two primary populations within Riverside County are Hispanic and White, as they represent 47.0 and 37.8 percent of the population, respectively. Asians and African Americans represent the third and fourth largest groups, as they represent 6.0 and 5.9 percent of the population, respectively. The population characteristics of the study area are very similar to that of Riverside County. As with Riverside County, the two primary populations within the study area are Hispanic and White, representing 52.9 and 36 percent, respectively. Also, as with Riverside County, Asian and African American groups represent the third and fourth largest populations at 5.8 and 4.9 percent of the population, respectively.

Table 3.4-8. Study Area Race and Ethnicity

Jurisdiction/Census Tract	Alternative	Total Population	Hispanic or Latino of Any Race	White	Black or African American	Native American	Asian	Native Hawaiian/ Pacific Islander	Other Race	Two or More Races	Minority Population
Riverside County	1, 2C, 4	2,298,032	47.0%	37.8%	5.9%	0.4%	6.0%	0.3%	0.2%	2.4%	59.6%
City of Corona	1, 2C, 4	159,595	56.8%	37.8%	4.9%	0.1%	10.9%	0.5%	0.2%	2.4%	65.6%
City of Perris	1, 2C, 4	72,547	73.0%	10.9%	11.0%	0.1%	3.8%	0.0%	0.2%	1.0%	87.9%
Study Area[1]	1, 2C, 4	65,988	52.9%	36.0%	4.9%	0.7%	5.8%	0.0%	0.0%	1.7%	64.3%
Mead Valley	1, 2C, 4	22,381	71.1%	19.9%	7.3%	0.0%	0.8%	0.0%	0.2%	0.7%	79.2%
Census Tract 420.08 (Block Group 1)[2]	1, 2C, 4	4,032	35.6%	51.4%	9.9%	0.0%	1.4%	0.0%	0.8%	0.9%	46.9%
Census Tract 420.09 (Block Group 3)	1, 2C, 4	2,328	92.5%	3.9%	2.9%	0.0%	0.5%	0.0%	0.0%	0.3%	95.9%
Census Tract 420.10	1, 2C, 4	6,587	77.3%	13.8%	7.7%	0.0%	0.4%	0.0%	0.1%	0.8%	85.4%
Census Tract 429.04	1, 2C, 4	9,434	79.0%	10.8%	8.7%	0.0%	0.7%	0.0%	0.0%	0.7%	88.4%
Lake Mathews/Gavilan Hills	1, 2C, 4	9,912	45.3%	54.9%	3.5%	2.4%	1.3%	0.0%	0.2%	0.5%	52.5%
Census Tract 414.09 (Block Group 4)[2]	1, 2C, 4	1,092	58.7%	41.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.7%
Census Tract 420.07 (Block Group 2)[2]	1, 2C, 4	1,698	24.3%	71.0%	0.4%	0.0%	3.7%	0.0%	0.0%	0.7%	28.3%
Census Tract 420.08 (Block Group 1)[2]	1, 2C, 4	4,032	35.6%	51.4%	9.9%	0.0%	1.4%	0.0%	0.8%	0.9%	46.9%
Census Tract 429.03 (Block Group 1)	1, 2C, 4	3,090	62.5%	56.0%	3.5%	9.4%	0.0%	0.0%	0.0%	0.3%	72.0%
Woodcrest/Mockingbird Canyon Census Tract 420.08 (Block Groups 1 and 2)	1, 2C, 4	7,744	38.3%	51.8%	5.6%	0.0%	3.1%	0.0%	0.4%	1.0%	46.9%
Victoria Grove Census Tract 414.09 (Block Group 1)	4	8,174	20.2%	47.7%	10.9%	0.1%	15.2%	0.2%	0.0%	5.8%	46.6%
Lake Hills/Home Gardens	4	9,191	40.7%	33.5%	3.6%	0.0%	17.6%	0.0%	0.0%	4.7%	61.9%
Census Tract 414.09 (Block Group 2)	4	5,077	23.2%	51.8%	3.1%	0.0%	12.8%	0.0%	0.0%	9.1%	39.2%
Census Tract 414.09 (Block Group 3)	4	4,114	58.2%	15.1%	4.0%	0.0%	22.4%	0.0%	0.0%	0.3%	84.6%
Temescal Canyon	1, 2C, 4	9,472	49.0%	45.5%	0.7%	0.4%	3.5%	0.0%	0.0%	0.9%	53.6%
Census Tract 414.09 (Block Group 4)[2]	1, 2C, 4	1,092	58.7%	41.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	58.7%
Census Tract 419.09 (Block Group 1)	1, 2C, 4	1,355	80.4%	17.6%	0.0%	0.0%	2.0%	0.0%	0.0%	0.0%	82.4%
Census Tract 419.09 (Block Group 3)	1, 2C, 4	1,261	34.5%	64.1%	0.0%	1.4%	0.0%	0.0%	0.0%	0.0%	35.9%
Census Tract 419.10 (Block Group 1)	1, 2C, 4	4,066	47.0%	33.7%	3.2%	0.4%	11.9%	0.0%	0.0%	3.8%	62.5%
Census Tract 420.07 (Block Group 2)[2]	1, 2C, 4	1,698	24.3%	71.0%	0.4%	0.0%	3.7%	0.0%	0.0%	0.7%	28.3%
City of Perris Census Tract 426.20 (Block Group 1)[3]	1, 2C, 4	2,948	67.3%	10.1%	21.2%	0.0%	0.0%	0.0%	0.0%	1.4%	88.5%
City of Corona Census Tract 481.00[3]	1, 2C, 4	7,020	29.5%	51.6%	2.9%	0.0%	14.7%	0.0%	0.0%	1.3%	47.1%

[1] The study area for race and ethnicity comprises the census tract block groups in which the proposed project would be located plus two additional block groups to capture populations at the eastern and western ends of the project (see Figure 3.4-1).
[2] Census Tracts 414.09, 420.07, and 420.08 (Block Group 1) encompass more than one community.
[3] Census tracts located within study area but outside of project limits.
Sources: U.S. Census Bureau 2016a, 2016b.

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Mead Valley

According to the U.S. Census data in Table 3.4-7, the Mead Valley community within the project study area is the most populous of the six study area communities, accounting for 19.6 percent of the study area population. Of the community population of 22,381, 52.7 percent is under 18 years of age and 10 percent is 65 years of age and over. Table 3.4-8 indicates 71.1 percent of the community is Hispanic or Latino, 19.9 percent is White, 7.3 percent is Black or African American, and 0.8 percent is Asian.

Lake Mathews/Gavilan Hills

According to the U.S. Census data in Table 3.4-7, population characteristics within the project study area of the Lake Mathews/Gavilan Hills community indicate a population of 9,912, 24.5 percent of which is under 18 years of age and 3.1 percent is 65 years of age and over. Table 3.4-8 indicates 45.3 percent of the community is Hispanic or Latino, 54.9 percent is White, 3.5 percent is Black or African American, 2.4 percent is Native American, and 1.3 percent is Asian.

Woodcrest/Mockingbird Canyon

According to the U.S. Census data in Table 3.4-7, the Woodcrest/Mockingbird Canyon community within the project study area is the least populous of the six study area communities at 7,744, and accounts for 11.7 percent of the study area population. A total of 22.7 percent of the community is under 18 years of age while 12.2 percent is 65 years of age and over. Table 3.4-8 indicates 38.3 percent is Hispanic or Latino, 51.8 percent is White, 5.6 percent is Black or African American, and 3.1 percent is Asian.

Victoria Grove

According to the U.S. Census data in Table 3.4-7, population characteristics within the project study area of the Victoria Grove community indicate a population of 8,174, 29.5 percent of which is under 18 years of age and 9.1 percent is 65 years of age and over. Table 3.4-8 indicates 20.2 percent is Hispanic or Latino, 47.7 percent is White, 10.9 percent is Black or African American, 0.1 percent is Native American, and 15.2 percent is Asian.

Lake Hills/Home Gardens

According to the U.S. Census data in Table 3.4-7, population characteristics within the project study area of the Lake Hills/Home Gardens community indicate a population of 9,191, 29.2 percent of which is under 18 years of age and 4.1 percent is 65 years of age and over. Of the community population of 9,191, Table 3.4-8 indicates 40.7 percent is Hispanic or Latino, 33.5 percent is White, 3.6 percent is Black or African American, and 17.6 percent is Asian.

Temescal Canyon

According to the U.S. Census data in Table 3.4-7, population characteristics within the project study area of the Temescal Canyon community indicate a population of 9,472, 26.5 percent of which is under 18 years of age and 10.5 percent is 65 years of age and over. Table 3.4-8 indicates

49 percent is Hispanic or Latino, 45.5 percent is White, 0.7 percent is Black or African American, 0.4 percent is Native American, and 3.5 percent is Asian.

Community Facilities

Community facilities within the 0.5-mile study area include places of worship and schools, as shown in Table 3.4-9 and Figure 3.4-3. Figure 3.4-3 also shows emergency services and utilities in the study area, which are discussed in further detail in Section 3.5, *Utilities/Emergency Services*. The community also has a community center, library, fire station, elementary schools, a middle school, and a high school.

Table 3.4-9. Community Facilities in the Study Area

Map ID	Facility Name and Description	Location	Distance from Project
C1	Lake Mathews Elementary School Public school; includes 14.5-acre recreation space with open play field, baseball field, basketball court, and blacktop with children's game areas.	12252 Blackburn Road, Riverside, CA 92503	0.3 mile
C2	County Community Center Public meeting facilities	16453 El Sobrante Road, Riverside, CA 92503	0.2 mile
C3	Bible Way Missionary Baptist Place of worship	20871 Hunter Street, Perris, CA 92570	0.2 mile
C4	Charles Meigs (Mead Valley) Community Center Community center includes indoor meeting rooms, outdoor playground, picnic area, basketball courts, and large multiple use turf area.	21091 Rider Street, Mead Valley, CA 92570	0.3 mile
C5	Sovereign Grace Community Church Place of worship	21091 Rider Street, Perris, CA 92570	0.5 mile
C6	Columbia Elementary School Public school; includes a 3.9-acre recreation space with two baseball fields and blacktop with children's games.	21350 Rider Street, Perris, CA 92570	0.2 mile
C7	Manuel L. Real Elementary School Public school; includes large multiple-use area, two baseball backstops, and multiple-use turf area.	19150 Clark Street, Perris, CA 92570	0.1 mile
C8	Mead Valley Library Public library	21580 Oakwood Street, Perris, CA 92570	0.2 mile
C9	Tomas Rivera Middle School Public school; includes 13.5-acre recreation space with track, open play field, three baseball fields, and blacktop with children's game areas.	21675 Martin Street, Perris, CA 92570	0.3 mile
C10	Perris Spanish Seventh-day Adventist Church Place of worship	22905 Alviso Drive, Perris, CA 92750	0.2 mile
C11	Huong Sen Buddhist Temple Place of worship	19865 Seaton Avenue, Perris, CA 92570	0.3 mile
C12	National Archives at Riverside Public archive and research facility	23123 Cajalco Road, Perris, CA 92570	0.2 mile
C13	Val Verde High School Public school; includes 4.5-acre recreation space with one baseball field, open play field, and blacktop with children's games	972 Morgan Street, Perris, CA 92571	0.3 mile
C14	Val Verde Regional Learning Center Public school with shared outdoor facilities with Val Verde High School	3710 Webster Avenue, Perris, CA 92571	0.3 mile

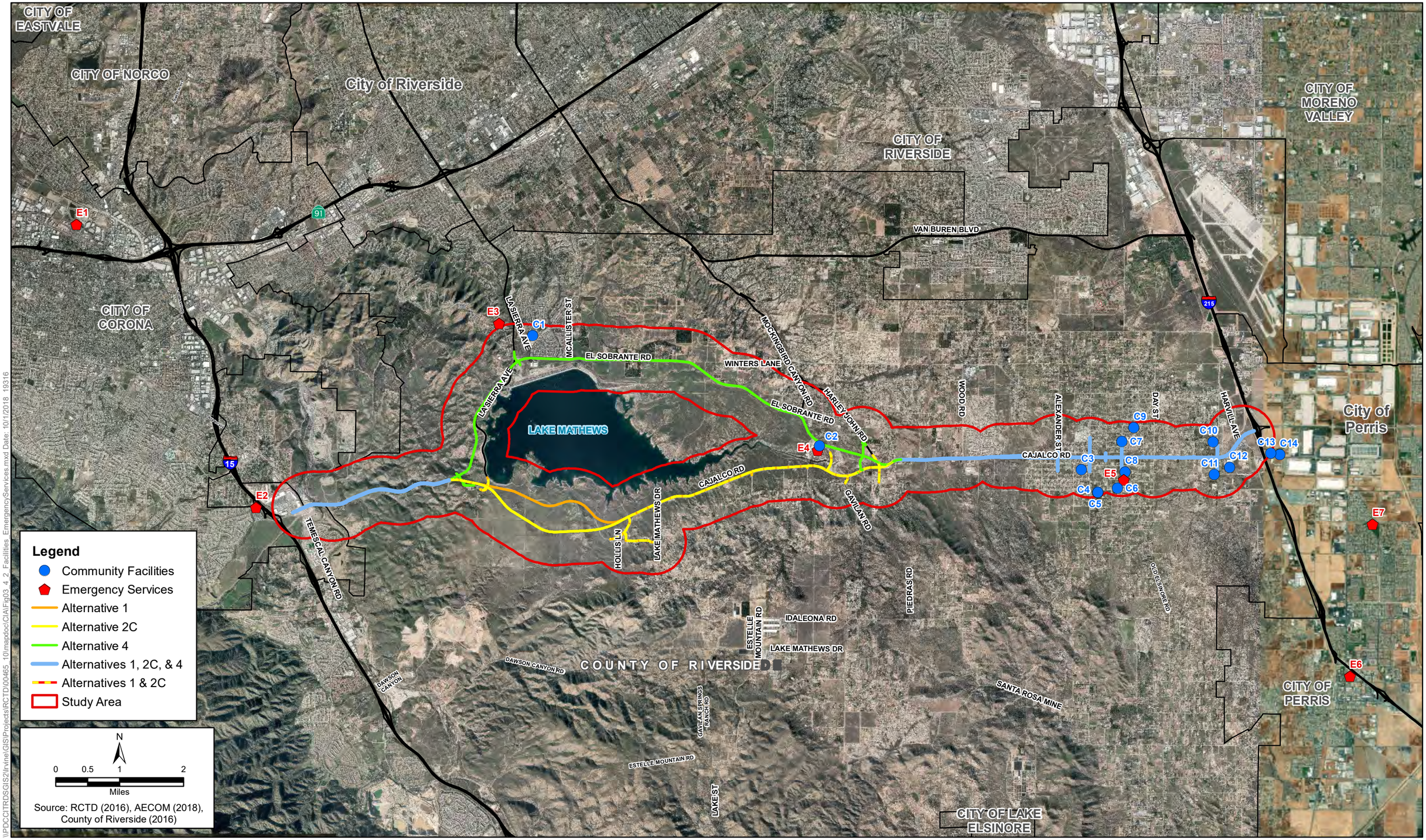

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Figure 3.4-3
Community Facilities and Emergency Facilities- Study Area and Service Areas
Cajalco Road Widening and Safety Enhancement Project

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Mead Valley

The majority of community facilities listed in Table 3.4-9 (C3 through C14) serve the Mead Valley community. In addition to multiple places of worship, Mead Valley is served by the Mead Valley Community Center, Mead Valley Library, Columbia Elementary School, Manuel L. Real Elementary School, Tomas Rivera Middle School, Val Verde High School, and Val Verde Regional Learning Center. Due to the proximity of these facilities to residences within the community, many are accessed via bicycle and walking. Those residing at farther distances can access the facilities via public transportation and automobile. Bicycle use is accommodated along the roadway shoulders, though there are no formally designated/marked bicycle lanes within the community. Sidewalks within Mead Valley are limited, as most roadside and shoulder areas are unpaved; sidewalks are available at the following locations within the project limits:

- North side of Cajalco Road west of Brown Street to Florence Street, west of Clark Street to Clark Street, east of Carroll Street to Carroll Street, and west of Robinson Street to Robinson Street
- South side of Cajalco Road from Brown Street to east of Brown Street, west of Clark Street to east of Clark Street, Day Street to east of Day Street
- East side of Clark Street north of Cajalco Road, east and west sides of Clark Street south of Cajalco Road
- East side of Seaton Avenue north of Cajalco Road
- North side of Cajalco Road/Cajalco Expressway between west of Harvill Avenue and I-215 northbound on-ramp
- South side of Cajalco Road/Cajalco Expressway, between west of Harvill Avenue and east of Harvill Avenue

Designated crosswalks are currently at the following intersections within the project limits of Mead Valley (refer to Sheet 6 of Figure 2.2-2 and Sheets 1A through 4 of Figure 2.2-3):

- Cajalco Road and Alexander Street
- Cajalco Road and Brown Street
- Cajalco Road and Clark Street
- Cajalco Road and Day Street
- Cajalco Road and Harvill Avenue
- Cajalco Road and I-215 southbound off-ramp

Riverside Transit Agency (RTA) provides public commuter and transportation services for the Mead Valley community with bus routes that serve Metrolink users, regional commuters, and nearby cities (RTA 2019). RTA bus stops are at designated locations along Cajalco Road, and at certain intersecting roads, within Mead Valley, but do not currently include roadway pull-out spaces away from mainline traffic.

Lake Mathews/Gavilan Hills

Facilities that serve the Lake Mathews community are generally located outside of the community and require transportation to access them. The nearest facilities are the Charles Meigs (Mead Valley) Community Center in Mead Valley, Lake Mathews Elementary School in Victoria Grove, and County Community Center in Woodcrest/Mockingbird Canyon. Designated crosswalks within the project limits are currently available at the following intersections only: Cajalco Road and La Sierra Avenue, Cajalco Road and El Sobrante Road, and Cajalco Road and Harley John Road/Smith Road (refer to Sheets 2A and 5 of Figure 2.2-2).

Woodcrest/Mockingbird Canyon

The nearest facilities listed in Table 3.4-9 for the Woodcrest/Mockingbird Canyon community are the Charles Meigs (Mead Valley) Community Center in Mead Valley, Lake Mathews Elementary School in Victoria Grove, and County Community Center. Residents east of El Sobrante Road may access the County Community Center via walking or bicycle; however, no direct routes are available and use of vehicular transportation to this location and most other facilities identified with the study area would be anticipated. The Woodcrest Library at 16625 Krameria Avenue also serves this community and is greater than 2 miles from the project. RTA provides public commuter and transportation services for the Woodcrest/Mockingbird Canyon community with bus routes that serve Metrolink users, regional commuters, and nearby cities; however, no designated facilities are within the project limits of the community (RTA 2019).

Sidewalks are limited, as most roadside and shoulder areas are unpaved; sidewalks are available at the following locations within the project limits:

- East side of Wood Road north of Cajalco Road
- West side of Carpinus Drive north of Cajalco Road

Designated crosswalks within the project limits of Woodcrest/Mockingbird Canyon are currently at the following intersections only (refer to Sheet 5B of Figure 2.2-5):

- El Sobrante Road and Fire Station intersection
- Cajalco Road and Harley John Road/Smith Road
- Cajalco Road and Wood Road

Victoria Grove and Lake Hills/Home Gardens

The nearest facility listed in Table 3.4-9 for the Victoria Grove and Lake Hills communities is Lake Mathews Elementary School on Blackburn Road. Victoria Grove Park is a private park for the community of Victoria Grove adjacent to Lake Mathews Elementary School. Residents north of El Sobrante Road and Schoolhouse Road, and east of Victoria Grove Parkway, may access the school via walking or bicycle due to close proximity. Residents within the Lake Hills community may access the school from Lake Crest Drive via La Sierra Avenue to Blackburn Road. Designated crosswalks within the project limits of the Victoria Grove and Lake Hills/Home Gardens communities are currently at the following intersection only: Cajalco Road and El Sobrante Road.

Sidewalks within the project limits of the Victoria Grove and Lake Hills/Home Gardens communities are limited, as most roadside and shoulder areas are unpaved; a sidewalk is available along the north side of El Sobrante Road between east of La Sierra Avenue and McAllister Street (refer to Sheet 3B of Figure 2.2-5).

Temescal Canyon

The nearest facility listed in Table 3.4-9 for the Temescal Canyon community is the Lake Mathews Elementary School on Blackburn Road. However, El Cerrito Middle School, at 7610 El Cerrito Road, is outside of the project area but is the closest community facility for the portion of the Temescal Canyon community within the project limits, at approximately 1.8 miles distance. El Cerrito Sports Park is adjacent to El Cerrito Middle School and includes a basketball court, covered shelter, picnic area, playground, soccer field, softball field, and tennis court. The Dos Lagos Golf Course, at 4507 Cabot Drive, is an approximately 115-acre public golf course within the Dos Lagos mixed-use development, approximately 1.5 miles (via roadways) from the portion of the Temescal Canyon community within the project limits.

No direct routes to these facilities, or to other community facilities, are available and the use of vehicular transportation would be anticipated. RTA provides public commuter and transportation services for the Temescal Canyon community with bus routes that serve Metrolink users, regional commuters, and nearby cities (RTA 2019); however, no designated facilities are within the project limits of the community. Designated crosswalks within the project limits of Temescal Canyon are currently at the following intersection only: Cajalco Road and Temescal Canyon Road (refer to Sheet 1A of Figure 2.2-2). Sidewalks are limited, as most roadside and shoulder areas are unpaved; sidewalks are available at the following locations within the project limits:

- Temescal Canyon Road and Cajalco Road intersection
- North side of Cajalco Road between Temescal Canyon Road and west of Temescal Creek Bridge

Community Character and Cohesion

Mead Valley

Within the study area, Mead Valley primarily contains single-family homes interspersed with undeveloped lots, limited commercial stores along Cajalco Road, and industrial parks near I-215. This is reflected by the existing land uses and land use designations, which are primarily Residential and Undeveloped, and primarily designated for Rural Community and Industrial land uses. Refer to Sheet 2 of Figure 3.1-1 and Sheet 2 of Figure 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Local housing characteristics for Mead Valley provided in Tables 3.4-2 and 3.4-3 indicate that 93.5 percent of the 8,243 housing units are occupied with average household sizes of 4.11 persons per household (owner-occupied) and 4.51 persons per household (renter-occupied). A total of 64.4 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (67.2 percent).

The average median household income for Mead Valley is $54,871. Population characteristics of Mead Valley provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community

population of 22,381 is Hispanic or Latino (71.1 percent), and 52.7 percent of the community is under 18 years of age while 10 percent is 65 years of age and over.

Residents along Cajalco Road experience views of the heavily traveled roadway and traffic-related noise levels that range between 48 and 71 A-weighted decibels (dBA). Limited vegetation along the project corridor includes nonnative grasses, sage scrub, and ruderal vegetation. There is a limited amount of naturally growing trees; however, there are some mature trees and shrubs associated with residential landscaping and commercial landscaping at the eastern end of the community. Refer to Figures 3.7-4 through 3.7-6 in Section 3.7, *Visual/Aesthetics*, for photographic representations, and Sheets 20 through 30 of Figure 3.15-2 in Section 3.15, *Noise and Vibration*, for measured noise receptor locations within the Mead Valley community.

Local concerns expressed from members of the Mead Valley community include excessive speeds, accidents, and increased traffic including trucks along Cajalco Road; flooding; traffic-related noise; air quality; business access and impacts; property impacts; emergency access; safety; equestrian use; trails; and growth.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, density of the community, and amount of input received from members of the community, it is reasonable to assume a high degree of social cohesion exists within the Mead Valley community.

Lake Mathews/Gavilan Hills

Within the study area, the Lake Mathews/Gavilan Hills community primarily contains single-family homes interspersed with open space. This is reflected by the existing land uses and land use designations, which are primarily Conservation/Open Space, Undeveloped, and Residential, and primarily designated for Conservation and Rural Community land uses. Refer to Sheet 1 of Figure 3.1-1 and Sheet 1 of Figure 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Local housing characteristics for Lake Mathews/Gavilan Hills provided in Tables 3.4-2 and 3.4-3 indicate 93.7 percent of the 10,451 housing units are occupied with average household sizes of 3.55 persons per household (owner-occupied) and 3.97 persons per household (renter-occupied). A total of 77.5 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (57 percent).

The median household income for Lake Mathews/Gavilan Hills is $67,725. Population characteristics of Lake Mathews/Gavilan Hills provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community population of 5,730 is White (54.9 percent), and 20.7 percent of the community is under 18 years of age while 15.7 percent is 65 years of age and over.

Most residents within the study area portion of the Lake Mathews/Gavilan Hills community are approximately 680 to 1,500 feet from Cajalco Road; a cluster of homes fronts Cajalco Road between east of Dirt Road to west of Hollis Lane. Residents that front Cajalco Road experience views of the heavily traveled roadway and traffic-related noise levels that range between 55 and 64 dBA. Many of the residents with views of Lake Mathews also have partial views of Cajalco Road and do not directly experience the traffic passing through the community or the traffic noise experienced by homes that front Cajalco Road. The open space lands, rolling terrain, and

lack of tall vegetation associated with the Lake Mathews Reserve and other area conservation lands allow for scenic vista views to the surrounding mountains and Lake Mathews. Within the community itself, vegetation is mostly nonnative grasslands, sage scrub, and ruderal vegetation. There is a limited amount of naturally growing trees; however, residences often have mature trees and shrubs with their associated landscaping.

Noise levels for the homes located farther from Cajalco Road range between 40 and 42 dBA. Refer to Figures 3.7-7 through 3.7-9, 3.7-13, and 3.7-14 in Section 3.7, *Visual/Aesthetics*, for photographic representations, and Sheets 5 through 18 of Figure 3.15-2 in Section 3.15, *Noise and Vibration*, for measured noise receptor locations within the Lake Mathews/Gavilan Hills community.

According to input received from the community, including Amazonia Wildlife Foundation and members of Residents of Greater Lake Mathews and Greater Lake Mathews Rural Trails Association, community concerns include traffic-related impacts such as noise, increased traffic and trucks, property impacts, emergency access, and equestrian trail options.

The nearest community facility serving the Lake Mathews community is the County Community Center on El Sobrante Road within the Woodcrest community; private and/or public transportation would be the primary means of accessing this facility from Lake Mathews.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, and density of the community, it is reasonable to assume a high degree of social cohesion exists within the Lake Mathews community.

Woodcrest/Mockingbird Canyon

Within the study area, single-family homes and open space are the primary land uses within the Woodcrest/Mockingbird community. Other land uses include agricultural, commercial, and industrial developments. Many of the homes are on rural residential sized lots. This is reflected by the existing land uses and land use designations, which are primarily Residential and Undeveloped, and primarily designated for Rural Community and Rural Residential land uses. Refer to Figures 3.1-1 and 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Local housing characteristics for Woodcrest provided in Tables 3.4-2 and 3.4-3 indicate 92.9 percent of the 2,368 housing units are occupied with average household sizes of 3.41 persons per household (owner-occupied) and 4.35 persons per household (renter-occupied). A total of 84.3 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (60.8 percent).

The median household income for Woodcrest/Mockingbird is $103,344. Population characteristics of Woodcrest/Mockingbird provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community population of 7,744 is White (51.8 percent), and 22.7 percent of the community is under 18 years of age while 12.2 percent is 65 years of age and over.

Residents along Cajalco Road experience views of the heavily traveled roadway and traffic-related noise levels that range between 48 and 71 dBA. The open space lands, rolling terrain, and lack of tall vegetation associated with the LMR and other conservation areas allow for scenic vista views to the surrounding mountains and Lake Mathews. Vegetation along the project

corridor is mostly nonnative grasslands, sage scrub, and ruderal vegetation. There is a limited amount of naturally growing trees; however, some residences have mature trees and shrubs with their associated landscaping, and nursery-based businesses along Cajalco Road and El Sobrante Road include rows of mature pine and fruit trees. Refer to Figures 3.7-4 through 3.7-6 in Section 3.7, *Visual/Aesthetics*, for photographic representations, and Sheets 20 through 30 of Figure 3.15-2 in Section 3.15, *Noise and Vibration*, for measured noise receptor locations within Woodcrest/Mockingbird Canyon. Existing noise levels for residences that front Cajalco Road at Extravaganza Lane and one residence that fronts Cajalco Road at Cowan Road currently approach or exceed the FHWA/California Department of Transportation (Caltrans) Noise Abatement Criteria (NAC) of 67 dBA.

Local concerns expressed from members of the community include excessive speeds, accidents, and increased traffic along Cajalco Road; flooding; traffic-related noise; air quality; business access and impacts; property impacts; emergency access; and safety.

The nearest facilities serving the Woodcrest community within the study area are described above. Residents east and north of El Sobrante Road may access the nearest facilities via walking, bicycle, and horse; however, vehicles are anticipated to be the primary mode of transportation for the community due to the distances between residents and facilities.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, and density of the community, it is reasonable to assume a high degree of social cohesion exists within the Woodcrest Community.

Victoria Grove

The community of Victoria Grove, which contains 1,120 homes, is immediately northwest of McAllister Street. This is reflected by the existing land uses and land use designations, which are Residential. Refer to Sheet 1 of Figure 3.1-1 and Sheet 1 of Figure 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Because the Victoria Grove and Lake Hills communities share the same census tract and have similar characteristics of planned housing developments, their housing characteristics are described collectively. Local housing characteristics provided in Tables 3.4-2 and 3.4-3 indicate approximately 97.4 percent of the housing units within Victoria Grove are occupied, with average household sizes of 3.79 persons per household (owner-occupied) and 4.28 persons per household (renter-occupied). Approximately 86.4 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (approximately 71.9 percent).

The median household income for Victoria Grove is $99,048. Population characteristics of Victoria Grove provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community population of 8,174 is White (47.7 percent), and 29.5 percent of the community is under 18 years of age while 9.1 percent is 65 years of age and over.

Residents along El Sobrante Road experience traffic-related noise levels that range between 53 and 59 dBA. Refer to Sheets 20 through 30 of Figure 3.15-2 in Section 3.15, *Noise and Vibration*, for measured noise receptor locations within the Victoria Grove community. Most residential views of El Sobrante Road and La Sierra Avenue are obstructed by vegetation and sound walls, with limited views via second story windows. Landscaped vegetation that fronts

Cajalco Road includes short shrubs and mature palm trees. Refer to Figure 3.7-16 in Section 3.7, *Visual/Aesthetics*, for photographic representation of the Victoria Grove community.

According to input received from members of the Victoria Grove community, there is interest in widening El Sobrante Road and support for the project.

Community facilities within the Victoria Grove community include Lake Mathews Elementary School and Victoria Grove Park; these facilities can be accessed by local residents via walking, bicycle, and vehicular transportation.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, and density of the community, it is reasonable to assume a high degree of social cohesion exists within the Victoria Grove community.

Lake Hills/Home Gardens

Land uses west and southwest of the intersection of La Sierra Avenue and El Sobrante Road include single-family residences within the Lake Hills/Home Gardens community and open space. This is reflected by the existing land uses and land use designations, which are primarily Residential and Conservation/Open Space, and primarily designated for Residential and Conservation land uses. Refer to Sheet 1 of Figure 3.1-1 and Sheet 1 of Figure 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Because the communities of Victoria Grove and Lake Hills/Home Gardens share the same census tract and have similar characteristics of planned housing developments, their housing characteristics are described collectively. Housing characteristics provided in Tables 3.4-2 and 3.4-3 indicate approximately 97.4 percent of the 3,797 housing units within Lake Hills are occupied with average household sizes of 3.79 persons per household (owner-occupied) and 4.28 persons per household (renter-occupied). Approximately 86.4 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (approximately 71.9 percent).

The median household income for Lake Hills is $95,205. Population characteristics of Lake Hills/Home Gardens provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community population of 9,191 is Hispanic or Latino (40.7 percent), and 29.2 percent of the community is under 18 years of age while 4.1 percent is 65 years of age and over.

Most residential views of El Sobrante Road and La Sierra Avenue are obstructed by vegetation and sound walls, with limited views via second-story windows. According to input received from members of the Lake Hills community, concerns include protected areas and support for Build Alternative 1.

No community facilities are within the study area limits of Lake Hills/Home Gardens; however, residents of the communities can access Lake Mathews Elementary School within the adjacent Victoria Grove community via vehicular transportation using Lake Crest Drive via La Sierra Avenue to Blackburn Road. Lake Hills residents may also access the Victoria Grove facilities via walking or bicycle, but would need to travel longer distances.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, and density of the community, it is reasonable to assume a high degree of social cohesion exists within the Lake Hills community.

Temescal Canyon

Temescal Canyon is at the western end of the project and contains a mix of single-family homes, industrial uses, commercial stores, and open space. This is reflected by the land use designations, which are primarily Undeveloped, Mineral Resources, Conservation/Open Space, Commercial, and Industrial, and primarily designated for Rural Community, Conservation, Mineral Resources, Industrial, and Commercial land uses. Refer to Sheet 1 of Figure 3.1-1 and Sheet 1 of Figure 3.1-2 in Section 3.1, *Land Use*, for existing land uses and designations within the study area. Local housing characteristics of the Temescal Canyon community are indicated in Tables 3.4-2 and 3.4-3, which show regional and local housing characteristics in the study area and study area jurisdictions. Of the 10,550 housing units, 92.9 percent are occupied with average household sizes of 3.44 persons per household (owner-occupied) and 3.51 persons per household (renter-occupied). A total of 78.2 percent of the occupied units are occupied by their owners, and the majority of homeowners have lived in their homes for more than 5 years (65.2 percent).

The median household income for Temescal Canyon is $60,014. Population characteristics of Temescal Canyon provided in Tables 3.4-7 and 3.4-8 indicate the majority of the total community population of 9,472 is Hispanic or Latino (49 percent), and 26.5 percent of the community is under 18 years of age while 10.5 percent is 65 years of age and over.

Residents within the Temescal Canyon community along Cajalco Road experience views of the heavily traveled roadway and traffic-related noise levels that range between 48 and 59 dBA. Vegetation along the project corridor between west of La Sierra Avenue and east of Temescal Creek includes nonnative grasses, sage scrub, and ruderal vegetation. Vegetation is more dense at the Temescal Creek Bridge and residences east of the bridge where naturally growing mature trees and shrubs line Cajalco Road. Refer to Figures 3.7-11 and 3.7-12 in Section 3.7, *Visual/ Aesthetics*, for photographic representations, and Sheets 1 through 4 of Figure 3.15-2 in Section 3.15, *Noise and Vibration*, for measured noise receptor locations within the Temescal Canyon community.

Local concerns expressed from members of the Temescal Canyon community include traffic accidents, traffic-related noise, air quality, property impacts, business access (mining), and wildlife preserve.

The nearest community facilities serving Temescal Canyon within the study area limits are Lake Mathews Elementary School within the Victoria Grove community; private and/or public transportation would be the primary means of accessing these facilities from Temescal Canyon. Additional facilities are also available beyond the study area and range between 1.5 and 1.8 miles distance from the project limits; these include El Cerrito Middle School, El Cerrito Sports Park, and Dos Lagos Golf Course.

Given the large amount of owner-occupied housing units, high occupancy rate of housing units, extended average length of occupancy per housing unit, and density of the community, it is reasonable to assume a high degree of social cohesion exists within the Temescal Canyon community.

3.4.1.3 Environmental Consequences (Community Character and Cohesion)

Population, Housing, and Community Facilities

Permanent Impacts

Build Alternatives 1 and 2C—Cajalco and Modified Cajalco Alignments

Build Alternatives 1 and 2C would widen Cajalco Road between the I-215 southbound ramps and Temescal Canyon Road to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. Communities primarily affected by the changes proposed under Build Alternatives 1 and 2C would be Mead Valley, Lake Mathews/Gavilan Hills, and Temescal Canyon. The purpose of the realignment of Cajalco Road west of Lake Mathews Drive is to reduce the curves required along Cajalco Road, which would improve the safety of the roadway and allow for increased speeds.

Construction of Build Alternative 1 or 2C would require partial acquisition of land from 67 residential parcels (not requiring relocation) and full acquisition and relocation of 19 residential units. The affected properties consist of rural-residential, single-family houses. As discussed in Section 3.4.2.3, there is adequate replacement housing within the replacement area for those displaced, and the relocation of residents would not pose a substantial impact on the community. In addition, as discussed in Section 3.3, *Growth*, growth resulting from Build Alternatives 1 and 2C is not reasonably foreseeable and no development is anticipated to result from the build alternatives, although projected growth in accordance with the Riverside County General Plan is expected and is considered acceptable and desirable (County of Riverside 2015). Consequently, no change to the local housing market would occur.

Long term, Build Alternative 1 or 2C would be expected to improve roadway efficiency and would likely result in a reduction in travel times to community facilities. Therefore, operations and permanent impacts of either Build Alternative 1 or 2C are not anticipated to result in adverse impacts on community facilities. A discussion of the anticipated impacts and benefits for each community within the study area is provided below.

Mead Valley

Build Alternatives 1 and 2C would require full acquisition of 17 residential units and one business within the community of Mead Valley. All residential units are single-family residences, eight of which are owner-occupied and nine of which are tenant-occupied. An estimated 52 residents would be displaced from their current residences within Mead Valley. An estimated nine employees would be displaced. Of the total population of 22,381 within the study area portion of Mead Valley, the displacement of 52 residents would represent 0.2 percent of the community population. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property and with reimbursement for certain costs involved in relocation. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. All eligible displacees would be entitled to moving expenses per the Uniform Act.

According to the DRIR, adequate residential and commercial replacement properties are available within the replacement area, which is defined as the local area where residential and business displacees would likely secure replacement sites. The replacement area was determined by the availability of replacement single-family residences and comparable business sites for displacees. The replacement area is the most similar to the displacement area in character and socioeconomic status. It has the highest likelihood of receiving displaced residents and businesses because of the availability of replacement properties with similar average purchase prices as in the displacement area. The communities within the replacement area are also within 10 miles of the displacement area; therefore, the commute distance to jobs and schools would be reasonable and would not result in substantial hardships for the displacees. In addition, residential displacees would have access to schools within the same school district in the replacement area as they had in the displacement area. The following standard condition would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

- **PF COM-1:** As part of project implementation, relocation assistance payments and counseling would be provided by the County of Riverside to persons and businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended (42 United States Code Sections 4601–4655), to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. The County of Riverside will provide compensation to eligible recipients for property acquisitions. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. All relocation activities would be conducted by the implementing agencies in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended. Relocation resources would be available to all displacees without discrimination.

  In addition, the Nonresidential Relocation Assistance Program (RAP) provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation. The RAP will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are instead of any moving, searching, and reestablishment expenses.

Construction of Build Alternative 1 or 2C would require partial acquisition of land from 67 residential parcels (not requiring relocation). The affected properties consist of rural-residential, single-family houses. Community facilities would not be substantially affected but may receive some benefit from improved access through the proposed roadway improvements and additional sidewalks and crosswalks within the Mead Valley community along Cajalco Road.

Lake Mathews/Gavilan Hills

Build Alternatives 1 and 2C would require full acquisition of one residential unit within the community of Lake Mathews/Gavilan Hills. The residential unit is a single-family residence, assumed owner-occupied. An estimated five residents would be displaced from the residence. Of the total population of 9,912 within the study area portion of Lake Mathews/Gavilan Hills, the displacement of five residents would represent 0.1 percent of the community population.

Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Under Build Alternative 2C, the alignment of Cajalco Road would deviate from its existing alignment between La Sierra Avenue and a point west of Lake Mathews, and it would include the construction of a new segment of roadway south of Lake Mathews and the existing Cajalco Road. This new segment of Cajalco Road would extend through an area of conservation land that is currently inaccessible. However, Build Alternative 2C would not provide any right or left turns into this conservation area. In addition, the area would remain inaccessible because development is not permitted in the conservation area. No intensification of land uses or removal of residential communities would occur. Cajalco Road is a major transportation corridor and would continue to function as such with the implementation of Build Alternative 1 or 2C. This realignment would benefit the neighborhood by moving the roadway farther from the homes in the neighborhood, which would ultimately improve safety. Build Alternatives 1 and 2C would also include a new connection between Dirt Road and Richey Way south of Lake Mathews to accommodate emergency access. New access to areas that were previously inaccessible is not proposed, except for a short realignment of a section of Cajalco Road west of Lake Mathews Drive.

Woodcrest/Mockingbird Canyon

Build Alternatives 1 and 2C would require full acquisition of one government business, which is anticipated to result in the displacement of 16 employees. According to the DRIR, adequate commercial replacement properties are available within the replacement area, which is defined as the local area where business displacees would likely secure replacement sites. The replacement area was determined by the availability of comparable business sites for displacees. The replacement area is the most similar to the displacement area in character and socioeconomic status. The communities within the replacement area are also within 10 miles of the displacement area; therefore, the commute distance to jobs and schools would be reasonable and would not result in substantial hardships for the displacees. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefit*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Under Build Alternatives 1 and 2C, the widening of Cajalco Road within the community of Woodcrest/Mockingbird Canyon would occur predominantly along the existing alignment of the road between Harley John Road and Barton Street. No community facilities are within this section of the community; the nearest facilities within Mead Valley and on El Sobrante Road would not be affected under Build Alternatives 1 and 2C.

Temescal Canyon

Build Alternatives 1 and 2C would require full acquisition of one single-family residential property within the community of Temescal Canyon. An estimated five residents would be displaced from

their current residences within Temescal Canyon. Of the total population of 9,472 within the study area portion of Temescal Canyon, the displacement of five residents would represent less than 0.1 percent of the community population. According to the DRIR, adequate residential replacement properties are available within the replacement area, which is defined as the local area where residential displacees would likely secure replacement sites. The replacement area was determined by the availability of replacement single-family residences for displacees. The communities within the replacement area are also within 10 miles of the displacement area; therefore, the commute distance to jobs and schools would be reasonable and would not result in substantial hardships for the displacees. In addition, residential displacees would have access to schools within the same school district in the replacement area as they had in the displacement area. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

No community facilities are within this section of the community; the nearest facilities would not be affected under Build Alternatives 1 and 2C.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operational impacts would be less than those described for Build Alternatives 1 and 2C because no additional property displacements or relocations would be required. The future six-lane facility would add lanes between Temescal Canyon Road and Harley John Road, and is anticipated to further improve east-west mobility, and to provide increased capacity, improved traffic flow, and safety. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions.

The future six-lane facility would not provide access to areas that were previously inaccessible; as such, intensification of land uses or removal of residential communities would not result. Cajalco Road is major transportation corridor and would continue to function as such with the implementation of the future six-lane facility under Build Alternative 1 or 2C.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

The LM MSHCP is a conservation area that does not contain any population, housing, or community facilities; therefore, there would be no impacts. Employees associated with management of the LMR would not be substantially affected by operations because no relocations would occur within the conservation area, although site access would change slightly. Long term, Build Alternatives 1 and 2C are expected to improve roadway efficiency and would likely result in a reduction in travel times within the conservation area. Therefore, operation of Build Alternatives 1 or 2C would have no adverse impact on employees in the conservation area.

Build Alternative 4—El Sobrante Alignment

Build Alternative 4 would widen Cajalco Road between the I-215 southbound ramps and Harley John Road, and between La Sierra Avenue and Temescal Canyon Road, as well as widen El Sobrante Road between Harley John Road and La Sierra Avenue, and widen La Sierra Avenue between El Sobrante Road and Cajalco Road, to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. Communities that would primarily be affected by the changes proposed under Build Alternative 4 would be Mead Valley, Woodcrest/ Mockingbird Canyon, Victoria Grove, Lake Hills/Home Gardens, and Temescal Canyon.

Permanent impacts on the Mead Valley and Temescal Canyon communities under Build Alternative 4 would be the same as those identified under Build Alternatives 1 and 2C, above. Please refer to Build Alternatives 1 and 2C for a discussion of impacts on these communities under Build Alternative 4.

Lake Mathews/Gavilan Hills

Similar to Build Alternatives 1 and 2C, under Build Alternative 4, full acquisition of one residential unit within the community of Lake Mathews/Gavilan Hills is proposed. The residential unit is a single-family residence, assumed owner-occupied. An estimated five residents would be displaced from the residence. Of the total population of 9,912 within the study area portion of Lake Mathews/Gavilan Hills, the displacement of five residents would represent 0.1 percent of the community population. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Build Alternative 4 would not provide access to areas that were previously inaccessible within the Lake Mathews/Gavilan Hills area, and intensification of land uses or removal of residential communities would not occur. The shift in the alignment of La Sierra Avenue would not provide new access to previously inaccessible areas because the new alignment of La Sierra Avenue would still mostly be in an area where roads and access currently exist, not in a new, inaccessible area. However, segments of Build Alternative 4 would extend through an area of conservation land that is currently inaccessible. This area would remain inaccessible to vehicles, because Build Alternative 4 would not provide any right or left turns into this conservation area. In addition, the area would remain inaccessible because development is not permitted in the conservation area. Cajalco Road and El Sobrante Road are major transportation corridors and would continue to function as such with the implementation of Build Alternative 4.

No community facilities are within this section of the community and would therefore not be affected under Build Alternative 4.

Woodcrest/Mockingbird Canyon

Between Cowan Road and Barton Street, impacts and benefits of Build Alternative 4 would be the same as those identified under Build Alternatives 1 and 2C, above. Under Build Alternative 4, two residential units along El Sobrante Road are proposed for acquisition in addition to the

business on Cajalco Road, for an anticipated total 10 residential and 16 employee displacees within this community. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Additional new traffic signals with designated crosswalks would be constructed within the community under Build Alternative 4 at the intersections of El Sobrante Road with McAllister Street, Mockingbird Canyon Road, and Harley John Road. Long term, Build Alternative 4 is expected to improve roadway efficiency and would likely result in a reduction in travel times to community facilities. Therefore, operations and permanent impacts of Build Alternative 4 is not anticipated to result in adverse impacts on community facilities.

Victoria Grove

Under Build Alternative 4, no residential or business displacements are anticipated to occur that would affect Victoria Grove. Partial acquisitions of the landscaped portion of the roadway along the north side of El Sobrante Road would be necessary to accommodate the widened roadway. New traffic signals with designated crosswalks would be constructed at the intersections of El Sobrante Road with La Sierra Avenue and McAllister Street. No impacts on population, housing, or community facilities within this community are anticipated.

Lake Hills/Home Gardens

Under Build Alternative 4, no residential or business displacements are anticipated to occur that would affect Lake Hills/Home Gardens. A new traffic signal with designated crosswalks would be constructed at the intersection of El Sobrante Road and La Sierra Avenue; however, this change is not anticipated to affect population, housing, or community facilities within this community.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operational impacts would be less than those described for Build Alternative 4 because no additional property displacements or relocations would be required. The future six-lane facility would add lanes between Temescal Canyon Road and El Sobrante Road, and it is anticipated to further improve east-west mobility, and to provide increased capacity, improved traffic flow, and safety. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions.

The future six-lane facility would not provide access to areas that were previously inaccessible; as such, intensification of land uses or removal of residential communities would not result. Cajalco Road and El Sobrante Road are major transportation corridors and would continue to function as such with the implementation of the future six-lane facility under Build Alternative 4.

Lake Mathews MSHCP (Build Alternative 4)

The LM MSHCP is a conservation area that does not contain any population, housing, or community facilities; therefore, there would be no impacts. Employees associated with management of the LMR would not be substantially affected by operations because no relocations would occur within the conservation area, although access to their workplace would change slightly. Long term, Build Alternative 4 would be expected to improve roadway efficiency and would likely result in a modest reduction in travel times within the conservation area. Therefore, operation of Build Alternative 4 would have no adverse impact on employees in the conservation area.

Temporary Impacts

Build Alternatives 1 and 2C—Cajalco and Modified Cajalco Alignments

Because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process. For that reason, it is reasonable to assume that most construction workers would not relocate their households to work on the proposed project. Thus, the construction of the build alternatives would not induce population growth.

Construction of the project may temporarily hinder traffic flow in the area, resulting in increased travel time to community facilities. Mead Valley would be anticipated to be affected the greatest, as that is where most community facilities within the project area are located. Temporary construction easements along Cajalco Road and short-term, temporary road closures would affect access to community facilities in Mead Valley. During the bridge construction near Barton Street in Mead Valley, Cajalco Road would continue to be used, but delays and access changes would result, which would also affect access and use of community facilities. However, all community facilities would remain operational because access would be maintained through implementation of a Traffic Management Plan (TMP). Refer to Standard Project Measure **PF LU-1** in Section 3.1.1.2 (*Land Use*). The TMP would ensure continued operation of Cajalco Road. Any required closures or detours would be noticed in advance. Standard Project Measure **PF UT-1** (utility relocations) is also proposed to minimize disruptions of service. Please refer to Section 3.5, *Utilities/Emergency Services*, for **PF UT-1**. The County will coordinate all utility relocation Therefore, construction activities would have a minimal effect on community facilities.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, temporary impacts associated with construction would be less than those described for Build Alternatives 1 and 2C, and would not result in adverse effects on population, housing, or community facilities because all work would be done within the existing median.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

The LM MSHCP is a conservation area that does not contain any population, housing, or community facilities; therefore, there would be no impacts. Employees associated with

management of the LMR may experience some temporary construction impacts as described above for Build Alternatives 1 and 2C, including temporary changes in access, lane closures, and traffic delays. However, Standard Project Measure **PF LU-1** (TMP) would ensure continued operation of Cajalco Road and any required closures or detours would be noticed in advance; refer to Section 3.1.1.2 (*Land Use*) for the TMP. Therefore, construction activities would have a minimal effect on employees in the conservation area.

Build Alternative 4—El Sobrante Alignment

Because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process. For that reason, it is reasonable to assume that most construction workers would not relocate their households to work on the proposed project. Thus, the construction of Build Alternative 4 would not induce population growth.

Construction of the project may temporarily hinder traffic flow in the area, resulting in increased travel time to community facilities. The impacts on Mead Valley would be the same as those described above for Build Alternatives 1 and 2C. There are also some community facilities near Victoria Grove that would be temporarily affected during construction by temporary construction easements, short-term, temporary road closures and detours of La Sierra Avenue and El Sobrante Road, and access changes. However, all community facilities would remain operational because access would be ensured through Standard Project Measure **PF LU-1** (TMP); refer to Section 3.1.1.2 (*Land Use*) for the TMP. The TMP would ensure continued operation of Cajalco Road. Any required closures or detours would be noticed in advance. Standard Project Measure **PF UT-1** (utility relocations) is also proposed to minimize disruptions of service. Please refer to Section 3.5, *Utilities/Emergency Services*, for **PF UT-1**. Therefore, construction activities would have a minimal effect on community facilities.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, temporary impacts associated with construction would be less than those described for Build Alternative 4, and would not result in adverse effects on population, housing, or community facilities because all work would be done within the existing median.

Lake Mathews MSHCP (Build Alternative 4)

The LM MSHCP is a conservation area that does not contain any population, housing, or community facilities; therefore, there would be no impacts. Employees associated with management of the LMR may experience some temporary construction impacts as described above for Build Alternative 4, including temporary changes in access, lane closures, and traffic delays. However, Standard Project Measure **PF LU-1** (TMP) would ensure continued operation of Cajalco Road, and any required closures or detours would be noticed in advance; refer to 3.1.1.2 (*Land Use*) for the TMP. Therefore, construction activities would have a minimal effect on employees in the conservation area.

No-Build Alternative

Under the No-Build Alternative, no construction activity would occur that could result in changes to the population characteristics, housing, or community facilities. The No-Build Alternative would not introduce any changes to existing roadways. Thus, it would not provide access to areas that were previously inaccessible or result in intensification of land uses or removal of residential communities that could result in changes to population characteristics.

Economy

Permanent Impacts

Build Alternatives 1 and 2C—Cajalco and Modified Cajalco Alignments

Build Alternatives 1 and 2C would permanently alter access to some businesses along the alignment. For example, access for K-9 Companions (13703 J J Lane, Perris), Quilt Crafts (13770 Richey Way, Perris), and Lake Mathews Market and Feed Store on the south side of Cajalco Road, west of Gustin Road, would be slightly modified with the realignment of Cajalco Road, but ultimately egress and access would be maintained. A new intersection proposed at Eagle Canyon Road and Cajalco Road would also alter access to the mining businesses north and south of Cajalco Road; however, the modified access would improve safety and better accommodate the trucks used at the businesses. Permanent access for most businesses along the alignment would remain the same.

Full acquisition of two properties containing businesses and partial acquisitions of properties containing businesses would result in economic impacts on the affected businesses. The Mead Valley Market (El Mercado de Mead Valley) at the intersection of Cajalco Road and Florence Street and Riverside County Code Enforcement would be fully acquired, resulting in the displacement of 25 employees. Partial acquisitions would affect portions of businesses along Cajalco Road, including the Sand Haven Pines tree farm at the intersection of Cajalco Road and Wood Road.

The implementation of Build Alternatives 1 or 2C would increase the efficiency of the movement of people and goods along Cajalco Road, which is expected to provide regional economic benefits. Implementation of Build Alternatives 1 and 2C would reduce a lack-of-capacity bottleneck currently faced by passenger vehicles and trucks carrying goods through the study area along Cajalco Road. Although Build Alternatives 1 and 2C would result in the displacement of one commercial business and one government facility, with 25 employees, these businesses are expected to relocate within the region because there is expected to be a sufficient number of commercial replacement properties in the replacement area. See Section 3.4.2 for further details regarding acquisitions and relocations.

In addition, the effect of the project on the fiscal health of Riverside County would be negligible. The project has the potential to displace residents and businesses along Cajalco Road or El Sobrante Road, which would result in a loss of property tax and sales tax generated from these properties. Although Build Alternatives 1 and 2C would result in an estimated loss of $22,342 of property tax revenue, this loss represents less than 0.01 percent of Riverside County's estimated $351 million property tax revenue for the 2017–2018 Fiscal Year. The amount of sales tax lost under Build Alternatives 1 and 2C is unknown, but sales tax generated from the properties is minimal in relation to revenues of Riverside County as a whole. Also, if the businesses and

residents are relocated within the county, there would be little change for Riverside County. The project would be funded with state, federal, and local funds dedicated to road improvements, so no local revenues other than those specifically dedicated to roadway projects would be expended. Therefore, Build Alternatives 1 and 2C would result in minimal impacts on regional fiscal conditions. Standard Project Measure **PF COM-1** as well as Measure **COM-3** are proposed to lessen permanent economic impacts on individual businesses affected by acquisition and relocation. Therefore, impacts on the local economy would be minimal.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

If two additional travel lanes are constructed in the future, within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, it is anticipated that operational impacts would include improvements to east-west mobility, increased capacity, and improved traffic flow and safety, which would provide a benefit to businesses and the economy of the area. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions or changes to the tax base.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

The LM MSHCP is a conservation area that does not contain any businesses or other goods or services that would affect economic conditions; therefore, there would be no impacts.

Build Alternative 4—El Sobrante Alignment

Build Alternative 4 would permanently alter access to some businesses along the alignment. Metropolitan Water District of Southern California (MWD) access at 18250 La Sierra Avenue would change slightly from the realignment of La Sierra Avenue and El Sobrante Road, but egress and access would be maintained. At Better K9 and Wholesale Nursery, at 19410 Harley John Road, and at Rainbow Forest Nursery at 19300 Harley John Road, new access would be provided to Cajalco Road via a realigned segment of Harley John Road, although egress from the business would remain the same. At Lake Mathews Feed & Pet Supply, 17679 Cajalco Road, access to Cajalco Road would change due to the new alignment of Cajalco Road, but access to the businesses would be ensured. Permanent access for most businesses along the alignment would remain the same.

Full acquisition of two properties containing businesses and partial acquisitions of properties containing businesses would result in economic impacts on the affected businesses. The Mead Valley Market (El Mercado de Mead Valley) at the intersection of Cajalco Road and Florence Street and Riverside County Code Enforcement would be fully acquired, resulting in the displacement of 25 employees. Partial acquisitions would affect portions of businesses along Cajalco Road, including the Sand Haven Pines tree farm at the intersection of Cajalco Road and Wood Road.

The implementation of Build Alternative 4 would increase the efficiency of the movement of people and goods along the improved portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue, which is expected to provide regional economic benefits. Implementation of Build Alternative 4 would reduce a lack-of-capacity bottleneck currently faced by passenger vehicles and trucks carrying goods through the study area along Cajalco Road, east of Harley John Road. Although Build Alternative 4 would result in the displacement of two businesses (one

commercial business and one government facility) and 25 employees, these businesses are expected to relocate within the region because there is expected to be a sufficient number of commercial replacement properties in the replacement area. See Section 3.4.2 for further details regarding acquisitions and relocations. Therefore, impacts on the economy would be minimal.

In addition, the effect of the project on the fiscal health of Riverside County would be negligible. The project has the potential to displace residents and businesses along Cajalco Road or El Sobrante Road, which would result in a loss of property tax and sales tax generated from these properties. Although Build Alternative 4 would result in a property tax revenue loss of $30,253, this loss represents less than 0.01 percent of Riverside County's estimated $351 million property tax revenue for the 2017–2018 Fiscal Year. The amount of sales tax lost under Build Alternative 4 is unknown, but sales tax generated from the properties is minimal in relation to revenues of Riverside County as a whole. Also, if the businesses and residents are relocated within the county, there would be little change for Riverside County. The project would be funded with State, federal, and local funds dedicated to road improvements, so no local revenues would be expended other than those specifically dedicated to roadway projects. Therefore, Build Alternative 4 would result in minimal impacts on regional fiscal conditions. Standard Project Measures **PF COM-1**, **PF FA-1** (farmland access), and **PF FA-2** (farmland temporarily affected), as well as Measure **COM-3**, are proposed to lessen permanent economic impacts on individual businesses affected by acquisition and relocation. Therefore, impacts on the local economy would be minimal.

Future Six-Lane Facility (Build Alternative 4)

If two additional travel lanes are constructed in the future, within the median of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, for a total of six travel lanes along this segment of Cajalco Road, it is anticipated that operational impacts would include improvements to east-west mobility, increased capacity, and improved traffic flow and safety, which would provide a benefit to businesses and the economy of the area. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions or changes to the tax base.

Lake Mathews HCP (Build Alternative 4)

The LM MSHCP is a conservation area that does not contain any businesses or other economic characteristics; therefore, there would be no impacts.

Temporary Impacts

Build Alternatives 1 and 2C—Cajalco and Modified Cajalco Alignments

Temporary impacts on circulation and access would result from construction activities that require detours and partial closures of Cajalco Road, which could temporarily affect businesses along the project corridor. Some of the businesses that could be affected by temporary detours and partial closures of Cajalco Road include businesses in the shopping center northwest of the Cajalco Road/Temescal Canyon Road intersection (Jerome's Furniture, Tilley's, restaurants, etc.); businesses between Temescal Canyon road and La Sierra Avenue, such as Cajalco Temescal Storage & RV Center, Robertson's Corona Quarry, Eagle Valley Quarry, and 3M Company FST Main Quarry; businesses between La Sierra Avenue and Cowan Road, such as K-

9 Companions, Quilt Crafts, GHZ Motorsports, Sun Shy Airbrush Tanning, Better K9 and Wholesale Nursery, Lake Mathews Feed & Pet Supply, and Jag Ranch Services; businesses between Cowan Road and Harvill Avenue, such as Wee Tole-U-Sew Embroidery & Designs, Goshen Ranch Animal Rescue, Sand Haven Pines, Best Carpet Cleaners | Upholstery Cleaning, Rug Cleaning, Epic Motorsports, Beltran Truck Sales, Tacos Jimenez, Ms Right Music, Mead Valley Market, 76 Gas Station, Breed's Market & Liquor, Mead Valley Feed, Tonaya Feed and Grain, Boris Tires, Towing Solutions, Peraza Concrete Transport, Tacos Lucaz, and XL Equipment Sales; and businesses in the shopping center at Cajalco Road and Harvill Avenue (Arco Travel Zone Center, U-Haul, Ecology Recycling, and restaurants).

Standard Project Measure **PF LU-1** (TMP) would address roadway connectivity and travel patterns during construction and provide for communication and notices to businesses and communities in advance of construction; refer to Section 3.1.1.2 (*Land Use*) for the TMP. Standard Project Measure **PF UT-1** (utility relocations) is also proposed to minimize disruptions of service. Standard Project Measure **PF COM-2** (signage provisions) would ensure that continued visibility of businesses affected during construction:

- **PF COM-2:** Signage provisions shall be made available to businesses whose temporary or permanent visibility and vehicular access changes as a result of the project. Temporary sign relocations will conform with Title 17 of County of Riverside Code 17.254.030(A) (Standards for all Temporary Signs), and permanent sign relocations will conform with County Code 17.252.030 (Outdoor advertising displays), 17.252.040 (On-site advertising structures and signs), 17.252.070 (Relocated outdoor advertising displays), and placed within the project limits. Relocated signs will be placed at heights that do not exceed surrounding structures or obstruct views.

Therefore, the temporary detours and closures would have a negligible effect on the mobility of roadway users because the roads would be restored once the proposed project is completed. In addition, temporary impacts on businesses along the corridor would have a negligible impact on the overall economy because access to all of the businesses would be maintained, and the revenues generated by the affected businesses constitute a very minor percentage of the overall economy of Riverside County. Therefore, impacts on the economy would be minimal.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

If two additional travel lanes are constructed in the future, within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, it is anticipated that temporary impacts would be limited to the future median, and would not affect businesses or economic conditions in the area. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions or changes to the tax base.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

The LM MSHCP is a conservation area that does not contain any businesses or other economic characteristics; therefore, there would be no impacts.

Build Alternative 4—El Sobrante Alignment

Temporary impacts on circulation and access would result from construction activities that require detours and partial closures of Cajalco Road, La Sierra Avenue, or El Sobrante Road and La Sierra Avenue, which could temporarily affect businesses along the project corridor. Some of the businesses that could be affected by temporary detours and partial closures of Cajalco Road, La Sierra Avenue, and El Sobrante Road include businesses in the shopping center northwest of the Cajalco Road/Temescal Canyon Road intersection (Jerome's Furniture, Tilley's, restaurants, etc.); businesses between Temescal Canyon road and La Sierra Avenue, such as Cajalco Temescal Storage & RV Center, Robertson's Corona Quarry, Eagle Valley Quarry, and 3M Company FST Main Quarry; businesses between La Sierra Avenue and Cowan Road, such as MWD, Abode Realty, Bronzed by Nikki, Bianca's Home Care, A & S Senior Quality Care, GoneStraw Farms, Dos Pinos Ranch & Nursery, Greensource Nursery, Gonestraw Farms, Harvest Growers, Inc., Y C Chen Nursery Inc., Dwight H Holcomb Orchard Services, The Hill, Sunny Nursery, Wholesale Nursery, Lake Mathews Feed & Pet Supply, and Jag Ranch Services; businesses between Cowan Road and Harvill Avenue, such as Wee Tole-U-Sew Embroidery & Designs, Goshen Ranch Animal Rescue, Sand Haven Pines, Best Carpet Cleaners | Upholstery Cleaning, Rug Cleaning, Epic Motorsports, Beltran Truck Sales, Tacos Jimenez, Ms Right Music, Mead Valley Market, 76 Gas Station, Breed's Market & Liquor, Mead Valley Feed, Tonaya Feed and Grain, Boris Tires, Towing Solutions, Peraza Concrete Transport, Tacos Lucaz, and XL Equipment Sales; and businesses in the shopping center at Cajalco Road and Harvill Avenue (Arco Travel Zone Center, U-Haul, Ecology Recycling, and restaurants).

However, Standard Project Measure **PF LU-1** (TMP) would address roadway connectivity and travel patterns during construction and provide for communication and notices to businesses and communities in advance of construction. Standard Project Measure **PF COM-2** would ensure that continued visibility of businesses affected during construction. Therefore, the temporary detours and closures would have a negligible effect on the mobility of roadway users because the roads would be restored once the proposed project is completed. In addition, temporary impacts on businesses along the corridor would have a negligible impact on the overall economy because access to all of the businesses would be maintained, and the revenues generated by the affected businesses constitute a very minor percentage of the overall economy of Riverside County. Standard Project Measure **PF UT-1** (utility relocations) is also proposed to minimize disruptions of service. Therefore, impacts on the economy would be minimal.

Future Six-Lane Facility (Build Alternative 4)

If two additional travel lanes are constructed in the future, within the median of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, it is anticipated that operational impacts would be limited to the future median, and would not affect businesses or economic conditions in the area. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and, therefore, any additional property acquisitions or changes to the tax base.

Lake Mathews MSHCP (Build Alternative 4)

The LM MSHCP is a conservation area that does not contain any businesses or other economic characteristics; therefore, there would be no impacts.

No-Build Alternative

There would no changes to the economy under the No-Build Alternative because existing businesses in the study area would not be affected.

Communities/Community Character and Cohesion

Permanent Impacts

Build Alternatives 1 and 2C—Cajalco Alignment and Modified Cajalco Alignment

Build Alternatives 1 and 2C would widen Cajalco Road between the I-215 southbound ramps and Temescal Canyon Road to improve east-west mobility and to provide increased capacity and improved traffic flow and safety. Communities primarily affected by the changes proposed under Build Alternatives 1 and 2C would be Mead Valley, Woodcrest/Mockingbird Canyon, Lake Mathews/Gavilan Hills, and Temescal Canyon.

Mead Valley

The widening of Cajalco Road within the community of Mead Valley would occur predominantly along the existing alignment of the road, creating a more urban visual setting than existing conditions with the introduction of additional paving, sidewalks, traffic lights, crosswalks, and drainage facilities. The existing roadbed would be widened by approximately 45 feet and include paved medians, turn pockets, and striping for two additional through lanes and turn lanes. Medians of various widths and types are proposed to provide for the separation of opposing traffic, control of cross traffic, a recovery area for out-of-control vehicles, space for speed changes, and left and U-turns. Left-turn lanes and right-turn pocket lanes are also proposed to be constructed along the roadway at selected intersections to accommodate through traffic and control cross-traffic movement. These left- and right-turn lanes would be designed to accommodate vehicles with trailers and provide alternate access options for local residents and business owners. These changes would affect current local access patterns for residents and businesses that directly front Cajalco Road.

Americans with Disabilities Act–compliant sidewalks would be constructed along one side of Cajalco Road in some locations through the Mead Valley community where residential and commercial properties are present to improve local pedestrian movement and safety. There are currently limited sidewalks and crosswalks available for pedestrians to cross Cajalco Road within Mead Valley; therefore, pedestrians and cyclists may currently share the roadway with vehicles along limited segments of Cajalco Road where sidewalks and/or roadway shoulder areas may not be available. Pedestrians may also cross Cajalco Road without using crosswalks due to the distances between crosswalk facilities. Traffic signal and crosswalk improvements are proposed to assist with crossing Cajalco Road, which would benefit community members and students that walk or ride bicycles to school.

The current narrow and limited roadway shoulders are shared by cyclists and vehicles and, in limited sections, pedestrians. The project would add curb and gutter and 8-foot-wide shoulders to serve as a combined shoulder/bike lane and provide more room for bicycles.

As indicated in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, roadway volumes for the section of Cajalco Road between Barton Street and I-215 are projected

to increase by approximately 27 percent by Year 2044 under the proposed project. The existing percentage of truck traffic within this area, approximately 3.4 percent, is projected to remain at 3.4 percent under future project conditions and would represent the same percentage of the added vehicles. However, roadway speeds within the community would be controlled with existing and proposed additional intersection traffic controls; therefore, projected future speeds would average 37 miles per hour and decrease by approximately 5–10 miles per hour during peak hours.

According to the *Noise Study Report* prepared for the project (Caltrans 2019), under Build Alternatives 1 and 2C, operational traffic-related noise is not anticipated to result in a substantial change in the noise environment when compared with existing and future no-project conditions. Although the widening of Cajalco Road would result in an increased level of noise and vibration, the increase would not reduce social interaction of residents along the roadways. Residents and community members who use Cajalco Road and businesses along Cajalco Road currently experience noise and vibration from Cajalco Road and other roadways in the vicinity; therefore, social interactions have developed around, and regardless of, this condition.

Vegetation associated with residential landscaping along Cajalco Road and commercial landscaping at the eastern end of the community would require removal to accommodate the widened roadway, flood control facilities, and pedestrian facilities.

As described under *Population, Housing and Community Facilities*, above, Build Alternatives 1 and 2C would require full acquisition of 17 residential units and one business within the community of Mead Valley. Partial acquisition of land from 67 residential parcels (not requiring relocation) would also occur. The residential and business acquisitions are anticipated to result in the displacement of 52 residents and nine employees. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. All eligible displacees would be entitled to moving expenses per the Uniform Act. In addition to the benefits of increased pedestrian, vehicular, and cyclist safety, improved pedestrian facilities for access to community facilities, and flood control improvements, the following standard project measures and mitigation measures will minimize and compensate for permanent impacts that would affect community character and cohesion within the Mead Valley community under Build Alternatives 1 and 2C:

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)
- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **VIS-8** (Replace Disturbed Vegetation along Landscaped Freeways)
- **HAZ-4:** (Detailed Site Investigation [DSI]; Riverside County Department of Environmental Health Notification and Soil Remediation; Health and Safety Plan [HASP]; and Soil

Management Plan [SMP] for 21020 Cajalco Road [Assessor's Parcel Numbers (APNs) 318-061-027 and -030])

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1**, **VIS-2**, **PF VIS-4**, **PF VIS-5**, **PF VIS-7**, and **VIS-8**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-4**).

Lake Mathews/Gavilan Hills

The widening of Cajalco Road within the community of Lake Mathews/Gavilan Hills under Build Alternatives 1 and 2C would occur predominantly along the existing roadway alignment between Lake Mathews Drive and Barton Street, and include realignments to reduce roadway curves between west of La Sierra Avenue and Lake Mathews Drive. Between Lake Mathews Drive and Barton Street, the widened roadway would create a more urban visual setting than existing conditions with the introduction of additional paving, traffic lights, crosswalks, and drainage facilities. The existing roadbed would be widened by approximately 45 feet and include paved medians, turn pockets, and striping for two additional through lanes and turn lanes. Medians of various widths and types are proposed to provide for the separation of opposing traffic, control of cross traffic, a recovery area for out-of-control vehicles, space for speed changes, and left and U-turns. Left-turn lanes and right-turn pocket lanes are also proposed to be constructed along the roadway at selected intersections to accommodate through traffic and control cross-traffic movement. These left- and right-turn lanes would be designed to accommodate vehicles with trailers and provide alternate access options for local residents and business owners. These changes would affect current local access patterns for residents and businesses that directly front Cajalco Road.

The intersection of Gustin Road with Cajalco Road would be shifted west to align with Cowan Road and create a new four-way intersection. A cul-de-sac would be placed at the northern terminus of existing Gustin Road and Gustin Road would be realigned through undeveloped parcels to intersect with Cajalco Road west of the cul-de-sac. The change would redirect traffic away from residences east of Gustin Road and closer to the Lake Mathews Market. Access to the undeveloped parcels exists under current conditions and would not be increased or decreased as a result of the Gustin Road realignment. Because the Lake Mathews Market is currently accessible via Gustin Road and Cowan Road, the realignment of Gustin Road would not introduce new access to the market.

The current narrow and limited roadway shoulders are shared by cyclists and vehicles and, in limited sections, pedestrians. The project would add curb and gutter and 8-foot-wide shoulders to serve as a combined shoulder/bike lane and provide more room for bicycles.

Between west of La Sierra Avenue and Lake Mathews Drive, Build Alternatives 1 and 2C would also include a new connection between Dirt Road and Richey Way south of the existing segment of Cajalco Road and west of Lake Mathews Drive. The new road connection would connect Dirt Road to Richey Way. The eastern terminus of Richey Way at Lake Mathews Drive would also be widened slightly and graded. This new road connection would provide emergency access for residences and businesses west of Lake Mathews Drive as well as improved connectivity and accessibility within the Lake Mathews community. Because Dirt Road and Richey Way are existing roadways that are accessible by the public, the new connection would not create new access to previously inaccessible areas; it would enhance access and circulation within the Lake Mathews community.

These changes may create a sense of visual encroachment for properties with structures close to the new right of way or where landscaping would be removed so that views of and from the roadway and traffic would be available where views are presently more screened. The following standard project measures and mitigation measures will minimize permanent impacts that would affect the community character and cohesion within the Lake Mathews/Gavilan Hills community under Build Alternatives 1 and 2C:

- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-7** (New Bridge Architectural Treatments)

Please refer to Section 3.7, *Visual/Aesthetics*, of this EIR/EIS for the measures listed above.

Woodcrest/Mockingbird Canyon

The widening of Cajalco Road within the community of Woodcrest/Mockingbird Canyon under Build Alternatives 1 and 2C between Harley John Road and Barton Street would result in the same impacts and benefits identified for this section of roadway within the Lake Mathews/ Gavilan Hills community, with the exception of anticipated noise and property impacts.

According to the *Noise Study Report* prepared for the project (Caltrans 2019), under Build Alternatives 1 and 2C, traffic noise analysis indicates that existing noise levels for residences that front Cajalco Road at Extravaganza Lane, and one residence that fronts Cajalco Road at Cowan Road, currently approach or exceed the FHWA/Caltrans NAC of 67 dBA. Predicted noise levels at these locations under the build alternatives indicate an increase between 2 and 5 dBA. For the three receivers that would experience traffic levels that would approach or exceed NAC, noise abatement in the form of noise barriers was considered and evaluated to determine feasibility of meeting the design goal of 7 decibels of noise reduction. Further analysis of cost and reasonableness of each barrier was also conducted to determine if the barriers would be constructed. Preliminary results indicate that the noise barriers are recommended for construction and are identified as Mitigation Measures **NOI-2** and **NOI-3** in Section 3.15, *Noise and Vibration*, of this EIR/EIS. Assuming these noise barriers are constructed, operational noise impacts would be reduced where they were determined to exceed the NAC. Therefore, with the recommended measures to mitigate the adverse effects identified related to operational noise of the build alternatives, remaining operational noise effects would be minor.

Access to undeveloped lands north and south of Cajalco Road would not increase because design elements that would promote access such as roadway turnoffs or parking areas would not be included, and the roadway would be fenced on the north side between Carpinus Drive and Alexander Street and fenced on the south side between Carpinus Drive and Barton Street.

Standard project measures and additional mitigation measures will minimize and compensate for impacts on the Woodcrest/Mockingbird Canyon community under Build Alternatives 1 and 2C; these are described in the *Summary*, below.

- **PF VIS-1** (Contouring and Replanting Disturbed Areas)

- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **HAZ-7 Yellow Paint.** Due to the possible presence of elevated lead concentrations within the yellow thermoplastic and yellow-painted traffic stripes along the existing highway, a yellow paint and thermoplastic striping survey will be conducted along the project alignment for striping that will be removed.

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1**, **VIS-2**, **PF VIS-3** through **PF VIS-5**, and **PF VIS-7**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-7**).

Victoria Grove and Lake Hills/Home Gardens

Under Build Alternatives 1 and 2C, impacts on the community character and cohesion of the Victoria Grove and Lake Hills communities would not occur, as the project alignments would be located at a far enough distance that community composition, features, and primary community facilities would not be affected.

- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **HAZ-7** (Yellow Thermoplastic and Yellow-Painted Traffic Stripes)

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1**, **VIS-2**, and **PF VIS-4**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-7**).

Temescal Canyon

Under Build Alternatives 1 and 2C, the widening of Cajalco Road within the community of Temescal Canyon would occur predominantly along the existing alignment of the road between Temescal Canyon Road and Eagle Valley Road, and include realignments to reduce roadway curves between east of Eagle Valley Road and west of La Sierra Avenue.

The Temescal Creek Bridge would be replaced with a widened bridge, and a large detention basin would be added south of Cajalco Road. These changes in addition to the widened road and new four-way intersection at Eagle Valley Road would affect the character of the community by introducing more urban elements. The realignment would also result in the displacement of one residential unit on the north side of Cajalco Road. The affected property consists of a rural-residential, single-family house. An estimated five residents would be displaced from their current residence within Temescal Canyon. Of the total population of 9,472 within the study area

portion of Temescal Canyon, the displacement of five residents would represent less than 0.1 percent of the community population.

As discussed in Section 3.4.2, adequate residential replacement properties are available within a 10-mile radius of the project, and most displaced residents would be expected to relocate to residences within the same region. The replacement area is the most similar to the displacement area in character and socioeconomic status. It has the highest likelihood of receiving displaced residents and businesses because of the availability of replacement properties with similar average purchase prices as in the displacement area. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. All eligible displacees would be entitled to moving expenses per the Uniform Act.

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)
- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-6** (Temescal Creek Bridge Design)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **HAZ-1** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and SMP for 9001 Cajalco Road [APNs 279-231-004, -006, -011, and 281-140-021])
- **HAZ-7** (Yellow Thermoplastic and Yellow-Painted Traffic Stripes)
- **HAZ-8** (Asbestos-Containing Material [ACM] and Lead-Based Paint [LBP])

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1**, **VIS-2**, and **PF VIS-3** through **PF VIS-7**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-1**, **HAZ-7**, and **HAZ-8**).

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Construction of the Future Six-Lane Cajalco Road facility is not currently proposed as part of the project. However, if the two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John Road are constructed in the future, it is anticipated that impacts during operation would be similar to those described for Build Alternative 1.

The additional lanes would be added within the median and the width of the roadway would not change, avoiding any additional physical expansion of the roadway and therefore any additional property acquisitions or changes to community cohesion or character. In addition, crosswalks and access under four-lane conditions would remain the same under the six-lane facility. Because

the width of the roadway would not change, even though the facility would change from four lanes to six lanes, community cohesion would not change further.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

The LM MSHCP is a conservation area that does not contain any neighborhoods or communities; therefore, there would be no impacts.

Summary (Build Alternatives 1 and 2C)

Community character would be impacted by the widened road and approximately 84 acres of added hardscape such as extra lanes and pavement, intersection lights, light standards, and concrete drainages. The widened roads would also remove vegetation, approximately 380 to 390 small trees and shrubs, and 105 large mature trees. There would be a general change from semi-rural/suburban character to a more urbanized community character. Traffic would increase, including truck traffic. Adding lanes and reducing curves to meet Surface Transportation Assistance Act (STAA) standards to allow for larger trucks may impact the community, and some vehicles may increase speeds with the improved road, although speed limits are expected to remain unchanged.

The proposed widening of Cajalco Road would not introduce a new barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods because Cajalco Road is an existing roadway that currently traverses communities and neighborhoods. Widening of an existing roadway would not separate residences from community facilities or impede connectivity; the community members may currently need to cross a roadway to reach their destination, and widening the roadway would not change that. In addition, Build Alternative 1 includes the addition of sidewalks on one side of the roadway in some locations where residential and commercial properties are present to improve pedestrian movement and improvements to traffic signals to assist with crossing Cajalco Road, which would benefit community members and schools.

The widening of Cajalco Road would change the aesthetic character of the land adjacent to Cajalco Road by making the roadway wider and more suburban-like in undeveloped areas and more urban-like in populated areas. The feel of the roadway would change for travelers and business patrons along the roadway. Apart from the widening of Cajalco Road, changes to the aesthetic environment within the study area would include the removal of vegetation within the widened area, the addition of drainage facilities and wildlife crossings, and intersection improvements. The widening of Cajalco Road would occur predominantly along the existing alignment of the road, which would support compatibility with the existing land uses and aesthetics.

The alignment of Cajalco Road under Build Alternatives 1 and 2C would be modified near the homes accessed via Eagle Canyon Road, Silverton Court, and Hollis Lane. The alignment shift near the homes accessed via Silverton Court would be minor when compared to the existing roadway. The alignment shift for the homes accessed via Eagle Canyon Road and Hollis Lane would be greater. Residences on Hollis Lane, Dirt Road, and Lynette Lane, which currently connect directly to Cajalco Road, would have new access via a cul-de-sac road. Dirt Road would also connect to Lake Mathews Drive via Richey Way, which would be a new connection for this area. These realignments would serve to improve the function and geometrics of Cajalco Road, which would be an improvement for homes in these areas, particularly for the homes accessed via Hollis Lane, as

through-traffic on Cajalco Road would no longer travel directly through the neighborhood. These changes near the homes at Eagle Canyon Road and Silverton Court could make these portions of the study area seem more urban-like, but they would also improve the roadway function of the homes near Hollis Lane by removing through-traffic. Overall, even though Cajalco Road would be widened and would be more urban-like, these neighborhoods would benefit from Build Alternative 1 due to improved neighborhood connections and roadway function and safety.

Build Alternative 1 is anticipated to require the displacement of 19 residential units and two nonresidential units. For more information on the effects of the project related to relocations, refer to Section 3.4.2, *Relocations and Real Property Acquisition*. Vegetation associated with residential landscaping along Cajalco Road, commercial landscaping at the eastern end of the community, trees associated with nursery businesses, and nonnative grasses, sage scrub, and ruderal vegetation associated with habitat conservation areas would require removal to accommodate the widened roadway and associated facilities. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the adverse effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Beyond the effects that would occur on properties adjacent to Cajalco Road, the portions of the study area that are rural in character would be minimally affected by the operation of Cajalco Road under Build Alternatives 1 and 2C.

Although the widening of roadways under Build Alternatives 1 and 2C would result in an increased level of noise and vibration, the increase would not reduce social interaction of residents along the roadways because existing noise levels are not integral to existing social interaction along the roadways. Noise effects are currently experienced by communities adjacent to Cajalco Road. According to the *Cajalco Road Widening and Safety Enhancement Project Noise Study Report* prepared for the proposed project, permanent traffic noise impacts are predicted to occur at three modeled receivers under Build Alternative 1 (Caltrans 2019). For receivers that would experience traffic noise levels within the Woodcrest/Mockingbird Canyon community that would approach or exceed the NAC, noise abatement in the form of barriers would be considered (refer to Mitigation Measures **NOI-2** and **NOI-3** in Section 3.15, *Noise and Vibration*). With implementation of the barriers, noise impacts would be sufficiently reduced to avoid permanent noise impacts. In addition, the noise impacts would be minor given the degree to which communities in the area are currently affected by traffic noise associated with Cajalco Road. The impacts are not anticipated to be substantial enough such that communities would be incompatible with the proposed improvements.

Residents and community members who use Cajalco Road or businesses along Cajalco Road currently experience noise and vibration from Cajalco Road and other roadways in the vicinity, and social interactions have developed around, and regardless of, this condition. Therefore, additional noise and vibration are unlikely to change social interactions. Nevertheless, there would be increased noise and this would impact community character.

The following standard project measures and additional mitigation measures will minimize and compensate for impacts under Build Alternatives 1 and 2C.

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)

- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-6** (Temescal Creek Bridge Design)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **VIS-8** (Replace Disturbed Vegetation along Landscaped Freeways)
- **HAZ-1** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and SMP for 9001 Cajalco Road [APNs 279-231-004, -006, -011, and 281-140-021])
- **HAZ-4** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and, SMP for 21020 Cajalco Road [APNs 318-061-027 and -030])
- **HAZ-7** (Yellow Thermoplastic and Yellow-Painted Traffic Stripes)
- **HAZ-8** (ACM and LBP)
- **NOI-2** (Noise Barrier S-624)
- **NOI-3** (Noise Barriers S-650 [Property Line] and S-652 [Property Line])

Build Alternative 4—El Sobrante Alignment

Under Build Alternative 4, between Temescal Canyon Road and west of La Sierra Avenue, and between Gustin Road and I-215, improvements would be identical to Build Alternatives 1 and 2C. However, between Gustin Road and La Sierra Avenue, and La Sierra Avenue between El Sobrante Road and Cajalco Road, El Sobrante Road and La Sierra Avenue would be improved from the existing two-lane road to a four-lane road, which would result in different community impacts. The widening of El Sobrante Road and La Sierra Avenue from a two-lane roadway to a four-lane roadway would change the aesthetic character of the land adjacent to El Sobrante Road and La Sierra Avenue by making a roadway wider and more urban-like. In addition, realigning La Sierra Avenue could make the roadway feel more urban-like as well. The feel of the roadway would change for travelers and residents along the roadway, specifically the residents of the community north of Lake Mathews.

However, implementation of Build Alternative 4 would not cut off connected neighborhoods from each other. No development features are proposed that would divide an established community or limit movement, travel, or social interaction between established communities. Widening of an existing roadway would not separate residences from community facilities or impede connectivity; the community members currently need to cross a roadway to reach their destination, and widening the roadway would not change that. In addition, Build Alternative 4 includes the addition of sidewalks in a few sections of Cajalco Road on the eastern end in Mead

Valley to improve pedestrian movement and improvements to traffic signals to assist with crossing El Sobrante Road, which would benefit the community.

Build Alternative 4 would require the displacement of 21 residential units and 2 nonresidential units. Beyond the effects that would occur on properties adjacent to Cajalco Road, Build Alternative 4 would not substantially affect the rural character of portions of the study area.

Under Build Alternative 4, permanent traffic noise impacts are predicted to occur at seven modeled receivers, and noise abatement in the form of barriers would be considered (refer to Section 3.15, *Noise and Vibration*) (Caltrans 2019). Although the change in the noise environment would be perceptible even after implementation of the barriers, the impacts would be minor given the degree to which communities in the area are currently affected by traffic noise associated with Cajalco Road and El Sobrante Road.

Mead Valley

Under Build Alternative 4, impacts on community character and cohesion would be similar to those identified under Build Alternatives 1 and 2C for the portion of the Mead Valley community between I-215 and Cowan Road.

Lake Mathews/Gavilan Hills

Under Build Alternative 4, impacts anticipated on areas of the community west of La Sierra Avenue and east of Cabletina Circle are discussed under Build Alternatives 1 and 2C, above. Areas specific to Build Alternative 4 only within the community of Lake Mathews/Gavilan Hills with potential to experience change include residences south of Cajalco Road on Silverton Court, Farley Way, and east of Gustin Road. Residences along Silverton Court and Farley Way would experience a minor change in access related to the realignment of the La Sierra Avenue intersection with Cajalco Road farther west. La Sierra Avenue at the current intersection of La Sierra Avenue and Cajalco Road would be closed to the public, and the traffic associated with La Sierra Avenue would be redirected west of Silverton Court and Farley Way. Residences immediately east of Gustin Road are predicted to experience traffic noise levels of 66 dBA that would approach or exceed the NAC of 67 dBA. Noise abatement was not considered for this location because any noise abatement would restrict access to the property by cutting off the driveway.

Woodcrest/Mockingbird Canyon

Between Cowan Road and Barton Street, impacts and benefits of Build Alternative 4 would be the same as those identified under Build Alternatives 1 and 2C, above. Under Build Alternative 4, two residential units along El Sobrante Road are proposed for acquisition in addition to the business on Cajalco Road, for an anticipated total 10 residential and 16 employee displacees within this community. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Additional new traffic signals with designated crosswalks would be constructed within the community under Build Alternative 4 at the intersections of El Sobrante Road with McAllister

Street, Mockingbird Canyon Road, and Harley John Road. Long term, Build Alternative 4 is expected to improve roadway efficiency and would likely result in a reduction in travel times to community facilities.

Victoria Grove

Under Build Alternative 4, no residential or business displacements are anticipated to occur that would affect Victoria Grove. Partial acquisitions of the landscaped portion of the roadway along the north side of El Sobrante Road would be necessary to accommodate the widened roadway. New traffic signals with designated crosswalks would be constructed at the intersections of El Sobrante Road with La Sierra Avenue and McAllister Street.

Lake Hills/Home Gardens

Under Build Alternative 4, no residential or business displacements are anticipated to occur that would affect Lake Hills/Home Gardens. A new traffic signal with designated crosswalks would be constructed at the intersection of El Sobrante Road and La Sierra Avenue; however, this change is not anticipated to affect population, housing, or community facilities within this community.

Temescal Canyon

Under Build Alternative 4, impacts on community character and cohesion would be the same as those identified under Build Alternatives 1 and 2C for the portion of the Temescal Canyon community between Temescal Canyon Road and west of La Sierra Avenue. Just west of La Sierra Avenue, residences south of Cajalco Road, on Silverton Court and Farley Way, would experience a minor change in access related to the realignment of the La Sierra Avenue intersection with Cajalco Road farther west. La Sierra Avenue at the current intersection of La Sierra Avenue and Cajalco Road would be closed to the public, and the traffic associated with La Sierra Avenue would be redirected west of Silverton Court and Farley Way.

Future Six-Lane Facility (Build Alternative 4)

For the future six-lane facility, if constructed in the future, impacts during operation would be same as described for Build Alternative 4. The additional lanes would be added within the medians and the width of the roadways would not change, avoiding any additional physical expansion of the roadways and, therefore, any additional property acquisitions or changes to community cohesion or character.

Lake Mathews MSHCP (Build Alternative 4)

The LM MSHCP is a conservation area that does not contain any neighborhoods or communities; therefore, there would be no impacts.

Summary (Build Alternative 4)

Community character would be impacted by the widened road and approximately 105 acres of added hardscape such as extra lanes and pavement, intersection lights, light standards, and concrete drainages. The widened roads would also remove vegetation, approximately 400 small trees and shrubs, and 195 large mature trees. There would be a general change from semi-rural/ suburban character to a more urbanized community character. Traffic would increase, including

truck traffic. Adding lanes and reducing curves to meet STAA standards to allow for larger trucks may impact the community, and some vehicles may increase speeds with the improved road, although speed limits are expected to remain unchanged.

The proposed widening of portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road would not introduce a new barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods because Cajalco Road, La Sierra Avenue, and El Sobrante Road are existing roadways that currently traverse communities and neighborhoods. Widening of an existing roadway would not separate residences from community facilities or impede connectivity; the community members may currently need to cross a roadway to reach their destination, and widening the roadway would not change that. Furthermore, Build Alternative 4 includes the addition of sidewalks on one side of the roadway in some locations where residential and commercial properties are present to improve pedestrian movement, and improvements to traffic signals to assist with crossing Cajalco Road and El Sobrante Road, which would benefit community members and schools.

The widening of Cajalco Road, La Sierra Avenue, and El Sobrante Road would change the aesthetic character of the land adjacent to the roadways by making the roadway wider and more suburban-like in undeveloped areas and more urban-like in populated areas. The feel of the roadways would change for travelers and business patrons along the roadway. Apart from the widening of the roadways, changes to the aesthetic environment within the study area would include the removal of vegetation within the widened area, the addition of drainage facilities and wildlife crossings, large bridge structure, and intersection improvements. The widening of Cajalco Road and El Sobrante Road would occur predominantly along the existing roadway alignments, which would support compatibility with the existing land uses and aesthetics. The widening of La Sierra Avenue would occur along portions of the existing roadway alignment, which would support compatibility with the existing land uses and aesthetics; however, the segments of La Sierra Avenue proposed for realignment, while still within an open space setting, would include the addition of a large bridge structure.

Build Alternative 4 would require the displacement of 21 residential units and two nonresidential units. For more information on the effects of the project related to relocations, refer to Section 3.4.2, *Relocations and Real Property Acquisition*. Vegetation associated with residential landscaping along Cajalco Road and El Sobrante Road, commercial landscaping at the eastern end of the community, trees associated with nursery businesses, and nonnative grasses, sage scrub, and ruderal vegetation associated with habitat conservation areas would require removal to accommodate the widened roadways and associated facilities. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the adverse effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Although the widening of roadways under Build Alternative 4 would result in an increased level of noise and vibration, the increase would not reduce social interaction of residents along the roadways because existing noise levels are not integral to existing social interaction along the roadways. Noise effects are currently experienced by communities adjacent to Cajalco Road, La Sierra Avenue, and El Sobrante Road. According to the *Cajalco Road Widening and Safety Enhancement Project Noise Study Report* prepared for the proposed project, permanent traffic

noise impacts are predicted to occur at four modeled receivers under Build Alternative 4 (Caltrans 2019). At three locations where receivers would experience traffic noise levels that would approach or exceed NAC within the Woodcrest/Mockingbird Canyon community, noise abatement in the form of barriers would be considered (refer to Mitigation Measures **NOI-2** and **NOI-3** in Section 3.15, *Noise and Vibration*). With implementation of the barriers, noise impacts would be sufficiently reduced to avoid permanent noise impacts for receivers at these three locations. One additional receiver location within the Lake Mathews/Gavilan Hills community would experience traffic noise levels that would approach or exceed the NAC under Build Alternative 4. Noise abatement was not considered for this location because any noise abatement would restrict access to the property by cutting off the driveway.

Residents and community members who use Cajalco Road, La Sierra Avenue, and El Sobrante Road, or businesses along Cajalco Road and El Sobrante Road, currently experience noise and vibration from these and other roadways in the vicinity, and social interactions have developed around, and regardless of, this condition. Therefore, additional noise and vibration are unlikely to change social interactions. Nevertheless, there would be increased noise and this would impact community character.

The following standard project measures and additional mitigation measures will minimize and compensate for impacts under Build Alternative 4.

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)
- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-6** (Temescal Creek Bridge Design)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **VIS-8** (Replace Disturbed Vegetation along Landscaped Freeways)
- **HAZ-1** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and, SMP for 9001 Cajalco Road [APNs 279-231-004, -006, -011, and 281-140-021])
- **HAZ-4** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and, SMP for 21020 Cajalco Road [APNs 318-061-027 and -030])
- **HAZ-7** (Yellow Thermoplastic and Yellow-Painted Traffic Stripes)
- **HAZ-8** (ACM and LBP)
- **NOI-2** (Noise Barrier S-624)

- **NOI-3** (Noise Barriers S-650 [Property Line] and S-652 [Property Line])

Temporary Impacts

Build Alternatives 1, 2C, and 4

Build Alternatives 1 or 2C are anticipated to take approximately 4 years to construct, and would be phased so that construction activities would not occur within a project area community for an extended period of time. Build Alternative 4 is anticipated to take approximately 4.5 years to construct, and would also be phased so that construction activities would not occur within a project area community for an extended period of time. Temporary, minor impacts on community character and cohesion during construction would be expected under Build Alternatives 1, 2C, and 4. Properties adjacent to Cajalco Road under Build Alternatives 1, 2C, and 4; Dirt Road and Richey Way under Build Alternatives 1 and 2C; and El Sobrante Road under Build Alternative 4 may require temporary driveway modifications and detours during construction. Large equipment operating during construction and periodic dust during grading activities would be visible to those traveling along these roadways, and visible and audible to properties fronting the roadways. With the incorporation of Standard Project Measures **PF FA-2**, **PF LU-1**, **PF AQ-1**, **PF AQ-2**, and **PF NOI-1**, these temporary impacts would not substantially affect the rural character of the study area. The temporary detour routes also would not provide new access to currently undeveloped areas, as described in Section 3.3, *Growth*. Only temporary signage during construction and potential restriping along the freeway overpass would occur within the City of Perris. In the City of Corona, which includes approximately 0.4 mile of the alignment at the western end of the project, construction activities would be limited to construction of medians, paving, turn pockets, signage, and bridge placement of Temescal Creek Bridge over Temescal Creek. All other construction activities would occur in unincorporated Riverside County.

Temporary partial closure of Cajalco Road, sidewalks, and crosswalks, and driveway access modifications would be required intermittently throughout the construction period. However, these closures would be short term, and alternate routes and advance notice would be provided. Temporary impacts on community character would be reduced with Standard Project Measure **PF COM-2** and Standard Project Measure **PF LU-1** (TMP); refer to Section 3.1.1.2 (*Land Use*) for the TMP.

According to the *Cajalco Road Widening and Safety Enhancement Project Noise Study Report*, noise from construction activities would intermittently dominate the noise environment in the immediate area of construction (Caltrans 2019). Conventional construction equipment is expected to generate maximum noise levels ranging from 75 to 99 dBA at a distance of 50 feet, while noise from pile driving would generate maximum noise levels of approximately 96 dBA at a distance of 50 feet. Noise produced by construction equipment would diminish over distance at a rate of about 6 dBA per doubling of distance. Temporary noise impacts from construction are anticipated; however, construction would be conducted in accordance with Caltrans provisions in Section 14-8.02, Noise Control, of the 2010 Standard Specifications and Special Provisions (SSP 14-8.02) and applicable local noise standards, and resulting noise impacts would be minor. Therefore, community character and cohesion would not be substantially affected by noise produced during construction.

According to the *Air Quality Study Report*, construction of this build alternative would result in minor air quality impacts and would not expose sensitive receptors to adverse concentration of

carbon monoxide, particulate matter, or toxic air contaminants (Caltrans 2017). In addition, Mobile Source Air Toxics (MSAT) emissions in horizon year 2044 are anticipated to be considerably less than Baseline Year 2014 levels, even though vehicle miles traveled (VMT) is anticipated to increase. MSAT emissions would be lower than present levels at Horizon Year 2044 as a result of the U.S. Environmental Protection Agency's (EPA's) national control programs, which are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 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 virtually all locations. Under the build alternatives there would be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. However, even if these increases do occur, they too would be substantially reduced in the future as a result of implementation of EPA's vehicle and fuel regulations. Therefore, community character and cohesion would not be substantially affected by air quality during construction.

Therefore, community character and cohesion would not be substantially affected during construction due to the minor construction impacts that would occur from temporary partial closures of Cajalco Road, noise impacts, and air quality impacts.

Mead Valley

Temporary impacts on community character and cohesion of the Mead Valley community between I-215 and Cowan Road would be the same under Build Alternatives 1, 2C, and 4. The following standard project measures and mitigation measures will minimize and compensate for temporary impacts that would affect community character and cohesion within the Mead Valley community under all build alternatives:

- **PF COM-2** (Signage Provisions)
- **PF LU-1** (TMP)
- **PF UT-1** (Utility Relocations)
- **PF NOI-1** (Construction Noise)
- **PF HAZ-2** (HASP)
- **PF HAZ-3** (Handling, Transport, and Disposal of Wastes)
- **PF HAZ-5** (Creosote-Treated Wood Waste)
- **HAZ-7** (Yellow Paint Thermoplastic and Yellow-Painted Traffic Stripes)
- **HAZ-8** (ACM and LBP)
- **PF AQ-1** (Air Pollution Control)

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.5, *Utilities/Emergency Services*; Section 3.13, *Hazardous Waste/Materials*; Section 3.14, *Air Quality*; Section 3.15, *Noise and Vibration*; and Section 4.2.19, *Utilities and Service Systems*.

Lake Mathews/Gavilan Hills

Temporary impacts on community character and cohesion of the Lake Mathews/Gavilan Hills community between I-215 and Cowan Road would be the same under Build Alternatives 1, 2C, and 4. The following standard project measures and mitigation measure are proposed to minimize impacts during construction under all build alternatives:

- **PF COM-2** (Signage Provisions)
- **PF LU-1** (TMP)
- **PF UT-1** (Utility Relocations)
- **PF NOI-1** (Construction Noise)
- **PF HAZ-2** (HASP)
- **PF HAZ-3** (Handling, Transport, and Disposal of Wastes)
- **PF HAZ-5** (Creosote-Treated Wood Waste)
- **HAZ-6** (Agricultural Land Uses)
- **HAZ-7** (Yellow Paint Thermoplastic and Yellow-Painted Traffic Stripes)
- **PF AQ-1** (Air Pollution Control)

Woodcrest/Mockingbird Canyon

Temporary impacts on community character and cohesion of Woodcrest/Mockingbird Canyon between I-215 and Cowan Road would be the same under Build Alternatives 1, 2C, and 4. The following standard project measures and mitigation measure are proposed to minimize impacts during construction under all build alternatives:

- **PF COM-2** (Signage Provisions)
- **PF LU-1** (TMP)
- **PF FA-2** (Farmland Temporarily Affected)
- **PF UT-1** (Utility Relocations)
- **PF NOI-1** (Construction Noise)
- **PF HAZ-2** (HASP)
- **PF HAZ-3** (Handling, Transport, and Disposal of Wastes)
- **PF HAZ-5** (Creosote-Treated Wood Waste)
- **HAZ-6** (Agricultural Land Uses)
- **HAZ-7** (Yellow Paint Thermoplastic and Yellow-Painted Traffic Stripes)
- **PF AQ-1** (Air Pollution Control)

Victoria Grove and Lake Hills/Home Gardens

Under Build Alternatives 1 and 2C, impacts on the community character and cohesion of the Victoria Grove and Lake Hills/Home Gardens communities would not occur, as the project alignments would be located at a far enough distance that community composition, features, and primary community facilities would not be affected. The following standard project measures and mitigation measure are proposed to minimize impacts during construction under Build Alternative 4:

- **PF LU-1** (TMP)
- **PF NOI-1** (Construction Noise)
- **PF HAZ-2** (HASP)
- **PF HAZ-3** (Handling, Transport, and Disposal of Wastes)
- **PF HAZ-5** (Creosote-Treated Wood Waste)
- **HAZ-7** (Yellow Paint Thermoplastic and Yellow-Painted Traffic Stripes)
- **PF AQ-1** (Air Pollution Control)

Temescal Canyon

Temporary impacts on community character and cohesion of the Temescal Canyon community between Temescal Canyon Road and west of La Sierra Avenue would be the same under Build Alternatives 1, 2C, and 4. The following standard project measures and mitigation measure are proposed to minimize impacts during construction:

- **PF COM-2** (Signage Provisions)
- **PF LU-1** (TMP)
- **PF UT-1** (Utility Relocations)
- **PF NOI-1** (Construction Noise)
- **PF HAZ-2** (HASP)
- **PF HAZ-3** (Handling, Transport, and Disposal of Wastes)
- **PF HAZ-5** (Creosote-Treated Wood Waste)
- **HAZ-7** (Yellow Paint Thermoplastic and Yellow-Painted Traffic Stripes)
- **PF AQ-1** (Air Pollution Control)

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Construction of the future six-lane facility is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that temporary impacts associated with the construction of two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John Road under Build Alternatives 1 and 2C, and two additional travel lanes along Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, would be limited to the future medians, and would not substantially affect community character and cohesion. Because the additional lanes would be added within

the median, any additional physical expansion of the roadway would be avoided as would any additional property acquisitions or changes to community cohesion or character.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

The LM MSHCP is a conservation area that does not contain any neighborhoods or communities; therefore, there would be no impacts.

No-Build Alternative

There would be no changes to neighborhoods or community character under the No-Build Alternative during construction or operation because no improvements would be implemented that could affect the character of the study area.

3.4.1.4 Avoidance, Minimization, and/or Mitigation Measures (Community Character and Cohesion)

See individual community discussions above for standard project measures and proposed mitigation measures that would address permanent and temporary community character and cohesion impacts specific to each community. Additionally, Measure **COM-3** is proposed under each build alternative and would minimize changes to community character and cohesion.

- **COM-3:** Prior to any partial or full property acquisitions that would result in residential or business relocations and/or loss of business revenue, a Relocation and Reimbursement Mitigation Plan will be prepared by the County of Riverside in accordance with Federal Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended (42 United States Code Sections 4601–4655) requirements, and in conjunction with the Relocation Assistance Program. The purpose of the Relocation and Reimbursement Mitigation Plan is to minimize economic disruptions related to relocation and loss of property. The plan will include consultation with affected property owners to ensure full consideration of information related to property valuation, and disclosure of information regarding property rights, the relocation and reimbursement process, and available resources. The following components will be included in the plan, and provided to affected property and business owners and tenants in alternative language and/or communication formats upon request:
  - Within the limits established by law and regulation, minimize the economic disruption caused to property owners by relocation and loss of property.
  - Provide regulatory compliance assistance to business owners who may require complex permitting for relocation.
  - A description of the appraisal, acquisition, and relocation process as well as a description of the activities of the appraisal and relocation specialists.
  - A means of assigning appraisal and relocation staff to affected property owners, tenants, or other residents on an individual basis.
  - Individualized assistance to affected property owners, tenants, or other residents in applying for funding, including research to summarize loans, grants, and federal aid available, and research areas for relocation.
  - Provide interpretation services, upon request, during the consultation process and during relocation coordination.

3.4.2 Relocations and Real Property Acquisition

3.4.2.1 Regulatory Setting

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

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

3.4.2.2 Affected Environment

The CIA and *Errata* (Caltrans 2018a, 2021) and DRIR (Caltrans 2018b) were used in the preparation of this section of the document.

The proposed project is within Riverside County and a small portion in the cities of Corona and Perris. The project area consists of undeveloped land, light-industrial facilities, rural residences, residential developments, commercial retail facilities, vacant lots, agricultural land, and an interstate highway. The project area adjoining El Sobrante Road and the proposed re-alignments of El Sobrante Road consist of undeveloped land, rural residences, utility agencies, light-industrial facilities, and agricultural structures and crops. Four communities are within the study area: Mead Valley, Lake Mathews, Woodcrest, and Victoria Grove. Mead Valley and Lake Mathews are semi-rural communities. The primary type of housing in the study area is the single-family home.

Minority populations within the study area average between 64.3 percent and 70.0 percent, with the higher concentration along the alignments of Build Alternatives 1 and 2C (refer to Table 3.4-12). This is comparable to the minority populations present within Riverside County and the City of Corona (62.2 percent). With respect to poverty status in the study area, the median household income in all study area census tract and block groups is higher than the U.S. Department of Health and Human Services poverty guidelines ($26,200 for a family of four in 2020) (DHHS 2020).[1] No properties were identified as meeting Housing Act of 1937 (42 U.S.C. § 1437f), Section 8 criteria; however, any special relocation needs will be further identified during relocation surveys (Caltrans 2018b). Please refer to Sections 3.4.1, *Community Character and Cohesion*, and 3.4.3, *Environmental Justice*, for a complete population profile and description of community characteristics within the study area.

[1] For direct reference to 2016 U.S. Census data provided in Tables 3.4-5, 3.4-6, and 3.4-14, the DHHS poverty guideline for a family of four in 2015 was $24,250 (DHHS).

3.4.2.3 Environmental Consequences (Relocations and Real Property Acquisition)

Anticipated property acquisitions and potential displacees within the displacement area are summarized in Tables 3.4-10 and 3.4-11. According to the DRIR, all proposed build alternatives would result in full acquisitions of both residential and nonresidential parcels as shown below. All affected residential parcels contain single-family residences. In addition, each build alternative would result in partial acquisitions, which are detailed in Table 3.4-11.

Table 3.4-10. Summary of Proposed Property Acquisitions

Build Alternative	Residential Properties		Nonresidential Properties		Vacant Properties		Total Properties	
	Full	Partial	Full	Partial	Full	Partial	Full	Partial
Build Alternative 1	17	67	2	5	41	149	61	221
Build Alternative 2C	17	67	2	5	41	153	61	225
Build Alternative 4	18	69	2	12	50	186	70	267
Source: Caltrans 2018b.								

Table 3.4-11. Summary of Residential and Business Displacements

Build Alternative	Residential Units			Business and Government Use		
	Full	Partial	Residential Displacements (residents)	Full	Partial	Nonresidential Displacements (employees)
Build Alternative 1	19	NA	62	2	5	25
Build Alternative 2C	19	NA	62	2	5	25
Build Alternative 4	21	NA	69	2	12	25
Source: Caltrans 2018b.						

The displacement area consists of the communities of Mead Valley, Woodcrest/Mockingbird, and Temescal Canyon, located within unincorporated Riverside County. In general, minority populations within the displacement area are comparable with minority populations in adjacent area populations, with the higher concentration of minority populations located along the eastern portion of the build alternatives (refer to Table 3.4-8). At 79.2 percent, the minority population for the community of Mead Valley is less than but somewhat comparable to the minority population for the adjacent City of Perris (87.9 percent). The minority population of Woodcrest/ Mockingbird (46.9 percent) is also less than but somewhat comparable to that of Riverside County (59.6 percent). The minority population of Temescal Canyon (53.6 percent) is less than but somewhat comparable to that of the City of Corona (65.6 percent). No properties within the displacement area were identified as meeting Housing Act of 1937 (42 U.S.C. § 1437f), Section 8 criteria; however, any special relocation needs will be further identified during relocation surveys (Caltrans 2018b). It is unknown whether homeless individuals would be present within the limits of the proposed project at the time of constriction. Please refer to Sections 3.4.1, *Community Character and Cohesion*, and 3.4.3, *Environmental Justice*, for a complete discussion of population characteristics and community impacts within the study area. Descriptions of displacees affected under each build alternative are provided in their respective environmental consequences sections for each alternative, below.

The replacement area is defined as the local area where residential and business displacees would likely secure replacement sites. It extends up to a 10-mile radius. Generally, if there are services and resources available in the immediate area, businesses prefer to relocate as close as possible to their existing location, and residential displacees prefer to remain in existing school systems and their immediate familial and cultural settings. The replacement area was determined by the availability of replacement single-family residences and comparable business sites for displacees. The replacement area is the most similar to the displacement area in character and socioeconomic status, and it has the highest likelihood of receiving displaced residents and businesses because of the availability of replacement properties with similar average purchase prices as in the displacement area.

Communities within the replacement area are also within 10 miles of the displacement area; therefore, the commute distance to jobs and schools would be reasonable and would not result in substantial hardships for the displacees. In addition, residential displacees would have access to schools within the same school district in the replacement area as they had in the displacement area.

In accordance with the Uniform Act, as amended, the County will assist eligible displacees in obtaining comparable replacement housing by providing current and continuing information on the availability and prices of both houses for sale and rental units that are "decent, safe, and sanitary." The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property, and with reimbursement for certain costs involved in relocation. Please refer to Appendix C, *Summary of Relocation Benefits*, for further information regarding the RAP. If homeless individuals are present within the limits of the proposed project at the time of construction, County of Riverside Continuum of Care would be contacted and the needs of the individuals assessed for resources to aid in safe relocation and additional assistance if needed.[2]

Tables 3.4-12 and 3.4-13 identify the number of single-family residences and multi-family residences for sale or lease and the number of available businesses and mixed-use replacement sites for sale or lease within the replacement area, separated by jurisdiction. As shown, there are ample replacement residences and business sites within the replacement area.

Table 3.4-12. Available Residential Replacement Resources

	City of Perris	Riverside County	City of Corona
Properties for Sale			
Number of single-family residences	136	486	331
Number of multi-family units & condos	1	21	28
Total Housing Units	137	507	359
Properties for Lease			
Number of single-family residences	31	101	101
Number of multi-family units & condos	5	62	78
Total Housing Units	36	163	179
Source: Caltrans 2018b			

[2] County of Riverside Continuum of Care is a network of private and public sector homeless service providers, designed to promote community-wide planning and the strategic use of resources addressing homelessness. http://dpss.co.riverside.ca.us/homeless-programs.

Table 3.4-13. Available Business and Mixed-Use Replacement Sites Replacement Resources

	City of Perris	Riverside County	City of Corona
Properties for Sale			
Agricultural	14	4	0
Commercial	6	43	13
Industrial	6	49	14
Vacant Land	149	153	51
Total Business & Mixed Use Units	175	249	78
Properties for Lease			
Agricultural	0	0	0
Commercial	22	68	40
Industrial	0	63	26
Vacant Land	0	0	0
Total Business & Mixed Use Units	22	131	66
Source: Caltrans 2018b			

Build Alternative 1—Cajalco Alignment

In total, Build Alternative 1 would permanently acquire 218 acres of property and temporarily acquire 61 acres of property. The majority of these permanent and temporary acquisitions would be from vacant properties adjacent to the alignment. From the non-vacant properties, the majority of the acquisitions would be from semi-rural residential parcels adjacent to the alignment.

As identified in Tables 3.4-11 and 3.4-12, Build Alternative 1 would require full acquisition of 19 residential units, of which 17 are within the community of Mead Valley, one is in Lake Mathews/ Gavilan Hills, and the remaining one is within the community of Temescal Canyon. Build Alternative 1 would also require full acquisition of two nonresidential units, one within the Mead Valley community and the other within Woodcrest/Mockingbird Canyon. Each residential unit is a single-family residence. An estimated 62 residents in total would be displaced. According to the DRIR, from preliminary market research it can be concluded that there are a sufficient number of residential replacement properties for both owner-occupied single-family residences and tenant-occupied single-family residences. The housing stock available in the replacement area as well as neighboring communities would be sufficient for finding comparable replacement residential dwellings. A sufficient number of "comparable replacement dwellings" meeting decent, safe, and sanitary standards currently exists within the affected communities. It is anticipated that finding replacement housing for owner- or tenant-occupied residences would not present any unusual problems. Any special relocation challenges would be further identified once relocation surveys are completed.

Of the two nonresidential units that would be fully acquired, one is retail and one is government. The retail business, Mead Valley Market (El Mercado de Mead Valley), is a local corner market serving the residents and motorists in the area at the corner of Florence Street and Cajalco Road. The market advertises the sale of general food items, beverages, and prepared foods among other convenience products. The parcel is approximately 33,000 square feet in size, and property improvements appear to occupy approximately 40 percent of the parcel. The business employs nine people, who would be displaced as a result of the acquisition. The property has not transferred ownership since 1988, when the current owners purchased it; however, it is unclear how long the current business tenant has been operating at this location. The store's main customer base is anticipated to be composed of surrounding residents, and the store appears to have an established stream of business.

The second nonresidential relocation is the Riverside County Code Enforcement on Cajalco Road. The business employs 16 people. According to the DRIR, from preliminary market research, it can be concluded that there are a sufficient number of commercial replacement properties at this time. Should a sufficient number of commercial replacement properties not be available and adequate replacement sites cannot be located, the research area may need to be expanded not to exceed the legally mandated 50-mile radius. This situation is, however, not ideal due to the potential loss of existing clientele and may result in the payment of additional business goodwill.

The acquired residences and businesses that require relocation represent a small percentage (0.002 percent of all residences and 0.005 percent of all businesses) of the existing residences and business within Riverside County, as there are approximately 831,400 housing units and 36,500 businesses within the County (U.S. Census Bureau 2015).

Although there would be 221 partial acquisitions, none of the partial acquisitions would require the relocation of any residents or closure of any businesses.

Standard Project Measure **PF COM-1** and Measure **COM-3** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property, and with reimbursement for certain costs involved in relocation. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. All eligible displacees would be entitled to moving expenses per the Uniform Act. The County of Riverside will also provide compensation to eligible recipients for property acquisitions.

Future Six-Lane Facility (Build Alternative 1)

For the future six-lane Cajalco Road facility, construction is not currently proposed as part of the project. However, if the two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John Road are constructed in the future, it is anticipated that there would be no additional impacts during operation. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and therefore any additional property acquisitions.

Lake Mathews MSHCP (Build Alternative 1)

No relocations would occur within the LM MSHCP because there are no residents or businesses present within the area.

Build Alternative 2C—Modified Cajalco Alignment

Impacts under Build Alternative 2C would be similar to those described under Build Alternative 1; the difference being that partial acquisitions would be required from 225 parcels with permanent acquisition of 239 acres of property and temporarily acquisition of 66 acres of property. Standard Project Measure **PF COM-2** and Measure **COM-3** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation.

Future Six-Lane Facility (Build Alternative 2C)

For the future six-lane facility, construction is not currently proposed as part of the project. However, if the two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John Road are constructed in the future, it is anticipated that there would be no additional impacts during operation. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and therefore any additional property acquisitions.

Lake Mathews MSHCP (Build Alternative 2C)

No relocations would occur within the LM MSHCP because there are no residents or businesses present within the area.

Build Alternative 4—El Sobrante Alignment

Effects under Build Alternative 4 would be the similar to those described under Build Alternative 1, except Build Alternative 4 would permanently acquire 240 acres of property and temporarily acquire 63 acres of property. Build Alternative 4 would also require full acquisition of 21 residential units and two nonresidential units, and partial acquisitions would be required from 267 parcels. An estimated 69 residents would be displaced. Build Alternative 4 would also require the full acquisition of both nonresidential units detailed in Build Alternative 1. Compliance with Standard Project Measure **PF COM-2** and Measure **COM-3** would occur for all build alternatives to reduce impacts from property acquisition and relocation.

Future Six-Lane Facility (Build Alternative 4)

For the future six-lane facility, construction is not currently proposed as part of the project. However, if the two additional travel lanes along Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, are constructed in the future, it is anticipated that there would be no additional impacts during operation. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and therefore any additional property acquisitions.

Lake Mathews MSHCP (Build Alternative 4)

No relocations would occur within the LM MSHCP because there are no residents or businesses present within the area.

No-Build Alternative

No property acquisitions or relocations would occur under the No-Build Alternative because no improvements would be implemented.

3.4.2.4 Avoidance, Minimization, and/or Mitigation Measures (Relocations and Real Property Acquisition)

Standard Project Measure **PF COM-1** and Measure **COM-3** described under Section 3.4.2.3, above, would be included for all build alternatives to reduce impacts from property acquisition and relocation.

3.4.3 Environmental Justice

3.4.3.1 Regulatory Setting

All projects involving a federal action (funding, permit, or land) must comply with Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations,* signed by President William J. Clinton on February 11, 1994. This EO directs federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the U.S. Department of Health and Human Services poverty guidelines. For 2020, this was $26,200 for a family of four.[3]

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix B of this document.

3.4.3.2 Affected Environment

Analysis of environmental justice impacts is a two-step process; the first is determining the presence of protected populations (minority or low-income populations), and the second is determining if the project has a disproportionate adverse impact on those protected populations. According to the guidance provided in Caltrans Standard Environmental Reference, Chapter 4, Community Impact Assessment, environmental justice and equity is determined based on the comparison of impacts on minority and low-income groups and impacts on non-minority or higher income populations. Impacts are considered disproportionate if they are more severe or greater in magnitude for minority and low-income populations. Impacts can include noise, air quality, water quality, hazardous waste, community cohesion, aesthetics, economic vitality, accessibility, safety, and construction impacts.

The study area for the environmental justice analysis is the census block groups within 0.5 mile of the proposed right of way. Block groups were used instead of census tracts to provide a more detailed look at the area to determine if minority and low-income populations are present. To determine if minority and low-income populations exist within the study area, a demographic profile of the study area block groups was developed. For the purposes of this analysis, a block group was considered to contain minority and low-income populations if:

- The total minority population of the block group is more than 50 percent of the total population or is substantially higher than the city or county where it is located; or
- The block group is below the Federal Poverty level defined based on the U.S. Department of Health and Human Services poverty guidelines ($26,200 for a family of four in 2020[4]).

Minority individuals are members of American Indian, Asian or Pacific Islander, Black, and Hispanic population groups. Table 3.4-8 in Section 3.4.1.2 presents the full ethnicity

[3] For direct reference to U.S. Census data provided in Tables 3.4-5, 3.4-6, and 3.4-14, the DHHS poverty guideline for a family of four in 2015 was $24,250 (DHHS).
[4] $24,250 for a family of four in 2015 (DHHS).

characteristics for the study area and within each community. Figure 3.4-4 shows the distribution of minority populations within the study area. Table 3.4-14 provides the percentage of minority individuals within the county, cities, census block groups, and communities within the study area, as well as their median household incomes.

Table 3.4-14. Minority Populations and Median Household Income in the Study Area

Jurisdiction/Census Tract	Alternative	Total Population	Median Household Income	Minority Population
Riverside County	1, 2C, 4	2,298,032	$56,603	59.6%
City of Corona	1, 2C, 4	159,595	$74,149	65.6%
City of Perris	1, 2C, 4	72,547	$49,325	87.9%
Study Area[1]	1, 2C, 4	65,988	$69,623	64.3%
Mead Valley	1, 2C, 4	22,381	$54,871	79.2%
Census Tract 420.08 (Block Group 1)[2]	1, 2C, 4	4,032	$112,105	46.9%
1, 2C, 4		2,328	$39,583	95.9%
Census Tract 420.10	1, 2C, 4	6,587	$35,856	85.4%
Census Tract 429.04	1, 2C, 4	9,434	$31,942	88.7%
Lake Mathews/Gavilan Hills	1, 2C, 4	9,912	$67,725	52.5%
Census Tract 414.09 (Block Group 4)[2]	1, 2C, 4	1,092	$42,944	58.7%
Census Tract 420.07 (Block Group 2)[2]	1, 2C, 4	1,698	$69,028	28.3%
Census Tract 420.08 (Block Group 1)[2]	1, 2C, 4	4,032	$112,105	46.9%
1, 2C, 4		3,090	$46,821	72.0%
Woodcrest/Mockingbird Canyon Census Tract 420.08 (Block Groups 1 and 2)	1, 2C, 4	7,744	$103,344	46.9%
Victoria Grove Community Census Tract 414.09 (Block Group 1)	4	8,174	$99,048	46.6%
Lake Hills/Home Gardens	4	9,191	$95,205	61.9%
Census Tract 414.09 (Block Group 2)	4	5,077	$85,018	39.2%
Census Tract 414.09 (Block Group 3)	4	4,114	$105,391	84.6%
Temescal Canyon	1, 2C, 4	9,472	$60,014	53.6%
1, 2C, 4		1,092	$42,944	58.7%
Census Tract 419.09 (Block Group 1)	1, 2C, 4	1,355	$51,033	82.4%
Census Tract 419.09 (Block Group 3)	1, 2C, 4	1,261	$58,750	35.9%
Census Tract 419.10 (Block Group 1)	1, 2C, 4	4,066	$78,313	62.5%
1, 2C, 4		1,698	$69,028	28.3%
1, 2C, 4		2,948	$60,160	88.5%
City of Corona Census Tract 481.00[3]	1, 2C, 4	7,020	$103,388	47.1%

[1] The study area, for the purposes of this chapter, comprises the census tract block groups in which the proposed project would be located plus two additional block groups to capture populations at the eastern and western ends of the project (see Figure 3.4-1).
[2] Census Tracts 414.09, 420.07, and 420.08 (Block Group 1) encompass more than one community.
[3] Census tracts located within study area but outside of project limits.
Sources: U.S. Census Bureau 2016a, 2016b.

According to Table 3.4-12, the study area contains 64.3 percent minority populations. This is comparable to the minority populations present within Riverside County (59.6 percent) and the City of Corona (65.6 percent), but lower than the minority populations present within the City of Perris (87.9 percent). At the block group level, seven of the 13 census block groups within the Build Alternatives 1 and 2C study area have higher proportions of minority individuals than Riverside County, while eight of the 16 census block groups within the study area for Build

Alternative 4 have higher proportions of minority individuals than Riverside County. With respect to poverty status in the study area, the median household income in all study area census tract and block groups is higher than the U.S. Department of Health and Human Services poverty guidelines ($26,200 for a family of four in 2020).[5] Therefore, low-income populations as defined by DHHS guidelines are not present in the study area for Build Alternatives 1 and 2C or Build Alternative 4.

Of the six distinct communities within the study area, the percentage of minority populations within four of the communities, Mead Valley, Lake Mathews/Gavilan Hills, Lake Hills/Home Gardens, and Temescal Canyon, are greater than 50 percent, at 79.2 percent, 52.5 percent, 61.9 percent, and 53.6 percent, respectively. Compared to the County minority population of 59.6 percent, the Mead Valley minority population is 19.6 percent higher, and is thus considered substantially higher than that of the County. However, the Mead Valley minority population is 9.3 percent lower than the adjacent Census Tract 426.20 (Block Group 1), which is 88.5 percent minority, and 8.7 percent lower than the City of Perris overall at 87.9 percent minority.

The minority population of Lake Hills/Home Gardens (61.9 percent) is 2.3 percent higher than the County minority population (59.6 percent). The minority populations of Lake Mathews/ Gavilan Hills (52.5 percent) and Temescal Canyon (53.6 percent) are 7.1 percent and 6 percent lower than the County minority population, respectively. The minority populations for these three community areas are also lower than the minority populations identified for the overall study area (64.3 percent), and the Cities of Perris (87.9 percent) and Corona (65.6 percent). Because the minority populations of the communities of Mead Valley, Lake Mathews/Gavilan Hills, Lake Hills/Home Gardens, and Temescal Canyon exceed 50 percent, minority populations are present in the study area.

Lake Mathews MSHCP

The LM MSHCP area contains water and resource management facilities and offices for MWD and LMR employees; because no population resides in the area, there are no minority or low-income populations within the LM MSHCP.

[5] Median household income also exceeds the 2015 DHHS poverty guideline for a family of four ($24,250) (DHHS).

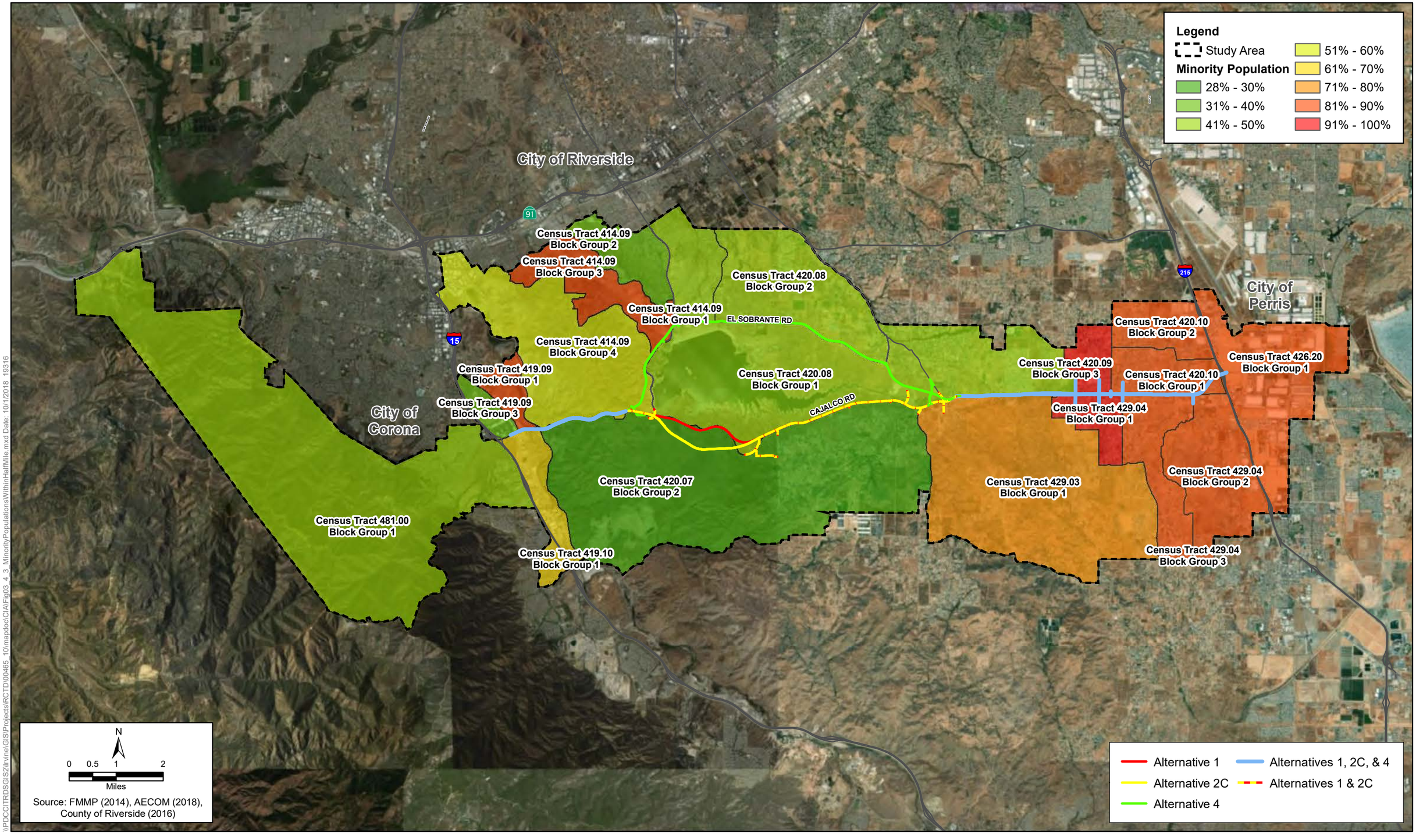

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Figure 3.4-4
Study Area Minority Population Distribution
Cajalco Road Widening and Safety Enhancement Project

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3.4.3.3 Environmental Consequences (Environmental Justice)

Given the higher percentage of minority populations found in the communities of Mead Valley, Lake Mathews/Gavilan Hills, Lake Hills/Home Gardens, and Temescal Canyon, analysis of effects related to minority populations is warranted. The project is subject to the provisions of EO 12898. Environmental topics that have the potential to impact minority populations are discussed below. Permanent and temporary impacts are discussed together under each subheading. Anticipated impacts within the communities of Mead Valley, Lake Mathews/ Gavilan Hills, Lake Hills/Home Gardens, and Temescal Canyon only are discussed below.

Build Alternatives 1 and 2C—Cajalco Alignment and Modified Cajalco Alignment

Three of the four communities identified with minority populations within the project study area are along the alignments of Build Alternatives 1 and 2C, Mead Valley, Lake Mathews/Gavilan Hills, and Temescal Canyon. Potential impacts on these communities are discussed below.

Hazardous Materials and Waste

Mead Valley

An Initial Site Assessment (ISA) was conducted to review, evaluate, and document present and past land uses and practices, and visually examine site conditions in order to identify Recognized Environmental Conditions (RECs) (Caltrans 2020). The ISA identified two RECs and five Areas of Environmental Concern (AOCs) within the project limits. One of the two RECs, former Mobil Baldwin gas station at 21020 Cajalco Road, is within the Mead Valley community. One of the five AOCs, pesticide use on agricultural lands, also occurs within the Mead Valley community, and three of the AOCs are not location-specific and occur throughout the entire proposed alignment, including Mead Valley: yellow striping containing lead and chromium, overhead transformers containing polychlorinated biphenyls (PCBs), and utility poles containing creosote-treated wood.

A Preliminary Site Investigation (PSI) was conducted for the two REC sites in September 2020 to further characterize site conditions and identify recommendations to minimize risk, including further study and/or coordination to confirm remediation, health and safety, and appropriate soil management, as needed (Caltrans 2020). The REC at 21020 Cajalco Road (Mead Valley) is currently undergoing remediation for soil and groundwater contamination from a gasoline release.

The ISA and PSI provide recommendations designed to minimize the potential impact related to these hazards, which include but are not limited to the following measures in Section 3.13, *Hazardous Waste/Materials*: proper handling and disposal of any hazardous material, if encountered (**PF HAZ-3**); oversight agency coordination, proper abandonment of existing monitoring structures, optional soil and groundwater investigation, HASP, SMP, compliance with South Coast Air Quality Management District (SCAQMD) Rule 1166, and groundwater disposal for 21020 Cajalco Road (**PF HAZ-2** [Health and Safety Plan], **HAZ-4**); creosote-treated wood waste handling (**PF HAZ-5**); PSI, corrective action (if required), and SMP for agricultural land uses (**PF HAZ-2** [HASP], **HAZ-6**); yellow paint and thermoplastic striping survey and disposal (**HAZ-7**); and hazardous building material surveys and proper handling and disposal of any hazardous material, if encountered (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], and **HAZ-8**).

While these recommendations minimize the potential for adverse effects related to operation of the build alternatives, impacts could still occur, although they would be low risk due to the nature of the sites. However, because the AOCs are located throughout the study area, not only in communities with predominantly minority populations, impacts from a hazardous materials release would not be borne predominantly by minority populations. Therefore, the build alternatives would not result in disproportionately high and adverse effects on minority populations.

Lake Mathews/Gavilan Hills

The ISA identified two RECs and five AOCs within the project limits. One of the five AOCs, pesticide use on agricultural lands, occurs within the community, and three of the AOCs are not location-specific and occur throughout the entire proposed alignment, including Lake Mathews/ Gavilan Hills: yellow striping containing lead and chromium, overhead transformers containing PCBs, and utility poles containing creosote-treated wood.

The ISA and PSI provide recommendations designed to minimize the potential impact related to these hazards, which include but are not limited to the following measures in Section 3.13, *Hazardous Waste/Materials*: creosote-treated wood waste handling (**PF HAZ-5**); PSI, corrective action (if required), and SMP for agricultural land uses (**PF HAZ-2** [HASP], **HAZ-6**); yellow paint and thermoplastic striping survey and disposal (**HAZ-7**); and hazardous building material surveys and proper handling and disposal of any hazardous material, if encountered (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], and **HAZ-8**).

While these recommendations minimize the potential for adverse effects related to operation of the build alternatives, impacts could still occur, although they would be low risk due to the nature of the sites. However, because the AOCs are located throughout the study area, not only in communities with predominantly minority populations, impacts from a hazardous materials release would not be borne predominantly by minority populations. Therefore, the build alternatives would not result in disproportionately high and adverse effects on minority populations.

Temescal Canyon

The ISA identified two RECs and five AOCs within the project limits. One of the two RECs, a former clay mine at 9001 Cajalco Road, and one of the AOCs, Temescal Creek Bridge, are within the Temescal Canyon community. The following three AOCs are not location-specific and occur throughout the entire proposed alignment: yellow striping containing lead and chromium, overhead transformers containing PCBs, and utility poles containing creosote-treated wood.

A PSI was conducted for the two REC sites in September 2020 to further characterize site conditions and identify recommendations to minimize risk, including further study and/or coordination to confirm remediation, health and safety, and appropriate soil management, as needed (Caltrans 2020). The REC at 9001 Cajalco Road (Temescal Canyon) is associated with elevated concentrations of arsenic in soils.

The ISA and PSI provide recommendations designed to minimize the potential impact related to these hazards, which include but are not limited to the following measures in Section 3.13, *Hazardous Waste/Materials*: DSI, soil remediation (if required), HASP, and SMP for 9001 Cajalco Road (**HAZ-1** and **PF HAZ-2** [HASP]); creosote-treated wood waste handling (**PF HAZ-5**); PSI, corrective action (if required), (**PF HAZ-2** [HASP], **HAZ-6**); yellow paint and

thermoplastic striping survey and disposal (**HAZ-7**); and hazardous building material surveys and proper handling and disposal of any hazardous material, if encountered (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], and **HAZ-8**).

While these recommendations minimize the potential for adverse effects related to operation of the build alternatives, impacts could still occur, although they would be low risk due to the nature of the sites. However, because the AOCs are located throughout the study area, not only in communities with predominantly minority populations, impacts from a hazardous materials release would not be borne predominantly by minority populations. Therefore, the build alternatives would not result in disproportionately high and adverse effects on minority populations.

Aesthetics

Mead Valley

As described in Section 3.7, *Visual/Aesthetics*, existing visual quality within Mead Valley is moderate, with a visual impact rating of moderate-high to high. The build alternatives would change the aesthetic character of the land adjacent to Cajalco Road by making the roadway wider and more urban-like. The elements that would result in the greatest visual impacts would be the widening of existing roadways, removal of residential and commercial properties, sliver acquisitions that would affect residential site features and landscaping, new bridge construction, vegetation removal, and stormwater facilities. These changes may create a sense of visual encroachment for properties with structures close to the new right of way or where landscaping would be removed so that views of and from the roadway and traffic would be available where views are presently more screened. Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible.

Although changes to visual resources within the Rural Residential Visual Assessment Unit of Mead Valley would range from low to moderate, viewer response to these changes would range from moderate-high to high, and the resulting visual impacts would range from moderate to moderate-high. However, the widening of Cajalco Road under all build alternatives would occur predominantly along the existing alignment of the road, which would result in conditions similar to the existing land use and aesthetic. The most prominent visual changes would be on the less populated western end of the project, where there are fewer minority populations present as compared to the eastern end of the project.

Therefore, operation of the build alternatives would not result in disproportionately high and adverse effects related to aesthetics on minority populations.

Lake Mathews/Gavilan Hills

The proposed expansion and realignment of Cajalco Road may create a sense of visual encroachment for properties with structures close to the new right of way or where landscaping would be removed so that views of and from the roadway and traffic would be available where views are presently more screened. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the adverse effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Temescal Canyon

As described in Section 3.7, *Visual/Aesthetics*, existing visual quality within the Temescal Canyon community ranges from moderate-low to moderate, with a visual impact rating of moderate-high. The build alternatives would change the aesthetic character of the land adjacent to Cajalco Road by making the roadway wider and more urban-like. The elements that would result in the greatest visual impacts would be the widening of existing roadways, removal of residential properties, sliver acquisitions that would affect residential site features and landscaping, the cut and fill slopes associated with widening and realignments in hilly terrain, realigned curves, new bridge construction, vegetation removal, and stormwater facilities. These changes may create a sense of visual encroachment for properties with structures close to the new right of way or where landscaping would be removed so that views of and from the roadway and traffic would be available where views are presently more screened. Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible.

The widening of Cajalco Road under all build alternatives would occur predominantly along the existing alignment of the road, which would result in conditions similar to the existing land use and aesthetic.

Community Cohesion

Mead Valley

As described in Section 3.4.1.3, *Environmental Consequences (Community Character and Cohesion)*, the widening of Cajalco Road within the community of Mead Valley would occur predominantly along the existing alignment of the road, creating a more urban visual setting than existing conditions with the introduction of additional paving, sidewalks, traffic lights, crosswalks, and drainage facilities. These changes would affect current local access patterns for residents and businesses that directly front Cajalco Road. Sidewalks would also be constructed along one side of Cajalco Road in some locations through the Mead Valley community where residential and commercial properties are present, and would benefit local pedestrian movement and safety. Traffic signal and crosswalk improvements are proposed to assist with crossing Cajalco Road, which would further benefit community members and students that walk or ride bicycles to school. While the build alternatives would affect community cohesion with the widened roadway and more urban character, the proposed project would not introduce a new barrier that would divide the community, separate residences from community facilities, or result in substantial growth. Standard project measures and mitigation measures identified below are proposed to lessen impacts that would permanently occur within the community.

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)
- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)

- **PF VIS-7** (New Bridge Architectural Treatments)
- **VIS-8** (Replace Disturbed Vegetation along Landscaped Freeways)
- **HAZ-4:** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and SMP for 21020 Cajalco Road [APNs 318-061-027 and -030])

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1, VIS-2, PF VIS-4, PF VIS-5, PF VIS-7,** and **VIS-8**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-4**).

Therefore, with the incorporation and implementation of the measures listed above, operation of the build alternatives is not anticipated to result in disproportionately high and adverse effects related to community character or community cohesion on minority populations within the community of Mead Valley.

Temescal Canyon

As described in Section 3.4.1.3, *Environmental Consequences (Community Character and Cohesion)*, the widening of Cajalco Road within the community of Temescal Canyon would occur predominantly along the existing alignment of the road, creating a more urban visual setting than existing conditions with the introduction of additional paving, traffic lights, crosswalks, and drainage facilities.

The realignment would also result in the displacement of one residential unit on the north side of Cajalco Road. The affected property consists of a rural-residential, single-family house. An estimated five residents would be displaced from their current residence within Temescal Canyon. Of the total population of 9,472 within the study area portion of Temescal Canyon, the displacement of five residents would represent less than 0.1 percent of the community population.

As discussed in Section 3.4.2, adequate residential replacement properties are available within a 10-mile radius of the project, and most displaced residents would be expected to relocate to residences within the same region. The replacement area is the most similar to the displacement area in character and socioeconomic status. It has the highest likelihood of receiving displaced residents and businesses because of the availability of replacement properties with similar average purchase prices as in the displacement area. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. All eligible displacees would be entitled to moving expenses per the Uniform Act. Therefore, there would be no effects on population characteristics. The relocation of residents would not pose a substantial impact on the community.

- **PF COM-1** (Relocation Assistance)
- **COM-3** (Relocation Plan)
- **PF VIS-1** (Contouring and Replanting Disturbed Areas)
- **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project)

- **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity)
- **PF VIS-4** (Apply Minimum Lighting Standards)
- **PF VIS-5** (Basin and Flood Control Drainage Facility Treatments)
- **PF VIS-6** (Temescal Creek Bridge Design)
- **PF VIS-7** (New Bridge Architectural Treatments)
- **HAZ-1** (DSI; Riverside County Department of Environmental Health Notification and Soil Remediation; HASP; and SMP for 9001 Cajalco Road [APNs 279-231-004, -006, -011, and 281-140-021])
- **HAZ-7** (Yellow Thermoplastic and Yellow-Painted Traffic Stripes)
- **HAZ-8** (ACM and LBP)

Please refer to the following sections of this EIR/EIS for the measures listed above: Section 3.7, *Visual/Aesthetics* (**PF VIS-1** through **PF VIS-7**), and Section 3.13, *Hazardous Waste/Materials* (**HAZ-1**, **HAZ-7**, and **HAZ-8**).

Displacements/Relocations

Mead Valley

As described in Section 3.4.2, *Relocations and Real Property Acquisitions*, Build Alternatives 1 and 2C would require full acquisition of 17 residential units and one business within the community of Mead Valley. Partial acquisition of land from 67 residential parcels (not requiring relocation) would also occur. A portion of the acquisitions and relocations would be necessary because of the proximity of the residences and business to the existing roadway and necessary flood control facilities. All residential units are single-family residences, 11 of which are owner-occupied and six of which are tenant-occupied. An estimated 52 residents would be displaced from their current residences within Mead Valley, along with an estimated nine employees. Of the total population of 22,381 within the study area portion of Mead Valley, the displacement of 52 residents would represent 0.2 percent of the community population. Given the higher percentage of minorities present within the study area portion of Mead Valley, it is likely that at least some of the occupants of the residences to be acquired, and employees of the business, are minorities.

As described above, the majority of proposed residential acquisitions and displacements would occur within a community that has minority population greater than 50 percent; a portion of the acquisitions and relocations would be necessary because of the proximity of the residences and business to the existing roadway and necessary drainage facilities. Nevertheless, because the proposed property acquisitions and displacements would be predominantly borne by a minority population, impacts related to property acquisitions and displacements have potential to be disproportionately high and adverse for the affected population.

In addition to the benefits of increased pedestrian, vehicular, and cyclist safety; improved pedestrian facilities for access to community facilities; and flood control improvements, Standard Project Measure **PF COM-1** and Measure **COM-3** are proposed to minimize and mitigate for impacts involving property acquisitions and displacements for residents, employees, and property

owners within the Mead Valley community under Build Alternatives 1 and 2C. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property, and with reimbursement for certain costs involved in relocation. Refer to Section 3.4.1, *Community Character and Cohesion,* for Measure **COM-3** (Relocation and Reimbursement Mitigation Plan), and to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. All eligible displacees would be entitled to moving expenses per the Uniform Act. The County of Riverside will also provide compensation to eligible recipients for property acquisitions.

Based on the above discussion and analysis, and with the inclusion of the measures to address property displacements in areas with high minority populations, Build Alternatives 1 and 2C would not cause disproportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

Lake Mathews/Gavilan Hills

Build Alternatives 1 and 2C would require full acquisition of one residential unit within the community of Lake Mathews/Gavilan Hills. The residential unit is a single-family residence, assumed owner-occupied. An estimated five residents would be displaced from the residence. Of the total population of 9,912 within the study area portion of Lake Mathews/Gavilan Hills, the displacement of five residents would represent 0.1 percent of the community population. Given the higher percentage of minorities present within the study area portion of Lake Mathews/ Gavilan Hills, it is likely that at least some of the occupants of the residences to be acquired, and employees of the government business, are minorities.

Standard Project Measure **PF COM-1** and Measure **COM-3** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property, and with reimbursement for certain costs involved in relocation. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. All eligible displacees would be entitled to moving expenses per the Uniform Act. The County of Riverside will also provide compensation to eligible recipients for property acquisitions.

Temescal Canyon

As described in Section 3.4.2, *Relocations and Real Property Acquisitions*, Build Alternatives 1, 2C, and 4 would require full acquisition of one residential property within the community of Temescal Canyon. An estimated five residents would be displaced from the residence. Of the total population of 9,472 within the study area portion of Temescal Canyon, the displacement of five residents would represent 0.1 percent of the community population.

Given the higher percentage of minorities present within the study area portion of Temescal Canyon, it is likely that at least some of the occupants of the residences to be acquired, and employees of the business, are minorities.

Standard Project Measure **PF COM-1** and Measure **COM-3** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Act, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displacees, such as businesses, in locating suitable replacement property, and with reimbursement for certain costs involved in relocation. Refer to Appendix C, *Summary of Relocation Benefits*, of this EIR/EIS for details regarding available resources and assistance. All eligible displacees would be entitled to moving expenses per the Uniform Act. The County of Riverside will also provide compensation to eligible recipients for property acquisitions.

Summary

According to the DRIR, adequate residential and commercial replacement properties are available within the replacement area, which is defined as the local area where residential and business displacees would likely secure replacement sites. The housing stock available in the proposed replacement area as well as neighboring communities would be sufficient for finding comparable replacement residential dwellings. A sufficient number of "comparable replacement dwellings" meeting decent, safe, and sanitary standards currently exists within the affected communities. It is anticipated that finding replacement housing for owner or tenant-occupied residences would not present any unusual problems. Any special relocation challenges would be further identified once relocation surveys are completed.

In addition, as part of project implementation, relocation assistance payments and counseling will be provided by the transportation agencies to persons and businesses in accordance with the Uniform Act, as amended, to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents, as noted in Standard Project Measure **PF COM-1** and supplemented with Measure **COM-3**. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. All relocation activities would be conducted by the implementing agencies in accordance with the Uniform Act, as amended. Relocation resources will be available to all displacees without discrimination.

Based on the above discussion and analysis, and with the inclusion of the measures to address property displacements in areas with high minority populations, Build Alternatives 1 and 2C would not cause proportionately high and adverse effects on any minority or low-income populations as per Executive Order 12898 regarding environmental justice.

Accessibility/Traffic/Transportation

Mead Valley

The widening of Cajalco Road under all build alternatives would not substantially alter the existing vehicular, pedestrian, bicycle, and equestrian accessibility and circulation patterns within the Mead Valley community. With the exception of the intersection of Cajalco Road with Gustin Road, existing roadways would remain in their current locations. The intersection of Cajalco Road and Gustin Road would be realigned to a four-way, signalized intersection with

Cowan Road. Access to community facilities would remain. Sidewalks would be added to one side of the roadway in some locations where residential and commercial properties are present to improve pedestrian movement, and improvements would be made to traffic signals to assist with crossing Cajalco Road, which would benefit community members, including students that walk or ride bicycles to school. Designated bus pull-outs would also be placed at select locations along Cajalco Road. The project would benefit a large and diverse population, including motorists, residents, and businesses by improving circulation along Cajalco Road. Implementation of the build alternatives would improve the connectivity of the roadway network for all users of the transportation system, including minority populations. Therefore, neither construction nor operation of the build alternatives would result in a disproportionately high and adverse traffic/transportation effects on minority populations.

Lake Mathews/Gavilan Hills

Build Alternatives 1 and 2C would include a new connection between Dirt Road and Richey Way south of the existing segment of Cajalco Road and west of Lake Mathews Drive. The new road connection would connect Dirt Road to Richey Way. The eastern terminus of Richey Way at Lake Mathews Drive would also be widened slightly and graded. This new road connection would provide emergency access for residences and businesses west of Lake Mathews Drive as well as improved connectivity and accessibility within the Lake Mathews community. Because Dirt Road and Richey Way are existing roadways that are accessible by the public, the new connection would not create new access to previously inaccessible areas; it would enhance access and circulation within the Lake Mathews community.

Temescal Canyon

Access to residents north and south of Cajalco Road just east of Temescal Creek Bridge would be affected by the roadway widening and realignment of Cajalco Road. New access connections would be provided to the residences where existing driveways connect to Cajalco Road. A new intersection is also proposed at the intersection of Eagle Canyon Road and Cajalco Road, and would alter access to the mining businesses north and south of Cajalco Road; however, the modified access would improve safety and better accommodate the trucks used at the businesses.

Safety

Mead Valley

The ISA prepared for the project identified two RECs and five AOCs within the project limits. One of the two RECs, former Mobil Baldwin gas station at 21020 Cajalco Road, is within the Mead Valley community. One of the five AOCs, pesticide use on agricultural lands, also occurs within the Mead Valley community, and three of the AOCs are not location-specific and occur throughout the entire proposed alignment, including Mead Valley: yellow striping containing lead and chromium, overhead transformers containing PCBs, and utility poles containing creosote-treated wood. Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF HAZ-5** and Measures **HAZ-1** and **HAZ-6** through **HAZ-8** are identified to address impacts related to hazards.

There are currently limited sidewalks and crosswalks available for pedestrians to cross Cajalco Road within Mead Valley; therefore, pedestrians and cyclists may currently share the roadway

with vehicles along limited segments of Cajalco Road where sidewalks and/or roadway shoulder areas may not be available. Pedestrians may also cross Cajalco Road without using crosswalks due to the distances between crosswalk facilities. Traffic signal and crosswalk improvements are proposed to assist with crossing Cajalco Road, which would benefit community members and students that walk or ride bicycles to school. Sidewalks would also be constructed along one side of Cajalco Road in some locations through the Mead Valley community where residential and commercial properties are present to improve local pedestrian movement and safety. The current narrow and limited roadway shoulders are shared by cyclists and vehicles and, in limited sections, pedestrians. The project would add curb and gutter and 8-foot-wide shoulders to serve as a combined shoulder/bike lane and provide more room for bicycles. With these new safety measures, operation of the build alternatives would have a beneficial effect on safety for all groups in the study area, including minority populations.

According to the *Noise Study Report* prepared for the project (Caltrans 2019), operational traffic-related noise is not anticipated to result in a substantial change in the noise environment when compared with existing and future no-project conditions. Although the widening of Cajalco Road would result in an increased level of noise and vibration, the increase would not reduce social interaction of residents along the roadways.

Temescal Canyon

The ISA identified two RECs and five AOCs within the project limits. One of the two RECs, a former clay mine at 9001 Cajalco Road, and one of the AOCs, Temescal Creek Bridge, are within the Temescal Canyon community. The following three AOCs are not location-specific and occur throughout the entire proposed alignment: yellow striping containing lead and chromium, overhead transformers containing PCBs, and utility poles containing creosote-treated wood. A new intersection is also proposed at the intersection of Eagle Canyon Road and Cajalco Road and would alter access to the mining businesses north and south of Cajalco Road; however, the modified access would improve safety and better accommodate the trucks used at the businesses.

The ISA and PSI provide recommendations designed to minimize the potential impact related to these hazards, which include but are not limited to the following measures in Section 3.13, *Hazardous Waste/Materials*: DSI, soil remediation (if required), HASP, and SMP for 9001 Cajalco Road (**HAZ-1** and **PF HAZ-2** [HASP]); creosote-treated wood waste handling (**PF HAZ-5**); PSI, corrective action (if required), (**PF HAZ-2** [HASP], **HAZ-6**); yellow paint and thermoplastic striping survey and disposal (**HAZ-7**); and hazardous building material surveys and proper handling and disposal of any hazardous material, if encountered (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], and **HAZ-8**).

While these recommendations minimize the potential for adverse effects related to operation of the build alternatives, impacts could still occur, although they would be low risk due to the nature of the sites. However, because the AOCs are located throughout the study area, not only in communities with predominantly minority populations, impacts from a hazardous materials release would not be borne predominantly by minority populations. Therefore, the build alternatives would not result in disproportionately high and adverse effects on minority populations.

Construction Impacts

Noise from project construction activities may intermittently dominate the noise environment in the immediate area of construction. While the impacts would be experienced by the minority populations adjacent to the project, these temporary construction impacts would affect all populations equally along proposed alignment, not solely or disproportionately minority populations. In addition, the report determined that no substantially adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Standard Project Measure **PF NOI-1**, which includes compliance with applicable local noise standards and Caltrans Standard Specifications Section 14-8.02 (Caltrans 2019). Therefore, with the proposed measure to minimize the adverse effects identified related to construction noise of the build alternatives, remaining construction noise effects on minority populations within Mead Valley would not be disproportionately high and adverse.

The ISA and PSI provide construction recommendations designed to minimize the potential for adverse effects related to hazards identified in the project limits. These recommendations include the following measures in Section 3.13, *Hazardous Waste/Materials*: HASP and SMP for 9001 Cajalco Road (**HAZ-1** and **PF HAZ-2** [HASP]); proper handling and disposal of any hazardous material, if encountered (**PF HAZ-3**); optional soil and groundwater investigation, compliance with SCAQMD Rule 1166, and groundwater disposal for 21020 Cajalco Road (**PF HAZ-2** [HASP], **HAZ-4**); creosote-treated wood waste handling (**PF HAZ-5**); SMP for agricultural land uses (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], **HAZ-6**); yellow paint and thermoplastic striping survey and disposal (**HAZ-7**); and hazardous building material surveys and proper handling and disposal of any hazardous material, if encountered (**PF HAZ-2** [HASP], **PF HAZ-3** [hazardous material disposal], and **HAZ-8**).

While these recommendations minimize the potential for an impact to occur during construction, impacts could still occur, although they would be low risk due to the nature of the sites. However, because the AOCs are located throughout the study area, not only in communities with predominantly minority populations, impacts from a hazardous materials release would not be borne predominantly by minority populations. Therefore, the build alternatives would not result in disproportionately high and adverse effects on minority populations.

Construction of all build alternatives would introduce construction equipment and staging areas that would not be compatible with the existing aesthetic character in the study area; however, the effects would be short term and limited to the construction period.

Construction would only result in temporary, short-term, partial closures of Cajalco Road under all build alternatives.

Temporary impacts on circulation and access would result from construction activities. Work that requires partial roadway closures would occur mostly during non-peak commute hours, at night, or on weekends. While the impacts would be experienced by the minority populations adjacent to the project, these temporary construction impacts would affect all populations equally along proposed alignment, not solely or disproportionately minority populations. In addition, Standard Project Measure **PF LU-1** (TMP) would be implemented to address impacts related to traffic and transportation, reducing potential impacts; please refer to Section 3.1.1.2 (*Land Use*). Construction of the build alternatives would comply with all appropriate, necessary, and required construction safety measures.

Future Six-Lane (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project, but is a future option for the project. For all build alternatives, there is one minority population group in the area where the Future Six Lane Alternative would be implemented, in Census Tract 419.09 Block Group 1. If the additional lanes are constructed in the future, it is anticipated that construction impacts would be similar to those previously described for the build alternatives. Operational impacts under all build alternatives would be less than those described for Build Alternatives 1, 2C, and 4 because no additional right of way, property displacements, or relocations would be required. The future six-lane facility would add lanes between Temescal Canyon Road and Harley John Road under Build Alternatives 1 and 2C, and between Temescal Canyon Road and El Sobrante Road under Build Alternative 4. It is anticipated to further improve east-west mobility, and to provide increased capacity, improved traffic flow and safety. The additional lanes would be added within the median, avoiding any additional physical expansion of the roadway and therefore any additional property acquisitions.

Lake Mathews HCP (Build Alternatives 1, 2C, and 4)

No minority or low-income populations reside within the LM MSHCP; therefore, impacts on these populations would not occur.

Build Alternative 4—El Sobrante Alignment

Under Build Alternative 4, between Temescal Canyon Road and west of La Sierra Avenue, and between Gustin Road and I-215, improvements would be identical to those under Build Alternatives 1 and 2C; therefore, the effects described for the communities of Mead Valley, portions of Lake Mathews/Gavilan Hills within the limits of Build Alternatives 1 and 2C, and Temescal Canyon, above, would occur under Build Alternative 4 as well. Please refer to the *Build Alternatives 1 and 2C—Cajalco Alignment and Modified Cajalco Alignment* discussion above for potential impacts on the communities of Mead Valley and Temescal Canyon under Build Alternative 4.

Project effects specific to Lake Mathews/Gavilan Hills and the Lake Hills/Home Gardens communities under Build Alternative 4 are described below.

Community Cohesion

Lake Mathews/Gavilan Hills

Under Build Alternative 4, residences on Silverton Court and Farley Way, south of Cajalco Road, would experience a minor change in access related to the realignment of the La Sierra Avenue intersection with Cajalco Road farther west. La Sierra Avenue at the current intersection of La Sierra Avenue and Cajalco Road would be closed to the public, and the traffic associated with La Sierra Avenue would be redirected west of Silverton Court and Farley Way.

Lake Hills/Home Gardens

As described in Section 3.4.1.3, *Environmental Consequences (Community Character and Cohesion)*, the build alternatives would have a minimal effect on community cohesion because they would not introduce a new barrier that would divide the community, separate residences from community facilities, or result in substantial growth. Construction would only result in temporary, short-term, partial closures of Cajalco Road under all build alternatives or El Sobrante Road and La Sierra Avenue under Build Alternative 4. Therefore, neither construction nor operation of the build alternatives would result in disproportionately high and adverse effects related to community cohesion on minority populations.

Accessibility/Traffic/Transportation

Residents of the Lake Hills community would not experience substantial changes in traffic and circulation along La Sierra Avenue or within the community. Some increase in traffic may occur along La Sierra Avenue; however, existing traffic signals at the Lake Crest Drive and La Sierra intersection would continue to control traffic flow and not impede access or traffic flow between La Sierra Avenue and Lake Crest Drive. Residents of the community would also be able to continue to access Lake Mathews Elementary School within the adjacent Victoria Grove community via vehicular transportation using Lake Crest Drive via La Sierra Avenue to Blackburn Road.

Most residential views of El Sobrante Road and La Sierra Avenue are obstructed by vegetation and sound walls, with limited views via second story windows.

According to input received from members of the Lake Hills community, concerns include protected areas and support for Build Alternative 1.

Construction Impacts

Construction of all build alternatives would introduce construction equipment and staging areas that would not be compatible with the existing aesthetic character in the study area; however, the effects would be short term and limited to the construction period.

Construction would only result in temporary, short-term, partial closures of Cajalco Road, El Sobrante Road, and La Sierra Avenue under Build Alternative 4. Temporary impacts on circulation and access would result from construction activities. Work that requires partial roadway closures would occur mostly during non-peak commute hours, at night, or on weekends. While the impacts would be experienced by the minority populations adjacent to the project, these temporary construction impacts would affect all populations equally along proposed alignment, not solely or disproportionately minority populations. In addition, Standard Project Measure **PF LU-1** (TMP) would be implemented to address impacts related to traffic and transportation, reducing potential impacts; please refer to Section 3.1.1.2 (*Land Use*). Construction of the build alternatives would comply with all appropriate, necessary, and required construction safety measures.

No-Build Alternative

No improvements would be undertaken as part of the No-Build Alternative. Therefore, there would be no impacts on minority or low-income populations.

3.4.3.4 Avoidance, Minimization, and/or Mitigation Measures (Environmental Justice)

Based on the above discussion and analysis, the build alternatives would not cause disproportionately high and adverse effects on any minority populations in accordance with the provisions of EO 12898. No further environmental justice analysis is required. The following avoidance and minimization measures included as standard project measures in Sections 3.1, *Land Use*, 3.2, *Farmlands,* 3.5, *Utilities/Emergency Services*, 3.7, *Visual/Aesthetics*, 3.13, *Hazardous Waste/Materials*, 3.14, *Air Quality*, and 3.15, *Noise and Vibration*, of this EIR/EIS would be implemented to avoid or minimize impacts involving temporary traffic, noise, land use, and hazardous materials conditions during construction, and visual changes to the environment: **PF LU-1**, **PF COM-1** and **PF COM-2**, **PF FA-1** and **PF FA-2**, **PF UT-1**, **PF VIS-1** and **PF VIS-3** through **PF VIS-7, PF HAZ-2**, **PF HAZ-3** and **PF HAZ-5**, **PF AQ-1**, and **PF NOI-1**. The following mitigation measures would also be applied to further reduce impacts: **COM-3**, **VIS-2**, **VIS-8**, **HAZ-1**, **HAZ-4**, **HAZ-6**, **HAZ-7** and **HAZ-8**, and **NOI-2** and **NOI-3**.

3.5 Utilities/Emergency Services

Unless otherwise noted, information in this section is based on the July 2018 Community Impact Assessment and February 2017 Initial Site Assessment prepared for the project.

3.5.1 Affected Environment

3.5.1.1 Utilities

Water Supply Facilities and Service

Water services for the project area are provided by the Western Municipal Water District (WMWD). The City of Corona Department of Water and Power provides water services to the City of Corona. In the City of Perris, water and sewer services are provided by City of Perris Finance & Water and the Eastern Municipal Water District (EMWD).

The following pipelines in the project area are maintained by WMWD (WMWD 2012):

- 8-inch pipelines – Cajalco Road and Hollis Lane; Cajalco Road and Gustin Road; Cajalco Road and Mockingbird Canyon Lane; Cajalco Road and Extravaganza Lane; Cajalco Road between Sewer Lift Station and Extravaganza Lane
- 10-inch pipelines – Cajalco Road and Cowan Road; Cajalco Road and Alder Street
- 12-inch pipeline – Cajalco Road and Wood Road
- 16-inch pipeline – Cajalco Road and Carpinus Drive

WMWD is a partnering agency with Metropolitan Water District of Southern California (MWD). Within the project area, MWD-managed Lake Mathews is a reservoir that receives water from the Colorado River Aqueduct, and is part of MWD's water supply system. The reservoir is fenced and closed to all public access. Lake Mathews captures the natural stormwater flows from Cajalco Creek upstream of the reservoir and the project area. The following facilities associated with the Lake Mathews reservoir in the project area are maintained by MWD (MWD 2011; AECOM 2012):

- Lake Mathews Dam – north of Cajalco Road, east of La Sierra Avenue
- Northern Lake Mathews Dike – south of El Sobrante Road, east of La Sierra
- Cajalco Creek Dam, Detention Basin, Sedimentation Basin, and Inlet Channel (connecting the two basins) – north of Cajalco Road, east of El Sobrante Road
- 140-inch Upper Feeder pipeline – north and south of El Sobrante Road, west of La Sierra Avenue (south of El Sobrante)
- 54-inch Woodcrest pipeline – north and south of El Sobrante Road, west of La Sierra Avenue (south of El Sobrante)
- 120-inch Lower Feeder pipeline – north of Cajalco Road, east and west of El Sobrante Road
- Ten-million-gallon reservoir – north of Cajalco Road, west of La Sierra Avenue

- Four additional sediment basins – south of Cajalco Road, west of Harley John Road
- Piezometers – various locations west and north of Lake Mathews

Wastewater Facilities and Service

WMWD provides wastewater service from the western boundary of the project area through to the unincorporated community of Mead Valley. The Western Riverside County Wastewater Treatment Plant in the City of Corona currently can treat up to 14 million gallons a day of wastewater and is designed to clean up to eight million gallons of wastewater per day with the capacity for future expansion (WMWD 2018).

Eastern Municipal Water District (EMWD) provides wastewater service from Mead Valley to the eastern boundary of the project area. EMWD currently treats approximately 46 million gallons per day of wastewater at five regional water reclamation facilities. The San Jacinto Valley, Moreno Valley, Perris Valley, Sun City, and Temescal Valley regional water reclamation facilities have a combined capacity of 199 million gallons of wastewater per day (EMWD 2018).

Natural Gas Service

Southern California Gas Company (SoCalGas) provides natural gas to the study area. Pipelines in the project area include a transmission line along Temescal Canyon Road, a high-pressure distribution line along El Sobrante Road, and a high-pressure distribution line running east along Cajalco Road from Clark Street (SoCalGas 2018).

Solid Waste

Riverside County Department of Waste Resources (RCDWR) manages the County's solid waste disposal system, which consists of seven regional landfills, eight transfer stations, and one bark beetle wood grinding facility (RCDWR 2018a). With the exception of the El Sobrante Landfill, all landfills in Riverside County are operated by RCDWR. The El Sobrante Landfill operates in accordance with agreements between Western Waste Industries and Riverside County, which collects the user fees for the site. Riverside County continues to have disposal capacity available for solid waste generated but not diverted in excess of 20 years (RCDWR 2018b). Permitted disposal capacity is available at the Badlands, Blythe, Desert Center, Lamb Canyon, Mecca II, Oasis, and El Sobrante landfills (CalRecycle 2018). Construction refuse/debris from the project could be hauled to the nearest landfill, the El Sobrante Landfill site, 2.5 miles away from the project area.

Electrical Facilities and Service

Southern California Edison (SCE) provides electricity to the project study area. SCE maintains utility lines in the project area and two electrical production facilities: El Sobrante Landfill Gas Generation and the Cajalco Substation.

Existing electrical poles/lines along Cajalco Road would be relocated as needed to accommodate the widening. Under Build Alternative 1, existing electrical poles/lines along Cajalco Road would be relocated as needed to accommodate the roadway widening from Temescal Canyon Road at the west to Interstate 215 (I-215) at the east. Under Build Alternative 2C, relocations of existing electrical poles along Cajalco Road would occur from Temescal Canyon Road at the

west to La Sierra Avenue, and from just west of Lake Mathews Drive to I-215. Under Build Alternative 4, relocations of existing electrical poles along Cajalco Road would occur from Temescal Canyon Road at the west to La Sierra Avenue, and from Gustin Road east to I-215. Electrical poles/lines would also be relocated as needed to accommodate the widening of El Sobrante Road between Gustin Road and La Sierra Avenue under Build Alternative 4.

Additional utilities within the project limits may also be relocated as necessary. At bridge locations within the project limits, utilities would be relocated either into the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements.

MWD maintains the Temescal small conduit and Lake Mathews hydroelectric power plant in the project area, and contracts electricity produced to the City of Corona Department of Water and SCE, respectively. The City of Corona and SCE in turn provide electric services to the project area.

Telephone and Cable Facilities and Service

A number of companies provide cable and internet services for the project study area, including AT&T, Verizon, Spectrum, Direct TV, Frontier, and Century Link. HughesNet is an additional satellite internet provider serving the City of Perris and vicinity.

Lake Mathews MSHCP

Because the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. The LM MSHCP area is a conservation area that does not contain any population, housing, or community facilities. Much of the area is also part of the unincorporated Lake Mathews Community Planning Area identified in the Riverside County General Plan. The communities of Lake Mathews, Woodcrest, and Victoria Grove border the northern boundary of the conservation area, and unincorporated Riverside County borders the southern boundary.

3.5.1.2 Emergency Services

Fire protection and emergency services are provided by the Riverside County Fire Department (RCFD) and City of Corona Fire Department. The City of Perris has a contract with RCFD for fire and emergency services; there are two fire stations and 14 firefighters assigned to the City of Perris (City of Perris 2018). Police protection services in the study area are provided by the Riverside County Sheriff's Department (RCSD) and the City of Corona Police Department. The City of Perris contracts with RCSD to provide police services for the city.

Table 3.5-1 lists the locations of emergency service providers and stations within the project area. Figure 3.4-3 in Section 3.4, *Community Impacts*, shows the locations of each.

Table 3.5-1. Emergency Service Providers

Map ID*	Facility	Address	Direction from Project Area	Distance from Project (miles)
Fire				
E1	City of Corona Fire Department Station #7	3777 Bedford Canyon, Corona, CA 92882	East on Cajalco Road	0.5
E3	Riverside County Fire Station #82	17452 Lake Pointe Drive, Riverside, CA 92503	North on La Sierra Avenue	0.6
E4	Riverside County Fire Station #4	16453 El Sobrante Road, Riverside, CA 92503	N/A (adjacent to project on El Sobrante Road)	<0.1
E5	Riverside County Fire Station #59	21510 Pinewood Street, Perris, 92570	South on Clark Street	0.4
E6	Perris Fire Department Station #2	333 Placentia Avenue, Perris, CA 92570	South and east of I-215	2.3
Police				
E2	Corona Police Department	730 Public Safety Way, Corona, CA 92880	North on I-15	5.6
E7	City of Perris Police Station	137 North Perris Boulevard, Perris, CA 92570	South on I-215	3.6
Hospitals				
E8	Corona Regional Medical Center	800 South Main Street, Corona, CA 92882	North on I-15	4.7
* as shown on Figure 3.4-3.				

Fire

Riverside County Fire Department

RCFD serves the project area and has a staff of 175 employees, supplemented with an additional 1,077 employees through contract with the State of California Department of Forestry and Fire Protection.

The nearest fire station is the Lake Mathews Station No. 4, at 16453 El Sobrante Road in unincorporated County of Riverside. The next closest fire station to the project site is the Mead Valley Station No. 59, at 21510 Pinewood Street in the City of Perris (Table 3.5-1).

City of Corona Fire Department

The City of Corona Fire Department provides fire protection, prevention, and emergency medical services utilizing seven fire stations in the city. The City of Corona currently employs 132 people in fire services: 105 employees throughout the area's seven fire stations and 27 at its headquarters located in the Civic Center, and other strategic facilities for additional fire services support (City of Corona 2004). The nearest fire station is at 3777 Bedford Canyon (Table 3.5-1).

Police

Riverside County Sheriff's Department

RCSD provides much of the region's law enforcement via ten Sheriff's Stations spread across the region. RCSD's Perris Station, approximately 4 miles southeast of the project, provides law enforcement in the City of Perris and surrounding region. The Perris Station is commanded by a

captain and is in the same facility on North Perris Boulevard as the Perris Police Department. This station also contracts services for the City of Canyon Lake, as well as the unincorporated communities of Glen Valley, Mead Valley, Woodcrest, Romoland, and Sun City.

City of Corona Police Department

The Corona Police Department has a staff of over 220 employees, including sworn officers and civilians. Together, they serve the City of Corona's population of over 165,000 residents. The nearest City police station is 5.7 miles northwest of the project area (see Table 3.5-1).

Hospitals

Corona Regional Medical Center is at 800 South Main Street in the City of Corona and is the closest hospital to the project study area (Table 3.5-1). The hospital has 238 beds, with 160 beds in the acute care hospital and 78 beds in the rehabilitation campus. It employs more than 1,000 trained healthcare workers and has a medical staff of approximately 300 physicians (Corona Regional Medical Center 2018).

Lake Mathews MSHCP

Fire protection service in the Lake Mathews area is provided by RCFD; the nearest station is Fire Station No. 4. Police services are provided by RCSD, with Perris Station serving as the nearest station. The Corona Regional Medical Center is closest to the Lake Mathews area.

3.5.2 Environmental Consequences

3.5.2.1 Permanent Impacts

Build Alternatives 1 and 2C—Cajalco Alignment and Modified Cajalco Alignment

Under Build Alternatives 1 and 2C, several utility types would require relocation, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. The project would add a new curb and gutter with sidewalk between Harley John Road and Harvill Avenue, where existing SCE and Frontier power and communication poles are proposed to be relocated. Other potential utility conflicts identified through initial coordination with local providers include the following:

- AT&T – cable lines near the intersections of Cajalco Road/Seaton Avenue and Seaton Avenue/Marquez Road
- WMWD – water pipelines near where Cajalco Road intersects Cowan Road, Carpinus Drive, Hollis Lane, Gustin Road, Extravaganza Lane, and Silverton Court, as well as sewage pipelines where Cajalco Road intersects Wood Road and Carpinus Drive
- MWD – water pipelines where Cajalco Road intersects Smith Road, Gavilan Road, Extravaganza Lane, and Lake Mathews Drive
- Century Link – fiber optic cables near the intersection of Wood Road and Clark Street

- U.S. Postal Service (USPS) – mailboxes along Cajalco Road between Temescal Creek Bridge and Harvill Avenue

Under Build Alternative 1, approximately 202 existing electrical poles are within the project's limits of disturbance. Existing electrical poles/lines along Cajalco Road would be relocated within the project limits as needed to accommodate the roadway widening between Temescal Canyon Road and Harvill Avenue. From Harley John Road to the east along Cajalco Road, curb and gutter and 8-foot shoulders that would serve as a combined shoulder/bike lane would be constructed. A large culvert would be constructed at Cajalco Road and Harley John Road, and a new bridge would be constructed along the westbound lanes of Cajalco Road over Cajalco Creek west of Barton Street. At bridge locations within the project limits, utilities would be relocated either into the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements.

Retaining walls would be constructed where feasible to avoid acquisition of additional right of way and utility impacts, as well as to accommodate construction staging. Geotechnical borings would be conducted within the project's limits of disturbance as needed for design of the project.

Build Alternative 2C would include the same improvements as Build Alternative 1 with the exception that a new four-lane segment of Cajalco Road would be constructed from La Sierra Avenue to just west of Lake Mathews Drive. Approximately 198 electrical poles are within the project's limits of disturbance under Build Alternative 2C. Relocations of existing electrical poles along Cajalco Road would occur primarily from Harley John Road east to Harvill Avenue. In addition to the wildlife crossings of various widths beneath Cajalco Road between Temescal Creek Bridge and Harley John Road, a large undercrossing may be included within the newly constructed segment of Cajalco Road west of Hollis Lane. Close coordination with WMWD during the Plans, Specifications, and Estimates (PS&E)/final design and construction phases would avoid permanent effects on an 8-inch water pipeline at the intersection of Cajalco Road and Hollis Lane. Additional utilities within the project limits may also be relocated as necessary under both alternatives.

Through close coordination with MWD, the build alternatives have been designed to avoid some MWD facilities; however, other facilities remain within the project footprint, and would thus be affected. MWD facilities that would be affected by all build alternatives include Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins. These facilities are located along the north side of Cajalco Road between El Sobrante Road and Harley John Road. Under Build Alternatives 1 and 2C, approximately 4.95 acres of the Cajalco Creek Dam and Detention Basin and 3.69 acres of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. While continuity between the two basins and Inlet Channel function would be maintained and the basins are anticipated to retain function, Mitigation Measure **HYD-1** is proposed to ensure continued function of these facilities (please refer to Section 3.9 of this EIR/EIS for the full text of the measure).

The build alternatives are not anticipated to result in permanent impacts on water supply pipelines identified in Section 3.5.1.1, *Utilities*. Impacts on water supply pipelines would be avoided with implementation of Standard Project Measure **PF UT-1**, which requires that utility coordination with all affected agencies be conducted. Once specific information about excavation locations and depth is available, and prior to completion of the PS&E/final design

phases, coordination with the affected utility providers in the vicinity of the improvements would be completed to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed during the PS&E/final design and construction phases to establish exact procedures and specifications for addressing facilities affected by the project.

While changes in the placement of some utilities would be considered permanent, any effects during their relocation would be temporary and would be rectified once relocations and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated footprint of this project. Standard Project Measure **PF UT-1**, below, is identified to avoid or otherwise minimize impacts.

- **PF UT-1:** The County of Riverside will coordinate all utility relocation work with the affected utility companies to ensure minimum disruption to customers in the service areas during construction. All public utility lines, pipes, and cables that are disturbed or removed to accommodate the proposed project will be replaced or relocated within the project limits to continue to meet the needs of residents and businesses in the community.

California Public Utilities Commission General Order 131-D, Section XIV.B, states that "local jurisdictions acting pursuant to local authority are preempted from regulating electric power line projects, distribution lines, substations, or electric facilities constructed by public utilities subject to the Commission's jurisdiction. However, in locating such projects, the public utilities shall consult with local agencies regarding land use matters." General Order 131-D.B.1c also states that a permit to construct is not required for "the minor relocation of existing power line facilities up to 2,000 feet in length, or the intersetting of additional support structures between existing support structures." Because the relocation of existing power line facilities is anticipated to be within 2,000 feet in length, and/or includes the intersetting of additional support structures between existing support structures, the proposed project would be exempt from local regulation and discretionary permits.

USPS mailbox receptacles within the limits of proposed roadway improvements would be relocated and replaced with grouped mailboxes placed in accordance with Sections 631.441 (Delivery Requirements), 632.524 (Location), and 632.525 (Grouping) of the USPS Postal Operations Manual. Mailboxes would be designed in accordance with USPS requirements as well as County of Riverside Standard No. 812 (Multiple Mailbox Installation for New Sidewalk).

Build Alternatives 1 and 2C would not involve construction of any habitable structures, nor would they induce population growth (see Section 3.3, *Growth*, of this document) in the project area. Therefore, no impacts would occur as there would be no demand for new or expanded emergency facilities or services. Additionally, implementation of Build Alternatives 1 or 2C are anticipated to result in a positive effect on emergency services by improving the levels of service (LOS) within the project limits, thereby potentially reducing emergency response times.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that permanent impacts associated with the addition of two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John

Road would be limited to the existing median, and would not result in the need for new or expanded utilities or emergency services. Because the roadway medians would be disturbed as part of the proposed project, additional utility relocations within the median are not anticipated. No habitable structures would be constructed and the future six-lane facility would not permanently affect utilities or public services.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Potential utility conflicts in the Lake Mathews MSHCP area include WMWD-operated water pipelines where Cajalco Road intersects Cowan Road and MWD-operated water pipelines, and where Cajalco Road intersects Gavilan Road and Lake Mathews Drive. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for construction of the project within the LM MSHCP boundary. All effects on utilities would be temporary and would be rectified when relocations and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated limits of disturbance of these build alternatives and, as a result, there would be no permanent impacts on utilities in the project area. Standard Project Measure **PF UT-1** is included to avoid and further reduce impacts. No impacts on public services would occur, as there would be no demand for new or expanded emergency facilities or services.

Build Alternative 4—El Sobrante Alignment

Under Build Alternative 4, several utility types would require relocation, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. Approximately 281 existing electrical poles are within the project's limits of disturbance under Build Alternative 4. Potential utility conflicts identified through initial coordination with local providers include the following:

- AT&T – cable lines near the intersections of Cajalco Road/Seaton Avenue and Seaton Avenue/Marquez Road
- WMWD – water pipelines near where Cajalco Road intersects Alder Street, Cowan Road, Carpinus Drive, Gustin Road, Extravaganza Lane, where El Sobrante Road intersects Mockingbird Canyon Road, as well as sewage pipelines where Cajalco Road intersects Wood Road and Carpinus Drive
- MWD – water pipelines where Cajalco Road intersects Smith Road and Extravaganza Lane
- Century Link – fiber optic cables near the intersection of Wood Road and Clark Street
- USPS – mailboxes along Harley John Road to Seaton Avenue, and along Cajalco Road

All effects on utilities would be temporary and would be rectified when relocations of certain utilities and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated footprint of this project. As a result, permanent effects on utilities would be less than significant. Standard Project Measure **PF UT-1** is included to avoid and further reduce impacts.

Under Build Alternative 4, approximately 0.12 acre of the Cajalco Creek Dam and Detention Basin and 3.55 acres of the Cajalco Creek Sedimentation Basin would be converted to right of

way. The Inlet Channel would be replaced with a bridge and wildlife crossing but is not anticipated to adversely affect inlet operation.

The Northern Lake Mathews Dike, south of El Sobrante Road and east of La Sierra Avenue, includes a 1,000-foot restricted zone in which MWD prefers avoidance of excavation activity for the protection of the dike and related facilities (AECOM 2012). Within this zone are a number of piezometers and segments of the Upper and Lower Feeder Pipelines (Callanan pers. comms.). Piezometers within the project limits would require relocation and additional engineering would be required to ensure continued protection and stability of the pipeline and dike facilities.

The proposed project would not permanently affect water supply pipelines identified in Section 3.5.1.1, *Utilities*. Impacts on water supply pipelines would be avoided with implementation of Standard Project Measure **PF UT-1**. Once specific information about excavation locations and depth is available, and prior to completion of PS&E/final design phases, coordination with the affected utility providers in the vicinity of the improvements would be completed to verify that the project would not disrupt services. For any utilities affected, all required coordination would be completed during the PS&E/final design and construction phases to establish exact procedures and specifications for addressing facilities affected by the project.

USPS mailbox receptacles within the limits of proposed roadway improvements would be relocated and replaced with grouped mailboxes placed in accordance with Sections 631.441 (Delivery Requirements), 632.524 (Location), and 632.525 (Grouping) of the USPS Postal Operations Manual. Mailboxes would be designed in accordance with USPS requirements as well as County of Riverside Standard No. 812 (Multiple Mailbox Installation for New Sidewalk).

Build Alternative 4 would not involve construction of any habitable structures, nor would it induce population growth (see Section 3.3, *Growth*) in the project area. Therefore, no impacts would occur, as there would be no demand for new or expanded emergency facilities or services. Additionally, implementation of Build Alternative 4 is anticipated to result in a positive effect on emergency services by improving the LOS within the project limits, thereby potentially reducing emergency response times.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that permanent impacts associated with the addition of two additional travel lanes along Cajalco Road between Temescal Canyon Road and La Sierra Avenue would be limited to the existing median. Once utility relocations are complete and effects rectified, there would be no permanent impacts. No habitable structures would be constructed and the future six-lane facility would not permanently affect utilities or public services.

Lake Mathews MSHCP (Build Alternative 4)

Potential utility conflict in the Lake Mathews MSHCP area includes WMWD-operated water pipelines where Cajalco Road intersects Cowan Road. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Road would be expanded and realigned within the LM MSHCP

area and Lake Mathews Multiple Species Reserve. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for construction of the project within the LM MSHCP boundary. Once utility relocations are complete and effects rectified, there would be no permanent impacts. Relocated utilities would be relocated on site within the environmentally evaluated footprint of this project and, as a result, there would be no permanent effects on utilities. Standard Project Measure **PF UT-1** is included to avoid and further reduce impacts.

No impacts on public services would occur, as there would be no demand for new or expanded emergency facilities or services. Permanently improved LOS within the project limits would in turn decrease response times to the project area. The LM MSHCP, as it pertains to utilities and public services, would remain unchanged as a result of the proposed project under Build Alternative 4.

No-Build Alternative

The No-Build Alternative would not involve any modifications to the current highway or surrounding roadways. Due to the absence of improvements to Cajalco Road, congestion would not be decreased nor traffic safety improved in the project vicinity; therefore, potential benefits to emergency response services associated with access and circulation improvements would not occur. No long-term impacts on utilities are anticipated under the No-Build Alternative.

3.5.2.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

Several utility types would require relocation, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. Potential utility conflicts identified through initial coordination with local providers include the following:

- AT&T – cable lines near the intersections of Cajalco Road/Seaton Avenue and Seaton Avenue/Marquez Road
- WMWD – water pipelines near where Cajalco Road intersects Alder Street, Cowan Road, Carpinus Drive, Hollis Lane, Gustin Road, Extravaganza Lane, and Silverton Court, where El Sobrante Road intersects Mockingbird Canyon Road, as well as sewage pipelines where Cajalco Road intersects Wood Road and Carpinus Drive
- MWD – water pipelines where Cajalco Road intersects Smith Road, Gavilan Road, Extravaganza Lane and Lake Mathews Drive
- Century Link – fiber optic cables near the intersection of Wood Road and Clark Street
- USPS – mailboxes along Harley John Road to Seaton Avenue and on proposed sidewalks

A detailed study of utility relocations would be conducted during the final design. Depending on the level of impacts, these facilities would need to be protected, adjusted/modified, or relocated. The affected utilities would be relocated in accordance with state law and regulations and County policies. There would be ongoing coordination between the County, affected agencies, and utility companies in order to minimize potential disruption of utility service; therefore, no adverse

effects on public services would occur. Due to the coordination and adherence to regulations and policies, it is not anticipated that any residential utility services would be affected.

Designated staging areas would be utilized during construction of the project. Temporary advanced signage during construction would be required, which would involve portable changeable message signs or other temporary signage that would not require any ground disturbance.

Construction activities associated with the build alternatives would result in temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours. Only a few locations would require temporary, localized detours; most areas would maintain two-way traffic throughout construction. In addition, non-fire-related medical emergencies could temporarily increase with the presence of construction workers and heavy machinery during construction of the project. Localized, temporary detours are proposed during replacement of the Temescal Canyon Bridge just east of Temescal Canyon Road, at the intersection of Cajalco Road and Harley John Road to accommodate replacement of a large reinforced concrete box within the roadway, and during construction of the new bridge proposed for westbound lanes west of Barton Street.

A Traffic Management Plan (TMP), as described in Standard Project Measure **PF LU-1** (see Section 3.1*, Land Use*), would be prepared for the project and include measures to minimize construction-period traffic and access/circulation impacts, and coordination of detour routes with County sheriff and fire departments and emergency providers. As part of the TMP, temporary detour plans would be prepared for alternative access and route options for local and regional travelers during construction of the project. Final detour routing would be identified during the PS&E/final design phases of the project. Standard Project Measure **PF UT-1** would also be included to avoid and minimize the potential for impacts.

Because the project construction activities would be temporary and would be implemented in a manner that minimizes the effects on utilities and emergency services, no adverse effect is expected to result.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

For the future six-lane Cajalco Road facility (Build Alternatives 1, 2C, and 4), construction is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that temporary impacts associated with the addition of two additional travel lanes along Cajalco Road between Temescal Canyon Road and Harley John Road (Build Alternatives 1 and 2C) and along Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road (Build Alternative 4) would be limited to the existing median. As part of the TMP, a public awareness campaign, options for lane closures, and alternate route strategies would be included. Appropriate signage and advanced warning would be implemented to direct pedestrian, bicycle, and vehicular traffic to alternate routes as deemed necessary. As all effects on utilities would be temporary and would be implemented in a manner that minimizes the effects on utilities and emergency services, the future six-lane facility would not affect utilities and public services.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Potential utility conflicts in the Lake Mathews MSHCP area include WMWD-operated water pipelines where Cajalco Road intersects Cowan Road and MWD-operated water pipelines where Cajalco Road intersects Gavilan Road and Lake Mathews Drive. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for construction of the project within the conservation area. Approval would need to be obtained prior to any construction. As discussed under Build Alternatives 1 and 2C, above, with the implementation of Mitigation Measure **HYD-1** and Standard Project Measures **PF UT-1** and **PF LU-1**, impacts on utilities and services would not be anticipated.

No-Build Alternative

Because this alternative would not involve any construction activities, this alternative would not have any adverse impacts on utilities and emergency services.

3.5.3 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Mitigation Measure **HYD-1** and Standard Project Measures **PF LU-1** and **PF UT-1** are proposed to ensure continued function of MWD facilities, prevent unreasonable traffic delays and impacts on emergency access and utilities, and minimize impacts during proposed utility relocations.

3.6 Traffic and Transportation/Pedestrian and Bicycle Facilities

3.6.1 Regulatory Setting

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

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

In 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg 2013), which creates a process to change the way transportation impacts are analyzed under the California Environmental Quality Act (CEQA). In December 2018, the California Natural Resources Agency certified and adopted the State CEQA Guidelines updates, including the State CEQA Guidelines section implementing SB 743 (i.e., § 15064.3). SB 743 required the California Governor's Office of Planning and Research to amend the State CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts; auto delay (e.g., level of service [LOS]) is no longer considered a significant impact under CEQA. The requirements under SB 743 support the State's legislated goals pertaining to climate change (e.g., SB 32 and SB 375).

3.6.2 Affected Environment

The information in this section is based on the following documents:

- *Cajalco Road Widening and Safety Enhancement Project Draft Traffic Operations Analysis Report* (Caltrans 2017)
- *Cajalco Road Widening Project LOS Standards Memorandum* (County 2015)
- *Cajalco Road Widening Project Study Area and Traffic Analysis Methodology* (Caltrans 2015)
- *Cajalco Road Improvement Project Comparison of 2014 (Project) vs. 2018 (New) Counts Memorandum* (County 2019)

3.6.2.1 Transportation Study Area

The transportation study area includes all freeway segments, interchange ramps, and ramp terminus intersections along Interstate 15 (I-15) from Weirick Road to State Route 91 (SR-91) and along Interstate 215 (I-215) from Nuevo Road to State Route 60 (SR-60). It also includes intersections along Cajalco Road, Markham Street, and Rider Street. Refer to Figure 3.6-1.

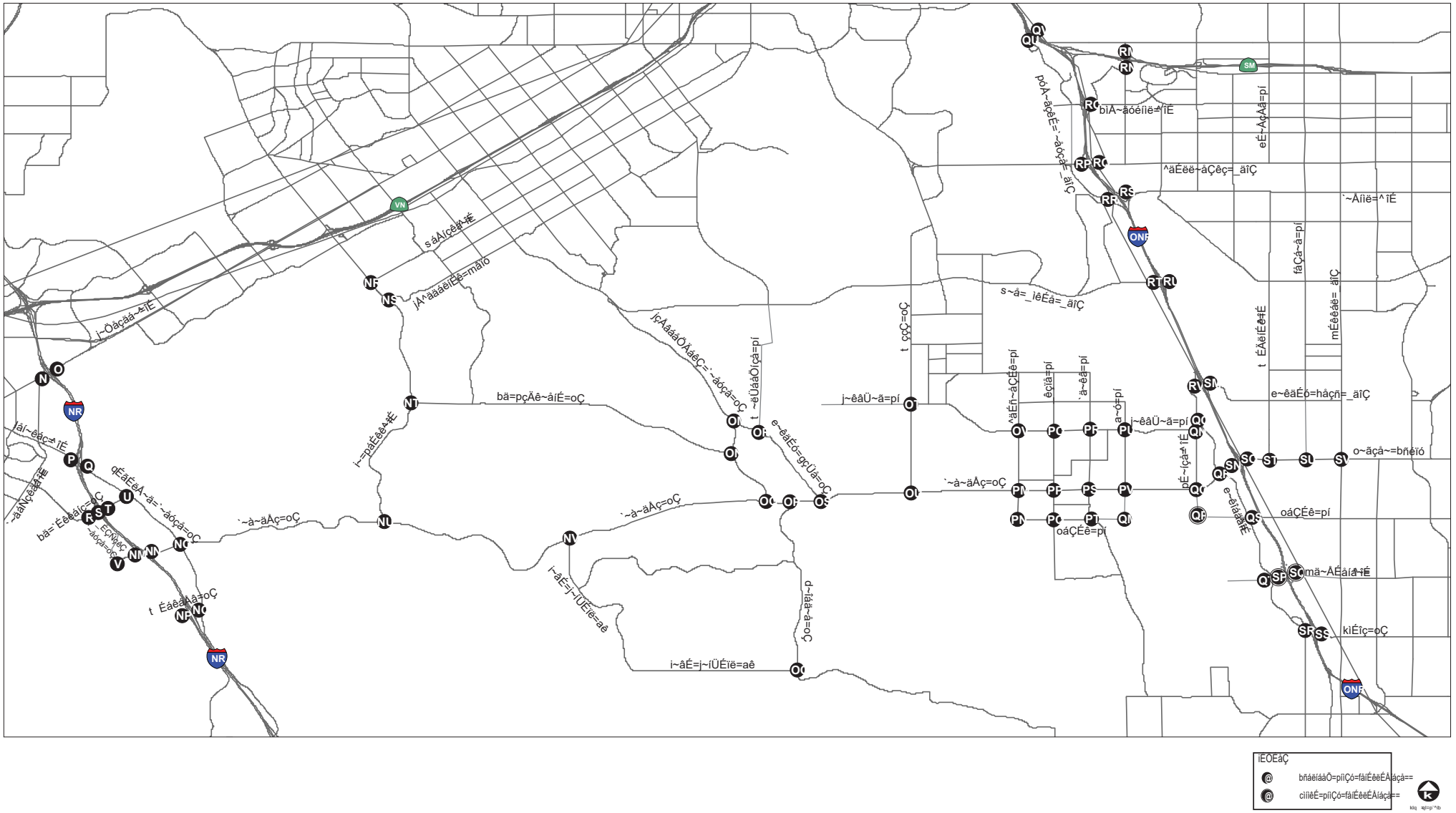


Figure 3.6-1
Transportation Study Area
Cajalco Road Widening and Safety Enhancement Project

Level-of-Service Standards

The traffic analysis study area is part of three County General Plan area plans: the Temescal Canyon Area Plan, Lake Mathews/Woodcrest Area Plan, and Mead Valley Area Plan. According to County General Plan Policy C 2.1, which applies to the study area, LOS D is the acceptable LOS for roadway (arterial) capacity analyses. The County has determined that the proposed project would be designed to LOS D. For the purposes of the proposed project, and to maintain consistency with County standards, LOS D has also been established as the design standard for intersections. According to the latest Transportation Concept Reports for I-15 and I-215 within California Department of Transportation (Caltrans) District 8, the LOS standard for basic freeway segments, freeway ramp segments, and freeway weaving segments is also LOS D.

Arterial Level-of-Service Analysis

An arterial (roadway segment) LOS analysis was performed for the project corridor using average daily traffic (ADT) volumes. Table 3.6-1 presents the established link volume capacity and associated LOS standards for county roadways.

Table 3.6-1. Arterial Level of Service

Number of Lanes	Maximum Two-Way Traffic Volume (ADT)				
	LOS A	LOS B	LOS C	LOS D	LOS E
2	10,800	12,600	14,400	16,200	18,000
4	21,540	25,130	28,700	32,300	35,900
6	32,340	37,730	43,100	48,500	53,900
Source: Caltrans 2017.					

Intersection Level-of-Service Analysis

For all study intersections, an LOS analysis was performed using the 2010 *Highway Capacity Manual* (HCM) operations methodology. The LOS parameters and criteria specified in the *Traffic Impact Analysis Preparation Guide*, as outlined by the Riverside County Transportation Department, were used. The 2010 HCM analysis methodology describes intersection operations by using a range of LOS, from LOS A (free-flow conditions) to LOS F (severely congested conditions), based on corresponding ranges for stop delay per vehicle at signalized and unsignalized intersections, as shown in Figures 3.6-2 and 3.6-3, respectively.

Freeway Level-of-Service Analysis

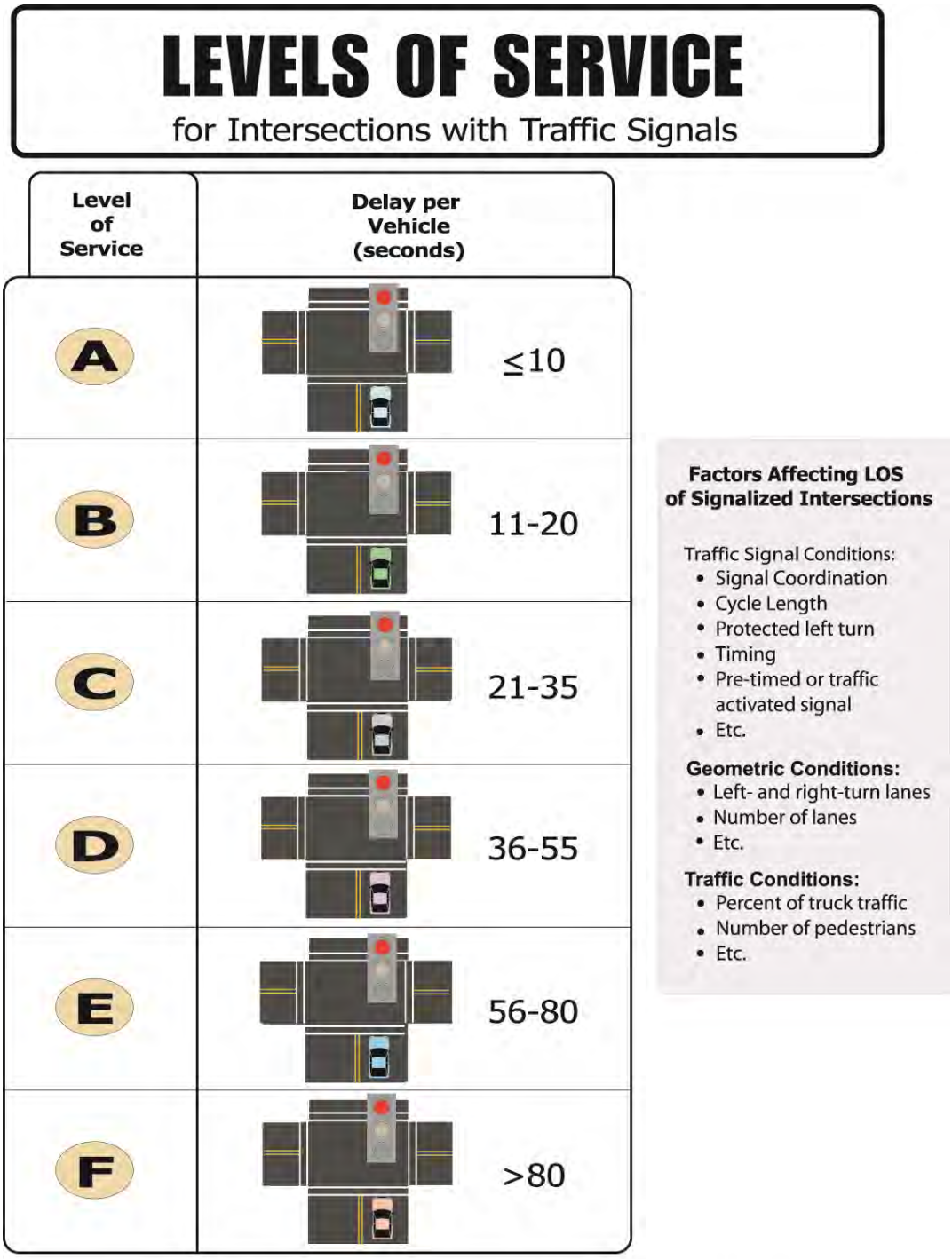
Freeway mainline LOS is determined through application of the HCM analysis methodology for basic freeway segments. LOS is determined by the density of vehicles within each roadway segment, or how many passenger cars per mile per lane are within the segment (the higher the density value, the more congestion occurs within a specific highway segment). There are six grades of LOS, ranging from LOS A (representing free-flow traffic conditions with low volumes and high speeds, resulting in low densities) to LOS F (representing conditions in which traffic volumes exceed capacity and cause forced-flow operations at low speeds, resulting in high densities and delays). The defined LOS for a basic freeway segment are shown graphically in

Figure 3.6-4, whereas the corresponding density (passenger cars/mile/lane) value for each respective LOS grade is shown in Table 3.6-2.

Table 3.6-2. Freeway Level of Service and Density Ranges

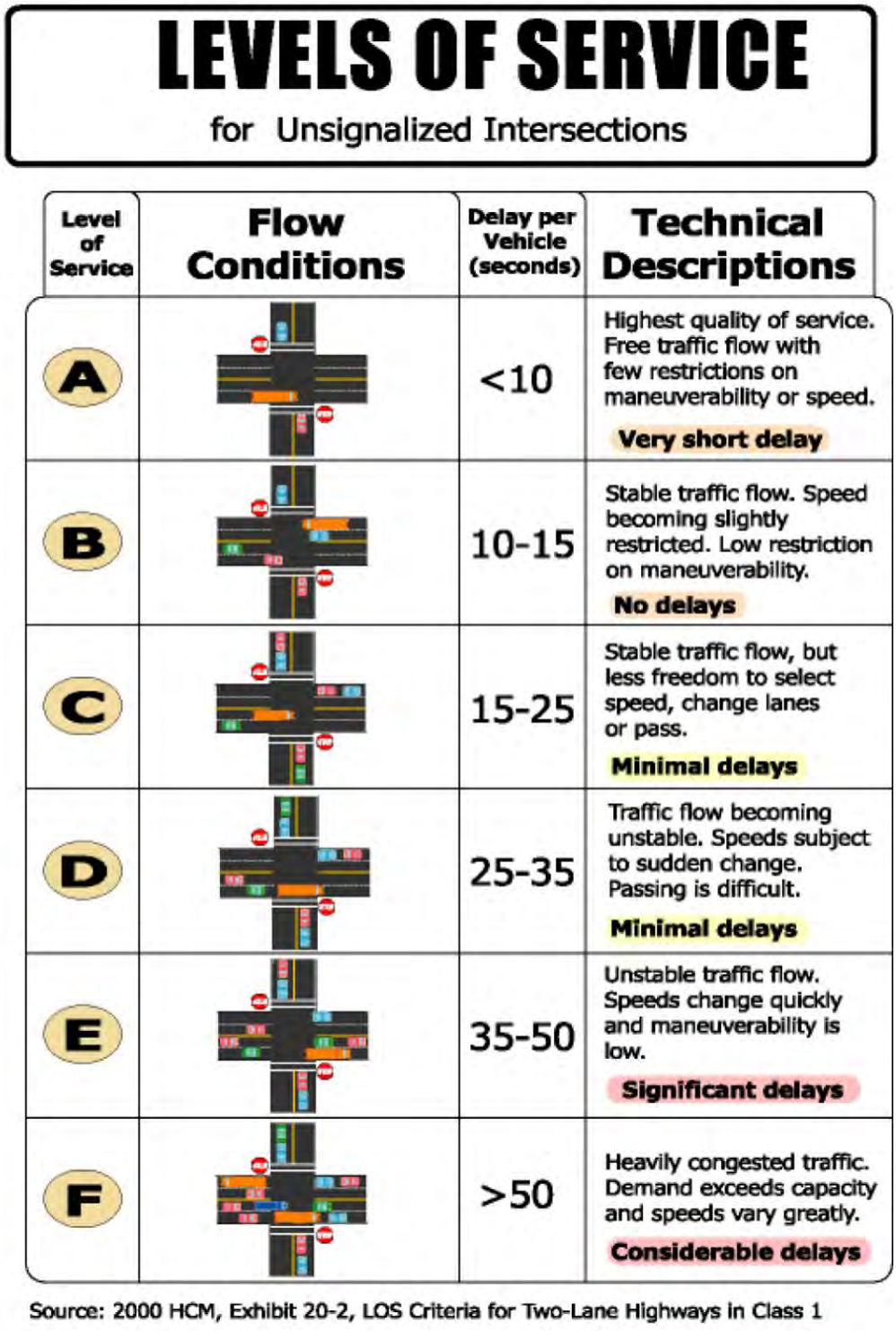
LOS	Density (passenger cars/mile/lane)		
	Basic Freeway Segment	**Freeway Ramp Segment**	**Freeway Weaving Segment**
A	0.0–11.0	≤ 10	≤ 10
B	11.1–18.0	> 10–20	> 10–20
C	18.1–26.0	> 20–28	> 20–28
D	26.1–35.0	> 28–35	> 28–35
E	35.1–45.0	> 35	> 35
F	Demand Exceeds Capacity > 45.0	Demand Exceeds Capacity	Demand Exceeds Capacity
Source: Transportation Research Board 2010.			

Figure 3.6-2. Level of Service for Signalized Intersections



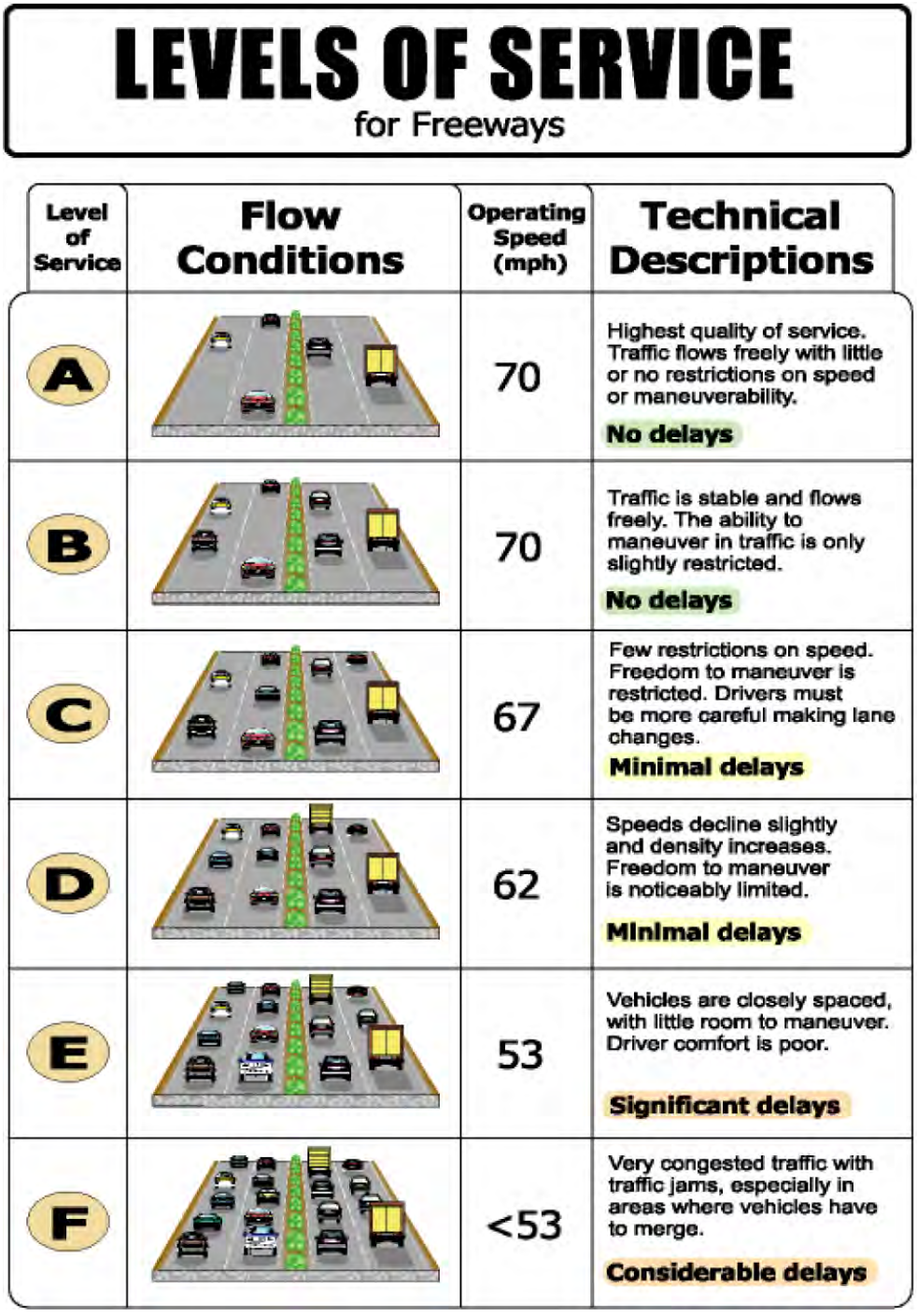
Source: 2000 HCM, Exhibit 16-2, Level of Service Criteria for Signalized Intersections

Figure 3.6-3. Level of Service for Unsignalized Intersections



Source: 2000 HCM, Exhibit 20-2, LOS Criteria for Two-Lane Highways in Class 1

Figure 3.6-4. Level of Service for Basic Freeway Segment



3.6.2.2 Existing Year 2014 Traffic Conditions

Existing traffic volumes in the study area were based on counts conducted in December 2014 in support of the *Cajalco Road Widening Project Traffic Operations Analysis Report* (Caltrans 2017). As detailed in that report, the assessment focused on traffic operations at intersections, arterial roadway segments, freeway segments, and freeway interchange ramps within the study area exhibiting potential to be affected by project-related improvements. The existing (2014) traffic volumes were examined and compared to 2018 volumes per the *Cajalco Road Improvement Project Comparison of 2014 (Project) vs. 2018 (New) Counts Memorandum*, dated February 15, 2019. Overall, and as further detailed in the referenced memorandum, it was concluded that the volume growth trends observed in the year 2018 are consistent with the growth trends projected in the Cajalco Study based on 2014 counts.

Arterial (Roadway Segment) Level of Service

Table 3.6-3 indicates the existing ADT and LOS for traffic along mainline Cajalco Road and El Sobrante Road within the project limits.

Table 3.6-3. Average Daily Traffic and Level of Service – Existing-Year (2014) Conditions

Roadway Segment	Baseline Conditions		
	Number of Lanes	ADT	LOS
Cajalco Road east of Temescal Canyon Road	2	13,340	C
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	8,740	A
Cajalco Road between Lake Mathews Drive to El Sobrante Road	2	7,540	A
El Sobrante Road east of La Sierra Avenue	2	11,591	B
Cajalco Road between El Sobrante Road to Gavilan Road	2	18,280	F
Cajalco Road between Gavilan Road to Harley John Road	2	18,670	F
Cajalco Road between Harley John Road and Day Street	2	19,890	F
Cajalco Road east of Day Street	2	26,390	F
Source: Caltrans 2017. Shaded cells represent unacceptable LOS (LOS standard exceeded)			

As indicated in Table 3.6-3, baseline ADT conditions along four segments of Cajalco Road analyzed within the project limits currently exceed the maximum two-way traffic volumes for arterial roadways, as shown in Table 3.6-1. More specifically, these segments of Cajalco Road operate at LOS F.

Intersection Level of Service

The LOS and vehicle delay for existing-year (2014) conditions at study area intersections is presented in Table 3.6-4 on the following page. Refer to Figure 3.6-1 for study area intersection locations.

Table 3.6-4. Intersection Level of Service – Existing-Year (2014) Conditions

	Intersection	Control Type	Existing Year 2014			
			AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 SB ramps and Magnolia Avenue	Signal	28.9	C	38.9	D
2	I-15 NB ramps and Magnolia Avenue	Signal	16.9	B	15.4	B
3	I-15 SB ramps and Ontario Avenue	Signal	58.9	E	22.9	C
4	I-15 NB ramps and Ontario Avenue	Signal	51.8	D	15.1	B
5	Bedford Canyon Road and El Cerrito Road	Signal	22.9	C	31.2	C
6	I-15 SB ramps and El Cerrito Road	Signal	12.4	B	10.4	B
7	I-15 NB ramps and El Cerrito Road	Signal	37.3	D	24.1	C
8	Temescal Canyon Road and El Cerrito Road	Signal	10.3	B	9.2	A
9	Cajalco Road and Bedford Canyon Road	Signal	8.5	A	11.9	B
10	Cajalco Road and I-15 SB ramps	Signal	33.0	C	25.3	C
11	I-15 NB ramps and Cajalco Road	Signal	46.6	D	27.7	C
12	Cajalco Road and Temescal Canyon Road	Signal	40.9	D	30.7	C
13	I-15 SB ramps and Weirick Road	Signal	16.3	B	28.5	C
14	I-15 NB ramps and Weirick Road	Signal	11.1	B	12.3	B
15	La Sierra Avenue and Victoria Avenue	Signal	33.0	C	31.6	C
16	La Sierra Avenue and McAllister Parkway	Signal	20.6	C	17.1	B
17	La Sierra Avenue and El Sobrante Road	AWSC	26.3	D	35.7	E
18	Cajalco Road and La Sierra Avenue	Signal	14.4	B	14.8	B
19	Lake Mathews Drive and Cajalco Road	TWSC	3.2	A	1.5	A
20	Mockingbird Canyon Road and Harley John Road	AWSC	7.9	A	8.6	A
21	El Sobrante Road and Mockingbird Canyon Road	TWSC	2.6	A	3.7	A
22	Cajalco Road and El Sobrante Road	Signal	7.6	A	12.3	B
23	Cajalco Road and Gavilan Road	Signal	9.8	A	14.9	B
24	Gavilan Road and Lake Mathews Drive	TWSC	3.5	A	4.8	A
25	Harley John Road and Washington Road	TWSC	1.7	A	3.1	A
26	Cajalco Road and Harley John Road	Signal	18.7	B	18.0	B
27	Wood Road and Markham Street	Signal	18.9	B	13.3	B
28	Cajalco Road and Wood Road	Signal	29.9	C	21.3	C
29	Alexander Street and Markham Street	AWSC	50.2	F	10.3	B
30	Alexander Street and Cajalco Road	Signal	31.7	C	16.4	B
31	Rider Street and Alexander Street	TWSC	3.4	A	4.9	A
32	Brown Street and Markham Street	TWSC	2.4	A	1.9	A
33	Brown Street and Cajalco Road	Signal	11.6	B	12.1	B
34	Brown Street and Rider Street	AWSC	8.7	A	8.1	A
35	Clark Street and Markham Street	AWSC	12.1	B	11.0	B
36	Clark Street and Cajalco Road	Signal	31.7	C	32.2	C
37	Old Elsinore Road/Clark Street and Rider Street	Signal	16.5	B	13.4	B
38	Day Street and Markham Street	AWSC	11.2	B	10.0	A
39	Day Street and Cajalco Road	TWSC	3.4	A	1.9	A
40	Day Street and Rider Street	TWSC	0.0	A	0.0	A
41	Seaton Avenue and Markham Street	AWSC	12.1	B	12.6	B
42	Seaton Avenue and Cajalco Road	TWSC	4.4	A	5.9	A
43	Rider Street and Seaton Avenue	TWSC	4.7	A	6.3	A
44	Harvill Avenue and Markham Street	AWSC	10.4	B	11.3	B
45	Cajalco Expressway and Harvill Avenue	Signal	18.5	B	5.8	A
46	Harvill Avenue and Rider Street	TWSC	1.2	A	1.3	A
47	Harvill Avenue and Placentia Avenue	TWSC	5.1	A	5.3	A

	Intersection	Control Type	Existing Year 2014			
			AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	16.6	B	13.3	B
49	SR-60/I-215 NB ramps and Fair Isle Drive/Box Springs Road	Signal	38.0	D	14.5	B
50	Day Street and SR-60 WB ramps	Signal	16.0	B	33.8	C
51	Day Street and SR-60 EB ramps	Signal	13.9	B	23.2	C
52	I-215 ramps and Eucalyptus Avenue	Signal	19.3	B	24.6	C
53	Alessandro Boulevard and I-215 SB ramp	Signal	8.9	A	10.4	B
54	I-215 NB ramps and Alessandro Boulevard	Signal	26.1	C	20.9	C
55	I-215 SB ramps and Cactus Avenue	Signal	5.4	A	13.6	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	18.9	B	6.1	A
57	I-215 SB ramps and Van Buren Boulevard	Signal	10.1	B	17.9	B
58	I-215 NB ramps and Van Buren Boulevard	Signal	17.8	B	14.1	B
59	I-215 SB ramps and Harley Knox Boulevard	Signal	20.4	C	20.6	C
60	I-215 NB ramps and Harley Knox Boulevard	Signal	9.1	A	12.9	B
61	I-215 SB ramps and Cajalco/Ramona Expressway	Signal	87.3	F	32.2	C
62	I-215 NB ramps and Cajalco/Ramona Expressway	Signal	67.4	E	40.8	D
63	I-215 SB Frontage Road and Placentia Avenue	*Future*	--	--	--	--
64	I-215 NB Frontage Road and Placentia Avenue	*Future*	--	--	--	--
65	I-215 SB ramps and Nuevo Road	Signal	30.2	C	35.5	D
66	I-215 NB ramps and Nuevo Road	Signal	46.4	D	44.5	D
67	Webster Avenue and Ramona Expressway	Signal	16.1	B	18.8	B
68	Indian Street and Ramona Expressway	Signal	16.7	B	19.3	B
69	Ramona Expressway and Perris Boulevard	Signal	29.6	C	25.4	C

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
TWSC = two-way stop control
AWSC = all-way stop control
Delay = average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)

As indicated in Table 3.6-4, five intersections within the project study area operate at an unacceptable LOS E or F during peak hours. The number of seconds of vehicle delay associated with each intersection operating at an unacceptable LOS is also listed in Table 3.6-4, above.

Freeway Level of Service

Freeway Mainline Level of Service

Existing-year (2014) AM and PM peak-hour conditions for study area freeway mainline segments is presented in Table 3.6-5 on the following page.

Table 3.6-5. Freeway Mainline Level of Service – Existing-Year (2014) Conditions

Freeway Segment	Existing Year 2014			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
I-15 Southbound				
Lane addition to WB SR-91 off-ramp	15.3	B	19.4	C
WB SR-91 off-ramp to EB SR-91 off-ramp	20.5	C	22.9	C
EB SR-91 off-ramp to EB SR-91 on-ramp	14.6	B	16.8	B
EB SR-91 on-ramp to Lane drop	14.2	B	17.2	B
Lane drop to WB SR-91 on-ramp	17.7	B	21.5	C
WB SR-91 on-ramp to Magnolia Avenue off-ramp	*See Weaving Analysis*			
Magnolia Avenue off-ramp to Magnolia Avenue on-ramp	14.8	B	20.6	C
Magnolia Avenue on-ramp to Ontario Avenue off-ramp	16.6	B	23.9	C
Ontario Avenue off-ramp to Ontario Avenue on-ramp	11.3	B	21.3	C
Ontario Avenue on-ramp to El Cerrito Road off-ramp	*See Weaving Analysis*			
El Cerrito Road off-ramp to El Cerrito Road on-ramp	16.0	B	33.5	D
El Cerrito Road on-ramp to Cajalco Road off-ramp	18.0	C	43.0	E
Cajalco Road off-ramp to Cajalco Road on-ramp	14.4	B	35.8	E
El Cerrito Road off-ramp to lane addition	--	--	--	--
Lane addition to CETAP off-ramp	--	--	--	--
CETAP off-ramp to lane drop	--	--	--	--
Lane drop to Cajalco Road off-ramp	--	--	--	--
Cajalco Road off-ramp to WB CETAP on-ramp	--	--	--	--
WB CETAP on-ramp to Cajalco Road on-ramp	--	--	--	--
Cajalco Road on-ramp to Weirick Road off-ramp	15.6	B	43.5	E
Weirick Road off-ramp to Weirick Road on-ramp	12.7	B	34.5	D
I-15 Northbound				
Weirick Road off-ramp to Weirick Road on-ramp	16.6	B	17.4	B
Weirick Road on-ramp to Cajalco Road off-ramp	22.1	C	20.7	C
Cajalco Road off-ramp to Cajalco Road on-ramp	21.4	C	18.7	C
Cajalco Road on-ramp to El Cerrito Road off-ramp	30.3	D	23.3	C
El Cerrito Road off-ramp to El Cerrito Road on-ramp	26.7	D	21.6	C
Weirick Road off-ramp to CETAP off-ramp	--	--	--	--
CETAP off-ramp to Weirick Road on-ramp	--	--	--	--
Weirick Road on-ramp to Cajalco Road on-ramp	--	--	--	--
Cajalco Road on-ramp to CETAP on-ramp	--	--	--	--
CETAP on-ramp to El Cerrito Road on-ramp	--	--	--	--
El Cerrito Road on-ramp to Ontario Avenue off-ramp	32.6	D	22.9	C
Ontario Avenue off-ramp to lane addition	25.3	C	20.1	C
Lane addition to Ontario Avenue on-ramp	18.8	C	15.1	B
Ontario Avenue on-ramp to Magnolia Avenue off-ramp	23.1	C	19.2	C
Magnolia Avenue off-ramp to EB Magnolia Avenue on-ramp	19.8	C	16.7	B
EB Magnolia Avenue on-ramp to WB Magnolia Avenue on-ramp	23.5	C	19.2	C
WB Magnolia Avenue on-ramp to SR-91 off-ramp	*See Weaving Analysis*			
SR-91 off-ramp to WB SR-91 on-ramp	18.3	C	11.6	B
WB SR-91 on-ramp to EB SR-91 on-ramp	25.0	C	18.1	C
EB SR-91 on-ramp to lane drop	20.6	C	15.8	B

Freeway Segment	Existing Year 2014			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
I-215 Southbound				
EB SR-60 on-ramp to WB SR-60 on-ramp	18.7	C	27.5	D
WB SR-60 on-ramp to Sycamore Canyon Boulevard on-ramp	12.8	B	17.3	B
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	*See Weaving Analysis*			
Eucalyptus Avenue off-ramp to lane drop	15.1	B	19.2	C
Lane drop to Eucalyptus Avenue on-ramp	20.1	C	26.1	D
Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp	22.6	C	32.8	D
Alessandro Boulevard off-ramp to WB Alessandro Boulevard on-ramp	20.0	C	27.2	D
WB Alessandro Boulevard on-ramp to EB Alessandro Boulevard on-ramp	20.8	C	33.1	D
EB Alessandro Boulevard on-ramp to WB Cactus Ave off-ramp	*See Weaving Analysis*			
WB Cactus Avenue off-ramp to EB Cactus Avenue off-ramp	16.0	B	24.7	C
EB Cactus Avenue off-ramp to Cactus Avenue on-ramp	18.9	C	30.3	D
Cactus Avenue on-ramp to Van Buren Boulevard off-ramp	20.9	C	34.5	D
Van Buren Boulevard off-ramp to Van Buren Boulevard on-ramp	18.1	C	29.8	D
Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp	20.9	C	40.8	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	18.7	C	35.3	E
Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp	19.2	C	36.7	E
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	13.0	B	29.6	D
Cajalco Expressway on-ramp to Mid-County Parkway off-ramp	--	--	--	--
Mid-County Parkway off-ramp to Placentia off-ramp	--	--	--	--
Placentia off-ramp to Placentia on-ramp	--	--	--	--
Placentia on-ramp to Mid-County Parkway EB on-ramp	--	--	--	--
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	--	--	--	--
Mid-County Parkway WB on-ramp to West Nuevo Road off-ramp	--	--	--	--
Cajalco Expressway on-ramp to West Nuevo Road off-ramp	16.0	B	33.6	D
West Nuevo Road off-ramp to West Nuevo Road on-ramp	14.1	B	27.8	D
I-215 Northbound				
West Nuevo Road off-ramp to West Nuevo Road on-ramp	21.7	C	12.7	B
West Nuevo Road on-ramp to Mid-County Parkway off-ramp	--	--	--	--
Mid-County Parkway off-ramp to Mid-County Parkway EB on-ramp	--	--	--	--
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	--	--	--	--
Mid-County Parkway WB on-ramp to Cajalco Expressway off-ramp	--	--	--	--
West Nuevo Road on-ramp to Cajalco Expressway off-ramp	27.7	D	16.5	B
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.4	C	14.0	B
Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp	34.7	D	19.7	C
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	34.1	D	19.1	C
Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp	38.4	E	22.5	C
Van Buren Boulevard off-ramp to EB Van Buren Boulevard on-ramp	30.7	D	19.4	C
EB Van Buren Boulevard on-ramp to WB Van Buren Boulevard on-ramp	34.2	D	22.2	C
WB Van Buren Boulevard on-ramp to Cactus Avenue off-ramp	34.4	D	22.3	C
Cactus Avenue off-ramp to EB Cactus Avenue on-ramp	24.0	C	19.5	C
EB Cactus Avenue on-ramp to WB Cactus Avenue on-ramp	24.2	C	20.2	C
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	*See Weaving Analysis*			
East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp	18.4	C	20.9	C

Freeway Segment	Existing Year 2014			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp	19.3	C	24.3	C
Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp	16.6	B	20.8	C
Eucalyptus Avenue on-ramp to SR-60	18.5	C	24.0	C

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
-- = Freeway segment does not exist in the year 2014.
Density = passenger cars/mile/lane
CETAP = Community Environmental Transportation Acceptability Process

As shown above in Table 3.6-5, the following six freeway mainline segments currently operate at an unacceptable LOS E during the PM peak hour:

I-15 Southbound (2014):

- El Cerrito Road on-ramp to Cajalco Road off-ramp
- Cajalco Road off-ramp to Cajalco Road on-ramp
- Cajalco Road on-ramp to Weirick Road off-ramp

I-215 Southbound (2014):

- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp

In addition to the six freeway mainline segments that currently operate at an unacceptable LOS E during the PM peak hour, the segment of northbound I-215 between Harley Knox Boulevard on-ramp and Van Buren Boulevard off-ramp operates at an unacceptable LOS E during the AM peak hour.

Freeway Ramp Level of Service

Existing conditions for the study area freeway ramps are presented in Table 3.6-6.

Table 3.6-6. Freeway Ramp Level of Service – Existing-Year (2014) Conditions

Freeway Ramp	Existing Year 2014			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
I-15 Southbound				
WB SR-91 off-ramp	*Lane Deletion*			
EB SR-91 off-ramp	27.7	C	29.8	D
EB SR-91 on-ramp	*Lane Addition*			
WB SR-91 on-ramp	*See Weaving Analysis*			
Magnolia Avenue off-ramp	*See Weaving Analysis*			
Magnolia Avenue on-ramp	19.4	B	26.5	C
Ontario Avenue off-ramp	26.3	C	29.6	D
Ontario Avenue on-ramp	*See Weaving Analysis*			
El Cerrito Road off-ramp	*See Weaving Analysis*			
CETAP off-ramp	--	--	--	--
El Cerrito Road on-ramp	22.0	C	39.6	E
Cajalco Road off-ramp	26.5	C	48.8	E
WB CETAP on-ramp	--	--	--	--
Cajalco Road on-ramp	17.6	B	36.6	E
Weirick Road off-ramp	22.0	C	39.5	E
Weirick Road on-ramp	14.3	B	32.2	D
I-15 Northbound				
Weirick Road off-ramp	22.4	C	23.6	C
CETAP off-ramp	--	--	--	--
Weirick Road on-ramp	26.3	C	23.9	C
Cajalco Road off-ramp	30.9	D	27.6	C
Cajalco Road on-ramp	32.7	D	26.0	C
CETAP on-ramp	--	--	--	--
El Cerrito Road off-ramp	43.3	E	32.3	D
El Cerrito Road on-ramp	40.1	E	27.3	C
Ontario Avenue off-ramp	48.2	E	29.8	D
Ontario Avenue on-ramp	27.5	C	24.2	C
Magnolia Avenue off-ramp	*Lane Deletion*			
EB Magnolia Avenue on-ramp	*Lane Addition*			
WB Magnolia Avenue on-ramp	*See Weaving Analysis*			
SR-91 off-ramp	*See Weaving Analysis*			
WB SR-91 on-ramp	29.2	D	23.2	C
EB SR-91 on-ramp	*Lane Addition*			
I-215 Southbound				
WB SR-60 on-ramp	*Lane Addition*			
Sycamore Canyon Boulevard on-ramp	*See Weaving Analysis*			
Eucalyptus Avenue off-ramp	*See Weaving Analysis*			
Eucalyptus Avenue on-ramp	25.6	C	35.6	E
Alessandro Boulevard off-ramp	30.7	D	45.0	E
WB Alessandro Boulevard on-ramp	23.1	C	32.4	D
EB Alessandro Boulevard on-ramp	*See Weaving Analysis*			

Freeway Ramp	Existing Year 2014			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
WB Cactus Avenue off-ramp	*See Weaving Analysis*			
EB Cactus Avenue off-ramp	*Lane Deletion*			
Cactus Avenue on-ramp	23.6	C	33.4	D
Van Buren Boulevard off-ramp	27.2	C	36.0	E
Van Buren Boulevard on-ramp	24.3	C	38.0	E
Harley Knox Boulevard off-ramp	26.7	C	37.8	E
Harley Knox Boulevard on-ramp	21.1	C	33.0	D
Cajalco Expressway off-ramp	26.7	C	36.7	E
Cajalco Expressway on-ramp	18.6	B	31.7	D
Mid-County Parkway off-ramp	--	--	--	--
Placentia off-ramp	--	--	--	--
Placentia on-ramp	--	--	--	--
Mid-County EB on-ramp	--	--	--	--
Mid-County WB on-ramp	--	--	--	--
West Nuevo Road off-ramp	21.8	C	35.4	E
West Nuevo Road on-ramp	19.9	B	32.3	D
I-215 Northbound				
West Nuevo Road off-ramp	28.6	D	22.0	C
West Nuevo Road on-ramp	30.4	D	20.4	C
Mid-County Parkway off-ramp	--	--	--	--
Mid-County Parkway EB on-ramp	--	--	--	--
Mid-County Parkway WB on-ramp	--	--	--	--
Cajalco Expressway off-ramp	32.2	D	22.7	C
Cajalco Expressway on-ramp	34.7	D	23.2	C
Harley Knox Boulevard off-ramp	38.9	E	27.4	C
Harley Knox Boulevard on-ramp	33.9	D	24.9	C
Van Buren Boulevard off-ramp	37.6	E	28.6	D
EB Van Buren Boulevard on-ramp	31.8	D	23.9	C
WB Van Buren Boulevard on-ramp	33.2	D	23.2	C
Cactus Avenue off-ramp	37.5	E	28.5	D
EB Cactus Avenue on-ramp	24.6	C	21.5	C
WB Cactus Avenue on-ramp	*See Weaving Analysis*			
East Alessandro Boulevard off-ramp	*See Weaving Analysis*			
East Alessandro Boulevard on-ramp	21.2	C	27.4	C
Eucalyptus Avenue off-ramp	25.3	C	32.8	D
Eucalyptus Avenue on-ramp	21.7	C	27.0	C

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway ramp has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown in Table 3.6-6, 17 freeway ramps within the study area currently operate at an unacceptable LOS in the existing year (2014). The following four I-15 southbound freeway ramps operate at LOS E during the PM peak hour:

- El Cerrito Road on-ramp
- Cajalco Road off-ramp
- Cajalco Road on-ramp
- Weirick Road off-ramp

Three northbound I-15 freeway ramps operate at LOS E during the AM peak hour:

- El Cerrito Road off-ramp
- El Cerrito Road on-ramp
- Ontario Avenue off-ramp

Seven southbound I-215 freeway ramps operate at LOS E during the PM peak hour:

- Eucalyptus Avenue on-ramp
- Alessandro Boulevard off-ramp
- Van Buren Boulevard off-ramp
- Van Buren Boulevard on-ramp
- Harley Knox Boulevard off-ramp
- Cajalco Expressway off-ramp
- West Nuevo Road off-ramp

Three northbound I-215 freeway ramps operate at LOS E during the AM peak hour:

- Harley Knox Boulevard off-ramp
- Van Buren Boulevard off-ramp
- Cactus Avenue off-ramp

In addition to the 17 freeway ramps that currently operate at an unacceptable LOS within the study area, 20 freeway ramps currently operate at LOS D during the AM or PM peak hour, indicating conditions that may be subject to becoming unacceptable LOS in the future.

Freeway Weaving Segment Level of Service

Existing conditions for the study area freeway weaving segments are presented in Table 3.6-7.

Table 3.6-7. Freeway Weaving Segment Level of Service – Existing-Year (2014) Conditions

Freeway Weaving Segment	Existing Year (2014)			
	AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS
I-15 Southbound				
WB SR-91 on-ramp to Magnolia Avenue off-ramp	--	F	--	F
Ontario Avenue on-ramp to El Cerrito Road off-ramp	15.1	B	31.0	D
I-15 Northbound				
WB Magnolia Avenue on-ramp to SR-91 off-ramp	--	F	--	F
I-215 Southbound				
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	16.5	B	21.9	C
EB Alessandro Boulevard on-ramp to WB Cactus Avenue off-ramp	18.2	B	28.9	D
I-215 Northbound				
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	25.2	C	22.7	C

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway weaving segment has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Table 3.6-7, the following two freeway weaving segments currently operate at an unacceptable LOS during the AM and PM peak hours in the existing year (2014):

- **I-15 Southbound:** Westbound SR-91 on-ramp to Magnolia Avenue off-ramp
- **I-15 Northbound:** Westbound Magnolia Avenue on-ramp to SR-91 off-ramp

All of the study area freeway weaving segments on I-215 (southbound and northbound) operate an acceptable LOS in the existing year (2014).

Vehicles Miles Traveled / Vehicle Hours Traveled / Vehicle Hours Delay

In Riverside County, the circulation system is intended to accommodate a pattern of concentrated growth, providing both a regional and local linkage system between unique communities. Travel, including freight movement, extends past the Riverside County boundary. As a result, the transportation system must be capable of adequately meeting a wide range of needs. Not only does the county need to accommodate the traffic that it generates, it also must accommodate pass-through traffic.

Vehicle miles traveled (VMT) is a key transportation indicator, representing the total miles traveled by all vehicles throughout a particular study area or a region. Vehicle hours traveled (VHT) represents total hours traveled by vehicles, considering system-wide traffic congestion in a given study area. Vehicle hours delay (VHD) represents total hours of delay for vehicles across a particular study or a region. Table 3.6-8 presents summaries of daily VMT, VHT, and average

speed within the study area under existing conditions. The transportation study area includes all freeway segments, interchange ramps, and ramp terminus intersections along I-15 from Weirick Road to SR-91 and along I-215 from Nuevo Road to SR-60. It also includes intersections along Cajalco Road, Markham Street, and Rider Street.

Table 3.6-8. Baseline Year 2014 VMT, VHT, VHD and Average Speed Summary

Indicator	AM Peak Hour	PM Peak Hour	Daily
VMT	1,681,352	2,795,721	8,585,374
VHT	50,618	91,554	234,475
VHD	17,166	35,000	66,516
Average Speed	33.2	30.5	36.6
Source: Caltrans 2017. VMT = vehicle miles traveled VHT = vehicle hours traveled VHD = vehicle hours delay			

Please refer to Chapter 4, Section 4.2.17, *Transportation* (CEQA), for a discussion of Senate Bill 743 and State CEQA Guidelines updates (i.e., State CEQA Guidelines Section 15064.3) related to using VMT as a measure in the determination of transportation impacts.

Existing posted speed limits within the proposed project corridor range from 45 miles per hour to 55 miles per hour (see Table 3.6-9 below). As indicated in Table 3.6-8, above, average speeds in the study area range between 30.5 and 33.2 miles per hour (mph) during peak hours and 36.6 mph overall.

Table 3.6-9. Existing Posted Speed Limits

Roadway Segment	Posted Speed Limits
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	45
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	55
Cajalco Road between Lake Mathews Drive and El Sobrante Road	55
Cajalco Road between El Sobrante Road and Gavlin Road	55
Cajalco Road between Gavlin Road and Harley John Road	50
Cajalco Road between Harley John Road and Wood Road	50
Cajalco Road between Wood Road and Alexander Street	50
Cajalco Road between Alexander Street and Brown Street	45
Cajalco Road between Brown Street and Clark Street	45
Cajalco Road between Clark Street and Day Street	45
Cajalco Road between Day Street and Seaton Avenue	45
Cajalco Road between Seaton Avenue and Harvill Avenue	50
Cajalco Road East of Harvill Avenue	50
Cajalco Road West of Temescal Canyon Road	45

Peak Hour Truck Traffic

Existing peak hour truck traffic volume percentages of the total traffic volumes along segments along Cajalco Road, La Sierra Avenue, and El Sobrante Road within the project limits are presented in Table 3.6-10, below. The percentages of truck traffic are based on the detailed vehicle classification counts (passenger vehicles, buses, two-axle trucks, three-axle trucks, and trucks with four or more axles) conducted for intersections within the study area.

Table 3.6-10. Existing Peak Hour Truck Volumes (Percentage)

Roadway Segment	Existing (2014) Conditions	
	Eastbound	Westbound
Cajalco Road West of Temescal Canyon Road	11.9%	11.97%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	11.9%	12.02%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	3.36%	3.55%
La Sierra Avenue between Cajalco Road and El Sobrante Road	4.14%	4.17%
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	6.74%	6.85%
El Sobrante Road East of Mockingbird Canyon Road	3.07%	2.75%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	3.13%	2.88%
Cajalco Road between El Sobrante Road and Gavlin Road	4.02%	3.99%
Cajalco Road between Gavlin Road and Harley John Road	3.38%	3.33%
Cajalco Road between Harley John Road and Wood Road	2.65%	2.69%
Cajalco Road between Wood Road and Alexander Street	2.35%	2.4%
Cajalco Road between Alexander Street and Brown Street	3.14%	3.24%
Cajalco Road between Brown Street and Clark Street	2.64%	2.66%
Cajalco Road between Clark Street and Day Street	4.3%	4.26%
Cajalco Road between Day Street and Seaton Avenue	3.36%	3.40%
Cajalco Road between Seaton Avenue and Harvill Avenue	3.6%	3.56%
Cajalco Road East of Harvill Avenue	3.31%	3.3%
Source: Caltrans 2019.		

As indicated in Table 3.6-10, truck traffic volumes within the project corridor range from 2.35 percent to 12.02 percent of the total vehicles, with the highest percentage of trucks occurring between Temescal Canyon Road and La Sierra Avenue. The lowest percentage of trucks occur between Wood Road and Alexander Street.

3.6.2.3 Future Year 2044 Projected Traffic Conditions

Based on FHWA and Caltrans requirements, traffic forecasts need to address a horizon year 20 years beyond the project's opening year; this required development of 2044 traffic projections because the project's opening year is assumed to be 2024. As such, the traffic assessment included herein is focused on the following traffic analysis scenarios (detailed discussion regarding the Opening-Year analysis is included in the project's *Traffic Operations Analysis Report* [Caltrans 2017]):

- Existing Year (2014)
- Future-Year (2044) No-Build Alternative

- Future-Year (2044) Build Alternative 1
- Future-Year (2044) Build Alternative 2C
- Future-Year (2044) Build Alternative 4

In an effort to minimize future impacts on areas protected under the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), the median of Cajalco Road between Temescal Canyon Road and La Sierra Avenue under Build Alternatives 1 and 2C and the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Avenue under Build Alternative 4 would be designed wide enough to accommodate two additional travel lanes (one in each direction). Construction of the two additional lanes is not proposed or an option that is being considered for inclusion as part of the proposed project. Because the widened median area may be used for additional lanes, if constructed under a separate project in the future, an assessment of the additional lanes under the following scenarios is included in this EIR/EIS:

- Future-Year (2044) Build Alternative 1 (Future Six-Lane Facility)
- Future-Year (2044) Build Alternative 2C (Future Six-Lane Facility)
- Future-Year (2044) Build Alternative 4 (Future Six-Lane Facility)

Traffic forecasts were prepared through use of the Riverside Traffic Analysis Model, which is the official travel demand model for Riverside County. All projects on the Southern California Association of Governments (SCAG) Modeling List, which is consistent with the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) 2016–2040 list, and included in the Western Riverside Council of Governments' Transportation Uniform Mitigation Fee, Measure A, and City of Riverside or County of Riverside (County) Capital Improvement Programs were included for the relevant analysis years. Improvements that were shown only in City or County General Plans but not on the financially constrained RTP/SCS list or included in the Transportation Uniform Mitigation Fee, Measure A, or Capital Improvement Programs were not included.

It should be noted that the western end of the project area is adjacent to the eastern limits of the I-15/Cajalco Road Interchange Improvement Project (EA0J6100, RIV010208); therefore, for consistency purposes, the geometric improvements recommended by the I-15/Cajalco Road Interchange Improvement Project were reviewed and considered in developing the traffic forecasts and subsequent traffic analyses for this project.

All modeled network changes from the RTP/SCS have been included in the Volume Development Report. It should be noted that these projects are listed in the new RTP/SCS 2016–2040 list.

Socioeconomic data for 2035 were used to develop design-year volumes. The socioeconomic data for 2020 prepared for the Mid-County Parkway Project, as approved by all stakeholder parties, were used to develop opening-year (2024) volumes. Existing- and future-year daily and peak-hour volumes were obtained from the models for all roadway segments and intersections in the study area.

3.6.2.4 Regional Transportation and Transit Facilities

In addition to local and regional roadways, airports and rail facilities in the project area serve public and commercial transportation needs. Regional airports include Corona Municipal Airport, March Inland Port Airport, San Bernardino International Airport, and Ontario International Airport, and rely on roadway and rail networks that pass through or near the proposed project, in order to transport and transfer cargo and provide commuter air travel services (Caltrans 2014). Burlington Northern Santa Fe (BNSF) railroad Intermodal Yard (18 miles north) and San Diego BNSF (78 miles south) transport goods along BNSF railroad facilities that pass through the east end of the project. Union Pacific Railroad facilities north of the project area are also used for the transportation of goods. Figure 3.6-5 indicates the locations of regional transportation facilities in the project area.

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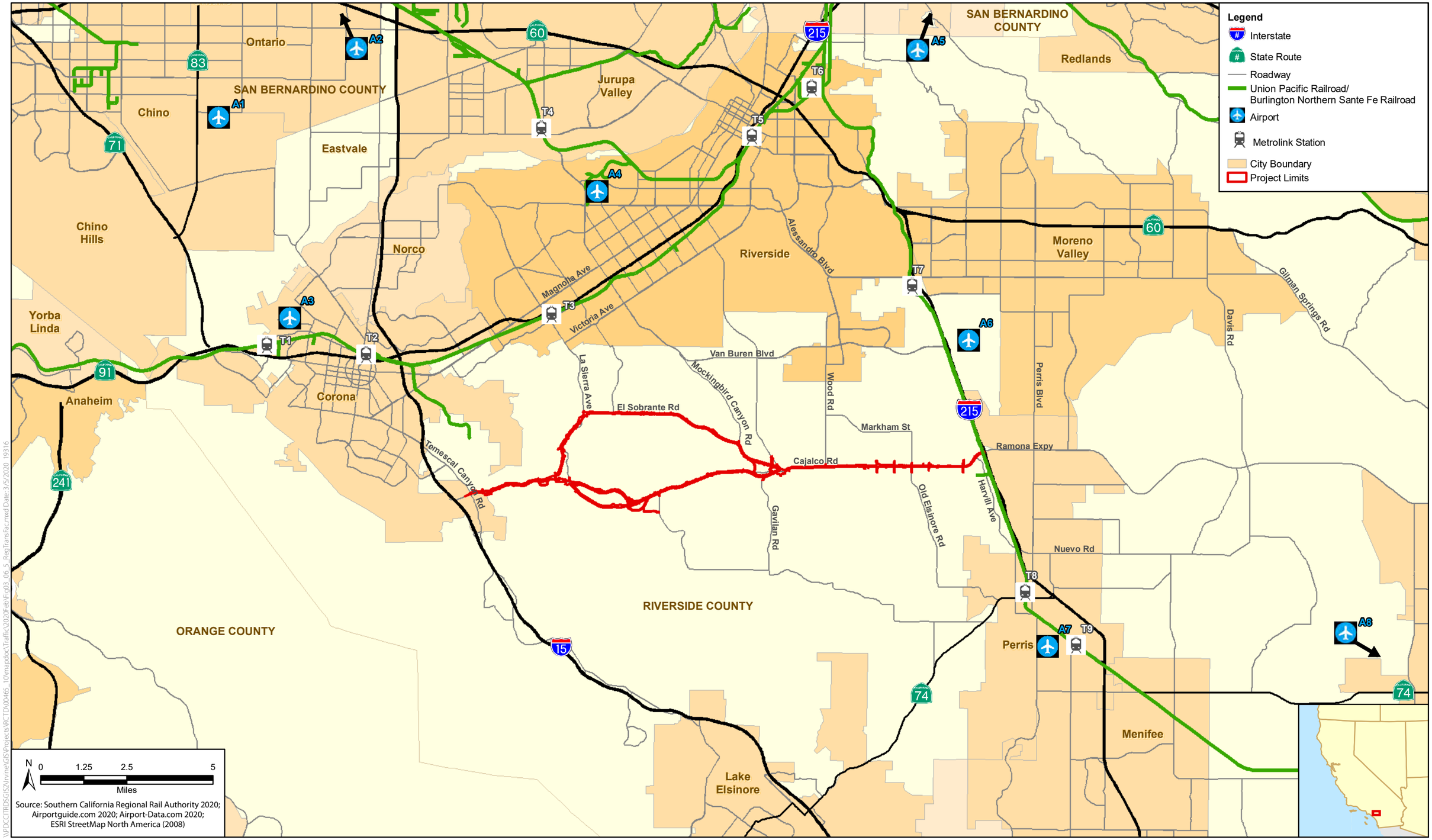

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Figure 3.6-5
Regional Transportation Facilities
Cajalco Road Widening and Safety Enhancement Project

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Table 3.6-11 lists regional airport facilities serving the public in the project area.

Table 3.6-11. Regional Airports

Map ID	Airports	Location	Distance from Project
A1	Chino Airport	7000 Merrill Avenue, Chino, CA 91710-9091	17 miles
A2	Ontario International Airport	1923 East Avion Street, Ontario, CA 91761	20.6 miles
A3	Corona Municipal Airport	1900 Aviation Drive, Corona, CA 92880	8.8 miles
A4	Riverside Municipal Airport	6951 Flight Road, Riverside, CA, 92504	8.2 miles
A5	San Bernardino International Airport	294 South Leland Norton Way, San Bernardino, CA 92408	24 miles
A6	March Air Reserve Base / Inland Port Airport	2645 Graeber Street, March ARB, CA 92518	4.5 miles
A7	Perris Valley Airport	2091 Goetz Road, Perris, CA 92570	6.6 miles
A8	Hemet-Ryan Airport	4710 W Stetson Avenue, Hemet, CA 92545	18.5 miles
Sources: Airportguide.com 2020; Airport-Data.com 2020.			

The Metrolink 91/Perris Valley Line (91/PVL), a north-south public commuter and rail service using BNSF railroad facilities between 4th Street in Perris and Central Avenue in Riverside, provides local and interregional commuter services between south Perris and Downtown Riverside Station, and to connecting rail stations for interregional travel. The 91/PVL is one of seven regional Metrolink routes in Southern California, and provides access to stations with connecting trains to Los Angeles, Ontario, San Bernardino, Santa Ana, and Carlsbad. Ridership on 91/PVL averages 3,034 riders per day during weekdays and 610 on weekends (Southern California Regional Rail Authority 2019). Metrolink stations that serve the project area are listed in Table 3.6-12. Refer to Figure 3.6-5 for their locations.

Table 3.6-12. Regional Metrolink Facilities

Map ID	Metrolink Stations	Metrolink Routes Served	Parking and Bicycle Facilities	Location	Distance from Project
T1	Corona – West	91/Perris Valley Inland Empire-Orange County	526 parking spaces 14 handicapped bike racks	155 South Auto Center Drive Corona CA 92880	9.2 miles
T2	Corona – North Main Corona Transit Center	91/Perris Valley Inland Empire-Orange County	1,386 parking spaces 21 handicapped	250 East Blaine Street Corona CA 92879	6.7 miles
T3	Riverside – La Sierra	91/Perris Valley Inland Empire-Orange County	1,082 parking spaces 24 handicapped	10901 Indiana Avenue Riverside CA 92503	3.3 miles
T4	Jurupa Valley/Pedley	Riverside	283 parking spaces 11 handicapped bike racks	6001 Pedley Road Riverside CA 92509	12.4 miles
T5	Riverside – Downtown	91/Perris Valley Inland Empire-Orange County Riverside	1,115 parking spaces 25 handicapped bike racks	4066 Vine Street Riverside CA 92507	12.1 miles
T6	Riverside – Hunter Park/UCR	91/Perris Valley	368 parking spaces 42 carpool 23 handicap bike racks	1101 Marlborough Avenue Riverside CA 92507	13 miles

Map ID	Metrolink Stations	Metrolink Routes Served	Parking and Bicycle Facilities	Location	Distance from Project
T7	Moreno Valley / March Field	91/Perris Valley	316 parking spaces 35 carpool 24 handicap bike racks	14160 Meridian Parkway Riverside CA 92508	6.4 miles
T8	Perris – Downtown Perris Station Transit Center	91/Perris Valley	392 parking spaces 28 carpool 46 handicap	121 South C Street Perris CA 92570	5 miles
T9	Perris – South	91/Perris Valley	699 parking spaces 70 carpool 40 handicap bike racks	1804 Case Road Perris, CA 92570	7.5 miles
Source: Southern California Regional Rail Authority 2020.					

In addition to intercity rail, interregional bus services—such as Amtrak Thruway, Greyhound, and Megabus—offer an important interregional mass transit mode using the existing interregional system. Interregional bus services use the existing interregional system—not only freeways and highways, but also local streets and roads, which are generally used for the first and last miles of trips. Riverside Transit Agency (RTA) also provides public commuter and transportation services in the project area with bus routes that serve Metrolink users, regional commuters, and the local communities of Mead Valley and Woodcrest and nearby cities of Corona, Riverside, Moreno Valley, and Perris (RTA 2019).

RTA provides five tiers of transit services, each with specific geographical, destination, and use characteristics, and one with an "express" feature (RTA 2015). The characteristics of each service tier are listed below.

- Frequent key corridor routes are the core spine of the network and have highest ridership and performance; they operate every 15 minutes or better in high-density areas. They have potential to support Bus Rapid Transit services in the future.
- Supporting local routes are the majority of the route network, providing connections to key employment centers, activity centers, and transfer hubs. They provide "lifeline" service for those dependent on transit and connections to services. Frequencies are 30 or 60 minutes.
- Regional connectors are longer-distance routes that connect urban centers separated by geographic gaps in density. They tend to have lower performance due to longer distances and lower densities between the urban centers. Frequencies are 60 minutes, with exceptions.
- Community feeders are shorter-distance routes that connect key destinations within a community. They connect residents with local shopping centers, educational facilities, medical facilities, or transit stations. Short distances allow them to operate at high frequency with few resources.
- CommuterLink routes are long-distance, peak-hour express services that provide both inter- and intra-county connections. They connect commuters directly with major employment centers or indirectly through connections at major multi-modal bus and rail hubs.

3.6.2.5 Pedestrian and Bicycle Facilities

Sidewalks are currently at the following locations within the project limits:

- North side of Cajalco Road between Temescal Canyon Road and west of Temescal Creek Bridge
- North side of El Sobrante Road between east of La Sierra Avenue and McAllister Street
- East side of Wood Road north of Cajalco Road
- West side of Carpinus Drive north of Cajalco Road
- East side of Clark Street north of Cajalco Road
- East side of Seaton Avenue north of Cajalco Road
- North side of Cajalco Road / Cajalco Expressway between west of Harvill Avenue and I-215 northbound on-ramp
- South side of Cajalco Road / Cajalco Expressway, between Valvoline Express Service Carwash / diesel fuel station and east of 76 Gas Station

Designated crosswalks are currently at the following intersections within the project limits:

- Cajalco Road and Temescal Canyon Road
- Cajalco Road and La Sierra Avenue
- Cajalco Road and El Sobrante Road
- El Sobrante Road and Fire Station
- Cajalco Road and Harley John Road/Smith Road
- Cajalco Road and Wood Road
- Cajalco Road and Alexander Street
- Cajalco Road and Brown Street
- Cajalco Road and Clark Street
- Cajalco Road and Harvill Avenue
- Cajalco Road and I-215 southbound off-ramp

No formally designated bicycle routes or facilities, such as marked bicycle lanes, are currently located along Cajalco Road, La Sierra Avenue or El Sobrante Road, within the project limits. Cyclists that utilize these roadways currently use roadway shoulders where available.

3.6.2.6 Traffic and Pedestrian Safety

Traffic collision data obtained from the County for the 3-year period from January 2015 to December 2017 were reviewed for Cajalco Road between Temescal Canyon Road and Harvill Avenue (a distance of approximately 15.7 miles) and also for the segment of La Sierra Avenue between Cajalco Road and El Sobrante Road and El Sobrante Road between La Sierra Avenue and Cajalco Road (a combined distance of approximately 8 miles) (County 2018). Table 3.6-13

on the following page compares the actual collision rate to the statewide average collision rate for the roadway segments identified above.

Table 3.6-13. January 2015 to December 2017 Collision Data – Roadway Segments

Road Segment	Collision Type								
	Fatal			Fatal plus Injury			Total		
	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)	Number	Actual Rates (MVM)	Statewide Average[1] (MVM)
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	1	0.022	0.035	41	0.883	0.845	82	1.765	1.680
Cajalco Road between La Sierra Avenue and Harley John Road	1	0.007	0.029	18	0.132	0.636	44	0.324	1.319
Cajalco Road between Harley John Road and Alexander Street	3	0.048	0.040	34	0.548	0.566	71	1.144	1.168
Cajalco Road between Alexander Street and Harvill Avenue	2	0.023	0.040	56	0.646	0.564	145	1.673	1.163
Between Harvill Avenue and I-215	0	0.000	0.040	1	0.091	0.564	13	1.184	1.163
Cajalco Road Segments Total:	**7**	**--**	**--**	**150**	**--**	**--**	**355**	**--**	**--**
El Sobrante Road between La Sierra Avenue and Cajalco Road	4	0.054	0.040	19	0.259	0.572	39	0.531	1.180
La Sierra Avenue between Cajalco Road and El Sobrante Road	2	0.177	0.042	16	1.414	0.597	21	1.856	1.230
La Sierra Avenue and El Sobrante Road Segments Total:	**6**	**--**	**--**	**35**	**--**	**--**	**60**	**--**	**--**

Sources: County 2018; Iteris 2019.
MVM = Million vehicle miles
Shaded cells represent exceedance of statewide average.
[1] Statewide average based on averages for similar facility type:
Comparative facility used for roadways between Temescal Canyon Road and Harley John Road is a two-lane mountainous rural highway with a design speed less than or equal to 55 mph.
Comparative facility used for roadways between La Sierra Avenue and Harley John Road is a two-lane rolling rural highway with a design speed less than or equal to 55 mph.
Comparative facility used for roadways east of Harley John Road is a two-lane flat rural highway with a design speed less than or equal to 55 mph.

During the 3-year period from January 2015 to December 2017, there were 355 collisions on Cajalco Road between Temescal Canyon Road and I-215, including seven fatal accidents. The majority of collisions occurred along the approximately 6-mile stretch of Cajalco Road between Alexander Street and Harvill Avenue, with 145 collisions over the 3-year period. Compared with the statewide average accident rate for similar facilities, the collision rate of 1.673 per million vehicle miles (MVM) of travel was higher than the statewide average of 1.163 per MVM. The next-highest number of recorded collisions for Cajalco Road, 82, occurred along the approximately 3.2-mile-long section of Cajalco Road between Temescal Canyon Road and La Sierra Avenue. Compared with the statewide average accident rate of 1.680 per MVM, the actual collision rate, 1.765 per MVM, was higher than the statewide average. Statewide average accident rates were also exceeded along Cajalco Road between Harvill Avenue and I-215.

Collision data for the La Sierra Avenue and El Sobrante Road sections combined showed a total of 60 collisions, including six fatal accidents. The majority of collisions occurred along the approximately 5.8-mile-long stretch of El Sobrante Road, with 39 collisions over the 3-year period. However, the statewide average accident rate of 1.230 per MVM for the approximately

2.4-mile-long section of La Sierra Avenue between Cajalco Road and El Sobrante Road was exceeded, coming in at 1.856 per MVM.

Table 3.6-14 indicates the total number and types of collisions at, or in the vicinity of, individual intersections along Cajalco Road within the project area during the 3-year period. As indicated in the table, the majority of accidents (49) occurred in the area of the La Sierra Avenue intersection; 16 of the collisions involved hit objects and nine were head-on. A total of 44 persons were injured. The next highest volumes of collisions occurred at or near Clark Street and Temescal Canyon Road, respectively, with 35 collisions at Clark Street and 32 at Temescal Canyon Road. Of the 35 collisions at or near Clark Street, 22 were rear-end and six were broadside; 23 persons were injured. Of the 32 collisions at or near Temescal Canyon Road, one person was fatally injured and 22 others were injured; the majority of collisions involved hit objects (10) and overturns (8). Additional intersection areas that had high collision volumes are Alexander Street (25), Haines Street (22), Wood Road (21), Lake Mathews Drive and Brown Street (20), and Day Street (19).

Table 3.6-14. January 2015 to December 2017 Collision Data – Intersection Areas

Location (Cajalco Road)	Existing Traffic Control	Total Collisions	Collision Detail			
			Primary Collision Types[1]	Fatal (total)	Injury (total)[2]	Property Damage Only (occurrence)
Temescal Canyon Road	Signal	32	Hit object (10) Overturn (8)	1	22	16
La Sierra Avenue	Signal	49	Hit object (16) Head-on (9) Overturn (8)[3]		44	24
Lake Mathews Drive	2WSC	20	Hit object (11) Broadside (4)	1	9	13
Archer Road	2WSC	2	Hit object (1) Overturn (1)		2	
El Sobrante Road	Signal	7	Rear-End (2)		4	5
Gavilan Road	Signal	1	Rear-End (1)		1	
Harley John Road	Signal	8	Rear-End (4)		3	5
Cowan Road	2WSC	2	Rear-End (2)		1	1
Gustin Road	2WSC	5	Hit object (2)	2	6	2
Wood Road	Signal	21	Rear-End (10) Hit object (7)	2	16	1
Carpinus Drive	2WSC	7	Hit object (2) Sideswipe (2)		3	5
Barton Street	2WSC	2	Hit object (1) Overturn (1)		2	
Una Street	2WSC	9	Rear-End (6)		14	4
Alexander Street	Signal	25	Rear-End (17)		17	16
Mead Street	2WSC	8	Rear-End (4)		3	6
Brown Street	Signal	20	Rear-End (12)	1	9	14
Florence Street	2WSC	3	Broadside (2)		1	2
Haines Street	2WSC	22	Broadside (12) Rear-End (7)		17	13
Clark Street	Signal	34	Rear-End (22) Broadside (6)		11	23

Location (Cajalco Road)	Existing Traffic Control	Total Collisions	Collision Detail			
			Primary Collision Types[1]	Fatal (total)	Injury (total)[2]	Property Damage Only (occurrence)
Carroll Street	2WSC	9	Broadside (3)		8	4
Robinson Street	2WSC	7	Rear-end (4)		1	6
Day Street	2WSC	19	Broadside (7)		11	10
Decker Road	2WSC	5	Rear-End (3)		2	3
Seaton Avenue	2WSC	8	Broadside (4)	1	12	3
Cajalco Expressway and Harvill Avenue	Signal	9	Rear-End (4)		1	7

Sources: County 2018; Iteris 2019.
2WSC = 2 Way Stop Control
[1] Two most common collision types listed.
[2] Total number of persons injured.
[3] Additional collision type included for this intersection only due to high occurrence (8).

As shown in Table 3.6-14 above, the types of collisions occurring at intersection areas within the project limits during the 3-year period varies; the majority of collisions were rear-end, hit object, and broadside. For additional details regarding collision types and occurrences at each intersection, please refer to Table 1-11 in Chapter 1, *Proposed Project*.

The existing roadway along Cajalco Road is generally a two-lane undivided facility between Temescal Canyon Road east of I-15 and Harvill Avenue west of I-215, with left-turn lanes primarily limited to signalized intersections. The only divided segment of Cajalco Road is between Wood Road and Carpinus Drive where an unpaved median exists. Within the project limits, 11 intersections along Cajalco Road, and two along El Sobrante Road, are currently signalized. The remaining 26 intersections along Cajalco Road, and 10 intersections along El Sobrante Road, are unsignalized, some with "STOP" sign controls, and others lacking any stop controls. The proposed project would include safety enhancements, including new signals, medians, and controlled turn lanes, to address existing safety improvement needs. See Table 1-12 in Chapter 1, *Proposed Project*, and Section 2.2.1.1, *Common Features of the Build Alternatives*, in Chapter 2, *Project Alternatives*, for more detailed discussion regarding proposed safety enhancements.

Unpopulated, conserved areas associated with the Lake Mathews-Estelle Mountain Core Reserve and Lake Mathews Multiple Species Reserve along the project corridor do not include pedestrian uses, with the exception of limited roadway shoulders and intersections near residences. These conserved areas occur along Cajalco Road between west of La Sierra Avenue and west of Dirt Road, between Lake Mathews Drive and Gavilan Hills Road, and between Cowan Road and Alexander Road; along La Sierra Avenue between Cajalco Road and El Sobrante Road; and along El Sobrante Road between McAllister Street and Cajalco Road. As described under Section 3.6.2.5, *Pedestrian and Bicycle Facilities*, above, these areas have limited sidewalks and crosswalks for pedestrians, as well as limited roadway shoulder areas for cyclists.

3.6.2.7 Lake Mathews MSHCP

Because portions of the project are located within the LM MSHCP area, and the LM MSHCP does not currently accommodate the proposed roadway improvements or include a prescribed

process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. For this reason, an evaluation of the potential impacts associated with the proposed LM MSHCP discretionary action are included in this EIR/EIS.

Key transportation facilities within the LM MSHCP area, namely, those that would be improved as part of the build alternatives considered for the proposed project, include the following:

- Cajalco Road – Two-lane east/west-oriented roadway located south of Lake Mathews in the southern portion of the LM MSHCP area.
- El Sobrante Road – Two-lane northwest-oriented and east/west-oriented roadway located north and northeast of Lake Mathews in the northern and eastern portions of the LM MSHCP area.
- Gavilan Road – Two-lane north/south-oriented roadway located southeast of Lake Mathews in the southeastern-most portion of the LM MSHCP area (note that only the connections to Gavilan Road, Harley John Road, and Lake Mathews Road are improved with implementation of Build Alternative 1 or 2C).
- Harley John Road – Two-lane northwest/southeast-oriented roadway located east of Lake Mathews in the southeastern-most portion of the LM MSHCP area.
- Lake Mathews Drive – Two-lane north/south-oriented roadway located south of Lake Mathews in the southern portion of the LM MSHCP area.
- La Sierra Avenue – Two-lane north/south-oriented roadway located west of Lake Mathews in the western portion of the LM MSHCP area.

3.6.3 Environmental Consequences

3.6.3.1 Permanent Impacts

This section discusses operation of study area transportation facilities under the No-Build Alternative and the build alternatives.

Build Alternative 1—Cajalco Alignment

Arterial (Roadway Segment) Analysis

Under Build Alternative 1, two additional through lanes—one eastbound and one westbound—would be added to Cajalco Road between east of Temescal Creek Bridge and Harvill Avenue, for a total of four through lanes along this segment of Cajalco Road. Between Temescal Canyon Road and Temescal Creek Bridge, two eastbound lanes would be added, and between Harvill Avenue and I-215 southbound ramps, two additional through lanes (one in each direction) would be added, for a total of six through lanes along these segments of Cajalco Road. Roadway realignments would also occur between the Temescal Creek Bridge and Lake Mathews Drive to reduce existing curves. Median areas, turn lanes, and turn pockets would be placed at designated locations to accommodate through traffic and control cross-traffic movement. Refer to Figures 2.2-1 through 2.2-3, and 2.2-6, in Chapter 2, *Project Alternatives*.

Forecast-year (2044) no-build and build conditions under Build Alternative 1 (ADT and LOS) for the arterial segments within the study area are presented in Table 3.6-15, on the following page. As a reference, Table 3.6-3 provides the existing-year (2014) LOS results for comparison.

Table 3.6-15. Traffic Volumes and Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

Roadway Segment	No-Build Alternative (2044)		Build Alternative 1 (2044)	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road east of Temescal Canyon Road	13,530	C	20,340	A
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	13,460	C	18,530	A
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	4,310	A	8,950	A
El Sobrante Road east of La Sierra Avenue	19,410	F	20,100	F
Cajalco Road between Lake Mathews Drive and El Sobrante Road	5,770	A	12,200	A
Cajalco Road between El Sobrante Road and Gavilan Road	23,800	F	33,100	E
Cajalco Road between Gavilan Road and Harley John Road	27,330	F	39,280	F
Cajalco Road between Harley John Road and Day Street	26,420	F	39,710	F
Cajalco Road east of Day Street	28,800	F	35,950	F

Source: Caltrans 2017.
Note: Shaded cells represent unacceptable LOS (LOS standard exceeded).

As shown in the above table, the following arterial segments would operate at an acceptable LOS in the forecast year (2044) under the No-Build Alternative and with implementation of Build Alternative 1:

- Cajalco Road east of Temescal Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive
- Cajalco Road between Lake Mathews Drive and El Sobrante Road

As shown in Table 3.6-15, the following arterial segments would operate at an unacceptable LOS in the forecast year (2044) under the No-Build condition and with implementation of Build Alternative 1:

- El Sobrante Road east of La Sierra Avenue
- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road
- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

With and Without CETAP Corridor Analysis – Build Alternative 1

The traffic analyses performed for the proposed Cajalco Road Widening and Safety Enhancement Project include the construction of a separate future east-west transportation

corridor between I-15 and I-215 that would be constructed under the Community Environmental Transportation Acceptability Process (CETAP). Without the separate east-west CETAP transportation corridor between I-15 and I-215, future No-Build traffic conditions are projected to worsen along more study area roadway segments than with the referenced separate CETAP transportation corridor. More specifically, and based on a comparative analysis conducted specifically for Build Alternative 1 (see Table 3.6-16, below), the following roadway segments would be expected to operate at unacceptable LOS in the year 2044 without implementation of the separate CETAP transportation corridor as compared to with-implementation of CETAP corridor conditions under Build Alternative 1:

- Cajalco Road between Temescal Canyon Road and La Sierra Avenue (LOS F)
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive (LOS E)

Table 3.6-16. Traffic Volumes and Level of Service – Forecast Year (2044) No-Build Alternative and Build Alternative 1 Conditions without CETAP

Roadway Segment	No-Build Alternative (2044) w/o CETAP		Build Alternative 1 (2044) w/o CETAP	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	21,050	F	41,990	F
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	11,340	B	33,630	E
Cajalco Road between Lake Mathews Drive and El Sobrante Road	11,440	B	31,590	D
El Sobrante Road east of La Sierra Avenue	-	-	21,300	F
Cajalco Road between El Sobrante Road and Gavilan Road	29,800	F	52,560	F
Cajalco Road between Gavilan Road and Harley John Road	32,540	F	58,550	F
Cajalco Road between Harley John Road and Day Street	31,430	F	54,970	F
Cajalco Road east of Day Street	33,230	F	49,890	F

Sources: Caltrans 2017; Iteris 2018.
Note: Shaded cells represent unacceptable LOS (LOS standard exceeded).

As indicated in a comparison of Tables 3.6-16 and 3.6-16, above, Cajalco Road is projected to carry higher volumes under the 2044 without-CETAP conditions than under with-CETAP conditions. The difference in daily volumes is expected to range between a low of about 15,000 ADT near I-215 to a high of over 24,000, near I-15. In the absence of the separate CETAP corridor, regional traffic volumes connecting between I-215 and I-15 are expected to use Cajalco Road. For an illustration of the differences in future with-CETAP and without-CETAP conditions under No-Build conditions, refer to Figure 1-4 in Chapter 1, *Proposed Project*.

Comparing the effects of regional traffic growth on Cajalco Road, without the influence of the CETAP Corridor, it is expected that by Year 2044, Cajalco Road will experience an increase in daily traffic volumes generally ranging from 10,000 to 14,000, representing an estimated 22 to 47 percent increase depending on the segment. Under future year (2044) without-CETAP conditions, traffic conditions are projected to worsen along study area segments, and Cajalco Road would require a total of eight lanes between El Sobrante Road and east of Day Street in order to achieve an acceptable daily LOS.

Intersection Analysis

Improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. Under Build Alternative 1, new signals are proposed at the following intersections with Cajalco Road: Eagle Canyon Road, Cajalco Road west of Lake Mathews Drive (new intersection), Lake Mathews Drive, Archer Road, Kirkpatrick Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue. The signals would replace the "STOP" signs currently used to control traffic entering Cajalco Road at these intersections. They would allow for improved control of cross-traffic and traffic flow, as well as adding pedestrian crossing, intersection safety lighting, signing, and striping. Refer to Figures 2.2-2 and 2.2-3, and Section 2.2.1.2, *Unique Features of the Build Alternatives*, in Chapter 2, *Project Alternatives*, for additional details regarding intersection improvements.

The LOS analysis of forecast-year (2044) No-Build Alternative and Build Alternative 1 conditions at study area intersections is presented in Table 3.6-17, below.

Table 3.6-17. Intersection Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

	Intersection	Control Type	No-Build Alternative (2044)				Build Alternative 1			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 SB ramps and Magnolia Avenue	Signal	42.2	D	45.9	D	43.9	D	43.5	D
2	I-15 NB ramps and Magnolia Avenue	Signal	18.6	B	22.9	C	19.8	B	22.9	C
3	I-15 SB ramps and Ontario Avenue	Signal	96.3	F	93.7	F	95.0	F	91.2	F
4	I-15 NB ramps and Ontario Avenue	Signal	156.4	F	146.6	F	133.9	F	83.4	F
5	Bedford Canyon Road and El Cerrito Road	Signal	38.3	D	174.6	F	27.5	C	181.2	F
6	I-15 SB ramps and El Cerrito Road	Signal	25.1	C	7.7	A	13.0	B	10.5	B
7	I-15 NB ramps and El Cerrito Road	Signal	9.4	A	7.8	A	9.9	A	7.4	A
8	Temescal Canyon Road and El Cerrito Road	Signal	12.6	B	13.6	B	15.9	B	11.9	B
9	Cajalco Road and Bedford Canyon Road	Signal	103.9	F	207.6	F	103.0	F	247.8	F
10	Cajalco Road and I-15 SB ramps	Signal	8.7	A	122.3	F	8.7	A	112.1	F
11	I-15 NB ramps and Cajalco Road	Signal	13.6	B	52.5	D	4.1	A	47.9	D
12	Cajalco Road and Temescal Canyon Road	Signal	140.2	F	160.7	F	181.8	F	207.3	F
13	I-15 SB ramps and Weirick Road	Signal	29.3	C	26.0	C	22.0	C	24.2	C
14	I-15 NB ramps and Weirick Road	Signal	108.6	F	25.8	C	85.5	F	22.7	C
15	La Sierra Avenue and Victoria Avenue	Signal	175.4	F	326.2	F	219.0	F	373.9	F
16	La Sierra Avenue and McAllister Parkway	Signal	17.6	B	9.8	A	18.2	B	12.4	B
17	La Sierra Avenue and El Sobrante Road	AWSC	47.4	E	50.2	F	49.4	E	53.4	F
18	Cajalco Road and La Sierra Avenue	Signal	18.6	B	41.6	D	25.0	C	95.0	F
19	Lake Mathews Drive and Cajalco Road	TWSC*	2.3	A	1.2	A	18.7	B	15.3	B
20	Mockingbird Canyon Road and Harley John Road	AWSC	9.1	A	12.2	B	9.6	A	12.9	B
21	El Sobrante Road and Mockingbird Canyon Road	TWSC	3.1	A	5.2	A	2.8	A	1.8	A
22	Cajalco Road and El Sobrante Road	Signal	10.2	B	11.9	B	9.3	A	11.1	B

	Intersection	Control Type	No-Build Alternative (2044)				Build Alternative 1			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
23	Cajalco Road and Gavilan Road	Signal	24.8	C	110.6	F	35.6	D	48.1	D
24	Gavilan Road and Lake Mathews Drive	TWSC	0.7	A	199.2	F	0.7	A	198.0	F
25	Harley John Road and Washington Road	TWSC	2.2	A	51.0	F	3.5	A	39.6	E
26	Cajalco Road and Harley John Road	Signal	116.5	F	86.3	F	158.5	F	186.1	F
27	Wood Road and Markham Street	Signal	11.2	B	10.3	B	11.3	B	9.4	A
28	Cajalco Road and Wood Road	Signal	26.9	C	12.6	B	23.4	C	26.2	C
29	Alexander Street and Markham Street	AWSC	37.9	E	50.8	F	41.5	E	52.3	F
30	Alexander Street and Cajalco Road	Signal	35.7	D	27.1	C	32.1	C	40.6	D
31	Rider Street and Alexander Street	TWSC	8.2	A	7.4	A	9.1	A	7.3	A
32	Brown Street and Markham Street	AWSC	7.8	A	8.1	A	7.8	A	8.1	A
33	Brown Street and Cajalco Road	Signal	14.1	B	20.6	C	18.3	B	31.7	C
34	Brown Street and Rider Street	AWSC	9.0	A	8.7	A	8.9	A	8.7	A
35	Clark Street and Markham Street	AWSC	9.9	A	10.8	B	10.3	B	12.3	B
36	Clark Street and Cajalco Road	Signal	46.8	D	99.1	F	49.3	D	128.7	F
37	Old Elsinore Road/Clark Street and Rider Street	Signal	23.3	C	18.0	B	29.8	C	23.1	C
38	Day Street and Markham Street	AWSC	10.5	B	10.3	B	10.5	B	11.7	B
39	Day Street and Cajalco Road	TWSC*	8.9	A	30.6	D	11.8	B	22.6	C
40	Day Street and Rider Street	TWSC	13.4	A	3.9	A	12.8	B	4.6	A
41	Seaton Avenue and Markham Street	AWSC	22.0	C	25.4	D	16.9	C	37.5	E
42	Seaton Avenue and Cajalco Road	TWSC*	426.2	F	1.5	A	27.9	C	37.8	D
43	Rider Street and Seaton Avenue	TWSC	6.0	A	9.3	A	8.7	A	28.9	D
44	Harvill Avenue and Markham Street	AWSC	14.4	B	19.9	C	19.7	C	35.8	E
45	Cajalco Expressway and Harvill Avenue	Signal	20.0	C	24.3	C	26.8	C	30.8	C
46	Harvill Avenue and Rider Street	TWSC	4.8	A	4.2	A	5.2	A	5.7	A
47	Harvill Avenue and Placentia Avenue	Signal	19.5	B	40.8	D	26.3	C	65.8	E
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	136.6	F	116.7	F	149.4	F	128.5	F
49	SR-60/I-215 NB ramps and Fair Isle Drive/ Box Springs Road	Signal	233.0	F	62.0	E	208.3	F	125.0	F
50	Day Street and SR-60 WB ramps	Signal	16.3	B	207.0	F	17.6	B	37.8	D
51	Day Street and SR-60 EB ramps	Signal	29.2	C	64.4	E	32.7	C	97.8	F
52	I-215 ramps and Eucalyptus Avenue	Signal	22.9	C	205.9	F	26.9	C	226.6	F
53	Alessandro Boulevard and I-215 SB ramp	Signal	18.0	B	21.1	C	27.4	C	30.5	C
54	I-215 NB ramps and Alessandro Boulevard	Signal	60.7	E	35.5	D	77.9	E	34.8	C
55	I-215 SB ramps and Cactus Avenue	Signal	7.8	A	16.1	B	10.3	B	17.9	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	83.8	F	67.5	E	85.6	F	121.6	F
57	I-215 SB ramps and Van Buren Boulevard	Signal	11.5	B	35.2	D	11.0	B	61.7	E
58	I-215 NB ramps and Van Buren Boulevard	Signal	16.2	B	22.9	C	15.5	B	21.3	C
59	I-215 SB ramps and Harley Knox Boulevard	Signal	32.0	C	22.4	C	25.8	C	22.0	C
60	I-215 NB ramps and Harley Knox Boulevard	Signal	23.5	C	95.9	F	26.6	C	83.4	F
61	I-215 SB ramps and Cajalco/Ramona Expressway	Signal	130.4	F	35.6	D	107.3	F	51.7	D
62	I-215 NB ramps and Cajalco/Ramona Expressway	Signal	74.4	E	67.6	E	71.5	E	53.7	D

	Intersection	Control Type	No-Build Alternative (2044)				Build Alternative 1			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
63	I-215 SB Frontage Road and Placentia Avenue	Signal	16.9	B	17.5	B	16.2	B	14.1	B
64	I-215 NB Frontage Road and Placentia Avenue	Signal	49.8	D	48.5	D	34.0	C	55.2	E
65	I-215 SB ramps and Nuevo Road	Signal	27.8	C	101.0	F	26.1	C	96.9	F
66	I-215 NB ramps and Nuevo Road	Signal	59.7	E	46.5	D	58.4	E	44.3	D
67	Webster Avenue and Ramona Expressway	Signal	51.4	D	97.1	F	75.2	E	192.7	F
68	Indian Street and Ramona Expressway	Signal	61.6	E	132.5	F	96.3	F	140.5	F
69	Ramona Expressway and Perris Boulevard	Signal	40.0	D	41.5	D	44.8	D	43.3	D

Source: Caltrans 2017.
EB = eastbound
NB = northbound
SB = southbound
WB = westbound
AM peak hour = 6 a.m. to 9 a.m.
PM peak hour = 3 p.m. to 7 p.m.
TWSC = two-way stop control
AWSC = all-way stop control
*Replaced with Signal under Build Alternative 1
Delay = average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)

As presented above in Table 3.6-17, a total of 33 intersections operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 1 conditions. The following intersections would operate at an unacceptable LOS F during both AM and PM peak hours:

- I-15 southbound ramps and Ontario Avenue
- I-15 northbound ramps and Ontario Avenue
- Cajalco Road and Bedford Canyon Road
- Cajalco Road and Temescal Canyon Road
- La Sierra Avenue and Victoria Avenue
- Cajalco Road and Harley John Road
- SR-60/I-215 northbound ramps and Fair Isle Drive/ Box Springs Road
- I-215 northbound ramps/Old I-215 Frontage Road and Cactus Avenue
- Indian Street and Ramona Expressway

The following intersections would operate at an unacceptable LOS E or F during both AM and PM peak hours:

- La Sierra Avenue and El Sobrante Road – LOS E in the AM peak hour and LOS F in the PM peak hour

- Alexander Street and Markham Street – LOS E in the AM peak hour and LOS F in the PM peak hour
- Sycamore Canyon Road and SR-60/I-215 southbound ramps – LOS F in the AM and PM peak hours
- Webster Avenue and Ramona Expressway – LOS E in the AM peak hour and LOS F in the PM peak hour

The following intersections would operate at an unacceptable LOS E or F during the AM peak hour:

- I-15 northbound ramps and Weirick Road – LOS F
- I-215 northbound ramps and Alessandro Boulevard – LOS E
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E
- I-215 northbound ramps and Nuevo Road – LOS E

The following intersections would operate at an unacceptable LOS E or F during the PM peak hour:

- Bedford Canyon Road and El Cerrito Road – LOS F
- Cajalco Road and I-15 southbound ramps – LOS F
- Cajalco Road and La Sierra Avenue – LOS F
- Gavilan Road and Lake Mathews Drive – LOS F
- Harley John Road and Washington Road – LOS E
- Clark Street and Cajalco Road – LOS F
- Seaton Avenue and Markham Street – LOS E
- Harvill Avenue and Markham Street – LOS E
- Harvill Avenue and Placentia Avenue – LOS E
- Day Street and SR-60 eastbound ramps – LOS F
- I-215 ramps and Eucalyptus Avenue – LOS F
- I-215 southbound ramps and Van Buren Boulevard – LOS E
- I-215 northbound ramps and Harley Knox Boulevard – LOS F
- I-215 northbound Frontage Road and Placentia Avenue – LOS E
- I-215 southbound ramps and Nuevo Road – LOS F

As also shown in Table 3.6-17, the following study intersections are projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044), but projected to operate at an unacceptable LOS under Build Alternative 1 in the same year:

- Cajalco Road and La Sierra Avenue in the PM peak hour

- Seaton Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Placentia Avenue in the PM peak hour
- I-215 southbound ramps and Van Buren Boulevard in the PM peak hour
- I-215 northbound Frontage Road and Placentia Avenue in the PM peak hour
- Webster Avenue and Ramona Expressway in the AM peak hour

As shown in Table 3.6-17, the study intersections that are projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044), but projected to operate at acceptable LOS under Build Alternative 1 are as follows:

- Cajalco Road and Gavilan Road in the PM peak hour
- Seaton Avenue and Cajalco Road in the AM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway in the PM peak hour

Finally, and as also shown in Table 3.6-17, LOS is expected to improve for the following study intersections under Build Alternative 1 in the future year (2044) as compared to the No-Build Alternative in the same year:

- Bedford Canyon Road and El Cerrito Road in the AM peak hour
- I-15 southbound ramps and El Cerrito Road in the AM peak hour
- I-15 northbound ramps and Cajalco Road in the AM peak hour
- Cajalco Road and El Sobrante Road in the AM peak hour
- Wood Road and Markham Street in the PM peak hour
- Day Street and Cajalco Road in the PM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour
- I-215 northbound ramps and Alessandro Boulevard in the PM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway in the PM peak hour
- I-215 northbound Frontage Road and Placentia Avenue in the AM peak hour

Freeway Analysis

The LOS analysis of forecast-year (2044) No-Build Alternative and Build Alternative 1 conditions at study area freeway segments (basic, ramps, and weaving segments) is presented on the following page.

Freeway Mainline Level of Service

Forecast-year (2044) No-Build Alternative and Build Alternative 1 AM and PM peak-hour conditions for study area freeway mainline segments is presented in Table 3.6-18 on the following page.

Table 3.6-18. Freeway Mainline Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

Freeway Segment	No-Build Alternative (2044)				Build Alternative 1 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
Lane addition to WB SR-91 off-ramp	27.8	D	28.4	D	28.0	D	28.1	D
WB SR-91 off-ramp to EB SR-91 off-ramp	57.7	F	44.5	E	59.3	F	43.7	E
EB SR-91 off-ramp to EB SR-91 on-ramp	37.4	E	31.9	D	38.8	E	31.5	D
EB SR-91 on-ramp to lane drop	27.3	D	25.4	C	27.5	D	25.3	C
Lane drop to WB SR-91 on-ramp	38.2	E	34.4	D	38.5	E	34.3	D
WB SR-91 on-ramp to Magnolia Avenue off-ramp	*See Weaving Analysis*							
Magnolia Avenue off-ramp to Magnolia Avenue on-ramp	31.1	D	32.0	D	31.4	D	32.3	D
Magnolia Avenue on-ramp to Ontario Avenue off-ramp	35.4	E	38.3	E	35.6	E	38.8	E
Ontario Avenue off-ramp to Ontario Avenue on-ramp	26.4	D	33.0	D	26.7	D	33.5	D
Ontario Avenue on-ramp to El Cerrito Road off-ramp	*See Weaving Analysis*							
El Cerrito Road off-ramp to El Cerrito Road on-ramp	--	--	--	--	--	--	--	--
El Cerrito Road on-ramp to Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	--	--	--	--	--	--	--	--
El Cerrito Road off-ramp to lane addition	41.6	E	138.4	F	42.4	E	137.4	F
Lane addition to CETAP off-ramp	26.7	D	44.9	E	26.9	D	44.8	E
CETAP off-ramp to lane drop	18.2	C	24.8	C	18.6	C	25.0	C
Lane drop to Cajalco Road off-ramp	24.4	C	37.0	E	25.1	C	37.5	E
Cajalco Road off-ramp to WB CETAP on-ramp	20.4	C	30.3	D	20.9	C	29.9	D
WB CETAP on-ramp to Cajalco Road on-ramp	20.5	C	30.5	D	20.3	C	30.0	D
Cajalco Road on-ramp to Weirick Road off-ramp	22.4	C	57.3	F	22.8	C	50.0	F
Weirick Road off-ramp to Weirick Road on-ramp	18.4	C	33.5	D	18.9	C	32.3	D
I-15 Northbound								
Weirick Road off-ramp to Weirick Road on-ramp	--	--	--	--	--	--	--	--
Weirick Road on-ramp to Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	--	--	--	--	--	--	--	--
Cajalco Road on-ramp to El Cerrito Road off-ramp	--	--	--	--	--	--	--	--
El Cerrito Road off-ramp to El Cerrito Road on-ramp	--	--	--	--	--	--	--	--
Weirick Road off-ramp to CETAP off-ramp	26.9	D	25.4	C	27.4	D	25.1	C
CETAP off-ramp to Weirick Road on-ramp	26.9	D	24.5	C	27.2	D	24.5	C
Weirick Road on-ramp to Cajalco Road on-ramp	27.7	D	27.3	D	28.6	D	27.5	D
Cajalco Road on-ramp to CETAP on-ramp	35.9	E	30.0	D	36.9	E	30.4	D
CETAP on-ramp to El Cerrito Road on-ramp	119.3	F	65.1	F	121.7	F	63.8	F
El Cerrito Road on-ramp to Ontario Avenue off-ramp	326.5	F	80.4	F	319.2	F	76.8	F
Ontario Avenue off-ramp to lane addition	62.7	F	41.2	E	64.6	F	40.8	E
Lane addition to Ontario Avenue on-ramp	33.3	D	26.5	D	33.8	D	26.3	D

Freeway Segment	No-Build Alternative (2044)				Build Alternative 1 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Ontario Avenue on-ramp to Magnolia Avenue off-ramp	50.2	F	35.8	E	51.5	F	36.1	E
Magnolia Avenue off-ramp to EB Magnolia Avenue on-ramp	104.3	F	55.9	F	111.1	F	56.6	F
EB Magnolia Avenue on-ramp to WB Magnolia Avenue on-ramp	52.0	F	38.0	E	53.4	F	38.1	E
WB Magnolia Avenue on-ramp to SR-91 off-ramp	*See Weaving Analysis*							
SR-91 off-ramp to WB SR-91 on-ramp	52.4	F	32.6	D	54.2	F	31.4	D
WB SR-91 on-ramp to EB SR-91 on-ramp	90.3	F	46.7	F	97.3	F	44.4	E
EB SR-91 on-ramp to lane drop	46.6	F	32.5	D	45.3	F	32.0	D
I-215 Southbound								
EB SR-60 on-ramp to WB SR-60 on-ramp	46.1	F	52.3	F	41.7	E	48.4	F
WB SR-60 on-ramp to Sycamore Canyon Boulevard on-ramp	22.2	C	23.2	C	21.3	C	22.7	C
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	*See Weaving Analysis*							
Eucalyptus Avenue off-ramp to lane drop	24.2	C	24.8	C	24.2	C	24.5	C
Lane drop to Eucalyptus Avenue on-ramp	35.8	E	37.1	E	35.6	E	36.4	E
Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp	40.1	E	44.7	E	40.1	E	42.0	E
Alessandro Boulevard off-ramp to WB Alessandro Boulevard on-ramp	34.3	D	36.8	E	34.4	D	34.8	D
WB Alessandro Boulevard on-ramp to EB Alessandro Boulevard on-ramp	36.2	E	40.2	E	36.3	E	37.9	E
EB Alessandro Boulevard on-ramp to WB Cactus Ave off-ramp	*See Weaving Analysis*							
WB Cactus Avenue off-ramp to EB Cactus Avenue off-ramp	24.1	C	28.2	D	24.3	C	26.9	D
EB Cactus Avenue off-ramp to Cactus Avenue on-ramp	31.1	D	36.9	E	28.9	D	33.3	D
Cactus Avenue on-ramp to Van Buren Boulevard off-ramp	37.7	E	51.2	F	39.2	E	51.1	F
Van Buren Boulevard off-ramp to Van Buren Boulevard on-ramp	27.0	D	32.0	D	27.9	D	31.0	D
Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp	31.6	D	43.1	E	32.1	D	44.9	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	27.8	D	39.5	E	28.8	D	41.2	E
Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp	30.2	D	40.6	E	30.7	D	42.4	E
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.8	C	39.7	E	25.4	C	42.1	E
Cajalco Expressway on-ramp to Mid-County Parkway off-ramp	28.6	D	46.1	F	29.2	D	49.2	F
Mid-County Parkway off-ramp to Placentia off-ramp	18.6	C	29.0	D	19.0	C	30.8	D
Placentia off-ramp to Placentia on-ramp	14.9	B	25.3	C	15.4	B	26.7	D
Placentia on-ramp to Mid-County Parkway EB on-ramp	17.3	B	28.8	D	17.7	B	31.0	D
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	18.3	C	28.9	D	18.7	C	31.1	D

Freeway Segment	No-Build Alternative (2044)				Build Alternative 1 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Mid-County Parkway WB on-ramp to West Nuevo Road off-ramp	21.6	C	32.7	D	22.1	C	34.9	D
Cajalco Expressway on-ramp to West Nuevo Road off-ramp	--	--	--	--	--	--	--	--
West Nuevo Road off-ramp to West Nuevo Road on-ramp	24.1	C	34.1	D	24.8	C	37.2	E
I-215 Northbound								
West Nuevo Road off-ramp to West Nuevo Road on-ramp	23.0	C	29.4	D	22.4	C	31.6	D
West Nuevo Road on-ramp to Mid-County Parkway off-ramp	23.4	C	25.9	C	22.7	C	27.7	D
Mid-County Parkway off-ramp to Mid-County Parkway EB on-ramp	20.8	C	21.3	C	20.0	C	22.4	C
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	21.5	C	24.1	C	20.6	C	25.0	C
Mid-County Parkway WB on-ramp to Cajalco Expressway off-ramp	28.2	D	35.2	E	27.1	D	37.5	E
West Nuevo Road on-ramp to Cajalco Expressway off-ramp	--	--	--	--	--	--	--	--
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.7	C	31.0	D	23.8	C	32.9	D
Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp	30.9	D	37.6	E	29.6	D	38.4	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	29.0	D	34.4	D	27.4	D	35.3	E
Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp	34.8	D	42.2	E	32.6	D	43.2	E
Van Buren Boulevard off-ramp to EB Van Buren Boulevard on-ramp	28.0	D	30.5	D	26.4	D	30.9	D
EB Van Buren Boulevard on-ramp to WB Van Buren Boulevard on-ramp	37.7	E	40.4	E	34.6	D	40.7	E
WB Van Buren Boulevard on-ramp to Cactus Avenue off-ramp	45.1	F	50.7	F	40.7	E	50.0	F
Cactus Avenue off-ramp to EB Cactus Avenue on-ramp	28.3	D	37.5	E	26.2	D	36.5	E
EB Cactus Avenue on-ramp to WB Cactus Avenue on-ramp	28.7	D	39.1	E	27.9	D	42.0	E
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	*See Weaving Analysis*							
East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp	25.7	C	43.7	E	25.5	C	44.3	E
East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp	27.8	D	52.7	F	27.7	D	53.8	F
Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp	25.7	C	43.3	E	25.8	C	43.8	E
Eucalyptus Avenue on-ramp to SR-60	27.0	D	50.2	F	26.9	D	50.7	F

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown in Table 3.6-18, the following segments along I-15 and I-215 operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 1 conditions:

I-15 Southbound (2044):

- Westbound SR-91 off-ramp to eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 off-ramp to eastbound SR-91 on-ramp – LOS E in the AM peak hour
- Lane drop to westbound SR-91 on-ramp – LOS E in the AM peak hour
- Magnolia Avenue on-ramp to Ontario Avenue off-ramp – LOS E in the AM and PM peak hours
- Lane addition to CETAP off-ramp – LOS E in the PM peak hour
- Lane drop to Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp to Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Cajalco Road on-ramp to CETAP on-ramp – LOS E in the AM peak hour
- CETAP on-ramp to El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- El Cerrito Road on-ramp to Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp to lane addition – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue on-ramp to Magnolia Avenue off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Magnolia Avenue off-ramp to eastbound Magnolia Avenue on-ramp – LOS F in the AM and PM peak hours
- Eastbound Magnolia Avenue on-ramp to westbound Magnolia Avenue on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- SR-91 off-ramp to westbound SR-91 on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp to eastbound SR-91 on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 on-ramp to lane drop – LOS F in the AM peak hour

I-215 Southbound (2044):

- Eastbound SR-60 on-ramp to westbound SR-60 on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Lane drop to Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours

- Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours
- Westbound Alessandro Boulevard on-ramp to eastbound Alessandro Boulevard on-ramp – LOS E in the AM and PM peak hours
- Cactus Avenue on-ramp to Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp – LOS E in the AM and PM peak hours
- Cajalco Expressway off-ramp to Cajalco Expressway on-ramp – LOS E in the AM and PM peak hours
- Cajalco Expressway on-ramp to Mid-County Parkway off-ramp – LOS F in the AM and PM peak hours
- West Nuevo Road off-ramp to West Nuevo Road on-ramp – LOS E in the PM peak hour

I-215 Northbound (2044):

- Mid-County Parkway WB on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp – LOS E in the PM peak hour
- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Westbound Van Buren Boulevard on-ramp to Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cactus Avenue off-ramp to eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Cactus Avenue on-ramp to westbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp – LOS F in the PM peak hour

- Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp – LOS E in the PM peak hour
- Eucalyptus Avenue on-ramp to SR-60 – LOS F in the PM peak hour

As also shown in Table 3.6-18, the following segments along I-215 are projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 1 in the same year (there are no such instances along I-15):

I-215 Southbound (2044):

- West Nuevo Road off-ramp to West Nuevo Road on-ramp in the PM peak hour

I-215 Northbound (2044):

- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp in the PM peak hour

In addition, as shown in Table 3.6-18, the segments along I-215 that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under Build Alternative 1 are as follows (there are no such instances along I-15):

I-215 Southbound (2044):

- Alessandro Boulevard off-ramp to westbound Alessandro Boulevard on-ramp in the PM peak hour
- Eastbound Cactus Avenue off-ramp to Cactus Avenue on-ramp in the PM peak hour

I-215 Northbound (2044):

- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp in the AM peak hour

Freeway Ramp Level of Service

Forecast-year 2044 No-Build Alternative and Build Alternative 1 conditions for study area freeway ramps are presented in Table 3.6-19, below.

Table 3.6-19. Freeway Ramp Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

Freeway Ramp	No-Build Alternative (2044)				Build Alternative 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 off-ramp	*Lane Deletion*				*Lane Deletion*			
EB SR-91 off-ramp	--	F	40.0	E	--	F	39.5	E
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
WB SR-91 on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue on-ramp	32.5	D	34.7	D	30.4	D	32.8	D
Ontario Avenue off-ramp	41.9	E	39.4	E	41.6	E	39.2	E
Ontario Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
El Cerrito Road off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			

	No-Build Alternative (2044)				Build Alternative 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Freeway Ramp	**Density**	**LOS**	**Density**	**LOS**	**Density**	**LOS**	**Density**	**LOS**
CETAP off-ramp	--	F	--	F	38.5	E	--	F
Cajalco Road off-ramp	30.2	D	36.9	E	30.7	D	37.2	E
WB CETAP on-ramp	20.3	C	28.0	D	20.6	C	27.6	C
Cajalco Road on-ramp	22.9	C	--	F	23.2	C	--	F
Weirick Road off-ramp	30.8	D	--	F	30.9	D	--	F
Weirick Road on-ramp	19.3	B	31.9	D	19.3	B	30.7	D
I-15 Northbound								
Weirick Road off-ramp	35.2	E	30.5	D	34.1	D	30.6	D
CETAP off-ramp	30.9	D	29.9	D	31.2	D	29.0	D
Weirick Road on-ramp	26.6	C	26.9	C	27.2	C	27.2	C
Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road on-ramp	33.4	D	28.7	D	33.9	D	28.2	D
CETAP on-ramp	--	F	--	F	--	F	--	F
El Cerrito Road off-ramp	--	--	--	--	--	--	--	--
El Cerrito Road on-ramp	--	F	--	F	--	F	--	F
Ontario Avenue off-ramp	--	F	--	F	--	F	--	F
Ontario Avenue on-ramp	--	F	36.9	E	--	F	34.8	D
Magnolia Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
EB Magnolia Avenue on-ramp	*Lane Addition*				*Lane Addition*			
WB Magnolia Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
SR-91 off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB SR-91 on-ramp	--	F	--	F	--	F	39.2	E
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
I-215 Southbound								
WB SR-60 on-ramp	*Lane Addition*				*Lane Addition*			
Sycamore Canyon Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Eucalyptus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Eucalyptus Avenue on-ramp	37.2	E	40.4	E	36.0	E	38.2	E
Alessandro Boulevard off-ramp	38.8	E	44.5	E	39.7	E	41.8	E
WB Alessandro Boulevard on-ramp	33.4	D	35.4	E	33.7	D	34.7	D
EB Alessandro Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB Cactus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
EB Cactus Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
Cactus Avenue on-ramp	33.5	D	--	F	32.9	D	--	F
Van Buren Boulevard off-ramp	37.4	E	--	F	37.5	E	44.0	E
Van Buren Boulevard on-ramp	32.4	D	38.7	E	30.4	D	--	F
Harley Knox Boulevard off-ramp	34.6	D	39.2	E	34.7	D	40.3	E
Harley Knox Boulevard on-ramp	30.0	D	34.8	D	28.8	D	34.2	D
Cajalco Expressway off-ramp	34.8	D	38.1	E	35.1	E	38.7	E
Cajalco Expressway on-ramp	29.0	D	36.9	E	28.7	D	--	F
Mid-County Parkway off-ramp	41.2	E	--	F	41.7	E	--	F
Placentia off-ramp	25.0	C	33.0	D	33.0	D	51.8	E
Placentia on-ramp	18.6	B	28.4	D	19.0	B	29.8	D
Mid-County EB on-ramp	19.0	B	26.9	C	19.2	B	28.3	D
Mid-County WB on-ramp	24.2	C	37.3	E	23.3	C	38.3	E
West Nuevo Road off-ramp	33.3	D	40.9	E	27.9	C	36.7	E

Freeway Ramp	No-Build Alternative (2044)				Build Alternative 1			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
West Nuevo Road on-ramp	28.8	D	37.5	E	27.5	C	--	F
I-215 Northbound								
West Nuevo Road off-ramp	29.9	D	35.8	E	29.8	D	36.9	E
West Nuevo Road on-ramp	32.3	D	34.6	D	29.8	D	34.4	D
Mid-County Parkway off-ramp	41.8	E	40.3	E	40.1	E	42.5	E
Mid-County Parkway EB on-ramp	21.4	C	24.8	C	20.8	C	25.3	C
Mid-County Parkway WB on-ramp	31.0	D	34.6	D	28.7	D	35.8	E
Cajalco Expressway off-ramp	32.5	D	35.9	E	31.7	D	36.6	E
Cajalco Expressway on-ramp	35.7	E	38.2	E	34.0	D	37.2	E
Harley Knox Boulevard off-ramp	38.4	E	39.7	E	37.9	E	38.1	E
Harley Knox Boulevard on-ramp	35.2	E	--	F	33.0	D	--	F
Van Buren Boulevard off-ramp	36.8	E	40.3	E	35.8	E	40.4	E
EB Van Buren Boulevard on-ramp	35.4	E	36.2	E	33.9	D	36.1	E
WB Van Buren Boulevard on-ramp	36.1	E	35.1	E	32.8	D	33.6	D
Cactus Avenue off-ramp	--	F	--	F	39.7	E	--	F
EB Cactus Avenue on-ramp	27.9	C	33.6	D	26.8	C	35.6	E
WB Cactus Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard on-ramp	27.1	C	--	F	25.8	C	--	F
Eucalyptus Avenue off-ramp	31.9	D	--	F	31.7	D	--	F
Eucalyptus Avenue on-ramp	28.5	D	--	F	26.5	C	--	F

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway ramp has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Table 3.6-19, the following freeway ramps along I-15 and I-215 operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 1 conditions:

I-15 Southbound (2044):

- Eastbound SR-91 off-ramp - LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue off-ramp – LOS E in the AM and PM peak hours
- CETAP off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp – LOS F in the PM peak hour
- Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- CETAP on-ramp – LOS F in the AM and PM peak hours

- El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue on-ramp – LOS F in the AM peak hour
- WB SR-91 on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour

I-215 Southbound (2044):

- Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours
- Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours
- Cactus Avenue on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM and PM peak hours
- Van Buren Boulevard on-ramp – LOS F in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the AM and PM peak hours
- Cajalco Expressway on-ramp – LOS F in the PM peak hour
- Mid-County Parkway off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Placentia Avenue off-ramp – LOS E in the PM peak hour
- Mid-County Parkway westbound on-ramp – LOS E in the AM and PM peak hours
- West Nuevo Road off-ramp – LOS E in the AM and PM peak hours
- West Nuevo Road on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour

I-215 Northbound (2044):

- West Nuevo Road off-ramp – LOS E in the AM and PM peak hours
- Mid-County Parkway off-ramp – LOS E in the AM and PM peak hours
- Mid-County Parkway westbound on-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM and PM peak hours
- Eastbound Van Buren Boulevard on-ramp LOS E in the PM peak hour
- Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- East Alessandro Boulevard on-ramp – LOS F in the AM and PM peak hours

- Eucalyptus Avenue off-ramp – LOS F in the AM and PM peak hours
- Eucalyptus Avenue on-ramp – LOS F in the AM and PM peak hours

As also shown in Table 3.6-19, the following ramp along southbound I-215 is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 1 in the same year (there are no such instances along northbound I-215):

- Placentia off-ramp in the PM peak hour

In addition, as shown in Table 3.6-19, the ramps along I-15 and I-215 that are projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at acceptable LOS under Build Alternative 1 in the same year are as follows (there are no such instances along southbound I-15 and northbound I-215):

I-15 Northbound (2044):

- Weirick Road off-ramp in the AM peak hour
- Ontario Avenue on-ramp in the PM peak hour

I-215 Southbound (2044):

- Westbound Alessandro Boulevard on-ramp in the PM peak hour

An examination of the data in Table 3.6-19 indicates that, during the AM peak hour, 17 freeway ramp segments are forecast to operate at an unsatisfactory LOS under 2044 Build Alternative 1 traffic conditions; during the PM peak hour, 37 freeway ramp segments are forecast to operate at an unsatisfactory LOS under 2044 Build Alternative 1 traffic conditions.

Freeway Weaving Segment Level of Service

Forecast-year (2044) No-Build Alternative and Build Alternative 1 conditions for study area freeway weaving segments are presented in Table 3.6-20 on the following page.

Table 3.6-20. Freeway Weaving Segment Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

Freeway Weaving Segment	No-Build Alternative (2044)				Build Alternative 1 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 on-ramp to Magnolia Avenue off-ramp	--	F	--	F	--	F	--	F
Ontario Avenue on-ramp to El Cerrito Road off-ramp	36.3	E	--	F	36.5	E	--	F
I-15 Northbound								
WB Magnolia Avenue on-ramp to SR-91 off-ramp	--	F	--	F	--	F	--	F
I-215 Southbound								
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	28.2	D	29.3	D	28.9	D	28.7	D
EB Alessandro Boulevard on-ramp to WB Cactus Avenue off-ramp	29.9	D	32.5	D	29.8	D	31.4	D
I-215 Northbound								
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	36.1	E	41.3	E	36.1	E	40.8	E

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway weaving segment has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

Table 3.6-20 indicates that, during both the AM and PM peak hours, four freeway weaving segments are forecast to operate at unsatisfactory levels of service under 2044 Build Alternative 1 conditions.

Vehicle Miles Traveled/Vehicle Hours Traveled/Vehicle Hours Delay/Average Speed – Build Alternative 1

Table 3.6-21, on the following page, presents summaries of daily VMT, VHT, and average speed within the study area under 2044 No-Build Alternative and Build Alternative 1 conditions.

Table 3.6-21. 2044 VMT, VHT, VHD and Average Speed – No-Build Alternative and Build Alternative 1

Indicator	AM Peak Hour		PM Peak Hour		Daily	
	No-Build (2044)	Build Alternative 1	No-Build (2044)	Build Alternative 1	No-Build (2044)	Build Alternative 1
VMT	2,861,258	2,885,200	4,859,804	4,908,555	14,659,917	14,779,906
VHT	80,884	81,467	162,260	163,270	396,569	399,326
VHD	27,460	27,563	69,595	69,725	125,131	125,471
Average Speed	35.4	35.4	30.0	30.1	37.0	37.0

Source: Caltrans 2017.
VMT = vehicle miles traveled
VHT = vehicle hours traveled
VHD = vehicle hours delay

As indicated in Table 3.6-21, VMT, VHT, and VHD are forecast to increase by less than 1 percent each under Build Alternative 1 compared with No-Build Alternative conditions in the future year (2044). Under the Build Alternative 1 conditions, the average speed is projected to increase by 0.4 mph, as compared to the existing conditions. In comparison to 2044 No-Build Alternative conditions, average speed in the study area under Build Alternative 1 is forecast to stay the same. Design speeds for the project corridor are anticipated to range between 45 and 55 mph, similar to existing speed limits, and would be confirmed during final design in accordance with County of Riverside Roadway Design Requirements Standard No. 114.

Please refer to Chapter 4, Section 4.2.17, *Transportation*, for a discussion of Senate Bill 743 and State CEQA Guidelines updates (i.e., State CEQA Guidelines Section 15064.3) related to using VMT as a measure for transportation impacts.

Peak Hour Truck Traffic

Projected future No-Build and Build Alternative 1 peak hour truck traffic volume percentages of the total traffic volumes along segments along Cajalco Road, La Sierra Avenue, and El Sobrante Road within the project limits are presented in Table 3.6-22, below.

Table 3.6-22. Truck Traffic Volumes (Percentage) – Forecast-Year (2044) No-Build Alternative and Build Alternative 1 Conditions

Roadway Segment	Forecast-Year (2044) No-Build Conditions		Forecast-Year (2044) Build Alternative 1 Conditions	
	Eastbound	Westbound	Eastbound	Westbound
Cajalco Road West of Temescal Canyon Road	12.01%	11.98%	12.05%	12.0%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	11.99%	12.01%	12.01%	11.99%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	3.18%	3.36%	3.43%	3.50%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	1.64%	1.76%	2.93%	3.02%
Cajalco Road between El Sobrante Road and Gavlin Road	2.44%	2.37%	3.98%	3.99%
Cajalco Road between Gavlin Road and Harley John Road	2.07%	2.04%	3.35%	3.36%
Cajalco Road between Harley John Road and Wood Road	1.66%	1.63%	2.66%	2.66%
Cajalco Road between Wood Road and Alexander Street	2.30%	2.37%	2.41%	2.42%

Roadway Segment	Forecast-Year (2044) No-Build Conditions		Forecast-Year (2044) Build Alternative 1 Conditions	
	Eastbound	Westbound	Eastbound	Westbound
Cajalco Road between Alexander Street and Brown Street	3.27%	3.19%	3.19%	3.15%
Cajalco Road between Brown Street and Clark Street	2.65%	2.75%	2.69%	2.73%
Cajalco Road between Clark Street and Day Street	4.24%	4.18%	4.15%	4.19%
Cajalco Road between Day Street and Seaton Avenue	3.36%	3.44%	3.41%	3.39%
Cajalco Road between Seaton Avenue and Harvill Avenue	3.64%	3.56%	3.62%	3.59%
Cajalco Road East of Harvill Avenue	3.29%	3.56%	3.31%	3.34%
Source: Caltrans 2019.				

As shown in Table 3.6-22, truck traffic percentages in 2044 Build Alternative 1 are forecast to increase up to 1.62 percent in comparison to 2044 no-build conditions. Under the Build Alternative 1 conditions, the truck percentages are projected to increase up to 0.14 percent as compared to the existing conditions, see Table 3.6-10 in Section 3.6.2.2. Currently, Cajalco Road does not meet Surface Transportation Assistance Act (STAA) roadway design standards for large trucks. The STAA requires specific lengths and width limits for travel lanes for large trucks to operate on the Interstate system, the non-Interstate Federal-aid Primary System, and certain primary routes (collectively referred to as the National Network). While Cajalco Road is not identified as a National Network facility, the project is proposing to incorporate STAA standards to better accommodate trucks that currently use Cajalco Road to safely pass through the project area.

Future Six-Lane Facility (Build Alternative 1)

Forecast-year (2044) No-Build Alternative and Build Alternative 1 future six-lane conditions for the arterial segments within the study area are presented in Table 3.6-23, below.

Table 3.6-23. Traffic Volumes and Level of Service – Forecast Year (2044) No-Build Alternative and Build Alternative 1 (Future Six-Lane Facility) Conditions

Roadway Segment	No-Build Alternative (2044)		Build Alternative 1 (Six-Lane Facility)	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road east of Temescal Canyon Road	13,530	C	20,640	A
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	13,460	C	19,760	A
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	4,310	A	11,430	A
El Sobrante Road east of La Sierra Avenue	19,410	F	20,100	F
Cajalco Road between Lake Mathews Drive and El Sobrante Road	5,770	A	14,420	A
Cajalco Road between El Sobrante Road and Gavilan Road	23,800	F	34,940	B
Cajalco Road between Gavilan Road and Harley John Road	27,330	F	40,720	C
Cajalco Road between Harley John Road and Day Street	26,420	F	40,620	F
Cajalco Road east of Day Street	28,800	F	36,260	F
Source: Caltrans 2017. Note: Shaded cells represent unacceptable LOS (LOS standard exceeded).				

As shown in Table 3.6-23, the following arterial segments operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternative 1 (Future Six-Lane Facility):

- Cajalco Road east of Temescal Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive
- Cajalco Road between Lake Mathews Drive and El Sobrante Road
- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road

As also shown in Table 3.6-23, the following arterial segments operate at an unacceptable LOS F in the forecast year (2044) with implementation of Build Alternative 1 (Future Six-Lane Facility):

- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

As also shown in Table 3.6-23, the study arterial segments that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under the build alternatives are as follows:

- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road

Lake Mathews MSHCP (Build Alternative 1)

Between Temescal Canyon Road and Harley John Road, the alignment of Build Alternative 1 travels through the boundaries of the LM MSHCP. As detailed above in Table 3.6-15, the segment of Build Alternative 1 within the LM MSHCP between Temescal Canyon Road and El Sobrante Road would operate an acceptable LOS in the forecast year (2044), whereas the segment of Build Alternative 1 between El Sobrante Road and Harley John Road within the LM MSHCP would operate at an unacceptable LOS in the forecast year (2044). In addition, and as presented above in Table 3.6-23, all arterial study segments for the future six-lane facility associated with Build Alternative 1 would operate at an acceptable LOS within the LM MSHCP in the forecast year (2044).

Regional Transportation and Transit Facilities

Build Alternative 1 would replace existing bus stops utilized by RTA along Cajalco Road with improved bus pull-outs that would allow for buses to fully exit travel lanes and through traffic at designated stops. Opportunity for a new or modified RTA Express Route that would significantly reduce transit travel time between the project termini was considered, but the addition of an express route along Cajalco Road is constrained as the facility (Cajalco Road) would not meet RTA criteria as a CommuterLink route. RTA currently engages the community, and considers ridership, population, and travel statistics, in short- and long-term planning to identify system needs and modifications (RTA n.d., 2017). However, improved mobility along Cajalco Road between Corona

and Perris would be expected to benefit both local and regional commuters that use Cajalco Road and RTA to connect with Metrolink's 91/PVL in Perris and Corona Transit Center in Corona.

Vehicular and Pedestrian Safety

As indicated in Table 3.6-14, a number of Cajalco Road intersection areas experience a high volume of collisions and related injuries. Build Alternative 1 would alter the existing Cajalco Road roadway from a two-lane, undivided facility between Temescal Canyon Creek and Harvill Avenue, to a four-lane, generally divided roadway with medians, widened paved shoulders, additional signalized intersections with safety lighting, and additional designated left-turn lanes and right turn pockets. Safety enhancements proposed include:

- Construct medians;
- Pave roadway shoulders;
- Add left- and right-turn pockets in select locations;
- Restrict left turns from Cajalco Road onto local streets except in locations where traffic signals are present;
- Improve curves between Temescal Canyon Road and El Sobrante Road;
- Add roadway signage;
- Improve existing intersections varying from minor widening and turn pockets;
- Install new traffic signals at the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue, Cajalco Road west of Lake Mathews Drive (new intersection), Lake Mathews Drive, Archer Road, Kirkpatrick Road, and Gavilan Road;
- Install object markers and safety lighting at intersections; and
- Construct designated bus pull outs at select locations along Cajalco Road.

The effectiveness of the above-listed enhancements was evaluated using methods developed by Caltrans and FHWA to aid in the review of projects under consideration for funding under the Highway Safety Improvement Program.[1] Using this approach, locations and safety issues within the transportation study area were identified, and a corresponding set of proposed safety improvements, or countermeasures, identified to reduce the likelihood of future crashes was applied for each location. Each countermeasure is assigned a Crash Reduction Factor (CRF) to indicate the effectiveness of the countermeasure, measured by the percentage of the types of crashes it is expected to reduce. Caltrans worked closely with FHWA to establish CRFs based on the best available research.[2] It is important to note that the effectiveness of each CRF is related to specific types of collisions or crashes, and not overall percentage reduction in collision occurrence.

[1] Caltrans' Division of Local Assistance developed the first version of the *Local Roadway Safety Manual* (Version 1.0) in 2012 to support the Cycle 5 Highway Safety Improvement Program call-for-projects (Caltrans 2018). Last updated April 2018.

[2] FHWA is leading a concerted effort to develop information on Crash Modification Factors and makes it available to State and local agencies to assist with highway safety planning. The Crash Modification Factors Clearinghouse, a

The countermeasures listed in Table 3.6-24 have been assigned to each Cajalco Road intersection area based on the safety enhancements proposed under Build Alternative 1, and are categorized by signalized intersections (S), non-signalized intersection (N), and roadway segments (R). Pedestrian- and bicycle-related countermeasures are included as applicable, as the consideration of the safety of non-motorized travel is important.

Table 3.6-24. Cajalco Road Safety Countermeasures – Build Alternative 1

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	Type	CRF
Temescal Canyon Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
La Sierra Avenue	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R35. Install edgeline rumble strips/stripes	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
Eagle Canyon Road	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
Lake Mathews Drive	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
Archer Road	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%

free online database introduced in 2009 and accessible at www.cmfclearinghouse.org, details the varying quality and reliability of Crash Modification Factors available to transportation professionals.

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	**Type**	**CRF**
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
El Sobrante Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		R40. Install animal fencing	Animal	80%
Gavilan Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R40. Install animal fencing	Animal	80%
Harley John Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R40. Install animal fencing	Animal	80%
Cowan Road	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
Gustin Road	None	Convert to cul-de-sac		
Wood Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
Carpinus Drive	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
Barton Street	2WSC	R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
		N51. Add intersection lighting	Lighting	40%
		N56. Upgrade intersection pavement markings	Operation/Warning	25%
Una Street	2WSC	R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	**Type**	**CRF**
		N51. Add intersection lighting	Lighting	40%
		N56. Upgrade intersection pavement markings	Operation/Warning	25%
Alexander Street	Signal	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
Mead Street	2WSC	S20. Install pedestrian crossing[2]	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%
Brown Street	Signal	S1. Add intersection lighting	Lighting	40%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
Florence Street	2WSC	S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing[2]	Pedestrian and Bike	25%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%
Haines Street	2WSC	S20. Install pedestrian crossing[2]	Pedestrian and Bike	25%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%
Clark Street	Signal	S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
Carroll Street	2WSC	S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%
Robinson Street	2WSC	S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	Type	CRF
Day Street	Signal	S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
Decker Road	2WSC	S20. Install pedestrian crossing[2]	Pedestrian and Bike	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
		N51. Add intersection lighting	Lighting	40%
Seaton Avenue	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and U-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%
Cajalco Expressway and Harvill Avenue	Signal	S12. Install raised median on approaches	Geometric Modification	25%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/Warning	15%

2WSC = Two-Way Stop Control
CRF = Crash Reduction Factor; based on percentage reduction of specific collision or crash types, not reduction in overall in collision occurrence.
[1] Existing two-way stop control replaced with new signal.
[2] Applies to intersecting roadway only (does not cross Cajalco Road).

A comparison of Table 3.6-14 and Table 3.6-24, above, indicates countermeasures would be incorporated at intersection areas experiencing high volumes of collisions and injuries, as well as intersection areas that would benefit from countermeasures.

Pedestrian and Bicycle Facilities

As indicated above, new traffic signals with designated crosswalks would be added to the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, Seaton Avenue, Cajalco Road west of Lake Mathews Drive (new intersection), Lake Mathews Drive, Archer Road, Kirkpatrick Road, and Gavilan Road. The crosswalks would offer more opportunities for pedestrians to cross Cajalco Road safely. In addition, to improve local pedestrian movement, ADA-compliant sidewalks would be constructed along one side of Cajalco Road in some locations where residential and commercial properties are present. Improvements that would support cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue would include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane.

While design and posted speed limits within the project limits would be similar or equal to those identified in Table 3.6-9, actual average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 5–10 mph during peak hours (see Table 3.6-21). Projected truck traffic is also not anticipated to result in an increased risk to pedestrian or cyclist safety as the projected minor increases would be consistent with the overall projected traffic volumes through most of the project limits. Roadway speeds within residential and commercial areas would further be controlled with existing and proposed additional intersection traffic controls.

Build Alternative 2C—Modified Cajalco Alignment

As described in the Build Alternative 2C description in Section 2.2.1 of Chapter 2, *Project Alternatives*, of this EIR/EIS, the project-related improvements proposed under Build Alternative 2C are similar to those proposed as part of Build Alternative 1, with the exception of the new four-lane segment of Cajalco Road that would be constructed from La Sierra Avenue to just west of Lake Mathews Drive. All study intersections have similar configurations under Build Alternatives 1 and 2C. Also, Cajalco Road would have the same number of lanes under both Build Alternatives 1 and 2C. Refer to Figures 2.2-1 through 2.2-3, and 2.2-6, in Chapter 2, *Project Alternatives*. Therefore, peak-hour traffic operations under Build Alternative 2C conditions would be similar to peak-hour traffic operations at study area arterial segments, intersections, freeway mainline segments, freeway ramps, and freeway weaving segments under Build Alternative 1, as detailed in the preceding section.

Please refer to Tables 3.6-15 through 3.6-20 and 3.6-22 for comparisons of projected roadway segment traffic volumes under with-CETAP and without-CETAP conditions, intersection LOS conditions, freeway mainline, ramp and weaving segment LOS conditions, and truck volume percentages for future Year 2044 No-Build and Build Alternative 1 scenarios.

Vehicle Miles Traveled/Vehicle Hours Traveled/Vehicle Hours Delay/Average Speed – Build Alternative 2C

Table 3.6-25, below, presents summaries of daily VMT, VHT, and average speed within the study area under 2044 No-Build Alternative and Build Alternative 2C conditions.

Table 3.6-25. 2044 VMT, VHT, VHD and Average Speed – No-Build and Build Alternative 2C

	AM Peak Hour		PM Peak Hour		Daily	
Indicator	No-Build Alternative	Build Alternative 2C	No-Build Alternative	Build Alternative 2C	No-Build Alternative	Build Alternative 2C
VMT	2,861,258	2,873,908	4,859,804	4,894,605	14,659,917	14,721,152
VHT	80,884	80,885	162,260	162,013	396,569	396,160
VHD	27,460	27,277	69,595	68,866	125,131	123,851
Average Speed	35.4	35.5	30.0	30.2	37.0	37.2

Source: Caltrans 2017.
VMT = vehicle miles traveled
VHT = vehicle hours traveled
VHD = vehicle hours delay

As indicated in Table 3.6-25, VMT is projected to increase less than 1 percent, and VHT is forecast to decrease less than 1 percent each under Build Alternative 2C compared with no-build conditions in the future year (2044). VHD is forecast to decrease by approximately 1 percent under Build Alternative 2C compared with no-build conditions in the future year (2044). In comparison to the existing conditions, the average speed is projected to increase by 0.6 mph as compared to the existing conditions. In comparison to year 2044 no-build conditions, the average speed in the study area is forecast to increase by 0.2 mph. Build Alternative 2C is expected to provide higher average speeds and reducing the overall delay in the project vicinity. Design speeds for the project corridor are anticipated to range between 45 and 55 mph, similar to existing speed limits, and would be confirmed during final design in accordance with County of Riverside Roadway Design Requirements Standard No. 114.

Build Alternative 2C is expected to produce higher average speed than the No Build Alternative. It should be noted that since this statistic is calculated over a relatively large area, it represents a sizeable improvement in overall mobility compared to the 2044 no-build conditions.

Please refer to Chapter 4, Section 4.2.17, *Transportation* (CEQA), for a discussion of Senate Bill 743 and State CEQA Guidelines updates (i.e., State CEQA Guidelines Section 15064.3) related to using VMT as a measure for transportation impacts.

Future Six-Lane Facility (Build Alternative 2C)

As identified under the Build Alternative 2C description in Section 2.2.1 of Chapter 2, *Project Alternatives*, of this EIR/EIS, the median between Temescal Canyon Road and Harley John Road would be wide enough to accommodate two additional travel lanes (one in each direction) in the future. The intent of including the additional median area is to ensure that future impacts on the LM MSHCP areas would be minimized to the extent feasible if the roadway is widened to six lanes. Although this is not an alternative that is being considered as part of the proposed project, impacts associated with the potential future construction of these two additional travel lanes are being disclosed in this EIR/EIS.

Because the study intersections have similar configurations, and Cajalco Road would have the same number of lanes compared with future (six-lane facility) configurations for Build Alternatives 1 and 2C, peak-hour traffic operations under the future (six-lane facility) Build Alternative 2C condition would be similar to peak-hour traffic operations at study area arterial segments, intersections, freeway mainline segments, freeway ramps, and freeway weaving segments under the future (six-lane facility) Build Alternative 1, as detailed above.

Lake Mathews MSHCP (Build Alternative 2C)

As noted above, the median between Temescal Canyon Road and Harley John Road would be wide enough to accommodate two additional travel lanes (one in each direction) in the future under Build Alternative 2C. The intent of including the additional median area is to ensure that future impacts on the LM MSHCP areas would be minimized to the extent feasible if the roadway is widened to six lanes. Although this is not an alternative that is being considered as part of the proposed project, impacts associated with the potential future construction of these two additional travel lanes are being disclosed in this EIR/EIS.

Because the study intersections have similar configurations, and Cajalco Road would have the same number of lanes compared with the configurations for Build Alternatives 1 and 2C, peak-hour traffic operations under the Build Alternative 2C condition within the area of the LM MSHCP would be similar to peak-hour the traffic operations at study area arterial segments, intersections, freeway mainline segments, freeway ramps, and freeway weaving segments under Build Alternative 1, as detailed above.

Regional Transportation and Transit Facilities

As described in the Build Alternative 2C description in Section 2.2.1 of Chapter 2, *Project Alternatives*, of this EIR/EIS, the project-related improvements proposed under Build Alternative 2C are similar to those proposed as part of Build Alternative 1, with the exception of the new four-lane segment of Cajalco Road that would be constructed from La Sierra Avenue to just west of Lake Mathews Drive. Build Alternative 2C would replace the same bus stops along Cajalco Road as Build Alternative 1 and result in the improved mobility identified under Build Alternative 1 for Cajalco Road between Corona and Perris; therefore, Build Alternative 2C would be expected to benefit both local and regional commuters that use Cajalco Road and RTA to connect with Metrolink's 91/PVL in Perris and Corona Transit Center in Corona.

Vehicular and Pedestrian Safety

As described in the Build Alternative 2C description in Section 2.2.1 of Chapter 2, *Project Alternatives*, of this EIR/EIS, the project-related improvements proposed under Build Alternative 2C are similar to those proposed as part of Build Alternative 1, with the exception of the new four-lane segment of Cajalco Road that would be constructed from La Sierra Avenue to just west of Lake Mathews Drive. All study intersections have similar configurations under Build Alternatives 1 and 2C. Therefore, the safety enhancements and countermeasures proposed under Build Alternative 2C, and their anticipated benefits, would be the same as those described for Build Alternative 1.

Pedestrian and Bicycle Facilities

As indicated above, new traffic signals with designated crosswalks would be added to the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, Day Street, Seaton Avenue, Cajalco Road west of Lake Mathews Drive (new intersection), Lake Mathews Drive, Archer Road, Kirkpatrick Road, and Gavilan Road. The crosswalks would offer more opportunities for pedestrians to cross Cajalco Road safely. In addition, to improve local pedestrian movement, ADA-compliant sidewalks would be constructed along one side of Cajalco Road in some locations where residential and commercial properties are present. Improvements that would support cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue would include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane.

While design and posted speed limits within the project limits would be similar or equal to those identified in Table 3.6-9, actual average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 5–10 mph during peak hours (see Table 3.6-21). Projected truck traffic is also not anticipated to result in an increase risk to

pedestrian or cyclist safety as the projected minor increases would be consistent with the overall projected traffic volumes through most of the project limits.

Build Alternative 4—El Sobrante Alignment

Arterial (Roadway Segment) Analysis

Under Build Alternative 4, two additional through lanes, one in each direction, would be added to Cajalco Road between east of Temescal Creek Bridge and realigned La Sierra Avenue, and between realigned Harley John Road and Harvill Avenue, for a total of four through lanes along these segments of Cajalco Road. Similar to Build Alternatives 1 and 2C, two eastbound lanes would be added between Temescal Canyon Road and Temescal Creek Bridge, and two additional through lanes, one in each direction, would be added, between Harvill Avenue and I-215 southbound ramps, for a total of six through lanes along these segments of Cajalco Road. The primary difference of Build Alternative 4 from Build Alternatives 1 and 2C would be widening and realignment of La Sierra Avenue between Cajalco Road and El Sobrante Road, and of El Sobrante Road between La Sierra Avenue and Cowan Road. Roadway realignments along Cajalco Road would also occur between the Temescal Creek Bridge and west of the realigned La Sierra Avenue to reduce existing curves. Median areas, turn lanes, and turn pockets would be placed at designated locations to accommodate through traffic and control cross-traffic movement. Refer to Figures 2.2-1, 2.2-3, 2.2-5, and 2.2-6, in Chapter 2, *Project Alternatives*.

Forecast-year (2044) No-Build Alternative and Build Alternative 4 conditions for the arterial segments within the study area are presented below in Table 3.6-26. As a reference, Table 3.6-3 provides the existing-year (2014) LOS results for comparison.

Table 3.6-26. Traffic Volumes and Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

Roadway Segment	No-Build Alternative (2044)		Build Alternative 4	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road east of Temescal Canyon Road	13,530	C	32,820	E
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	13,460	C	30,810	D
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	19,410	F	21,400	A
El Sobrante Road between Mockingbird Canyon Road and Harley John Road	--	--	21,280	B
El Sobrante Road between Harley John Road and Cajalco Road	--	--	39,490	C
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	4,310	A	6,360	A
Cajalco Road between Lake Mathews Drive and El Sobrante Road	5,770	A	6,050	A
Cajalco Road between Lake Mathews Drive and Gavilan Road	--	--	6,810	A
Cajalco Road east of El Sobrante Road	--	--	43,860	F
Cajalco Road between El Sobrante Road and Gavilan Road	23,800	F	--	--
Cajalco Road between Gavilan Road and Harley John Road	27,330	F	21,980	F
Cajalco Road between Harley John Road and Day Street	26,420	F	44,030	F
Cajalco Road east of Day Street	28,800	F	37,780	F

Source: Caltrans 2017
Shaded cells represent unacceptable LOS (LOS standard exceeded)
ADT volumes not provided for segments not applicable to the No-Build and Build condition

As shown in Table 3.6-26, the following arterial segments operate at an unacceptable LOS in the forecast year (2044) under the no-build condition:

- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road
- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

As also shown in Table 3.6-26, the following arterial segments operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternative 4:

- El Sobrante Road between Cajalco Road and Harley John Road
- El Sobrante Road between Harley John Road and Mockingbird Canyon Road
- El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between Gavilan Road and Lake Mathews Drive
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive

In addition, Table 3.6-26 indicates that the following arterial segments operate at an unacceptable LOS in the forecast year (2044) with implementation of Build Alternative 4:

- Cajalco Road east of El Sobrante Road
- Cajalco Road east of Day Street

With and Without CETAP Corridor Analysis – Build Alternative 4

As indicated under Build Alternative 1, the traffic analyses performed for the proposed project include the construction of a separate future east-west transportation corridor between I-15 and I-215 that would be constructed under CETAP. Without the separate east-west CETAP transportation corridor between I-15 and I-215, future No-Build traffic conditions are projected to worsen along more study area roadway segments than with the referenced separate CETAP transportation corridor. More specifically, and based on a comparative analysis conducted for Build Alternative 4 (see Table 3.6-27 on the following page), the following roadway segments would be expected to operate at unacceptable LOS in the year 2044 without implementation of the separate CETAP transportation corridor as compared to with-implementation of CETAP corridor conditions under Build Alternative 4:

- Cajalco Road between Temescal Canyon Road and La Sierra Avenue (LOS F)
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive (LOS E)

Table 3.6-27. Traffic Volumes and Level of Service – Forecast Year (2044) No-Build Alternative and Build Alternative 4 Conditions without CETAP

Roadway Segment	No-Build Alternative (2044) w/o CETAP		Build Alternative 4 (2044) w/o CETAP	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	21,050	F	48,150	F
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	11,340	B	17,500	E
Cajalco Road between Lake Mathews Drive and El Sobrante Road	11,440	B	NA	-
El Sobrante Road east of La Sierra Avenue	-	-	29,990	D
Cajalco Road between El Sobrante Road and Gavilan Road	29,800	F	NA	-
Cajalco Road between Gavilan Road and Harley John Road	32,540	F	28,330	F
Cajalco Road between Harley John Road and Day Street	31,430	F	55,870	F
Cajalco Road east of Day Street	33,230	F	NA	-

Sources: Caltrans 2017, Iteris 2018
Note: Shaded cells represent unacceptable LOS (LOS standard exceeded).

As indicated in a comparison of Tables 3.6-26 and 3.6-27, above, Cajalco Road is projected to carry higher volumes under the 2044 without-CETAP conditions than under with-CETAP conditions. For an illustration of the differences in future with-CETAP and without-CETAP conditions under No-Build conditions, refer to Figure 1-4 in Chapter 1, *Proposed Project*.

Under future year (2044) without-CETAP conditions, traffic conditions are projected to worsen along study area segments than under with-CETAP conditions under Build Alternative 4.

Intersection Analysis

Under Build Alternative 4, improvements to existing intersections are proposed and would vary from minor widening and turn pocket additions to complete reconstruction and installation of new signals. New signals are proposed at the following intersections with Cajalco Road: Eagle Canyon Road, Cowan Road/Gustin Road, Carpinus Drive, Day Street, and Seaton Avenue. New signals are proposed at the following intersections with El Sobrante Road: La Sierra Avenue, McAllister Street, and Mockingbird Canyon Road. The signals would replace the "STOP" signs currently used to control traffic entering Cajalco Road at these intersections. They would allow for improved control of cross-traffic and traffic flow, and would add pedestrian crossing, intersection safety lighting, signing, and striping. Refer to Figures 2.2-3 and 2.2-4, and Section 2.2.1.2, *Unique Features of the Build Alternatives*, in Chapter 2, *Project Alternatives*, for additional details regarding intersection improvements.

The LOS analysis for forecast-year (2044) No-Build Alternative and Build Alternative 4 conditions at study area intersections is presented in Table 3.6-28 on the following page.

Table 3.6-28. Intersection Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

	Intersection	Control Type	No-Build Alternative (2044)				Build Alternative 4			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 SB ramps and Magnolia Avenue	Signal	42.2	D	45.9	D	43.3	D	48.7	D
2	I-15 NB ramps and Magnolia Avenue	Signal	18.6	B	22.9	C	19.7	B	21.2	C
3	I-15 SB ramps and Ontario Avenue	Signal	96.3	F	93.7	F	92.9	F	85.1	F
4	I-15 NB ramps and Ontario Avenue	Signal	156.4	F	146.6	F	168.8	F	105.9	F
5	Bedford Canyon Road and El Cerrito Road	Signal	38.3	D	174.6	F	32.5	C	165.7	F
6	I-15 SB ramps and El Cerrito Road	Signal	25.1	C	7.7	A	18.8	B	12.3	B
7	I-15 NB ramps and El Cerrito Road	Signal	9.4	A	7.8	A	9.1	A	6.9	A
8	Temescal Canyon Road and El Cerrito Road	Signal	12.6	B	13.6	B	14.0	B	12.3	B
9	Cajalco Road and Bedford Canyon Road	Signal	103.9	F	207.6	F	64.2	E	197.5	F
10	Cajalco Road and I-15 SB ramps	Signal	8.7	A	122.3	F	9.0	A	104.0	F
11	I-15 NB ramps and Cajalco Road	Signal	13.6	B	52.5	D	6.4	A	21.7	C
12	Cajalco Road and Temescal Canyon Road	Signal	140.2	F	160.7	F	249.4	F	289.7	F
13	I-15 SB ramps and Weirick Road	Signal	29.3	C	26.0	C	21.0	C	23.3	C
14	I-15 NB ramps and Weirick Road	Signal	108.6	F	25.8	C	113.1	F	31.6	C
15	La Sierra Avenue and Victoria Avenue	Signal	175.4	F	326.2	F	235.5	F	299.7	F
16	La Sierra Avenue and McAllister Parkway	Signal	17.6	B	9.8	A	21.8	C	11.7	B
17	La Sierra Avenue and El Sobrante Road	AWSC*	47.4	E	50.2	F	52.1	D	48.8	D
18	Cajalco Road and La Sierra Avenue	Signal	18.6	B	41.6	D	16.3	B	17.7	B
19	Lake Mathews Drive and Cajalco Road	TWSC	2.3	A	1.2	A	2.3	A	1.1	A
20	Mockingbird Canyon Road and Harley John Road	AWSC	9.1	A	12.2	B	9.2	A	12.1	B
21	El Sobrante Road and Mockingbird Canyon Road	TWSC*	3.1	A	5.2	A	9.7	A	7.4	A
22	Cajalco Road and El Sobrante Road	Signal	10.2	B	11.9	B	13.5	B	27.7	C
23	Cajalco Road and Gavilan Road	Signal	24.8	C	110.6	F	17.1	B	44.8	D
24	Gavilan Road and Lake Mathews Drive	TWSC	0.7	A	199.2	F	0.7	A	71.7	F
25	Harley John Road and Washington Road	TWSC	2.2	A	51.0	F	3.7	A	27.6	D
26	Cajalco Road and Harley John Road	Signal	116.5	F	86.3	F	42.0	D	45.4	D
27	Wood Road and Markham Street	Signal	11.2	B	10.3	B	9.9	A	9.2	A
28	Cajalco Road and Wood Road	Signal	26.9	C	12.6	B	21.2	C	18.4	B
29	Alexander Street and Markham Street	AWSC	37.9	E	50.8	F	30.5	D	49.1	E
30	Alexander Street and Cajalco Road	Signal	35.7	D	27.1	C	31.5	C	25.2	C
31	Rider Street and Alexander Street	TWSC	8.2	A	7.4	A	11.7	B	7.5	A
32	Brown Street and Markham Street	AWSC	7.8	A	8.1	A	6.9	A	6.9	A
33	Brown Street and Cajalco Road	Signal	14.1	B	20.6	C	12.7	B	18.4	B
34	Brown Street and Rider Street	AWSC	9.0	A	8.7	A	8.9	A	8.6	A
35	Clark Street and Markham Street	AWSC	9.9	A	10.8	B	9.6	A	10.7	B
36	Clark Street and Cajalco Road	Signal	46.8	D	99.1	F	60.0	E	120.4	F
37	Old Elsinore Road/Clark Street and Rider Street	Signal	23.3	C	18.0	B	28.1	C	20.9	C
38	Day Street and Markham Street	AWSC	10.5	B	10.3	B	10.0	A	10.5	B
39	Day Street and Cajalco Road	TWSC*	8.9	A	30.6	D	12.4	B	16.5	B
40	Day Street and Rider Street	TWSC	13.4	A	3.9	A	13.9	B	4.4	A
41	Seaton Avenue and Markham Street	AWSC	22.0	C	25.4	D	15.4	C	19.0	C

	Intersection	Control Type	No-Build Alternative (2044)				Build Alternative 4			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
42	Seaton Avenue and Cajalco Road	TWSC	426.2	F	1.5	A	14.0	B	19.8	B
43	Rider Street and Seaton Avenue	TWSC	6.0	A	9.3	A	9.3	A	18.0	C
44	Harvill Avenue and Markham Street	AWSC	14.4	B	19.9	C	13.2	B	17.3	C
45	Cajalco Expressway and Harvill Avenue	Signal	20.0	C	24.3	C	21.4	C	24.6	C
46	Harvill Avenue and Rider Street	TWSC	4.8	A	4.2	A	6.8	A	6.1	A
47	Harvill Avenue and Placentia Avenue	Signal	19.5	B	40.8	D	22.3	C	50.9	D
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	136.6	F	116.7	F	144.1	F	122.7	F
49	SR-60/I-215 NB ramps and Fair Isle Drive/ Box Springs Road	Signal	233.0	F	62.0	E	231.2	F	56.2	E
50	Day Street and SR-60 WB ramps	Signal	16.3	B	207.0	F	16.6	B	49.0	D
51	Day Street and SR-60 EB ramps	Signal	29.2	C	64.4	E	37.1	D	86.9	F
52	I-215 ramps and Eucalyptus Avenue	Signal	22.9	C	205.9	F	22.2	C	209.6	F
53	Alessandro Boulevard and I-215 SB ramp	Signal	18.0	B	21.1	C	19.1	B	19.9	B
54	I-215 NB ramps and Alessandro Boulevard	Signal	60.7	E	35.5	D	59.6	E	36.0	D
55	I-215 SB ramps and Cactus Avenue	Signal	7.8	A	16.1	B	5.1	A	16.5	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	83.8	F	67.5	E	102.1	F	87.5	F
57	I-215 SB ramps and Van Buren Boulevard	Signal	11.5	B	35.2	D	11.4	B	33.6	C
58	I-215 NB ramps and Van Buren Boulevard	Signal	16.2	B	22.9	C	15.6	B	20.6	C
59	I-215 SB ramps and Harley Knox Boulevard	Signal	32.0	C	22.4	C	30.9	C	17.5	B
60	I-215 NB ramps and Harley Knox Boulevard	Signal	23.5	C	95.9	F	21.3	C	85.7	F
61	I-215 SB ramps and Cajalco/Ramona Expressway	Signal	130.4	F	35.6	D	111.5	F	30.2	C
62	I-215 NB ramps and Cajalco/Ramona Expressway	Signal	74.4	E	67.6	E	75.6	E	63.2	E
63	I-215 SB Frontage Road and Placentia Avenue	Signal	16.9	B	17.5	B	16.5	B	14.8	B
64	I-215 NB Frontage Road and Placentia Avenue	Signal	49.8	D	48.5	D	46.3	D	47.3	D
65	I-215 SB ramps and Nuevo Road	Signal	27.8	C	101.0	F	25.5	C	100.4	F
66	I-215 NB ramps and Nuevo Road	Signal	59.7	E	46.5	D	63.2	E	44.6	D
67	Webster Avenue and Ramona Expressway	Signal	51.4	D	97.1	F	54.2	D	157.5	F
68	Indian Street and Ramona Expressway	Signal	61.6	E	132.5	F	75.4	E	159.9	F
69	Ramona Expressway and Perris Boulevard	Signal	40.0	D	41.5	D	40.7	D	40.9	D

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
TWSC = two-way stop control
AWSC = all-way stop control
*Replaced with Signal under Build Alternative 4
Delay = average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)

As detailed above in Table 3.6-28, a total of 24 intersections operate at an unacceptable LOS in the forecast year (2044) with implementation of Build Alternative 4, as follows:

- I-15 southbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours

- I-15 northbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours
- Bedford Canyon Road and El Cerrito Road – LOS F in the PM peak hour
- Cajalco Road and Bedford Canyon Road – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cajalco Road and I-15 southbound ramps – LOS F in the PM peak hour
- Cajalco Road and Temescal Canyon Road – LOS F in the AM and PM peak hours
- I-15 northbound ramps and Weirick Road – LOS F in the PM peak hour
- La Sierra Avenue and Victoria Avenue – LOS F in the AM and PM peak hours
- Gavilan Road and Lake Mathews Drive – LOS F in the PM peak hour
- Alexander Street and Markham Street – LOS E in the PM peak hour
- Clark Street and Cajalco Road – LOS E in the AM peak hour and LOS F in the PM peak hour
- Sycamore Canyon Road and SR-60/I-215 SB ramps – LOS F in the AM and PM peak hours
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road – LOS F in the AM peak hour and LOS E in the PM peak hour
- Day Street and SR-60 eastbound ramps – LOS F in the PM peak hour
- I-215 ramps and Eucalyptus Avenue – LOS F in the PM peak hour
- I-215 NB ramps and Alessandro Boulevard – LOS E in the AM peak hour
- I-215 northbound ramps/Old 215 Frontage Road and Cactus Avenue – LOS F in the AM and PM peak hours
- I-215 northbound ramps and Harley Knox Boulevard – LOS F in the PM peak hour
- I-215 SB ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM and PM peak hours
- I-215 southbound ramps and Nuevo Road – LOS F in the PM peak hour
- I-215 northbound ramps and Nuevo Road – LOS E in the AM peak hour
- Webster Avenue and Ramona Expressway – LOS F in the PM peak hour
- Indian Street and Ramona Expressway – LOS E in the AM peak hour and LOS F in the PM peak hour

In addition, as shown in Table 3.6-28, the following study intersection is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 4 in the same year:

- Clark Street and Cajalco Road in the AM peak hour

Furthermore, as shown in Table 3.6-28, the study intersections that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under Build Alternative 4 are as follows:

- La Sierra Avenue and El Sobrante Road in the AM and PM peak hours
- Cajalco Road and Gavilan Road in the PM peak hour
- Harley John Road and Washington Road in the PM peak hour
- Cajalco Road and Harley John Road in the AM and PM peak hours
- Alexander Street and Markham Street in the AM peak hour
- Clark Street and Cajalco Road in the AM peak hour
- Seaton Avenue and Cajalco Road in the AM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour

Finally, and as also shown in Table 3.6-28, LOS is expected to improve for the following study intersections under Build Alternative 4 in the future year (2044) as compared to the No-Build Alternative in the same year:

- Bedford Canyon Road and El Cerrito Road in the AM peak hour
- I-15 southbound ramps and El Cerrito Road in the AM peak hour
- Cajalco Road and Bedford Canyon Road in the AM peak hour
- I-15 northbound ramps and Cajalco Road in the AM and PM peak hour
- La Sierra Avenue and El Sobrante Road in the AM and PM peak hour
- Cajalco Road and La Sierra Avenue in the PM peak hour
- Cajalco Road and Gavilan Road in the AM and PM peak hour
- Harley John Road and Washington Road in the PM peak hour
- Cajalco Road and Harley John Road in the AM and PM peak hour
- Wood Road and Markham Street in the AM and PM peak hour
- Alexander Street and Markham Street in the AM peak hour
- Alexander Street and Cajalco Road in the AM peak hour
- Brown Street and Cajalco Road in the PM peak hour
- Day Street and Markham Street in the AM peak hour
- Day Street and Cajalco Road in the PM peak hour
- Seaton Avenue and Markham Street in the PM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour
- Alessandro Boulevard and I-215 southbound ramp in the PM peak hour

- I-215 southbound ramps and Van Buren Boulevard in the PM peak hour
- I-215 southbound ramps and Harley Knox Boulevard in the PM peak hour
- I-215 southbound ramps and Cajalco Expressway/ Ramona Expressway in the PM peak hour

Freeway Analysis

The LOS analysis of forecast-year (2044) No-Build Alternative and Build Alternative 4 conditions at study area freeway segments (basic, ramps, and weaving segments) is presented below.

Freeway Mainline Level of Service

Forecast-year (2044) No-Build Alternative and Build Alternative 4 AM and PM peak-hour conditions at study area freeway mainline segments is presented below in Table 3.6-29.

Table 3.6-29. Freeway Mainline Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

Freeway Segment	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
Lane addition to WB SR-91 off-ramp	27.8	D	28.4	D	27.2	D	27.2	D
WB SR-91 off-ramp to EB SR-91 off-ramp	57.7	F	44.5	E	55.6	F	41.4	E
EB SR-91 off-ramp to EB SR-91 on-ramp	37.4	E	31.9	D	36.9	E	30.2	D
EB SR-91 on-ramp to lane drop	27.3	D	25.4	C	26.7	D	24.7	C
Lane drop to WB SR-91 on-ramp	38.2	E	34.4	D	37.0	E	33.1	D
WB SR-91 on-ramp to Magnolia Avenue off-ramp	*See Weaving Analysis*							
Magnolia Avenue off-ramp to Magnolia Avenue on-ramp	31.1	D	32.0	D	30.1	D	30.7	D
Magnolia Avenue on-ramp to Ontario Avenue off-ramp	35.4	E	38.3	E	34.0	D	36.7	E
Ontario Avenue off-ramp to Ontario Avenue on-ramp	26.4	D	33.0	D	25.5	C	32.1	D
Ontario Avenue on-ramp to El Cerrito Road off-ramp	*See Weaving Analysis*							
El Cerrito Road off-ramp to El Cerrito Road on-ramp	--	--	--	--	--	--	--	--
El Cerrito Road on-ramp to Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	--	--	--	--	--	--	--	--
El Cerrito Road off-ramp to lane addition	41.6	E	138.4	F	39.5	E	121.4	F
Lane addition to CETAP off-ramp	26.7	D	44.9	E	25.8	C	43.2	E
CETAP off-ramp to lane drop	18.2	C	24.8	C	17.5	B	24.0	C
Lane drop to Cajalco Road off-ramp	24.4	C	37.0	E	23.5	C	35.3	E
Cajalco Road off-ramp to WB CETAP on-ramp	20.4	C	30.3	D	19.5	C	29.3	D
WB CETAP on-ramp to Cajalco Road on-ramp	20.5	C	30.5	D	19.6	C	29.4	D
Cajalco Road on-ramp to Weirick Road off-ramp	22.4	C	57.3	F	21.3	C	53.7	F
Weirick Road off-ramp to Weirick Road on-ramp	18.4	C	33.5	D	17.7	B	32.4	D
I-15 Northbound								
Weirick Road off-ramp to Weirick Road on-ramp	--	--	--	--	--	--	--	--
Weirick Road on-ramp to Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	--	--	--	--	--	--	--	--
Cajalco Road on-ramp to El Cerrito Road off-ramp	--	--	--	--	--	--	--	--
El Cerrito Road off-ramp to El Cerrito Road on-ramp	--	--	--	--	--	--	--	--
Weirick Road off-ramp to CETAP off-ramp	26.9	D	25.4	C	27.2	D	24.4	C

Freeway Segment	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
CETAP off-ramp to Weirick Road on-ramp	26.9	D	24.5	C	27.1	D	23.8	C
Weirick Road on-ramp to Cajalco Road on-ramp	27.7	D	27.3	D	28.3	D	26.5	D
Cajalco Road on-ramp to CETAP on-ramp	35.9	E	30.0	D	36.4	E	29.2	D
CETAP on-ramp to El Cerrito Road on-ramp	119.3	F	65.1	F	123.3	F	61.9	F
El Cerrito Road on-ramp to Ontario Avenue off-ramp	326.5	F	80.4	F	321.0	F	72.9	F
Ontario Avenue off-ramp to lane addition	62.7	F	41.2	E	59.8	F	38.4	E
Lane addition to Ontario Avenue on-ramp	33.3	D	26.5	D	32.5	D	25.4	C
Ontario Avenue on-ramp to Magnolia Avenue off-ramp	50.2	F	35.8	E	46.9	F	34.3	D
Magnolia Avenue off-ramp to EB Magnolia Avenue on-ramp	104.3	F	55.9	F	88.3	F	52.3	F
EB Magnolia Avenue on-ramp to WB Magnolia Avenue on-ramp	52.0	F	38.0	E	48.4	F	37.1	E
WB Magnolia Avenue on-ramp to SR-91 off-ramp	*See Weaving Analysis*							
SR-91 off-ramp to WB SR-91 on-ramp	52.4	F	32.6	D	49.0	F	31.6	D
WB SR-91 on-ramp to EB SR-91 on-ramp	90.3	F	46.7	F	83.0	F	44.9	E
EB SR-91 on-ramp to lane drop	46.6	F	32.5	D	42.7	E	31.8	D
I-215 Southbound								
EB SR-60 on-ramp to WB SR-60 on-ramp	46.1	F	52.3	F	43.3	E	50.0	F
WB SR-60 on-ramp to Sycamore Canyon Boulevard on-ramp	22.2	C	23.2	C	21.6	C	22.9	C
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	*See Weaving Analysis*							
Eucalyptus Avenue off-ramp to lane drop	24.2	C	24.8	C	24.1	C	24.5	C
Lane drop to Eucalyptus Avenue on-ramp	35.8	E	37.1	E	35.4	E	36.4	E
Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp	40.1	E	44.7	E	39.6	E	45.0	F
Alessandro Boulevard off-ramp to WB Alessandro Boulevard on-ramp	34.3	D	36.8	E	34.2	D	37.0	E
WB Alessandro Boulevard on-ramp to EB Alessandro Boulevard on-ramp	36.2	E	40.2	E	36.0	E	40.4	E
EB Alessandro Boulevard on-ramp to WB Cactus Avenue off-ramp	*See Weaving Analysis*							
WB Cactus Avenue off-ramp to EB Cactus Avenue off-ramp	24.1	C	28.2	D	24.1	C	28.2	D
EB Cactus Avenue off-ramp to Cactus Avenue on-ramp	31.1	D	36.9	E	28.5	D	35.8	E
Cactus Avenue on-ramp to Van Buren Boulevard off-ramp	37.7	E	51.2	F	37.9	E	51.7	F
Van Buren Boulevard off-ramp to Van Buren Boulevard on-ramp	27.0	D	32.0	D	27.1	D	31.7	D
Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp	31.6	D	43.1	E	31.1	D	41.6	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	27.8	D	39.5	E	27.4	D	38.5	E
Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp	30.2	D	40.6	E	29.8	D	39.8	E
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.8	C	39.7	E	24.4	C	38.9	E
Cajalco Expressway on-ramp to Mid-County Parkway off-ramp	28.6	D	46.1	F	28.0	D	44.7	E
Mid-County Parkway off-ramp to Placentia off-ramp	18.6	C	29.0	D	18.8	C	28.4	D
Placentia off-ramp to Placentia on-ramp	14.9	B	25.3	C	15.2	B	24.7	C

Freeway Segment	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Placentia on-ramp to Mid-County Parkway EB on-ramp	17.3	B	28.8	D	18.1	C	28.9	D
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	18.3	C	28.9	D	19.1	C	29.0	D
Mid-County Parkway WB on-ramp to West Nuevo Road off-ramp	21.6	C	32.7	D	22.1	C	32.2	D
Cajalco Expressway on-ramp to West Nuevo Road off-ramp	--	--	--	--	--	--	--	--
West Nuevo Road off-ramp to West Nuevo Road on-ramp	24.1	C	34.1	D	24.7	C	33.8	D
I-215 Northbound								
West Nuevo Road off-ramp to West Nuevo Road on-ramp	23.0	C	29.4	D	22.7	C	30.5	D
West Nuevo Road on-ramp to Mid-County Parkway off-ramp	23.4	C	25.9	C	23.1	C	26.9	D
Mid-County Parkway off-ramp to Mid-County Parkway EB on-ramp	20.8	C	21.3	C	20.5	C	21.8	C
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	21.5	C	24.1	C	21.1	C	24.3	C
Mid-County Parkway WB on-ramp to Cajalco Expressway off-ramp	28.2	D	35.2	E	27.5	D	36.2	E
West Nuevo Road on-ramp to Cajalco Expressway off-ramp	--	--	--	--	--	--	--	--
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.7	C	31.0	D	24.2	C	31.8	D
Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp	30.9	D	37.6	E	30.6	D	38.2	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	29.0	D	34.4	D	28.8	D	35.0	E
Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp	34.8	D	42.2	E	34.0	D	42.5	E
Van Buren Boulevard off-ramp to EB Van Buren Boulevard on-ramp	28.0	D	30.5	D	27.6	D	30.5	D
EB Van Buren Boulevard on-ramp to WB Van Buren Boulevard on-ramp	37.7	E	40.4	E	36.0	E	39.3	E
WB Van Buren Boulevard on-ramp to Cactus Avenue off-ramp	45.1	F	50.7	F	43.1	E	48.5	F
Cactus Avenue off-ramp to EB Cactus Avenue on-ramp	28.3	D	37.5	E	26.6	D	35.2	E
EB Cactus Avenue on-ramp to WB Cactus Avenue on-ramp	28.7	D	39.1	E	28.7	D	41.5	E
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	*See Weaving Analysis*							
East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp	25.7	C	43.7	E	25.7	C	43.5	E
East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp	27.8	D	52.7	F	27.9	D	53.0	F
Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp	25.7	C	43.3	E	25.8	C	43.4	E
Eucalyptus Avenue on-ramp to SR-60	27.0	D	50.2	F	26.9	D	50.2	F

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Table 3.6-29, the following freeway segments along I-15 and I-215 operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 4 conditions:

I-15 Southbound (2044):

- Westbound SR-91 off-ramp to eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 off-ramp to eastbound SR-91 on-ramp – LOS E in the AM peak hour
- Lane drop to westbound SR-91 on-ramp – LOS E in the AM peak hour
- Magnolia Avenue on-ramp to Ontario Avenue off-ramp – LOS E in the PM peak hour
- El Cerrito Road off-ramp to lane addition – LOS E in the AM peak hour and LOS F in the PM peak hour
- Lane addition to CETAP off-ramp – LOS E in the PM peak hour
- Lane drop to Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp to Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Cajalco Road on-ramp to CETAP on-ramp – LOS E in the AM peak hour
- CETAP on-ramp to El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- El Cerrito Road on-ramp to Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp to lane addition – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue on-ramp to Magnolia Avenue off-ramp – LOS F in the AM peak hour
- Magnolia Avenue off-ramp to eastbound Magnolia Avenue on-ramp – LOS F in the AM and PM peak hours
- Eastbound Magnolia Avenue on-ramp to westbound Magnolia Avenue on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- SR-91 off-ramp to westbound SR-91 on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp to eastbound SR-91 on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 on-ramp to lane drop – LOS E in the AM peak hour

I-215 Southbound (2044):

- Eastbound SR-60 on-ramp to westbound SR-60 on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Lane drop to Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours

- Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Alessandro Boulevard off-ramp to westbound Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- Westbound Alessandro Boulevard on-ramp to eastbound Alessandro Boulevard on-ramp – LOS E in the AM and PM peak hours
- Eastbound Cactus Avenue off-ramp to Cactus Avenue on-ramp – LOS E in the PM peak hour
- Cactus Avenue on-ramp to Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp to Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Mid-County Parkway off-ramp – LOS E in the PM peak hour

I-215 Northbound (2044):

- Mid-County Parkway westbound on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp – LOS E in the PM peak hour
- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp – LOS E in the AM and PM peak hours
- Westbound Van Buren Boulevard on-ramp to Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cactus Avenue off-ramp to eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Cactus Avenue on-ramp to westbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Alessandro Boulevard off-ramp to Eastbound Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- Eastbound Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp – LOS E in the PM peak hour

- Eucalyptus Avenue on-ramp to SR-60 – LOS F in the PM peak hour

As also shown in Table 3.6-29, the following segment along northbound I-215 is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 4 in the same year (there are no such instances along any of the other study area freeway segments):

I-215 Northbound (2044):

- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp in the PM peak hour

In addition, as shown in Table 3.6-29, the following segments along I-15 are projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at acceptable LOS under Build Alternative 4 in the same year (there are no such instances along I-215):

I-215 Southbound (2044):

- Magnolia Avenue on-ramp to Ontario Avenue off-ramp in the AM peak hour

I-215 Northbound (2044):

- Ontario Avenue on-ramp to Magnolia Avenue off-ramp in the PM peak hour

Freeway Ramp Level of Service

Forecast-year (2044) No-Build Alternative and Build Alternative 4 conditions at study area freeway ramps are presented in Table 3.6-30.

Table 3.6-30. Freeway Ramp Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

Freeway Ramp	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 off-ramp	*Lane Deletion*				*Lane Deletion*			
EB SR-91 off-ramp	--	F	40.0	E	--	F	38.9	E
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
WB SR-91 on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue on-ramp	32.5	D	34.7	D	29.6	D	31.9	D
Ontario Avenue off-ramp	41.9	E	39.4	E	40.7	E	37.9	E
Ontario Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
El Cerrito Road off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
CETAP off-ramp	--	F	--	F	--	F	--	F
Cajalco Road off-ramp	30.2	D	36.9	E	29.5	D	36.2	E
WB CETAP on-ramp	20.3	C	28.0	D	19.4	B	27.2	C
Cajalco Road on-ramp	22.9	C	--	F	22.0	C	--	F
Weirick Road off-ramp	30.8	D	--	F	27.4	C	--	F
Weirick Road on-ramp	19.3	B	31.9	D	18.7	B	30.9	D
I-15 Northbound								
Weirick Road off-ramp	35.2	E	30.5	D	35.6	E	30.5	D

Freeway Ramp	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
CETAP off-ramp	30.9	D	29.9	D	31.0	D	29.1	D
Weirick Road on-ramp	26.6	C	26.9	C	27.1	C	27.1	C
Cajalco Road off-ramp	--	--	--	--	--	--	--	--
Cajalco Road on-ramp	33.4	D	28.7	D	33.7	D	28.1	D
CETAP on-ramp	--	F	--	F	--	F	--	F
El Cerrito Road off-ramp	--	--	--	--	--	--	--	--
El Cerrito Road on-ramp	--	F	--	F	--	F	--	F
Ontario Avenue off-ramp	--	F	--	F	--	F	--	F
Ontario Avenue on-ramp	--	F	36.9	E	--	F	33.9	D
Magnolia Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
EB Magnolia Avenue on-ramp	*Lane Addition*				*Lane Addition*			
WB Magnolia Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
SR-91 off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB SR-91 on-ramp	--	F	--	F	--	F	--	F
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
I-215 Southbound								
WB SR-60 on-ramp	*Lane Addition*				*Lane Addition*			
Sycamore Canyon Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Eucalyptus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Eucalyptus Avenue on-ramp	37.2	E	40.4	E	37.5	E	40.1	E
Alessandro Boulevard off-ramp	38.8	E	44.5	E	39.2	E	46.8	E
WB Alessandro Boulevard on-ramp	33.4	D	35.4	E	31.3	D	33.6	D
EB Alessandro Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB Cactus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
EB Cactus Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
Cactus Avenue on-ramp	33.5	D	--	F	32.0	D	--	F
Van Buren Boulevard off-ramp	37.4	E	--	F	37.1	E	--	F
Van Buren Boulevard on-ramp	32.4	D	38.7	E	29.8	D	36.1	E
Harley Knox Boulevard off-ramp	34.6	D	39.2	E	34.3	D	38.1	E
Harley Knox Boulevard on-ramp	30.0	D	34.8	D	28.2	D	32.9	D
Cajalco Expressway off-ramp	34.8	D	38.1	E	34.6	D	37.9	E
Cajalco Expressway on-ramp	29.0	D	36.9	E	27.9	C	--	F
Mid-County Parkway off-ramp	41.2	E	--	F	40.6	E	47.3	E
Placentia off-ramp	25.0	C	33.0	D	34.5	D	49.0	E
Placentia on-ramp	18.6	B	28.4	D	19.5	B	36.2	E
Mid-County Parkway EB on-ramp	19.0	B	26.9	C	19.5	B	27.0	C
Mid-County Parkway WB on-ramp	24.2	C	37.3	E	23.4	C	30.1	D
West Nuevo Road off-ramp	33.3	D	40.9	E	27.9	C	35.6	E
West Nuevo Road on-ramp	28.8	D	37.5	E	27.4	C	35.7	E
I-215 Northbound								
West Nuevo Road off-ramp	29.9	D	35.8	E	29.8	D	36.4	E
West Nuevo Road on-ramp	32.3	D	34.6	D	30.3	D	33.7	D
Mid-County Parkway off-ramp	41.8	E	40.3	E	41.2	E	41.8	E
Mid-County Parkway EB on-ramp	21.4	C	24.8	C	21.1	C	24.8	C
Mid-County Parkway WB on-ramp	31.0	D	34.6	D	28.9	D	35.2	E
Cajalco Expressway off-ramp	32.5	D	35.9	E	32.0	D	36.2	E
Cajalco Expressway on-ramp	35.7	E	38.2	E	34.9	D	37.5	E

Freeway Ramp	No-Build Alternative (2044)				Build Alternative 4			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Harley Knox Boulevard off-ramp	38.4	E	39.7	E	37.9	E	39.0	E
Harley Knox Boulevard on-ramp	35.2	E	--	F	33.8	D	--	F
Van Buren Boulevard off-ramp	36.8	E	40.3	E	36.2	E	40.2	E
EB Van Buren Boulevard on-ramp	35.4	E	36.2	E	34.5	D	35.6	E
WB Van Buren Boulevard on-ramp	36.1	E	35.1	E	33.9	D	33.3	D
Cactus Avenue off-ramp	--	F	--	F	40.7	E	--	F
EB Cactus Avenue on-ramp	27.9	C	33.6	D	27.5	C	34.7	D
WB Cactus Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard on-ramp	27.1	C	--	F	26.1	C	--	F
Eucalyptus Avenue off-ramp	31.9	D	--	F	32.0	D	--	F
Eucalyptus Avenue on-ramp	28.5	D	--	F	26.5	C	--	F

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway ramp has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Table 3.6-30, the following freeway ramps along I-15 and I-215 operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 4 conditions:

I-15 Southbound (2044):

- Eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue off-ramp – LOS E in the AM and PM peak hours
- CETAP off-ramp –LOS F in the AM and PM peak hours
- Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp – LOS F in the PM peak hour
- Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Weirick Road off-ramp – LOS E in the AM peak hour
- CETAP on-ramp – LOS F in the AM and PM peak hours
- El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp – LOS F in the AM and PM peak hours

I-215 Southbound (2044):

- Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours
- Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours
- Cactus Avenue on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS F in the PM peak hour
- Mid-County Parkway off-ramp – LOS E in the AM and PM peak hours
- Placentia off-ramp – LOS E in the PM peak hour
- Placentia on-ramp – LOS E in the PM peak hour
- West Nuevo Road off-ramp – LOS E in the PM peak hour
- West Nuevo Road on-ramp – LOS E in the PM peak hour

I-215 Northbound (2044):

- West Nuevo Road off-ramp – LOS E in the PM peak hour
- Mid-County Parkway off-ramp – LOS E in the AM and PM peak hours
- Mid-County Parkway westbound on-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM and PM peak hours
- Eastbound Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- East Alessandro Boulevard on-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue off-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue on-ramp – LOS F in the PM peak hour

As also shown in Table 3.6-30, the following ramps along southbound I-215 are projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 4 in the same year (there are no such instances along I-15):

I-215 Southbound (2044):

- Placentia off-ramp in the PM peak hour
- Placentia on-ramp in the PM peak hour

I-215 Northbound (2044):

- Mid-County Parkway westbound on-ramp in the PM peak hour

In addition, as shown in Table 3.6-31, the ramps along I-15 and I-215 that are projected to operate at an unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an acceptable LOS under Build Alternative 4 in the same year are as follows (there are no such instances along southbound I-15):

I-15 Northbound (2044):

- Ontario Avenue on-ramp in the PM peak hour

I-215 Southbound (2044):

- Westbound Alessandro Boulevard on-ramp in the PM peak hour
- Mid-County Parkway westbound on-ramp in the PM peak hour

I-215 Northbound (2044):

- Cajalco Expressway on-ramp in the AM peak hour
- Harley Knox Boulevard on-ramp in the AM peak hour
- Eastbound Van Buren Boulevard on-ramp in the AM peak hour
- Westbound Van Buren Boulevard on-ramp in the AM and PM peak hours

In summary, the data in Table 3.6-30 reveal that, during the AM peak hour, 17 freeway ramp segments and, during PM peak hour, 36 freeway ramp segments are forecast to operate at unsatisfactory levels of service under 2044 Build Alternative 4 traffic conditions.

Freeway Weaving Segment Level of Service

Forecast-year (2044) No-Build Alternative and Build Alternative 4 conditions at study area freeway weaving segments is presented in Table 3.6-31.

Table 3.6-31. Freeway Weaving Segment Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

Freeway Weaving Segment	No-Build Alternative (2044)				Build Alternative 4 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 on-ramp to Magnolia Avenue off-ramp	--	F	--	F	--	F	--	F
Ontario Avenue on-ramp to El Cerrito Road off-ramp	36.3	E	--	F	35.1	E	--	F

Freeway Weaving Segment	No-Build Alternative (2044)				Build Alternative 4 (2044)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Northbound								
WB Magnolia Avenue on-ramp to SR-91 off-ramp	--	F	--	F	--	F	--	F
I-215 Southbound								
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	28.2	D	29.3	D	28.5	D	29.0	D
EB Alessandro Boulevard on-ramp to WB Cactus Avenue off-ramp	29.9	D	32.5	D	29.8	D	32.6	D
I-215 Northbound								
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	36.1	E	41.3	E	36.2	E	40.3	E

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway weaving segment has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

Table 3.6-31 indicates that, during both AM and PM peak hours, four freeway segments are forecast to operate at unsatisfactory levels of service under 2044 Build Alternative 4 conditions.

Vehicle Miles Traveled/Vehicle Hours Traveled/Vehicle Hours Delay/Average Speed – Build Alternative 4

Table 3.6-32 presents summaries of daily VMT, VHT, and average speed within the study area under 2044 No-Build Alternative and Build Alternative 4 conditions. The VMT is forecast to increase approximately 1 percent under Build Alternative 4 compared with no-build conditions in the future year (2044). The VHT is forecast to increase less than 1 percent under Build Alternative 4 compared with no-build conditions in the future year (2044), whereas VHD is forecast to decrease by approximately 1 percent under Build Alternative 4 compared with no-build conditions in the future year (2044). In comparison to the existing conditions, the average speed is projected to increase by 0.6 mph. Average speed in the study area under Build Alternative 4 is forecast to increase by 0.2 mile per hour compared with 2044 No-Build conditions. Build Alternative 4 is expected to provide higher average speeds and reduce the overall delay in the project vicinity. Design speeds for the project corridor are anticipated to range between 45 and 55 mph, similar to existing speed limits, and would be confirmed during final design in accordance with County of Riverside Roadway Design Requirements Standard No. 114.

Build Alternative 4 is expected to produce higher average speed than the No Build Alternative. It should be noted that since this statistic is calculated over a relatively large area, it represents a sizeable improvement in overall mobility compared to the 2044 no-build conditions.

Table 3.6-32. 2044 VMT, VHT, VHD and Average Speed – No-Build Alternative and Build Alternative 4

Indicator	AM Peak Hour		PM Peak Hour		Daily	
	No-Build Alternative (2044)	Build Alternative 4	No-Build Alternative (2044)	Build Alternative 4	No-Build Alternative (2044)	Build Alternative 4
VMT	2,861,258	2,891,390	4,859,804	4,914,059	14,659,917	14,811,302
VHT	80,884	81,509	162,260	162,393	396,569	398,527
VHD	27,460	27,534	69,595	68,817	125,131	124,228
Average Speed	35.4	35.5	30.0	30.3	37.0	37.2

Source: Caltrans 2017
VMT = vehicle miles traveled
VHT = vehicle hours traveled
VHD = vehicle hours delay

Please refer to Chapter 4, Section 4.2.17, *Transportation* (CEQA), for a discussion of Senate Bill 743 and State CEQA Guidelines updates (i.e., State CEQA Guidelines Section 15064.3) related to using VMT as a measure for transportation impacts.

Peak Hour Truck Traffic

Table 3.6-33, truck traffic percentages in 2044 Build Alternative 4 are forecast to increase up to 1.07 percent in comparison to 2044 no-build conditions. Under the Build Alternative 4 conditions, the truck percentages are projected to increase up to 0.59 percent as compared to the existing conditions.

Table 3.6-33. Truck Traffic Volumes (Percentage) – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 Conditions

Roadway Segment	Forecast-Year (2044) No-Build Conditions		Forecast-Year (2044) Build Alternative 4 Conditions	
	Eastbound	Westbound	Eastbound	Westbound
Cajalco Road West of Temescal Canyon Road	12.01%	11.98%	12.0%	11.99%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	11.99%	12.01%	12.03%	11.98%
La Sierra Avenue between Cajalco Road and El Sobrante Road	3.92%	3.89%	0.97%	1.02%
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	6.78%	6.73%	6.76%	3.30%
El Sobrante Road East of Mockingbird Canyon Road	3.22%	3.30%	3.18%	3.34%
Cajalco Road between Harley John Road and Wood Road	1.66%	1.63%	2.68%	2.70%
Cajalco Road between Wood Road and Alexander Street	2.30%	2.37%	2.39%	2.42%
Cajalco Road between Alexander Street and Brown Street	3.27%	3.19%	3.22%	3.17%
Cajalco Road between Brown Street and Clark Street	2.65%	2.75%	2.72%	2.75%
Cajalco Road between Clark Street and Day Street	4.24%	4.18%	4.20%	4.18%
Cajalco Road between Day Street and Seaton Avenue	3.36%	3.44%	3.40%	3.39%
Cajalco Road between Seaton Avenue and Harvill Avenue	3.64%	3.56%	3.64%	3.57%
Cajalco Road East of Harvill Avenue	3.29%	3.56%	3.32%	3.25%

Source: Caltrans 2019.

Future Six-Lane Facility (Build Alternative 4)

As discussed in Section 2.2.1 of Chapter 2, *Project Alternatives*, of this EIR/EIS, under the Build Alternative 4 project description, the median along Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road would be wide enough to accommodate two additional travel lanes (one in each direction in the future). Actual construction of these lanes is not proposed under Build Alternative 4 and is not an option that is being considered for inclusion as part of the proposed project. The intent of including the additional median area is to ensure that future impacts on the LM MSHCP would be minimized to the extent feasible if the roadway is widened to six lanes. Although this is not an alternative that is being considered as part of the proposed project, impacts associated with potential future construction of these two additional travel lanes are being disclosed.

Forecast-year (2044) No-Build and build conditions for Build Alternative 4 (ADT and LOS) at arterial segments within the study area are presented in Table 3.6-34 on the following page.

Table 3.6-34. Traffic Volumes and Level of Service – Forecast-Year (2044) No-Build Alternative and Build Alternative 4 (Future Six-Lane Facility) Conditions

Roadway Segment	No-Build Alternative (2044)		Build Alternative 4 (2044)	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	13,460	C	32,820	B
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	19,410	F	22,660	B
El Sobrante Road between Mockingbird Canyon Road and Harley John Road	--	--	21,400	A
El Sobrante Road between Harley John Road and Cajalco Road	--	--	39,660	C
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	4,310	A	6,360	A
Cajalco Road between Lake Mathews Drive and Gavilan Road	5,770	A	7,140	A
Cajalco Road east of El Sobrante Road	23,800	F	44,030	F
Cajalco Road east of Day Street	28,800	F	37,780	F

Source: Caltrans 2017.
Note: Shaded cells represent unacceptable LOS (LOS standard exceeded).

As shown in the above table, the following arterial segments operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternative 4 (Future Six-Lane Facility):

- El Sobrante Road between Cajalco Road and Harley John Road
- El Sobrante Road between Harley John Road and Mockingbird Canyon Road
- El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between Gavilan Road and Lake Mathews Drive
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive

As also shown in Table 3.6-34, the following arterial segments operate at an unacceptable LOS F in the forecast year (2044) with implementation of Build Alternative 4 (Future Six-Lane Facility):

- Cajalco Road east of El Sobrante Road
- Cajalco Road East of Day Street

Lake Mathews MSHCP (Build Alternative 4)

Between Temescal Canyon Road and Harley John Road, the alignment of Build Alternative 4 travels through the boundaries of the LM MSHCP. As detailed above in Table 3.6-26 and Table 3.6-32, the segment of Build Alternative 4, both the four-lane and future (six-lane facility) cross sections, within the LM MSHCP would operate at an acceptable LOS in the forecast year (2044), with exception of the study segment along Cajalco Road east of El Sobrante Road.

Regional Transportation and Transit Facilities

Build Alternative 4 would replace existing bus stops utilized by RTA along Cajalco Road with improved bus pull-outs that would allow for buses to fully exit travel lanes and through traffic at designated stops. Opportunity for a new or modified RTA Express Route that would significantly reduce transit travel time between the project termini was considered, but the addition of an express route along Cajalco Road is constrained as the combination of Cajalco Road, La Sierra Avenue, and El Sobrante Road would not meet RTA criteria as a CommuterLink route. As indicated under Build Alternative 1, RTA currently engages the community and considers ridership, population, and travel statistics in short- and long-term planning to identify system needs and modifications (RTA n.d., 2017). However, improved mobility along Cajalco Road, La Sierra Avenue, and El Sobrante Road would be expected to benefit both local and regional commuters that use these roadways and RTA to connect with Metrolink's 91/PVL in Perris, Corona Transit Center in Corona, and La Sierra Metrolink Station in Riverside.

Vehicular and Pedestrian Safety

As indicated in Table 3.6-14, a number of Cajalco Road intersection areas experience a high volume of collisions and related injuries. Build Alternative 4 would alter the existing Cajalco Road roadway from a two-lane, undivided facility between Temescal Canyon Creek and La Sierra Avenue, and between Cowan Road and Harvill Avenue, to a four-lane, generally divided roadway with medians, additional signalized intersections with safety lighting, and additional designated left-turn lanes and right turn pockets. Safety enhancements proposed include:

- Construct medians;
- Pave roadway shoulders;
- Add left- and right-turn pockets in select locations;
- Restrict left turns from Cajalco Road onto local streets except in locations where traffic signals are present;
- Improve curves between Temescal Canyon Road and El Sobrante Road;
- Add roadway signage;

- Improve existing intersections varying from minor widening and turn pockets;
- Install new traffic signals at the following intersections with Cajalco Road: Eagle Canyon Road, Harley John Road, Cowan Road/Gustin Road, Carpinus Drive, and Seaton Avenue;
- Install object markers and safety lighting at intersections; and
- Construct designated bus pull-outs at select locations along Cajalco Road.

As indicated for Build Alternative 1, the effectiveness of the above-listed enhancements was evaluated using methods developed by Caltrans and FHWA to aid in the review of projects under consideration for funding under the Highway Safety Improvement Program (Caltrans 2018). Between Harley John Road and Harvill Avenue, the countermeasures listed in Table 3.6-24 for Build Alternative 1 would be the same as those proposed under Build Alternative 4 and are thus not included in the table of countermeasures specific to Build Alternative 4, below.

The countermeasures listed in Table 3.6-35 were assigned to each Cajalco Road intersection area between Temescal Canyon Road and Harley John Road based on the safety enhancements proposed under Build Alternative 4. Please refer to Table 3.6-24 for proposed countermeasures located at Cajalco Road intersection areas between Harley John Road and Harvill Avenue.

Table 3.6-35. Cajalco Road Safety Countermeasures – Build Alternative 4

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	Type	CRF
Temescal Canyon Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
La Sierra Avenue	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R21. Improve horizontal and vertical alignments	Geometric Modification	60%
		R31. Install delineators, reflectors and/or object markers	Operation/ Warning	15%
		R35. Install edgeline rumble strips/stripes	Operation/Warning	15%
		R40. Install animal fencing	Animal	80%
Eagle Canyon Road	Signal[1]	N53. Install signals	Lighting	25%
		S1. Add intersection lighting	Lighting	40%
		S12. Install raised median on approaches	Geometric Modification	25%
		S13. Create directional median openings to allow (and restrict) left-turns and u-turns	Geometric Modification	50%
		S20. Install pedestrian crossing	Pedestrian and Bike	25%

Location (Cajalco Road)	Traffic Control	Countermeasure		
		Name	Type	CRF
Harley John Road	Signal	S1. Add intersection lighting	Lighting	40%
		S8. Install raised pavement markers and striping (through Intersection)	Operation/Warning	10%
		S12. Install raised median on approaches	Geometric Modification	25%
		R16. Widen shoulder (paved)	Geometric Modification	30%
		R40. Install animal fencing	Animal	80%

2WSC = Two-Way Stop Control
CRF = Crash Reduction Factor; based on percentage reduction of specific collision or crash types, not reduction in overall in collision occurrence.
[1] Existing two-way stop control replaced with new signal

A comparison of Table 3.6-13 with Tables 3.6-24 and Table 3.6-35, above, indicates countermeasures would be incorporated at intersection areas experiencing high volumes of collisions and injuries, as well as intersection areas that would benefit from countermeasures. However, Build Alternative 4 would not include countermeasures or safety benefits for Cajalco Road intersection areas of Lake Mathews Drive, Archer Road, and Gavilan Road.

Pedestrian and Bicycle Facilities

New traffic signals with designated crosswalks would be added to the following intersections with Cajalco Road: Eagle Canyon Road, La Sierra Avenue, Cowan Road/Gustin Road, Carpinus Drive, Day Street, and Seaton Avenue. New traffic signals with designated crosswalks would also be added to the to the following intersections with El Sobrante Road: La Sierra Avenue, McAllister Street, Mockingbird Canyon Road, and Harley John Road. To improve local pedestrian movement, ADA-compliant sidewalks would be constructed along one side Cajalco Road in some locations where residential and commercial properties are present. Improvements that would support cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue would include curb and gutter and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane.

While design and posted speed limits within the project limits would be similar or equal to those identified in Table 3.6-9, actual average speeds for traffic traveling along Cajalco Road are projected to average 37 mph and decrease by approximately 3–7 mph during peak hours (see Table 3.6-21). Projected truck traffic is also not anticipated to result in an increase risk to pedestrian or cyclist safety as the projected minor increases would be consistent with the overall projected traffic volumes through most of the project limits.

No-Build Alternative—No Project

Traffic conditions under existing-year (2014) as well as future-year (2044) No-Build conditions were evaluated to determine LOS without the proposed project.

Arterial (Roadway Segment) Analysis

Existing-year (2014) and forecast-year (2044) No-Build conditions (ADT and LOS) at arterial segments within the study area are presented in Table 3.6-36, below.

Table 3.6-36. Traffic Volumes and Level of Service – Existing-Year (2014) and Forecast-Year (2044) No-Build Conditions

Roadway Segment	Existing-Year (2014) Conditions		Forecast-Year (2044) No-Build Conditions	
	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road east of Temescal Canyon Road	13,340	C	13,530	C
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	8,740	A	4,310	A
Cajalco Road between Lake Mathews Drive and El Sobrante Road	7,540	A	5,770	A
El Sobrante Road east of La Sierra Avenue	11,591	B	19,410	F
Cajalco Road between El Sobrante Road and Gavilan Road	18,280	F	23,800	F
Cajalco Road between Gavilan Road and Harley John Road	18,670	F	27,330	F
Cajalco Road between Harley John Road and Day Street	19,890	F	26,420	F
Cajalco Road east of Day Street	26,390	F	28,800	F

Source: Caltrans 2017
Shaded cells represent unacceptable LOS (LOS standard exceeded).

As shown in the above table, the following arterial segments operate at the same acceptable LOS under both existing-year (2014) and forecast-year (2044) No-Build conditions:

- Cajalco Road east of Temescal Canyon Road
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive
- Cajalco Road between Lake Mathews Drive and El Sobrante Road

As also shown in Table 3.6-36, the following arterial segments operate at LOS F under both existing-year (2014) and forecast-year (2044) no-build conditions:

- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road
- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

With and Without CETAP Corridor Analysis – No-Build Alternative

As indicated for Build Alternatives 1, 2C, and 4, the traffic analyses performed for the proposed project include the construction of a separate future east-west transportation corridor between I-15 and I-215 under CETAP. Without the separate east-west CETAP transportation corridor between I-15 and I-215, future No-Build traffic conditions are projected to worsen along more study area roadway segments than with the referenced separate CETAP transportation corridor. More specifically, and based on a comparative analysis conducted for No-Build Alternative conditions (see Table 3.6-37, below), the following roadway segment would be expected to operate at unacceptable LOS in the year 2044 without implementation of the separate CETAP transportation corridor as compared to with-implementation of CETAP corridor conditions under the No-Build Alternative:

- Cajalco Road between Temescal Canyon Road and La Sierra Avenue (LOS F)

Table 3.6-37. Traffic Volumes and Level of Service – Forecast Conditions with and without CETAP

Baseline 2014 and Year 2044 Forecast Conditions with and without CETAP – No-Build						
	Existing-Year (2014) Conditions		Forecast-Year (2044) No-Build Conditions with CETAP[1]		Forecast-Year (2044) No-Build Conditions without CETAP[2]	
Roadway Segment	Volume (ADT)	LOS	Volume (ADT)	LOS	Volume (ADT)	LOS
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	9,321	A	13,460	C	21,050	F
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	8,740	A	4,310	A	11,340	B
Cajalco Road between Lake Mathews Drive and El Sobrante Road	7,540	A	5,770	A	11,440	B
Cajalco Road between El Sobrante Road and Gavilan Road	18,280	F	23,800	F	29,800	F
Cajalco Road between Gavilan Road and Harley John Road	18,670	F	27,330	F	32,540	F
Cajalco Road between Harley John Road and Day Street	19,890	F	26,420	F	31,430	F
Cajalco Road East of Day Street	26,390	F	28,800	F	33,230	F

Source: Caltrans 2017a.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
[1] Traffic volumes and LOS projections with CETAP included per Riverside Traffic Analysis Model (Caltrans 2017).
[2] Traffic volumes and LOS projections without CETAP based on screening-level traffic analysis (Iteris 2018).

As indicated in the comparison in 3.6-37, above, Cajalco Road is projected to experience higher volumes under the 2044 without-CETAP conditions than under with-CETAP conditions included in the traffic analysis because regional, east-west traffic between I-215 and I-15 would be expected to continue to use Cajalco Road in the absence of a CETAP corridor.

The differences in projected volumes between with-CETAP and without-CETAP conditions along Cajalco Road are projected to range between 5,210 and 7,590 ADT west of Harley John Road, and between 4,430 and 5,010 ADT east of Harley John Road. These differences would result in a projected lower LOS F (instead of LOS C) for the segment of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, and LOS B (instead of LOS A) between La Sierra Avenue and El Sobrante Road. Without additional capacity or other planned improvements to accommodate increased volumes under without-CETAP conditions, segments of Cajalco Road would be expected to operate at a lower capacity than the traffic volumes modeled with CETAP conditions. For an illustration of the differences in future with-CETAP and without-CETAP conditions under No-Build conditions, refer to Figure 1-4 in Chapter 1, *Proposed Project*.

Intersection Analysis

The LOS analysis of existing-year (2014) and forecast-year (2044) No-Build conditions at study area intersections is presented in Table 3.6-38 on the following page.

Table 3.6-38. Intersection Level of Service – Existing-Year (2014) and Forecast-Year (2044) No-Build Conditions

	Intersection	Control Type	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1	I-15 SB ramps and Magnolia Avenue	Signal	28.9	C	38.9	D	42.2	D	45.9	D
2	I-15 NB ramps and Magnolia Avenue	Signal	16.9	B	15.4	B	18.6	B	22.9	C
3	I-15 SB ramps and Ontario Avenue	Signal	58.9	E	22.9	C	96.3	F	93.7	F
4	I-15 NB ramps and Ontario Avenue	Signal	51.8	D	15.1	B	156.4	F	146.6	F
5	Bedford Canyon Road and El Cerrito Road	Signal	22.9	C	31.2	C	38.3	D	174.6	F
6	I-15 SB ramps and El Cerrito Road	Signal	12.4	B	10.4	B	25.1	C	7.7	A
7	I-15 NB ramps and El Cerrito Road	Signal	37.3	D	24.1	C	9.4	A	7.8	A
8	Temescal Canyon Road and El Cerrito Road	Signal	10.3	B	9.2	A	12.6	B	13.6	B
9	Cajalco Road and Bedford Canyon Road	Signal	8.5	A	11.9	B	103.9	F	207.6	F
10	Cajalco Road and I-15 SB ramps	Signal	33.0	C	25.3	C	8.7	A	122.3	F
11	I-15 NB ramps and Cajalco Road	Signal	46.6	D	27.7	C	13.6	B	52.5	D
12	Cajalco Road and Temescal Canyon Road	Signal	40.9	D	30.7	C	140.2	F	160.7	F
13	I-15 SB ramps and Weirick Road	Signal	16.3	B	28.5	C	29.3	C	26.0	C
14	I-15 NB ramps and Weirick Road	Signal	11.1	B	12.3	B	108.6	F	25.8	C
15	La Sierra Avenue and Victoria Avenue	Signal	33.0	C	31.6	C	175.4	F	326.2	F
16	La Sierra Avenue and McAllister Parkway	Signal	20.6	C	17.1	B	17.6	B	9.8	A
17	La Sierra Avenue and El Sobrante Road	AWSC	26.3	D	35.7	E	47.4	E	50.2	F
18	Cajalco Road and La Sierra Avenue	Signal	14.4	B	14.8	B	18.6	B	41.6	D
19	Lake Mathews Drive and Cajalco Road	TWSC	3.2	A	1.5	A	2.3	A	1.2	A
20	Mockingbird Canyon Road and Harley John Road	AWSC	7.9	A	8.6	A	9.1	A	12.2	B
21	El Sobrante Road and Mockingbird Canyon Road	TWSC	2.6	A	3.7	A	3.1	A	5.2	A
22	Cajalco Road and El Sobrante Road	Signal	7.6	A	12.3	B	10.2	B	11.9	B
23	Cajalco Road and Gavilan Road	Signal	9.8	A	14.9	B	24.8	C	110.6	F
24	Gavilan Road and Lake Mathews Drive	TWSC	3.5	A	4.8	A	0.7	A	199.2	F
25	Harley John Road and Washington Road	TWSC	1.7	A	3.1	A	2.2	A	51.0	F
26	Cajalco Road and Harley John Road	Signal	18.7	B	18.0	B	116.5	F	86.3	F
27	Wood Road and Markham Street	Signal	18.9	B	13.3	B	11.2	B	10.3	B
28	Cajalco Road and Wood Road	Signal	29.9	C	21.3	C	26.9	C	12.6	B
29	Alexander Street and Markham Street	AWSC	50.2	F	10.3	B	37.9	E	50.8	F
30	Alexander Street and Cajalco Road	Signal	31.7	C	16.4	B	35.7	D	27.1	C
31	Rider Street and Alexander Street	TWSC	3.4	A	4.9	A	8.2	A	7.4	A
32	Brown Street and Markham Street	AWSC	2.4	A	1.9	A	7.8	A	8.1	A
33	Brown Street and Cajalco Road	Signal	11.6	B	12.1	B	14.1	B	20.6	C
34	Brown Street and Rider Street	AWSC	8.7	A	8.1	A	9.0	A	8.7	A
35	Clark Street and Markham Street	AWSC	12.1	B	11.0	B	9.9	A	10.8	B
36	Clark Street and Cajalco Road	Signal	31.7	C	32.2	C	46.8	D	99.1	F
37	Old Elsinore Road/Clark Street and Rider Street	Signal	16.5	B	13.4	B	23.3	C	18.0	B
38	Day Street and Markham Street	AWSC	11.2	B	10.0	A	10.5	B	10.3	B
39	Day Street and Cajalco Road	TWSC	3.4	A	1.9	A	8.9	A	30.6	D
40	Day Street and Rider Street	TWSC	0.0	A	0.0	A	13.4	A	3.9	A
41	Seaton Avenue and Markham Street	AWSC	12.1	B	12.6	B	22.0	C	25.4	D

	Intersection	Control Type	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
42	Seaton Avenue and Cajalco Road	TWSC	4.4	A	5.9	A	426.2	F	1.5	A
43	Rider Street and Seaton Avenue	TWSC	4.7	A	6.3	A	6.0	A	9.3	A
44	Harvill Avenue and Markham Street	AWSC	10.4	B	11.3	B	14.4	B	19.9	C
45	Cajalco Expressway and Harvill Avenue	Signal	18.5	B	5.8	A	20.0	C	24.3	C
46	Harvill Avenue and Rider Street	TWSC	1.2	A	1.3	A	4.8	A	4.2	A
47	Harvill Avenue and Placentia Avenue	Signal	5.1	A	5.3	A	19.5	B	40.8	D
48	Sycamore Canyon Road and SR-60/I-215 SB ramps	Signal	16.6	B	13.3	B	136.6	F	116.7	F
49	SR-60/I-215 NB ramps and Fair Isle Drive/ Box Springs Road	Signal	38.0	D	14.5	B	233.0	F	62.0	E
50	Day Street and SR-60 WB ramps	Signal	16.0	B	33.8	C	16.3	B	207.0	F
51	Day Street and SR-60 EB ramps	Signal	13.9	B	23.2	C	29.2	C	64.4	E
52	I-215 ramps and Eucalyptus Avenue	Signal	19.3	B	24.6	C	22.9	C	205.9	F
53	Alessandro Boulevard and I-215 SB ramp	Signal	8.9	A	10.4	B	18.0	B	21.1	C
54	I-215 NB ramps and Alessandro Boulevard	Signal	26.1	C	20.9	C	60.7	E	35.5	D
55	I-215 SB ramps and Cactus Avenue	Signal	5.4	A	13.6	B	7.8	A	16.1	B
56	I-215 NB ramps/Old 215 Frontage Road and Cactus Avenue	Signal	18.9	B	6.1	A	83.8	F	67.5	E
57	I-215 SB ramps and Van Buren Boulevard	Signal	10.1	B	17.9	B	11.5	B	35.2	D
58	I-215 NB ramps and Van Buren Boulevard	Signal	17.8	B	14.1	B	16.2	B	22.9	C
59	I-215 SB ramps and Harley Knox Boulevard	Signal	20.4	C	20.6	C	32.0	C	22.4	C
60	I-215 NB ramps and Harley Knox Boulevard	Signal	9.1	A	12.9	B	23.5	C	95.9	F
61	I-215 SB ramps and Cajalco/Ramona Expressway	Signal	87.3	F	32.2	C	130.4	F	35.6	D
62	I-215 NB ramps and Cajalco/Ramona Expressway	Signal	67.4	E	40.8	D	74.4	E	67.6	E
63	I-215 SB Frontage Road and Placentia Avenue	Signal	--	--	--	--	16.9	B	17.5	B
64	I-215 NB Frontage Road and Placentia Avenue	Signal	--	--	--	--	49.8	D	48.5	D
65	I-215 SB ramps and Nuevo Road	Signal	30.2	C	35.5	D	27.8	C	101.0	F
66	I-215 NB ramps and Nuevo Road	Signal	46.4	D	44.5	D	59.7	E	46.5	D
67	Webster Avenue and Ramona Expressway	Signal	16.1	B	18.8	B	51.4	D	97.1	F
68	Indian Street and Ramona Expressway	Signal	16.7	B	19.3	B	61.6	E	132.5	F
69	Ramona Expressway and Perris Boulevard	Signal	29.6	C	25.4	C	40.0	D	41.5	D

Source: Caltrans 2017
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
TWSC = two-way stop control
AWSC = all-way stop control
Delay = average control delay in seconds
Shaded cells represent unacceptable LOS (LOS standard exceeded)

As presented above in Table 3.6-38, a total of five intersections operate at an unacceptable LOS in the existing year (2014), as follows:

- I-15 southbound ramps and Ontario Avenue – LOS E in the AM peak hour

- La Sierra Avenue and El Sobrante Road – LOS E in the PM peak hour
- Alexander Street and Markham Street – LOS F in the AM peak hour
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM peak hour

In addition, as also presented in Table 3.6-38, the following 30 intersections will operate at an unacceptable LOS under the forecast-year (2044) No-Build condition, as follows:

- I-15 southbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours
- I-15 northbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours
- Bedford Canyon Road and El Cerrito Road – LOS F in the PM peak hour
- Cajalco Road and Bedford Canyon Road – LOS in the AM and PM peak hours
- Cajalco Road and I-15 Southbound ramps – LOS F in the PM peak hour
- Cajalco Road and Temescal Canyon Road – LOS in the AM and PM peak hours
- I-15 northbound ramps and Weirick Road – LOS F in the AM peak hour
- La Sierra Avenue and Victoria Avenue – LOS F in the AM and PM peak hours
- La Sierra Avenue and El Sobrante Road – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cajalco Road and Gavilan Road – LOS F in the PM peak hour
- Gavilan Road and Lake Mathews Drive – LOS in the PM peak hour
- Harley John Road and Washington Road – LOS in the PM peak hour
- Cajalco Road and Harley John Road – LOS F in the AM and PM peak hours
- Alexander Street and Markham Street – LOS E in the AM peak hour and LOS F in the PM peak hour
- Clark Street and Cajalco Road – LOS F in the PM peak hour
- Seaton Avenue and Cajalco Road – LOS F in the AM peak hour
- Sycamore Canyon Road and SR-60/I-215 southbound ramps – LOS F in the AM and PM peak hours
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road – LOS F in the AM peak hour and LOS E in the PM peak hour
- Day Street and SR-60 westbound ramps – LOS F in the PM peak hour
- Day Street and SR-60 eastbound ramps – LOS E in the PM peak hour
- I-215 ramps and Eucalyptus Avenue – LOS F in the PM peak hour

- I-215 northbound ramps and Alessandro Boulevard – LOS E in the AM peak hour
- I-215 northbound ramps/Old 215 Frontage Road and Cactus Avenue – LOS F in the AM peak hour and LOS E in the PM peak hour
- I-215 northbound ramps and Harley Knox Boulevard – LOS F in the PM peak hour
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM and PM peak hours
- I-215 southbound ramps and Nuevo Road – LOS F in the PM peak hour
- I-215 northbound ramps and Nuevo Road – LOS E in the AM peak hour
- Webster Avenue and Ramona Expressway – LOS F in the PM peak hour
- Indian Street and Ramona Expressway – LOS E in the AM peak hour and LOS F in the PM peak hour

Freeway Analysis

The LOS analysis for existing-year (2014) and forecast-year (2044) No-Build conditions at study area freeway segments (basic, ramps, and weaving segments) is presented below.

Freeway Mainline Level of Service

Existing-year (2014) and forecast-year (2044) No-Build AM and PM peak-hour conditions at study area freeway mainline segments is presented in Table 3.6-39.

Table 3.6-39. Freeway Mainline Level of Service – Existing-Year (2014) and Future-Year (2044) No-Build Conditions

Freeway Segment	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
Lane addition to WB SR-91 off-ramp	15.3	B	19.4	C	27.8	D	28.4	D
WB SR-91 off-ramp to EB SR-91 off-ramp	20.5	C	22.9	C	57.7	F	44.5	E
EB SR-91 off-ramp to EB SR-91 on-ramp	14.6	B	16.8	B	37.4	E	31.9	D
EB SR-91 on-ramp to lane drop	14.2	B	17.2	B	27.3	D	25.4	C
Lane drop to WB SR-91 on-ramp	17.7	B	21.5	C	38.2	E	34.4	D
WB SR-91 on-ramp to Magnolia Avenue off-ramp	*See Weaving Analysis*							
Magnolia Avenue off-ramp to Magnolia Avenue on-ramp	14.8	B	20.6	C	31.1	D	32.0	D
Magnolia Avenue on-ramp to Ontario Avenue off-ramp	16.6	B	23.9	C	35.4	E	38.3	E
Ontario Avenue off-ramp to Ontario Avenue on-ramp	11.3	B	21.3	C	26.4	D	33.0	D
Ontario Avenue on-ramp to El Cerrito Road off-ramp	*See Weaving Analysis*							
El Cerrito Road off-ramp to El Cerrito Road on-ramp	16.0	B	33.5	D	--	--	--	--
El Cerrito Road on-ramp to Cajalco Road off-ramp	18.0	C	43.0	E	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	14.4	B	35.8	E	--	--	--	--

Freeway Segment	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
El Cerrito Road off-ramp to lane addition	--	--	--	--	41.6	E	138.4	F
Lane addition to CETAP off-ramp	--	--	--	--	26.7	D	44.9	E
CETAP off-ramp to lane drop	--	--	--	--	18.2	C	24.8	C
Lane drop to Cajalco Road off-ramp	--	--	--	--	24.4	C	37.0	E
Cajalco Road off-ramp to WB CETAP on-ramp	--	--	--	--	20.4	C	30.3	D
WB CETAP on-ramp to Cajalco Road on-ramp	--	--	--	--	20.5	C	30.5	D
Cajalco Road on-ramp to Weirick Road off-ramp	15.6	B	43.5	E	22.4	C	57.3	F
Weirick Road off-ramp to Weirick Road on-ramp	12.7	B	34.5	D	18.4	C	33.5	D
I-15 Northbound								
Weirick Road off-ramp to Weirick Road on-ramp	16.6	B	17.4	B	--	--	--	--
Weirick Road on-ramp to Cajalco Road off-ramp	22.1	C	20.7	C	--	--	--	--
Cajalco Road off-ramp to Cajalco Road on-ramp	21.4	C	18.7	C	--	--	--	--
Cajalco Road on-ramp to El Cerrito Road off-ramp	30.3	D	23.3	C	--	--	--	--
El Cerrito Road off-ramp to El Cerrito Road on-ramp	26.7	D	21.6	C	--	--	--	--
Weirick Road off-ramp to CETAP off-ramp	--	--	--	--	26.9	D	25.4	C
CETAP off-ramp to Weirick Road on-ramp	--	--	--	--	26.9	D	24.5	C
Weirick Road on-ramp to Cajalco Road on-ramp	--	--	--	--	27.7	D	27.3	D
Cajalco Road on-ramp to CETAP on-ramp	--	--	--	--	35.9	E	30.0	D
CETAP on-ramp to El Cerrito Road on-ramp	--	--	--	--	119.3	F	65.1	F
El Cerrito Road on-ramp to Ontario Avenue off-ramp	32.6	D	22.9	C	326.5	F	80.4	F
Ontario Avenue off-ramp to lane addition	25.3	C	20.1	C	62.7	F	41.2	E
Lane addition to Ontario Avenue on-ramp	18.8	C	15.1	B	33.3	D	26.5	D
Ontario Avenue on-ramp to Magnolia Avenue off-ramp	23.1	C	19.2	C	50.2	F	35.8	E
Magnolia Avenue off-ramp to EB Magnolia Avenue on-ramp	19.8	C	16.7	B	104.3	F	55.9	F
EB Magnolia Avenue on-ramp to WB Magnolia Avenue on-ramp	23.5	C	19.2	C	52.0	F	38.0	E
WB Magnolia Avenue on-ramp to SR-91 off-ramp	*See Weaving Analysis*							
SR-91 off-ramp to WB SR-91 on-ramp	18.3	C	11.6	B	52.4	F	32.6	D
WB SR-91 on-ramp to EB SR-91 on-ramp	25.0	C	18.1	C	90.3	F	46.7	F
EB SR-91 on-ramp to lane drop	20.6	C	15.8	B	46.6	F	32.5	D
I-215 Southbound								
EB SR-60 on-ramp to WB SR-60 on-ramp	18.7	C	27.5	D	46.1	F	52.3	F
WB SR-60 on-ramp to Sycamore Canyon Boulevard on-ramp	12.8	B	17.3	B	22.2	C	23.2	C
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	*See Weaving Analysis*							
Eucalyptus Avenue off-ramp to lane drop	15.1	B	19.2	C	24.2	C	24.8	C
Lane drop to Eucalyptus Avenue on-ramp	20.1	C	26.1	D	35.8	E	37.1	E
Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp	22.6	C	32.8	D	40.1	E	44.7	E
Alessandro Boulevard off-ramp to WB Alessandro Boulevard on-ramp	20.0	C	27.2	D	34.3	D	36.8	E
WB Alessandro Boulevard on-ramp to EB Alessandro Boulevard on-ramp	20.8	C	33.1	D	36.2	E	40.2	E
EB Alessandro Boulevard on-ramp to WB Cactus Ave off-ramp	*See Weaving Analysis*							

Freeway Segment	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
WB Cactus Avenue off-ramp to EB Cactus Avenue off-ramp	16.0	B	24.7	C	24.1	C	28.2	D
EB Cactus Avenue off-ramp to Cactus Avenue on-ramp	18.9	C	30.3	D	31.1	D	36.9	E
Cactus Avenue on-ramp to Van Buren Boulevard off-ramp	20.9	C	34.5	D	37.7	E	51.2	F
Van Buren Boulevard off-ramp to Van Buren Boulevard on-ramp	18.1	C	29.8	D	27.0	D	32.0	D
Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp	20.9	C	40.8	E	31.6	D	43.1	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	18.7	C	35.3	E	27.8	D	39.5	E
Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp	19.2	C	36.7	E	30.2	D	40.6	E
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	13.0	B	29.6	D	24.8	C	39.7	E
Cajalco Expressway on-ramp to Mid-County Parkway off-ramp	--	--	--	--	28.6	D	46.1	F
Mid-County Parkway off-ramp to Placentia off-ramp	--	--	--	--	18.6	C	29.0	D
Placentia off-ramp to Placentia on-ramp	--	--	--	--	14.9	B	25.3	C
Placentia on-ramp to Mid-County Parkway EB on-ramp	--	--	--	--	17.3	B	28.8	D
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	--	--	--	--	18.3	C	28.9	D
Mid-County Parkway WB on-ramp to West Nuevo Road off-ramp	--	--	--	--	21.6	C	32.7	D
Cajalco Expressway on-ramp to West Nuevo Road off-ramp	16.0	B	33.6	D	--	--	--	--
West Nuevo Road off-ramp to West Nuevo Road on-ramp	14.1	B	27.8	D	24.1	C	34.1	D
I-215 Northbound								
West Nuevo Road off-ramp to West Nuevo Road on-ramp	21.7	C	12.7	B	23.0	C	29.4	D
West Nuevo Road on-ramp to Mid-County Parkway off-ramp	--	--	--	--	23.4	C	25.9	C
Mid-County Parkway off-ramp to Mid-County Parkway EB on-ramp	--	--	--	--	20.8	C	21.3	C
Mid-County Parkway EB on-ramp to Mid-County Parkway WB on-ramp	--	--	--	--	21.5	C	24.1	C
Mid-County Parkway WB on-ramp to Cajalco Expressway off-ramp	--	--	--	--	28.2	D	35.2	E
West Nuevo Road on-ramp to Cajalco Expressway off-ramp	27.7	D	16.5	B	--	--	--	--
Cajalco Expressway off-ramp to Cajalco Expressway on-ramp	24.4	C	14.0	B	24.7	C	31.0	D
Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp	34.7	D	19.7	C	30.9	D	37.6	E
Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp	34.1	D	19.1	C	29.0	D	34.4	D
Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp	38.4	E	22.5	C	34.8	D	42.2	E
Van Buren Boulevard off-ramp to EB Van Buren Boulevard on-ramp	30.7	D	19.4	C	28.0	D	30.5	D

Freeway Segment	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
EB Van Buren Boulevard on-ramp to WB Van Buren Boulevard on-ramp	34.2	D	22.2	C	37.7	E	40.4	E
WB Van Buren Boulevard on-ramp to Cactus Avenue off-ramp	34.4	D	22.3	C	45.1	F	50.7	F
Cactus Avenue off-ramp to EB Cactus Avenue on-ramp	24.0	C	19.5	C	28.3	D	37.5	E
EB Cactus Avenue on-ramp to WB Cactus Avenue on-ramp	24.2	C	20.2	C	28.7	D	39.1	E
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	*See Weaving Analysis*							
East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp	18.4	C	20.9	C	25.7	C	43.7	E
East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp	19.3	C	24.3	C	27.8	D	52.7	F
Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp	16.6	B	20.8	C	25.7	C	43.3	E
Eucalyptus Avenue on-ramp to SR-60	18.5	C	24.0	C	27.0	D	50.2	F

Source: Caltrans 2017
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Tables 3.6-5 and 3.6-39, the following seven freeway mainline segments operate at an unacceptable LOS in the existing year (2014):

I-15 Southbound (2014):

- El Cerrito Road on-ramp to Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road off-ramp to Cajalco Road on-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp to Weirick Road off-ramp – LOS E in the PM peak hour

I-215 Southbound (2014):

- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour

I-215 Northbound (2014):

- Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp – LOS E in the AM peak hour

In addition, as also shown above in Table 3.6-32, the following 41 freeway mainline segments will operate at an unacceptable LOS under the forecast-year (2044) No-Build condition:

I-15 Southbound (2044):

- Westbound SR-91 off-ramp to eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 off-ramp to eastbound SR-91 on-ramp – LOS E in the AM peak hour
- Lane drop to westbound SR-91 on-ramp – LOS E in the AM peak hour
- Magnolia Avenue on-ramp to Ontario Avenue off-ramp – LOS E in the AM and PM peak hours
- El Cerrito Road off-ramp to lane addition – LOS E in the AM peak hour and LOS F in the PM peak hour
- Lane addition to CETAP off-ramp – LOS E in the PM peak hour
- Lane drop to Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp to Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Cajalco Road on-ramp to CETAP on-ramp – LOS E in the AM peak hour
- CETAP on-ramp to El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- El Cerrito Road on-ramp to Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp to lane addition – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue on-ramp to Magnolia Avenue off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Magnolia Avenue off-ramp to eastbound Magnolia Avenue on-ramp – LOS F in the AM and PM peak hours
- Eastbound Magnolia Avenue on-ramp to westbound Magnolia Avenue on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- SR-91 off-ramp to westbound SR-91 on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp to eastbound SR-91 on-ramp – LOS F in the AM and PM peak hours
- Eastbound SR-91 on-ramp to lane drop – LOS F in the AM peak hour

I-215 Southbound (2044):

- Eastbound SR-60 on-ramp to westbound SR-60 on-ramp – LOS F in the AM and PM peak hours
- Lane drop to Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours
- Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours

- Alessandro Boulevard off-ramp to westbound Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- Westbound Alessandro Boulevard on-ramp to eastbound Alessandro Boulevard on-ramp – LOS E in the AM and PM peak hours
- Eastbound Cactus Avenue off-ramp to Cactus Avenue on-ramp – LOS E in the PM peak hour
- Cactus Avenue on-ramp to Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp to Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Mid-County Parkway off-ramp – LOS F in the PM peak hour

I-215 Northbound (2044):

- Mid-County Parkway westbound on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp – LOS E in the PM peak hour
- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp – LOS E in the AM and PM peak hours
- Westbound Van Buren Boulevard on-ramp to Cactus Avenue off-ramp – LOS F in the AM and PM peak hours
- Cactus Avenue off-ramp to eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Cactus Avenue on-ramp to westbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- East Alessandro Boulevard off-ramp to East Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- East Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp – LOS E in the PM peak hour
- Eucalyptus Avenue on-ramp to SR-60 – LOS F in the PM peak hour

Freeway Ramp Level of Service

A comparison of existing-year (2014) and forecast-year (2044) No-Build AM and PM peak-hour conditions at study area freeway ramps is presented below in Table 3.6-40.

Table 3.6-40. Freeway Ramp Level of Service – Existing-Year (2014) and Future-Year (2044) No-Build Conditions

Freeway Ramp	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 off-ramp	*Lane Deletion*				*Lane Deletion*			
EB SR-91 off-ramp	27.7	C	29.8	D	--	F	40.0	E
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
WB SR-91 on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Magnolia Avenue on-ramp	19.4	B	26.5	C	32.5	D	34.7	D
Ontario Avenue off-ramp	26.3	C	29.6	D	41.9	E	39.4	E
Ontario Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
El Cerrito Road off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
CETAP off-ramp	--	--	--	--	--	F	--	F
El Cerrito Road on-ramp	22.0	C	39.6	E	--	--	--	--
Cajalco Road off-ramp	26.5	C	48.8	E	30.2	D	36.9	E
WB CETAP on-ramp	--	--	--	--	20.3	C	28.0	D
Cajalco Road on-ramp	17.6	B	36.6	E	22.9	C	-	F
Weirick Road off-ramp	22.0	C	39.5	E	30.8	D	-	F
Weirick Road on-ramp	14.3	B	32.2	D	19.3	B	31.9	D
I-15 Northbound								
Weirick Road off-ramp	22.4	C	23.6	C	35.2	E	30.5	D
CETAP off-ramp	--	--	--	--	30.9	D	29.9	D
Weirick Road on-ramp	26.3	C	23.9	C	26.6	C	26.9	C
Cajalco Road off-ramp	30.9	D	27.6	C	--	--	--	--
Cajalco Road on-ramp	32.7	D	26.0	C	33.4	D	28.7	D
CETAP on-ramp	--	--	--	--	-	F	-	F
El Cerrito Road off-ramp	43.3	E	32.3	D	--	--	--	--
El Cerrito Road on-ramp	40.1	E	27.3	C	-	F	-	F
Ontario Avenue off-ramp	48.2	E	29.8	D	-	F	-	F
Ontario Avenue on-ramp	27.5	C	24.2	C	-	F	36.9	E
Magnolia Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
EB Magnolia Avenue on-ramp	*Lane Addition*				*Lane Addition*			
WB Magnolia Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
SR-91 off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB SR-91 on-ramp	29.2	D	23.2	C	--	F	--	F
EB SR-91 on-ramp	*Lane Addition*				*Lane Addition*			
I-215 Southbound								
WB SR-60 on-ramp	*Lane Addition*				*Lane Addition*			
Sycamore Canyon Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
Eucalyptus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			

Freeway Ramp	Existing-Year (2014) Conditions				Forecast-Year (2044) No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
Eucalyptus Avenue on-ramp	25.6	C	35.6	E	37.2	E	40.4	E
Alessandro Boulevard off-ramp	30.7	D	45.0	E	38.8	E	44.5	E
WB Alessandro Boulevard on-ramp	23.1	C	32.4	D	33.4	D	35.4	E
EB Alessandro Boulevard on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
WB Cactus Avenue off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
EB Cactus Avenue off-ramp	*Lane Deletion*				*Lane Deletion*			
Cactus Avenue on-ramp	23.6	C	33.4	D	33.5	D	-	F
Van Buren Boulevard off-ramp	27.2	C	36.0	E	37.4	E	-	F
Van Buren Boulevard on-ramp	24.3	C	38.0	E	32.4	D	38.7	E
Harley Knox Boulevard off-ramp	26.7	C	37.8	E	34.6	D	39.2	E
Harley Knox Boulevard on-ramp	21.1	C	33.0	D	30.0	D	34.8	D
Cajalco Expressway off-ramp	26.7	C	36.7	E	34.8	D	38.1	E
Cajalco Expressway on-ramp	18.6	B	31.7	D	29.0	D	36.9	E
Mid-County Parkway off-ramp	--	--	--	--	41.2	E	-	F
Placentia off-ramp	--	--	--	--	25.0	C	33.0	D
Placentia on-ramp	--	--	--	--	18.6	B	28.4	D
Mid-County EB on-ramp	--	--	--	--	19.0	B	26.9	C
Mid-County WB on-ramp	--	--	--	--	24.2	C	37.3	E
West Nuevo Road off-ramp	21.8	C	35.4	E	33.3	D	40.9	E
West Nuevo Road on-ramp	19.9	B	32.3	D	28.8	D	37.5	E
I-215 Northbound								
West Nuevo Road off-ramp	28.6	D	22.0	C	29.9	D	35.8	E
West Nuevo Road on-ramp	30.4	D	20.4	C	32.3	D	34.6	D
Mid-County Parkway off-ramp	--	--	--	--	41.8	E	40.3	E
Mid-County Parkway EB on-ramp	--	--	--	--	21.4	C	24.8	C
Mid-County Parkway WB on-ramp	--	--	--	--	31.0	D	34.6	D
Cajalco Expressway off-ramp	32.2	D	22.7	C	32.5	D	35.9	E
Cajalco Expressway on-ramp	34.7	D	23.2	C	35.7	E	38.2	E
Harley Knox Boulevard off-ramp	38.9	E	27.4	C	38.4	E	39.7	E
Harley Knox Boulevard on-ramp	33.9	D	24.9	C	35.2	E	-	F
Van Buren Boulevard off-ramp	37.6	E	28.6	D	36.8	E	40.3	E
EB Van Buren Boulevard on-ramp	31.8	D	23.9	C	35.4	E	36.2	E
WB Van Buren Boulevard on-ramp	33.2	D	23.2	C	36.1	E	35.1	E
Cactus Avenue off-ramp	37.5	E	28.5	D	--	F	--	F
EB Cactus Avenue on-ramp	24.6	C	21.5	C	27.9	C	33.6	D
WB Cactus Avenue on-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard off-ramp	*See Weaving Analysis*				*See Weaving Analysis*			
East Alessandro Boulevard on-ramp	21.2	C	27.4	C	27.1	C	--	F
Eucalyptus Avenue off-ramp	25.3	C	32.8	D	31.9	D	--	F
Eucalyptus Avenue on-ramp	21.7	C	27.0	C	28.5	D	--	F

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 p.m.
"--" = Freeway ramp has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Tables 3.6-6 and 3.6-40, the following 17 freeway ramps operate at an unacceptable LOS in the existing year (2014):

I-15 Southbound (2014):

- El Cerrito Road on-ramp – LOS E in the PM peak hour
- Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp – LOS E in the PM peak hour
- Weirick Road off-ramp – LOS E in the PM peak hour

I-15 Northbound (2014):

- El Cerrito Road off-ramp – LOS E in the AM peak hour
- El Cerrito Road on-ramp – LOS E in the AM peak hour
- Ontario Avenue off-ramp – LOS E in the AM peak hour

I-215 Southbound (2014):

- Eucalyptus Avenue on-ramp – LOS E in the PM peak hour
- Alessandro Boulevard off-ramp – LOS E in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the PM peak hour
- Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- West Nuevo Road off-ramp – LOS E in the PM peak hour

I-215 Northbound (2014):

- Harley Knox Boulevard off-ramp – LOS E in the AM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM peak hour
- Cactus Avenue off-ramp – LOS E in the AM peak hour

Also, as shown above in Table 3.6-36, the following 38 freeway ramps will operate at an unacceptable LOS under the forecast-year (2044) No-Build condition:

I-15 Southbound (2044):

- EB SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue off-ramp – LOS E Roads
- CETAP off-ramp – LOS F Roads
- Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp – LOS F in the PM peak hour

- Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Weirick Road off-ramp – LOS E in the AM peak hour
- CETAP on-ramp – LOS F Roads
- El Cerrito Road on-ramp – LOS F Roads
- Ontario Avenue off-ramp – LOS F Roads
- Ontario Avenue on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- WB SR-91 on-ramp – LOS F Roads

I-215 Southbound (2044):

- Eucalyptus Avenue on-ramp – LOS E Roads
- Alessandro Boulevard off-ramp – LOS E Roads
- WB Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- Cactus Avenue on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Mid-County Parkway off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Mid-County Parkway WB on-ramp – LOS E in the PM peak hour
- West Nuevo Road off-ramp – LOS E in the PM peak hour
- West Nuevo Road on-ramp – LOS E in the PM peak hour

I-215 Northbound (2044):

- West Nuevo Road off-ramp – LOS E in the PM peak hour
- Mid-County off-ramp – LOS E in the AM and PM peak hours
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard off-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM and PM peak hours
- EB Van Buren Boulevard on-ramp – LOS E

- WB Van Buren Boulevard on-ramp – LOS E
- Cactus Avenue off-ramp – LOS F in the AM and PM peak hours
- East Alessandro Boulevard on-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue off-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue on-ramp – LOS F in the PM peak hour

Freeway Weaving Segment Level of Service

Existing-year (2014) and forecast-year (2044) No-Build AM and PM peak-hour conditions at study area freeway weaving segments is presented in Table 3.6-41 on the following page.

Table 3.6-41. Freeway Weaving Segment Level of Service – Existing-Year (2014) and Future-Year (2044) No-Build Conditions

Freeway Weaving Segment	Existing-Year 2014 Conditions				Forecast-Year 2044 No-Build Conditions			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Density	LOS	Density	LOS	Density	LOS	Density	LOS
I-15 Southbound								
WB SR-91 on-ramp to Magnolia Avenue off-ramp	--	F	--	F	--	F	--	F
Ontario Avenue on-ramp to El Cerrito Road off-ramp	15.1	B	31.0	D	36.3	E	--	F
I-15 Northbound								
WB Magnolia Avenue on-ramp to SR-91 off-ramp	--	F	--	F	--	F	--	F
I-215 Southbound								
Sycamore Canyon Boulevard on-ramp to Eucalyptus Avenue off-ramp	16.5	B	21.9	C	28.2	D	29.3	D
EB Alessandro Boulevard on-ramp to WB Cactus Avenue off-ramp	18.2	B	28.9	D	29.9	D	32.5	D
I-215 Northbound								
WB Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp	25.2	C	22.7	C	36.1	E	41.3	E

Source: Caltrans 2017.
EB = eastbound NB = northbound
WB = westbound SB = southbound
AM peak hour = 6 a.m. to 9 a.m.; PM peak hour = 3 p.m. to 7 pm.
"--" = Freeway weaving segment has volume-to-capacity ratio greater than 1. Weaving segment is expected to fail, and the HCM does not assign a density value to it.
Shaded cells represent unacceptable LOS (LOS standard exceeded)
Density = passenger cars/mile/lane

As shown above in Tables 3.6-7 and 3.6-41, the following two freeway weaving segments operate at an unacceptable LOS in the existing year (2014):

I-15 Southbound (2014):

- Westbound SR-91 on-ramp to Magnolia Avenue off-ramp – LOS F in the AM and PM peak hours

I-15 Northbound (2014):

- Westbound Magnolia Avenue on-ramp to SR-91 off-ramp

All of the study area freeway weaving segments on I-215 (southbound and northbound) operate an acceptable LOS in the existing year (2014).

Also, as shown above in Table 3.6-41, the following four freeway weaving segments will operate at an unacceptable LOS under the forecast-year (2044) no-build condition:

I-15 Southbound (2044):

- Westbound SR-91 on-ramp to Magnolia Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue on-ramp to El Cerrito Road off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour

I-15 Northbound (2044):

- Westbound Magnolia Avenue on-ramp to SR-91 off-ramp – LOS F in the AM and PM peak hours

I-215 Northbound (2044):

- Westbound Cactus Avenue on-ramp to East Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours

Vehicles Miles Traveled/Vehicle Hours Traveled/Vehicle Hours Delay/Average Speed

Table 3.6-42 presents summaries of daily VMT, VHT, and average speed within the study area under existing conditions as well as projected daily VMT, VHT, and average speeds under 2044 No-Build conditions.

Table 3.6-42. Baseline and 2044 VMT, VHT, VHD and Average Speed Summary – No-Build Alternative

Indicator	AM Peak Hour		PM Peak Hour		Daily	
	Existing (2014) Conditions	2044 No-Build Conditions	Existing (2014) Conditions	2044 No-Build Conditions	Existing (2014) Conditions	2044 No-Build Conditions
VMT	1,681,352	2,861,258	2,795,721	4,859,804	8,585,374	14,659,917
VHT	50,618	80,884	91,554	162,260	234,475	396,569
VHD	17,166	27,460	35,000	69,595	66,516	125,131
Average Speed	33.2	35.4	30.5	30.0	36.6	37.0

Source: Caltrans 2017.
VMT = vehicle miles traveled
VHT = vehicle hours traveled
VHD = vehicle hours delay

VMT is forecast to increase nearly 71 percent compared with existing conditions, and VHT is forecast to increase by more than 69 percent compared with existing conditions. VHD is forecast

to increase by more than 88 percent compared with existing conditions, and average speed is projected to increase by 0.4 mph compared with existing conditions.

Peak Hour Truck Traffic

As shown in Table 3.6-43, truck traffic percentages in 2044 No-Build Alternative conditions are forecast to increase up to 0.54 percent in comparison to existing conditions.

Table 3.6-43. Truck Traffic Volumes (Percentage) – Existing (2014) and Forecast-Year (2044) No-Build Alternative Conditions

Roadway Segment	Existing (2044) Conditions		2044 No-Build Conditions	
	Eastbound	Westbound	Eastbound	Westbound
Cajalco Road West of Temescal Canyon Road	11.90%	11.97%	12.01%	11.98%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	11.90%	12.02%	11.99%	12.01%
La Sierra Avenue between Cajalco Road and El Sobrante Road	4.14%	4.17%	3.92%	3.89%
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	6.74%	6.85%	6.78%	6.73%
El Sobrante Road East of Mockingbird Canyon Road	3.07%	2.75%	3.22%	3.30%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	3.36%	3.55%	3.18%	3.36%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	3.13%	2.88%	1.64%	1.76%
Cajalco Road between El Sobrante Road and Gavlin Road	4.02%	3.99%	2.44%	2.37%
Cajalco Road between Gavlin Road and Harley John Road	3.38%	3.33%	2.07%	2.04%
Cajalco Road between Harley John Road and Wood Road	2.65%	2.69%	1.66%	1.63%
Cajalco Road between Wood Road and Alexander Street	2.35%	2.40%	2.30%	2.37%
Cajalco Road between Alexander Street and Brown Street	3.14%	3.24%	3.27%	3.19%
Cajalco Road between Brown Street and Clark Street	2.64%	2.66%	2.65%	2.75%
Cajalco Road between Clark Street and Day Street	4.30%	4.26%	4.24%	4.18%
Cajalco Road between Day Street and Seaton Avenue	3.36%	3.40%	3.36%	3.44%
Cajalco Road between Seaton Avenue and Harvill Avenue	3.60%	3.56%	3.64%	3.56%
Cajalco Road East of Harvill Avenue	3.31%	3.30%	3.29%	3.39%

3.6.3.2 Temporary Impacts

Future-Year (2044) Build Condition – Build Alternatives 1, 2C, and 4

Construction of any of the build alternatives would result in temporary impacts on traffic and transportation as well as pedestrian and bicycle facilities. A description of these temporary impacts, which apply to Build Alternatives 1, 2C, and 4, is provided below.

Access, Circulation, and Parking

Temporary traffic delays would occur during construction of the proposed improvements. Construction activities would occur in stages; however, the details have not been determined because the scope of such activities would depend on the characteristics and elements of the preferred alternative. Regardless of which build alternative is implemented, construction activities would affect local access and circulation. Temporary lane closures and lane narrowing

could divert traffic to alternate roadways; however, access to residences and businesses would be maintained during project construction. Furthermore, emergency access would be accommodated during all phases of construction and the project would implement a traffic control plan as part of Standard Project Measure **PF LU-1**, which would include, but not be limited to, a public awareness campaign, that would involve coordination with emergency service providers, schools, business owners, and residents along the project corridor. A construction traffic management plan would also be developed and implemented as part of Standard Project Measure **PF AQ-1** that would include, but not be limited to, consolidating truck deliveries, providing a rideshare or shuttle service for construction workers, and providing dedicated turn lanes for movement of construction trucks and equipment on and off site. Please refer to Sections 3.1, *Land Use*, and 3.14, *Air Quality*, for Standard Project Measures **PF LU-1** and **PF AQ-1**.

Public Transportation

Design and construction of the project would take into consideration public transit use and potential disruptions to transit services. During construction, the project may result in increased service times for buses that operate on the existing transportation network. Because construction would be staged, these impacts would not globally affect all public transportation that serves the project area. Instead, impacts would be shifted from segment to segment as construction work proceeds and, being temporary in nature, would cease after completion of construction. These impacts would be addressed with implementation of Standard Project Measure **PF LU-1**, which includes a Traffic Management Plan (TMP) and public awareness campaign that would inform and coordinate with motorists, business owners/operators, residents, elected officials and government agencies, and emergency service providers regarding construction activities and associated impacts. Please refer to Section 3.1, *Land Use*, for Standard Project Measure **PF LU-1.**

Pedestrian and Bicycle Facilities

Temporary disruptions to pedestrian facilities (e.g., sidewalks) and bicycle facilities would occur during project construction. However, these impacts would be temporary and would cease after completion of project construction. If needed, alternative routes would be provided through the TMP developed for the project under Standard Project Measure **PF LU-1**, to maintain access and connectivity. The TMP would be developed in advance of construction-related activities and updated as necessary to accommodate project construction phasing.

Future-Year (2044) No-Build Condition

Under the future-year (2044) No-Build condition, no improvements would be made to the existing roadway system. Therefore, no temporary impacts on traffic and transportation as well as pedestrian and bicycle facilities would occur under the future-year (2044) No-Build condition.

3.6.4 Avoidance, Minimization, and/or Mitigation Measures

Temporary impacts on traffic and transportation, as well as pedestrian and bicycle facilities during construction, would be addressed through the preparation and use of a TMP, public awareness campaign, and construction traffic management plan. Please refer to Sections 3.1, *Land Use*, and 3.14, *Air Quality*, for Standard Project Measures **PF LU-1** (TMP) and **PF AQ-1** (construction traffic management plan).

3.7 Visual/Aesthetics

3.7.1 Regulatory Setting

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

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

California Streets and Highways Code Section 92.3 directs Caltrans to use drought resistant landscaping and recycled water when feasible, and incorporate native wildflowers and native and climate-appropriate vegetation into the planting design when appropriate.

3.7.2 Affected Environment

This section was prepared using information from the *Visual Impact Assessment* (VIA) technical report prepared for the project (Caltrans 2018a). The VIA assesses potential visual impacts of the proposed project based on guidance outlined in the *Visual Impact Assessment for Highway Projects* published by the FHWA (1981). The following key terms describe visual resources in a project area, which are used as descriptors and as part of a rating system to assess a landscape's visual quality.

- *Visual character* includes attributes such as form, line, color, and texture and is used to describe, not evaluate, visual resources.
- *Visual quality* is evaluated by identifying the vividness, intactness, and unity present in the project area.
- *Vividness* is the extent to which the landscape is memorable and is associated with distinctive, contrasting, and diverse visual elements.
- *Intactness* is the integrity of visual features in the landscape and the extent to which the existing landscape is free from non-typical visual intrusions.
- *Unity* is the extent to which all visual elements combine to form a coherent, harmonious visual pattern.

Resource change is one of the two major variables that determine visual impacts. *Resource change* refers to the evaluation of the visual character and the visual quality of the visual resources that comprise the project corridor before and after construction of a proposed project. The other major variable is *viewer response*, the response of viewers to changes in their visual environment.

3.7.2.1 Project Location and Setting

The proposed project is located on Cajalco and El Sobrante Roads, and La Sierra Avenue, between Temescal Canyon Road and Interstate 215 (I-215), in the northwestern portion of Riverside County, within unincorporated Riverside County and a portion of the City of Corona, California (refer to Figure 1-2). The project corridor falls within the South Coast California Floristic Province and is just east of the Santa Ana Mountains and north of the Temescal Mountains. The landscape pattern of the project region is influenced by development centralized along major roadways, such as Interstate 15 (I-15), State Route 91, and I-215.

The landscape of the project vicinity is characterized by predominantly rolling to gently rolling terrain. The land uses within the corridor are primarily open space lands surrounding Lake Mathews and rural residential land uses northeast, east, and southeast of the lake. There are two suburban residential developments that abut the project corridor—one to the north and one to the east of the lake. The majority of commercial land uses are at the eastern and western termini of the corridor. Vegetation along the project corridor is mostly nonnative grasslands, sage scrub, and ruderal vegetation. There is a limited amount of naturally growing trees; however, residences often have mature trees and shrubs with their associated landscaping. The open space lands, rolling terrain, and lack of tall vegetation allow for scenic vista views to the surrounding mountains and Lake Mathews.

There are no roadways in or near the project area that are designated in federal or state plans as an officially designated scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). I-15 is an eligible state scenic highway; however, the project's western terminus is approximately 0.3 mile away from the freeway, and views of the project corridor from the freeway are blocked by the interchange berms. I-215 is a classified Landscaped Freeway between Post Miles 30.81 and 31.31; the project's eastern terminus connects to the I-215 southbound ramps (Caltrans 2018b). The Riverside County General Plan Circulation Element also indicates that Cajalco Road from I-15 to approximately Harley John/Smith Roads, El Sobrante Road, and La Sierra Avenue from El Sobrante Road to Cajalco Road are County-eligible scenic corridors, which are to be managed in a manner so as to maintain their aesthetic value (County of Riverside 2016). County-eligible roadway segments located within the project vicinity are depicted on Figure 3.7-1.

Lake Mathews Habitat Conservation Plan Area

The project corridor travels through the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area, Lake Mathews Multiple Species Reserve (LMR), and land owned by Metropolitan Water District of Southern California (MWD) and Riverside County Habitat Conservation Agency (RCHCA) (RCHCA 2007). Refer to Figure 3.7-1 for LM MSHCP boundaries. Much of the land surrounding Lake Mathews is undeveloped because these lands are protected by the LMR and the Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve) of the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP). The landscape of the LM MSHCP area is characterized by predominantly rolling to gently rolling terrain associated with the open space lands surrounding Lake Mathews. The open space lands, rolling terrain, and lack of tall vegetation allow for scenic vista views to the surrounding mountains and Lake Mathews.

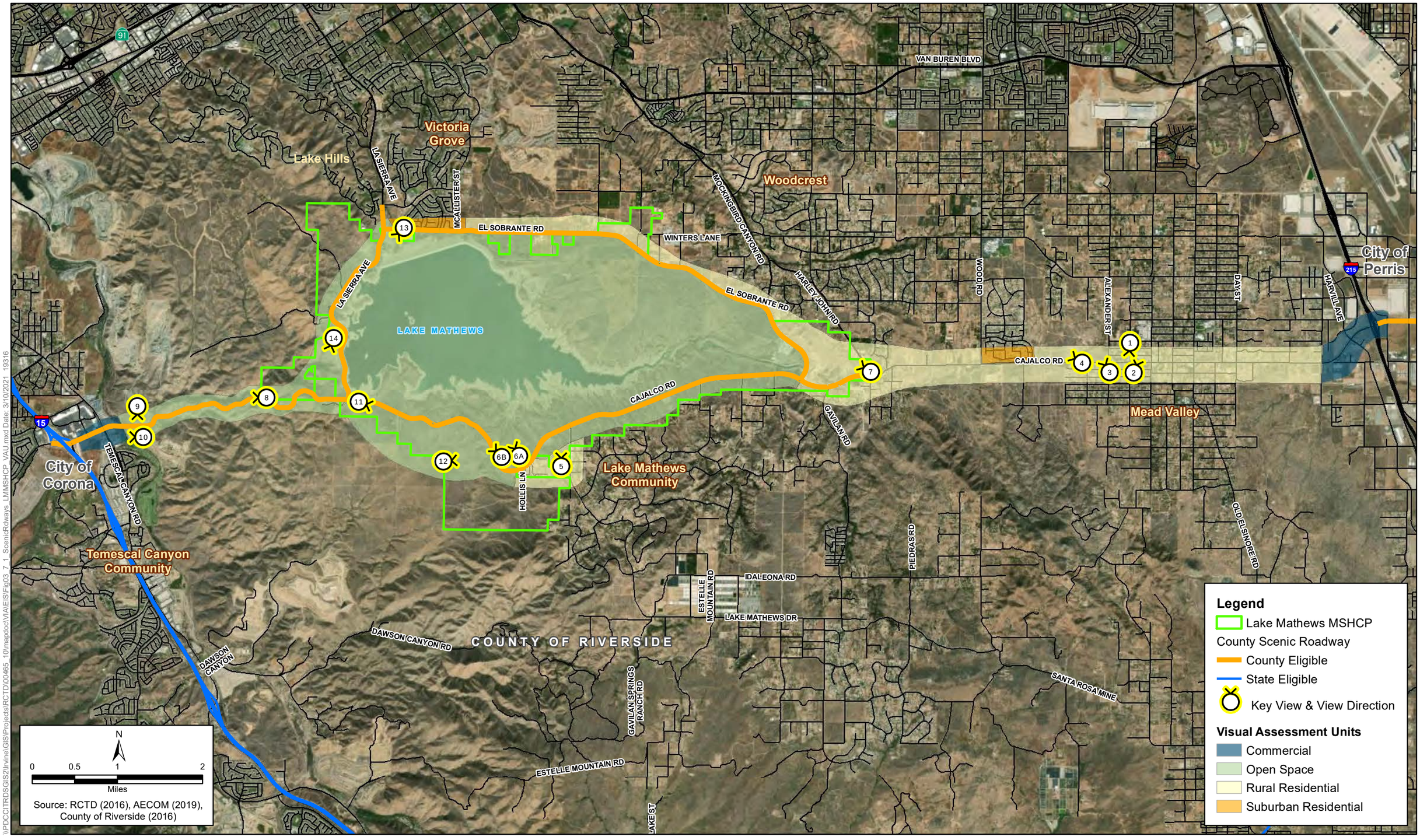

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Figure 3.7-1
County Scenic Roadways, Lake Mathews MSHCP, and Visual Assessment Units
Cajalco Road Widening and Safety Enhancement Project

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3.7.2.2 Visual Assessment Units

For this analysis, the area surrounding the project area has been subdivided into four visual assessment units (VAUs) based on specific vantage points and differing sensitivities of those affected by the proposed project. The four VAUs include Rural Residential, Open Space Suburban Residential, and Commercial VAUs, which are described below. The VAUs are shown on Figures 3.7-1 and 3.7-2. Note that the LM MSHCP area falls within the Open Space VAU. Key views within each VAU were selected for their representation of the VAU within which they are located and the viewer groups affected. Refer to Figure 3.7-2 for key view locations.

Rural Residential Visual Assessment Unit

The Rural Residential VAU consists of rural land uses that are north of the project corridor along El Sobrante Road and along both sides of the project corridor, east of the lake and mostly within Mead Valley, along Cajalco Road. Along the north side of El Sobrante Road between Harley John Road and McAllister Street, the VAU includes a portion of the Woodcrest community. In addition, there is a small area of this VAU that lies within the western boundaries of the Lake Mathews community, within Lake Mathews Estates, south of Lake Mathews and west of Lake Mathews Drive, and on either side of Cajalco Road (refer to Figure 3.7-2 and Sheet 3 of Figure 2.2-2). Development along the project corridor ranges from being fairly well-kept to being slightly unkempt. Vegetation in this VAU is mostly ruderal vegetation, riparian trees and shrubs growing along small drainage ways, and trees and shrubs associated with rural residential, commercial landscaping, and a few orchards and plant nurseries. Views from the project corridor in this VAU tend to be confined by rural development, except along El Sobrante Road where views of open space areas to the south are available. In addition, the Cajalco Road corridor provides a narrow view corridor to the east of the Russell Mountains and Bernasconi Hills within the Lake Perris State Recreation Area. Views from El Sobrante Road are considered to be scenic vista views; however, the view corridor provided by Cajalco Road is not, because of the confined nature of the views and intervening visual elements that detract from views.

This VAU is somewhat well-lit by interior and exterior lighting associated with rural residences and interspersed commercial businesses, landscape lighting, vehicle headlights, limited parking lot lighting, street lighting at intersections, and traffic lights at the Cajalco Road intersections with Smith and Wood Roads and Alexander, Brown, and Clark Streets (refer to Sheets 1A through 3 of Figure 2.2-3).

Table 3.7-1 on the following page summarizes the visual quality identified for each VAU. For the Rural Residential VAU, the vividness is moderate-low, intactness and unity are moderate, and the resulting visual quality of the Rural Residential VAU is moderate.

Table 3.7-1. Visual Assessment Units – Existing Visual Quality

Visual Assessment Unit	Visual Resource Rating		Visual Quality
	Vividness	Intactness and Unity	
Rural Residential	ML	M	M
Open Space	MH	MH	MH
Suburban Residential	M	M	M
Commercial	MH	M	M
Low (L); Moderate-Low (ML); Moderate (M); Moderate-High (MH); High (H)			

Open Space Visual Assessment Unit

The Open Space VAU consists of mostly undeveloped, rolling open space lands and low-growing grasslands and scrublands associated with Lake Mathews and the LMR (refer to Figure 3.7-1). The roadways mostly conform to the terrain, but there are small areas where roadside cuts and fill exist to accommodate the roadways in this VAU. La Sierra Avenue is not as winding as, and is flatter than, Cajalco Road, and the southern segment of La Sierra Avenue is located on fill that is the Lake Mathews Dam (refer to Sheets 2 and 3A of Figure 2.2-5). El Sobrante Road is predominantly flat and straight, mostly lacking cuts and fills, with roadside shoulders scraped of vegetation and some gentle bends toward the eastern end of the lake (refer to Sheets 3B through 5B of Figure 2.2-5). Views from Cajalco Road, and looking south from El Sobrante Road, range from being limited by terrain to offering scenic vista views out and over the lake and surrounding landscape. This VAU is not well lit and has minimal lighting from vehicle headlights, nearby residences, the traffic and safety lighting at the Cajalco Road/La Sierra Avenue intersection (see Sheet 2A of Figure 2.2-2), and the safety lighting along El Sobrante Road, where the suburban developments of Victoria Grove and Lake Hills are located to the north of this VAU (see Sheet 3B of Figure 2.2-5). A cluster of residences associated with the Temescal Canyon community are also located off Cajalco Road, east of Eagle Valley Road.

The vividness, intactness, unity, and resulting visual quality of the Open Space VAU are all moderate-high (refer to Table 3.7-1).

Suburban Residential Visual Assessment Unit

The Suburban Residential VAU consists of two suburban residential developments that are located along the project corridor and are separated from the roadways by noise barriers and landscape buffers. The development of Victoria Grove is a gated community located to the north of the lake and north of El Sobrante Road, between La Sierra Avenue and McAllister Street (see Sheet 3B of Figure 2.2-5). The development of Boulder Springs is located east of the lake and north of Cajalco Road between Wood Road and Carpinus Drive (see Sheet 1B of Figure 2.2-3). First-story views of the roadways are not available from the residences because views are limited by residential structures, landscaping, and noise barriers. However, some residences that border the roadway corridors have second-story views of adjacent development and Open Space and Rural Residential VAUs, the project roadways, landscape buffers, and noise barriers.

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Figure 3.7-2
Visual Assessment Units - Build Alternatives 1, 2C and 4
Cajalco Road Widening and Safety Enhancement Project

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The Suburban Residential VAU is well lit and is associated with interior and exterior house lighting, landscape lighting, vehicle headlights, street and parking lot lighting, traffic and safety lights at the El Sobrante Road/La Sierra Avenue intersection, and safety lighting along El Sobrante Road, where the suburban development of Victoria Grove is located to the north of this VAU.

The vividness, intactness, unity, and resulting visual quality of the Suburban Residential VAU are all moderate (refer to Table 3.7-1).

Commercial Visual Assessment Unit

The Commercial VAU is located at the project termini, from Temescal Creek to the western end of the project and from Seaton Avenue to the eastern end of the project (refer to Figure 3.7-2, Sheet 1A of Figure 2.2-2, and Sheet 4 of Figure 2.2-3). The Crossings at Corona shopping center is located at the western terminus (Sheet 1A of Figure 2.2-2). Businesses face inward, toward parking lots and away from the roads. Views from the project corridor west of Temescal Canyon Road include divided travel ways that are separated by landscaped medians near the shopping center. From the western terminus, views of the Santa Ana and Temescal Mountains are available from the corridor at this end of the project.

Freeway commercial and vacant and industrial land uses land uses are near the Cajalco Expressway at the eastern terminus at I-215. From the eastern terminus, views of the Santa Ana and Temescal Mountains can be seen to the west and views to the Russell, San Bernardino, and San Jacinto Mountains and Bernasconi Hills can be seen to the east, which contribute to higher quality views from this segment of the project corridor because utility lines do not clutter views (Sheet 4 of Figure 2.2-3). However, the elevated freeway interchange is built on fill, which partially obstructs sightlines to these mountains and hills to the east, and the commercial development slightly detracts from views, so these views are not considered to be scenic vistas. This VAU is well lit with interior and exterior lighting associated with commercial and industrial businesses, landscape lighting, vehicle headlights, parking lot lighting, street lighting at intersections, and traffic lights.

The vividness of this VAU is moderate-high, intactness and unity are moderate, and the resulting visual quality of the Commercial VAU is moderate (refer to Table 3.7-1).

3.7.2.3 Viewers and Viewer Response

Two major types of viewer groups are of primary concern for highway projects: roadway neighbors (people who have views to the road) and roadway users (people who have views from the road). Each viewer group has its own particular level of viewer exposure and viewer sensitivity, resulting in distinct and predictable visual concerns for each group that help to evaluate their responses to visual changes. This analysis considers residents within the Rural Residential and Suburban Residential VAUs; workers and patrons within the Rural Residential and Commercial VAUs; recreationists within the Rural Residential, Suburban Residential, and Commercial VAUs; and roadway users within the Open Space, Rural Residential, Suburban Residential, and Commercial VAUs.

Roadway neighbors constitute viewers who would have longer-term, stationary views (residents and businesses) and viewers who would have shorter-term, transient views (recreationists and

roadway travelers on nearby local roadways) as they pass by the proposed project. Roadway neighbors would have moderate-high to high sensitivity to visual changes resulting from the project because the neighbors that are adjacent to or in proximity to the project site have short- to long-term stationary and transient views of the project corridor and lands adjacent to the right of way.

Roadway users include recreational travelers including drivers and cyclists using Cajalco and El Sobrante Roads, and La Sierra Avenue; local and regional commuters; and transporters of goods. Roadway users represent the largest number of viewers who would come into direct visual contact with the proposed project. Roadway users would have moderate to moderate-high sensitivity to visual changes resulting from the project. Although viewers would have direct visual contact with the project only while traveling through the area and views would be intermittent, many roadway users travel this route on a daily basis for work commutes and are familiar with the existing visual conditions. However, views range from being more scenic to slightly degraded.

Composite Viewer Group

For analytical purposes, a composite viewer group was created for this project. A composite viewer group is made up of all roadway neighbors and roadway users affected by the project. The roadway neighbors viewer group has a range in exposure. Residents would have high exposure, businesses would have moderate-high exposure, and transient roadway neighbors would have moderate exposure. Roadway neighbor viewers have a moderate-high to high visual sensitivity. The response of roadway neighbors to the project would be moderate-high to high. These responses would result from project features that would alter the visual character of the roadway, alter terrain, remove vegetation, affect residential dwellings and commercial parking lots and buildings, and be visually inconsistent with other nearby rural roadways combined with viewer familiarity with the project site. The roadway users viewer group has high exposure to the project site and moderate to moderate-high visual sensitivity. The response of roadway users to the project would be moderate-high to high. Because the response of both roadway neighbors and roadway users to the project would be moderate-high to high, the group viewer response would also be moderate-high to high.

3.7.3 Environmental Consequences

Visual impacts are determined by assessing changes to the visual resources and predicting viewer response to those changes. These impacts can be beneficial or detrimental. Table 3.7-2 on the following page provides a reference for determining levels of visual impact by combining resource change and viewer response.

Table 3.7-2. Visual Impact Ratings Using Viewer Response and Resource Change

		Viewer Response (VR)				
Resource Change (RC)		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

3.7.3.1 Permanent Impacts

Build Alternatives 1 and 2C

Rural Residential Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Build Alternatives 1 and 2C, and each key view within the viewshed of the alternatives evaluated, are described below. Table 3.7-3 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Rural Residential VAU and associated key views.

Table 3.7-3. Summary of Key View Narrative Ratings for the Rural Residential VAU – Build Alternatives 1 and 2C

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
1	1, 2C, and 4	H	H	**H**
2	1, 2C, and 4	MH	H	**H**
3	1, 2C, and 4	M	H	**MH**
4	1, 2C, and 4	M	MH	**MH**
5	1 and 2C	L	MH	**M**
6A	1	H	H	**H**
6B	2C	MH	H	**H**
7*	4	None	L	**None**
*No changes anticipated under Build Alternatives 1 and 2C.				

All Project Roadways

Build Alternatives 1 and 2C within the Rural Residential VAU would include modifications such as culvert additions, culvert widening, and utility relocations that would appear similar under all build alternatives. The changes would result in new features that are below the road profile and would not stand out in the landscape, slight culvert widenings, and shifted locations of existing features that would all be consistent with the existing visual character of the project corridor. Abandoned portions of Cajalco Road would be restored consistent with Standard Project Measure **PF VIS-1** (contouring and replanting), creating a more natural look where these roadway segments once were so that these segments of abandoned roadway would blend with and recede into the natural landscape.

- **PF VIS-1: Contouring and Replanting Disturbed Areas.** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory.

Additional changes that would affect specific roadway segments within the Rural Residential VAU are described below.

Cajalco Road between Cowan Road and Seaton Avenue

Permanent impacts would be the same along the portion of Cajalco Road located within Mead Valley, between Cowan Road and Seaton Avenue, for all build alternatives (refer to Figure 2.2-3). The primary visual changes to this portion of the VAU would result from widening the roadway and installing medians and turn lanes, curbs and gutters, sidewalks along portions of the roadway, stormwater facilities, a bridge over Cajalco Creek, noise barriers, and new traffic signals and associated street lights that are being added for safety purposes and are not proposed for the length of the alignment. The roadway would be widened into vacant lands or residential properties along Cajalco Road between Cowan Road and Seaton Avenue. This would require the partial acquisitions of land to increase the roadway surface area from a two-lane rural roadway to a four-lane roadway with associated turn lanes that is more suburban in nature (refer to Figure 2.2-1).

The roadway widening would bring roadway facilities and traffic closer to roadway neighbors; remove formal and informal landscaping, including fencing, mailboxes, and approximately 56 mature trees, 160 small trees and shrubs, and 160 trees associated with a tree farm; and alter entry driveways at the affected properties, resulting in permanent impacts. The project would be constructed consistent with County General Plan Land Use Element Policy LU 31.5, which requires public facilities to be designed to consider their surroundings and visually enhance, not degrade, the character of the surrounding area. Furthermore, Mitigation Measure **VIS-2** is identified to lessen impacts on affected properties by replacing landscape features to the degree possible, minimize visual impacts associated with roadside grading and slopes, and reduce impacts of vegetation removal, under all build alternatives.

Implementation of this measure would not result in additional substantially adverse visual effects. In addition, as described in Section 3.17, *Natural Communities*, construction would require the removal of riparian-riverine trees and shrubs to accommodate roadside grading and a new bridge over Cajalco Creek. Compensatory mitigation identified in Measure **NC-15 (NES BIO-14)**, summarized in Measure **VIS-2**, includes enhancement, restoration, and/or creation on

site, and specifies proposed replacement planting ratios pending the Determination of Biologically Equivalent or Superior Preservation.

Stormwater facilities proposed in coordination with the Riverside County Flood Control and Water Conservation District would result in the most notable visual change along Cajalco Road between Cowan Road and Seaton Avenue because it would result in the full acquisitions, vegetation removal, and replacement of these features with a large stormwater facility under all build alternatives. Full and partial acquisitions would result in the permanent removal of several residential properties and a business between Alexander Street and east of Haines Street, to build the large stormwater facility and to accommodate new turn lanes and storm drains that would connect to existing stormwater facilities (see Sheet 3 of Figure 2.2-3). The large stormwater facility would replace residences, a business, and vegetation with underground culverts with rocked inlets and outlets, a 30-foot-wide concrete-lined channel from Haines to Brown Streets, and a 110-foot-wide earthen channel between Brown and Alexander Streets (see Sheet 2 of Figure 2.2-3).

As shown in the simulation for Key View 1 (Figure 3.7-3) and Key View 2 (Figure 3.7-4), removal of development and vegetation on affected parcels would permanently alter the existing visual character of this residential portion of Cajalco Road and would replace it with a large-scale, anthropogenic, geometric stormwater facility that would contrast with the surrounding developed areas to remain. However, the widened roadway corridor would not greatly detract from the quality of views from the vantage of Key View 3 (Figure 3.7-5), as shown in the simulation, and the changes would allow more direct views toward the hills located south of Three Sisters mountain range.

Security fencing separating Cajalco Road from the open channel, and from residences north of the open channel, would also be added. In addition, iron fencing, a block wall, or a similar type of ornamental fencing is proposed under all build alternatives and would be more aesthetically pleasing compared to chain link fencing.

Between Carpinus Drive and Alexander Street, Cajalco Road would diverge and split into two separate travel ways to cross over Cajalco Creek under all build alternatives (see Sheets 1B and 2 of Figure 2.2-3). The westbound lanes would use a bridge structure, while the eastbound lanes would use a widened replacement culvert, to cross the creek. As shown in the simulation for Key View 4 (Figure 3.7-6), the culvert is not visible and the low-profile bridge would not obstruct or degrade the quality of views from this vantage under all build alternatives. The widened roadway corridor, sidewalk, and curbs and gutters contribute to a view that appears more intact and unified than existing conditions and riparian vegetation removed during construction would be replaced and would naturally recolonize the site within a few years as described in Section 3.17, *Natural Communities*.

Existing View

Simulation

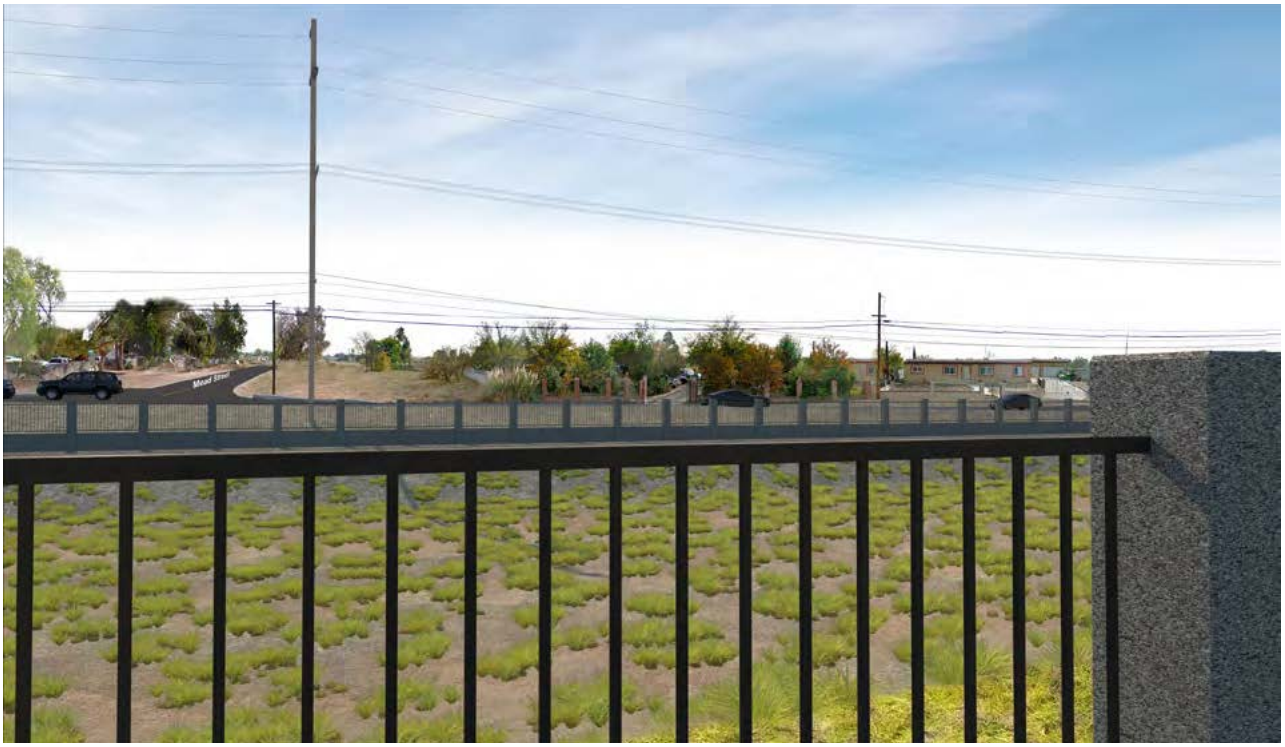

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Figure 3.7-3
Key View 1, Existing View and Alternatives 1, 2C, and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-4
Key View 2, Existing View and Alternatives 1, 2C, and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-5
Key View 3, Existing View and Alternatives 1, 2C, and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-6
Key View 4, Existing View and Alternatives 1, 2C, and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

To alleviate noise impacts on adjacent residences, noise barriers are proposed on the northwest corner of Cajalco and Cowan Roads, and north of Cajalco Road on either side of Extravaganza Lane under all build alternatives (see Sheets 1B and 2 of Figure 2.2-3) (Caltrans 2019). One residence at the northeast corner of Cajalco Road and Extravaganza Lane has an existing cinderblock wall that is between 4 and 5 feet tall. However, the recommended noise barrier height is 8 feet tall at this location (Caltrans 2019). This would introduce a much taller, vertical surface close to residences near where a much shorter, similar structure currently exists. If the noise barriers are designed without aesthetic consideration, the quality of views from residences and local roadways would be degraded by installing a visual barrier under all build alternatives.

Standard Project Measure **PF VIS-3** is identified below to ensure that new noise barriers are visually consistent with existing noise barriers in the project vicinity.

- **PF VIS-3: Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity.** Existing noise barriers in the project vicinity utilize a combination of solid barriers and landscaping to improve site aesthetics. Any noise barriers constructed as a result of the proposed project will be designed and constructed in a manner that complements and blends with nearby existing noise barriers. Aesthetic treatments such as color and/or texture will be considered for the walls, and their compatibility with existing conditions, and with applicable goals and policies of the County, will be considered prior to final design. The County's Resident Engineer, or Project Engineer under contract to the County, will ensure that the aesthetic treatments included in the final Plans, Specifications, and Estimates (PS&E) are implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

Cajalco Road near Lake Mathews Drive

In addition to the changes described above, Build Alternatives 1 and 2C would realign Cajalco Road to the north and move traffic away from the rural residential area within Lake Mathew Estates that is west of Lake Mathews Drive (Sheet 3 of Figure 2.2-2 and Sheet 4 of Figure 2.2-4). At a distance, the relocated, widened roadway corridor under Build Alternatives 1 and 2C would not result in a drastic change to the visual landscape from nearby residences even though areas of cut and fill would be slightly visible, as shown in the simulation for Key View 5 (Figure 3.7-7). However, in closer proximity, the realigned roadway corridor under Build Alternative 1 would be much more prominent in views from nearby residences, as shown in the simulation for Key View 6A (Figure 3.7-8), because large areas of fill would be created, the roadway corridor would stand out in the natural landscape, and it would look like a major highway imposed upon the landscape rather than a small rural roadway that blends with the landscape.

Build Alternative 2C would not create as much of a visual contrast as Build Alternative 1, as shown in the simulation for Key View 6B (Figure 3.7-9), even though new roadside cuts would be larger than existing conditions. The wildlife exclusion fencing does not stand out in views. Views from the new, realigned segment of Cajalco Road are likely to be scenic. Both alternatives would also create a cul-de-sac on Cajalco Road, west of Hollis Lane, and a new roadway connection between this portion of Cajalco Road and Lake Mathews Drive. Creating a cul-de-sac along the existing Cajalco Road would not affect visual resources but is likely to improve views for residences by greatly reducing the amount of traffic they can see. The new roadway connection to Lake Mathews Drive would not affect any residences and would result in minimal vegetation removal.

Existing View

Simulation

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Figure 3.7-7
Key View 5, Existing View and Alternatives 1 and 2C, Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-8
Key View 6A, Existing View and Alternative 1 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-9
Key View 6B, Existing View and Alternative 2C Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these County-eligible scenic corridor roadways that fall within the Rural Residential VAU under Build Alternatives 1 and 2C are limited to the segments of Cajalco Road between Hollis Lane and Dirt Road, and between El Sobrante Road and Harley John/Smith Roads, and to residential streets located south of Cajalco Road between Hollis Lane and northwest of Lakeridge Drive.

A small segment of Cajalco Road would be relocated from the Rural Residential VAU to the Open Space VAU, near Lake Mathews Estates, and a cul-de-sac would be created on the old segment of Cajalco Road, retaining the old segment for local traffic, under Build Alternatives 1 and 2C. This minor impact is likely to be perceived as beneficial because large amounts of traffic would be removed from the residential area, allowing for longer views from the roadway of the surrounding scenic views. Widening El Sobrante Road within the Rural Residential VAU would not alter the scenic views for which the roadway is noted. Therefore, these minor, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU under any of the build alternatives with implementation of the recommended standard measures. Views of scenic roadways from this VAU would not be altered by the permanent visual changes associated with the build alternatives.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors prior to and during project construction, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs. Please refer to Standard Project Measure **PF VIS-4** below for additional details regarding lighting standards and coordination.

Build Alternatives 1 and 2C would result in a nominal increase in daytime glare by increasing the paved area and by removing some of the roadside vegetation that provides shade within all VAUs. However, the pavement would be dark and greatly reduce glare. Within the Rural Residential VAU, roadside trees associated with residences would still be present along the right of way to provide some shade. In addition, Standard Project Measure **PF VIS-1** and **Measure VIS-2** would replace vegetation on affected properties and reduce glare. Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Substantial changes to lighting are not proposed along County-eligible scenic roadway segments within this VAU. However, existing traffic signals would be improved or new traffic signals would be installed at Cowan Road/Gustin Road and other intersections in the Rural Residential VAU, along portions of Cajalco Road that are not a County-eligible scenic roadway. Improving existing traffic signals along Cajalco Road and installing new traffic signals at Cowan Road/Gustin Road in Mead Valley, within the Rural Residential VAU, would add an inconsequential amount of light to the project area. If not properly designed, new and relocated street lighting proposed along the project corridor at intersections could substantially affect

nearby roadway neighbors. In particular, light-emitting diode (LED) lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and blue-rich white light lamps (BRWL) are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies indicate that a 4000 Kelvin (K) white LED light causes approximately 2.5 times more light pollution than high pressure sodium lighting with the same lumen output, which would affect sensitive receptors, and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). This would result in a notable source of nighttime light and glare that would substantially affect nighttime views in the area if lighting is not properly designed and shielding is not employed. Implementation of Standard Project Measure **PF VIS-4** is identified below to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects under all build alternatives.

- **PF VIS-4: Apply Minimum Lighting Standards.** All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements, such as intersections. In most cases, lighting will consist of County lighting standards that are up to 35 feet in height, and the minimum required for driver safety. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. All lighting will be designed to have minimum impact on the surrounding environment and will use downcast, cut-off type fixtures that are shielded and direct the light only toward objects requiring illumination. Therefore, lights will be installed at the lowest allowable height and cast low-angle illumination while minimizing incidental light spill onto adjacent properties or open spaces, or backscatter into the nighttime sky. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized. Light fixtures will have non-glare finishes that will not cause reflective daytime glare.

  Lighting will be designed for energy efficiency, with daylight sensors or timers with an on/off program. Lights will provide good color rendering with natural light qualities, with the minimum intensity needed for security, safety, and personnel access. Lighting, including light color rendering and fixture types, will be designed to be aesthetically pleasing. Light-emitting diode (LED) lighting will avoid the use of blue-rich white light lamps (BRWL) lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International Dark-Sky Association's Fixture Seal of Approval Program (International Dark-Sky Association 2010a, 2010b, 2015). In addition, LED lights will use shielding to ensure that nuisance glare and light spill does not affect sensitive residential viewers. Technologies to reduce light pollution evolve over time; design measures that are currently available may help but may not be the most effective means of controlling light pollution once the project is designed. Therefore, all design measures used to reduce light pollution will use the technologies available at the time of project design to allow for the highest potential reduction in light pollution.

  The County's Resident Engineer, or Project Engineer under contract to the County, will ensure that the Lighting Plan included in the final Plans, Specifications, and Estimates (PS&E) is implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

Implementation of this measure would not result in additional substantially adverse visual effects.

Summary (Rural Residential VAU)

As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. The primary changes to the landscape in the Rural Residential VAU that would affect viewer groups and viewer response would be (1) A wider roadway and additional pavement; (2) new bridge structures and drainage features (some concrete-lined); (3) removal of vegetation and trees; (4) increased traffic and truck volumes; and (5) additional hardscape features such as sidewalks, signage, fencing and improved intersection lighting. The roadway widening would result in the permanent conversion of a two-lane rural roadway to a four-lane suburban roadway. The proposed project would utilize Context Sensitive Solutions so that slopes would be gentle, smooth, and well transitioned into the existing adjacent roadside and landforms, avoiding obvious cuts and fills, and improving project aesthetics associated with roadside slopes. Portions of the alignment would widen into vacant lands; however, the most noticeable visual changes would be where the alignment widens into private properties. Impacts on private properties would occur because residential and commercial properties would lose frontage along the roadway, affecting landscape features such as structures, vegetation, fencing, and mailboxes. All build alternatives would have the similar permanent impacts.

Except where Build Alternatives 1 and 2C would realign Cajalco Road away from residences that are south of Lake Mathews, the widening would bring the right of way and traffic closer to residences and businesses under all build alternatives. Build Alternatives 1 and 2C would also include a new connection between Dirt Road and Richey Way south of Lake Mathews. These changes may create a sense of visual encroachment for properties with structures located close to the new right of way or where landscaping would be removed so that views of and from the roadway and traffic would be available where views are presently more screened. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the substantial adverse effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor. This measure would also not reduce the effects associated with structures that would be permanently displaced through implementation of the stormwater facilities under the alternatives. However, many properties within the developed portions of the corridor that are along and just outside the right of way would not be affected or would only be slightly affected by the project.

Widening under all build alternatives would not substantially alter the visual character of lands beyond the right of way because these areas' rights of way would retain their visual character, new roadside slopes would appear compatible with the existing visual character, and views from the expanded roadway corridor that are seen by roadway users would be consistent with existing conditions. However, there would be locations where there would be greater permanent visual impacts, such as where full acquisitions would occur during construction to implement the stormwater facility (refer to Key View 1 on Figures 3.7-2 and 3.7-3).

In addition to Key View 1, areas and user groups associated with Key Views 2, 6A, and 6B are also anticipated to result in high visual impacts; Key Views 3, 4, and 7 are anticipated to result in moderate-high visual impacts; and Key View 5 is anticipated to result in a moderate impact

(refer to Table 3.7-3). As indicated above and in Table 3.7-3, the resulting visual impacts on the existing visual character would range between moderate and high, even with implementation of standard measures. Therefore, these permanent visual changes would result in substantial adverse visual effects under all build alternatives even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**.

Open Space Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Alternatives 1 and 2C and each key view are described below. Table 3.7-4 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Open Space VAU and associated key views.

Table 3.7-4. Open Space VAU Summary of Key View Narrative Ratings – Build Alternatives 1 and 2C

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
6A	1	H	H	**H**
6B	2C	MH	H	**H**
8	1, 2C, and 4	MH	MH	**MH**
9	1, 2C, and 4	MH	MH	**MH**
10	1, 2C, and 4	M	MH	**MH**
11	1	M	MH	**MH**
12	2C	MH	H	**H**
13*	4	None	L	**None**
14*	4	None	L	**None**
*No changes anticipated under Build Alternatives 1 and 2C.				

The most notable permanent visual change in this VAU would be the widening, realignments of the roadway, and creation of a large stormwater basin southeast of Eagle Canyon Road. Under all build alternatives, the roadway widening would require large areas of cut and fill to accommodate the widening; traverse the undeveloped, hilly terrain; stand out more in the natural landscape; and resemble a highway rather than a rural roadway, as shown in the simulation for Key View 8 (Figure 3.7-10). These changes would alter the existing visual character and degrade the quality of views from the roadway even though the project would be designed so that slopes appear more natural. The proposed project would include Standard Project Measure **PF VIS-5** for proposed basins and larger drainages to ensure the most natural appearance feasible for the introduced features.

- **PF VIS-5: Basin and Flood Control Drainage Facility Treatments**. New or expanded basins and the new flood control drainage facility would be soft-bottom where hydraulically feasible; however, some would need to be concrete-lined. The soft-bottomed basins would further be vegetated where vegetation would not interfere with the intended use of the facilities (i.e., conveyance of water). Seeding with appropriate species would be determined in coordination with a County-approved biologist, and consistent with the requirements of the WRC MSHCP, LM MSHCP, and/or SKR HCP, where applicable.

A vehicular bridge that would follow the existing roadway contours would be built at STA #110, but the bridge would be low-profile and would not result in notable visual changes for roadway travelers or nearby sensitive viewers. The widened bridge at Temescal Creek would also be low-profile, but would be constructed partially within the City of Corona El Cerrito Specific Plan area, which includes Scenic Corridor Design Standards for changes within 500 feet of the Cajalco Road right of way (within the specific plan boundary). The proposed project would include Standard Project Measure **PF VIS-6** for the proposed widened Temescal Creek Bridge to ensure consistency with applicable design guidelines specified in Section 14.7.1 of the City of Corona El Cerrito Specific Plan, and minimize impacts on the County-eligible scenic corridor within the City of Corona.

- **PF VIS-6: Temescal Creek Bridge Design**. Section 14.7.1 of the City of Corona El Cerrito Specific Plan Scenic Corridor Design Standards will be applied in the design and construction of the widened Temescal Creek Bridge:

    1. Outstanding scenic vistas and visual features will be preserved and protected for the enjoyment of the traveling public as viewed from the roadway.

    2. The design and appearance of new structures and/or equipment within scenic corridors will be compatible with the setting or environment.

    6. Trees and other roadside planting will be utilized to protect and enhance the view from the roadway.

    7. Earthmoving operations that expose soil surfaces that would be visible from the scenic corridors will be required to reestablish vegetation to bind the soil, prevent water or wind erosion, and reestablish a natural vegetative appearance.

Roadway widening east of Temescal Creek and Eagle Canyon Creek Road would result in the full acquisition and removal of a residential property north of the roadway and removal of its associated landscaping. Several small stormwater detention basins would also be created along the north and south sides of the roadway under all alternatives. Some of the smaller basins would not affect views but some would require a larger area and vegetation removal to construct the basin, which would slightly degrade views. However, visual changes associated with the project are not likely to affect the quality of views and scenic vistas available from this portion of County-eligible scenic roadway because views from the roadway would not be greatly altered as there are no structures proposed that would interfere with vista views and the changes would not degrade the quality of views available from the roadway under all build alternatives.

In addition, as shown in the simulations for Key View 9 (Figure 3.7-11) and Key View 10 (Figure 3.7-12), the proposed detention basin that would be built southeast of Eagle Canyon Road would introduce a large, inorganic-looking, geometrically shaped basin into views from adjacent sensitive residential receptors where flat land currently exists. Existing views transition smoothly from the foreground to background, with little visual distraction. However, proposed views would bring the roadway closer to the nearby remaining residences, which is likely to be perceived negatively, and make the widened roadway corridor and stormwater facility much more of a focal point in foreground views under all build alternatives. The wildlife exclusion fencing would distract from views even with the color treatment. Partial acquisitions would also likely be required elsewhere in the Open Space VAU and would remove formal and informal

landscaping, fencing, and mailboxes and alter entry drives at the affected properties that would remain under all build alternatives. However, Measure **VIS-2** would lessen impacts on affected properties to the degree possible.

The LM MSHCP area falls within the Open Space VAU. All alternatives would follow a portion of the current alignment for Cajalco Road and widen to either side of the roadway onto vacant reserve lands. Several of the existing curves would be slightly realigned, abandoning small segments of roadway that would be restored, creating a more natural look where these roadway segments once were, as shown in the simulations for Key View 2, Key View 3, and Key View 4 (Figures 3.7-3, 3.7-4, and 3.7-5). Culvert widening and utility relocations would appear similar under all build alternatives and would only result in minor visual changes as the modifications are occurring. In addition, an approximately 10-foot-tall chain link fence with barbed wire rows at the top would be required along Cajalco Road through the LMR to prevent wildlife from crossing the roadway under all build alternatives. The fencing would be powder-coated a darker color to ensure that it is more transparent and recedes into views, instead of being more pronounced as with untreated chain link fencing.

Once the roadway is built and in operation, visual changes would occur intermittently during regular maintenance activities similar to those currently taking place and that are a common visual element. Traffic would increase over time, but the proposed project would aid in alleviating backups on the roadway, reducing the visible presence of traffic congestion.

Build Alternatives 1 and 2C would both follow the current alignment for Cajalco Road and widen to the north onto vacant reserve lands between Lake Mathews Drive and Harley John Road. Between the realigned connection of La Sierra Avenue with Cajalco Road and Lake Mathews Drive, Alternative 1 would follow the current alignment for Cajalco Road and widen to the north onto vacant reserve lands. Both alternatives would require the removal of native shrubs and approximately 32 small trees and shrubs and 16 large mature trees to be removed on either side of Cajalco Road. However, as described in Section 3.17, *Natural Communities*, compensatory mitigation specifies that enhancement, restoration, and/or creation may occur on site, which would replace this vegetation. As shown in the simulation for Key View 11 (Figure 3.7-13), this portion of the project corridor is flatter so Build Alternative 1 would generally follow the natural terrain, without major cut and fill areas. However, the widening would increase the prominence of transportation facilities in this view. Furthermore, as shown in the simulation for Key View 12 (Figure 3.7-14), the realigned segment of Cajalco Road would alter natural terrain, create large areas of cut on vacant reserve lands to the south of the existing corridor, stand out in the natural landscape, and resemble a major highway imposed upon the landscape under Build Alternative 2C. The color-treated wildlife exclusion fencing would recede into views under both build alternatives. Relocating Cajalco Road would not affect views from the existing Cajalco Road, but would create new views that are likely to be scenic from the realigned segments.

Existing View

Simulation

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Figure 3.7-10
Key View 8, Existing View and Alternatives 1, 2C and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-11
Key View 9, Existing View and Alternatives 1, 2C and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-12
Key View 10, Existing View and Alternatives 1, 2C and 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-13
Key View 11, Existing View and Alternative 1 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Existing View

Simulation

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Figure 3.7-14
Key View 12, Existing View and Alternative 2C Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Widening Cajalco Road under Build Alternatives 1 and 2C would likely still offer scenic vista views and have views that are consistent with the scenic qualities associated with existing views from Cajalco Road, including after realigning portions of the roadway under Alternative 2C. With the addition of new turn lanes and intersections, the widened roadway corridor would be more suburban, rather than rural, in nature under both build alternatives, and Build Alternative 2C would affect undeveloped natural lands and transform them into a transportation corridor with the realignment. Measure **VIS-2** would replace landscape features to the degree possible to reduce the effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Scenic Roadways

Within the Open Space VAU under Build Alternatives 1 and 2C, Cajalco Road between Eagle Canyon Road and Hollis Lane, and between Dirt Road and El Sobrante Road, is a County-eligible scenic corridor that is to be managed in a manner so as to maintain its aesthetic value. The segments of La Sierra Avenue and El Sobrante Road located within the limits of Build Alternatives 1 and 2C are also County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value.

Under Build Alternatives 1 and 2C, roadway widening would require large areas of cut and fill to accommodate the widening and traverse the undeveloped, hilly terrain. A 10-foot-tall chain link fence that would be powder-coated a darker color and topped with barbed wire would be required along Cajalco Road through the Lake Mathews Reserve area to prevent wildlife from crossing the roadway. The fence coloring would ensure that the fencing is relatively transparent and recedes into views. This would help to minimize the impacts of views from the scenic corridor.

As shown in the simulation for Key View 8 (Figure 3.7-10), Build Alternatives 1 and 2C would be more prominent in views because the widened and realigned roadway corridor would look like a highway, rather than a small rural roadway, which stands out more in the natural landscape. The wildlife exclusion fencing would be visible but would recede into views due to its color treatment. The project would alter the existing visual character by making landform alterations and pronounced roadside cuts that degrade the quality of views from the roadway even though slopes would be designed to appear more natural. Widening the roadway surface area from a two-lane rural roadway to a four-lane roadway with associated turn lanes and new intersections would appear more suburban in nature. However, these changes are not likely to affect the quality of scenic views available from this portion of County-eligible scenic roadways because views from the roadway would not be greatly altered, there are no structures proposed that would interfere with vista views, and changes would not degrade the quality of views available from the roadway.

Build Alternative 1 would result in the least amount of change to the existing visual character of Cajalco Road. Realignment under Alternative 2C would result in a similar visual experience as the existing alignment and have high-quality views to the surrounding landscape, but it would shift the locations of where views are experienced.

Overall, Build Alternatives 1 and 2C would offer scenic vista views and have views that are consistent with the scenic qualities for which Cajalco Road, La Sierra Avenue, and El Sobrante Road qualified when considered by the County as scenic-eligible roadways. Therefore,

permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU under all build alternatives with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs, consistent with Standard Project Measure **PF VIS-4**. Vegetation on affected properties would also be replaced under Standard Project Measure **PF VIS-1** and Measure **VIS-2** and reduce glare. Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Under Build Alternatives 1 and 2C, existing traffic signals would be improved or new traffic signals would be installed at Eagle Canyon Road, La Sierra Avenue, Lake Mathews Drive, and other intersections in the Open Space VAU, along portions of Cajalco Road that are County-eligible scenic roadway. Improving existing traffic signals along Cajalco Road at La Sierra Avenue and El Sobrante Road, and installing new traffic signals at a new intersection west of Lake Mathews Drive, at Lake Mathews Drive, Archer Road, and Kirkpatrick Road, within the Open Space VAU would add an inconsequential amount of light to the project area. If not properly designed, new and relocated street lighting proposed along the project corridor at intersections could substantially affect nearby roadway neighbors. In particular, LED lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and BRWL are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies indicate that a 4000 K white LED light causes approximately 2.5 times more light pollution than high pressure sodium lighting with the same lumen output, which would affect sensitive receptors, and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). This would result in a notable source of nighttime light and glare that would substantially affect nighttime views in the area if lighting is not properly designed and shielding is not employed. Such impacts would also occur within the Open Space VAU from relocating the traffic signals and lights at the Cajalco Road intersection with La Sierra Avenue if BRWL LED is used. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that project light and glare would not result in substantial adverse visual effects under all build alternatives.

Summary (Open Space VAU)

As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. The primary changes to the landscape in the Open Space VAU that would affect viewer groups and viewer response would be (1) a wider roadway and additional pavement; (2) new bridge structures and drainage features (some concrete-lined); (3) removal of vegetation, including approximately 32 small trees and shrubs and 16 large mature trees; (4) increased traffic and truck volumes; and (5) additional hardscape features such as sidewalks, signage, fencing, and improved intersection lighting. Relocated utilities, culvert widening and new bridges, and modified driveways would not alter the visual character of views

of and from the project corridor, because the visual changes would not be very noticeable when seen in conjunction with the widened roadway corridor.

The roadway widening would permanently increase the roadway surface area from a two-lane rural roadway to a four-lane roadway with suburban features such as turn lanes and additional intersections. The widening would bring the right of way closer to residents and create a sense of visual encroachment for properties located close to the new right of way or where vegetation removal would open up views of and from the roadway. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the substantial adverse effects experienced by some roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor. This measure would also not reduce the effects associated with structures that would be permanently displaced through widening under the build alternatives. However, the removal of structures on affected properties and changes to landscaping, fencing, and other landscape features would not substantially alter the existing visual character of lands adjacent to the project corridor or views of these areas from the project corridor, except for where the stormwater basin is located.

Views from the expanded roadway corridor, as seen by roadway users, would be consistent with existing conditions because lands outside the right of way would retain their visual character and new roadside slopes would appear mostly compatible with the existing visual character. Widening would not substantially alter visual resources along El Sobrante Road within the Open Space VAU. In addition, widening would not substantially affect visual resources along the segment of Cajalco Road within the Open Space VAU where it would generally follow the current alignment under Build Alternative 1 and portions of Build Alternative 2C. However, new areas of cut and fill would alter the visual character of Cajalco Road because they would be larger and more pronounced than existing conditions. Under Build Alternative 2C, realignment of a portion of Cajalco Road would affect natural lands that are undeveloped and transform them into a transportation corridor roadway, having a greater impact on visual resources within this VAU and the LM MSHCP area than under Build Alternative 1; Build Alternative 2C would further alter the viewer experience for roadway users. Build Alternative 4 would result in the greatest visual change because the proposed relocation of La Sierra Avenue is within an area of greater topographical variation, which would result in the need for larger landform alterations and areas of cut and fill that would create landscape scarring and require the use of artificial retaining features. This would alter the existing visual character of the project area and may degrade the quality of views in some areas, as seen from La Sierra Avenue.

Permanent visual changes would result in a resource change to this VAU that is moderate-high to high. The resulting visual impacts on scenic views and existing visual character would be moderate-high to high even with Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**. Therefore, these permanent visual changes would result in substantial adverse visual effects on visual character and quality. In addition, Build Alternative 2C may also result in substantial adverse visual effects on scenic vistas because roadway realignment would alter the availability of existing scenic vistas. However, the realignments may introduce new scenic vista views that may be of value. No scenic vistas would be affected under Build Alternative 1.

Suburban Residential Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Build Alternatives 1 and 2C within the Suburban Residential VAU are described below. Table 3.7-5 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts for the Suburban Residential VAU and its associated view.

Table 3.7-5. Suburban Residential VAU Summary of Key View Narrative Ratings – Build Alternatives 1 and 2C

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
N/A	1, 2C, and 4	L	MH	M
13*	4	None	L	None
*No changes anticipated under Build Alternatives 1 and 2C.				

Under Build Alternatives 1 and 2C, the proposed project would widen the existing corridor near Wood Road to accommodate a widened median and a new turn lane for westbound traffic onto Wood Road. Slight widening would also occur near Carpinus Drive to accommodate a turn lane for eastbound traffic onto Carpinus Drive. A new sidewalk would also be added to the north side of Cajalco Road. No vegetation or structures would be affected by construction at this location. The primary views of the roadway are from second-story windows of residences bordering Cajalco Road, and existing noise barriers surrounding residential areas, residential landscaping, and landscaping along Cajalco Road would block views of visual changes from ground levels and from residences north of Rocky Summit Drive. Also, much of the affected segments of Cajalco Road were previously widened to four lanes. Therefore, visible changes during construction would be very minor and the overall visual impact would be moderate.

Standard Project Measure **PF VIS-1** and Measure **VIS-2** would lessen potential visual impacts associated with vegetation loss to the extent possible. In this area, available sightlines to the mountains and foothills would remain largely unobstructed. The roadway would become a more prominent visual element, but, generally, the introduction of the proposed project's built elements would not substantially reduce the overall visual quality at this view or within similar viewsheds, nor would it compromise the visual character therein. Proposed project changes would be somewhat compatible with the existing visual setting and land uses. There are no scenic vista views within this VAU, so scenic vistas would not be affected.

Once the widened roadway is built and in operation, intermittent visual changes would occur during regular maintenance activities similar to those currently in use and are a common visual element. Traffic would increase over time, but the proposed project would aid in alleviating backups on the roadway, reducing the visible presence of traffic congestion.

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El

Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. No County-eligible scenic corridors within the Suburban Residential VAU are within or would be affected by Build Alternatives 1 and 2C. Therefore, no permanent visual changes as a result of Build Alternatives 1 and 2C would affect scenic roadways or views of scenic roadways from this VAU.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs. The proposed project would result in a nominal increase in daytime glare by increasing the paved area and by removing some of the roadside vegetation that provides shade within all VAUs. However, the pavement would be dark and greatly reduce glare. Within the Suburban Residential VAU, roadside trees associated with residences would still be present along the right of way to provide some shade. In addition, Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare within this VAU.

Within the Suburban Residential VAU, existing traffic signals at the intersection of Cajalco Road and Wood Road would be improved, and new traffic signals would be installed at the intersection of Cajalco Road and Carpinus Street, which are not County-eligible scenic roadways. The lighting changes would add an inconsequential amount of light within the VAU. If not properly designed, new and relocated street lighting could substantially affect nearby roadway neighbors. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects under all build alternatives.

Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Summary (Suburban Residential VAU)

As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. Viewers within the project area are familiar with the segment of Cajalco Road and El Sobrante Road within this VAU that is the same width as the proposed widening, and the proposed alternatives are consistent with the existing visual environment. In addition, the proposed widening would not substantially alter visual resources along this segment of Cajalco Road and El Sobrante Road. Therefore, the proposed widening would not be an eyesore and would not substantially alter the existing visual character of the project area, as seen from the Suburban Residential VAU.

Permanent visual changes would result in a resource change to this VAU that is low under Build Alternatives 1 and 2C. The resulting visual impacts on the existing visual character and quality would be moderate under Build Alternatives 1 and 2C with Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Therefore, permanent visual changes would not result in substantial adverse visual effects under Build Alternatives 1 and 2C. There are no scenic vista views within this VAU; therefore, no scenic vistas would be affected.

Commercial Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Build Alternatives 1 and 2C are described below. Table 3.7-6 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts for all build alternatives for the Commercial VAU.

Table 3.7-6. Commercial VAU Summary of Key View Narrative Ratings – Build Alternatives 1, 2C, and 4

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
N/A	1, 2C, and 4	L	MH	M

Widening under all build alternatives would not substantially alter the visual character of views seen from this VAU because the lands outside the right of way would retain their visual character, new roadside slopes would appear compatible with the existing visual character, and views from the modified roadway corridors would be consistent with existing conditions. However, widening at the eastern terminus would require reconstruction and widening of the Ramona Expressway Overhead Bridge (Bridge No. 56-C196) over Burlington Northern Santa Fe Railroad, removal of approximately 15 small trees/shrubs along the south side of Cajalco Expressway near Seaton Avenue that are associated with residential land uses, and 12 mature trees would need to be removed east of Harvill Avenue, along vacant lands, to accommodate the slight widening and new sidewalks.

Widening at the western terminus between Temescal Canyon Road and Temescal Creek would occur on vacant land along the roadway corridor and would be consistent with existing conditions and the widened roadway corridor west of Temescal Canyon Road. Widening would not affect or disrupt the quality of scenic vista views associated with this VAU. Approximately 15 small trees and large shrubs and 8 mature trees would be removed. Views of traffic using Cajalco Road from this VAU would not differ compared to current conditions under all build alternatives.

Therefore, permanent visual changes would result in a resource change to this VAU that is low. As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. The resulting visual impacts on scenic vista views and the existing visual character and quality would be moderate with Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**. Measure **VIS-2** would lessen impacts on affected properties to the degree possible by replacing landscaping and site features. Removal of two or three trees adjacent to the freeway overpass may affect the landscaped freeway designation because vegetation in this area is already sparse and removal may be deemed negative under all build alternatives. Mitigation Measure **VIS-8** would ensure that vegetation removed along this portion of landscaped freeways is replanted.

Scenic Roadways

As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a

manner so as to maintain their aesthetic value. The portions of these roadways that are County-eligible scenic corridors within the Commercial VAU under Build Alternatives 1 and 2C include the section of Cajalco Road between I-15 and Eagle Canyon Road. Widening Cajalco Road and the Temescal Creek Bridge within the Commercial VAU would not alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU, and views of scenic roadways from this VAU would not be altered by the permanent visual changes, under Build Alternatives 1 and 2C.

Light and Glare

Effects related to light and glare within the Commercial VAU would be the same or very similar to existing conditions under Build Alternatives 1 and 2C. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare. Existing traffic signals at the intersections of Cajalco Road with Harvill Avenue and Temescal Canyon Road would be improved, and new traffic signals would be installed at the intersections of Cajalco Road with Seaton Avenue and Eagle Valley Road. The lighting changes would add an inconsequential amount of light within the VAU. If not properly designed, new and relocated street lighting could substantially affect nearby roadway neighbors. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects under all build alternatives.

Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Summary (Commercial VAU)

Viewers within the project area are familiar with widened segments of Cajalco Road within this VAU, and the proposed alternatives are consistent with the existing visual environment. In addition, the widening would not substantially alter visual resources in the project area. Therefore, the proposed widening would not be an eyesore and would not substantially alter the existing visual character of the project area, as seen from the Commercial VAU. As a result, permanent visual changes would not result in substantial adverse visual effects on scenic vista views or existing visual character and quality under all build alternatives with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Mitigation Measures **VIS-2** and **VIS-8**.

Build Alternative 4 – El Sobrante Alignment

Rural Residential Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Build Alternative 4, and each key view within the viewshed of the alternative evaluated, are described below. Table 3.7-7 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Rural Residential VAU and associated key views.

Table 3.7-7. Summary of Key View Narrative Ratings for the Rural Residential VAU – Build Alternative 4

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
1	1, 2C, and 4	H	H	H
2	1, 2C, and 4	MH	H	H
3	1, 2C, and 4	M	H	MH
4	1, 2C, and 4	M	MH	MH
5	1 and 2C	None	L	None
6A*	1	None	L	None
6B*	2C	None	L	None
7	4	MH	MH	MH
*No changes anticipated under Build Alternative 4.				

All Project Roadways

Build Alternative 4 within the Rural Residential VAU would include modifications such as culvert additions, culvert widening, and utility relocations that would appear similar under all build alternatives. With the exception of roadway segments discussed separately below, most of the changes associated with new features would occur below the road profile and would not stand out in the landscape, and would involve slight culvert widenings and shifted locations of existing features that would all be consistent with the existing visual character of the project corridor. Abandoned portions of Cajalco Road and El Sobrante Road would be restored consistent with Standard Project Measure **PF VIS-1** (contouring and replanting), creating a more natural look where these roadway segments once were so that these segments of abandoned roadway would blend with and recede into the natural landscape.

Additional changes that would affect specific roadway segments within the Rural Residential VAU are described below.

Cajalco Road between Cowan Road and Seaton Avenue

Permanent impacts under Build Alternative 4 for the portion of Cajalco Road located within Mead Valley, between Cowan Road and Seaton Avenue, would be the same as what is described for Build Alternatives 1 and 2C (refer to Figure 2.2-3). The project would be constructed consistent with County General Plan Land Use Element Policy LU 31.5, which requires public facilities to be designed to consider their surroundings and visually enhance, not degrade, the character of the surrounding area. Furthermore, Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-3**, and Measure **VIS-2,** are identified to lessen impacts on affected properties by replacing landscape features to the degree possible, minimize visual impacts associated with roadside grading and slopes under all build alternatives, and ensure that new noise barriers are visually consistent with existing noise barriers in the project vicinity.

El Sobrante Road between McAllister Street and Cajalco Road

Under Build Alternative 4, widening would mostly occur to the north of the existing roadway, into vacant lands along the length of El Sobrante Road or residential or commercial properties between McAllister Street and Vista Del Lago Drive, to avoid reserve lands and a large

underground MWD pipe under El Sobrante Road (refer to Sheets 3B and 4B of Figure 2.2-5). Roadside grading would have small areas of cut and fill that would transition naturally to the existing terrain and would require erosion control measures to vegetate exposed soils, which would minimize visual impacts from earthwork. Therefore, the primary visual changes to this portion of the VAU would result from widening the roadway and installing medians and turn lanes, and new traffic signals and associated safety lighting at intersections.

Construction would require partial acquisition of lands; removal of formal and informal landscaping, vegetation, fencing, mailboxes, approximately 400 small trees/shrubs (of which 306 are trees associated with orchards and nurseries), and approximately 114 mature trees; and alteration of entry drives at the affected properties to accommodate the widened roadway and right of way along the segment of El Sobrante Road between McAllister Street and Vista Del Lago Drive. These visual features contribute to providing an attractive appearance along the roadway. In addition, Measure **VIS-2** would lessen impacts on affected properties to the degree possible. Two residential structures along the north side of El Sobrante Road are also present; an expanded roadway corridor and roadside slopes would take the place of the residential structures and associated vegetation.

Removal of development and vegetation on affected parcels would alter the existing visual character of these residential properties, but would not contribute to substantially altering the overall visual character and quality of views from this portion of El Sobrante Road under Build Alternative 4. The most notable visual change would be from the conversion of a two-lane rural roadway to a four-lane roadway with more suburban features such as turn lanes and additional intersections. However, most roadway neighbors are not directly adjacent to the roadway and most viewers are oriented away from El Sobrante Road, so widening would not affect their views. In addition, scenic vista views available from El Sobrante Road would not be affected by these changes because there are no structures proposed that would interfere with vista views, and the changes would not degrade the quality of views available from the roadway.

El Sobrante Road between Cajalco Road and Harley John Road

The connection of El Sobrante Road to Cajalco Road would be realigned, the intersection of Harley John and Cajalco Roads would also be realigned, and a cul-de-sac would be installed at Harley John Road under Build Alternative 4 (see Sheet 6 of Figure 2.2-5). As shown in the simulation for Key View 7 (Figure 3.7-15), the realigned El Sobrante Road would provide expanded views of the adjacent foothills for motorists. Creating a cul-de-sac along the existing Harley John Road would not affect visual resources but may improve views (for some residences that front on Harley John Road) slightly by reducing the amount of traffic the residents can see. The realigned connection of Harley John Road to Cajalco Road would go behind the existing residences along Harley John Road, would not affect any residential structures, and would result in minimal vegetation removal.

Visual changes along El Sobrante Road would not result in substantial adverse visual effects on most scenic resources under Build Alternative 4 with Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**.

Existing View

Simulation

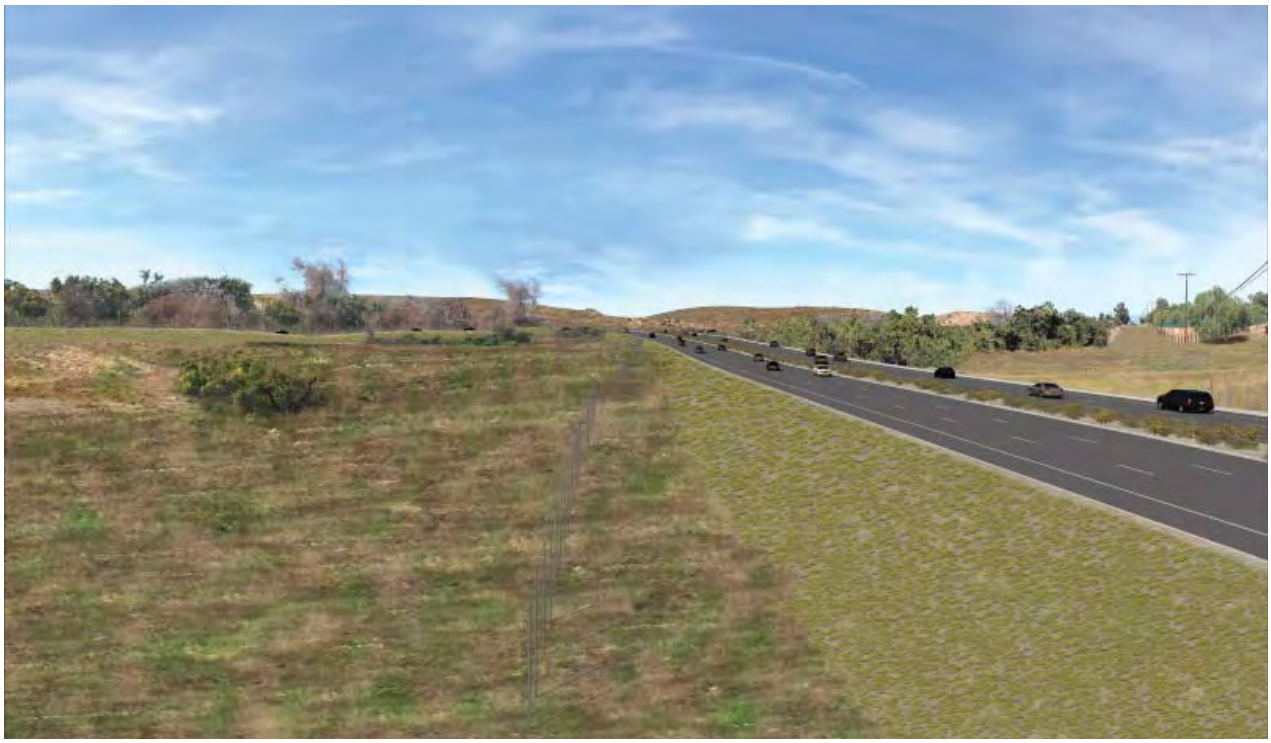

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Figure 3.7-15
Key View 7, Existing View and Alternative 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these roadways that are County-eligible scenic corridors within the Rural Residential VAU under Build Alternative 4 include Cajalco Road between El Sobrante Road and Harley John/Smith Roads, and El Sobrante Road between McAllister Street and Cajalco Road. Due to the existing topography and land uses, the south side of this segment of County-eligible scenic El Sobrante Road also falls within the Open Space VAU. Under Build Alternative 4, the east end of El Sobrante Road would be relocated out of the Open Space VAU into the Rural Residential VAU at its east end, and intersect with Harley John Road.

A cul-de-sac would be created on the old segment of Harley John Road, north of Cajalco Road. This may improve visual character at this location because large amounts of traffic would be removed from the residential area, allowing for longer views from the roadway of the surrounding scenic views. Widening El Sobrante Road within the Rural Residential VAU would not alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU under Build Alternative 4 with Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Views of scenic roadways from this VAU would also not be substantially altered by the permanent visual changes associated with Build Alternative 4.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs. Build Alternative 4 would result in a nominal increase in daytime glare by increasing the paved area and by removing some of the roadside vegetation that provides shade within all VAUs. However, the pavement would be dark and greatly reduce glare. Within the Rural Residential VAU, roadside trees associated with residences would still be present along the right of way to provide some shade. In addition, Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare.

New traffic signals would be constructed along portions of County-eligible scenic roadways at the following intersections: El Sobrante Road and McAllister Street, El Sobrante Road and Mockingbird Canyon Road, new intersection of El Sobrante Road with Harley John Road, and new intersection of Cajalco Road with Cowan/Gustin Roads. The new traffic lights would add an inconsequential amount of light to the project area. If not properly designed, new and relocated street lighting proposed along the project corridor at intersections could substantially affect nearby roadway neighbors. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects. Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Open Space Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Alternative 4 and each key view are described below. Table 3.7-8 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Open Space VAU and associated key views.

Table 3.7-8. Open Space VAU Summary of Key View Narrative Ratings – Build Alternative 4

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
6A*	1	None	L	None
6B*	2C	None	L	None
8	1, 2C, and 4	MH	MH	MH
9	1, 2C, and 4	MH	MH	MH
10	1, 2C, and 4	M	MH	MH
11*	1	None	MH	None
12**	2C	None	None	None
13	4	MH	MH	MH
14	4	MH	MH	MH

*No changes anticipated under Build Alternative 4.
**No viewer group under Build Alternative 4.

Under Build Alternative 4, widening along El Sobrante Road would result in the same impacts as described under the Rural Residential VAU for between McAllister Street and Cajalco Road. The primary visual changes to this VAU would result from widening the roadway and installing medians and turn lanes, and new traffic signals and associated street lights. However, there are no recreational viewers associated with the Open Space VAU and the minor roadside changes would not affect views for MWD employees in this VAU. Therefore, the most notable visual change would be that roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway with suburban features such as turn lanes and additional intersections, and the realignment of La Sierra Avenue. However, scenic vista views available from El Sobrante Road would not be affected by these changes because there are no structures proposed that would interfere with vista views and the changes would not degrade the quality of views available from the roadway.

West of McAllister Street, widening would also mostly occur to the north, but the realigned intersection of El Sobrante Road and La Sierra Avenue would affect the MWD Lake Mathews facility entrances and associated vegetation under Alternative 4. However, Standard Project Measure **PF VIS-1** and Measure **VIS-2** would lessen impacts on the entrance to the degree possible. As shown in the simulation for Key View 13 (Figure 3.7-16), the realigned intersection of El Sobrante Road and La Sierra Avenue would also result in the introduction of the widened roadway, shoulder, and unpaved median into the viewshed, where existing utility poles and light roadside vegetation would be removed to accommodate the proposed project changes. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would lessen potential visual impacts associated with vegetation loss to the extent possible.

Figure 3.7-16 Key View 13, Existing View and Alternative 4 Simulated Conditions

Existing View

Simulation

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Figure 3.7-16
Key View 13, Existing View and Alternative 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

In this area, available sightlines to the mountains and foothills would remain largely unobstructed. The roadway would become a more prominent visual element, but, generally, the introduction of the proposed project's built elements would not substantially reduce the overall visual quality at this view or within similar viewsheds.

The greatest visual change in this VAU would be the widening and realignment of La Sierra Avenue under Build Alternative 4, which would require large areas of cut and fill to accommodate the widening and traverse the undeveloped, hilly terrain. In addition, an approximately 1,800-foot-long arch bridge would be constructed along the realigned section of La Sierra Avenue, introducing new bridge infrastructure where none presently exists. As shown in the simulation for Key View 14 (Figure 3.7-17), the realignment would introduce several permanent elements that do not currently exist within that viewshed, including the bridge, paved and widened roadway and shoulder, unpaved median, wildlife corridor fencing, graded roadway shoulders and slopes, and vehicular traffic. This would also remove existing scenic vista views that are available along the current roadway alignment. The realignment would contain more human-made features than the existing alignment and would be more suburban in nature with the addition of turn lanes and intersections.

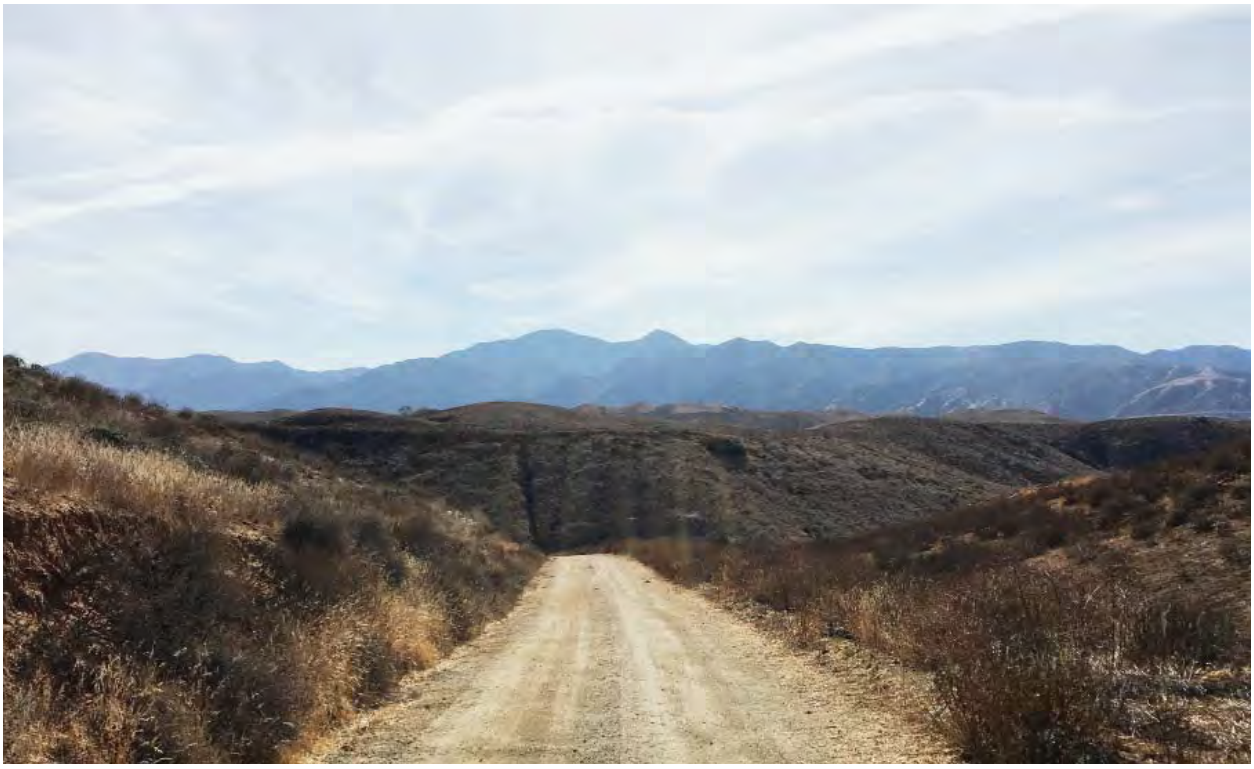
Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these roadways that are County-eligible scenic corridors within the Open Space VAU under Build Alternative 4 include: Cajalco Road between Eagle Canyon Road and La Sierra Avenue; La Sierra Avenue between Cajalco Road and Blackburn Road; and El Sobrante Road between La Sierra Avenue and Cajalco Road. Due to the existing topography and land uses (setting), the north side of the segment of County-eligible scenic El Sobrante Road between Mc Allister Street and Cajalco Road also falls within the Rural Residential VAU.

A portion of La Sierra Avenue would also be relocated under Build Alternative 4, removing views from a portion of the existing roadway, but new views would be created from the realigned segments that are likely to be scenic. However, this realignment would require large cuts and fills and structures because of the hillier terrain. Also, the east end of El Sobrante Road would be relocated out of the Open Space VAU, and intersect with Harley John Road within the Rural Residential VAU.

Overall, Build Alternative 4 would still offer scenic vista views and have views that are consistent with the scenic qualities for which Cajalco Road, La Sierra Avenue, and El Sobrante Road qualified when considered by the County as scenic-eligible roadways. Widening El Sobrante Road within the Rural Residential/Open Space VAUs would not substantially alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU under Build Alternative 4 with implementation of the recommended standard measures. Views of scenic roadways from this VAU would not be substantially altered by the permanent visual changes associated with the build alternatives.

Existing View



Simulation

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Figure 3.7-17
Key View 14, Existing View and Alternative 4 Simulated Conditions
Cajalco Road Widening and Safety Enhancement Project

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare. Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Within the Open Space VAU under Build Alternative 4, new traffic signals would be constructed along portions of County-eligible scenic roadways at the following intersections: Cajalco Road and Eagle Canyon Roa, and new intersection of Cajalco Road and realigned La Sierra Avenue; La Sierra Avenue and El Sobrante Road; El Sobrante Road and McAllister Street; and El Sobrante Road and Mockingbird Canyon Road. The new traffic lights would add an inconsequential amount of light to the project area. If not properly designed, new and relocated street lighting proposed along the project corridor at intersections could substantially affect nearby roadway neighbors. In particular, LED lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and BRWL are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies indicate that a 4000 K white LED light causes approximately 2.5 times more light pollution than high pressure sodium lighting with the same lumen output, which would affect sensitive receptors, and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). This would result in a notable source of nighttime light and glare that would substantially affect nighttime views in the area if lighting is not properly designed and shielding is not employed. Such impacts would also occur within the Open Space VAU from relocating the traffic signals and lights at the Cajalco Road intersection with La Sierra Avenue if BRWL LED is used. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects.

Summary (Open Space VAU)

As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. Relocated utilities, culvert widening and new bridges, and modified driveways would not alter the visual character of views of and from the project corridor because modifications would only result in visual changes that would not be very noticeable when seen in conjunction with the widened roadway corridor.

The roadway widening would permanently increase the roadway surface area from a two-lane rural roadway to a four-lane roadway with suburban features such as turn lanes and additional intersections. The widening would bring the right of way closer to residents and create a sense of visual encroachment for properties located close to the new right of way or where vegetation removal would open up views of and from the roadway. While Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the substantial adverse effects experienced by some roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor. This measure would also not reduce the effects associated with structures that would be permanently displaced through widening under the build alternatives. However, the removal of

structures on affected properties and changes to landscaping, fencing, and other landscape features would not substantially alter the existing visual character of lands adjacent to the project corridor or views of these areas from the project corridor, except for where the stormwater basin is located.

Views from the expanded roadway corridor, as seen by roadway users, would be consistent with existing conditions because lands outside the right of way would retain their visual character and new roadside slopes would appear mostly compatible with the existing visual character. Widening would alter visual resources along El Sobrante Road within the Open Space VAU. In addition, widening would affect visual resources along the segment of Cajalco Road within the Open Space VAU where it would generally follow the current alignment of Cajalco Road. However, new areas of cut and fill would alter the visual character of Cajalco Road because they are likely to be larger and more pronounced than existing conditions. Build Alternative 4 would result in a greater visual change than Build Alternatives 1 and 2C because the proposed relocation of La Sierra Avenue is within an area of greater topographical variation, which would result in the need for larger landform alterations and areas of cut and fill that would create landscape scarring and require the use of artificial retaining features. This would alter the existing visual character of the project area and may degrade the quality of views in some areas, as seen from La Sierra Avenue.

Permanent visual changes would result in a resource change to this VAU that is moderate-high to high. The resulting visual impacts on scenic views and existing visual character would be moderate-high to high even with implementation of the Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**. Therefore, these permanent visual changes would result in substantial adverse visual effects on visual character and quality under Build Alternative 4.

As in Key View 13, despite the introduction of these changes under Build Alternative 4, available sightlines to the mountains and foothills would be maintained, preserving the most important visual resources at this viewpoint location. The introduction of these human-made elements at Key View 14 would reduce the view's visual quality. While these changes would alter the existing visual character by making roadside cuts more pronounced, degrading the quality of views from the roadway, the changes would not constitute a substantial visual effect because most views would be transitory (roadway users/motorists); the visible features would lack substantial vertical profile and would not obstruct sightlines to visual resources; and the new bridge, roadway, and support structures would replace an existing graveled roadway. The arch bridge and smaller roadway bridges proposed west of Lake Mathews would further include architectural treatments consistent with County design standards that would lessen potential visual impacts associated with the introduction of the new structures, to the extent possible. These architectural treatments would be applied under Standard Project Measure **PF VIS-7**, below:

- **PF VIS-7: New Bridge Architectural Treatments.** Aesthetic treatments, such as color and/or texture, that are consistent with County design and engineering standards, and complement area conditions, will be applied to new bridge structures.

Under Build Alternative 4, scenic vista views would not be substantially affected because the proposed project would not introduce features that would block or alter such views. Although

views from El Sobrante Road would not be substantially altered, there would be substantial landform alterations along La Sierra Avenue. The large cut slopes and suburban feel of the widened roadway with increased traffic controls would result in alterations to the visual character and would increase the prominence of roadway infrastructure, which would degrade views associated with the corridor. In addition, under Build Alternative 4, impacts on the MWD Lake Mathews facility would occur because the entrances would be affected by the intersection realignment, as described above, affecting vegetation and fencing. Measure **VIS-2** would replace landscape features to the degree possible to reduce the effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Suburban Residential Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Permanent impacts for Build Alternative 4, and each key view within the viewshed of the alternative evaluated, are described below. Table 3.7-9 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Suburban Residential VAU and associated key views.

Table 3.7-9. Suburban Residential VAU Summary of Key View Narrative Ratings – Build Alternative 4

Key View	Alternative	Resource Change	Viewer Response	Visual Impact
N/A	1, 2C, and 4	L	MH	M
13	4	MH	MH	MH

Under Build Alternative 4, permanent visual changes would affect suburban residences north of El Sobrante Road between La Sierra Avenue and McAllister Street. Much of this segment of El Sobrante Road is already four lanes. Therefore, the proposed project would widen the existing corridor near the eastern and western ends of the development to accommodate slight realignments of the corridor and to replace existing sidewalks affected by the realignment. No structures would be affected by construction, but grass, small shrubs, and approximately 35 palm trees within the sidewalk median and vegetation within the landscape buffer would be removed between the sidewalk and existing noise barriers. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would ensure that vegetation affected by the project is replaced. The primary views of the roadway are from second-story windows of residences bordering El Sobrante Road, and existing noise barriers surrounding residential areas, residential landscaping, and landscaping along El Sobrante Road would block views of visual changes from ground levels and from residences north of the homes backing El Sobrante Road. From the upper stories of these homes, views of the realigned intersection of El Sobrante Road and La Sierra Avenue would be visible. As shown in the simulation for Key View 13 (Figure 3.7-15), the realigned El Sobrante Road would also result in the introduction of the widened roadway, shoulder, and unpaved median into the viewshed depicted in Key View 13 where existing utility poles and light roadside vegetation would be removed to accommodate the proposed project changes.

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these roadways that are County-eligible scenic corridors within the Suburban Residential VAU under Build Alternative 4 include El Sobrante Road between east of La Sierra Avenue and McAllister Street. Due to the existing topography and land uses (setting), the south side of this segment also falls within the Open Space VAU. Widening El Sobrante Road within the Suburban Residential/Open Space VAUs would not substantially alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU, and views of scenic roadways from this VAU would not be substantially altered by the permanent visual changes, under Build Alternative 4.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare. Within the Suburban Residential VAU for Build Alternative 4, new traffic signals would be installed at the intersection of El Sobrante Road and McAllister Street. The lighting changes would add an inconsequential amount of light within the VAU overall. However, if not properly designed, new and relocated street lighting could substantially affect residents near the new and relocated street lighting. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects under all build alternatives.

Therefore, the proposed project would not create a new substantial glare impact for affect daytime or nighttime views in the area.

Summary (Suburban Residential VAU)

Table 3.7-9 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts of Build Alternative 4 for the Suburban Residential VAU and its associated key view.

Permanent visual changes would result in a resource change to this VAU that is moderate-high under Build Alternative 4. Under Build Alternative 4, views toward La Sierra Avenue would be substantially affected by the realigned intersection of La Sierra Avenue and El Sobrante Road. The resulting visual impacts on the existing visual character and quality would be moderate-high under Build Alternative 4. These permanent visual changes would result in substantial adverse visual effects under Build Alternative 4 even with implementation of the recommended standard measures. There are no scenic vista views within this VAU. Therefore, no scenic vistas would be affected.

Commercial Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Table 3.7-6 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts for all build alternatives for the Commercial VAU.

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these roadways that are a County-eligible scenic corridor within the Commercial VAU under Build Alternative 4 include the section of Cajalco Road between I-15 and Eagle Canyon Road. Widening Cajalco Road and the Temescal Creek Bridge within the Commercial VAU would not alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU, and views of scenic roadways from this VAU would not be substantially altered by the permanent visual changes, under Build Alternative 4.

Light and Glare

Effects related to light and glare within the Commercial VAU would be the same or very similar to existing conditions under Build Alternative 4, and would be the same effects that would be expected under Build Alternatives 1 and 2C. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses. Standard Project Measure **PF VIS-1** and Measure **VIS-2** would replace vegetation on affected properties and reduce glare. Existing traffic signals at the intersections of Cajalco Road with Harvill Avenue and Temescal Canyon Road would be improved, and new traffic signals would be installed at the intersections of Cajalco Road with Seaton Avenue and Eagle Valley Road. The lighting changes would add an inconsequential amount of light within the VAU. If not properly designed, new and relocated street lighting could substantially affect nearby roadway neighbors. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that changes from project light and glare would be minor and would not result in substantial adverse visual effects under all build alternatives.

Therefore, the proposed project would not create a new substantial glare impact for daytime or nighttime views in the area.

Summary (Commercial VAU)

Table 3.7-6 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Commercial VAU. The effects of Build Alternative 4 for this VAU would be the same as those identified for Build Alternatives 1 and 2C. Resource change within this VAU would be anticipated to be low, and viewer response and visual impact would be anticipated to be moderate-high and moderate, respectively.

Future Six-Lane Facility

Build Alternatives 1 and 2C

Under Build Alternatives 1 and 2C, the addition of two travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, permanent impacts on viewer groups and visual quality associated with converting the median area to travel lanes would be similar to those described for Build Alternatives 1 and 2C within the Rural Residential, Open Space, and Commercial VAUs. The addition of two lanes would not substantially alter the existing visual character and quality of views or affect scenic corridors, scenic vistas, and light and glare beyond what has been analyzed for the VAUs. Paving the median to create two new lanes would occur within the already modified roadway corridor and would not affect visual resources beyond paving the median and installing a safety barrier to separate the directional travel ways. Visual changes would be minimal.

Build Alternative 4

Under Build Alternative 4, the addition of two travel lanes within the median of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, and within the median of La Sierra Avenue between Cajalco Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, permanent impacts on viewer groups and visual quality associated with converting the median area to travel lanes would be similar to those described for Build Alternative 4 within the Open Space and Commercial VAUs. The addition of two lanes would not substantially alter the existing visual character and quality of views or affect scenic corridors, scenic vistas, and light and glare beyond what has been analyzed for the VAUs. Paving the median to create two new lanes would occur within the already modified roadway corridor and would not affect visual resources beyond paving the median and installing a safety barrier to separate the directional travel ways. Visual changes would be minimal.

No-Build Alternative

Under the No-Build Alternative, the project would not be constructed and there would be no visual impacts associated with light and glare or on the existing visual character, visual quality, scenic vistas, scenic roadways, or affected viewer groups.

3.7.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

All Project Roadways

The proposed project would take approximately 4 years to construct; however, construction activities would be sporadic, transitory, and short term in nature. In addition, construction would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. Construction activities would remove formal and informal

landscaping, and introduce staging areas, signaling and signage to direct traffic, and considerable heavy equipment and associated vehicles into the viewshed of roadway neighbors and users that would affect views of and from the project site during the construction period. Although construction would be temporary, the proposed project and its alternatives constitute a major roadway construction project that would permanently affect the visual character views of roadway, portions of which are County-eligible scenic corridors. The proposed project would result in temporary construction impacts on visual quality that would not affect the existing visual quality for an extended period of time, except in some locations where construction would require partial to full acquisitions and where residential and commercial landscaping and native trees and vegetation located along the project corridor are affected.

Scenic Roadways

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds (Caltrans 2017). As described in Section 3.7.2, *Affected Environment*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The portions of these roadways that are County-eligible scenic corridors within the limits of Build Alternative 4 include: Cajalco Road between I-15 and La Sierra Avenue, and between El Sobrante Road and Harley John/Smith Roads; La Sierra Avenue between Cajalco Road and Blackburn Road; and El Sobrante Road between La Sierra Avenue and Cajalco Road. The visual effects resulting from construction are similar to those described above under Visual Character and Visual Quality, including Scenic Vistas for the Rural Residential VAU. Also, the east end of El Sobrante Road would be relocated out of the Open Space VAU into the Rural Residential VAU at its east end, and intersect with Harley John Road. A cul-de-sac would be created on the old segment of Harley John Road, north of Cajalco Road. Widening El Sobrante Road within the Rural Residential VAU would not alter the scenic views for which the roadway is noted. Therefore, permanent visual changes would not result in substantial adverse visual effects on scenic roadways in this VAU under any of the build alternatives with Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Views of scenic roadways from this VAU would not be altered by the permanent visual changes associated with the build alternatives.

The visual effects resulting from construction are the same as described under Visual Character and Visual Quality, including Scenic Vistas for the Open Space VAU, and would affect the LM MSHCP area.

Light and Glare

Effects related to light and glare would be the same or very similar within all VAUs under all build alternatives. Evening and nighttime construction activities would require the use of extremely bright lights. However, Section 7-1.04 of Caltrans standard specifications require that temporary illumination be installed so that illumination and illumination equipment do not interfere with public safety (Caltrans 2015). Therefore, County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses within the Rural Residential, Suburban Residential, and Commercial VAUs.

Rural Residential Visual Assessment Unit

Cajalco Road between Cowan Road and Seaton Avenue

Temporary impacts would be the same along the portion of Cajalco Road located within Mead Valley, between Cowan Road and Seaton Avenue, for Build Alternatives 1, 2C, and 4 (refer to Figure 2.2-3). As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. The proposed project would result in temporary construction impacts on visual quality that would not affect the existing visual quality for an extended period of time.

Open Space Visual Assessment Unit

As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high. The proposed project would result in temporary impacts on visual quality from construction activities that would not affect the existing visual quality for an extended period of time.

Suburban Residential Visual Assessment Unit

Visual Character and Visual Quality, including Scenic Vistas

Construction in the Suburban Residential VAU would occur in the same manner as described under Build Alternatives 1, 2C, and 4 for the Rural Residential VAU. Under Build Alternatives 1 and 2C, the proposed project would widen the existing corridor near Wood Road to accommodate a widened median and a new turn lane for westbound traffic onto Wood Road. Slight widening would also occur near Carpinus Drive to accommodate a turn lane for eastbound traffic onto Carpinus Drive. A new sidewalk would also be added to the north side of Cajalco Road. No vegetation or structures would be affected by construction at this location. The primary views of the roadway are from second-story windows of residences bordering Cajalco Road, and existing noise barriers surrounding residential areas, residential landscaping, and landscaping along Cajalco Road would block views of visual changes from ground levels and from residences north of Rocky Summit Drive. Also, much of the affected segments of Cajalco Road were previously widened to four lanes. Therefore, visible changes during construction would be very minor.

Summary (Suburban Residential VAU)

The proposed project would result in temporary construction impacts on visual quality that would not affect the existing visual quality for an extended period of time and changes would not be substantial. As described in Section 3.7.2.3, *Viewers and Viewer Response*, the composite viewer response would be moderate-high to high.

Commercial Visual Assessment Unit

Table 3.7-6 summarizes and compares the narrative ratings for visual resource change, viewer response, and visual impacts between alternatives for the Commercial VAU. Construction in the Commercial VAU would occur in the same manner as described under Build Alternatives 1, 2C, and 4 for the Rural Residential VAU. The proposed project would result in temporary

construction impacts on visual quality that would not affect the existing visual quality for an extended period of time, and changes would not be substantial.

Riparian vegetation along Temescal Creek removed during construction of the widened bridge would be addressed in part by Measure **VIS-2** as well as measures identified specifically for riparian vegetation replacement described in Section 3.17, *Natural Communities*; therefore, impacts would be temporary.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Build Alternatives 1 and 2C

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, temporary impacts associated with construction would be less than those described for Build Alternatives 1 and 2C within the Rural Residential, Open Space, and Commercial VAUs, as work would primarily occur within the existing median area and require much less time to complete.

Build Alternative 4

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, and within the median of La Sierra Avenue between Cajalco Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, temporary impacts associated with construction would be less than those described for Build Alternative 4 within the Open Space and Commercial VAUs, as work would primarily occur within the existing median area and require much less time to complete.

No-Build Alternative

Under the No-Build Alternative, the project would not be constructed and there would be no visual impacts associated with light and glare or on the existing visual character, visual quality, scenic vistas, scenic roadways, or affected viewer groups.

3.7.3.3 Impacts Summary

Build Alternative 1 (Impacts Summary)

Permanent

Visual impacts in response to viewer response and resource change rated high for Key Views 1, 2, and 6A; moderate-high for Key Views 3 and 4; and moderate for Key View 5.

Build Alternative 1 would add approximately 83 acres of pavement and hardscape (such as pavement and roadway shoulders, structures, concrete drainages, and intersection and street light standards). The widened roads would also remove vegetation, approximately 380 small trees and shrubs, and 105 large mature trees.

Within the Rural Residential VAU, impacts on the existing visual character and quality would range between moderate and high, even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects.

Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects. No scenic vistas would be affected under Build Alternative 1.

Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. There are no scenic vista views within the Suburban Residential VAU; therefore, no scenic vistas would be affected.

Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measures **VIS-2** and **VIS-8**. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected.

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. The proposed project would not result in substantial adverse visual effects on County-eligible scenic roadways with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Views of scenic roadways would not be substantially altered by the permanent visual changes associated with the project.

Implementation of Standard Project Measure **PF VIS-4** would ensure that project light and glare would not result in substantial adverse visual effects.

Temporary

Construction activities and equipment would affect views of and from the project site during the construction period. Construction would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. However, visible changes would occur during construction. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses during construction, consistent with Section 7-1.04 of Caltrans standard specifications (Caltrans 2015).

Build Alternative 2C (Impacts Summary)

Permanent

Visual impacts in response to viewer response and resource change rated high for Key Views 1, 2, and 6B; moderate-high for Key Views 3 and 4; and moderate for Key View 5.

Build Alternative 2C would add approximately 84 acres of pavement and hardscape (such as pavement and roadway shoulders, structures, concrete drainages, and intersection and street light

standards). The widened roads would also remove vegetation and approximately 390 small trees and shrubs, and 105 large mature trees.

Within the Rural Residential VAU, impacts on the existing visual character and quality would range between moderate and high, even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects.

Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects.

Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures. There are no scenic vista views within the Suburban Residential VAU; therefore, no scenic vistas would be affected.

Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measures **VIS-2** and **VIS-8**. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected.

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. The proposed project would not result in substantial adverse visual effects on County-eligible scenic roadways with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Views of scenic roadways would not be substantially altered by the permanent visual changes associated with the project.

Implementation of Standard Project Measure **PF VIS-4** would ensure that project light and glare would not result in substantial adverse visual effects.

Temporary

Construction activities and equipment would affect views of and from the project site during the construction period. Construction would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. However, visible changes would occur during construction. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses during construction, consistent with Section 7-1.04 of Caltrans standard specifications (Caltrans 2015).

Build Alternative 4 (Impacts Summary)

Permanent

Visual impacts in response to viewer response and resource change rated high for Key Views 1 and 2, and moderate-high for Key Views 3, 4, and 7.

Build Alternative 4 would add approximately 105 additional acres of pavement and hardscape (such as pavement and roadway shoulders, structures, concrete drainages, and intersection and street light standards). The widened roads would also remove vegetation, approximately 400 small trees and shrubs, and 195 large mature trees.

Within the Rural Residential VAU, impacts on the existing visual character and quality would range between moderate and high, even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects.

Within the Open Space VAU, impacts on scenic views and existing visual character and quality would be moderate-high to high even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measure **VIS-2**, and therefore would result in substantial adverse visual effects.

Within the Suburban Residential VAU, impacts on the existing visual character and quality would be moderate with implementation of project measures. There are no scenic vista views within the Suburban Residential VAU; therefore, no scenic vistas would be affected.

Within the Commercial VAU, impacts on the existing visual character and quality would be moderate with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-4** through **PF VIS-7**, and Measures **VIS-2** and **VIS-8**. There are no scenic vista views within the Commercial VAU; therefore, no scenic vistas would be affected.

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. However, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors. The proposed project would not result in substantial adverse visual effects on County-eligible scenic roadways with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Measure **VIS-2**. Views of scenic roadways would not be substantially altered by the permanent visual changes associated with the project.

Implementation of Standard Project Measure **PF VIS-4** would ensure that project light and glare would not result in substantial adverse visual effects.

Temporary

Construction activities and equipment would affect views of and from the project site during the construction period. Construction would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. However, visible changes would occur during construction. County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses during construction, consistent with Section 7-1.04 of Caltrans standard specifications (Caltrans 2015).

3.7.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7** is proposed to reduce visual impacts associated with the build alternatives. In addition, Mitigation Measures **VIS-2** and **VIS-8** are proposed to lessen impacts on affected properties by replacing landscape features to the degree possible, minimize visual impacts associated with roadside

grading and slopes, and reduce impacts of vegetation removal within the project limits, including on Landscaped Freeway segments.

- **VIS-2: Replace or Relocate Site Features and Landscaping Affected by the Project.** Where appropriate and to the degree possible, landscaping and related appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts. Slopes will (1) be graded to 4:1 or flatter; (2) be gentle, smooth, and well transitioned with slope rounding, and topsoil and duff salvaged and reused; and (3) have contours naturally formed that tie gracefully into the existing adjacent roadside and landforms. Rock cut slopes will be irregular for a natural appearance, with rounding of the tops and ends of cut slopes. Steep, obvious cuts and fills will be avoided to improve project aesthetics associated with roadside slopes.

  Standard fence types (chain link, barbed wire, and/or wire mesh) will be used unless fences of special design need to be used in certain cases, such as for wild animal control. In special cases, alternative options such as powder-coating, the use of iron, and other enhancements will be considered.

  Replacement vegetation will reflect adjacent communities and natural surroundings, serve as a visual buffer for objectionable views of the roadway facility for adjacent land uses, soften visual impacts associated with graded slopes and large structures, and act to frame or enhance good views.

  For specific plant species within the limits of habitat conservation plan areas, replacement vegetation will be reestablished in the ratios identified in Measure **NC-15 (NES BIO-14)**: no less than 3:1 mitigation ratio for riparian, 1:1 for riverine resources, and 2:1 for permanent shading of riparian vegetation and wetlands. Temporary impacts on riparian-riverine vegetation may be replaced through restoration at their current locations at a not-less-than 1:1 ratio or through the purchase of In-lieu Fee Program or other permittee-responsible mitigation bank credits, or through another approved mitigation program.

  A Tree Avoidance, Minimization, and Replacement Plan will be developed in consultation with a certified arborist for trees removed during project construction. Landscaping and planting will not be deferred, and will commence prior to the end of roadway construction. The plan will contain the following provisions and be included in the final Plans, Specifications, and Estimates (PS&E):

  - Before ground-disturbing activities begin, an International Society of Arboriculture or American Society of Consulting Arborists–certified arborist will conduct a tree inventory to identify trees subject to pruning, removal, or potential damage from the project.
  - Trees consisting of a diameter at breast height greater than 12 inches will be replaced on a 1:1 basis using 15-gallon replacement trees (i.e., one 15-gallon tree would be planted for every tree removed), where feasible.
  - The replacement plan for tree replacement will specifically identify the locations where replacement/transplanted trees are to be planted; replacements will occur on site if possible.

  - During construction, trees greater than 12 inches diameter at breast height not proposed for removal will be protected using temporary barrier fencing.

- **VIS-8: Replace Disturbed Vegetation along Landscaped Freeways.** The County of Riverside will work with the appropriate California Department of Transportation (Caltrans) district landscape architect to determine which disturbed portions of landscaped freeways within the project limits require replanting and to what extent. At a minimum, replanting will follow the guidance in Section 92.3 of the Streets and Highways Code. Landscaping will be drought resistant whenever feasible. Recycled water will be used for irrigation when practicable. When appropriate and consistent with integrated pest management strategies as defined in subdivision (d) of Section 14717 of the Government Code, landscaping will include California native wildflowers and native and climate-appropriate vegetation as an integral and permanent part of the planting design, with priority given to those species of wildflowers and native and climate-appropriate vegetation that will help rebuild pollinator populations. Trees and shrubs will be replaced at a minimum 1:1 ratio. Container sizes and species will be determined in coordination with the appropriate Caltrans district landscape architect. Disturbed groundcovers will be replanted to match existing groundcovers, unless the Caltrans district landscape architect specifies otherwise. Irrigation of replacement plants will also be coordinated with the appropriate Caltrans district landscape architect as watering may occur with existing irrigation systems or irrigation may need to be installed. Any irrigation lines that are damaged within the state right of way as a result of project construction will also be replaced per Caltrans standards and in coordination with the appropriate Caltrans district landscape architect. No invasive plant species will be planted under any circumstances.

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3.8 Cultural Resources

3.8.1 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 AHCP's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department. The FHWA's responsibilities under the PA have been assigned to the Department as part of the Surface Transportation Project Delivery Program (23 United States Code [USC] 327).

The California Environmental Quality Act (CEQA) requires the consideration of cultural resources that are historical resources and tribal cultural resources, as well as "unique" archaeological resources. California Public Resources Code (PRC) Section 5024.1 established the California Register of Historical Resources (CRHR) and outlined the necessary criteria for a cultural resource to be considered eligible for listing in the CRHR and, therefore, a historical resource. Historical resources are defined in PRC Section 5020.1(j). In 2014, Assembly Bill 52 (AB 52) added the term "tribal cultural resources" to CEQA, and AB 52 is commonly referenced instead of CEQA when discussing the process to identify tribal cultural resources (as well as identifying measures to avoid, preserve, or mitigate effects to them). Defined in PRC Section 21074(a), a tribal cultural resource is a CRHR or local register eligible site, feature, place, cultural landscape, or object which has a cultural value to a California Native American tribe. Tribal cultural resources must also meet the definition of a historical resource. Unique archaeological resources are referenced in PRC Section 21083.2.

PRC Section 5024 requires state agencies to identify and protect state-owned historical resources that meet the NRHP listing criteria. It further requires the Department to inventory state-owned structures in its rights-of-way.

Section 4(f) of the Department of Transportation Act specifically protects public park and recreation lands, wildlife and waterfowl refuges, and historic sites. Under its provisions, a federally assisted highway project cannot adversely take properties of these types unless it can be shown that there is no prudent and feasible alternative to doing so. Section 4(f), as specifically

related to cultural resources, applies when there is an actual taking of land from, or constructive use of, a historic property. Section 4(f) evaluation requires documentation of completion of the Section 106 process. Section 4(f) regulations are found at 23 CFR 774.

3.8.2 Affected Environment

The information for this section comes from the *Historic Property Survey Report* (HPSR) (Caltrans 2020a). The HPSR includes as appendices the *Archaeological Survey Report* (ASR) (Caltrans 2020b), *Extended Phase I Report* (XPI) (Caltrans 2020c), *Historical Resources Evaluation Report* (HRER) (Caltrans 2020d), *Archaeological Evaluation Report* (AER) (Caltrans 2020e), and *Finding of Adverse Effect* (FOE) (Caltrans 2020f) that were prepared for this project.

3.8.2.1 Area of Potential Effects

The Area of Potential Effects (APE) for the project was established in consultation with Gary Jones, Professionally Qualified Staff (PQS) Principal Investigator, Prehistoric Archaeology, and Albert Vergel de Dios, District Local Assistance Engineer, on October 5, 2020.

The APE was established as the limits of proposed construction, including the limits of the current and proposed right of way, temporary construction easements (TCEs), a sufficient buffer to allow heavy equipment to maneuver, potential staging areas, and built environment resource parcel boundaries. The entire APE is 1,273.7 acres. The APE further encompasses the full boundaries of previously recorded or newly identified archaeological sites that are partially within the project limits, within reason, to consider direct and indirect effects on entire sites. Given that P-33-13791/CA-RIV-7843 is over 700 acres, only the pertinent portions of the site have been included that may be either directly or indirectly affected by the project (Locus 816 and Locus 817). The study area for archaeological resources is considered the Area of Direct Impacts (ADI), located within the bounds of the APE. The total area of the ADI is 820.4 acres.

The vertical APE within the project limits east of Lake Mathews Drive is anticipated to range from 2 to 12 feet in depth, depending on construction activity. Limited locations may require excavating to depths of up to approximately 50 feet for the installation of utility poles and bridge pilings, as well as associated drilling activities; proposed locations for these deeper activities are indicated where these project features are shown in the project exhibit maps (Figures 2.2-1 through 2.2-6). West of Lake Mathews Drive, topographical conditions are more varied and would require deeper excavation for road leveling and other construction activities. Within these areas, the vertical APE is anticipated to average greater than 12 feet deep and may require depths up to 100 feet in limited locations for utility poles, bridge pilings, and associated drilling activities. Given the amount of cultural material located in the APE and demonstrated potential for subsurface resources, the APE as a whole can be characterized as sensitive for subsurface cultural resources. The confidential APE map is included in Attachment A of the HPSR.

The project area is predominantly rural with large ranch and agricultural parcels. For larger parcels where the ADI traverses only minor, ubiquitous, or fragmentary infrastructure elements, whole parcels containing these elements were not introduced into the APE. In instances where a property upon a bluff or hill is immediately adjacent to the ADI below it, that property was not introduced into the APE. Non-archaeological objects such as aqueducts were not introduced into the APE if the ADI's depths did not touch such resources or, based on available project information, otherwise presented no reasonable expectation of an effect upon them.

3.8.2.2 Summary of Identification Efforts

Cultural resources records searches were obtained from the Eastern Information Center of the California Historical Resources Information System, located at the University of California, Riverside, on February 27 and 28, 2006; April 14, 2011; and April 18, 2016. The records searches included a review of all available cultural resources surveys, excavation reports, and site records within the current APE and within a 1-mile radius of the APE. Additional research included a review of the NRHP, CRHR, California Inventory of Historic Resources, California Historical Landmarks, California Points of Historical Interest, and Caltrans Historic Highway Bridge Inventory. Additional sources consulted included TRW/Experian, Google Earth Pro, Proquest, Historical Los Angeles Times Database, HistoricAerials.com, U.S. Geological Survey historic topographic maps, Riverside Public Library California History Room, Perris Public Library, California Digital newspaper collection, and the Riverside County Tax Assessor.

A total of 308 resources exist within the APE and the 1-mile study area buffer around the APE. Of the resources in the 1-mile radius of the study area, 245 are prehistoric sites, four are combined prehistoric and historic sites, 32 are historic sites, and 27 are undifferentiated/undated. Thirteen of the previously recorded cultural resources exist within the project APE.

An intensive pedestrian archaeological field survey of the ADI was undertaken from June 20 to August 2, 2016; August 17, November 30, and December 1, 2016; March 1 and 15, 2017; and February 20 and August 15, 2018. Fieldwork for the XPI study took place from August 15 to September 6, 2018, with one additional field day on October 18, 2018. Native American monitors accompanied the survey personnel during all archaeological fieldwork. Architectural field surveys of the APE were conducted in December 2012, April 2012, May 2016, and March 2019.

3.8.2.3 Native American Consultation

A records search of the Sacred Lands File maintained by the California Native American Heritage Commission (NAHC) was obtained in April 2011. According to the NAHC, no Native American cultural resources within their Sacred Lands Files are located within the direct APE, but there are Native American cultural resources in the project vicinity. The NAHC also provided a list of 13 Native American representatives to contact for further information. Letters and maps were sent to these contacts to inform the individuals and organizations about the project, to inquire if they knew of any unrecorded Native American cultural resources or other areas of concern within or adjacent to the direct APE, and to solicit comments in regard to the project. Between May 2011 and October 2016, initial consultation letters and consultation update letters were sent to contacts representing 13 Native American tribes identified by the NAHC. Follow-up phone calls and emails were made after each consultation letter was sent.

As a result of outreach efforts, Caltrans has entered into consultation with four Native American tribes: Pechanga Band of Luiseño Mission Indians, Soboba Band of Luiseño Indians, Morongo Band of Mission Indians, and Cahuilla Band of Indians. Native American consultation is ongoing for the proposed project and is documented in Attachment E of the HPSR.

In October 2019, Caltrans circulated the draft HPSR package to the four consulting tribes for review and comment. Following circulation of the draft HPSR package, in 2020 Caltrans attended meetings with representatives from each of the four consulting tribes. The purpose of the meetings was to provide an opportunity for each tribe to discuss their comments on the document.

Continuing consultation with the Pechanga Band of Luiseño Mission Indians resulted in the identification of three Traditional Cultural Properties (TCPs), *Túu'uv*, *Qax alku Pay mik*, and *Qax lku Kw imik*, which encompass the APE and APE vicinity. Further consultation discussions focused on the cultural and religious significance of the TCPs and the undertaking's potential to adversely affect the TCPs during construction and operation. The HPSR package was subsequently updated with information on the TCPs. Native American consultation is ongoing for the proposed project and is documented in Attachment E of the HPSR.

Separate coordination with Native American tribal representatives—including letters, phone calls, emails, and meetings—occurred concurrently during the Section 106 consultation process through circulation of the project Notice of Preparation in September 2011 and invitation to become a participating agency in the project, sent in October 2012 per 23 USC 139 (Efficient Environmental Review). Refer to Chapter 5, *Comments and Coordination*, for additional information regarding Native American coordination.

A Section 106 Memorandum of Agreement (MOA) will be developed for all historic properties that will be affected by the project, and it will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including the Metropolitan Water District of Southern California (MWD), will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

3.8.2.4 Public Participation and Consultation

On July 11, 2012, and February 15, 2019, letters were sent to 21 government agencies and consulting and interested parties who may have knowledge or concerns about historic properties in the area. In the letters, information was requested regarding historic buildings, districts, sites, objects, and archaeological sites of significance within the project area. Two responses were received. On March 5, 2019, a letter from the March Joint Powers Authority stated that staff have no comments and that the lead agency consider coordinating with the City of Perris, as the project may affect the Ramona Expressway. Additionally, the letter requested that the lead agency consider coordinating with the Agua Caliente, Morongo, Soboba, and Pechanga Tribes.

On April 12, 2019, Sean Berry of Santa Rosa Mining District & Preservation Society spoke with an ICF project architectural historian. Mr. Berry complimented the direction that the project was going and discussed potential historic sites outside of the APE. The ICF historian requested that Berry provide any historic information within or outside the APE. No further information has been received. Outreach efforts are documented in Attachment F of the HPSR.

3.8.2.5 Archaeological Resources

An intensive pedestrian field survey of the ADI was undertaken from June 20 to August 2, 2016. Follow-up surveys were conducted on August 17, November 30, and December 1, 2016; March 1 and 15, 2017; and February 20 and August 15, 2018. Native American monitors accompanied the survey personnel. Native American monitors included a representative from the Soboba Band

of Luiseño Indians (Ronald Dominguez) and representatives from the Pechanga Band of Luiseño Mission Indians (Tony Foussat, John Jackson, Augie Ortiz, Todd Perry, and Cody Schlater).

Archaeological surveys occurred within the portion of the right of way and proposed right of way that encompasses the project work limits and on adjacent parcels. Approximately 803.1 acres have been surveyed utilizing intensive pedestrian survey methods. The total area within the APE not intensively pedestrian surveyed is approximately 17.3 acres and was surveyed using reconnaissance methods. The areas of reconnaissance survey were generally developed and contained modern structures and ancillary structures, including driveways, pools, and outbuildings. The criteria used to define sites and isolated resources followed the guidelines set by the Office of Historic Preservation (OHP) (1995:2). A new site was defined as any three or more artifacts found in association with one another or a single feature recorded more than 131 feet (40 meters) from an existing site. One or two artifacts found in close proximity to each other were treated as an isolated resource.

As a result of the records search and surveys, 17 archaeological sites and ten isolated artifacts were identified (refer to Table 3.8-1). Isolated artifacts identified in the APE include isolated prehistoric and historic artifacts. According to the Caltrans Section 106 PA Attachment 4, "Isolated prehistoric finds consisting of fewer than three items per 100 square meters" are exempt from evaluation and are not discussed in this document.

Five historic-period sites are located partially or completely within the APE and include one historic-period railroad grade (CA-RIV-3832H), three historic-period refuse scatters (historic component of CA-RIV-6623/H, CA-RIV-012618, and CA-RIV-012621), and one cairn (CA-RIV-012622). Historic-period sites were evaluated in the HRER (Attachment C of the HPSR). All of the evaluated historic-period sites were found to be ineligible for the NRHP and are not considered historical resources for the purposes of CEQA.

Nine prehistoric archaeological resources and one potential archaeological district are located within the APE: Combined site of CA-RIV-2263, -2264, and -4444 (subsumed as CA-RIV-2263); CA-RIV-4403; CA-RIV-4407; CA-RIV-4408; CA-RIV-4409; CA-RIV-4454; CA-RIV-7843, Loci 816 and 817; CA-RIV-012623, and the Mead Valley Potential Prehistoric Archaeological District (PPAD).

Subsequent to the archaeological surveys conducted for the project, an XPI study (Attachment D of the HPSR, Appendix D) was completed and an AER (Attachment G of the HPSR) was prepared for all prehistoric sites in the study area. Caltrans made an assumption of eligibility of the Mead Valley PPAD for the NRHP under Criteria A, B, C, and D for the purposes of this project only because of the large size of the property, which is beyond the scope of this project to evaluate. It was also assumed that the nine prehistoric sites are eligible for the NRHP as contributing elements of the PPAD. Additionally, the combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444 (CA-RIV-2263) is confirmed individually eligible for the NRHP under Criterion D. Site CA-RIV-7843, Locus 816 is confirmed individually eligible for listing in the NRHP under Criteria A, C, and D. Site CA-RIV-7843, Locus 817 is confirmed as not individually eligible for listing in the NRHP but is eligible as a locus of CA-RIV-7843 under Criterion D. Sites CA-RIV-4403, -4407, -4408, -4409, and -4454, were all found ineligible for individual listing in the NRHP or CRHR individually. Site CA-RIV-012623 is eligible for listing in the NRHP under Criterion D. All ten of the aforementioned historic properties are considered

historical resources for the purposes of CEQA. SHPO provided concurrence on the assumptions of eligibility for the sites discussed above in a letter dated February 10, 2021.

Table 3.8-1. Archaeological Resources within the APE

Site Trinomial	Description	OHP Status Code	Eligibility Status
CA-RIV-3832H	Atchison, Topeka, and Santa Fe railroad grade (archaeological component)	6Z	Not eligible for the NRHP/CRHR under any criteria. SHPO concurrence received 2/10/2021.
Mead Valley PPAD, including contributing elements: CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444 (combined site CA-RIV-2263); CA-RIV-4403; CA-RIV-4407; CA-RIV-4408; CA-RIV-4409; CA-RIV-4454; 33-13791/ CA-RIV-7843, Locus 816; 33-13791/CA-RIV-7843, Locus 817; and CA-RIV-012623	Prehistoric milling slicks/stations, lithic scatters, habitation sites, pictographs, *Nahachish* rocks within an as-yet undefined larger boundary inclusive of additional likely similar sites outside of the APE	3S (for the purposes of this project only)	Multiple individual sites may not eligible individually, but assumed eligible as contributing elements of PPAD. PPAD as a whole assumed eligible for the purposes of this project only under Criteria A/1, B/2, C/3, and D/4. Caltrans' Cultural Studies Office (CSO) approved assumption of eligibility 7/7/2020.
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Prehistoric bedrock milling station, lithic scatter, reported petroglyph	3D	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).
CA-RIV-4403	Bedrock milling station	3D	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021) but assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).
CA-RIV-4407	Bedrock milling station; lithic scatter	3D	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but assumed eligible as a contributing element to PPAD under Criterion D/4.
CA-RIV-4408	Bedrock milling station; lithic scatter	3D	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but eligible as a contributing element to PPAD under Criterion D/4.
CA-RIV-4409	Bedrock milling station	3D	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but eligible as a contributing element to PPAD under Criterion D/4.
CA-RIV-4454	Prehistoric artifact scatter	3D	Not eligible for the NRHP/CRHR under any criteria individually but assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).
CA-RIV-6623/H	Historic period refuse scatter; imported manos	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021.)

Site Trinomial	Description	OHP Status Code	Eligibility Status
CA-RIV-7843, Locus 816 (formerly CA-RIV-816)	Prehistoric cupule rock, milling features, lithic scatter	3D	Eligible for listing in the NRHP/CRHR under Criteria A/1, C/3, and D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).
CA-RIV-7843, Locus 817 (Formerly CA-RIV-817)	Prehistoric milling station and artifact scatter	3D	Not eligible for listing in the NRHP or CRHR individually (SHPO concurrence received 2/10/2021). Assumed eligible for listing as a locus of CA-RIV-7843 under Criteria D/4 (CSO approval 7/7/2020).
CA-RIV-012618	Historic period refuse scatter	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
CA-RIV-012621	Historic period refuse scatter	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
CA-RIV-012622	Historic period refuse scatter	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
CA-RIV-012623	Prehistoric artifact scatter	3S	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/72020).

Source: Caltrans 2020b
3B – Appears eligible for NRHP both individually and as a contributor to an NRHP-eligible district through survey evaluation.
3D – Appears eligible for NRHP as a contributor to an NRHP-eligible district through survey evaluation.
3S – Appears eligible for NRHP as an individual property through survey evaluation.
6Z – Found ineligible for NRHP, CRHR, or local designation through survey evaluation.

Mead Valley Potential Prehistoric Archaeological District

The Mead Valley PPAD includes nine prehistoric sites and their previously recorded features and boundaries within the project APE, as well as a yet-undefined boundary and larger number of sites not within the project APE. The boundary for the Mead Valley PPAD is potentially much larger and inclusive of many other sites that are geographically and morphologically similar. The Mead Valley PPAD would likely encompass several thousand acres and more than 100 archaeological sites that are outside of the current project APE. Therefore, for the purposes of the project and the evaluation of effects, the acreage approximation for the PPAD relative to the project APE is 29,229 acres; areas of the project APE included within the PPAD are indicated on Confidential Figure B-1 in Appendix A, *Draft Section 4(f)*, of this EIR/EIS. The PPAD would include numerous additional sites not within the APE for this project, and would include multiple site types such as individual milling slicks and milling stations (multiple slicks and mortars), large and small lithic and ground stone scatters, and habitation sites that include groups of thermal features, lithics and ground stone artifacts, ceremonial objects, faunal materials, midden, and inhumations.

The PPAD (and the sites described herein) was assumed eligible for inclusion in the NRHP and CRHR under Criteria A, B, C, and D, and has been confirmed by the Caltrans Cultural Studies Office (Price 2020) pursuant to Stipulation VIII.C.4 of the Caltrans Section 106 PA. Eligibility

for this PPAD was assumed due to the large size of the PPAD (that precludes its complete evaluation) and eligibility under all four Criteria (A, B, C, and D).

Nine PPAD components are identified with the project APE, all of which are considered contributing elements of the PPAD: the combined site of CA-RIV-2263 (composed of what was previously CA-RIV-2263, -2264, and -4444); CA-RIV-4403, -4407, -4408, -4409, -4454; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623. Individually, sites CA-RIV-2263, Locus 816 of CA-RIV-7843, and CA-RIV-012623 are considered individually eligible for listing in the NRHP. None of the remaining sites (CA-RIV-4403, -4407, -4408, -4409, -4454, and Locus 817 of CA-RIV-7843) are considered eligible individually, and eligible as contributing elements of the PPAD under Criterion D.

Combined Site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444

Based on the studies prepared for this project, these three sites are combined into one site because a surface lithic scatter is present over the whole area. This area encompasses the milling features at these sites, demonstrating the sites are functionally related, and it appears that the sites were recorded separately in error. The new P-number (forthcoming) subsumes the three sites, but the three sites also retain individual designations. The combined sites are considered to be a contributing element to the combined TCPs and to the Mead Valley PPAD because they fall within the boundary of each TCP and the Mead Valley PPAD and exhibit evidence of resource extraction consistent with a character-defining feature of the TCPs and Mead Valley PPAD. Limited subsurface investigations have identified a buried archaeological component at this site with the potential to contain materials and/or features that can address important research questions for the region. Given the available information and potential for additional subsurface cultural material, the combined site of CA-RIV-2263, -2264, and -4444 (CA-RIV-2263), is eligible for listing in the NRHP under Criterion D. The site is also considered to be a contributing element to the combined TCPs and to the Mead Valley PPAD.

CA-RIV-4403, -4407, -4408, and -4409

Due to the proximity of sites CA-RIV-4403, -4407, -4408, and -4409 within the project APE, site context and setting are discussed collectively. Limited Extended Phase I Investigation (XPI) excavations conducted at these sites did not yield any cultural materials or identify subsurface components for sites CA-RIV-4403, -4408, and -4409; the limited XPI excavation at site CA-RIV-4407 did yield debitage evidence. No disturbance was noted at the sites either during excavations or by review of historic aerial photographs. Nearby roads and residences do not appear to have affected the sites in any significant way. As such, the sites retain integrity of location and slightly impaired integrity of setting through loss of the traditional viewshed with the introduction of paved roads and the construction of houses nearby.

Considered individually, CA-RIV-4403, -4407, -4408, and -4409 are recommended as ineligible for inclusion in the NRHP for all four criteria (A, B, C, and D). As contributing elements to the PPAD, CA-RIV-4403, -4407, -4408, and -4409 are considered eligible for the purposes of this project for their presumed ability to contribute to the significance of the PPAD under Criterion D for their potential to yield important information.

CA-RIV-4454

CA-RIV-4454 retains integrity of location and slightly impaired integrity of setting through loss of the traditional viewshed with the introduction of paved roads and the construction of houses nearby. Individually, CA-RIV-4454 is recommended as ineligible for inclusion in the NRHP or CRHR for all four criteria (A, B, C, and D). Surface surveys and documentation have failed to yield information beyond what has already been collected to address important research questions and have likely exhausted the research potential for this site. As a contributing element to the PPAD, CA-RIV-4454 is recommended eligible for its ability to contribute to the significance of the Mead Valley PPAD under Criterion D.

CA-RIV-7843, Locus 816

First recorded in 1972, CA-RIV-816 was initially described as a low-density lithic scatter and milling site. The site was updated in 1982, 1991, 1999, and 2005, and these subsequent records identified milling features and a cupule boulder. The site was later subsumed within the boundaries of the larger site CA-RIV-7843/P-33-13791 as Locus 816.

As part of the current project, the site was evaluated by ICF using known documentation and based on current conditions. Individually, Locus 816 (CA-RIV-816) is eligible for inclusion in the NRHP under Criteria A, C, and D. As a locus of the larger site CA-RIV-7843, a site that is considered eligible, Locus 816 is considered a contributing element. The 50 loci of CA-RIV-7843 are collectively presumed to contribute to the site's significance and, as such, are considered eligible for inclusion in the NRHP under Criteria D for their potential to yield information important to prehistory or history. CA-RIV-7843 Locus 816 is also considered to be a contributing element to the combined TCPs and to the Mead Valley PPAD.

CA-RIV-7843, Locus 817

CA-RIV-817 was first recorded in 1972 and updated in 1982, 1991, and 2000, at which time CA-RIV-817 was subsumed within the boundaries of the larger site CA-RIV-7843/P-33-13791 as Locus 817.

This locus has been altered since it was last recorded and does contribute to the overall eligibility of -7843 as a whole. Subsurface potential exists given the locus' proximity to a creek and location in the creek floodplain. Individually, Locus 817 (CA-RIV-817) is ineligible for inclusion in the NRHP under all four criteria (A, B, C, and D). Surface surveys and documentation have failed to yield information to address important research questions and have likely exhausted the research potential for this site. However, as a locus of the larger site CA-RIV-7843, Locus 817 is considered a contributing element. The 50 loci of CA-RIV-7843 are collectively presumed to contribute to the site's significance and, as such, are considered eligible for inclusion in the NRHP under Criteria D for their potential to yield information important to prehistory or history. CA-RIV-7843 Locus 817 is also considered to be a contributing element to the combined TCPs and to the Mead Valley PPAD.

CA-RIV-012623

CA-RIV-012623 was discovered during ICF's 2016 survey of the APE. This site is a sparse prehistoric artifact scatter. No features are present on the site's surface, and it is unknown

whether a subsurface component exists. The condition of the site is good; that is, no disturbances to the site were apparent.

No temporally diagnostic artifacts were observed, and the age of the site could not be determined, other than that it is from the prehistoric era. However, the presence of dateable exotic artifacts provides the opportunity for the site to address important research questions for the region, making CA-RIV-012623 eligible for inclusion in the NRHP under Criterion D. The site is also considered to be a contributing element to the combined TCPs and to the Mead Valley PPAD.

3.8.2.6 Historic Built Environment Resources

As part of the HRER, historic archaeological and built environment resources were identified and evaluated for the NRHP as required by 36 CFR Part 800 and the regulations implementing Section 106 of the NHPA, as amended (Section 106).

Architectural field surveys of the proposed project's APE were conducted in December 2012, April 2016, May 2016, and March 2019, in accordance with standard Caltrans guidelines and procedures. Ten properties within the APE were evaluated by PQS (see Table 3.8-2). Caltrans determined that these 10 properties are not eligible for the NRHP and consulted with SHPO on December 1, 2020. SHPO concurred with Caltrans determination of ineligibility for the 10 properties in a letter dated February 10, 2021 (Polanco 2021a). All other properties within the APE meet the criteria for Section 106 PA Attachment 4 (Properties Exempt from Evaluation). None of the evaluated properties are historical resources for CEQA purposes.

Table 3.8-2. Built Environment Resources within the APE

Name	Address/Location	Community	OHP Status Code	Eligibility Status
CA-RIV-3832H (Atchison, Topeka, and Santa Fe Railroad Grade)	N/A	Corona, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
N/A	12667 El Sobrante Road	Riverside, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
N/A	12697 El Sobrante Road	Riverside, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
N/A	13456 El Sobrante Road	Riverside, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
N/A	14870 El Sobrante Road	Riverside, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
N/A	15016 El Sobrante Road	Riverside, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
Lake Mathews General Store and Feed Store	17679 Cajalco Road	Perris, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
Great Miracle Valley Church	21415 Cajalco Road	Perris, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).

Name	Address/Location	Community	OHP Status Code	Eligibility Status
N/A	19391 Clark Street	Perris, CA	6L	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
Mead Valley Feed	21623 Cajalco Road	Perris, CA	6Z	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).
6Z – Found ineligible for NRHP, CRHR, or local designation through survey evaluation. 6L – Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.				

Traditional Cultural Properties

As a result of consultation between Caltrans on behalf of FHWA and the Pechanga Band of Luiseño Mission Indians, the tribe provided a confidential Ethnographic Report (Woodward et al. 2019) and a non-confidential letter (Dubois 2020) summarizing the location, description, and evaluation of three TCPs—*Túu'uv, Qax alku Pay mik, and Qax lku Kw imik*—encompassing the APE and APE vicinity. The nonconfidential letter detailing the context, location, and description of the TCPs (Dubois 2020) is provided in Attachment E of the HPSR. The three TCPs encompass a vast, undefined geographic area that includes the APE and all the project alternatives. The confidential ethnographic report prepared by the Pechanga Tribe (Woodward et al. 2019) and submitted to Caltrans evaluated the TCPs and considers them eligible for the NRHP under Criteria A through D (CSO approval on 5/7/2021). For the purposes of the project, Caltrans assumed NRHP eligibility for the three TCPs and has demarcated a 500-foot buffer around the project APE as the focal point for the analysis of project effects on the TCPs (Attachment A of the HPSR, APE Index, and Confidential Figure B-3 in Appendix A, *Draft Section 4(f)*, of this EIR/EIS). The three TCPs listed in Table 3.8-3 are also considered historical resources for the purposes of CEQA.

Table 3.8-3. Traditional Cultural Properties within the APE

Name	Description	OHP Status Code	Eligibility Status
Túu'uv	TCP encompassing a vast geographical area. Associated with a village and large ceremonial center, including more than 30 petroglyphs, and ancient trail.	3S (for the purposes of this project only)	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2021).
Qax alku Pay mik	TCP encompassing a vast geographical area. Village complex associated with resource gathering and the Luiseño Creation account.	3S (for the purposes of this project only)	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2021).
Qax alku Kw imik	TCP encompassing a vast geographical area. Associated with a village complex and large ceremonial center.	3S (for the purposes of this project only)	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2021).
3S – Appears eligible for NRHP as an individual property through survey evaluation.			

Together, these TCPs encompass an expansive, unbounded, and overlapping geographic area that includes the APE and all the project alternatives. The TCPs share common uses and locations of religious and cultural importance, embodied by their position as a regional resource-gathering

area, a regional hub along a travel and trade route, and an expression of tribal values concerning the tribe's present-day religious and cultural values as expressed in the Creation account. The following descriptions of the three TCPs is summarized from the non-confidential letter provided by the tribe (Dubois 2020).

Túu'uv

Túu'uv is associated with a village and large ceremonial center, including more than 30 petroglyphs, and ancient trail extending from the coast to the San Jacinto Plain, connecting *Túu'uv* with the large village sites in the Lake Matthews/*Qax alku* region and the villages farther east. It is mentioned in traditional songs, is named in a long list of places located within ancestral Luiseño territory, and is generally considered to be more ancient than the surrounding areas.

Qax alku Pay mik

Qax alku Pay mik is a village complex associated with the Luiseño Creation account. This TCP is significant because of its use for both ceremonial purposes, indicated by the presence of petroglyphs and pictographs, and resource-gathering purposes in and near the project area.

Qax lku Kw imik

Qax lku Kw imik is a dense village complex and ceremonial center. It includes quartz quarries, resource processing areas, and seven vertical wave-shaped cupule boulders. Because quartz projectile points were important for ceremonial purposes, the presence of quartz quarries in this TCP is directly connected to the religious and cultural practices of the Luiseño.

3.8.3 Environmental Consequences

Results of the records searches, surveys, evaluations, and Caltrans assumptions of eligibility resulted in the identification of 13 historic properties within the APE that may be affected, depending on the build alternative. Refer to Table 3.8-4 on the following page. Assumptions of eligibility for the purposes of the project were made for six properties by Caltrans per Stipulation VIII.C.4 of the Section 106 PA: Mead Valley PPAD (including assumed contributing elements: combined site CA-RIV-2263, -2264, and -4444; CA-RIV-4403; CA-RIV-4407; CA-RIV-4408; CA-RIV-4409; and CA-RIV-012623) and approved by the CSO on July 7, 2020. TCPs *Túu'uv*, *Qaxáalku Payómik*, and *Qaxáalku Kwiimik* were all also assumed eligible for the purposes of the project by Caltrans and approved by the CSO on May 7, 2020. Determinations of eligibility for the sites were made by Caltrans and concurred upon by SHPO on February 10, 2021.

Table 3.8-4. Historic Properties within the APE – Build Alternatives 1, 2C, and 4

Site Name/Number	NRHP Status	Site Located within APE (Alternative)		
		1	2C	4
Mead Valley PPAD, including contributing elements	PPAD assumed eligible under Criteria A/1, B/2, C/3, and D/4 (CSO approval 7/7/2020). NRHP status for contributing elements described below for each qualifying site.	✓	✓	✓
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Individually assumed eligible under Criterion D/4; eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	
CA-RIV-4403	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4407	Not individually eligible (SHPO concurrence on 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4408	Not individually eligible (SHPO concurrence on 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4409	Not individually eligible (SHPO concurrence on 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4454	Not individually eligible (SHPO concurrence on 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (approved by CSO July 7, 2020).	✓	✓	
33-13791/CA-RIV-7843, Locus 816	Individually eligible under Criteria A/1, C/3, and D/4 (SHPO concurrence on 2/10/2021). Eligible as an assumed contributing element to the PPAD, and as a locus of CA-RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	✓
33-13791/CA-RIV-7843, Locus 817	Not individually eligible (SHPO concurrence on 2/10/2021); assumed eligible as a contributing element to the PPAD, and as a locus of CA-RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	✓
CA-RIV-012623	Individually eligible (SHPO concurrence on 2/10/2021), and as an assumed contributing element to the PPAD, under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	✓
Traditional Cultural Property: *Túu'uv*	Assumed eligible under Criteria A/1, B/2, C/3, and D/4 (CSO approval 5/7/2020).	✓	✓	✓
Traditional Cultural Property: *Qax alku Pay mik*	Assumed eligible under Criteria A/1, B/2, C/3, and D/4 (CSO approval 5/7/2020).	✓	✓	✓
Traditional Cultural Property: *Qax alku Kw imik*	Assumed eligible under Criteria A/1, B/2, C/3, and D/4 (CSO approval 5/7/2020).	✓	✓	✓

Caltrans proposed a Finding of Adverse Effect and SHPO concurred on February 17, 2021. Caltrans also proposed that the effects of the three build alternatives would not cause an adverse effect on the three TCPs. SHPO stated on February 17, 2021 that they did not object to this finding (Polanco 2021b).

A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

Of the 13 resources listed in Table 3.8-4, the concurrence on the determination of eligibility provided by SHPO February 10, 2021, indicates the following five NRHP-eligible resources qualify as individual properties subject to Section 4(f): Mead Valley PPAD, 33-13791/CA-RIV-7843, Locus 816, *Túu'uv* TCP*, Qax alku Pay mik* TCP*,* and *Qax alku Kw imik* TCP*.* See Appendix A, *Draft Section 4(f)*, of this EIR/EIS for a more detailed discussion of the evaluation of impacts involving Section 4(f) properties.

Regarding the evaluation of potential temporary impacts on cultural resources, any impact on cultural resources would be considered permanent; therefore, separate analysis of temporary impacts is not included in the EIR/EIS.

The effects of the project alternatives on these historic properties are discussed in Section 3.8.3.1, below.

3.8.3.1 Potential Effects on Historic Properties

Mead Valley Potential Prehistoric Archaeological District

Build Alternatives 1 and 2C—Adverse Effect

Under Build Alternatives 1 and 2C, construction activities would occur within the Mead Valley PPAD, resulting in impacts on the PPAD and contributing elements. The following contributing elements of the Mead Valley PPAD within the APE and limits of Build Alternatives 1 and 2C would be adversely affected: combined site CA-RIV-2263; CA-RIV-4454; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623.

The PPAD boundary used for the purposes of this project encompasses the majority of the project limits and extends out enough to allow for determining the effects of the project. Actual boundaries, however, are not spatially defined, and are anticipated to contain an undefined number of archaeological resources outside the project limits. The majority of Build Alternatives 1 and 2C are fully encompassed by the Mead Valley PPAD, and may be fully encompassed for the reasons stated above. For the purposes of the project and the evaluation of impacts related to the project, the acreage approximation for the PPAD is 29,229 acres (see Index Overview and Index Map Sheets 1–6 of HPSR Attachment A), which is not the full extent of the PPAD.

Under Build Alternative 1,399 acres of permanent and 78 acres of temporary impacts are anticipated, resulting in impacts on 1.63 percent of the PPAD (29,229 acres) delineated in the vicinity of the project. The limited percentage of permanent and temporary impacts within the overall PPAD would be minimal. However, the removal of contributing elements of the PPAD from their historic location, which is what qualifies the site as NRHP eligible, would be

considered an adverse effect. In addition, the change in character of the physical features within the site's setting that contribute to its historical significance would be compromised and considered an adverse impact. Therefore, a finding of Adverse Effect is provided for the PPAD under Build Alternative 1.

Under Build Alternative 2C, 415 acres of permanent and 86 acres of temporary impacts are anticipated, resulting in impacts on 1.71 percent of the PPAD (29,229 acres) delineated in the vicinity of the project. The limited percentage of permanent and temporary impacts within the overall PPAD would be minimal. However, the removal of contributing elements of the PPAD from their historic location, which is what qualifies the site as NRHP eligible, would be considered an adverse effect. In addition, the change in character of the physical features within the site's setting that contribute to its historical significance would be compromised and considered an adverse impact. Therefore, a finding of Adverse Effect is provided for the PPAD under Build Alternative 2C.

Build Alternative 4—Adverse Effect

Under Build Alternative 4, 254 acres of permanent and 55 acres of temporary impacts are anticipated, resulting in impacts on 1.1 percent of the PPAD (29,229 acres) delineated in the vicinity of the project. The following contributing elements of the Mead Valley PPAD located within the APE and limits of Build Alternative 4 would be adversely affected: CA-RIV-4403, -4407, -4408, -4409, and -4454; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623.

Contributing elements within the PPAD and APE would be permanently destroyed through the removal of features, subsurface deposits, and artifacts. The removal of contributing elements of the PPAD from their historic location, which is what qualifies the site as NRHP eligible, would be considered an adverse effect. In addition, the change in character of the physical features within the site's setting that contribute to its historical significance would be compromised and considered an adverse impact. Therefore, a finding of Adverse Effect is provided for the PPAD under Build Alternative 4.

Combined Site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444

Build Alternatives 1 and 2C—Adverse Effect

The combined site is eligible for inclusion in the NRHP under Criterion D due to the presence of a buried cultural deposit with the potential to provide data considered important to the prehistory of the area and larger region. Under Build Alternatives 1 and 2C, construction activities would physically remove portions of these three sites, resulting in a finding of Adverse Effect on a historic property. Components of CA-RIV-2263, sites CA-RIV-4444 and -2263, would be partially destroyed by Build Alternative 1, while CA-RIV-2264 would be avoided under this alternative. Conversely, under Build Alternative 2C, CA-RIV-4444 would be avoided and portions of CA-RIV-2263 and -2264 would be destroyed. Considering the three sites as a whole with the revised site boundary, Build Alternative 1 would permanently destroy approximately 2.09 acres, whereas Build Alternative 2C would permanently destroy 5.36 acres of the combined site. Additionally, a subsurface component of this site was identified and would also be partially destroyed.

Under Build Alternative 1, three bedrock milling stations would be physically removed during construction. Based on the findings from three shovel test pits, there could be additional subsurface deposits in the project footprint on this site.

Under Build Alternative 2C, CA-RIV-4444 would be avoided, whereas portions of CA-RIV-2263 and -2264 and areas in between them would be destroyed. Based on the findings from ten shovel test pits in the areas identified for permanent impacts, and three test units, there is potential for subsurface artifacts within the site boundary for this alternative that would be physically destroyed through direct ground-disturbing construction activities.

Under both alternatives, adverse effects on this resource would be anticipated because both alternatives would physically destroy parts of the site, including milling features, surface artifacts, and an undetermined amount of buried cultural deposits; remove resources from their context; and change the character of the site's physical features. The site as a whole would be adversely affected.

Build Alternative 4—No Adverse Effect

Under Build Alternative 4, there would be no anticipated construction in the location of this resource. As such, there would be no physical impact on the resource that would damage or destroy a part of the site. In addition, temporary indirect impacts from construction of this alternative, such as visual, noise, or air quality impacts, would be situated too far from the resource to have substantial impacts.

CA-RIV-4403, -4407, -4408, and -4409

Due to the proximity of sites CA-RIV-4403, -4407, -4408, and -4409 within the project APE, the potential for adverse effects on the four contributing elements of the PPAD is addressed collectively.

Build Alternatives 1 and 2C—No Adverse Effect

Under Build Alternatives 1 and 2C, no construction activities or other disturbance would occur; therefore, no impacts would be anticipated.

Build Alternative 4—Adverse Effect

Under Build Alternative 4, construction activities would physically destroy parts of sites CA-RIV-4403, -4407, -4408, -4409, resulting in the removal of resources from their context. While the sites are not individually NRHP eligible, as contributing elements of the Mead Valley PPAD, CA-RIV-4403, -4407, -4408, -4409, would be adversely affected. Therefore, a finding of Adverse Effect is provided for CA-RIV-4403, -4407, -4408, -4409 under Build Alternative 4.

CA-RIV-4454

Build Alternatives 1 and 2C—Adverse Effect

Under Build Alternatives 1 and 2C, construction activities would result in the physical removal of the majority of the artifact scatter at CA-RIV-4454. While the site is not individually NRHP eligible, as a contributing element of the Mead Valley PPAD, site CA-RIV-4454 would be

adversely affected. Therefore, a finding of Adverse Effect is provided for CA-RIV-4454 under Build Alternatives 1 and 2C.

Build Alternative 4—No Adverse Effect

Under Build Alternative 4, no construction activities or other disturbance would occur; therefore, no impacts would be anticipated.

CA-RIV-7843, Locus 816

Build Alternatives 1, 2C, and 4—Adverse Effect

All three build alternatives would physically damage Locus 816 of site CA-RIV-7843. Because the locus is a component of the larger CA-RIV-7843 site, impacts on the locus are considered as impacts on the larger site overall.

At Locus 816, 2.16 acres of permanent impacts and an adverse effect are anticipated under all three build alternatives. Individually, Locus 816 (CA-RIV-816) is eligible for inclusion in the NRHP under Criteria A, C, and D. Previous research at this locus, subsurface investigations, and consultation with Native American tribes have identified elements of this site that can address important research questions for the region. The majority of Locus 816 is within the direct impact area under all three build alternatives and would be adversely affected. One bedrock milling feature, a portion of a midden deposit, and six areas of subsurface recovery (TU-8, TU-9, TU-10, SP-42, SP-52, and SP-54) would be physically displaced, removed, or buried as part of the project, resulting in an adverse effect. The resources, especially the couple rock and bedrock milling features, would be exposed to vibration associated with construction equipment and bridge construction. The cupule rock and one bedrock milling feature and associated bedrock outcrop would be left in place, but it would still be adversely affected due to the change in setting and being located in proximity to the proposed bridge deck.

CA-RIV-7843, Locus 817

Build Alternatives 1, 2C, and 4—Adverse Effect

All three build alternatives would physically damage Locus 817 of site CA-RIV-7843. Because the locus is a component of the larger CA-RIV-7843 site, impacts on the locus are considered as impacts on the larger site overall.

Individually, Locus 817 does not appear to meet any of the criteria that would make it eligible for inclusion in the NRHP and, as such, is not eligible. As a locus of the site CA-RIV-7843, it should be considered a contributing element of the larger site. The larger site CA-RIV-7843 is presumed eligible for listing in the NRHP, and the individual loci of this site collectively contribute to its significance. A total of 0.65 acre of permanent impacts is anticipated for Locus 817 under all three build alternatives and would be adversely affected. Surface resources associated with the site could not be relocated as part of the project; however, the majority of Locus 817 would be adversely affected through construction grading, bridge construction, and sediment removal. It is unknown whether a subsurface component exists on the site. Midden deposits and a rock shelter were identified when the site was first recorded, but these components were not identified during the present survey.

Under all build alternatives, adverse effects on this resource would be anticipated because the alternatives would physically destroy parts of the site and remove resources from their context, and because construction of each of the alternatives would change the character of the site's physical features within its setting.

CA-RIV-012623

Build Alternatives 1, 2C and 4—Adverse Effect

CA-RIV-012623 is eligible for inclusion in the NRHP under Criterion D. The presence of dateable exotic artifacts (marine shell) provides the opportunity for the site to address important research questions for the region. It is unknown whether the site contains a subsurface deposit because archaeological testing activities have not been conducted; however, the stratigraphic soil profile indicates potential for buried deposits to exist at the site. All three build alternatives would adversely affect this site. Under Build Alternative 1, 0.17 acre of permanent impacts are anticipated. Two surface artifacts consisting of one chalcedony core (two pieces) and one chalcedony flake would be physically displaced or removed as part of the project.

Under Build Alternative 2C, 0.17 acre of permanent impacts are anticipated. Two surface artifacts consisting of one chalcedony core (two pieces) and one chalcedony flake would be physically displaced or removed as part of the project.

Under Build Alternative 4, 0.00008 acre of permanent impacts are anticipated. There are no recorded artifacts that would be adversely affected by the project; however, a small portion of the resource is proposed to be removed, resulting in an adverse effect.

Under all build alternatives, adverse effects on this resource would be anticipated because the alternatives would physically destroy parts of the site and remove resources from their original context. The site would also be adversely affected because construction impacts could destroy potentially buried resources and, as such, change the character of the site's physical features within its setting.

Traditional Cultural Properties: Túu'uv, Qax alku Pay mik, and Qax alku Kw imik

Build Alternatives 1, 2C, and 4—No Adverse Effect

The project would affect the NRHP-eligible TCPs consisting of *Túu'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*, but the effect would not be adverse. None of the three build alternatives would physically alter the TCPs such that the overall setting and integrity of the TCPs' character-defining features would be adversely affected. While some sites that occur within the APE would be individually adversely affected, the effects on these sites would not cause an adverse effect on the overall TCPs because those sites compose such a small physical part of the overall TCPs.

All three build alternatives are encompassed by the large, unbounded, geographic area included in the TCPs. Caltrans and the Pechanga Band participated in the development of the TCP boundary approach for the project. The Pechanga Band agreed with the Caltrans District 8 approach for developing fluid, undetermined TCP boundaries that are wide enough to allow for determining the effects of the project, but that may be expanded in the future if needed. The

boundaries fully include the project limits and extend out enough to allow for determining the effects of the project. However, actual boundaries are vast, and the tribe has not yet fully determined their limits (see Index Map Sheets 1–6 of HPSR Attachment A). For the purposes of this project, the acreage approximation for the combined TCPs is 28,531 acres, which is not the full extent of the TCPs.

Under Build Alternative 1, 390.2 acres of permanent impacts are anticipated, resulting in impacts on 1.37 percent of the combined TCPs delineated in the vicinity of the project. Three sites, which have been discussed earlier in this chapter, are contributing elements of the TCPs and individually would be adversely affected under Alternative 1. The sites are listed below with their proposed permanent impact acreages.

- Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444: 2.09 acres
- 33-13791/CA-RIV-7843, Loci 816 and 817: 2.81 acres
- CA-RIV-012623: 0.17 acre

The limited percentage of permanent impacts on the overall TCP and contributing site(s) impact acreages would be minimal; therefore, a finding of No Adverse Effect is provided for the TCPs under Build Alternative 1.

Under Build Alternative 2C, 399.2 acres of permanent impacts are anticipated, which would result in impacts on 1.40 percent of the combined TCPs delineated in the vicinity of the project. Three sites, which have been discussed earlier in this chapter, are contributing elements of the TCPs and individually would be adversely affected under Build Alternative 2C. The sites are listed below with their proposed permanent impact acreages.

- Combined Site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444: 5.36 acres
- 33-13791/CA-RIV-7843, Loci 816 and 817: 2.81 acres
- CA-RIV-012623: 0.17 acre

The limited percentage of permanent impacts on the overall TCP and contributing site(s) impact acreages would be minimal; therefore, a finding of No Adverse Effect is provided for the TCPs under Build Alternative 2C.

Under Build Alternative 4, 395.9 acres of permanent impacts are anticipated, which would result in impacts on 1.39 percent of the combined TCPs delineated in the vicinity of the project. Two sites and one PPAD, which have been discussed earlier in this chapter, are contributing elements of the TCPs and individually would be adversely affected under Build Alternative 4. The sites are listed below with their proposed permanent impact acreages.

- 33-13791/CA-RIV-7843, Loci 816 and 817: 2.81 acres
- CA-RIV-012623: 0.00008 acre
- PPAD (CA-RIV-4403, CA-RIV-4407, CA-RIV-4408, and CA-RIV-4409): 0.30 acre

The limited percentage of permanent impacts on the individual and combined TCPs and contributing site(s) impact acreages would be minimal; therefore, a finding of No Adverse Effect is provided for the TCPs under Build Alternative 4.

Under all build alternatives, less-than-adverse effects on the TCPs would be anticipated. Each of the roadway alternatives would physically destroy portions of the four sites listed above, remove them from their original context, and change the use of the physical elements of the individual sites; however, their damage, destruction, or removal would not change the characteristics of the TCP landscapes such that they do not retain integrity of setting, feeling, and location. Within the APE, which is a very small fraction of the total area of the TCPs, change in character of the sites' physical features within the TCPs' setting would not be to an extent great enough to adversely affect the greater TCPs because their extent comprises multiple similar resources over a vast area. These physical changes would not affect the TCPs' functions within the contemporary Luiseño beliefs and culture because, in the words of the Pechanga Band, "the traditional cultural significance of these TCPs is derived from the role the properties play in [our] community's historically rooted beliefs, customs and practices." Additionally, the Pechanga Band feels that "…the intangible ties to the area are so interwoven into the Tribe's identity as a People that the ability to freely access the area has not resulted in the destruction of the Tribe's religious and cultural practices associated with the region, which have been passed down through oral tradition since time immemorial" (Dubois 2020). It is concluded that the physical changes to these archaeological contributors are so minor, relative to the physical and intangible components of the TCPs, that they do not constitute an adverse effect.

The project is not expected to introduce visual, atmospheric, or audible elements that diminish the integrity of the TCPs' setting, feeling, or location. While the project would alter the alignment of Cajalco Road, the changes would largely use the existing road alignment, which would cause minimal change within the APE and relative to the full extent of the TCPs; this effect would be very minor.

The primary significance of the TCPs is the important role they play in the Luiseño community's historically and traditionally based customs, beliefs, and practices. None of the three alternatives would affect the intangible spiritual and religious qualities of the TCPs or the ability of the Luiseño to recognize or maintain their relationship to their history, religion, customs, or the landscape. The sacred and spiritual components of the TCPs exist independent from the physical characteristics of the landscape and would not be diminished or adversely affected through direct or indirect construction impacts. Therefore, a finding of No Adverse Effect is provided for the TCPs under all alternatives concerning direct and indirect impacts.

3.8.3.2 Build Alternative 1—Cajalco Alignment

As noted in Table 3.8-5 on the following page, nine historic properties (consisting of five archaeological properties, one PPAD, and three TCPs) would potentially be affected by Build Alternative 1. The portion of site CA-RIV-7843 outside Loci 816 and 817 was not evaluated as part of this project.

Table 3.8-5. Effect Finding – Build Alternative 1

Property	Effect Finding for Alternative 1	Measures
Mead Valley PPAD, including contributing elements: CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444 (combined site CA-RIV-2263); CA-RIV-4454; CA-RIV-7843, Locus 816; CA-RIV-7843, Locus 817; and CA-RIV-012623	Adverse Effect on PPAD; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4454	No Adverse Effect on individually ineligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 816)	Adverse Effect on individually eligible site; Adverse Effect as a contributor to site CA-RIV-7843; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 817)	Adverse Effect as a contributor to site CA-RIV-7843; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-012623	Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Túu'uv*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Pay mik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Kw imik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2

Based on the application of the Criteria of Effect, as defined in the revised Section 106 guidelines (36 CFR 800.5(1)), Caltrans proposes that Build Alternative 1 would cause an Adverse Effect on the Mead Valley PPAD, combined site of CA-RIV-2263, Loci 816 and 817 of CA-RIV-7843, CA-RIV-4454, and CA-RIV-012623. The project would have No Adverse Effect on the TCPs *Túu'uv, Qax alku Pay mik,* and *Qax alku Kw imik.* Build Alternative 1 would also have no effect on sites CA-RIV-4403, -4407, -4408, and -4409.

Because no historic built environment properties are present within the APE, historic built environment properties would not be affected.

There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project APE and vicinity. The proposed project would result in a "use" of those properties as defined by Section 4(f). Please see additional details in Appendix A, *Draft Section 4(f)*, of this EIR/EIS.

Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of Adverse Effect is appropriate for this undertaking.

Caltrans and the County have been working with participating Native American tribes in the identification and understanding of resources relative to each tribe involved. A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during cultural resources surveys and site testing. Native American input and information have been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternative 1. In addition to design options, the following Standard Project Measures would be implemented:

Standard Project Measures

If cultural materials or human remains are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist or the Riverside County Coroner can assess the nature of the find. Standard Project Measure PF-CR-1 addresses the possibility of discovery of cultural material during construction. Standard Project Measure PF-CR-2 addresses the possibility of discovery of human remains during construction.

PF-CR-1: Unanticipated Discoveries. 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. Unanticipated discoveries will be treated according to the Project Discovery and Monitoring Plan.

PF-CR-2: Discovery of Human Remains. If human remains are discovered during construction, California Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area suspected to overlie remains, and the County Coroner contacted. If the remains are thought by the County Coroner to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who, pursuant to Public Resources Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Gary Jones, District Native American Coordinator, at (909) 383-7505 so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

3.8.3.3 Build Alternative 2C—Modified Cajalco Alignment

As noted in Table 3.8-6 on the following page, nine historic properties (consisting of five archaeological properties, one PPAD, and three TCPs) would potentially be affected by Build Alternative 2C. The portion of site CA-RIV-7843 outside Loci 816 and 817 was not evaluated as part of this project.

Table 3.8-6. Effect Finding – Build Alternative 2C

Property	Effect Finding for Alternative 2C	Measures
Mead Valley PPAD, including contributing elements: CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444 (combined site CA-RIV-2263); CA-RIV-4454; 33-13791/ CA-RIV-7843, Loci 816 and 817; and CA-RIV-012623	Adverse Effect on PPAD; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4454	No Adverse Effect on individually ineligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 816)	Adverse Effect on individually eligible site; Adverse Effect as a contributor to site CA-RIV-7843; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 817)	Adverse Effect as a contributor to site CA-RIV-7843; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-012623	Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Túu'uv*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Pay mik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Kw imik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2

Based on the application of the Criteria of Effect, as defined in the revised Section 106 guidelines (36 CFR 800.5(1)), Caltrans proposes that Build Alternative 2C would cause an Adverse Effect on the Mead Valley PPAD, combined site of CA-RIV-2263, Loci 816 and 817 of CA-RIV-7843, CA-RIV-4454, and CA-RIV-012623. The project would have No Adverse Effect on the TCPs *Túu'uv, Qax alku Pay mik,* and *Qax alku Kw imik.* Build Alternative 2C would also have no effect on sites CA-RIV-4403, -4407, -4408, and -4409.

Because no historic built environment properties are present within the APE, historic built environment properties would not be affected.

Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of Adverse Effect is appropriate for this undertaking.

Caltrans and the County have been working with participating Native American tribes in the identification and understanding of resources relative to each tribe involved. A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information have been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternative 2C.

If cultural materials or human remains are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist or the Riverside County Coroner can assess the nature of the find. Standard Project Measure **PF CR-1** addresses the possibility of discovery of cultural material during construction. Standard Project Measure **PF CR-2** addresses the possibility of discovery of human remains during construction (see Section 3.8.3.2). There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project APE and vicinity. The proposed project would result in a "use" of those properties as defined by Section 4(f). Please see additional details in Appendix A, *Draft Section 4(f)*, of this EIR/EIS.

3.8.3.4 Build Alternative 4—El Sobrante Alignment

As noted in Table 3.8-7, eleven historic properties (consisting of seven archaeological properties, one PPAD, and three TCPs) would potentially be affected by construction of Build Alternative 4. The portion of site CA-RIV-7843 outside Loci 816 and 817 was not evaluated as part of this project.

Table 3.8-7. Effect Finding – Build Alternative 4

Property	Effect Finding for Alternative 4	Measures
Mead Valley PPAD, including contributing elements: CA-RIV-4403, -4407, -4408, -4409; 33-13791/CA-RIV-7843, Loci 816 and 817; and CA-RIV-012623	Adverse Effect on individually eligible PPAD; Adverse Effect as a contributor to the PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4403	No Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4407	No Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4408	No Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-4409	No Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 816)	Adverse Effect on individually eligible site; Adverse Effect as a contributor to site CA-RIV-7843; No Adverse Effect as a contributor to a TCP (SHPO concurrence2/17/2021).	PF CR-1, PF CR-2
CA-RIV-7843 (Locus 817)	Adverse Effect as a contributor to site CA-RIV-7843; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
CA-RIV-012623	Adverse Effect on individually eligible site; Adverse Effect as a contributor to PPAD; No Adverse Effect as a contributor to a TCP (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Túu'uv*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Pay mik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2
Traditional cultural property: *Qax alku Kw imik*	No Adverse Effect on TCP; Adverse Effect on contributing sites (SHPO concurrence 2/17/2021).	PF CR-1, PF CR-2

Based on the application of the Criteria of Adverse Effect, as defined in the revised Section 106 guidelines (36 CFR 800.5(1)), Caltrans proposes that Build Alternative 4 would cause an Adverse Effect on the Mead Valley PPAD, CA-RIV-4403, CA-RIV-4407, CA-RIV-4408, CA-RIV-4409, Loci 816 and 817 of CA-RIV-7843, and CA-RIV-012623. The project would have no adverse effect on the *Túu'uv, Qax alku Pay mik,* and *Qax alku Kw imik* TCPs. Build Alternative 4 would also have no effect on combined sites CA-RIV-2263 and CA-RIV-4454.

Because no historic built environment properties are present within the APE, historic built environment properties would not be affected.

Caltrans, pursuant to Section 106 PA Stipulation IX.A, has determined a Finding of Adverse Effect is appropriate for this undertaking.

Caltrans and the County have been working with participating Native American tribes in the identification and understanding of resources relative to each tribe involved. A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information have been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternative 4.

If cultural materials or human remains are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist or the Riverside County Coroner can assess the nature of the find. Standard Project Measure **PF CR-1** addresses the possibility of discovery of cultural material during construction. Standard Project Measure **PF CR-2** addresses the possibility of discovery of human remains during construction (see Section 3.8.3.1). There are historic properties protected by Section 4(f) of the Department of Transportation Act of 1966 within the project APE and vicinity. The proposed project would result in a "use" of those properties as defined by Section 4(f). Please see additional details in Appendix A, *Draft Section 4(f)*, of this EIR/EIS.

3.8.3.5 Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if constructed in the future, additional impacts on cultural resources would not be anticipated because the median areas where the additional lanes would occur would have already been disturbed under the proposed project.

3.8.3.6 Lake Mathews MSHCP (Build Alternatives 1, 2C and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the Lake Mathews Multiple Species Habitat Conservation Plan (LM MSHCP) area and Lake Mathews Multiple Species Reserve (LMR); appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. These roadway improvements would also include the areas of La Sierra Avenue and El Sobrante Road under Build Alternative 4. The proposed project would also result in the excavation, grading, and cut

and fill of soils and rock within the LM MSHCP area. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project. Potential impacts on archaeological resources eligible for the NRHP and CRHR within the LM MSHCP area and LMR may occur.

A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information has been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternatives 1, 2C, and 4.

If cultural materials or human remains are discovered during construction, all earthmoving activity within and around the immediate discovery area would be diverted until a qualified archaeologist or the Riverside County Coroner can assess the nature of the find. Standard Project Measure **PF CR-1** addresses the possibility of discovery of cultural material during construction. Standard Project Measure **PF CR-2** addresses the possibility of discovery of human remains during construction (see Section 3.8.3.1).

3.8.3.7 No-Build Alternative

The No-Build Alternative would not adversely affect cultural resources.

3.8.4 Avoidance, Minimization, and/or Mitigation Measures

In addition to the Standard Project Measures **PF CR-1** and **PF CR-2** identified in Section 3.8.3.2, a Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

3.9 Hydrology and Floodplain

3.9.1 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."

3.9.2 Affected Environment

The following discussion is based on information contained in the *Location Hydraulic Study Form and Floodplain Encroachment Report – Cajalco Road Widening Project* (County 2017) and the *Lake Mathews Watershed Water Quality Improvement Study* (MWD 2012).

3.9.2.1 Surface Water Hydrology

The proposed project is located in the Santa Ana River and San Jacinto Valley Hydrologic Units, within the Lake Mathews, Middle Santa Ana River, and Perris Hydrologic Areas (HAs). The westerly end of the project is located within the Bedford Hydrologic Subarea (HSA) within the Lake Mathews HA. The middle section of the project, located within the Cajalco HSA, is also within the Lake Mathews HA. Portions of Build Alternative 4 are within the Arlington HSA, within the Middle Santa Ana River HA. The easterly end of the project is located within the Perris Valley HSA within the Perris HA. The westerly end of the project crosses Temescal Wash (or Creek) as well as several unnamed tributaries to and Temescal Wash. The proposed project's alternative routes then run adjacent to Lake Mathews before crossing Cajalco Creek toward the easterly project limits. The proposed project also crosses several unnamed tributaries to Lake Mathews, and Cajalco Creek.

Temescal Wash is 29 miles long, connecting Lake Elsinore to the Santa Ana River. It has a drainage basin of 1,000 square miles including the 720 square miles of the San Jacinto River and Lake Elsinore watersheds. It is considered ephemeral for most of its length, except for non-stormwater runoff from development and agricultural return flows. It has an average flow of 30 cubic feet per second (cfs). The 100-year discharge is 24,400 cfs.

Lake Mathews is a reservoir with a capacity of 182,000 acre-feet that receives water from the Colorado River Aqueduct, and is part of Metropolitan Water District of Southern California's (MWD) water supply system. The reservoir is fenced and closed to all public access. Lake Mathews captures the natural stormwater flows from Cajalco Creek upstream of the reservoir and the project area.

Cajalco Creek, an ephemeral stream, flows westerly to Lake Mathews. Downstream of Lake Mathews, the lower reach of Cajalco Creek continues westerly joining Temescal Creek, which flows northerly to the Santa Ana River at Prado Basin. The Santa Ana River continues westerly to the Pacific Ocean. The eastern end of the project is within the Perris Valley hydrologic subarea. Upstream of Lake Mathews, Cajalco Creek begins on the northeast face of the Gavilan Hills of the Temescal Mountains. It is an ephemeral stream that flows westerly through Mead Valley and Cajalco Valley before flowing into Lake Mathews. Cajalco Creek has a 100-year discharge of 8,220 cfs.

The following facilities associated with the Lake Mathews reservoir in the project area are maintained by MWD (MWD 2011; AECOM 2012):

- Lake Mathews Dam: north of Cajalco Road, east of La Sierra Avenue
- Northern Lake Mathews Dike: south of El Sobrante Road, east of La Sierra Avenue
- Cajalco Creek Dam, Detention Basin, Sedimentation Basin, and Inlet Channel (connecting the two basins): north of Cajalco Road, east of El Sobrante Road
- 140-inch Upper Feeder pipeline: north and south of El Sobrante Road, west of La Sierra Avenue (south of El Sobrante Road)
- 54-inch Woodcrest pipeline: north and south of El Sobrante Road, west of La Sierra Avenue (south of El Sobrante)
- 120-inch Lower Feeder pipeline: north of Cajalco Road, east and west of El Sobrante Road
- Ten-million gallon reservoir: north of Cajalco Road, west of La Sierra Avenue
- Four additional sediment basins: south of Cajalco Road, west of Harley John Road.
- Piezometers: various locations west and north of Lake Mathews

The *Lake Mathews Watershed Water Quality Improvement Study* (MWD 2012) identified a series of best management practices (BMPs) that could be constructed and maintained either by public agencies, or in conjunction with larger development projects, to protect Lake Mathews' water quality from the potentially adverse effects of development in the watershed (MWD 2012). Recommended BMPs included a combination of detention basins, sediment basins, and water quality ponds. The majority of the BMPs have been constructed and one remains in the conceptual planning stage. Within the project site is the existing Cajalco Creek Dam and Detention Basin and Cajalco Creek Sediment Basin (MWD 2012), also identified above. The *Lake Mathews Watershed Water Quality Improvement Study* identified one potential scenario for protecting future lake water quality, construction of the Lake Mathews Estates Water Quality Pond as the major, additional regional stormwater BMP (MWD 2012). However, the timeline for implementing the proposed BMP is currently unknown.

The Cajalco Creek Dam and Detention Basin is the primary BMP constructed in the watershed. Its purpose is to provide extended detention to reduce pollutant loading immediately upstream of Lake Mathews. The dam is formed by a 46-foot-high embankment and a 30-foot-wide crest. A spillway on the north abutment allows flood waters to safely pass without overtopping the embankment. A gated outlet allows water to be released into Lake Mathews and is manually operated. The Cajalco Creek Sediment Basin is on the largest tributary to Lake Mathews. It is 31 acres, sited immediately upstream of the 70-acre Cajalco Creek Dam and Detention Basin (MWD 2012). According to the *Lake Mathews Watershed Water Quality Improvement Study Task 3* (Appendix C to MWD 2012), the runoff control basin dimensions for Cajalco Creek Dam and Detention basin is 131 acres and provides 2,010 acre-feet of capacity and the Cajalco Creek Sedimentation Basin runoff control basin dimensions is 19.9 acres and provides 134 acre-feet of capacity.

Topography

To the west of Lake Mathews, Cajalco Road winds through Cajalco Canyon with steep grades generally sloping westerly toward Temescal Creek. Along the south side of Lake Mathews, slopes are generally to the north toward Lake Mathews. On the north side of Lake Mathews, slopes are also generally to the north, but in this area away from Lake Mathews and toward Arlington Valley Channel.

The highest elevation along the project occurs at the drainage divide between Mead Valley and Perris Valley along the existing Cajalco Road, approximately 1.7 miles west of Interstate 215 (I-215), near Day Street. Cajalco Road ranges in elevation from 1,704 feet at the Mead Valley/Perris Valley drainage divide, to 1,510 feet at the eastern end of the project (I-215), to 800 feet at the westerly end of the project (Temescal Canyon Road).

Within the Cajalco HSA, elevations reach as high as 2,557 feet in the Gavilan Hills to the south of Cajalco Road. Northwest of El Sobrante Road, elevations reach as high as 1,857 feet at the peak of Arlington Mountain. El Sobrante Road generally follows the drainage divide between Lake Mathews and Mockingbird Canyon within the Arlington HSA. The area north of Cajalco Road slopes generally to the southwest at a grade of about 1.4 percent. Within Mead Valley, the area south of Cajalco Road slopes generally to the north at a grade of about 1.2 percent.

3.9.2.2 Groundwater Hydrology

A small portion of the western end of the project site is within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin, based on 2016 data. A limited section of the eastern end of the project is within the San Jacinto Groundwater Basin.

The California Department of Water Resources Groundwater Bulletin 118[1] indicates the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin underlies the southwestern part of upper Santa Ana Valley. The subbasin has a surface area of 37 square miles and is bounded on the west by the Santa Ana Mountains and the south by the Elsinore

[1] Bulletin 118 is California's official publication on the occurrence and nature of groundwater statewide. Bulletin 118 defines the boundaries and describes the hydrologic characteristics of California's groundwater basins and provides information on groundwater management and recommendations for the future.

Groundwater Basin at a constriction in the alluvium of Temescal Wash. Groundwater flows toward the center of the subbasin and then northeast toward the Santa Ana River.

Bulletin 118 indicates the San Jacinto Groundwater Basin underlies San Jacinto, Perris, Moreno, and Menifee Valleys in western Riverside County. The basin has a surface area of 293 square miles.

The Initial Site Assessment for the proposed project indicates that, according to published groundwater monitoring reports, groundwater in the vicinity of the project site ranges between approximately 10 feet and 45 feet below ground surface.

3.9.2.3 Floodplain Characteristics

The Federal Emergency Management Agency (FEMA) identifies designated zones to indicate flood hazard potential and provides information on flood hazard and frequency for cities and counties on its Flood Insurance Rate Maps (FIRMs). FIRMs were consulted in order to identify flood hazard areas in the vicinity of the project (see Figure 3.9-1). FEMA creates FIRMs that delineate special flooding hazard areas and risk premium zones. The proposed project site is located in FIRM panels 06065C1360G, 06065C1380G, 06065C1385G, 06065C1405G, and 06065C1410G for Riverside County, California, and incorporated areas, dated August 28, 2008. Flooding hazard areas are designated as zones, with the proposed project in FEMA Zone A and un-shaded Zone X. Zone A is an area subject to inundation by the 1-percent annual chance (100-year) flood. Zone X is an area of minimum flood hazard outside the 0.2-percent annual chance (500-year) flood limits.

Temescal Creek is located within the Zone A floodplain on the western portion of the project site (refer to Location 1 on Figure 3.9-1). The Temescal Creek floodplain at Cajalco Road is approximately 1,705 feet wide. The Cajalco Road Bridge crossing at this location is a significant constriction in the Temescal Creek and causes the water surface to rise approximately four feet across the width of the bridge (RCTC 2008).

Cajalco Creek is within a mapped Zone A floodplain. Improvements at Cajalco Road and El Sobrante Road include a dam and detention basin. From approximately 605 feet west to 310 feet east of Harley John Road, the Cajalco Creek floodplain straddles Cajalco Road (refer to Location 2 on Figure 3.9-1). Cajalco Road and Cajalco Creek diverge east of Harley John Road. Approximately one mile farther east, the creek and road converge again. At Wood Road, and easterly for one mile, the creek lies on the south side of the road, adjacent to the toe of the existing slope. The creek crosses to the north side of Cajalco Road just west of Barton Road. The floodplain is approximately 870 feet wide at this point (refer to Location 3 on Figure 3.9-1). Roughly 560 feet east of Alexander Street, Cajalco Creek returns to flow against the north side of Cajalco Road (refer to Location 4 on Figure 3.9-1). At Brown Street, the floodplain crosses to the south side of Cajalco Road and then lies on both sides of the road to a point 660 feet east of Clark Street (RCTC 2008).

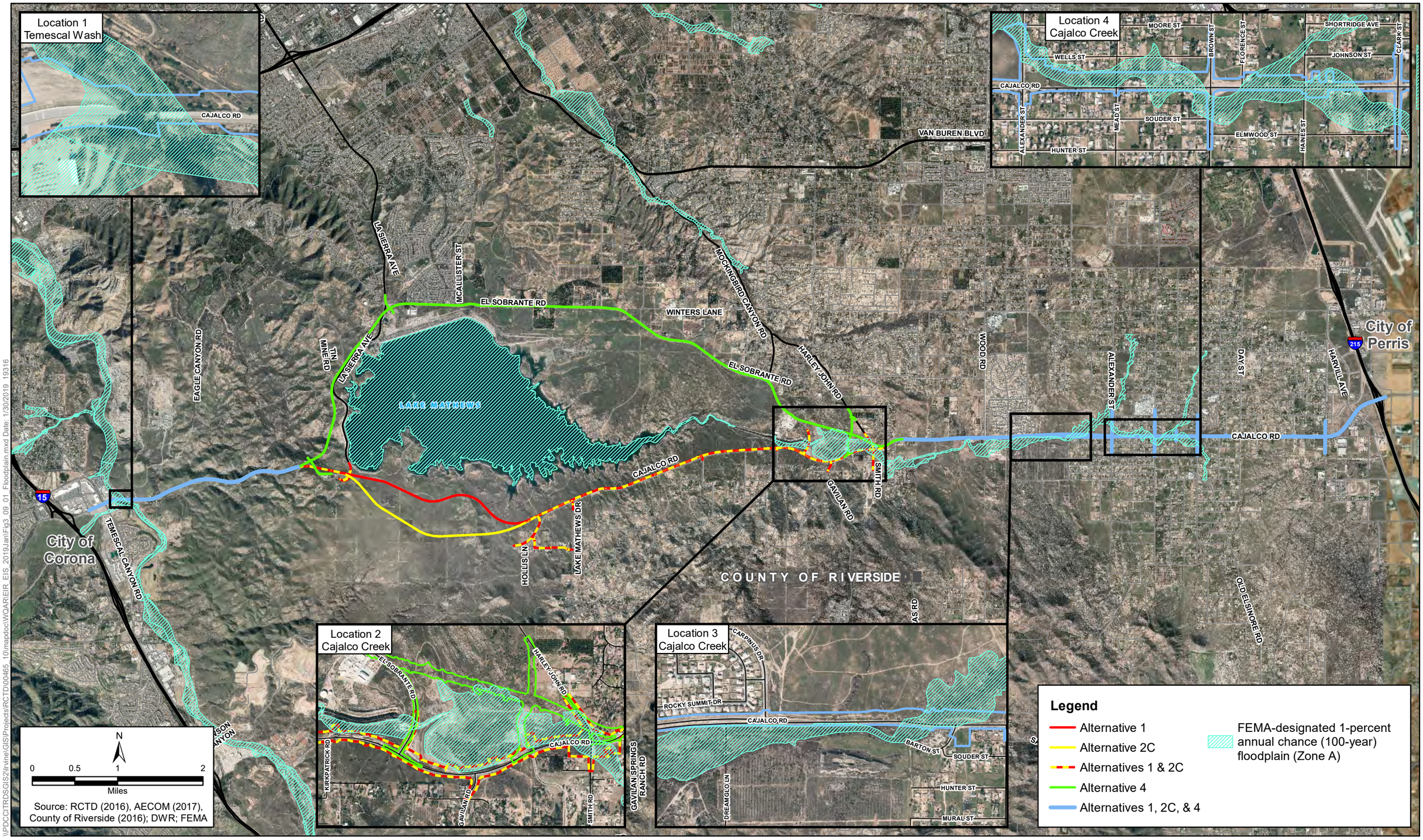

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Figure 3.9-1
FEMA Floodplains
Cajalco Road Widening and Safety Enhancement Project

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3.9.2.4 Natural and Beneficial Uses

The Santa Ana Region Basin Plan (Santa Ana RWQCB 2016) establishes water quality standards for the ground and surface waters of the region. The Santa Ana Regional Water Quality Control Board (RWQCB) uses planning, permitting, and enforcement authorities to meet this responsibility and has adopted the Basin Plan to implement plans, policies, and provisions for water quality management. Beneficial uses are described in the Basin Plan and designated for major surface waters and their tributaries as well as groundwater. Each RWQCB sets water quality objectives that will ensure reasonable protection of beneficial uses and prevent nuisance.[2]

Natural and beneficial floodplain values include, but are not limited to, fish, wildlife, plants, open space, natural beauty, scientific study, outdoor recreation, agriculture, forestry, natural moderation of floods, water quality maintenance, and groundwater recharge. Beneficial uses for surface waters are defined in the Santa Ana Region Basin Plan as various ways that water can be used for the benefit of people and/or wildlife. Lake Mathews has been designated with existing or potential Beneficial Uses including municipal uses (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Groundwater Recharge (GWR), Water Contact Recreation (REC1) although access is prohibited, Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Rare Threatened or Endangered Species (RARE) waters. Reach 2 of Temescal Wash (Creek), 1,400 feet upstream of Magnolia Avenue to Lee Lake, has been designated with existing or potential Beneficial Uses including AGR, IND, GWR, REC1, REC2, WARM, WILD, and RARE. Other Tributaries to these creeks (Cajalco Creek) have intermittent Beneficial Uses including MUN, GWR, REC1, REC2, WARM, and WILD.

3.9.2.5 Lake Mathews MSHCP

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) is a joint conservation effort initiated by MWD and the Riverside County Habitat Conservation Agency in cooperation with the U.S. Fish and Wildlife Service and California Department of Fish and Wildlife that spans 5,994 acres of open land around Lake Mathews, and includes the 5,110-acre Lake Mathews Multiple Species Reserve (LMR). Within the LM MSHCP area, major hydrological features include Lake Mathews and the Colorado River Aqueduct. Lake Mathews is a 182,000-acre-foot reservoir at the western terminus of the Colorado River Aqueduct, and provides much of the water used by the member public agencies of MWD. The reservoir is fenced and closed to all public access. Lake Mathews captures the natural stormwater flows from Cajalco Creek upstream of the reservoir and the project area. A series of water quality wetlands and basins are located on Cajalco Creek. Lake Mathews and the water quality wetlands and basins are operated by MWD solely for the purpose of water supply, not for flood control purposes. Releases from Lake Mathews would only occur if the water elevation was to reach the spillway crest.

[2] "Nuisance" is defined as "anything which meets all of the following requirements:
1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property so as to interfere with the comfortable enjoyment of life or property, and
2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and
3) occurs during or as the result of the treatment or disposal of wastes." (SWRCB 2016)

3.9.3 Environmental Consequences

3.9.3.1 Permanent Impacts

Build Alternatives 1 and 2C – Cajalco Alignment and Modified Cajalco Alignment

Build Alternative 1 would increase the amount of impervious surface by approximately 83 acres and Build Alternative 2C by approximately 84 acres. For the entire project area, runoff volume would increase about 2.6 acre-feet for Build Alternative 1 and 2.62 acre-feet for Build Alternative 2C. Flow rates would increase about 11.4 cfs for Build Alternative 1 and 11.5 cfs for Build Alternative 2C. Under Build Alternatives 1 and 2C, new on-site drainage facilities would be included as part of the realignment and roadway improvements. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks consistent with the existing conditions.

Build Alternatives 1 and 2C would encroach into the floodplains at four creek crossing locations: one at Temescal Creek and three along Cajalco Creek. The Temescal Creek floodplain encroachment (Location 1) would occur on the western end of the alignment at Temescal Creek, as shown on Figure 3.9-1. The three Cajalco Creek encroachments (Locations 2, 3, and 4), shown on Figure 3.9-1, would occur along Cajalco Road between Kirkpatrick Street and east of Harley John Road, west of Una Street, and west of Alexander Street and east of Clark Street. Floodplain encroachments at Temescal Creek (Location 1) and at two of the three Cajalco Creek crossings (Locations 3 and 4) would share the same alignment for Alternatives 1 and 2C, resulting in the same impacts. Under Build Alternatives 1 and 2C, the widened roadway, new drainage facilities, and proposed bridge improvements would have permanent impacts on approximately 1.52 acres of the floodplain at Location 1, 8.71 acres of the floodplain at Location 2, 3.72 acres of the floodplain at Location 3, and 17.01 acres of the floodplain at Location 4.

The replacement bridge structure within the floodplain at Temescal Creek under Build Alternatives 1 and 2C would be supported by piers that would be replaced in the floodplain. The culvert replacements and new bridge along Cajalco Creek would extend existing structures and add new piers in the floodplain. Through the use of project design features such as detention basins and culverts, 100-year storm flows would be conveyed, and would not result in any new flooding. Groundwater hydrology is not expected to be adversely affected or to adversely affect the project. The Cajalco Road crossing of Temescal Creek under the Build Alternatives 1 and 2C would involve replacement of the existing bridge (four 36-foot-long spans and one 27-foot-long span; 171 feet total length and 40.67 feet wide) with a new, larger bridge (four 110-foot-long spans; 440 feet total length and 120.33 feet wide) that provides a larger opening, lowering the upstream water surface elevation and reducing velocities through the bridge and potential scour. The bridge structure proposed for this location would be larger than the existing crossing and would be expected to accommodate the predicted storm events.

Under Build Alternative 1, west of Lake Mathews Drive, Cajalco Road would be realigned, bypassing the Hollis Lane residential area to the south, and would include the construction of a bridge south of Lake Mathews. No floodplain is mapped by FEMA at this location; therefore, no encroachment would be associated with this bridge. Under Build Alternative 2C, a large

undercrossing would be included within the newly constructed segment of Cajalco Road west of Hollis Lane. No floodplain is mapped by FEMA at this location; therefore, no encroachment would be associated with this bridge.

The Cajalco Road crossing of Cajalco Creek at Harley John Road, on the east side of Lake Mathews as shown on Figure 3.9-1 (Location 2), would involve replacing three 48-inch culverts with a four-cell, 20-foot-wide by 10-foot-high reinforced concrete box (RCB) culvert under Build Alternatives 1 and 2C. In addition, where Cajalco Creek crosses Cajalco Road, the double 9-foot-wide by 5-foot-high RCB culvert would be replaced with a larger four-cell, 20-foot-wide by 10-foot-high RCB culvert. The two proposed RCB culverts would provide a larger opening, which is expected to lower the upstream water surface, reduce velocities through the culverts, and eliminate flow over the roadway during a 100-year flood. MWD Lake Mathews facilities within this floodplain encroachment area that would be affected by Build Alternatives 1 and 2C include Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins. These facilities are located along the north side of Cajalco Road between El Sobrante Road and Harley John Road. A description of these facilities and their anticipated impacts under Build Alternatives 1 and 2C is provided below.

The Cajalco Creek Sedimentation Basin is approximately 31 acres and provides 134 acre-feet of capacity as a runoff control basin; it is sited immediately upstream of the Cajalco Creek Dam and Detention Basin. The 70-acre Cajalco Creek Dam and Detention Basin provides 2,010 acre-feet of capacity. Under Alternatives 1 and 2C, approximately 3.69 acres of the Cajalco Creek Sedimentation Basin (approximately 12 percent) and 4.95 acres of the Cajalco Creek Dam and Detention Basin (approximately 7 percent) would be converted to right of way. Continuity between the two basins and Inlet Channel would not be affected. The removal of 3.69 acres and 4.95 acres, respectively, however, may reduce the capacities of the basins to 118 acre-feet and 1,869 acre-feet. An additional BMP identified in the *Lake Mathews Watershed Water Quality Improvement Study* may be implemented in the future, separately from the proposed project, that would slightly reduce volumes entering the Cajalco Creek Sedimentation Basin and Cajalco Creek Dam and Detention Basin, providing a small increase in available capacity that may offset a portion of the capacities affected under the proposed project. Nonetheless, because the proposed project would convert a portion of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin to right of way, this could affect the capacity and operation of the basins, particularly during high-flow months and high rainy seasons.

Mitigation Measure **HYD-1** (see Section 3.9.4) is proposed for the coordination of right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. Mitigation Measure **HYD-1** includes coordination with MWD and requires the preparation of a Drainage Study to confirm that implementation of the proposed project would not conflict with operations of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. As needed, the Drainage Study would provide engineering recommendations to ensure the operation of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin are maintained to accommodate existing stormwater discharges along with the increased project stormwater discharges. Recommendations could include regular maintenance of the dam and basins to remove sediment buildup, excavation to offset capacities of the dam and basins, or expansion of the dam and basins to the north or south depending on the build alternative selected. With implementation of Mitigation Measure **HYD-1**,

impacts that would affect continued operation of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin under Build Alternatives 1 and 2C would be minimized.

The Cajalco Road crossing of Cajalco Creek west of Alexander Street would involve replacement of the 102-inch and 48-inch culverts with an RCB culvert within the existing roadway and a new bridge (refer to Sheet 2 of Figure 2.2-3, and Figure 3.9-1, Location 4). The proposed eastbound Cajalco Road culvert would be replaced by a four-cell, 20-foot-wide by 14-foot-high RCB culvert. The proposed westbound Cajalco Road would cross Cajalco Creek upstream of the existing culvert with a new bridge (two 150.75-foot-long spans; 301.50 feet total length, 57.61 feet wide). The new bridge would have three new 6-foot-diameter columns in Cajalco Creek. The proposed RCB culvert and bridge would provide a larger opening than the existing culverts, and would be expected to lower the upstream water surface, reduce velocities through the existing culverts, and eliminate flow over the roadway during a 100-year flood.

The Cajalco Road crossings of Cajalco Creek from Alexander Street to Clark Street would involve replacement of a series of asphalt-paved "low water crossings" and small culverts with several RCB culverts, a trapezoidal channel, and an open rectangular concrete channel with an overflow inlet structure under Build Alternatives 1 and 2C (refer to Sheets 2 and 3 of Figure 2.2-3, and Figure 3.9-1, Location 4). Build Alternatives 1 and 2C would provide a new three-cell, 14-foot-wide by 8-foot-high RCB culvert at Alexander Street; grade a trapezoidal channel 80-foot bottom along the north side of Cajalco Road to a three-cell 10-foot-wide by 5-foot-high RCB culvert under Brown Street and Florence Street along the north side of Cajalco Road; and provide an open rectangular concrete channel with a 30-foot bottom width, 6 feet deep with an overflow inlet to accommodate tributary flow, which then would cross under Cajalco Road and Haines Street in a three-cell, 10-foot-wide by 5-foot-high RCB. An inlet structure would be constructed immediately upstream of Haines Street along the south side of Cajalco Road to collect flow from the upper portion of Cajalco Creek. The proposed culverts and channels would provide a larger conveyance through this area, which is predicted to lower the water surface, reduce velocities, and eliminate flow over the roadway during a 100-year flood.

The proposed project's encroachment in the floodplain would not reduce the storage volume of the creeks. The proposed project would provide larger openings to more efficiently convey flows, which is expected to result in lowering of the upstream water surface; therefore, the proposed project would not have an adverse effect on the base floodplain elevation.

Potential Risks to Life and Property

Build Alternatives 1 and 2C would not result in flood-related interruption of emergency services or routes. Build Alternatives 1 and 2C would provide a more reliable highway. Operation of Build Alternatives 1 and 2C would not result in interruption of emergency services or routes and would improve access throughout the region. In addition, Build Alternatives 1 and 2C would not increase the risk of flooding because they would lower the base flood elevations. Therefore, there would be no substantial flood-related risks to life or property associated with implementation of Build Alternatives 1 and 2C.

Potential Risks for Support of Incompatible Floodplain Development

Build Alternatives 1 and 2C include improvements to an existing transportation facility to improve traffic safety, address projected traffic volumes, and address projected growth in

population. Build Alternatives 1 and 2C would modify an existing facility and would not promote incompatible floodplain development.

Potential Risks to Natural and Beneficial Floodplain Values

Several of the affected waterbodies are natural-bottom waterways; as such, the creeks provide open space, natural beauty, and outdoor recreation value and also have value to support wildlife and plant habitat, as detailed in Sections 3.19, *Plants*, and 3.20, *Animals*. The build alternatives have the potential to affect natural and beneficial water resource values by affecting natural-bottom channels, which could affect water quality and jurisdictional waters. As described above, the build alternatives would result in a net increase in impervious surfaces and, therefore, an increase in runoff. The runoff from the proposed roadway improvements would have the potential to affect water quality in receiving waters. However, the build alternatives would comply with the County's Municipal Separate Storm Sewer System Permit and implement BMPs to the maximum extent practicable under Standard Project Measures **PF WQ-1** through **PF WQ-3** (post-construction BMPs). The build alternatives would also implement proposed Measures **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)**, and **WET-1** (hydroseeding and compensation for riparian-riverine and wetland impacts) to reduce impacts on water quality. Refer to Section 3.10, *Water Quality and Stormwater Runoff*, for Standard Project Measure **PF WQ-3**; Section 3.17, *Natural Communities*, for Measures **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)**; and Section 3.18, *Wetlands and Other Waters*, for Measure **WET-1**.

Improvements within the 100-year floodplain proposed under the build alternatives would result in direct, permanent impacts on Temescal and Cajalco Creeks, which are considered potentially jurisdictional to the United States Army Corps of Engineers, the California Department of Fish and Wildlife, and the RWQCB. As discussed in Section 3.18, *Wetlands and Other Waters*, compensatory mitigation is proposed as part of the build alternatives to reduce potential impacts on jurisdictional waters. Therefore, with the measures proposed in Sections 3.10, 3.17, and 3.18, operation of Build Alternatives 1 and 2C would not result in long-term adverse impacts on natural and beneficial floodplain values.

Significant Encroachment

"Significant encroachment" as defined at 23 CFR 650.105 is a highway encroachment and any direct support of likely base floodplain development that would involve one or more of the following construction or flood-related impacts:

- A significant potential for interruption or termination of a transportation facility that is needed for emergency vehicles or provides a community's only evacuation route
- A significant risk (to life or property)
- A significant adverse impact on natural and beneficial floodplain values

As indicated above, Build Alternatives 1 and 2C would result in permanent encroachment within approximately 1.52 acres of the floodplain at Location 1, 8.71 acres at Location 2, 3.72 acres at Location 3, and 17.01 acres at Location 4. However, the proposed project does not constitute a significant floodplain encroachment as defined in 23 CFR Section 650.105(q). Based on the floodplain modeling performed for the proposed project, implementation of the proposed project

would result in lowering the upstream water surface elevation and reducing velocities through the new bridge crossings at Temescal and Cajalco Creeks. The proposed project would not result in any significant change in flood risks or damage, does not have significant potential for interruption or termination of emergency service or emergency routes, and would not have a significant adverse impact on natural or beneficial floodplain values. Therefore, the proposed encroachment at Temescal and Cajalco Creeks is not a significant encroachment as defined under 23 CFR 650.105. Build Alternatives 1 and 2C would not involve a significant encroachment on a regulatory floodway or substantially increase the base flood elevation.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, no additional development within a floodplain would be anticipated. Under Build Alternatives 1 and 2C, the widened roadway and bridge structure proposed at Temescal Creek (Location 1) would be fully paved to accommodate six lanes, and the widened roadway at Location 2 would be fully paved within the existing floodplain. The construction of two additional travel lanes east of Harley John Road associated with a Future Six-Lane Facility is not anticipated; therefore, Cajalco Creek floodplain Locations 3 or 4 would not be affected. The proposed project would also construct proper drainage facilities to avoid flooding associated with roadway runoff. No additional impacts on floodplains would occur.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Under Build Alternatives 1 and 2C, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR (refer to Figure 1-2); appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Build Alternative 1 would increase the amount of impervious surface by approximately 45 acres and Build Alternative 2C by approximately 35 acres within the LM MSHCP area. However, the project is outside the LM MSHCP area on the western and eastern ends of Cajalco Road; the middle section is within the LM MSHCP. Therefore, three of the four floodplain encroachments would not occur within the LM MSHCP area. Under Build Alternatives 1 and 2C, the proposed project would result in an encroachment of Cajalco Creek at Harley John Road and would involve replacing three culverts with an RCB culvert. A portion of these improvements would be located within the LM MSHCP area, and impacts are detailed above under Build Alternatives 1 and 2C. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for the proposed project, which would result in an increase of flood flows from increased impervious surfaces and development in the floodplain; however, the proposed project would construct proper drainage facilities so that runoff would not result in additional flooding as discussed under Build Alternatives 1 and 2C.

Build Alternative 4 – El Sobrante Alignment

Build Alternative 4 would increase the amount of impervious surface by approximately 105 acres. For the entire project area, runoff volume would increase about 3.22 acre-feet for Build Alternative 4. Flow rates would increase about 14.0 cfs for Build Alternative 4. Under Build Alternative 4, new on-site drainage facilities would be included as part of the realignment and

roadway improvements. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks consistent with the existing conditions.

Similar to Build Alternatives 1 and 2C, Build Alternative 4 would encroach into the floodplains at four creek crossing locations and would share the same impacts as Build Alternatives 1 and 2C for Locations 1, 3, and 4 (see Figure 3.9-1). The Cajalco Creek floodplain encroachment at Location 2 would differ under Build Alternative 4 due to the realignment of Cajalco Road and Harley John Road at this location. Under Build Alternative 4, the widened and realigned roadway, new drainage facilities, and proposed bridge improvements would have permanent impacts on approximately 1.52 acres of the floodplain at Location 1, 7.09 acres of the floodplain at Location 2, 3.72 acres of the floodplain at Location 3, and 17.01 acres of the floodplain at Location 4.

As mentioned above, Build Alternative 4 would result in a new alignment for Cajalco Road along the north side of the existing Cajalco Creek Detention Basin and Cajalco Creek Sediment Basin located just upstream of Lake Mathews (refer to Sheet 6 of Figure 2.2-5, and Figure 3.9-1, Location 2). As such, these MWD Lake Mathews facilities would be affected by the proposed project. Under Alternative 4, approximately 0.12 acre of the Cajalco Creek Dam and Detention Basin (less than 1 percent of the basin size) and 3.55 acres of the Cajalco Creek Sedimentation Basin (approximately 11.5 percent of the basin size) would be converted to right of way. The Inlet Channel would be replaced with a wildlife crossing and may affect inlet operation. As with Build Alternatives 1 and 2C, Mitigation Measure **HYD-1** (see Section 3.9.4) would be implemented to reduce potential impacts associated with operation of the Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins.

Several cross culverts would convey stormwater runoff from areas north of the proposed roadway, under the roadway, and into the existing basins. The existing Cajalco Creek double 9-foot-wide by 5-foot-high RCB culvert would remain in place. The existing three 48-inch-diameter culvert under Harley John Road would be removed and Harley John Road would be realigned to the crest of the Cajalco Creek Sediment Basin embankment. At the existing Cajalco Creek Sediment Basin spillway, a new bridge would be constructed for the realigned Harley John Road. The proposed encroachments would be in areas considered ineffective in conveying flow through the basins and therefore would not adversely affect water surface elevation or velocity of the existing Cajalco Creek floodplain. With implementation of Mitigation Measure **HYD-1**, impacts that would affect continued operation of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin under Build Alternative 4 would be minimized.

Potential Risks to Life and Property

Build Alternative 4 would not result in flood-related interruption of emergency services or routes, and would be expected to provide a more reliable highway. Operation of Build Alternative 4 would not result in interruption of emergency services or routes and would improve access throughout the region. In addition, Build Alternative 4 would not increase the risk of flooding because it would lower the base flood elevations. Therefore, there would be no

substantial flood-related risks to life or property associated with implementation of Build Alternative 4.

Potential Risks for Support of Incompatible Floodplain Development

Build Alternative 4 would include improvements to an existing transportation facility to improve traffic safety, address projected traffic volumes, and address projected growth in population. Build Alternative 4 would modify an existing facility and would not promote incompatible floodplain development.

Potential Risks to Natural and Beneficial Floodplain Values

The potential risks to natural and beneficial floodplain values as a result of Build Alternative 4 would be the same as those identified for Build Alternatives 1 and 2C. With compliance with Standard Project Measures **PF WQ-1** through **PF WQ-3** (post-construction BMPs) and the implementation of proposed Measures **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)** and **WET-1**, long-term adverse impacts on natural and beneficial floodplain values would not occur as a result of Build Alternative 4 operations. Refer to Section 3.10, *Water Quality and Stormwater Runoff*, for Standard Project Measure **PF WQ-3**; Section 3.17, *Natural Communities*, for Measures **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)**; and Section 3.18, *Wetlands and Other Waters*, for Measure **WET-1**.

Significant Encroachment

As indicated above, Build Alternative 4 would result in permanent encroachment within approximately 1.52 acres of the floodplain at Location 1, 7.09 acres of the floodplain at Location 2, 3.72 acres of the floodplain at Location 3, and 17.01 acres of the floodplain at Location 4. However, the proposed project does not constitute a significant floodplain encroachment as defined in 23 CFR Section 650.105(q). Based on the floodplain modeling performed for the proposed project, implementation of the proposed project would result in lowering the upstream water surface elevation and reducing velocities through the new bridge crossings at Temescal and Cajalco Creeks. The proposed project would not result in any significant change in flood risks or damage, does not have significant potential for interruption or termination of emergency service or emergency routes, and would not have a significant adverse impact on natural or beneficial floodplain values. Therefore, the proposed encroachment at Temescal and Cajalco Creeks is not a significant encroachment as defined under 23 CFR 650.105. Build Alternative 4 would not involve a significant encroachment on a regulatory floodway or substantially increase the base flood elevation.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, no additional development within a floodplain would be anticipated. The widened roadway and bridge structure at Temescal Creek (Location 1) would be fully paved under Build Alternative 4 to accommodate six lanes. The construction of two additional travel lanes east of the intersection of

La Sierra Avenue and El Sobrante Road, associated with a Future Six-Lane Facility, is not anticipated; therefore, Cajalco Creek floodplain Locations 2, 3, or 4 would not be affected. The proposed project would also construct proper drainage facilities to avoid flooding associated with roadway runoff. No additional impacts on floodplains would occur.

Lake Mathews MSHCP (Build Alternative 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the Lake Mathews MSHCP area and LMR (refer to Figure 1-2); appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Build Alternative 4 would increase the amount of impervious surface by approximately 35 acres within the LM MSHCP area. However, the project is outside the LM MSHCP area on the western and eastern ends of Cajalco Road; the middle section is within the LM MSHCP. Therefore, three of the four floodplain encroachments would not occur within the LM MSHCP area.

Under Build Alternative 4, the proposed project would result in an encroachment of Cajalco Creek at Harley John Road and would result in a new roadway alignment within this floodplain area. A portion of these improvements would be located within the LM MSHCP area, and impacts are detailed above under Build Alternative 4. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for the proposed project, which would result in an increase of flood flows from increased impervious surfaces and development in the floodplain; however, the proposed project includes the construction of proper drainage facilities so that runoff would not result in additional flooding as discussed previously.

No-Build Alternative

Under the No-Build Alternative, there would be no changes made to Cajalco Road. Consequently, there would be no adverse impacts on hydrology and floodplains in the project area. The existing surface and groundwater hydrology and floodplains would remain the same. The No-Build Alternative would have no indirect adverse impacts on downstream hydrology and flooding because there would be no construction associated with the project.

3.9.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

Temporary hydrologic impacts associated with construction activities could occur as a result of stormwater runoff. Potential temporary impacts could occur during the widening of the road, construction of the bridge structure, and excavation under the new bridge structure. Land and vegetation would be cleared, exposing soil to the potential for erosion and downstream transport of sediments to occur. Under the Construction General Permit, the build alternatives would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement construction BMPs aimed at reducing pollutants of concern in stormwater runoff. The construction BMPs would include Erosion Control, Sediment Control, and Good Housekeeping BMPs designed to minimize erosion, retain sediment on site, and prevent spills. Therefore, the build alternatives would not result in temporary water quality–related impacts related to the floodplains. Compliance with Standard Project Measures **PF WQ-1** through **PF WQ-4**, which

include BMPs required as part of the Section 401 certification and 404 and municipal separate storm sewer system permit processes and construction BMPs identified in the SWPPP, and implementation of proposed Measures **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12)**, which include BMPs required as part of the Western Riverside County MSHCP, would minimize the potential for erosion and water pollution during construction; therefore, the build alternatives would not result in short-term adverse impacts on natural and beneficial floodplain values.

Refer to Section 3.10.3 in Section 3.10, *Water Quality and Stormwater Runoff*, for Standard Project Measures **PF WQ-1** through **PF WQ-4**; and Section 3.17.4 in Section 3.17, *Natural Communities*, for Measures **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12)**.

During project construction, Build Alternatives 1, 2C, and 4 would have temporary impacts on approximately 0.88 acre of the floodplain at Location 1, 1.23 acres of floodplain at Location 3, and 0.81 acre of floodplain at Location 4. Build Alternatives 1 and 2C would have temporary impacts on approximately 7.23 acres of floodplain at Location 2, and Build Alternative 4 would have temporary impacts on approximately 2.39 acres of floodplain at Location 2. However, the temporary floodplain impacts would not constitute a significant floodplain encroachment as defined in 23 CFR Section 650.105(q).

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, no additional development within a floodplain would be anticipated. Under Build Alternatives 1 and 2C, the widened roadway and bridge structure proposed at Temescal Creek (Location 1) would be fully paved to accommodate six lanes, and the widened roadway at Location 2 would be fully paved within the existing floodplain. The construction of two additional travel lanes east of Harley John Road associated with a Future Six-Lane Facility is not anticipated; therefore, Cajalco Creek floodplain Locations 3 or 4 would not be affected. No additional construction impacts that would affect floodplains would occur.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for the proposed project, which would result in restriping of the median; however, no additional construction impacts would occur.

No-Build Alternative

The No-Build Alternative would not involve any construction, and no direct or indirect adverse hydrology and floodplain impacts would occur. However, several sections of Cajalco Road experience flooding in the existing condition. The proposed project would include improved flood control facilities to convey flood waters more effectively and reduce flooding at some of the creek crossings that would not be improved under the No-Build Alternative.

3.9.4 Avoidance, Minimization, and/or Mitigation Measures

The build alternatives may result in adverse permanent or temporary impacts on floodplain values. Therefore, in addition to compliance with Standard Project Measures **PF WQ-1** through **PF WQ-4** and the implementation of Measures **NC-6 (NES BIO-6)**, **NC-10 (NES BIO-10)** through **NC-15 (NES BIO-14)**, and **WET-1**, Mitigation Measure **HYD-1** is proposed to ensure that construction and operation of the build alternatives would not result in long-term adverse impacts on natural and beneficial floodplain values. Refer to Section 3.10, *Water Quality and Stormwater Runoff*, for Standard Project Measures **PF WQ-1** through **PF WQ-4**; Section 3.17, *Natural Communities*, for Measures **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-15 (NES BIO-14)**; and Section 3.18, *Wetlands and Other Waters*, for Measure **WET-1**.

- **HYD-1:** The County of Riverside (County) will coordinate directly with Metropolitan Water District of Southern California (MWD) to obtain approval for right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. The County will coordinate directly with MWD in the preparation of a site-specific Drainage Study to evaluate the changes in runoff and floodplain encroachment into the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin, and determine whether the conversion of right of way would affect operation of the dam and basins. If operation of the basins is affected by the project, engineering recommendations will be provided, and implemented as necessary, to ensure continued operation of the dam and basins. Recommendations could include regular maintenance of the dam and basins to remove sediment buildup, excavation to offset capacities of the dam and basins, or expansion of the dam and basins to the north or south depending on the build alternative selected. The County will be responsible for implementation of the engineering recommendations as part of the proposed project.

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3.10 Water Quality and Stormwater Runoff

This section describes the environmental and regulatory setting associated with water quality and stormwater runoff in the project area. This section also describes the impacts of project implementation on water resources.

3.10.1 Regulatory Setting

3.10.1.1 Federal Regulations: 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 promulgate water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for a federal license or permit to conduct any activity, which may result in a discharge to waters of the U.S., to obtain certification from the state that the discharge will comply with other provisions of the act. This is most frequently required in tandem with a Section 404 permit request (see below).
- Section 402 establishes the NPDES, a permitting system for the discharges (except for dredge or fill material) of any pollutant into waters of the U.S. Regional Water Quality Control Boards (RWQCBs) administer this permitting program in California. Section 402(p) requires permits for discharges of storm water from industrial/construction and municipal separate storm sewer systems (MS4s).
- Section 404 establishes a permit program for the discharge of dredge or fill material into waters of the U.S. This permit program is administered by the U.S. Army Corps of Engineers (USACE).

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

The USACE issues two types of 404 permits: General and Individual. There are two types of General permits: Regional and Nationwide. Regional permits are issued for a general category of activities when they are similar in nature and cause minimal environmental effect. Nationwide permits are issued to allow a variety of minor project activities with no more than minimal effects.

Ordinarily, projects that do not meet the criteria for a Regional or Nationwide Permit may be permitted under one of USACE's Individual permits. There are two types of Individual permits: Standard permits and Letters of Permission. For Individual permits, the USACE decision to

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

approve is based on compliance with U.S. Environmental Protection Agency's (U.S. EPA) Section 404 (b)(1) Guidelines (40 Code of Federal Regulations [CFR] Part 230), and whether the permit approval is in the public interest. The Section 404(b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a least environmentally damaging practicable alternative (LEDPA) to the proposed discharge that would have lesser effects on waters of the U.S. and not have any other significant adverse environmental consequences. According to the Guidelines, documentation is needed that a sequence of avoidance, minimization, and compensation measures has been followed, in that order. The Guidelines also restrict permitting activities that violate water quality or toxic effluent[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.

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

State Water Resources Control Board and Regional Water Quality Control Boards

The SWRCB administers water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, TMDLs, and NPDES permits. RWQCBs are responsible for protecting beneficial uses of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

National Pollution Discharge Elimination System (NPDES) Program

Municipal Separate Storm Sewer Systems (MS4)

Section 402(p) of the CWA requires the issuance of NPDES permits for five categories of storm water discharges, including Municipal Separate Storm Sewer Systems (MS4s). An MS4 is defined as "any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city, town, county, or other public body having jurisdiction over storm water, that is designed or used for collecting or conveying storm water." The SWRCB has identified the Department as an owner/operator of an MS4 under federal regulations. The Department's MS4 Permit covers all Department rights-of-way, properties, facilities, and activities in the state. The SWRCB or the RWQCB issues NPDES permits for five years, and permit requirements remain active until a new permit has been adopted.

The Department's MS4 Permit, Order No. 2012-0011-DWQ (adopted on September 19, 2012 and effective on July 1, 2013), as amended by Order No. 2014-0006-EXEC (effective January 17, 2014), Order No. 2014-0077-DWQ (effective May 20, 2014) and Order No. 2015-0036-EXEC (conformed and effective April 7, 2015) has three basic requirements:

1. The Department must comply with the requirements of the Construction General Permit (see below);
2. The Department must implement a year-round program in all parts of the State to effectively control storm water and non-storm water discharges; and
3. The Department storm water discharges must meet water quality standards through implementation of permanent and temporary (construction) Best Management Practices (BMPs), to the maximum extent practicable, and other measures as the SWRCB determines to be necessary to meet the water quality standards.

To comply with the permit, the Department developed the Statewide Storm Water Management Plan (SWMP) to address storm water pollution controls related to highway planning, design, construction, and maintenance activities throughout California. The SWMP assigns responsibilities within the Department for implementing storm water management procedures and practices as well as training, public education and participation, monitoring and research, program evaluation, and reporting activities. The SWMP describes the minimum procedures and practices the Department uses to reduce pollutants in storm water and non-storm water discharges. It outlines procedures and responsibilities for protecting water quality, including the selection and implementation of BMPs.

The proposed project is not a Caltrans highway facility and is not required to comply with the guidelines and procedures outlined in the latest Caltrans SWMP to address storm water runoff.

The proposed project is a local highway project owned and maintained by the Riverside County Transportation Department. The proposed project would follow the County's MS4 Permit, Order No. R8-2010-0033 (adopted on and effective January 29, 2010), which requires implementation of the Guidance and Standards for Transportation Projects, as described further below.

Construction General Permit

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

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

Section 401 Permitting

Under Section 401 of the CWA, any project requiring a federal license or permit that may result in a discharge to a water of the U.S. must obtain a 401 Certification, which certifies that the project will be in compliance with state water quality standards. The most common federal permits triggering 401 Certification are CWA Section 404 permits issued by the USACE. The 401 permit certifications are obtained from the appropriate RWQCB, dependent on the project location, and are required before the USACE issues a 404 permit.

In some cases, the RWQCB may have specific concerns with discharges associated with a project. As a result, the RWQCB may issue a set of requirements known as WDRs under the State Water Code (Porter-Cologne Act) that define activities, such as the inclusion of specific features, effluent limitations, monitoring, and plan submittals that are to be implemented for protecting or benefiting water quality. WDRs can be issued to address both permanent and temporary discharges of a project.

3.10.1.3 Regional and Local Requirements

Riverside County Area-Wide Municipal MS4 NPDES Storm Water Permit

The project would comply with the Santa Ana Region MS4 Permit, Order No. R8-2010-0033 (adopted on and effective January 29, 2010). The current MS4 Permit requires "standard design and post-development BMP guidance to be incorporated into projects for streets, roads, highways, and freeway improvements, under the jurisdiction of the Co-Permittees to reduce the discharge of pollutants from the projects to the Maximum Extent Practicable (MEP)." The guidance is provided by *Low Impact Development: Guidance and Standards for Transportation Projects for the Santa Ana Region Riverside County Co-Permittees* (Cities and County of Riverside 2012). The guidance applies to public transportation projects in the area covered by the Santa Ana Region MS4 Permit, which involve the construction of new transportation surfaces or the improvement of existing transportation surfaces (including Class I Bikeways and sidewalks). The project is considered a Category 3 – Existing Transportation Project (Roadway Capacity Improvement Project) for Build Alternative 1. Build Alternatives 2C and 4 are considered a combination of Category 3 and Category 4 – New Transportation Project (New Road or Bridge Project).

Drainage Water Quality Management Plan for the Lake Mathews Watershed

In May 1991, a Memorandum of Understanding was entered into by the Metropolitan Water District of Southern California (MWD), Riverside County Flood Control and Water Conservation District (RCFCWCD), the County, and Paragon Homes and C.A.P. Partnership (Landowners) leading to a cooperative effort to develop the *Drainage Water Quality Management Plan for the Lake Mathews Watershed* (DWQMP). The RCFCWCD acts as technical advisor to the County on flood control, drainage, and drainage water quality issues; administers Area Drainage Plans; and is lead agency and co-permittee with the County and various cities in the NPDES permit issued by the Santa Ana RWQCB regulating municipal stormwater runoff. The RCFCWCD is responsible for implementation of the plan by imposing the plan requirements on new land development projects in the watershed; administering the Area Drainage Plan and benefit assessments for the watershed; applying for State Loan funds; and constructing, operating, and maintaining the DWQMP facilities.

The DWQMP identifies a series of BMPs that could be constructed and maintained—either by public agencies or in conjunction with larger development projects—to protect Lake Mathews' water quality from the potentially adverse effects of development in the watershed (John M. Tettemer and Associates, Ltd. 1992). Recommended BMPs in the DWQMP include a combination of detention basins, sediment basins, in-stream treatment wetlands, and water quality ponds.

Lake Mathews Watershed Water Quality Improvement Study

The *Lake Mathews Watershed Water Quality Improvement Study* (WQIS) was prepared in 2012 to update recommendations of the DWQMP given development of the Low-Impact Development (LID) requirements. The overarching goal of the study was to identify water quality improvement strategies that mitigate impacts of future development and existing development to maintain lake water quality. The WQIS identified one potential scenario for MWD, the

RCFCWCD, and the County to consider for protecting future lake water quality, which was to plan to construct the Lake Mathews Estates Water Quality Pond as the major, additional regional stormwater BMP to supplement LID implementation on individual development/redevelopment sites, and effective management of onsite wastewater treatment systems (MWD 2012).

The proposed project would implement individual LID and post-construction BMPs to the maximum extent practicable in compliance with the County's *Low Impact Development: Guidance and Standards for Transportation Projects for the Santa Ana Region Riverside County Co-Permittees* (Cities and County of Riverside 2012).

Water Quality Control Plan for Santa Ana Region

Water quality standards and control measures for surface and groundwaters of the Santa Ana Region are contained in the *Water Quality Control Plan for the Santa Ana River Basin* (Basin Plan). The plan designates beneficial uses for water bodies and establishes water quality objectives, waste discharge prohibitions, and other implementation measures to protect those beneficial uses. State water quality standards also include a Nondegradation Objective adopted in 1968 (Resolution 68-16) and is a "Statement of Policy with Respect to Maintaining High Quality Waters in California." Water quality control measures include TMDLs, which are often, but not always, adopted as Basin Plan amendments. The project is located within the within the Santa Ana River (801.00) and San Jacinto Valley (802.00) Hydrologic Units (Santa Ana RWQCB 2019). The project must comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan.

3.10.2 Affected Environment

The following discussion is based on information contained in the *Water Quality Assessment Report—Cajalco Road Widening and Safety Enhancement Project* (Caltrans 2018) and the *Santa Ana Region MS4 Permit Program Low Impact Development: Guidance and Standards for Transportation Projects, Cajalco Road Widening Project* (County 2017).

3.10.2.1 Climate

The Basin Plan indicates the climate of the Santa Ana Region is classified as Mediterranean: generally dry in the summer with mild, wet winter. The average annual rainfall in the region is about 12 inches, most of it occurring between November and March. The three types of storms that can occur over the project area are general winter storms, general summer storms, and high intensity thunderstorms. Most precipitation results from the general winter storms that normally occur in the late fall or winter months and may have durations of several days. General winter storms occur when—as the result of extratropical cyclones—warm, moisture-laden Pacific air masses move inland over Southern California. Although most precipitation over the project results from general winter storms, thunderstorms can occur at any time of the year, causing extremely high rates of precipitation for relatively short durations. Thunderstorms can occur either during general storms or as isolated phenomena, but they are most common from July through September when moist unstable air subject to convective lifting may cover the Southern California area. General summer storms, although rare, occur normally in the months from July through September and result from an influx of tropical, moisture-laden air originating over the

Gulf of Mexico or the South Pacific Ocean. Although these types of storms are uncommon, they can result in heavy precipitation and have durations of several days.

3.10.2.2 Watersheds

The proposed project is located in the Santa Ana River and San Jacinto Valley Hydrologic Units, within the Lake Mathews, Middle Santa Ana River, and Perris hydrologic areas. The Santa Ana River and San Jacinto Valley Hydrologic Units are within the hydrological boundary of the South Coast Hydrologic Region, which is an arid region. The San Jacinto Valley Hydrologic Unit is hydrologically isolated from the Santa Ana River.

The Santa Ana River Watershed is approximately 7,252 square kilometers (2,800 square miles) (including the San Jacinto River Watershed) and extends about 155 kilometers (96 miles) from its headwaters to where it drains into the Pacific Ocean. The San Jacinto River is considered a tributary of the Santa Ana River, although it usually terminates at Lake Elsinore. On rare occasions, during high rainfall years, Lake Elsinore overflows into Temescal Creek, which ultimately flows to the Santa Ana River. The San Jacinto River has a drainage area of approximately 1,857 square kilometers (717 square miles), and it extends about 95 kilometers (59 miles) from its headwaters in the San Jacinto Mountains to where it drains into Canyon Lake and then into Lake Elsinore.

Surface Waters

The project is adjacent to Lake Mathews and crossed by Cajalco Creek and Temescal Wash, as well as several tributaries to Lake Mathews, Cajalco Creek, and Temescal Wash (Figure 3.10-1, Watersheds and Surface Waters).

Cajalco Creek, an ephemeral stream, flows westerly to Lake Mathews. Downstream of Lake Mathews, the lower reach of Cajalco Creek continues westerly and joins Temescal Wash, which flows northerly to the Santa Ana River at Prado Basin. The Santa Ana River continues westerly to the Pacific Ocean. The easterly end of the project is within the Perris Valley hydrologic subarea. Upstream of Lake Mathews, Cajalco Creek begins on the northeast face of the Gavilan Hills of the Temescal Mountains. It is an ephemeral stream that flows westerly through the Mead Valley and Cajalco Valley before flowing into Lake Mathews. Cajalco Creek has a 100-year discharge of 8,220 cubic feet per second.

Temescal Wash (or Creek) is 29 miles long, connecting Lake Elsinore to the Santa Ana River. It has a drainage basin of 1,000 square miles, including the 720 square miles of the San Jacinto River and Lake Elsinore watersheds. It is considered ephemeral for most of its length, except for non-stormwater runoff from development and agricultural return flows. It has an average flow of 30 cubic feet per second. The 100-year discharge is 24,400 cubic feet per second.

The east end of the project site drains easterly to the Perris Valley Storm Drain about 2 miles east of the project. The Perris Valley Storm Drain has a drainage basin of 82.5 square miles and drains southerly from the March Air Force Base/Sunnymead area in the north to the San Jacinto River. The 100-year discharge in the Perris Valley Storm Drain is 11,300 cubic feet per second where it crosses Rider Street in the City of Perris. The San Jacinto River then flows southwesterly through Railroad Canyon and Railroad Canyon Reservoir (Canyon Lake), then to Lake Elsinore, which occasionally overflows into Temescal Wash.

Lake Mathews is a reservoir that receives water from the Colorado River Aqueduct and is part of MWD's water supply system. The reservoir is fenced and closed to all public access. Lake Mathews captures the natural stormwater flows from Cajalco Creek upstream of the reservoir and the project area. The Cajalco Creek Dam, Detention Basin, Sedimentation Basin, and Inlet Channel (connecting the two basins) were built to provide extended detention to reduce pollutant loading immediately upstream of Lake Mathews. Four additional sediment basins were also constructed in the Lake Mathews watershed to reduce sediment discharges to the Lake.

Beneficial Uses

The Basin Plan (Santa Ana RWQCB 2019) does not identify surface water beneficial uses specifically for Cajalco Creek; however, Lake Mathews has been designated with existing or potential beneficial uses, including Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PROC), Groundwater Recharge (GWR), Water Contact Recreation (REC1) (although access is prohibited per agency/company with jurisdiction), Non-contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Rare Threatened or Endangered Species (RARE) waters.

Reach 2 of Temescal Wash (Creek), 1,400 feet upstream of Magnolia Avenue to Lee Lake (Hydrologic Unit 801.32), has been designated with existing or potential Beneficial Uses including AGR, IND, GWR, REC1, REC2, WARM, WILD, and RARE. Other Tributaries to these creeks (Cajalco Creek) have intermittent Beneficial Uses, including MUN, GWR, REC1, REC2, WARM, and WILD.

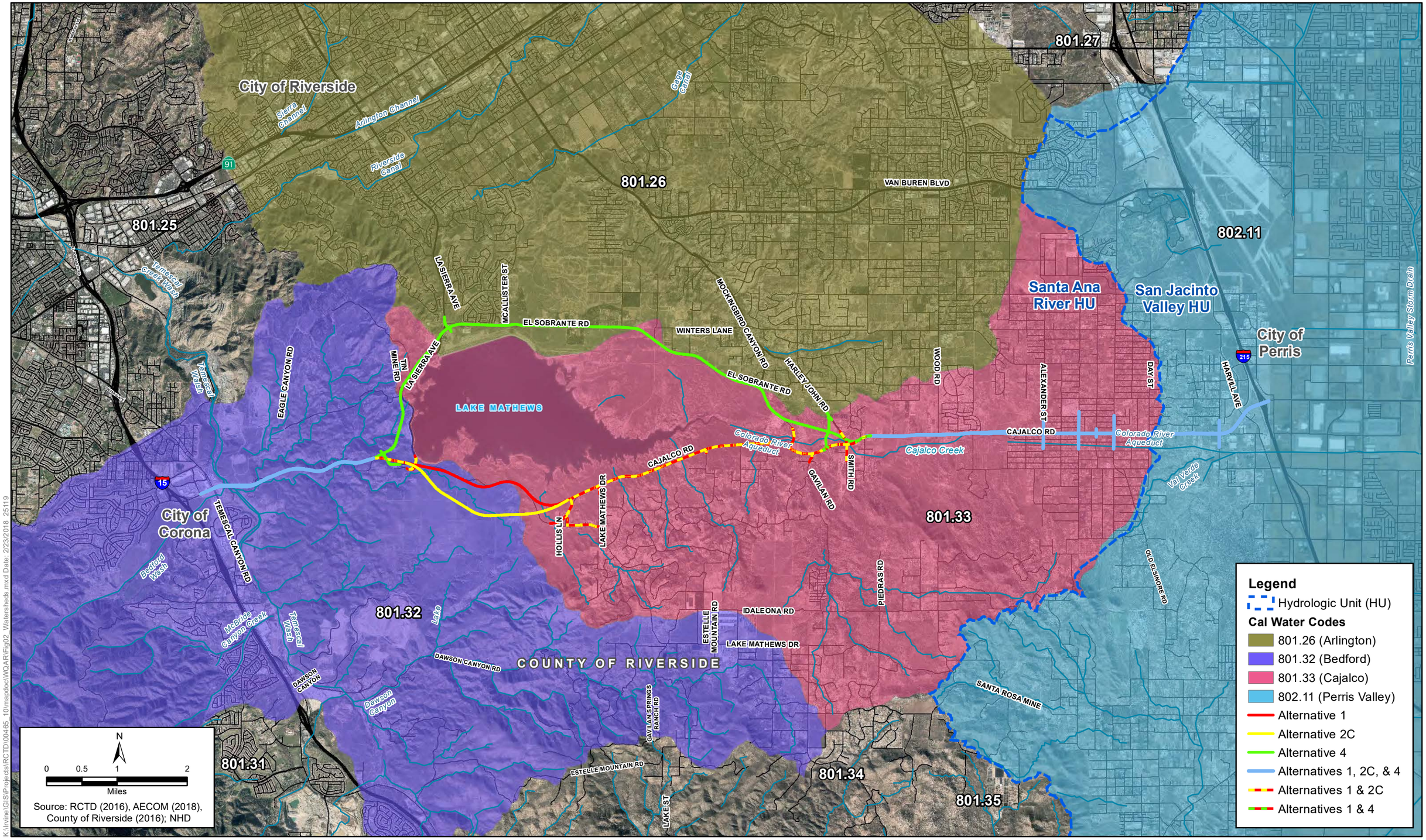

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Figure 3.10-1
Watersheds and Surface Waters
Cajalco Road Widening and Safety Enhancement Project

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Water Quality Impairments

Temescal Wash (Reach 2), Lake Mathews, and Cajalco Creek and its tributaries are not CWA 303(d) listed as impaired water bodies for any pollutant within the Santa Ana Region. Because the proposed project area discharges directly to Temescal Wash, Lake Mathews, and Cajalco Creek, no TMDLs are in place that relate to the project.

Based on the highway stormwater runoff data collected by the Caltrans Stormwater Research and Monitoring Program, pollutants that are expected to be found in roadway runoff include conventional constituents (biochemical oxygen demand, calcium carbonate, chemical oxygen demand, total dissolved solids, total organic carbon, total suspended solids, total volatile suspended solids, etc.), hydrocarbons, metals, microbial agents, nutrients, volatile and semi-volatile organics, pesticides, and herbicides. Pollutants are usually deposited on the roadway as a result of fuel combustion processes, lubrication system losses, tire and brake wear, transportation load losses, paint from infrastructure, and atmospheric fallout. Sources of specific pollutants are outlined in Table 3.10-1.

Table 3.10-1. Known Roadway Pollutants

Constituents	Primary Sources
Particulates	Pavement wear, vehicles, atmosphere, maintenance, snow/ice abrasives, sediment disturbance
Nitrogen, Phosphorus	Atmosphere, roadside fertilizer application, sediments
Lead	Auto exhaust, tire wear, lubricating oil and grease, bearing wear, atmospheric fallout
Zinc	Tire wear, motor oil, grease
Iron	Auto body rust, steel highway structures, moving engine parts
Copper	Metal plating, bearing and bushing wear, moving engine parts, brake lining wear, fungicide and insecticide application
Cadmium	Tire wear, insecticide application
Chromium	Metal plating, moving engine parts, brake lining wear
Nickel	Diesel fuel and gasoline, lubricating oil, metal plating, bushing wear, brake lining wear, asphalt paving
Manganese	Moving engine parts
Bromide	Exhaust
Cyanide	Anticake compound used to keep deicing salt granular
Sodium, Calcium	Deicing salts, grease
Chloride	Deicing salts
Sulphate	Roadway bed, fuel, deicing salts
Petroleum	Spills, leaks, or blow-by of motor lubricants; antifreeze and hydraulic fluids; asphalt leachate
Polychlorinated Biphenyl (PCBs), Pesticides	Spraying of highway rights of way, atmospheric deposition, PCB catalyst in synthetic tires
Pathogenic Bacteria	Soil litter, bird droppings, trucks hauling livestock/stockyard waste
Rubber	Tire wear
Asbestos*	Clutch and brake lining wear

Source: Federal Highway Administration 1996.
* Runoff does not contain mineral asbestos; however, some breakdown products of asbestos have been measured.

Surface Water Quality Objectives

As required by the Porter-Cologne Water Quality Act, the Santa Ana RWQCB has developed water quality objectives for waters within its jurisdiction to protect the beneficial uses of those waters and has published them in the Basin Plan. The Basin Plan also establishes implementation programs to achieve these water quality objectives and requires monitoring to evaluate the effectiveness of these programs. Water quality objectives must comply with the state antidegradation policy (State Board Resolution No. 68-16), which is designed to maintain high-quality waters while allowing some flexibility if beneficial uses are not unreasonably affected.

Lake Mathews has been designated with water quality objectives of 700 milligrams per liter Total Dissolved Solids (TDS), 325 milligrams per liter hardness, 100 milligrams per liter sodium, 90 milligrams per liter chloride, and 290 milligrams per liter sulfate. Other tributaries to Temescal Creek (e.g., Cajalco Creek, un-named drainages) have water quality objectives of 250 milligrams per liter TDS.

3.10.2.3 Groundwater

The California Department of Water Resources Bulletin 118 presents the results of groundwater basin evaluations and defines the boundaries of California's 515 alluvial groundwater basins (California Department of Water Resources 2006). A small portion of the west end of the project site is within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin (8-002.09). A limited section of the east end of the project is within the San Jacinto Groundwater Basin (8-005). The project is within the Eastern Municipal Water District's West San Jacinto Groundwater Management Area and the City of Corona's Management Area.

Bulletin 118 indicates the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin (8-002.09) underlies the southwest part of upper Santa Ana Valley. The subbasin has an area of 37 square miles and is bounded on the west by the Santa Ana Mountains and the south by the Elsinore Groundwater Basin at a constriction in the alluvium of Temescal Wash. Groundwater flows toward the center of the subbasin and then northeast toward the Santa Ana River.

Bulletin 118 indicates the San Jacinto Groundwater Basin (8-005) underlies San Jacinto, Perris, Moreno, and Menifee Valleys in western Riverside County. The basin has an area of 293 square miles. Prior to the extraction of groundwater from the basin, groundwater flow was generally toward the course of the San Jacinto River and westward out of the basin. High extraction rates have produced groundwater depressions and locally reversed the historical flow pattern.

The *Initial Site Assessment* (ISA) for the Cajalco Road Widening and Safety Enhancement Project indicates groundwater in the vicinity of the project site ranges from between approximately 10 feet below ground surface (bgs) and 45 feet bgs (Caltrans 2020).

The Basin Plan identifies the following beneficial groundwater uses for Upper Santa Ana Valley Groundwater Basin: AGR, MUN, and IND. The following beneficial groundwater uses are identified for the San Jacinto Groundwater Basin: AGR, MUN, and IND.

3.10.2.4 Lake Matthews MSHCP

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) spans 5,993.5 acres of open land around Lake Mathews, and includes a 5,110.4-acre Lake Mathews Multiple Species Reserve (LMR). The LM MSHCP and LMR are discussed in detail in Section 3.17, *Natural Communities*. In the early 1990s, discovery of the endangered Stephens' kangaroo rat (*Dipodomys stephensi*) in the area prompted the addition of 9,000 acres, establishing the Lake Mathews-Estelle Mountain Reserve (LM-EM Reserve). The Lake Mathews area is an important bird nesting and feeding site, particularly in the winter months. In addition to a variety of ducks, double-crested cormorants (*Phalacrocorax auritus*), western grebe (*Aechmophorus occidentalis*), eared grebe (*Podiceps caspicus*), golden eagles (*Aquila chrysaetos*), and bald eagles (*Haliaeetus leucocephalus*) are present during the winter.

Lake Mathews itself is a large, 182,000 acre-foot reservoir. It is the western terminus for the Colorado River Aqueduct that provides much of the water used by the member agencies of the MWD. The reservoir is fenced and closed to all public access. Lake Mathews captures the natural stormwater flows from Cajalco Creek upstream of the reservoir and the project area. A series of water quality wetlands and basins are located on Cajalco Creek. Lake Mathews and the water quality wetlands and basins are operated by MWD solely for the purpose of water supply, not for flood control purposes. Releases from Lake Mathews would only occur if the water elevation were to reach the spillway crest.

3.10.3 Environmental Consequences

3.10.3.1 Permanent Impacts

Build Alternatives 1, 2C, and 4

Widening and realignment of Cajalco Road under any of the build alternatives would increase the amount of impervious surface in the area, which would also increase stormwater runoff. Increases in stormwater runoff volume could accelerate soil erosion and increase the transport of pollutants to waterways. Build Alternative 1 would increase the amount of impervious surface by approximately 83 acres, Build Alternative 2C by approximately 84 acres, and Build Alternative 4 by approximately 105 acres. For the entire project area, runoff volume would increase about 2.60 acre-feet for Build Alternative 1, 2.62 acre-feet for Build Alternative 2C, and 3.22 acre-feet for Build Alternative 4. Flow rates would increase about 11.4 cubic feet per second for Build Alternative 1, 11.5 cubic feet per second for Build Alternative 2C, and 14.0 cubic feet per second for Build Alternative 4.

As traffic increases (with or without the project), the amount of a pollutant originating from cars and trucks (i.e., tire and brake lining wear, litter, and spills during vehicle accidents) is also expected to increase. The proposed project would construct proper drainage facilities so that runoff would not result in erosion or flooding. The Cajalco Road crossing of Cajalco Creek at Harley John Road would involve replacement of three culverts with a reinforced concrete box (RCB) culvert (Caltrans 2018). The Cajalco Road crossing of Cajalco Creek west of Barton Street would involve replacement of the exiting culvert with a RCB culvert. The proposed westbound Cajalco Road would cross Cajalco Creek upstream of the existing culvert with a new bridge.

The Cajalco Road crossing of Cajalco Creek from Alexander Street to Clark Street would involve replacement of a series of asphalt paved "low water crossings" and small culverts with several RCB culverts, trapezoidal channel, and an open rectangular concrete channel with an overflow inlet structure. While the project would result in improvements to the drainage system, the proposed project would not change the existing drainage patterns of the watershed subareas in the project area. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These basins would provide peak flow attenuation and some water quality treatment as highway runoff pollutants, such as sediment, would settle out.

Under Build Alternatives 1 and 2C, approximately 4.95 acres of the Cajalco Creek Dam and Detention Basin and 3.69 acres of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. Continuity between the two basins and Inlet Channel would not be affected. Under Build Alternative 4, approximately 0.12 acre of the Cajalco Creek Dam and Detention Basin and 3.55 acres of the Cajalco Creek Sedimentation Basin would be converted to roadway right of way. The Inlet Channel would be replaced with a wildlife crossing and designed to allow continued operation of the inlet. Mitigation Measure **HYD-1** (see Section 3.9, *Hydrology and Floodplain*) is proposed for the coordination of right of way acquisition involving the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin.

Santa Ana Region MS4 Permit Program Low Impact Development: Guidance and Standards for Transportation Projects (County 2017) has been prepared evaluating each project build alternative. Minimum roadway widths, drainage swales, infiltration basins, bioretention, sidewalk trees and tree boxes, and permeable pavement were evaluated for implementation as LID BMPs within the project area; however, none were determined to be feasible due to soil types that do not allow for infiltration or were not feasible for this rural roadway (e.g., tree boxes). In addition, high groundwater and shallow basement rock limit feasibility for infiltration BMPs within the project area. Consistent with the County's NPDES permit, post-construction BMPs would be incorporated into the project design to reduce the discharge of pollutants during operation to the maximum extent practicable. Post-construction BMPs are selected to reduce post-construction discharges. Treatment BMPs are designated to remove certain pollutants. Implementation of post-construction BMPs would minimize the potential for surface and groundwater contamination.

Coordination with RCFCWCD, MWD, Santa Ana RWQCB, and Caltrans has occurred to evaluate potential permanent BMPs for the project (refer to Chapter 5, *Comments and Coordination*). In addition to the LID report, the RCFCWCD and MWD Lake Mathews Watershed DWQMP and WQIS were evaluated for potential post construction BMPs (John M. Tettemer and Associates, Ltd. 1992; MWD 2012). In accordance with LID Transportation Project Guidance, source control BMPs such as sweeping of transportation surfaces (on an as-needed basis), drainage facility inspection and maintenance, stenciling and signage, and protection of slopes and channels with riprap armoring would be implemented. Long-term effects on turbidity would be addressed through final stabilization of soils. Final stabilization may include, but is not limited to, hydroseeding. Hydroseeding is the method by which permanent seed is applied to the soil surface to protect exposed soils from erosion by wind and water. Measures **PF VIS-1, NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14),** and **WET-1** (hydroseeding and replacement of riparian-riverine and wetland resources) are further proposed for the protection of water quality. Refer to Section 3.7, *Visual/Aesthetics*, for Measure **PF VIS-**

1; Section 3.17, *Natural Communities*, for Measures **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)**; and Section 3.18, *Wetlands and Other Waters*, for Measure **WET-1**.

In addition to the standard project measures and mitigation measures identified above, implementation of the following standard water quality protection measures required as part of the Section 401 certification, and 404 and MS4 permit processes, would ensure the protection of water quality during operation of the proposed project.

- **PF WQ-1: 401 Certification –** The project proponent will obtain a Clean Water Act Section 401 Certification from the Santa Ana Regional Water Quality Control Board for activities that may result in impacts on State Water Quality Standards.
- **PF WQ-2: 404 Permit** – The project proponent will obtain a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers for activities that would discharge materials into waters of the U.S.
- **PF WQ-3**: **Post-Construction BMPs** – Post-construction best management practices will be implemented to the maximum extent practicable, consistent with the requirements of the National Pollutant Discharge Elimination System permit and Waste Discharge Requirements for the County of Riverside's Municipal Separate Storm Sewer System Permit in place at the time of project approval.

Because the project site is not used specifically for groundwater recharge, the project's increase in impervious surface would not result in a considerable loss of groundwater recharge and would not affect groundwater levels.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes were constructed in the future, unpaved portions of the median areas within the limits would be paved for the additional roadway lanes, resulting in an increase of approximately 30.6 acres of impervious surface along the Build Alternative 1 alignment, 31 acres along the Build Alternative 2C alignment, and 14.2 acres along the Build Alternative 4 alignment.

The increase in impervious surfaces would not result in a considerable loss of groundwater recharge and would not affect groundwater levels. The Future Six-Lane Facility, if constructed, would be required to obtain CWA Section 401 certification and Section 404 and MS4 permits, and comply with the related requirements for accommodating the additional stormwater runoff flows. Such accommodations may include upgrades to the roadside ditches, drainages, and detention basins constructed under Build Alternatives 1, 2C, or 4. Thus, through compliance with the required Section 401, Section 404, and MS4 requirements, including potential upgrades to drainage facilities constructed as part of Build Alternatives 1, 2C, and 4, if necessary, no additional impacts as a result of the Future Six-Lane Facility are anticipated.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities—including a drainage basin, culverts, bridges and wildlife crossings—would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for construction of the proposed project, which would increase impervious surfaces and associated runoff volumes and rates. The proposed project would need to construct proper drainage facilities so that runoff would not result in erosion or flooding. Compliance with the post-construction BMPs and measures, as described under Build Alternatives 1, 2C, and 4, would be required to reduce the discharge of runoff.

No-Build Alternative

Under the No-Build Alternative, Cajalco Road and other project roadways would not be improved. There would be no increase in impermeable surfaces and therefore no anticipated potential to increase runoff or adversely affect water quality in the area.

3.10.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

Construction of the proposed project would disturb soil. Build Alternative 1 would disturb approximately 503 acres, Build Alternative 2C would disturb approximately 526 acres, and Build Alternative 4 would disturb approximately 505 acres. Disturbed soil could cause potential erosion and sediment control issues. In general, the severity of temporary, construction-related water quality impacts depends on soil erosion potential; construction practices; the frequency, magnitude, and duration of precipitation events; and the proximity of construction to stream channels or water bodies. Disturbed or loosened soils exposed to rainfall, runoff, and wind have the potential to be transported to waterways and settle out as sediment, and to "carry" pollutants (e.g., hydrocarbons, metals, certain pesticides), via adsorption, to nearby surface waters. Sediment is considered a pollutant by the RWQCB. Standard measures would be employed to control erosion during construction, thereby minimizing or avoiding sediment-related water quality impacts. As such, there would be no substantial adverse effects under any of the build alternatives.

Construction of the project would involve the use of construction equipment and associated fuels, solvents, lubricants, and other petroleum-based pollutants. There is the potential for accidental direct or indirect release of these substances into the environment, where they may adversely affect surface and/or groundwater. In addition, concrete, soap, trash, and sanitary wastes are other common sources of potentially harmful materials on construction sites that could be accidentally introduced into a nearby waterway. The impact of toxic, construction-related materials on water quality varies depending on the duration and time of activities.

In addition to the implementation of proposed Measures **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12)**, which include BMPs required as part of the Western Riverside County Multiple Species Habitat Conservation Plan (see Section 3.17, *Natural Communities*), implementation of the following standard water quality protection measure, required as part of the SWRCB Construction General Permit process, would address discharges

of stormwater runoff and ensure the protection of water quality during construction of the proposed project:

- **PF WQ-4: Construction SWPPP** – The project will comply with the State Water Resources Control Board Construction General Permit in effect at the time the project goes to construction, including developing and implementing a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is a project-specific document that includes an Erosion Control Plan and construction site best management practices (BMPs), which are implemented to minimize sediment and erosion during construction. The SWPPP would also include post-construction erosion control measures such as re-vegetation of disturbed soil areas. A Qualified SWPPP Practitioner (QSP) would be required to regularly inspect and maintain the BMPs to ensure they are in good working order, as required in the Construction General Permit. The QSP would implement appropriate hazardous material management practices, spill prevention measures, and other good housekeeping measures to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge off site. Construction-related impacts on water quality would be avoided or otherwise minimized with the implementation of construction BMPs identified in the SWPPP, such as fiber rolls, silt fence, stabilized construction entrance/exit, and concrete washouts.

With the BMPs properly designed, implemented, and maintained, no adverse impacts are anticipated on water quality during construction of the proposed project.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, the project would be required to obtain a Construction General Permit, which includes the preparation of a project-specific SWPPP with erosion control plan and construction BMPs, which would minimize sediment and erosion during construction. The SWPPP would also include post-construction erosion control measures such as revegetation of disturbed soil areas. Thus, through compliance with the Construction General Permit, including preparation of a SWPPP, no additional impacts as a result of the Future Six-Lane Facility are anticipated.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities—including a drainage basin, culverts, bridges and wildlife crossings—would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to allow for construction of the proposed project, which would result in disturbed soil areas and associated construction pollutant runoff during storm events. The proposed project would comply with the provisions of the Construction General Permit and standard project measures, as well as Measures **NC-6 (NES BIO-6)** and

NC-10 (NES BIO-10) through **NC-12 (NES BIO-12)**, as described under Build Alternatives 1, 2C, and 4.

No-Build Alternative

Under the No-Build Alternative, there would be no changes made to Cajalco Road. As such, there would be no potential for construction-associated impacts to adversely affect water quality in the area.

3.10.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of Mitigation Measure **HYD-1** and Measures **PF VIS-1**, **NC-13 (NES BIO-9)** through **NC-15 (NES BIO-14)**, and **WET-1** as well as compliance with Standard Project Measures **PF WQ-1** through **PF WQ-3** (required as part of the Section 401 certification and 404 and MS4 permit processes) would ensure the protection of water quality during operation of the proposed project. During construction of the proposed project, compliance with Standard Project Measure **PF WQ-4 (**required as part of the SWRCB Construction General Permit) in addition to Measures **NC-6 (NES BIO-6)**, **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12)** (required as part of the Western Riverside County Multiple Species Habitat Conservation Plan [see Section 3.17, *Natural Communities*]), would ensure the protection of water quality during construction of the proposed project.

For full description of the measures identified above, refer to Section 3.9, *Hydrology and Floodplain* **(HYD-1)**; Section 3.7, *Visual/Aesthetics* (**PF VIS-1**); Section 3.17, *Natural Communities* (**NC-6 [NES BIO-6]**, **NC-10 [NES BIO-10]** through **NC-15 [NES BIO-14]**); and Section 3.18, *Wetlands and Other Waters* (**WET-1).**

3.11 Geology/Soils/Seismic/Topography

3.11.1 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 the Department's Division of Engineering Services, Office of Earthquake Engineering, Seismic Design Criteria.

3.11.1.1 State Regulations

Alquist-Priolo Earthquake Fault Zoning Act

California's Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Section 2621 et seq.), originally enacted in 1972 as the Alquist-Priolo Special Studies Zones Act and renamed in 1994, is intended to reduce the risk to life and property from surface fault rupture during earthquakes. The Alquist-Priolo Act prohibits the location of most types of structures intended for human occupancy across the traces of active faults and strictly regulates construction in the corridors along active faults (referred to as earthquake fault zones). It defines criteria for identifying active faults, giving legal weight to terms such as active, and establishes a process for reviewing building proposals in and adjacent to earthquake fault zones. It also encourages and regulates seismic retrofits of some types of structures.

Seismic Hazards Mapping Act of 1990

The Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6) is intended to avoid or reduce damage resulting from earthquakes. While the Alquist-Priolo Earthquake Fault Zoning Act addresses surface fault rupture, the Seismic Hazards Mapping Act addresses other earthquake-related hazards, including strong ground shaking, liquefaction,[1] and seismically induced landslides. Its provisions are similar in concept to those of the Alquist-Priolo Earthquake Fault Zoning Act (i.e., the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped seismic hazard zones).

Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing

[1] *Liquefaction* is a phenomenon in which the strength and stiffness of a soil are reduced by earthquake shaking or other rapidly applied loading. Liquefaction and related types of ground failure are of greatest concern in areas where well-sorted sandy unconsolidated sediments are present in the subsurface and the water table is comparatively shallow.

development permits for sites within seismic hazard zones until appropriate site-specific geologic and/or geotechnical investigations have been carried out and measures to reduce potential damage have been incorporated into the development plans.

3.11.2 Affected Environment

Unless otherwise noted, the information from this section was synthesized from the *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 110)* (County 2017a), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 268)* (County 2017b), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 242)* (County 2017c), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 267)* (County 2017d), *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 145)* (County 2019a), *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 179)* (County 2017e), *Structure Preliminary Geotechnical Report: Cajalco Creek Bridge (New) (Bridge No. 740)* (County 2017f), *Structure Preliminary Geotechnical Report: Temescal Wash Bridge (Replace) (Bridge No. 22)* (County 2019b), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 173)* (County 2019c), *Structure Preliminary Geotechnical Report: Bridge Over MWD Maintenance Area (New) (Bridge No. 163)* (County 2019d), *Structure Preliminary Geotechnical Report: Ramona Expressway Overhead (Widen) (Bridge No. 56C-0196)* (County 2019e), *Structure Preliminary Geotechnical Report: Bridge Over Lake Mathews Spillway Channel (New) (Bridge No.* 565*)* (County 2019f), and *Western Riverside County Multiple Species Habitat Conservation Plan* (Western Riverside County Regional Conservation Authority [RCA] 2003). References used in the preliminary geotechnical reports are not carried over into this section. These preliminary geotechnical reports are based on site reconnaissance, literature review of geotechnical reports of adjacent properties, and local geological and geotechnical information. These reports do not present final design recommendations for use during the design phase of the project. Final geotechnical investigations are typically conducted, and final recommendations made, after the completion of the Project Approval and Environmental Document (PA&ED) stage.

3.11.2.1 Regional Geology

The project site is within the Peninsular Ranges geomorphic province of Southern California. The Peninsular Ranges Province is characterized by northeast-trending mountain ranges and valleys largely influenced by active strike-slip and thrust-belt faulting. The project site is situated within a relatively stable structural platform within the province, known as the Perris Block. The structural block is bound to the east and west by active northwest-trending fault zones, including the San Jacinto and Elsinore fault zones. The Cretaceous pluton of the Peninsula Batholith is exposed internally. The pluton is largely composed of granitic, volcanic, metasedimentary, and sedimentary rocks.

Basement up-warping resulted in an undulating geomorphic surface that generally peaks along the bordering fault zones. During the Pliocene period, continental deep valley and volcanic deposition carved and filled the basement floor. Through the Pleistocene much of the Pliocene deposition was washed out by major river systems, like the San Jacinto River. However, some Miocene non-marine sediments are preserved within the western portion of the block, south of Lake Mathews.

In the valleys, the surface of the pluton is largely an expression of deep-buried erosion. Rock exposed within the valley floor typically consists of residual rock masses in the form of isolated piles of boulders, otherwise called tors. Within the bordering mountains, landforms are typically well-rounded with relatively gently sloping canyons. Old surficial deposits are preserved within old alluvial fan platforms bordering main drainages and valleys within the block. Younger surficial debris overlie slopes, drainage channels, and creeks.

3.11.2.2 Site Geology

The western end of the project site is within the El Sobrante de San Jacinto foothills of the Santa Ana Mountains, which are within the western margin of the Perris Block. Temescal Valley is to the west, and Mead Valley is to the east. The hills have a relatively low gradient and are composed of Mesozoic metasedimentary rock and Cretaceous monzogranite, granodiorite, sedimentary, and volcanics. Miocene non-marine sediments are preserved within isolated areas south of Lake Mathews, and Holocene channel deposits are deposited within active canyons and valleys throughout the foothills. Cajalco Canyon meanders southwest along the north side of the existing Cajalco Road. The hilltop narrows over a short distance, forming a saddle. Cretaceous sedimentary and volcanic rock is exposed within the cut slopes along Cajalco Road on both ends of the saddle. Moving eastward, beyond the foothills, the project is situated within the Mead Valley, which is centrally located within the Perris Block. Generally, Val Verde Tonalite is exposed within the valley floor. The geologic map of the project area is presented in Figure 3.11-1.

Soils

Surface soils within the project area include artificial fill, alluvium, colluvium, Cretaceous granitic rock, Tertiary formational material (soft sedimentary rock), and Holocene and late Pleistocene-age Young axial channel deposits.

Based on site reconnaissance and review of published materials, the soils at the western end of the project along Cajalco Road appear to be sandy/gravelly fills that go down to about 10 feet deep and are underlain by bedrock, becoming less weathered and harder with depth. Along the alignment of Build Alternative 4, surficial colluvial debris and highly weathered bedrock (decomposed granite) of up to 5 feet appear to be underlain by bedrock that becomes less weathered and harder with depth.

Previous subsurface explorations conducted for other projects in the area include a soil boring taken south of Lake Mathews indicating about 10 feet of alluvial materials overlying Tertiary formational material (Lake Mathews Formation). The alluvial material is primarily stiff to very stiff sandy silt (ML). No subsurface data was available below 26.5 feet below ground surface (bgs), but it likely consists of sedimentary rock becoming less weathered and harder with depth. The colluvial soil found between rock outcrops in this area is loose, coarse-grained, silty sand and sandy silt. Another boring taken at the eastern end of the project indicated about 20 feet of alluvial materials overlying highly weathered bedrock. The alluvial material is primarily medium dense to dense silty sand (SM) and poorly graded sand (SP). No subsurface data were available below 26.5 feet bgs, but it likely consists of bedrock becoming less weathered and harder with increasing depths. The borehole did not encounter the anticipated surface geology to a depth of about 20 feet bgs. This indicates that the depth of soil cover over the bedrock may vary significantly within this area.

Mineral Resources

According to the California Geological Survey, the proposed project is with the Temescal Valley Production Area Boundary as established by the California Department of Conservation; the majority of lands within the boundary are classified as Mineral Resource Zone (MRZ) 3, which is defined by the California Department of Conservation as "areas containing mineral occurrences of undetermined mineral resource significance" (California Geological Survey 2014). A very limited portion of the western end of the project limits travels through a narrow area identified as "Sector Q" of the Temescal Valley Production Area; the Sector Q area encompasses instream alluvial deposits of Temescal Wash from Magnolia Avenue in the City of Corona extending to Cajalco Road. Land within Sector Q is classified MRZ-2, which the California Department of Conservation defines as "areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high." Sector Q contains an estimated 18.2 million tons of aggregate resource.

Topography and Surface Drainage

The existing topography of the project area varies from its western to eastern end. The El Sobrante de San Jacinto foothills, located west of Lake Mathews, slope toward Temescal Creek in the west and create steep grades in the area where Cajalco Road travels through canyon areas. The area surrounding the lake is an irregular plateau with gently rolling hills and tributary channels. South of Lake Mathews, the hills slope north toward the lake; north of the lake they continue to slope northward toward Arlington Valley Channel.

The area just east of Lake Mathews is characterized by moderate relief and gently rolling hills. Mead Valley is in this area, separated from the Perris Valley by the low-lying hills of the Lake Mountains along the east. The valley is relatively broad and gently grades down toward Cajalco Road from the north and south.

The elevation along Cajalco Road ranges from 800 feet at the western terminus of the project, at Temescal Canyon, to 1,510 feet at its eastern terminus at Interstate 215 (I-215). The highest elevation (1,704 feet) occurs at the drainage divide between Mead Valley and Perris Valley, located west of I-215, near Day Street.

The project area is adjacent to and crossed by Cajalco Creek and Temescal Creek (or Wash), as well as several tributaries to Cajalco Creek, Lake Mathews, Temescal Wash, and the San Jacinto River. Temescal Creek is at the west end of the project area. It is 29 miles long and connects Lake Elsinore to the Santa Ana River. It is considered ephemeral, except for runoff from housing development and agricultural return flows. Cajalco Creek, also in the west end of the project, is an ephemeral stream that flows through Cajalco Canyon downstream of Lake Mathews and its tributary to Temescal Creek. Upstream of Lake Mathews, Cajalco Creek begins on the northeast face of the Gavilan Hills of the Temescal Mountains. It is an ephemeral stream that flows westerly through the Mead Valley and Cajalco Valley before flowing into Lake Mathews. The east end of the project drains easterly to the Perris Valley Storm Drain about 2 miles east of the project (Caltrans 2018).

Geology

- Qaf - Artificial fill
- Qyfa - Young alluvial fan deposits, arenaceous
- Qyfg - Young alluvial fan deposits, gravel
- Qyfbg - Young alluvial fan deposits, boulder gravel and gravel
- Qyf1g - Young alluvial fan deposits, Unit 1, gravel
- Qyaa - Young axial channel deposits, arenaceous
- Qyag - Young axial channel deposits, gravel
- Qofa - Old alluvial fan deposits, arenaceous
- Qofg - Old alluvial fan deposits, gravel
- Qoaa - Old axial channel deposits, arenaceous
- Qova - Old alluvial valley deposits, arenaceous
- Qvofa - Very old alluvial fan deposits, arenaceous
- Qvofg - Very old alluvial fan deposits, gravel
- Tlm - Lake Mathews Formation
- Tsi - Silverado Formation
- Tf - Fernando Formation
- Tp - Puente Formation
- Tt - Topanga Formation
- Tvs - Vaqueros and Sespe Formations, undifferentiated
- Tvss - Vaqueros, Sespe, Santiago and Silverado Formations, undifferentiated
- Kvt - Tonalite of Val Verde pluton
- Kgtf - Foliated tonalite of Gavilan ring complex
- Kcg - Monzogranite of Cajalco pluton
- Kcgd - Granodiorite of Cajalco pluton
- Kct - Tonalite of Cajalco pluton
- Kcgq - Granodiorite and quartz latite, undifferentiated of Cajalco pluton
- Kcgb - Granodiorite and gabbro, undifferentiated of Cajalco pluton
- Kvspi - Intrusive rocks associated with Santiago Peak Volcanics
- Kvem - Estelle Mountain Volcanics of Herzig (1991)
- Kvs - Intermixed Estelle Mountain volcanics of Herzig (1991) and sedimentary rocks
- Kvsp - Santiago Peak Volcanics
- Kgu - Granite of Peninsular Ranges batholith, undifferentiated
- Kgb - Gabbro of Peninsular Ranges batholith
- Khg - Heterogeneous granitic rocks
- Mzu - Mesozoic metasedimentary rocks, undifferentiated
- Mzs - Schist

N

0 0.25 0.5 1

Miles

Source: RCTD (2016), AECOM (2019), County of Riverside (2016); USGS Maps of the Lake Mathews, Corona South, Perris & Steele Peak 7.5' Quad, Riverside County, CA

Legend

- Alternative 1
- Alternative 2C
- Alternatives 1 and 2C
- Alternative 4
- Alternatives 1, 2C and 4
- Proposed New or Replacement Bridge

Sheet 1 | Sheet 2

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Figure 3.11-1 - Sheet 1
Project Area Geologic Conditions
Cajalco Road Widening and Safety Enhancement Project

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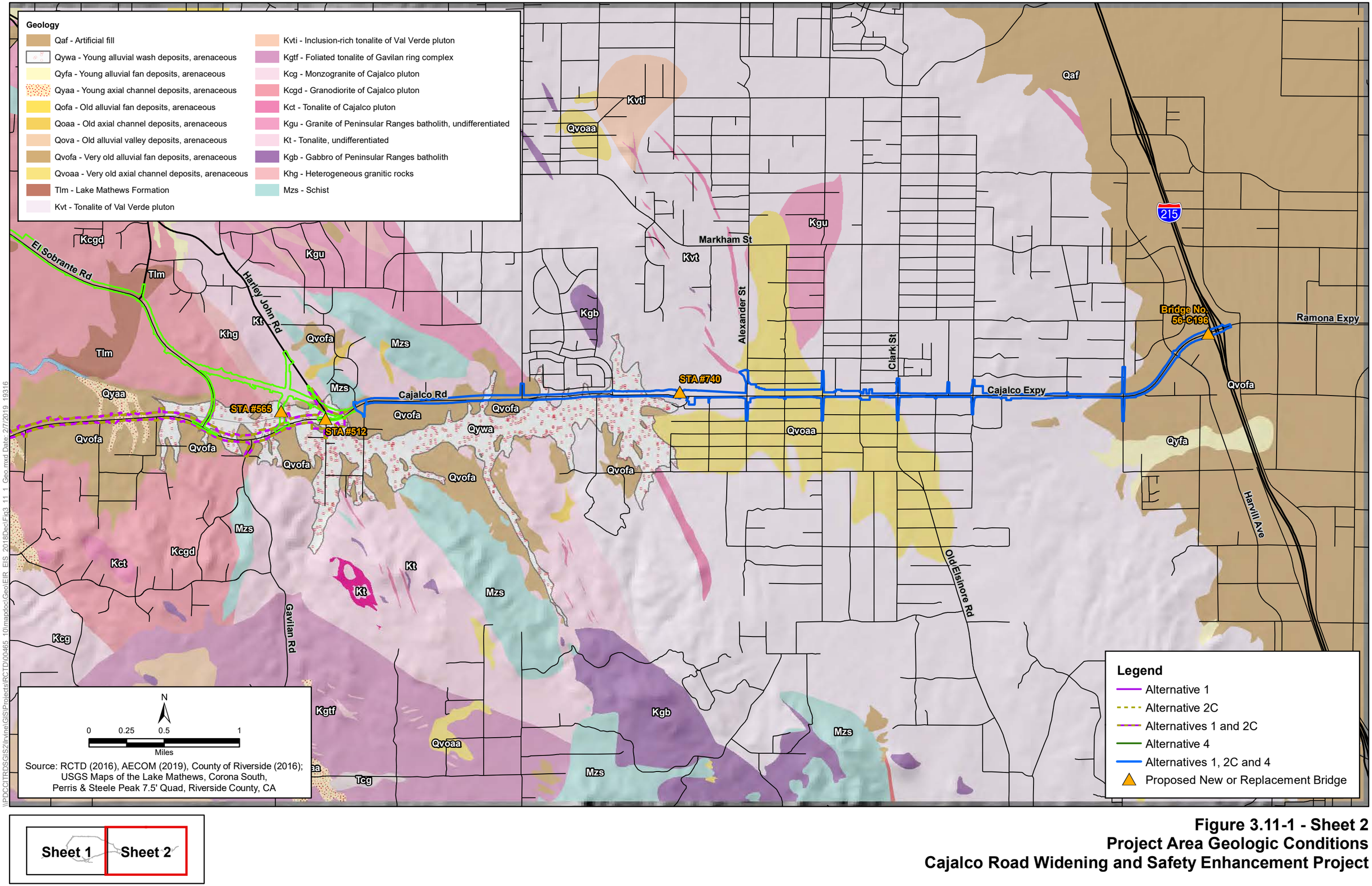

Figure 3.11-1 - Sheet 2
Project Area Geologic Conditions
Cajalco Road Widening and Safety Enhancement Project

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Groundwater

According to published groundwater monitoring reports cited in the *Initial Site Assessment for Cajalco Road Widening and Safety Enhancement Project, STPL 5956 (195)* (County 2017h), groundwater in the vicinity of the project ranges from approximately 10 and 45 feet bgs and flows in a southwesterly direction toward the Pacific Ocean.

Groundwater exploration borings were taken near the sites evaluated in the structure preliminary geotechnical reports prepared for this project. One boring explored to a maximum depth of 26.5 feet near the west end of the project area in the El Sobrante de San Jacinto foothills. No groundwater was encountered. According to the reports, an internal drainage meanders north, across the project area, eventually meeting up with Lake Mathews at approximately 1,395 feet elevation. The main drainage floor rests at about 1,400 feet elevation and is anticipated to transport water seasonally. The permanent groundwater table is not anticipated to be encountered in the upper 100 feet in this area of the project because it is underlain by Cretaceous sedimentary rock, which is considered non-water bearing rock. However, perched water may be present within fractures throughout the formation. Perched water is not anticipated within the fill materials due to the largely impermeable asphalt layer covering the existing Cajalco Road and existing surface drainage controls.

A second boring taken near Cajalco Creek and the Cajalco Road and Barton Street intersection encountered groundwater at 16 bgs, which likely coincides with perched water level conditions in the wash. The site is composed of tonalite, which is considered a non-water bearing rock. There is potential for water to be confined within fractures in the rock; however, the rock at the surface did not appear to be significantly fractured. In general, perched groundwater should be expected within the main channel of the Cajalco Creek wash and isolated areas within the wash area. Excavations into the alluvial soil within the creek are likely to encounter groundwater.

Seismicity, Ground Shaking, and Surface Rupture

The project site is in a seismically active area. The site is not in a State of California Special Studies (“Alquist-Priolo”) Zone for fault rupture, and no known active faults are mapped as crossing or projecting toward the site. The closest known active fault is the Glen Ivy Section of the Elsinore Fault Zone approximately 3.4 miles southwest of the nearest end of the project area. Therefore, potential for fault rupture is considered remote. Figure 3.11-2 shows the location of the nearest faults in relation to the project site. The site has experienced historical, regional earthquakes. The closest significant earthquake was a Magnitude 6.7 earthquake with an epicenter near Lake Elsinore in 1918.

Liquefaction and Seismic Settlement

Soil liquefaction is the sudden loss in strength of a saturated, cohesionless soil caused by the buildup of pore water pressure during cyclic loading, such as that produced by an earthquake. The effects of liquefaction can include lateral and vertical ground displacements, slope instability and lateral spreading, and bearing failure.

For liquefaction to occur, all of the following must be present:

- Liquefaction-susceptible soils (loose to medium dense cohesionless soils)
- Groundwater within 50 feet of the surface
- Strong shaking, such as that caused by an earthquake

According to the Generalized Liquefaction Map for Riverside County, liquefaction potential varies from very low to moderate in the project area (see Figure 3.11-3). The preliminary geotechnical reports prepared for the three bridge structures along the project route indicate that liquefaction potential is not an issue in the area west of Lake Mathews due to the relatively shallow bedrock and deep groundwater. The area east of Lake Mathews near Cajalco Creek has potentially liquefiable soils. These soils are thin layers of loose to medium dense sands over competent bedrock, which suggests a likely overall low to very low liquefaction potential.

Due to the presence of limited depth of fill over shallow bedrock, seismic dry sand settlement is not considered an issue in the area west of Lake Mathews that was studied in the preliminary geotechnical report for the wildlife overcrossing. Sands and axial channel deposits are located in the other two areas studied; therefore, there is a potential for settlement in these areas.

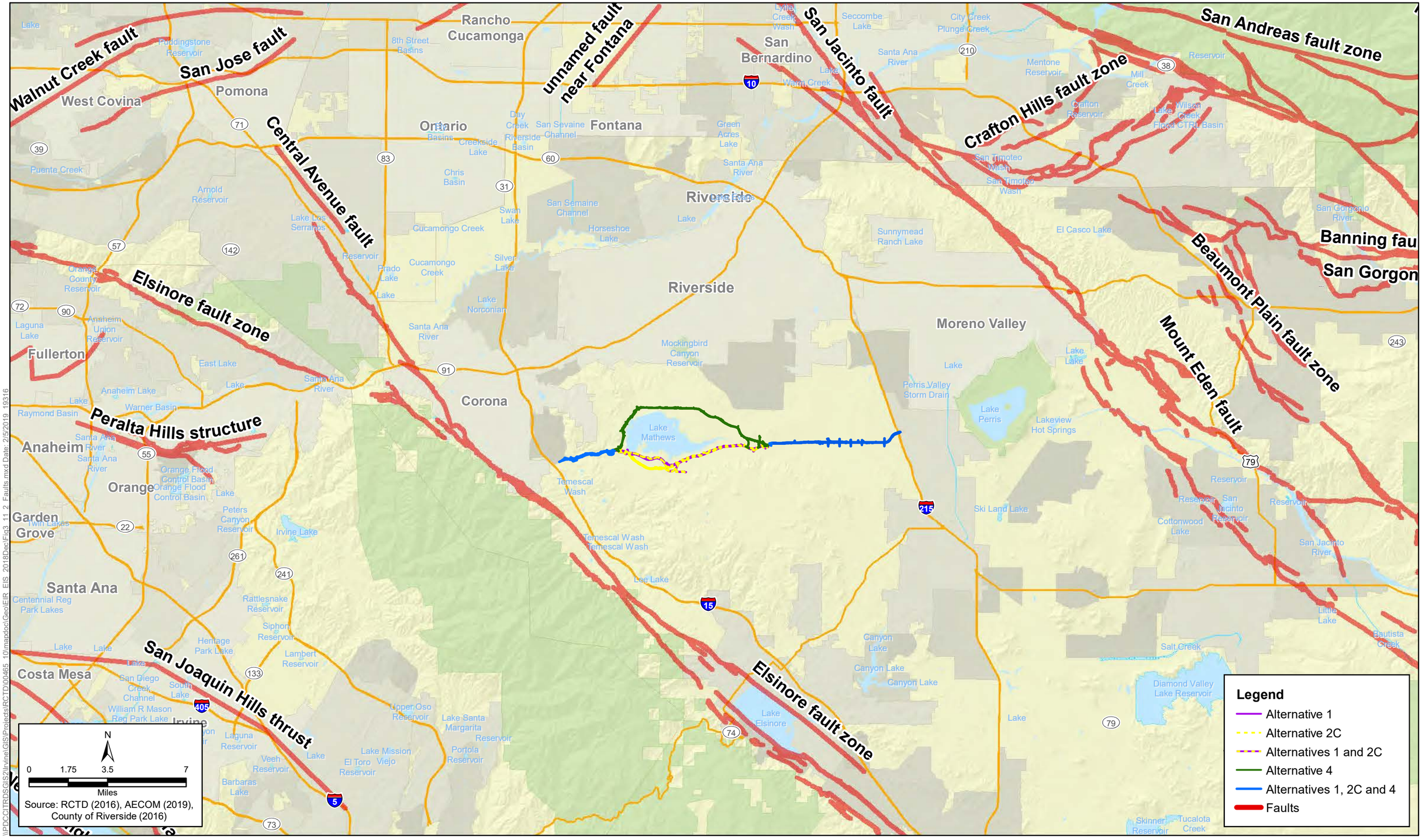
Scour

Scour is the powerful and concentrated clearing and digging action of flowing water, especially the downward erosion by stream water in sweeping away mud and silt on the outside curve of a bend, or during flooding.

Scour could be an issue where the proposed project crosses any unlined channel, wash, drainage, or area that is subject to flooding. Sedimentary soils and fills are subject to scour, whereas the intact granitic rock is generally scour resistant.

Landslides

Landslides commonly occur in connection with other natural disasters such as earthquakes, volcanoes, wildfires, and floods. Steep, bare slopes; deposits of stream or river sediment; clay-rich rock; and heavy rains can also cause landslides. Based on Riverside County Mapping, there is a potential for seismically induced landslides through the foothills along the western portion of the project area. However, historically, no seismically induced landslides have been reported in the project area.


Walnut Creek fault
San Jose fault
Central Avenue fault
Elsinore fault zone
Peralta Hills structure
San Joaquin Hills thrust
unnamed fault near Fontana
San Jacinto fault
Crafton Hills fault zone
San Andreas fault zone
Beaumont Plain fault zone
Mount Eden fault
Banning fau
San Gorgon
Elsinore fault zone
Rancho Cucamonga
San Bernardino
Ontario
Fontana
Riverside
Corona
Moreno Valley
Fullerton
Anaheim
Orange
Garden Grove
Santa Ana
Costa Mesa
West Covina
Pomona
Irvine
Lake Mathews
Temescal Wash
Lee Lake
Lake Elsinore
Canyon Lake
Ski Land Lake
Perris Valley Storm Drain
Lake Perris
Lakeview Hot Springs
Mockingbird Canyon Reservoir
Sunnymead Ranch Lake
El Casco Lake
Green Acres Lake
Seccombe Lake
Mentone Reservoir
Crafton Reservoir
Lake Wilson
Flood CTRL Basin
Mill Creek
Cottonwood Lake
Diamond Valley Lake Reservoir
Salt Creek
Bautista Creek
San Jacinto River
Little Lake
Skinner Reservoir
Tucalota Creek
Lake Santa Margarita Reservoir
Portola Reservoir
Lake Mission Viejo
El Toro Reservoir
Upper Oso Reservoir
Laguna Reservoir
Veeh Reservoir
Barbaras Lake
Irvine Lake
Peters Canyon Reservoir
Rattlesnake Reservoir
Siphon Reservoir
Lambert Reservoir
Heritage Park Lake
Santa Ana River
Prado Lake
Lake Norconian
Swan Lake
Horseshoe Lake
Cucamonga Creek
Chris Basin
Riverside Basin
Creekside Lake
Day Creek
San Sevaine Channel
8th Street Basins
Poddingstone Reservoir
Arnold Reservoir
Puente Creek
Lake Los Serranos
Orange County Reservoir
Anaheim Union Reservoir
Laguna Lake
Anaheim Lake
Warner Basin
Raymond Basin
East Lake
Santa Ana River
Orange Flood Control Basin
Twin Lakes
Centennial Reg Park Lakes
William R Mason Reg Park Lake
San Diego Creek Channel
South Lake
Lake
Reservoir
Temescal Wash
Wash
Creek
Plunge Creek
City Creek
Lytle Creek Wash
Santa Ana River
Warm Creek
San Timoteo Wash
Reservoir
San Jacinto Reservoir
Cottonwood Lake
Canyon Lake
Lake Elsinore
Lake Perris
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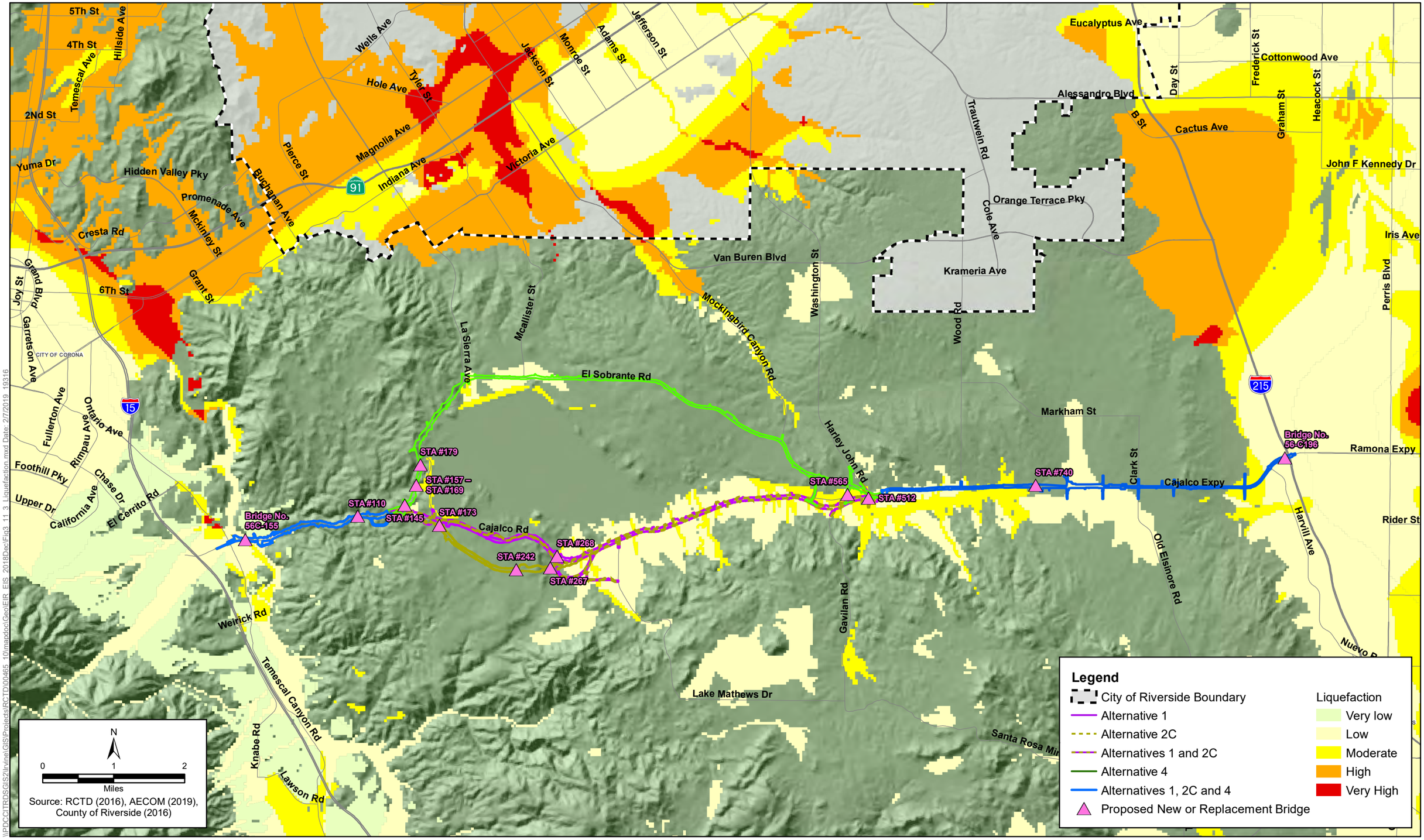

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Figure 3.11-3
Generalized Liquefaction Map
Cajalco Road Widening and Safety Enhancement Project

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Other Seismic Hazards

Subsidence is the sinking of the ground surface in response to geologic or human-induced causes such as the removal of water, oil, or natural gas. The project area has no known history of subsidence.

A tsunami is a large ocean wave that is caused by sudden movement on the ocean floor, such as from an earthquake, a volcanic eruption, or an underwater landslide. Due to the site elevation and distance from the coastline, there is no risk of tsunami in the project area.

A seiche is a standing wave that forms in an enclosed or partially enclosed body of water. The effect is caused by resonances in the confined water body. Most often, they are caused by wind and are imperceptible. However, in the event of an earthquake, the ground movement can be enough to create a large standing wave (seiche) that causes the "slosh" of the waterbody onto its shores at levels higher than expected. Lake Mathews, a reservoir with a capacity of 182,000 acre-feet, is within the project area. Should a seiche occur, it would most likely be imperceptible or it would be confined within the reservoir and would not impact the project area. The project is not located within a tsunami or seiche zone.

3.11.2.3 Lake Mathews MSHCP

The Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) is a joint conservation effort initiated by Metropolitan Water District of Southern California (MWD) and the Riverside County Habitat Conservation Agency (RCHCA) in cooperation with the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) that spans 5,993.5 acres of open land around Lake Mathews. The proposed project is located within the LM MSHCP area.

According to the LM MSHCP, most of the soils in the area comprise the Monserate-Arlington-Exeter association, which ranges from well-drained, moderately deep sandy loams to loamy soils found on old alluvial terraces and washes. These are shallow to deep soils with a calcareous hardpan. The Cajalco-Temescal-Las Posas association is in the eastern part of the Plan Area. The soils in this association range from moderately deep and shallow loam to clay loam developed on gabbro (MWD and RCHCA 1995).

Nine soil series occur within the Plan Area, including Porterville cobbly clay, Bosanko clay, Cieneba rocky sandy loam, Gorgonio loamy sand, Hanford coarse sandy loam, Las Posas stony loam, Monserate sandy loam, Temescal rocky loam, and Terrace escarpments. These soil series are described below:

- Porterville cobbly clay is a well-drained clay soil found on alluvial fans. It is very hard and has a slow permeability, medium runoff, and slight erosion hazard.
- Bosanko clay is a grayish-brown upland soil that developed from igneous parent materials. It has a moderately slow permeability, medium runoff, and moderate erosion hazard.
- Cieneba rocky sandy loam is an excessively drained soil found on moderate to steep slopes.
- Gorgonio loamy sand is also an excessively drained soil. It developed in granitic alluvium and has rapid permeability with slow runoff and a slight erosion hazard.

- Hanford coarse sandy loam is a well-drained soil found on alluvial fans and is developed from granitic parent materials. It has moderately rapid permeability, slow runoff, and a slight erosion hazard.
- Las Posas stony loam is a well-drained soil that has developed on a gabbro parent material. It is moderately permeable, has medium runoff, and a moderate erosion hazard.
- Monserate sandy loam is a well-drained soil developed from granitic materials. Permeability is moderately slow, and runoff and erosion are moderate.
- Temescal rocky loam is a well-drained soil found in upland areas, where up to 10 percent of the area is covered by rock outcrops. The permeability of this soil is moderate, runoff is rapid, and the erosion hazard is high.
- Terrace escarpment consist of various alluvial material found in terraces or washes. This alluvial material may vary from sandy deposits to cobbles or boulders. Generally, at least one-quarter of these sites have eroded areas or active gullies.

3.11.3 Environmental Consequences

3.11.3.1 Permanent Impacts

Build Alternative 1 – Cajalco Alignment

Ground Shaking and Surface Rupture

Neither ground shaking nor fault rupture can be avoided in the design of roadways; however, placing the realigned roadway either at natural grade or in low cuts or on low embankments limits the potential for, and consequences of, failure in the cuts and fills. This allows the road to be restored to service with minimum maintenance or re-construction effort following a seismic event. Accordingly, the currently proposed designs are favorable for accommodating future ground shaking or surface rupture. Compliance with Standard Project Measure **PF GEO-1** is also anticipated to prevent any adverse effects related to seismic ground shaking.

- **PF GEO-1:** Implement the California Department of Transportation's (Caltrans') procedures regarding seismic design, as detailed in Section 19, "Earthwork," of the Caltrans Standard Specifications Manual. Seismic design would also meet County of Riverside (County) requirements for near-source design parameters under the Uniform Building Code (UBC).

Liquefaction and Seismic Settlement

The Generalized Liquefaction Map for Riverside County indicates liquefaction potential in the west end of the project area at Temescal Creek is considered low to moderate (refer to Figure 3.11-3). Soils in the area of the proposed replacement of Bridge No. 56C-0155 at Temescal Creek are loose to moderately packed and may have a moderate to high liquefaction potential. The proposed project includes Standard Project Measures **PF GEO-2** and **PF GEO-3** that would be employed during the Plans, Specifications, and Estimates (PS&E) phase of the project for all proposed new or replacement bridges to confirm specific excavation and stabilization techniques for each bridge location based on the results of testing.

- **PF GEO-2: Core Sample Tests.** Prior to construction, the following additional fieldwork and laboratory testing will be performed:
  - **PF GEO-2(a):** Borings will be taken in accordance with Table 10-1 of the American Association of State Highway and Transportation Officials' Load and Resistance Factor Design Bridge Design Specifications for number, spacing, and depth of borings.
  - **PF GEO-2(b):** Rock core samples will be collected to estimate rock quality designation.
  - **PF GEO-2(c):** Seismic refraction survey and refraction microtremor survey are recommended to evaluate rock rippability and shearwave velocity, respectively.
  - **PF GEO-2(d):** Test pits or other methods will be used to collect data for evaluation of the soil cover over the competent soil or bedrock and stability of the steep descending slope.
  - **PF GEO-2(e):** Sufficient field and laboratory testing will be conducted to classify the subsurface materials and define liquefaction, shear strength, compressibility, and corrosion properties of the soils and rock encountered.
- **PF GEO-3: Excavation and Stabilization Techniques.** Temporary excavations and installation of spread footing foundations at bridges will include the following techniques. If loose or otherwise unsuitable materials are present below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils.
  - **PF GEO-3(a):** In the event that near-slope materials are not adequate to support spread footings, cast-in-drilled-hole (CIDH) piles socketing into the bedrock could be considered.
  - **PF GEO-3(b):** Subgrade conditions and need for subgrade preparation or stabilization measures, particularly in the vicinity of the slope, should be evaluated in detail in the Plans, Specifications, and Estimates (PS&E)-level investigation.
  - **PF GEO-3(c):** The need for foundation overexcavation or use of deep foundations should be addressed in the Foundation Report after performing the PS&E-level investigation.

These recommendations, which are considered preliminary, may be revised based on actual conditions encountered during earthwork and grading.

Liquefaction in the area of proposed new bridge at Station (STA) #110 along Cajalco Road west of La Sierra Avenue is unlikely (refer to Figure 3.11-3). There is limited depth of fill over shallow bedrock at the bridge proposed as STA #110; therefore, seismic dry sand settlement is not an issue.

Due to relatively shallow bedrock and deep groundwater, liquefaction potential is low to very low at the site of the proposed new bridge along a realigned segment of Cajalco Road west of Lake Mathews Drive, at STA #268 (refer to Figure 3.11-3). The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-3** that would address seismic settlement potential.

The area along the project alignment east of Lake Mathews near Cajalco Creek has potentially liquefiable soils (refer to Figure 3.11-3). These soils are thin layers of loose to medium dense sands over competent bedrock, which suggests a likely overall low to very low liquefaction potential. During extreme flood events, water levels in the nearby creek may be 5 feet above the static channel bed, resulting in saturation of soils to flood level. Since extreme flood and earthquake are unlikely to occur simultaneously, the preliminary recommended high design groundwater level for evaluation of liquefaction should be considered at the channel bed elevation.

However, liquefaction potential—specifically in the areas of the proposed new westbound bridge over Cajalco Creek at STA #740, new drainage facilities between Alexander Street and Clark Street, and the proposed replacement of Ramona Expressway Overhead Bridge (Bridge No. 56C-0196) at STA #935—is considered low due to localized bedrock conditions.

The proposed new bridge at STA #740 is located in an area with axial channel deposits; compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3** would address any seismic settlement potential. These measures would also be employed prior to work proposed in the area of Bridge No. 56C-0196 at STA #935 to minimize potential settlement risk.

Surface Drainage

Temescal Creek flows toward the north, where it flows beneath Cajalco Road. Runoff from the east and west flows into Temescal Creek by overland flow and through tributary drainages. Temescal Creek has a small year-round base flow, and higher flows and water surface elevations during flood events.

Surface flow generally drains away from the proposed site for the new bridge at STA #110. An open drainage flows southwest, along the south side of Cajalco Road and Cajalco Canyon, and another flows southwest north of Cajalco Road. Both drainages meet up with Temescal Creek west of the site. Surface water flows seasonally within the natural drainages bordering the roadway.

At the proposed site for the new bridge at STA #268, surface flow generally drains toward the center of the main stream and north away from the site. The drainage initiates locally within the Monument Peak and meanders north to Lake Mathews approximately 1,000 feet away. Flooding may occur during rainstorm events. Surface water is anticipated to flow intermittently during rainy seasons within the natural drainage.

East of Lake Mathews, at Cajalco Creek, surface water collects within the natural wash flowing southwest across the proposed site for the new bridge at STA #740 along a realigned segment of westbound Cajalco Road, at Barton Street. The drainage is channeled by a double corrugated metal pipe culvert that is constructed below the existing Cajalco Road, south of the site. Water is anticipated to flow seasonally and pond locally following a rain event. According to FEMA, the site is within an area subject to inundation by the 1-percent annual chance flood event (100-year flood). Impacts on surface waters, and related avoidance and minimization measures, are discussed in Section 3.10, *Water Quality*.

Groundwater

In the west end of the project area, groundwater is anticipated near Temescal Creek. Based on previous borings taken at the Temescal Creek Bridge, groundwater was encountered at 23 feet bgs, which approximately coincides with normal water levels in the channel (County 2012). The groundwater level should be anticipated near the channel bed, becoming deeper with distance from the channel. Due to fairly pervious sandy/gravelly alluvial soils, the groundwater levels would be expected to rise and fall in response to variable water levels in the channel (County 2012).

The permanent groundwater table is not anticipated to be encountered in the upper 100 feet of surface west of Harley John Road. The western end of Build Alternative 1 is underlain by Cretaceous sedimentary rock, which is considered non-water-bearing rock; however, perched water may be present within fractures throughout the formation. Perched water is not anticipated within the fill materials due to the largely impermeable asphalt layer covering the existing Cajalco Road at the evaluated site and the apparent surface drainage controls. Groundwater may be encountered during excavation for structure footing installation, and dewatering or other measures may be required.

A portion of the project area south of Lake Mathews is underlain by Cretaceous monzogranitic rock. Contact with the permanent groundwater table is not anticipated; however, perched water may be present locally within fractures and along the colluvial bedrock contact. Perched and/or seasonal groundwater may be present during excavation for footing installation.

The east end of the project area traversed by all the alignments is underlain by tonalite, which is considered a non-water-bearing rock. There is a potential for water to be confined within fractures in the rock; however, the rock exposed at the surface of the site did not appear to be significantly fractured. In general, perched groundwater should be expected within the main channel of the unnamed wash crossing the project alignments and within isolated areas within the wash flood area. Excavations into the alluvial soil within the creek are likely to encounter groundwater. Groundwater may also be encountered during excavation for footing installation, and dewatering or other measures may be required. The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-3** that would specify appropriate excavation and stabilization techniques.

Soils

Surface soils within the project area include artificial fill, colluvial soils, Holocene alluvium, Pleistocene older alluvium and fan deposits, Tertiary sandstone and siltstone, Mesozoic plutonic and volcanic rocks, and Mesozoic metamorphic rocks.

Foundation

Based on site reconnaissance and published geology maps, soils in the western end of the project area at Temescal Creek are primarily sands and silty sands with variable amounts of gravel and cobbles (County 2012). Shallow bedrock is anticipated to be about 5 to 10 feet below the existing ground in the western end of the project area studied for the new bridge at STA #110. Deeper colluvial soils may be present on the slopes. Footings for the new bridge at STA #110 are proposed to be placed approximately 20 feet or more below the original roadway grade, and the north end of the footings will be some depth below the existing slope surface. Due to high

anticipated bearing capacity and low compressibility of bedrock materials, it is feasible to support the proposed new bridge structure on shallow spread footing foundations founded in bedrock materials. Due to a very steep high descending slope and unknown depth of soil cover and condition of the near surface rock, the footings may need to be deepened on the north end to reach competent soils and to provide for adequate slope stability. This option will be more economical than use of deep foundations. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

In the event that near slope materials are not adequate to support spread footings, CIDH piles socketing into the bedrock may be considered. Driven piles are not recommended due to anticipated hard driving conditions. In general, the tall mechanically stabilized earth (MSE) walls founded in competent bedrock materials are considered feasible due to high bearing capacity and low compressibility of the bedrock. However, near-surface slope stability and techniques to address any unstable near-surface materials would be addressed prior to construction through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Shallow bedrock, Tertiary-age soft rock, and Holocene- to late Pleistocene-age axial channel deposits are anticipated in the area south of Lake Mathews, specifically at the site for proposed the new bridge at STA #268. If shallow granitic rock or competent Tertiary formation or dense to very dense axial channel deposit (high anticipated bearing capacity and low compressibility) is encountered below the existing grade, it is feasible to support the proposed structure on shallow spread footing foundations. Limited removal of unsuitable soil and/or highly weathered formation may be necessary prior to placing the compacted fill. In general, spread footings are in most cases more economical than use of deep foundations. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

Depending on actual subsurface conditions explored in site-specific borings in the PS&E stage and economic considerations, CIDH piles penetrating into competent materials may be considered. Due to lack of groundwater and relatively shallow competent soils, conditions are likely to be favorable for CIDH construction in dry open holes without the need for slurry or casing. Driven piles are not recommended due to anticipated hard driving conditions.

Relatively shallow bedrock is present at the site for the new bridge at STA #740, in the eastern end of the project. Outcrops of slightly weathered to fresh rock are present above surrounding ground in much of the site, while elsewhere there is an unknown depth of soil and weathered bedrock overlying the less weathered rock. The depth of soil cover is not known, but it is expected to be relatively shallow. Weathered to fresh bedrock materials may be considered "competent" soil in accordance with Caltrans guidelines. Due to high bearing capacity and very low compressibility, it is feasible to support the proposed new bridge structure on shallow spread footing foundations founded in weathered to fresh bedrock. Provided that the competent material is at reasonably shallow depth and excavations to competent materials do not require major dewatering, the spread footing option is generally expected to be more economical than use of deep foundations. If depth to competent bearing materials is deep and/or significantly below groundwater, use of CIDH piles socketed into bedrock may be more economical. Depth to bedrock and constructability of placing spread footing foundations on bedrock would be addressed prior to construction through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3**. Based on Caltrans Bridge Memo to Designers 5-1 (October 2016) shallow foundations in competent soil may be used for non-integral abutments up to 36 feet in height.

Foundation type and any stabilization techniques for the replacement of Bridge No. 56C-0196 at STA #935 would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-3** during the PS&E phase of the project, and foundation recommendations provided.

Cut Slope and Embankments

Permanent cut slopes are proposed on the south side of the proposed bridge STA #110. Slope stability would be evaluated during final design through Standard Project Measure **PF GEO-2**.

Shallow fill materials (generally sandy and gravelly soils) overlying bedrock were observed during site reconnaissance for the bridge proposed at STA #110 in the western portion of the project. The southern portion of the roadway approaches will be primarily in cut, while the northern portion situated over the steep descending slope will have up to about 45 feet of approach fill embankment. The approach fill embankments on the north side will be retained by MSE retaining walls up to about 50 feet in height.

Approach fill embankments up to about 20 feet high are proposed at 2:1 (horizontal:vertical) inclination near the abutments for the proposed new bridge at STA #268 in the area south of Lake Mathews.

New approach embankments would be placed at the abutments for the proposed bridge at STA #740 in the eastern end of the proposed project.

Foundation types and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

- **PF GEO-4:** Appropriate backfill materials would be used in accordance with California Department of Transportation standards. Select fill materials should be used for mechanically stabilized earth wall construction, and use of oversize materials generated in cuts screened prior to use as backfill materials.
- **PF GEO-5:** Structure approach embankment is that portion of the fill material within approximately 150 feet longitudinally of the structure in accordance with Figure 208.11 of the Highway Design Manual. Structure abutment embankment fill should be compacted to not less than 95 percent relative compaction in accordance with Section 19-5.03B of the Standard Specifications (Caltrans 2018). Poor quality material, such as expansive soils, must be precluded from structure abutment embankments unless treated and placed in accordance with California Department of Transportation Geotechnical Manual Section 3.1.2. Expansive soil materials for this requirement are defined as having either an Expansion Index (ASTM D 4829) greater than 50, or a Sand Equivalent (California Test Method 217) less than 20. This requirement is exclusive of the structure backfill and pervious backfill material requirements as shown on the plans and set forth in the Standard Specifications under Sections 19-3.02B and 19-3.03E, Structure Backfill, and 19-3.02C and 19-3.03G, Pervious Backfill Material, respectively.

Mineral Resources

Under Build Alternative 1, permanent impacts associated with replacement of the Temescal Creek Bridge, including roadbed widening, bridge embankments, and fill, would affect

approximately 0.4 acre of land classified as MRZ-2. A portion of the land classified MRZ-2 is within the streambed of Temescal Creek and subject to environmental regulations that limit mineral resource extraction activities. It is also under resource protection under the Riverside-Corona Resource Conservation District. Therefore, the potential for future use of the 0.4-acre MRZ-2 land for mineral extraction is unlikely. Additionally, the amount of aggregate resource affected compared to the remaining 18.2 million tons available within Sector Q of the Temescal Valley Production Area (composed of instream alluvial deposits of Temescal Wash) would not significantly affect the availability of the resource.

Natural Landmarks and Landforms

As discussed under Section 3.7, *Visual/Aesthetics*, no designated landmarks are within the project limits. However, Build Alternative 1 would result in landform alterations, including pronounced roadside cuts, through widening of roadway surface areas from a two-lane rural roadway to a four-lane roadway. Even though slopes would be designed to appear more natural, Measure **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project) would be applied to ensure landform impacts are minimized and the resulting appearance is similar to the surrounding landscape. Refer to Section 3.7, *Visual/Aesthetics*, for the complete text of Mitigation Measure **VIS-2**.

Future Six-Lane Facility (Build Alternative 1)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is expected that the new lanes would be exposed to the same seismic hazards as the proposed project described under Build Alternative 1, above. It is also anticipated that geotechnical evaluations would be required to evaluate impacts resulting from any excavation, cuts, and fill required.

Lake Mathews MSHCP (Build Alternative 1)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and Lake Mathews Multiple Species Reserve (LMR). A discretionary action coordinated between the County and LM MSHCP responsible parties be required to allow for construction of the proposed project, and would result in exposure of transportation facilities and structures to potential seismic activity. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the LM MSHCP area. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

Build Alternative 2C – Modified Cajalco Alignment

Ground Shaking and Surface Rupture

Ground shaking and surface rupture risks and impacts would be the same as for Alternative 1, above.

Liquefaction and Seismic Settlement

The Generalized Liquefaction Map for Riverside County indicates that liquefaction potential is unlikely at the proposed new bridges at STA #173, STA #242, and STA #267 under Build Alternative 2C. Bridges are also proposed at STA #242 and #267 along a realigned segment of Cajalco Road west of Lake Mathews Drive (refer to Figure 3.11-3). Due to the presence of limited depth of colluvial and surficial debris cover (about 5 to 10 feet in thickness) over shallow bedrock and lack of a permanent groundwater table within the upper 50 feet, seismic settlement is not an issue. Under Build Alternative 2C, the potential for liquefaction and seismic settlement in the area at Temescal Creek, in the area east of Lake Mathews near Cajalco Creek, and at the proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same as described above for Build Alternative 1. The proposed project includes Standard Project Measures **PF GEO-2** and **PF GEO-3** that would be employed during the PS&E phase of the project to confirm specific excavation and stabilization techniques for each bridge location based on the results of testing.

Surface Drainage

Surface flow generally drains toward the center of the main stream and northwest away from the proposed bridge site at STA #242. The drainage initiates locally and meanders 4.5 miles west to Temescal Creek. Surface ponding was observed after a rain event; therefore, it is believed that flooding may occur during rainstorm events. Surface water is anticipated to flow intermittently during the rainy season.

At the proposed site for the new bridge at STA #267, surface flow generally drains toward the center of the main stream and north away from the site. The drainage initiates locally within the Monument Peak and meanders north to Lake Mathews approximately 0.5 mile away. Flooding may occur during rainstorm events. Surface water is anticipated to flow intermittently during rainy seasons within the natural drainage.

Impacts on surface drainage at Temescal Creek, the area east of the proposed new bridge located at STA #740, and the location of proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same as those described above for Build Alternative 1. Impacts on surface waters, and related avoidance and minimization measures, are discussed in Section 3.10, *Water Quality*.

Groundwater

The permanent groundwater table is not anticipated to be encountered at the site of the proposed bridge at STA 173, as this area is underlain by non-water-bearing Cretaceous monzogranite rock. However, perched water may be present in isolated fracture zones and along colluvial soils contact. Therefore, groundwater should be anticipated during excavation for structure footing installation and dewatering, or other measures may be required.

No specific groundwater data is available for the proposed new bridge at STA #242; however, Miocene age sedimentary rock underlies the site, and perched water may be present throughout the formation. Additionally, an agricultural field occupies the western portion of the site, and irrigation may affect groundwater levels in this area. Therefore, groundwater may be

encountered during excavation for structure footing installation and dewatering, or other measures may be required.

An exploratory boring taken to a depth of 26.5 feet bgs near the proposed new bridge site at STA #267 indicated no groundwater. However, there is a known internal drainage that crosses the site and transports water seasonally. The bridge site is underlain by Cretaceous monzogranitic rock. Contact with the permanent groundwater table is not anticipated; however, perched water may be present locally within fractures and along the colluvial bedrock contact. Therefore, groundwater should be anticipated during excavation for structure footing installation and dewatering, or other measures may be required.

Groundwater impacts at Temescal Creek and at the east end of the project alignment would be the same as those described above for Build Alternative 1. The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-3** that would specify appropriate excavation and stabilization techniques.

Soils

Surface soils within the project area include artificial fill, colluvial soils, Holocene alluvium, Pleistocene older alluvium and fan deposits, Tertiary sandstone and siltstone, Mesozoic plutonic and volcanic rocks, and Mesozoic metamorphic rocks.

Foundation

Based on site reconnaissance and published geology maps for the proposed new bridge at STA #242, shallow Tertiary-age soft rock is anticipated about 5 feet below the existing ground underlying a shallow cover of alluvial and colluvial soils. Based on preliminary plans, the proposed footings will be approximately 5 to 7 feet below the existing ground. The upper part of the bedrock may be highly weathered or residual soil, which may or may not be suitable for foundation support. Due to high anticipated bearing capacity and low compressibility of the competent Tertiary formational materials, it is feasible to support the proposed new bridge structure on shallow spread footing foundations founded in these materials. Limited removal of unsuitable soil and/or highly weathered formation may be necessary below the foundations. In general, use of spread footings may be more economical than use of deep foundations. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

Shallow bedrock or Tertiary-age soft rock is anticipated about 5 to 10 feet below the existing ground at the site for proposed new bridge at STA #267. Based on preliminary plans, the proposed footing would be approximately 6 to 8 feet below the existing ground. Due to the height of the proposed retaining walls, the bearing pressures are anticipated to be high. Due to high anticipated bearing capacity and low compressibility of materials (Cretaceous granitic rock or competent Tertiary formation), it is feasible to support the proposed new bridge structure on shallow spread footing foundations in these materials. Limited removal of unsuitable soil and/or highly weathered formation may be necessary below the foundations. In general, use of spread footings is in most cases more economical than use of deep foundations. However, due to the significant height of the walls and presence of a cover of potentially unsuitable soils over shallow competent materials, spread footing may or may not be the most economical option for

tall abutments. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

Depending on actual subsurface conditions explored in site-specific borings in the PS&E stage for proposed new bridges at STA #242 and #267, as well as economic considerations, CIDH piles penetrating into competent materials may be considered. Due to lack of groundwater and relatively shallow competent soils, conditions are likely to be favorable for CIDH construction in dry open holes without the need for slurry or casing. Driven piles are not recommended due to anticipated hard driving conditions.

It is not known at this time what type of foundation would be needed for the proposed bridge near STA #173. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Soil impacts for the area at Temescal Creek, the east end of the alignment at the proposed new bridge at STA #740, and the location for the proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same as those described above for Build Alternative 1.

Cut Slope

No permanent cut slopes are proposed for the new bridges at STA #242 and 267. It is not known at this time if permanent cut slopes would be needed for the proposed bridge near STA #173. Slope stability would be evaluated during final design through Standard Project Measure **PF GEO-2**.

Mineral Resources

Permanent impacts on mineral resources associated with replacement of the Temescal Creek Bridge, including roadbed widening, bridge embankments, and fill, would be the same as those described under Build Alternative 1.

Natural Landmarks and Landforms

Landform alterations as a result of Build Alternative 2C would be similar to those identified for Build Alternative 1. Even though slopes would be designed to appear more natural, Measure **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project) would be applied to ensure landform impacts are minimized and the resulting appearance is similar to the surrounding landscape. Refer to Section 3.7, *Visual/Aesthetics*, for the complete text of Mitigation Measure **VIS-2**.

Future Six-Lane Facility (Build Alternative 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is expected that the new lanes would be exposed to the same seismic hazards as the proposed project described under Build Alternative 2C, above. It is also anticipated that geotechnical evaluations would be required to evaluate impacts resulting from any excavation, cuts, and fill required.

Lake Mathews MSHCP (Build Alternative 2C)

Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR in the same manner as discussed above under Build Alternative 1. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

Build Alternative 4 – El Sobrante Alignment

Ground Shaking and Surface Rupture

Ground shaking and surface rupture risks and impacts under Build Alternative 4 would be the same as those described for Build Alternative 1.

Liquefaction and Seismic Settlement

According to liquefaction mapping for Riverside County, liquefaction potential is unlikely at the west end of Build Alternative 4 due to relatively shallow bedrock and deep groundwater (Figure 3.11-3). Specifically, liquefaction is unlikely to low at the site for the proposed arch bridge at STA #163 that spans between STA #157 and #169. Additionally, seismic dry sand settlement is not anticipated due to the limited depth of colluvial and surficial debris over bedrock. The potential for liquefaction and seismic settlement in the area at Temescal Creek, in the area east of Lake Mathews near Cajalco Creek, and at the proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same under Build Alternative 4 as those described above for Build Alternative 1. The area of MWD's Detention Basin and Sedimentation Basin west of Harley John Road, and at the proposed new bridge over the spillway between the two basins at STA #565, may be susceptible to seismic settlement and liquefaction due to loose soil conditions and shallow groundwater. The proposed project includes Standard Project Measures **PF GEO-2** and **PF GEO-3** that would be employed during the PS&E phase of the project to confirm specific excavation and stabilization techniques for each bridge location based on the results of testing.

Surface Drainage

Surface flow generally drains toward the center of the main stream and northwest away from proposed bridge at STA #145 along a realigned segment of La Sierra Avenue west of existing La Sierra Avenue (refer to Figure 3.10-1). The drainage initiates locally within the foothills and meanders northwest to Cajalco Canyon approximately 0.5 mile away. Surface water is anticipated to flow seasonally within the natural drainage.

At the proposed bridge site at STA #179, surface flow generally drains toward the center of the main stream and southwest away from the site. It is located along a realigned segment of La Sierra Avenue west of existing La Sierra Avenue (refer to Figure 3.10-1). The drainage initiates locally within the foothills and flows south to Cajalco Canyon. Surface water is anticipated to pool seasonally within the drainage, and flooding may occur during rainstorm events. Lake Mathews Spillway events would also drain across the site. Surface water is anticipated to flow intermittently during rainy seasons within the natural drainage.

Impacts on surface drainage at Temescal Creek, in the area east of Lake Mathews, at the location of the proposed new bridge at STA #740, and at the location of the proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same as those described above for Build Alternative 1. Impacts on surface waters, and related avoidance and minimization measures, are discussed in Section 3.10, *Water Quality*.

Groundwater

The permanent groundwater table is not anticipated to be encountered at the locations of the proposed new bridge at STA #145, the proposed arch bridge at STA #163, and the proposed bridge at STA #179 because the area in the western part of the alignment is underlain by non-water-bearing Cretaceous monzogranite rock. However, perched water may be present in isolated fracture zones and along colluvial soils contact. Water is anticipated to flow and pool seasonally within the drainages. Therefore, groundwater should be anticipated during excavation for structure footing installation and dewatering, or other measures may be required.

Groundwater impacts at Temescal Creek and at the east end of the project alignment would be the same as those described above for Build Alternative 1. The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-3** that would specify appropriate excavation and stabilization techniques.

Soils

Surface soils within the project area include artificial fill, colluvial soils, Holocene alluvium, Pleistocene older alluvium and fan deposits, Tertiary sandstone and siltstone, Mesozoic plutonic and volcanic rocks, and Mesozoic metamorphic rocks.

Foundation

Based on site reconnaissance and published geology maps of the proposed site of the new bridge at STA #145, shallow bedrock is anticipated at about 5 feet below the existing ground. It is proposed that the original grade would be raised and the footings would be placed on compacted fill materials. Due to the lack of liquefaction and settlement potential, the structure would be supported on shallow spread footing foundations, provided that the fill materials are properly compacted. In general, use of spread footings may be more economical than use of deep foundations. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

Shallow bedrock is anticipated at about 5 feet below the existing ground at the site for the proposed bridge at STA #179. The footings are proposed to be 10 to 15 feet below the existing ground surface. Due to high anticipated bearing capacity and low compressibility of bedrock materials, the bridge structure would be supported on shallow spread footing foundations founded in bedrock materials. This option would be more economical than using deep foundations. Use of spread footings is allowed for this structure in accordance with Caltrans Bridge Memo to Designers 5-1.

In the event that deep colluvial debris is present, CIDH piles socketing into the bedrock could be considered for the proposed new bridges at STA #145 and #179. Driven piles are not recommended due to anticipated hard driving conditions.

Foundation types and any stabilization techniques would be confirmed for the bridges proposed at STA #145, #163, and #179 prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5,** during the PS&E phase of the project for construction, foundation, and structure recommendations.

Soil impacts for the area at Temescal Creek, at the east end of the alignment at the proposed new bridge at STA #740, and the location of the proposed replacement of Bridge No. 56C-0196 at STA #935 west of I-215 would be the same as those described above for Build Alternative 1.

Cut Slope

Slope stability for the proposed arch bridge between STA #157 and #169 (Bridge #163) would be evaluated during final design through Standard Project Measure **PF GEO-2**, and additional recommendations applied during the PS&E phase.

Mineral Resources

Permanent impacts on mineral resources associated with replacement of the Temescal Creek Bridge, including roadbed widening, bridge embankments, and fill, would be the same as those described under Build Alternative 1.

Natural Landmarks and Landforms

Landform alterations as a result of Build Alternative 4 would be similar to those identified for Build Alternative 1. Even though slopes would be designed to appear more natural, Measure **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project) would be applied to ensure landform impacts are minimized and the resulting appearance is similar to the surrounding landscape. Refer to Section 3.7, *Visual/Aesthetics*, for the complete text of Mitigation Measure **VIS-2**.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is expected that the new lanes would be exposed to the same seismic hazards as the proposed project described under Build Alternative 4, above. It is also anticipated that geotechnical evaluations would be required to evaluate impacts resulting from any excavation, cuts, and fill required.

Lake Mathews MSHCP (Build Alternative 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for construction of the proposed project, which would result in exposure of transportation facilities and structures to potential seismic activity. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the LM

MSHCP area. The proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

No-Build Alternative

Under the No-Build Alternative, no permanent effects involving geology, erosion, soils, seismicity, topography, or mineral resources would occur.

3.11.3.2 Temporary Impacts

Build Alternative 1 – Cajalco Alignment

Soils and Settlement

Sandy soils found in various areas of the project can be easily erodible, and erosion could occur during construction. Development of the roadway would cause groundbreaking and vegetation removal during construction. As a result, soil could be exposed to rain and wind, potentially causing accelerated erosion and deposition from the project site. Minor settlement (up to a few inches) may be anticipated after the placement of embankment fill on sandy soils within the project area. Subgrade preparation, including removal and/or recompaction of unsuitable materials, should be performed in accordance with Caltrans Standard Specifications prior to placing fill. Settlement is expected to be primarily elastic and occur within a few weeks of placing the embankment. No long-term consolidation is expected. The proposed project includes Standard Project Measures **PF WQ-4** (Storm Water Pollution Prevention Plan) and **PF GEO-1** through **PF GEO-3** to prevent construction pollutants from contacting stormwater with the intent of keeping all products of erosion from moving off site into receiving waters, and to prevent any adverse effects related to settlement. A settlement waiting period, if needed, should be recommended at the PS&E stage. No adverse effects are anticipated.

Cut Slope and Excavation Technique

Any temporary cuts for the proposed project would be safely sloped in accordance with Occupational Safety and Health Administration (OSHA) guidelines, or properly shored.

Relatively hard rock is anticipated during construction of the bridge proposed at STA #110, and blasting may be required to facilitate excavation for footing installation.

Surficial soils should be readily excavated with conventional grading equipment for proposed Bridges Nos. 268 and 267. Tertiary Lake Mathews formation would likely be rippable but may contain cemented zones and require heavy ripping. The granitic rock may consist of relatively hard rock, and blasting may be required. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Since geologic conditions at proposed new bridge at STA #242 are Tertiary-age soft rock, they are likely rippable, but hard ripping and cemented zones may be encountered, or harder non-

rippable rock may be present at shallow depths. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Structure Foundations

Temporary excavations would be required for installation of spread footing foundations for the proposed new bridge at STA #110 in the western end of the project. Since the majority of the footings are in deep cut in rock materials, competent subgrade conditions are anticipated. However, in the vicinity of the steep descending slope, less competent soils or rock could be present below footings. If loose or otherwise unsuitable materials are present below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils. Excavation and stabilization techniques and foundation type would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Temporary excavations would be required for installation of foundations for Bridge No. 268, south of Lake Mathews. If loose or otherwise unsuitable materials are encountered (highly unlikely if fill materials are placed properly) below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils.

Temporary excavations and possibly limited dewatering may be required for installation of spread footing foundations for the proposed new bridge at STA #740 in the eastern end of the project area. If loose materials are present below foundation level, overexcavation to competent bearing materials and backfill with lean concrete slurry up to bottom of footing would be recommended to transfer structural loads to competent bearing materials. The need for foundation overexcavation or use of deep foundations should be addressed in the Foundation Report after performing the PS&E level investigation. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Mineral Resources

Temporary impacts associated with replacement of the Temescal Creek Bridge, including grading and construction easements, would affect approximately 0.5 acre of land classified as MRZ-2. A portion of the land classified MRZ-2 is within the streambed of Temescal Creek and subject to environmental regulations that limit mineral resource extraction activities. It is also under resource protection under the Riverside-Corona Resource Conservation District. Therefore, the project would not affect the viability of the area for continued or future mining extraction.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

For the future six-lane Cajalco Road facility, construction is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that that there would be similar temporary impacts as for the proposed project in terms of disturbing soil through grading, excavation, and cutting and filling. It is anticipated that all earthwork and ground disturbance would be conducted in accordance with all applicable state and local regulations.

Lake Mathews MSHCP

As discussed above, a discretionary action coordinated between the County and LM MSHCP responsible parties would be required, to allow for construction of the proposed project, which would result in potential temporary impacts related to excavation, grading, cut, and fill of soils and rock within the MSHCP area. The proposed project would be constructed and developed in a manner to minimize temporary impacts from seismic hazards as well as to minimize impacts on the surrounding soils and geology due excavation, grading, cut, and fill of soils and rock within the MSHCP area. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

Build Alternative 2C – Modified Cajalco Alignment

Soils and Settlement

Temporary impacts related to soils and settlement under Build Alternative 2C would be the same as those discussed under Build Alternative 1, above. Near-surface slope stability and techniques to address any unstable near-surface materials as well as foundation type selection would be addressed prior to construction through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3**.

Cut Slope and Embankments

Any temporary cuts for the proposed project shall be safely sloped in accordance with OSHA guidelines, or properly shored.

As discussed above under Build Alternative 1, structure approach embankment is that portion of the fill material within approximately 150 feet longitudinally of the structure in accordance with Figure 208.11 of the Highway Design Manual and will be treated in accordance with the Standard Specifications discussed above. The approach fill embankments for proposed new bridges at STA #242 and 267 would be retained by retaining walls up to about 20 to 25 feet in height and 25 to 30 feet in height, respectively. Appropriate backfill materials would be used in accordance with Caltrans standards.

Loose colluvium and surficial soil cover at least several feet in thickness were observed during site reconnaissance for the proposed new bridge site at STA #242. Colluvial and surficial debris covering up to 5 to 10 feet thick overlying bedrock was observed at the site for the proposed new bridge at STA #267. Subgrade preparation, including removal and/or recompaction of unsuitable soils, shall be performed in accordance with Caltrans standards prior to placing fill. It is not known at this time what type of embankments would be needed for the proposed bridge at STA #173. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Temporary impacts associated with the east end of the project, including the proposed new bridge at STA #740, and the replacement of Bridge No. 56C-0196 at STA #935, west of I-215 are discussed above under Build Alternative 1.

Excavation Technique

Relatively hard rock could be encountered during construction of the proposed bridge near STA #173, and blasting may be required to facilitate excavation for footing installation. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Surficial soils should be readily excavated with conventional grading equipment for proposed Bridge No. 267. Tertiary Lake Mathews formation would likely be rippable but may contain cemented zones and require heavy ripping. The granitic rock may consist of relatively hard rock, and blasting could be required. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Because site materials at the proposed bridge site at STA #242 are Tertiary-age soft rock, they are likely rippable, but hard ripping and cemented zones may be encountered, or harder non-rippable rock may be present at shallow depths. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Structure Foundations

Temporary excavations would be required for installation of spread footing foundations for proposed new bridges at STA #242 and 267. Since the proposed footings are in bedrock or Tertiary-age soft rock materials, competent subgrade conditions are anticipated. If loose or otherwise unsuitable materials are present below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

It is not known at this time what type of structure foundations would be needed for the proposed bridge at STA #173; however, it is anticipated that, similar to the proposed new bridges at STA #242 and #267, temporary excavations would be required for installation of spread footing foundations. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Temporary impacts associated with the east end of the project, including proposed new bridge located at STA #740, and proposed replacement of Bridge No. 56C-0196 at STA #935, west of I-215 are discussed above, under Build Alternative 1.

Mineral Resources

Temporary impacts associated with replacement of the Temescal Creek Bridge, including grading and construction easements, would be the same as those described under Build Alternative 1.

Future Six-Lane Facility (Build Alternative 2C)

Temporary impacts associated with the future six-lane Cajalco Road facility would be the same as those discussed under Build Alternative 1.

Lake Mathews MSHCP (Build Alternative 2C)

Temporary impacts within the LM MSHCP area would be the same as those discussed under Build Alternative 1. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

Build Alternative 4 – El Sobrante Alignment

Soils and Settlement

Temporary impacts related to soils and settlement under Build Alternative 4 would be the same as those discussed under Build Alternative 1. Near-surface slope stability and techniques to address any unstable near-surface materials as well as foundation type selection would be addressed prior to construction through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Cut Slope and Embankments

Any temporary cuts for the proposed project shall be safely sloped in accordance with OSHA guidelines, or properly shored.

As discussed above under Build Alternative 1, structure approach embankment is that portion of the fill material within approximately 150 feet longitudinally of the structure in accordance with Figure 208.11 of the Highway Design Manual and will be treated in accordance with the Standard Specifications discussed above. The approach fill embankments near the abutments for proposed new bridge site at STA #145 would be retained by wing walls up to about 30 feet in height. The compacted fill materials would be sloped at 2:1 (horizontal:vertical) inclination around the abutment and wing walls. The approach fill embankments for the proposed new bridge site at STA #179 would be retained by retaining walls up to about 20 feet in height. Appropriate backfill materials would be used in accordance with Caltrans standards.

Colluvial and surficial debris of about 5 feet in thickness overlying bedrock is expected. Minor settlement (up to a few inches) may occur. The settlement would be primarily elastic and would occur within a few weeks of placing the embankment. No long-term consolidation is expected.

Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Temporary impacts associated with the east end of the project, including the proposed new bridge at STA #740, and the replacement of Bridge No. 56C-0196 at STA #935, west of I-215 are discussed above under Build Alternative 1.

Excavation Technique

Relatively hard rock is anticipated during construction of new bridges proposed at STA #145, #179, and the proposed arch bridge at STA #163; blasting may be required to facilitate excavation for footing installation. Excavation and stabilization techniques would be employed

as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Temporary impacts associated with the east end of the project, including the proposed new bridge at STA #740, and replacement of Bridge No. 56C-0196 at STA #935, west of I-215 are discussed above under Build Alternative 1. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Structure Foundations

Temporary excavations would be required for installation of spread footing foundations for new bridges proposed at STA #145 and #179. If loose or otherwise unsuitable materials are present below foundation level, limited overexcavation and replacement with lean concrete slurry may be needed to transmit foundation loads to competent soils. Excavation and stabilization techniques would be employed as appropriate based on the recommendations identified through Standard Project Measures **PF GEO-2** and **PF GEO-3**.

Temporary excavations would be required for installation of spread footing foundations. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-5**.

Temporary impacts associated with the east end of the project, including proposed new bridge at STA #740 and the replacement of Bridge No. 56C-0196 at STA #935, west of I-215 are discussed above under Build Alternative 1.

Mineral Resources

Temporary impacts associated with replacement of the Temescal Creek Bridge, including grading and construction easements, would be the same as those described under Build Alternative 1.

Future Six-Lane Facility (Build Alternative 4)

Temporary impacts associated with the future six-lane Cajalco Road facility would be the same as those discussed under Build Alternative 1.

Lake Mathews MSHCP (Build Alternative 4)

Temporary impacts within the LM MSHCP area would be the same as those discussed under Build Alternative 1. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-5**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

No-Build Alternative

Under the No-Build Alternative, no temporary effects involving geology, erosion, soils, seismicity, topography, or mineral resources would occur.

3.11.4 Avoidance, Minimization, and/or Mitigation Measures

No additional avoidance, minimization, and/ or mitigation measures related to geology and soils are required beyond the standard measures discussed above in the Environmental Consequences section.

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3.12 Paleontology

3.12.1 Regulatory Setting

Paleontology is a natural science focused on the study of ancient animal and plant life as it is preserved in the geologic record as fossils. A number of federal statutes specifically address paleontological resources, their treatment, and funding for mitigation as a part of federally authorized projects. 16 United States Code (USC) 431-433 (the "Antiquities Act") prohibits appropriating, excavating, injuring, or destroying any object of antiquity situated on federal land without the permission of the Secretary of the Department of Government having jurisdiction over the land. Fossils are considered "objects of antiquity" by the Bureau of Land Management, the National Park Service, the Forest Service, and other federal agencies. 16 United States Code (USC) 461-467 established the National Natural Landmarks (NNL) program. Under this program property owners agree to protect biological and geological resources such as paleontological features. Federal agencies and their agents must consider the existence and location of designated NNLs, and of areas found to meet the criteria for national significance, in assessing the effects of their activities on the environment under NEPA. 16 United States Code (USC) 470aaa (the Paleontological Resources Preservation Act) prohibits the excavation, removal, or damage of any paleontological resources located on federal land under the jurisdiction of the Secretaries of the Interior or Agriculture without first obtaining an appropriate permit. The statute establishes criminal and civil penalties for fossil theft and vandalism on federal lands. 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).

3.12.2 Affected Environment

The information from this section was synthesized from the *Paleontological Technical Memorandum for the Cajalco Road Widening and Safety Enhancement Project* (County 2019).

The project is located within the extreme northern portion of the Peninsular Ranges Geomorphic Province, near the boundary with the Transverse Ranges Province to the north. The Peninsular Ranges Province is characterized by a series of generally northwest-trending mountain ranges and intervening valleys. Extensive folding and faulting within the province has created this northwest-trending fabric evident throughout the province. The majority of the Peninsular Ranges Province is characterized by Mesozoic to Paleozoic age granitic and metamorphic bedrock and includes the Perris Block and Elsinore Trough.

The Perris Block is located between the northwest-trending San Jacinto Fault to the east and the northwest trending Elsinore Fault Zone to the west. The surface of the block consists of granitic exposure and has been tectonically tilted eastward. This has left granitic outcrops elevated and exposed on the west side of the block, allowing Pleistocene sediments to cover the east side. This suggests that the block tilted eastward prior to middle or late Pleistocene time.

The Elsinore Trough is a zone of faulting between the Santa Ana Mountains to the west and south and the Perris Block to the east. Erosion along the fault zone created a trough or valley at low elevations. The northern end of the trough drains to the Santa Ana River and then the Pacific Ocean. The southern end drains into the internal basin of Lake Elsinore.

3.12.2.1 Stratigraphy

Research and mapping of the project area and an area within a 2-mile radius of the build alternatives' alignments was conducted to verify the location and extent of sedimentary formations. The record of sedimentary deposition in the northwestern Peninsular Range Province begins in the late Paleozoic and Mesozoic eras and continues through the Cenozoic period.

The westernmost end of the project area is located in the Elsinore Trough, which is the valley area between the Santa Ana Mountains to the west and foothills to the east, through which Interstate 15 (I-15) and Temescal Wash pass. This area contains early Tertiary deposits. These include the Paleocene Silverado Formation, the Eocene Santiago Formation, the Oligocene to early Miocene Sespe/Vaqueros Formations, the early Miocene Topanga Formation, all members of the Puente Formation, and the Pliocene Fernando Formation.

Once in and beyond the foothills, the majority of the project is located within the Perris Block. The Perris Block is underlain by lithologically diverse prebatholithic and metasedimentary rocks intruded by Cretaceous plutons of the Peninsular Ranges Batholith. Several erosion and deposition surfaces are developed on the Perris Block, and thin to relatively thick sections of Paleocene to mainly Quaternary sediments discontinuously cover the basement rocks. Typically, the broad valley areas are infilled with younger alluvial outwash derived from the surrounding mountain ranges. Quaternary sediments are underlain by Tertiary deposits, including the Paleocene Silverado Formation, Early Miocene Topanga Formation, Middle Miocene Lake Mathews Formation, Upper Miocene Puente Formation, Pliocene Fernando Formation, and Latest Pliocene to Pleistocene deposits.

Table 3.12-1 provides a listing of the sedimentary formations within the larger search area, along with their age and general location. Figure 3.11-1 in Section 3.11 (*Geology/Soils/Seismicity/ Topography*) is a map showing the location of geologic formations relative to the project alternatives.

Table 3.12-1. Sedimentary Formations within 2-Mile Radius

Age (Youngest-Oldest)	Fm	Name	General Location	
			Elsinore Trough	Western Perris Block
Holocene	Qy	Younger alluvium	x	x
Pleistocene	Qof	Late Pleistocene alluvium	x	x
	Qo	Old Pleistocene alluvium (& Pauba Formation)	x	x
	Qvo	Very Old Pleistocene alluvium	x	x
Pliocene	Tu	Unnamed Sandstone		
	Tf	Fernando Formation	x	x
Miocene	Tp	Puente Formation	x	
	Tt	Lake Mathews Formation		x
	Tlm	Topanga Formation	x	
Oligocene	Tvs	Sespe/Vaqueros Formations	x	

Age (Youngest-Oldest)	Fm	Name	General Location	
			Elsinore Trough	Western Perris Block
Eocene	Tsa	Santiago Formation		
Paleocene	Tsi	Silverado Formation	x	
Cretaceous	Kw	Williams Formation	x	
	Kl	Ladd Formation	x	
	Kg	Granitic plutons	x	x
	Kvsp	Santiago Peak Volcanics	x	
	Kvem	Estelle Mountain Volcanics		x
Jurassic	Jbc	Bedford Canyon Formation	x	
Mesozoic & Paleozoic	Mz	Mesozoic metamorphic rocks	x	x
Sources: Gray et al. 2002; Morton and Weber 2001; Morton 2001, 2003, 2004; Morton and Matti 2001				

Stratigraphically, the most sensitive formations within the search area are, from oldest to youngest, the Paleocene Silverado Formation, Early Miocene Topanga Formation, Middle Miocene Lake Mathews Formation, Upper Miocene Puente Formation, Pliocene Fernando Formation, and Latest Pliocene to Pleistocene deposits combined.

The Silverado Formation is located in the western end of the project near Temescal Canyon. It consists of about 1,490 feet of sediments that were deposited in marine, brackish water, and terrestrial depositional environments. This formation has been known to contain extinct significant plant fossils of fossil wood, roots, leaf, spores, and pollen.

Miocene age units of the Topanga, Lake Mathews and Puente Formations have been known to contain important paleontological resources. The Topanga Formation is located northwest of the project limits, along I-15 near El Cerrito Road. It is very fossiliferous and contains substantial important marine vertebrates, invertebrates, and terrestrial plant fossils.

The Lake Mathews Formation crops out on the northeastern side and the southern side of Lake Mathews. It contains important vertebrate fossils of the Clarendonian Land Mammal Age, such as oredonts, gophers, camels, javelinas, ground squirrels, and deer mice. This is the only known deposit on the Perris Block of the northern Peninsular Range Geologic Province to produce fossils and provide local environmental data in the period between the end of the Cretaceous (65 million years ago) and the early Pliocene (4 million years ago) (Lander and Whistler 2002). Several fossil localities are from within and near to the study area.

The Puente Formation is located north of the project, near El Cerrito and west of I-15. It is composed of marine sandstone shales and siltstone and contains marine fossil of whales, fish, marine turtles, sharks, bony fishes, pelecypods, and land plants, as well as marine algae (micro fossils). It also contains important land mammals such as rhinoceros, camel, and elephant.

The Pliocene Fernando Formation is located west of I-15 and yields significant paleontological resources. Pliocene-Pleistocene Quaternary deposits also yield important paleontological resources such as fossil reptiles, birds, and land mammals.

3.12.2.2 Paleontological Sensitivity

Paleontological resources are considered to be important if they provide new data on fossil animals, distribution, evolution, or other scientifically important information as stated previously. The California Department of Transportation (Caltrans) uses a tripartite scale to characterize paleontological sensitivity (see Table 3.12-2). Figure 3.12-1 shows the locations within the project area that have low paleontological sensitivity and high paleontological sensitivity at surface and at depth (more than 1 meter, or approximately 3.3 feet below ground surface [bgs]).

Table 3.12-2. Paleontology Sensitivity Scale

Caltrans Sensitivity Designation	Characteristics of Geologic Units in this Category
High Potential (High Sensitivity)	This category consists of rock units known to contain significant vertebrate, invertebrate, or plant fossils anywhere within their geographic extent, including sedimentary rock units that are suitable for the preservation of fossils, as well as some volcanic and low-grade metamorphic rock units. This category includes rock units with the potential to contain: • abundant vertebrate fossils; • a few significant vertebrate, invertebrate, or plant fossils that may provide new and significant taxonomic, phylogenetic, ecological, and/or stratigraphic data; • areas that may contain datable organic remains older than Recent; • areas that may contain unique new vertebrate deposits, traces, and/or trackways; and • fossiliferous deposits with very limited geographic extent or an uncommon origin (e.g., tar pits and cave deposits).
Low Potential (Low Sensitivity)	This category includes sedimentary rock units that • are potentially fossiliferous, but have not yielded significant fossils in the past; • have not yet yielded fossils, but have the potential to contain fossil remains; or • contain common and/or widespread invertebrate fossils of species whose taxonomy, phylogeny, and ecology are well understood.
No Potential (No Sensitivity)	This category includes rock units of intrusive igneous origin, most extrusive igneous rocks, and moderate- to high-grade metamorphic rocks.
Note: Sedimentary rocks expected to contain vertebrate fossils are considered highly sensitive, because vertebrates are generally rare and found in more localized strata.	

Based on the characteristics described in Table 3.12-2, the geologic units within the project study area that have high sensitivity include the Silverado Formation, Topanga Formation, Lake Mathews Formation, Puente Formation, Fernando Formation, and late Pliocene to Pleistocene deposits.

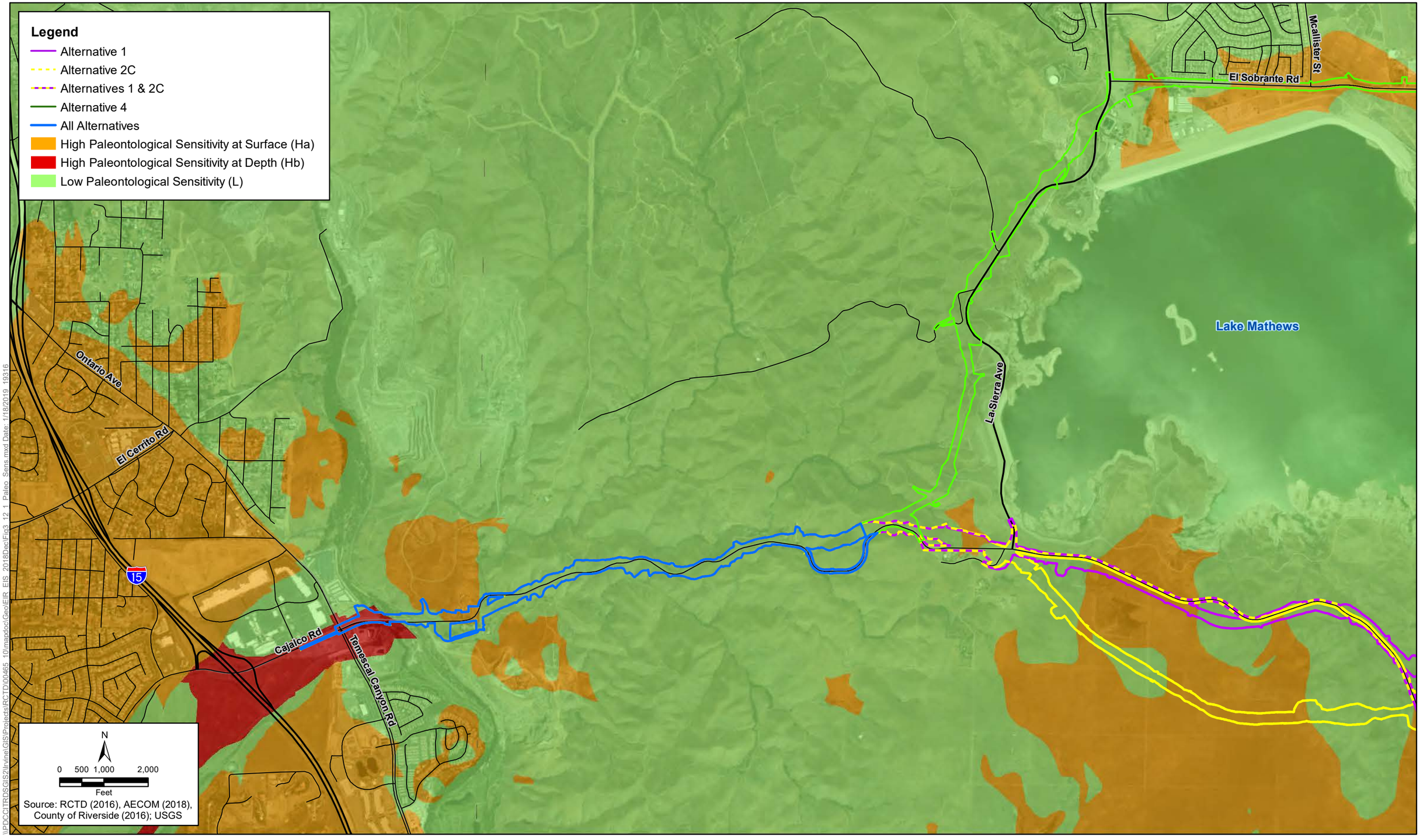

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Figure 3.12-1 - Sheet 1
Paleontological Resource Sensitivity Map
Cajalco Road Widening and Safety Enhancement Project

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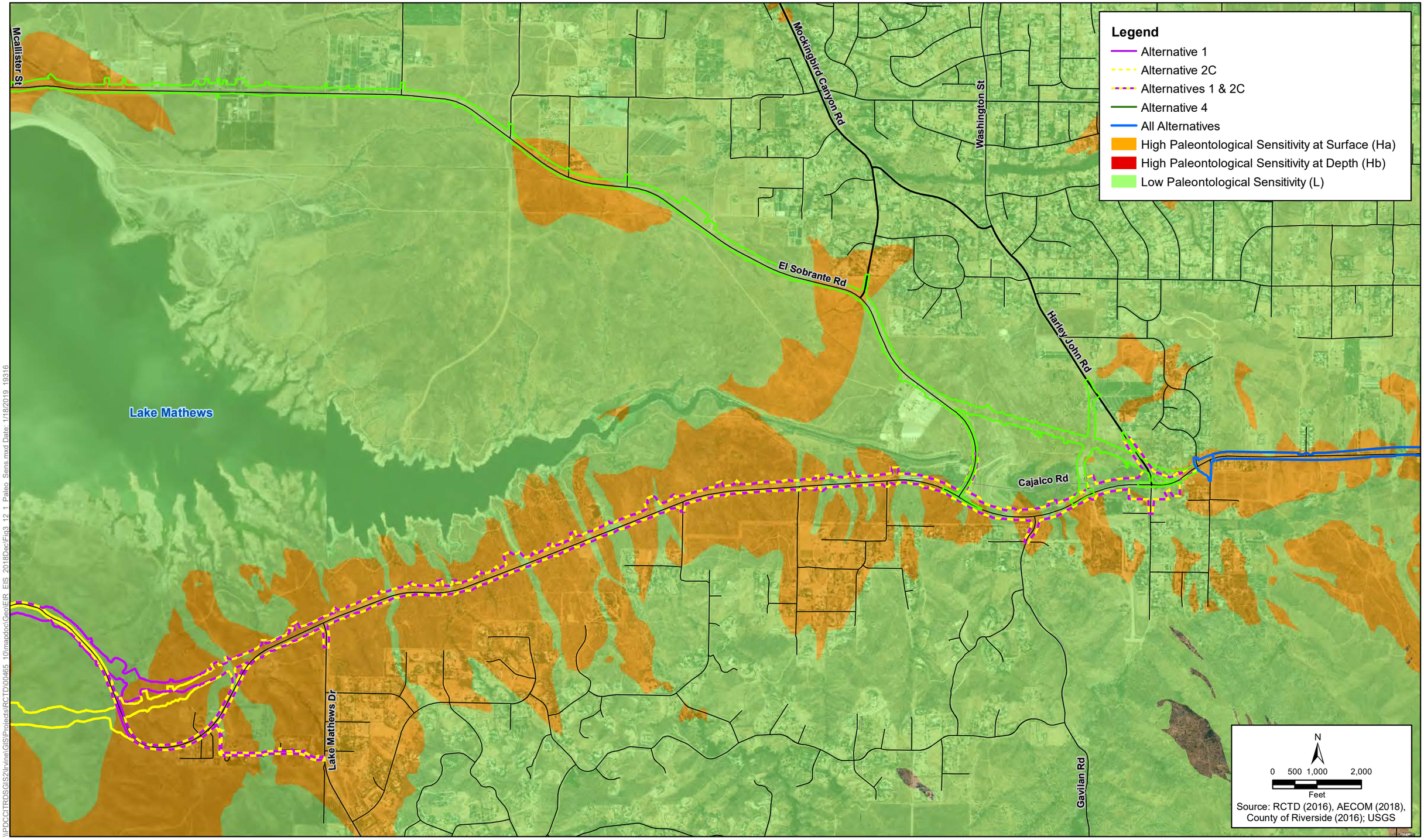

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Figure 3.12-1 - Sheet 2
Paleontological Resource Sensitivity Map
Cajalco Road Widening and Safety Enhancement Project

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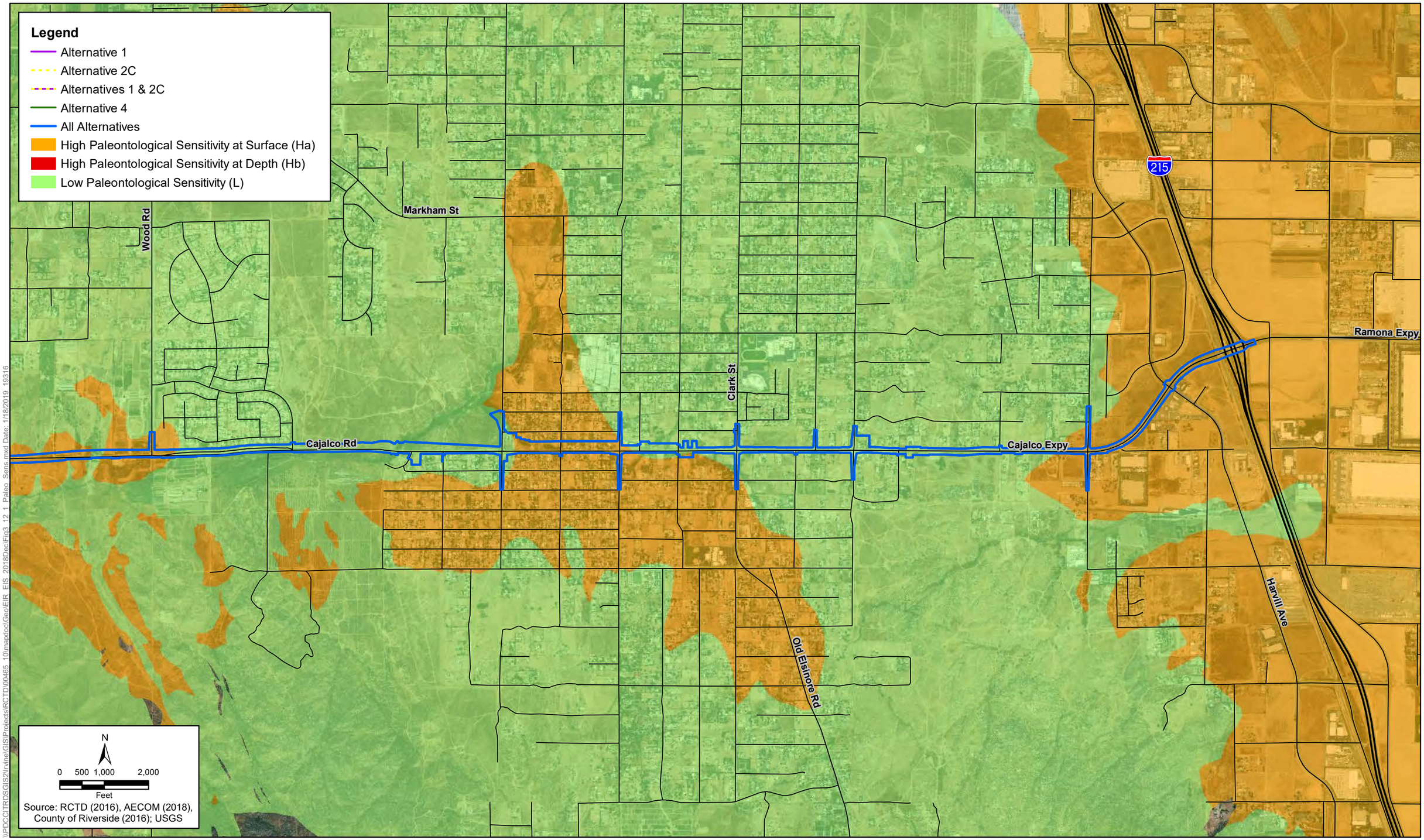

Figure 3.12-1 - Sheet 3
Paleontological Resource Sensitivity Map
Cajalco Road Widening and Safety Enhancement Project

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3.12.2.3 Records Search and Field Reconnaissance

Paleontological and geological records searches included the U.S. Geological Survey, Map and Earth Sciences Library, online searches via the U.C. Museum of Paleontology, Berkeley database and San Jose State University MLK library. In addition, an extensive library, literature, and map search was conducted at the University of California Berkeley Map and Earth Sciences library on August 12, 2016, and the U.S. Geological Survey on December 15, 2016.

According to the search, fossil localities have been found in the larger search area in the Silverado Formation, Topanga Formation, Puente Formation, Fernando Formation, and Late Pliocene to Pleistocene deposits. Four fossil localities were found within the Lake Mathews Formation within the project area. These sites contained the bones, teeth, and fragments of large mammals, including camel, oredont, and felid; small mammals; and a tapir dentition. One fossil locality containing a horse ulna was found in the Late Pleistocene alluvium within the project area.

A pedestrian inspection of the project limits of disturbance for evidence of paleontological resources was conducted between June 2016 and October 2018. In addition, an Extended Phase I study for cultural resources, which included approximately 66 Shovel Test Probes (STPs), was performed in three geographical areas within the project limits between August 16 and September 6, 2018, and on October 18, 2018. The STPs were excavated to a depth of 1 meter (approximately 3.3 feet) below ground surface (bgs), or until granite bedrock was encountered. Although these excavations were related to cultural resources evaluations, no evidence of fossils was observed or encountered during the pedestrian inspection or the STPs.

3.12.2.4 Lake Mathews Habitat Conservation Plan Area

The project corridor travels through the Lake Mathews Multiple Species Reserve (LMR), owned by the Metropolitan Water District of Southern California (MWD), and managed by MWD, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), and Riverside County Habitat Conservation Agency (RCHCA) under a Cooperative Management Agreement. The LMR was established under the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP). The project corridor specifically travels through parcels of land that are owned by the MWD and RCHCA. Much of the land surrounding Lake Mathews is undeveloped because these lands are protected by the LMR.

The Lake Mathews Formation and Late Pleistocene deposits, which are both sensitive for paleontological resources, are located within the LM MSHCP area. Several fossil localities have been found in portions of the Lake Mathews Formation and Late Pleistocene deposits located within the LM MSHCP area and within or immediately adjacent to the Build Alternative alignments, as discussed below.

3.12.3 Environmental Consequences

3.12.3.1 Build Alternatives 1 and 2C – Cajalco Alignment and Modified Cajalco Alignment

In the west end of the project limits, in the vicinity of Temescal Canyon, Build Alternatives 1 and 2C traverse an area of younger alluvial and Pleistocene deposits classified as having high paleontological sensitivity at depth (1 meter, or approximately 3.3 feet bgs), and high paleontological sensitivity at the surface, respectively (Figure 3.12-1). As they continue eastward, both alternatives traverse the Lake Mathews Formation and Pliocene-Pleistocene alluvial deposits located south of Lake Mathews, which are both considered as having high paleontological sensitivity at the surface (Figure 3.12-1). According to the results of the record search, four fossil localities were found within the Lake Mathews Formation traversed by Alternatives 1 and 2C, south of Lake Mathews. These localities could be within or are in close proximity to the two alignments. These sites were found to contain the bones, teeth, and fragments of large mammals, including camel, oredont, and felid; small mammals; and a tapir dentition. One fossil locality, located just east of the El Sobrante and Cajalco Road intersection, was found in Late Pleistocene alluvium, in an area traversed by all Build Alternatives. The site contained the ulna of a horse.

The potential to affect paleontological resources also depends on the depths of proposed earthwork and excavations, previous site disturbances, and the presence of non-fossiliferous sediment. As previously discussed, STPs up to 1 meter (approximately 3.3 feet) in depth were performed in three geographic locations related to cultural resources evaluations. One location was within the limits of disturbance of all three alignments and another was within the limits of disturbance of Build Alternatives 1 and 2C. No evidence of paleontological resources was observed or found during the 1-meter (3.3-foot) STPs.

It is anticipated that ground-disturbing activities for the project east of Lake Mathews Drive may range from 2 to 12 feet in depth, depending on construction activity. Limited locations may require excavating to a depth of up to approximately 50 feet for the installation of utility poles, bridge pilings, and associated activities. West of Lake Mathews Drive, topographical conditions are more varied, and would require deeper excavation for road grading and other construction activities. Within this area, construction depth could reach depths greater than 12 feet, and may require depths up to 100 feet in limited locations for utility poles, bridge pilings, and associated drilling activities.

Both Build Alternatives have the potential to affect sensitive paleontological areas, and areas near where fossils have been discovered. Because their alignments traverse a larger area of sensitive geologic units, Build Alternatives 1 and 2C have the potential to affect a larger sensitive paleontological area than Build Alternative 4. Due to the paleontological sensitivity of the project area, the preparation of a Paleontological Mitigation Plan (PMP) would be required during the final design phase of the project.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road under Build Alternatives 1 and 2C, is not currently proposed as part of the

project. Should the additional lanes be constructed in the future, they would traverse the same highly sensitive areas discussed above and shown on Figure 3.12-1, specifically the alluvial and Pleistocene deposits near Temescal Canyon Road, the Lake Mathews Formation, and the Pliocene-Pleistocene deposits on the east end of the project (Figure 3.11-1 in Section 3.11). However, because these future lanes would be constructed in the median of the roadway, the potential to affect paleontological resources would be reduced, as that area would have already been disturbed by the currently proposed project.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Under Build Alternatives 1 and 2C, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for the proposed project to be constructed. Should either alternative be selected, the impacts on sensitive paleontological resources within the LM MSHCP area would be the same as the impacts discussed above. Protection of paleontological resources is not a listed goal or policy in the LM MSHCP; therefore, these impacts would not affect the intention of the LM MSHCP.

3.12.3.2 Build Alternative 4 – El Sobrante Alignment

Similar to the other two Build Alternatives, Build Alternative 4 crosses an area classified as having high paleontological sensitivity at depth, and an area of high paleontological sensitivity at the surface, in the western end of the project limits just east of Temescal Canyon (Figure 3.12-1). As it continues eastward, Build Alternative 4 avoids the sensitive units to the south of Lake Mathews, but does traverse two Pliocene-Pleistocene alluvial deposits north of Lake Mathews that are considered highly sensitive at the surface (Figure 3.12-1). Build Alternative 4 also traverses two areas of the Lake Mathews Formation located to the northeast of Lake Mathews that are considered highly sensitive at the surface for paleontological resources (Figure 3.12-1). Once Build Alternative 4 reaches the eastern end of Lake Mathews, it follows the same alignment as Build Alternatives 1 and 2C, where they would all affect the same Pliocene-Pleistocene alluvial deposits, which are considered highly sensitive at the surface for paleontological resources (Figure 3.12-1). In this area, one fossil locality, located just east of the El Sobrante and Cajalco Road intersection, was found in Late Pleistocene alluvium. The site contained the ulna of a horse.

The potential to affect paleontological resources also depends on the depths of proposed earthwork and excavations, previous site disturbances, and the presence of non-fossiliferous sediment. As previously discussed, STPs up to 1 meter (approximately 3.3 feet) in depth were performed in three geographic locations. One location was within the limits of disturbance of all three alignments, another was within the limits of disturbance of Alternatives 1 and 2C, and the third was in the limits of disturbance of Build Alternative 4. No evidence of paleontological resources was observed or found during the 1-meter (3.3-foot) test probes.

It is anticipated that ground-disturbing activities for the project east of Lake Mathews Drive may range from 2 to 12 feet in depth, depending on construction activity. Limited locations may require excavating to a depth of up to approximately 50 feet for the installation of utility poles, bridge pilings, and associated activities. West of Lake Mathews Drive, topographical conditions

are more varied, and would require deeper excavation for road leveling and other construction activities. Within this area, construction depth could reach depths greater than 12 feet, and may require depths up to 100 feet in limited locations for utility poles, bridge pilings, and associated drilling activities.

Similar to Build Alternatives 1 and 2C, Build Alternative 4 has the potential to affect sensitive paleontological areas, including one area where a fossil had been found. However, because Build Alternative 4 traverses a smaller area of sensitive geologic units, it has less potential to affect sensitive paleontological areas than Build Alternatives 1 and 2C. Due to the paleontological sensitivity of the project area, the preparation of a PMP would be required during the final design phase of the project.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. Should the additional lanes be constructed in the future, they would traverse the same highly sensitive areas discussed above and shown on Figure 3.12-1, specifically the alluvial and Pleistocene deposits near Temescal Canyon Road (Figure 3.11-1 in Section 3.11). However, because these future lanes would be constructed in the median of the roadway, the potential to affect paleontological resources would be reduced, as that area would have already been disturbed by the currently proposed project.

Lake Mathews MSHCP (Build Alternative 4)

Under Build Alternative 4, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Under this alternative, portions of La Sierra Avenue and El Sobrante Road would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for the proposed project to be constructed. If Build Alternative 4 is selected, the impacts on sensitive paleontological resources within the LM MSHCP area would be the same as the impacts discussed for Build Alternative 4, above. Protection of paleontological resources is not a listed goal or policy in the LM MSHCP; therefore, these impacts would not affect the intention of the LM MSHCP.

3.12.3.3 No-Build Alternative

The No-Build Alternative would not result in impacts on paleontological resources.

3.12.4 Avoidance, Minimization, and/or Mitigation Measures

The following measure would be implemented with the project and would minimize or avoid impacts related to paleontological resources.

PAL-1: Grading, excavation, and other surface and subsurface excavation have the potential to affect nonrenewable paleontological resources. A Paleontological Mitigation Plan (PMP) shall be prepared by a qualified paleontologist in accordance with the California Department of

Transportation (Caltrans), County of Riverside Planning Department, and the Society of Vertebrate Paleontology guidelines during the final design phase of the project. The PMP will detail all the measures to be implemented in the event of paleontological discoveries. The PMP shall include, at a minimum, the following elements.

a) Required 1-hour preconstruction paleontological awareness training for earthmoving personnel, including documentation of training, such as sign-in sheets, and hardhat stickers, to establish communications protocols between construction personnel and the principal paleontologist.

b) There will be a signed repository agreement with an appropriate repository that meets Caltrans requirements and is approved by Caltrans.

c) Monitoring, by a principal paleontologist, of paleontologically sensitive areas in sedimentary deposits during initial and all ground-disturbing activities.

d) Field and laboratory methods that meet the curation requirements of the appropriate repository will be implemented for monitoring, reporting, collection, and curation of collected specimens. Curation requirements are available for public review at the appropriate repository.

e) All elements of the PMP will follow the PMP Format published in the Caltrans Standard Environmental Reference.

f) A Paleontological Mitigation Report (PMR) discussing findings and analysis will be prepared by a principal paleontologist upon completion of project earthmoving. The report will be included in the environmental project file and also submitted to the curation facility.

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3.13 Hazardous Waste/Materials

3.13.1 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. The RCRA provides for "cradle to grave" regulation of hazardous waste generated by operating entities. Other federal laws include:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, Executive Order (EO) 12088, *Federal Compliance with Pollution Control Standards*, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

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

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

3.13.2 Affected Environment

The proposed project covers a distance of approximately 16 miles and features the widening of Cajalco Road, or combination of Cajalco Road and El Sobrante Road, between Temescal Canyon Road and the Interstate 215 (I-215) southbound ramps and in the County of Riverside.

The information presented in this section is based on the project-specific *Cajalco Road Widening and Safety Enhancement Project Initial Site Assessment* (Caltrans 2020a); *Preliminary Site Investigation*, *Cajalco Road Widening and Safety Enhancement, Riverside County, California* (Caltrans 2020b); the *Aerially Deposited Lead Site Investigation Work Plan, Cajalco Road Widening and Safety Enhancement Project, Riverside County*, *California* (Caltrans 2017a); and the *Aerially Deposited Lead (ADL) Investigation, Cajalco Road Widening and Safety Enhancement Project, Riverside County, California* (Caltrans 2017b).

The purpose of the Initial Site Assessment (ISA) was to review, evaluate, and document present and past land uses and practices, and visually examine on-site conditions to identify the following:

- Recognized Environmental Conditions (RECs) – Defined as the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property.
- Historical Recognized Environmental Conditions (HRECs) – Defined as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (American Standard Testing Methods Standard 1527-13).
- Areas of Concern (AOCs) – AOCs are not considered RECs, but require consideration during construction or further investigation.

The purpose of the Preliminary Site Investigation (PSI) was to further investigate site conditions of RECs identified in the ISA, provide an evaluation of their current environmental/hazardous waste conditions, and describe the potential effects of existing contamination on proposed construction activities within these properties.

The ISA identified two RECs, one HREC, and five AOCs within 500 feet of the project limits. A PSI was conducted for the two RECs located at 9001 Cajalco Road, Corona, and at 21020 Cajalco Road, Perris. Refer to Figure 3.13-1 on the following page for locations of the RECs, HREC, and AOCs.

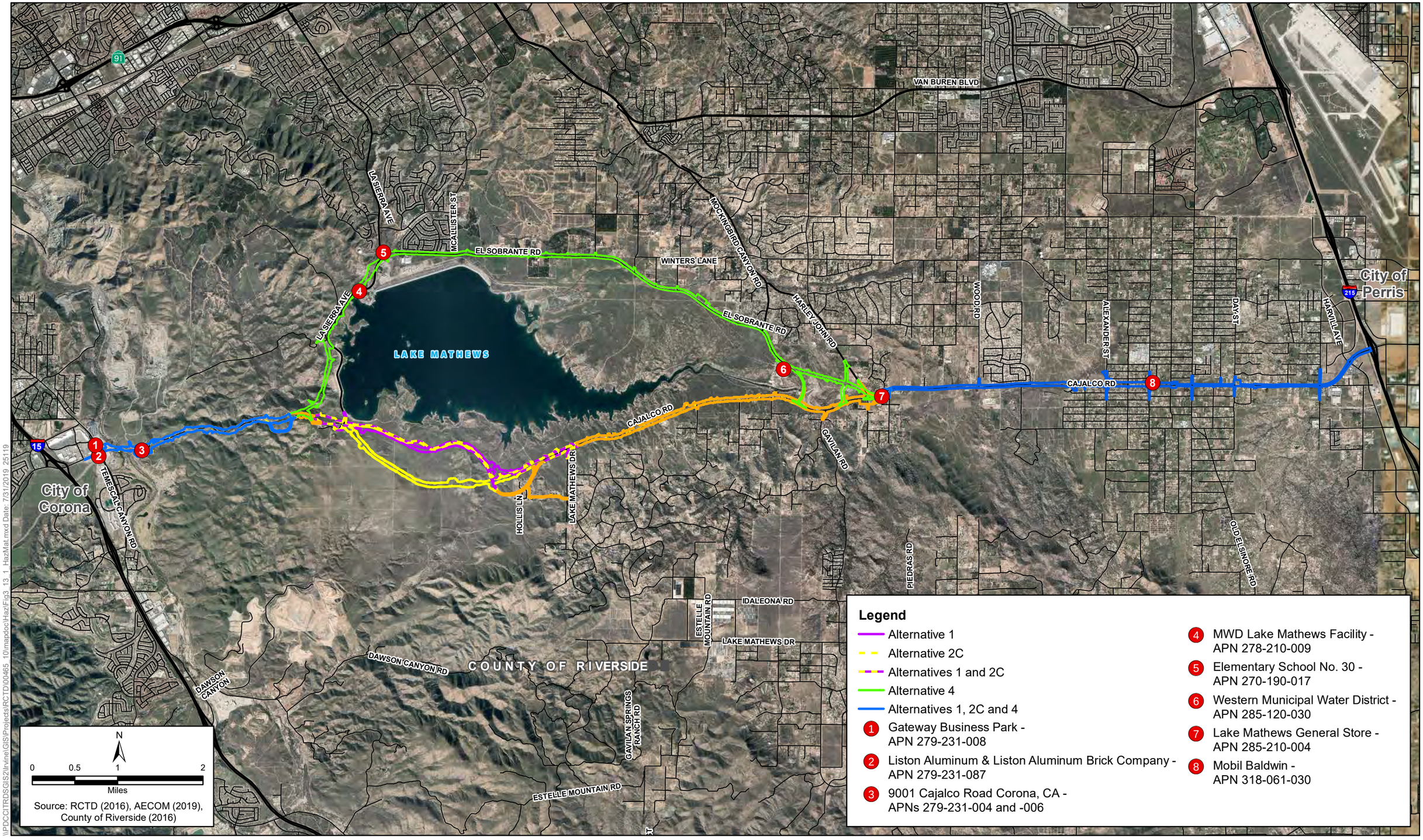

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Figure 3.13-1
Documented Hazardous Materials Sites
Cajalco Road Widening and Safety Enhancement Project

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3.13.2.1 Recognized Environmental Conditions

9001 Cajalco Road, Corona (Map ID #3). This site is south of the Cajalco Road/Eagle Canyon Road intersection and consists of 104 acres of undeveloped land (see Figure 3.13-1). According to the Environmental Information Risk Services Database Report findings, it is a former red clay mine and rock quarry with associated elevated concentrations of arsenic in soils, and is therefore considered a REC. The Department of Toxic Substances Control (DTSC) identified investigative studies related to an Environmental Oversight Agreement/School Cleanup Agreement. The northern portion of the site is located within the limits of Build Alternatives 1, 2C, and 4, within Assessor's Parcel Numbers (APNs) 279-231-004 and -006.

A PSI was conducted for this property in September 2020; please refer to Section 3.13.2.8, *Preliminary Site Investigation*, for further information.

Mobil Baldwin, 21020 Cajalco Road, Perris (Map ID #8). This site is northeast of the Cajalco Road/Brown Street intersection (see Figure 3.13-1); the northern portion of the site currently operates as a gasoline station, and the southern portion that is adjacent to Cajalco Road is undeveloped. Due to previously documented, elevated contaminant concentrations and open regulatory case status, this site is considered a REC. The southern portion of this site is located within the limits of Build Alternatives 1, 2C, and 4, within APNs 318-061-027 and -030.

A PSI was conducted for this property in September 2020; please refer to Section 3.13.2.8, *Preliminary Site Investigation*, for further information.

3.13.2.2 Historical Recognized Environmental Conditions

Lake Mathews General Store, 17679 Cajalco Road (Map ID #7). This site is southwest of the Cajalco Road/Gustin Road intersection and currently operates as a local general store (see Figure 3.13-1). The site was previously associated with soil and soil vapor contamination and is therefore an HREC. While this property is an HREC, the site was granted closure by the Riverside County Local Oversight Program and the Santa Ana Regional Water Quality Control Board (RWQCB), and it is no longer considered a risk.

3.13.2.3 Environmental Areas of Concern

The following environmental conditions were identified within or adjacent to the proposed limits of disturbance and are considered AOCs:

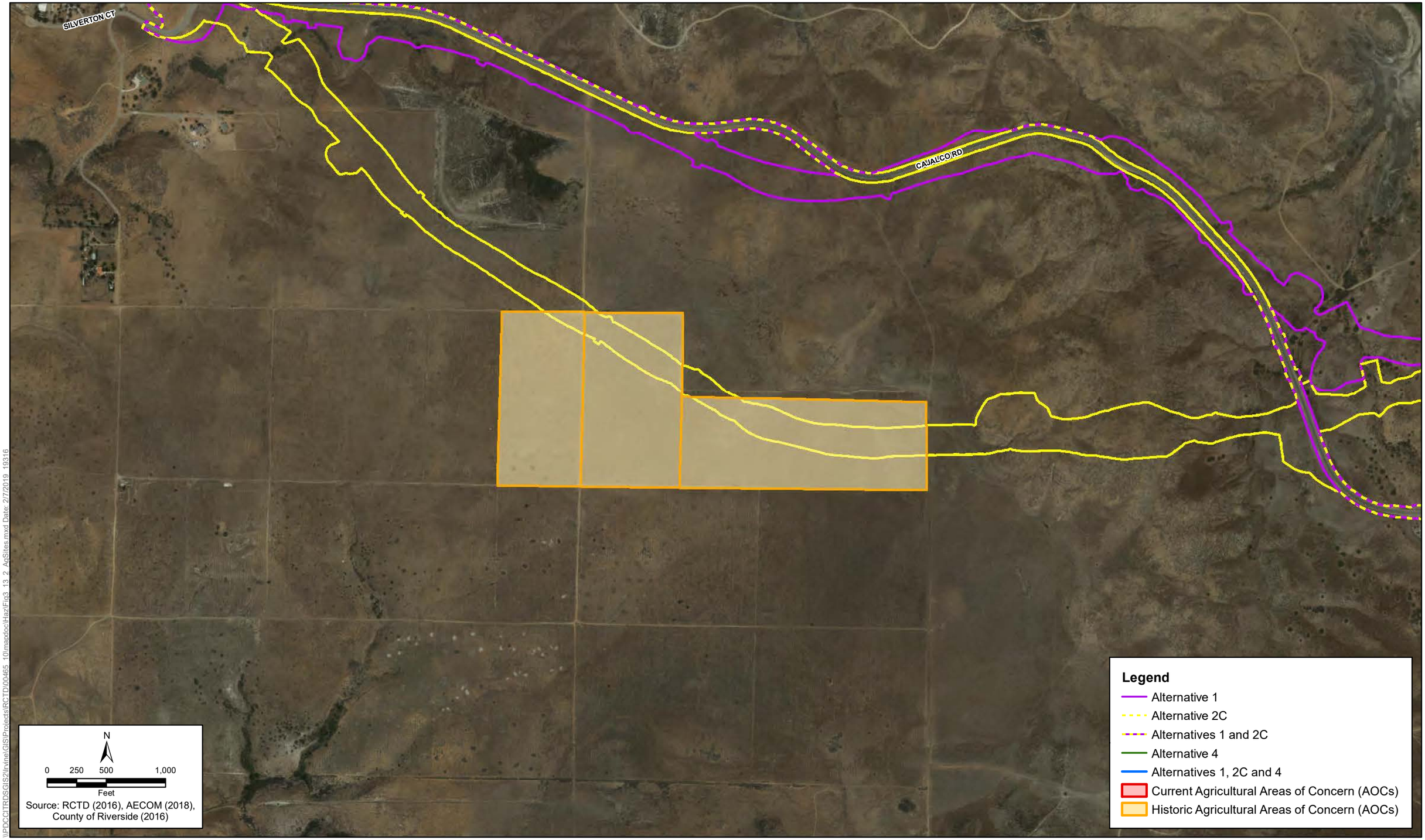
- Creosote-treated wood utility poles along several roads within the project limits.
- Overhead transformers mounted on multiple utility poles along the project limits. Pole-mounted transformers have historically contained polychlorinated biphenyls (PCBs).
- Current and former agricultural land uses. The use of agricultural chemicals is associated with former agricultural practices. Soils within current agricultural land uses and land formerly associated with agriculture that has not undergone development potentially contain residual pesticide concentrations. Areas of (current or historic) agricultural land uses are presented on Figure 3.13-2.

- Yellow striping (paint or thermoplastic) along most of Cajalco Road, El Sobrante Road, and La Sierra Avenue within the project limits. Yellow striping coatings have historically contained hazardous concentrations of lead and chromium.
- Temescal Creek Bridge in the western portion of the project alignment. The bridge potentially could contain hazardous building materials including asbestos or lead.

3.13.2.4 Site Reconnaissance

Site reconnaissance of the project limits was conducted on November 15 and 30, 2016, and again on May 28, 2020, to observe site conditions as they relate to the potential presence of hazardous substances. In addition to the AOCs listed in Section 3.13.2.3, above, the following observations were recorded during the site reconnaissance:

- An ARCO gasoline station at 23261 Cajalco Expressway, south of the intersection of Cajalco Expressway and Harvill Avenue.
- Eleven monitoring wells associated with the former Mobil Baldwin site northeast of the Cajalco Road/Brown Street intersection. One of the wells is adjacent to the County right of way.
- Two pad-mounted transformers on the eastern and western portions of Harvill Avenue at Cajalco Road.
- No current quarries or open-pit mines were observed adjacent to the existing right of way or observed portions of the proposed realignment, except for the quarry at 9001 Cajalco Road, Corona, California.



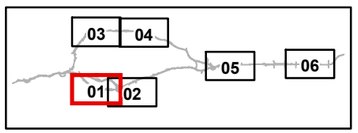


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Figure 3.13-2 - Sheet 1
Current and Historic Agricultural Land Uses
Cajalco Road Widening and Safety Enhancement Project

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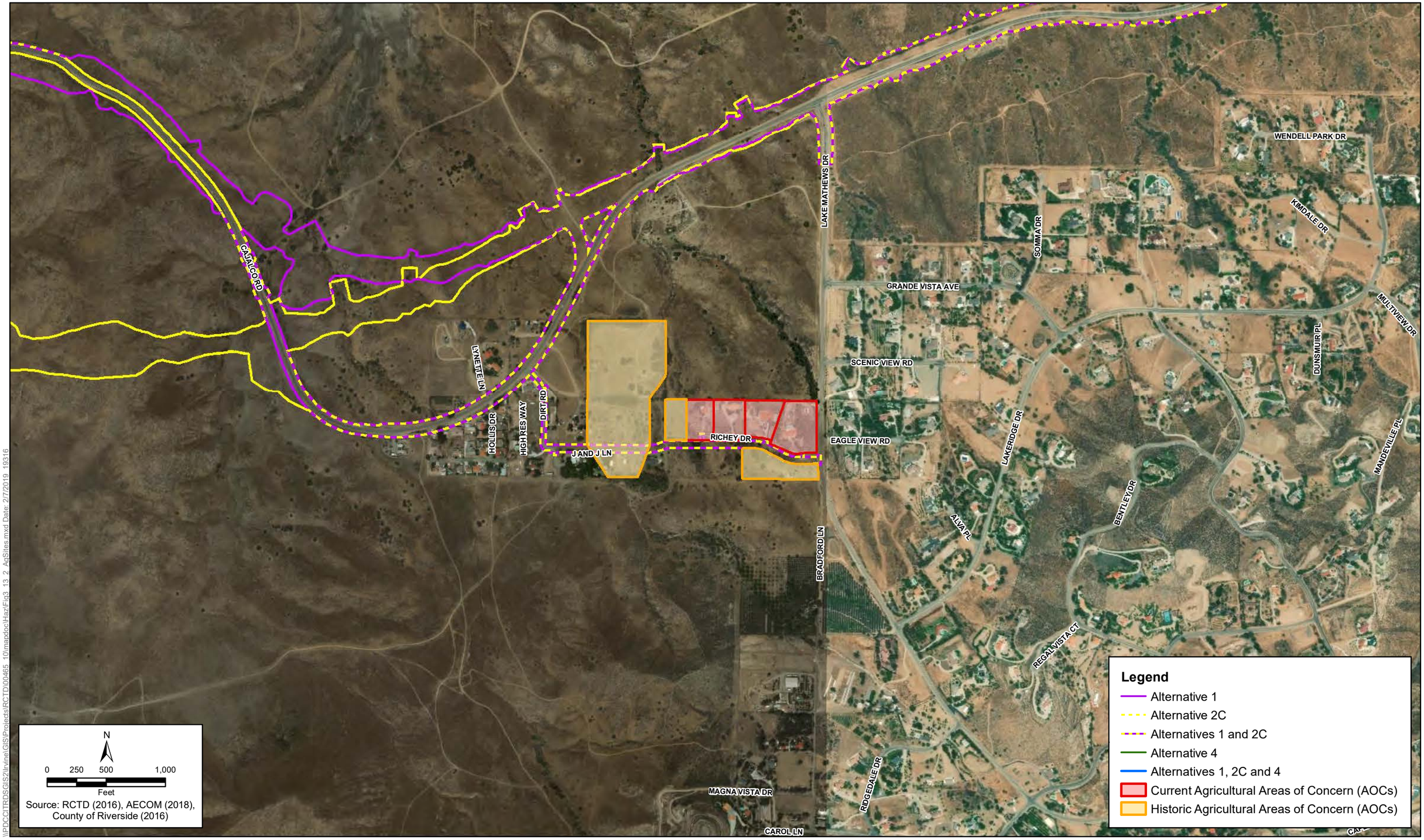

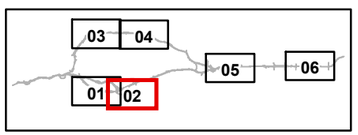

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Figure 3.13-2 - Sheet 2
Current and Historic Agricultural Land Uses
Cajalco Road Widening and Safety Enhancement Project

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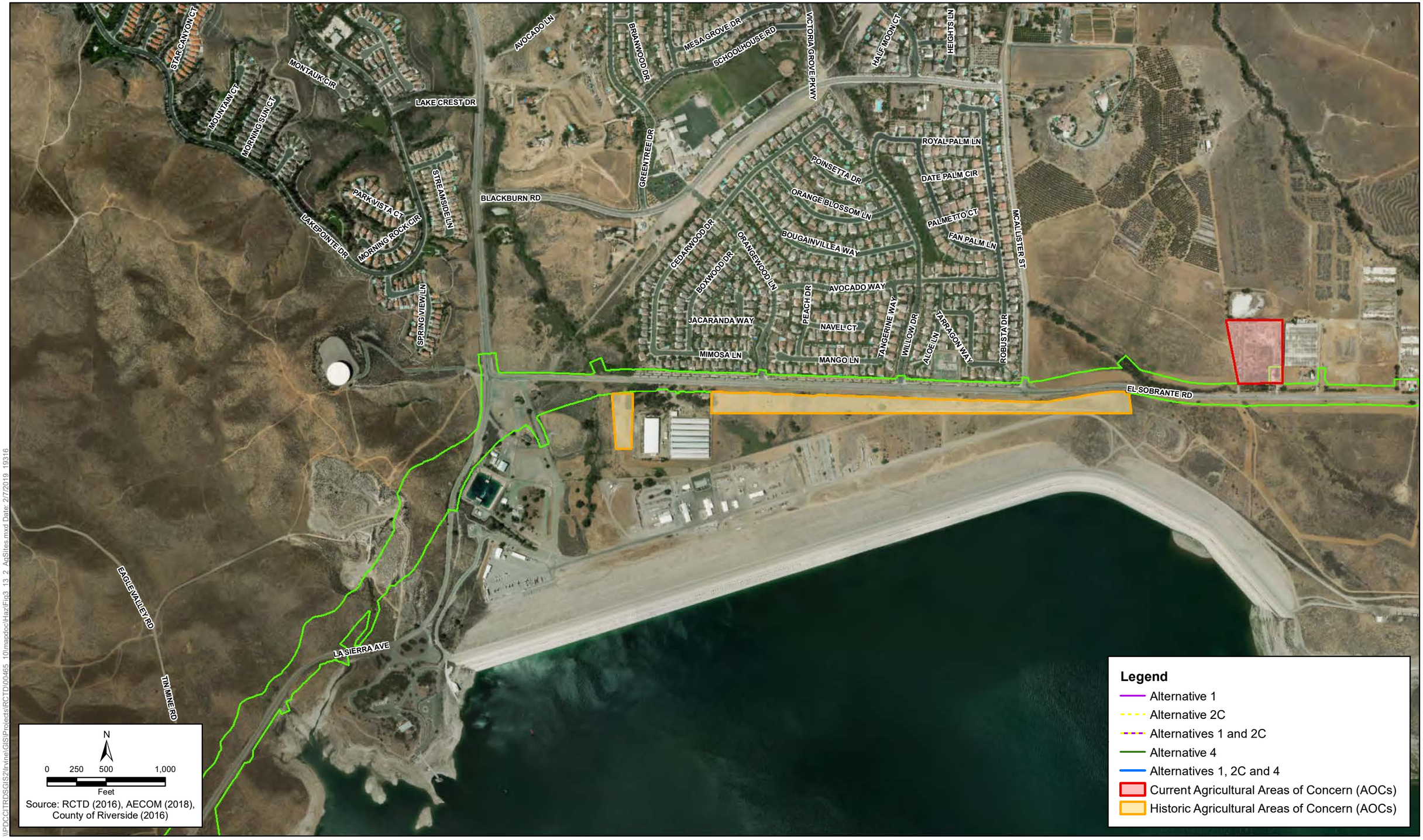

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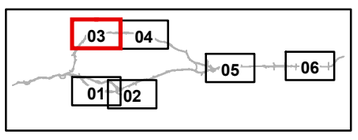

Figure 3.13-2 - Sheet 3
Current and Historic Agricultural Land Uses
Cajalco Road Widening and Safety Enhancement Project

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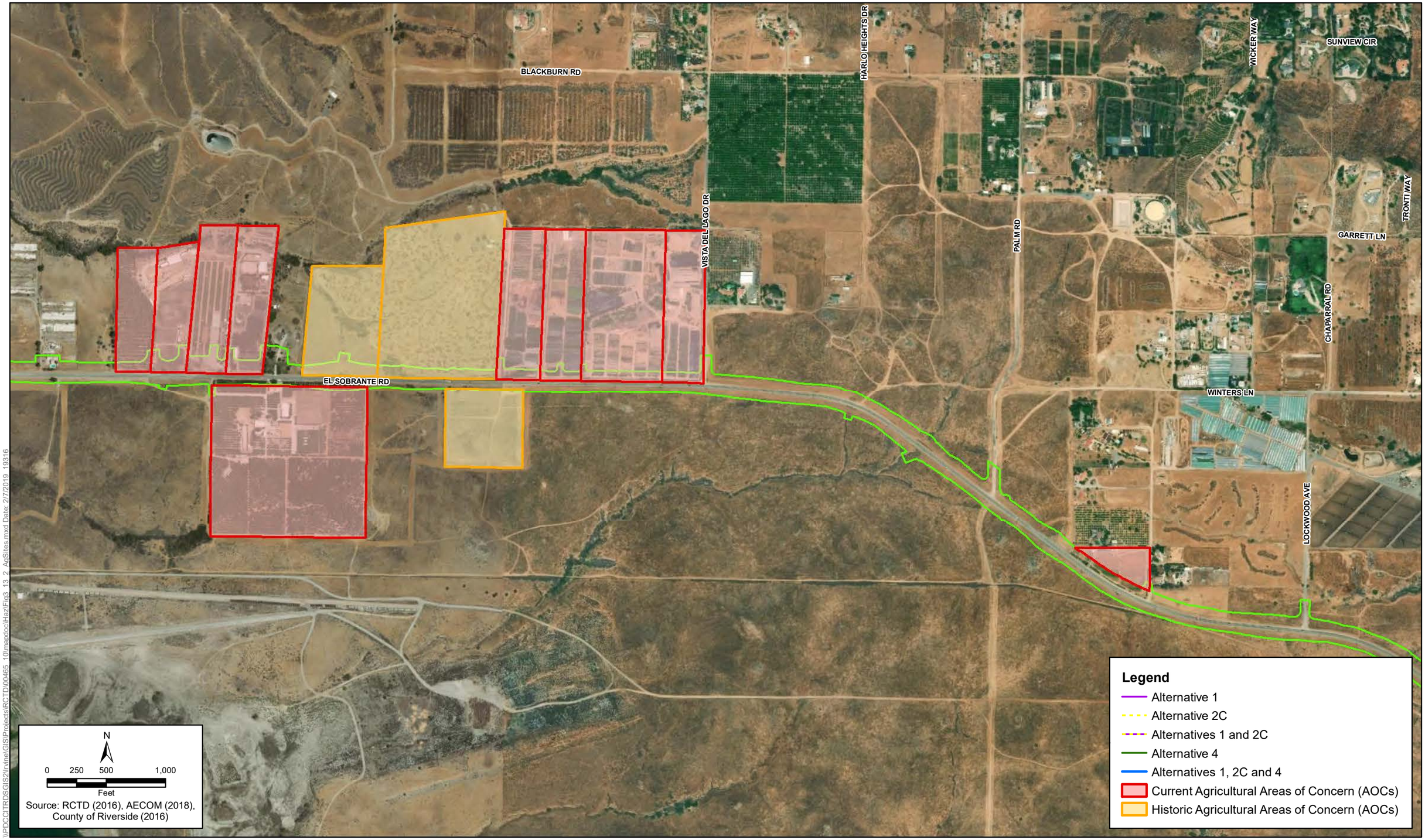

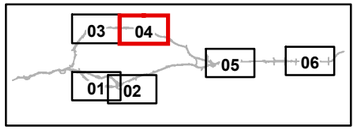

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Figure 3.13-2 - Sheet 4
Current and Historic Agricultural Land Uses
Cajalco Road Widening and Safety Enhancement Project

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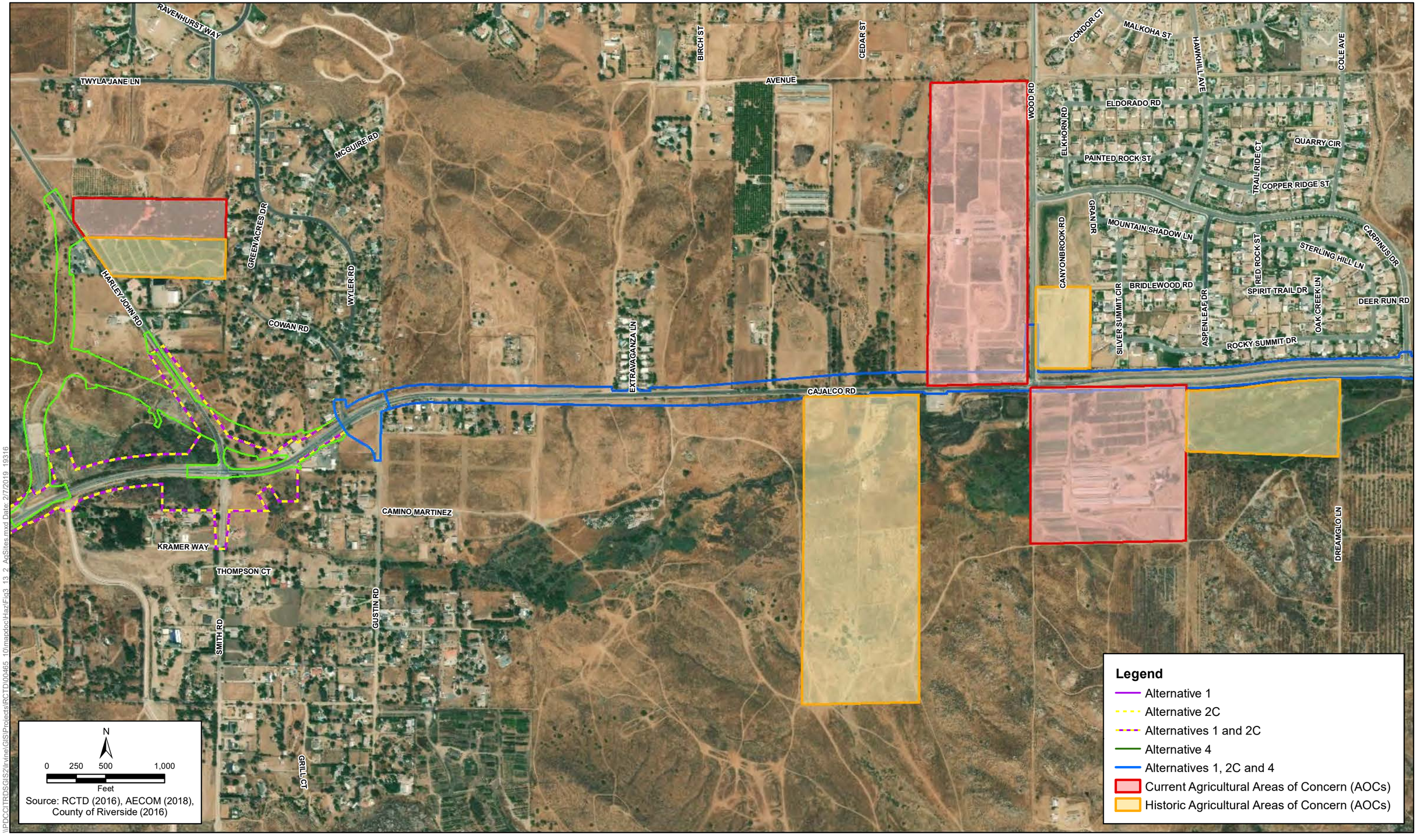

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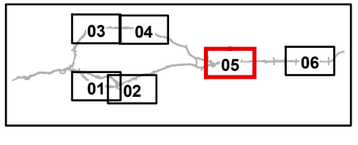

Figure 3.13-2 - Sheet 5
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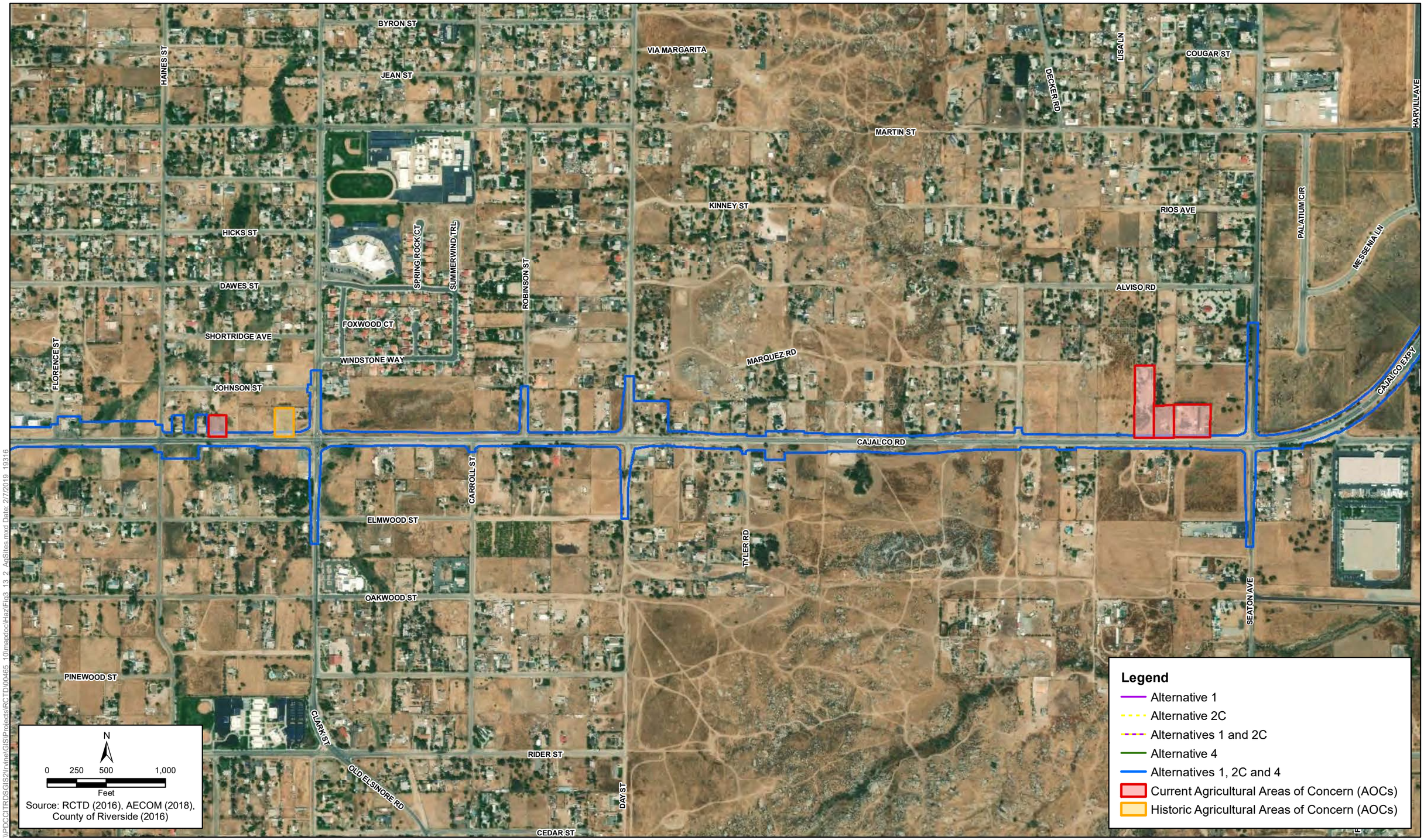

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Figure 3.13-2 - Sheet 6
Current and Historic Agricultural Land Uses
Cajalco Road Widening and Safety Enhancement Project

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3.13.2.5 Environmental Database Search

As part of the ISA, a search was conducted for environment-related information present in publicly accessible databases using Environmental Risk Information Services. The report was reviewed to determine if the project limits or sites in the project's vicinity are listed in any environmental databases (the regulatory database report includes information from federal, state, local, military, and tribal environmental regulatory agency databases). The information serves as an indicator whether prior land uses have had the potential to negatively affect the site. Listed sites identified in the regulatory database report were screened, taking into consideration the nature of the database listing, the physical environment, and distance and position of the listed sites relative to the project area. The sites' status and environmental history are summarized in Tables 3.13-1 and 3.13-2, and presented on Figure 3.13-1.

The following sites identified in the ISA are within the project limits of disturbance.

Table 3.13-1. Environmental Database Search Results – Sites within Project Limits

Map ID	Site Address and Location	Database(s)	Site Status
2	**Liston Aluminum Brick Company** **20401 Temescal Canyon Road, Corona** APN: 279231087 Southwest corner of Cajalco Road and Temescal Road intersection.	LUST, RESPONSE, CERCLIS NFRAP, RIVERSIDE LOP	Site formerly a scrap metal processing facility. Approximately 25 tons of hazardous waste were deposited at the site in June 1984. Cleanup was completed in October 1985. Site also associated with unauthorized release of gasoline from a leaking underground storage tank (LUST). Release reported to have affected soil only. Site identified as *Case Closed* as of July 1993.
3	**9001 Cajalco Road** APNs: 279-231-004 and -006 East of Cajalco Road and Eagle Canyon Road intersection.	ENVIROSTOR, SCH	Site is identified as a former red clay mine operating since the 1960s, with mineralization identified to contain elevated concentrations of arsenic. The site was also a former railroad easement along the property's western boundary.
6	**Western Municipal Water District** **16451 El Sobrante Road, Riverside** APN: 285120030 South side of El Sobrante Road.	FINDS/FRS, RIVERSIDE LOP, LUST	Site associated with unauthorized release of approximately 2,500 gallons of gasoline from an underground storage tank (UST) affecting underlying soil and groundwater. Release was discovered in July 1994. Over-excavation and post-remediation groundwater monitoring has been conducted. Case listed as *Completed – Case Closed* as of February 2011.
7	**Lake Mathews General Store** **17679 Cajalco Road** APN: 285210004 East of Cajalco Road and Smith Road intersection.	FINDS/FRS, RIVERSIDE HZH, RIVERSIDE LOP, LUST	Unauthorized release of gasoline in January 1992. Several methods of remediation were implemented between 2009 and 2011. Subsurface impacts are considered stable and contained, and are expected to naturally attenuate with time. Site listed in the GeoTracker site as *Completed – Case Closed* as of May of 2017.

Map ID	Site Address and Location	Database(s)	Site Status
8	**Mobil Baldwin** **21020 Cajalco Road, Perris** APNs: 318-061-027 and -030 Northeastern corner of Cajalco Road and Brown Street intersection.	UST, FINDS/ FRS, HHSS, RIVERSIDE LOP, HAZNET, LUST, RIVERSIDE UST, RESPONSE	Site currently operates as a gasoline station and is associated with an unauthorized release of gasoline that affected underlying soil and groundwater. Piping and a 1,000-gallon UST were removed in 2000. Groundwater monitoring currently ongoing. Case listed as *Open*, undergoing remediation.

CERCLIS NFRAP – No Further Remedial Action Planned
ENVIROSTOR – EnviroStor Database
FINDS/ FRS – Facility Index System/Facility Registry Service
HAZNET – Hazardous Waste Manifest Data
HHSS – Historical Hazardous Substance Storage Information Database
LUST – Leaking Underground Storage Tank
RESPONSE – State Response Sites
RIVERSIDE HZH – Riverside County Disclosure Facility List
RIVERSIDE LOP – Riverside County Local Oversight Program List
RIVERSIDE UST – Riverside County Underground Storage Tank List
SCH – School Property Evaluation Program Sites
UST – Permitted Underground Storage Tank in GeoTracker

The following site was identified as in the vicinity of the project limits.

Table 3.13-2. Environmental Database Search Results – Site in Project Vicinity

Map ID	Site Address and Location	Database(s)	Site Status
4	**Metropolitan Water District** **18250 La Sierra Avenue, Riverside** APN: 278210009 Approximately 450 feet east-southeast of project limits; south of El Sobrante Road and La Sierra Avenue intersection.	AST, HHSS, RIVERSIDE HWG, RIVERSIDE HZH, RIVERSIDE LOP, RCRA LQG, LUST, Cleanup Sites, UST	Site identified as a LUST Cleanup Site due to unauthorized release of waste motor oil and lubricating fluid to soils (July 1990). Remedial excavation and physical/chemical treatment were conducted. Site was issued closure in April 2009. An additional regulatory case associated with an unauthorized release of petroleum hydrocarbons from a hydraulic hoist was opened in February 2010, and it is reported to have affected soils only. Remedial excavation was conducted, and minor residual concentrations of hydrocarbons remain.

AST – Above Ground Storage Tank List
Cleanup Sites – GeoTracker Cleanup Sites Data
RCRA LQG – RCRA Generator List – Large Quantity Generator
RIVERSIDE HWG – Riverside County Hazardous Waste Generator Sites List

3.13.2.6 Environmental Regulatory Agency Inquiries

Regulatory agencies were contacted for reasonably ascertainable and practically reviewable documentation regarding environmental conditions present at the subject site and adjacent facilities. Some of the sites identified during the database search above were also found in the local regulatory agency documentation reviewed (where applicable, it is noted in the site descriptions below). Both sources were used to get a more complete characterization of the site's environmental history and status.

California Regional Water Quality Control Board

Gateway Business Park, 20325 Temescal Canyon Road, Corona (Map ID #1). The site is approximately 425 feet north of the Temescal Canyon Road and Cajalco Road intersection. The facility formerly operated as clay pipe manufacturing facility, silica sand mining and processing facility, and truck maintenance facility. Subsurface investigations were conducted upon planned redevelopment of the property, which resulted in remedial excavations of petroleum-affected soil at discrete locations within the property in 1999 and 2003. Excavated petroleum-affected soil

was remediated on site by employing biofarming, which achieved remediation goals. Groundwater monitoring wells were installed in June 2004 and were decommissioned after four quarterly monitoring events. The case was issued a No Further Action (NFA) letter in August 2005.

Liston Aluminum Brick Company, 20401 Temescal Canyon Road, Corona (Map ID #2). Also discussed in Section 3.13.2.6. The site formerly operated as an aluminum recycler. Various hazardous materials were stored on site, and inspections conducted by the Riverside County Department of Environmental Health (DEH) resulted in violations for improper management of waste oil and a waste oil spill. Other violations were reported by RWQCB for the disposal of materials in a dry streambed near the facility in 1984. The oil spill was cleaned up, and the disposed materials were removed from the streambed. Preliminary Assessments of the site were performed by the U.S. Environmental Protection Agency (USEPA) in June 1986 and January 1987, and a site investigation was performed in September 1989, which included soil sampling. Laboratory results indicated some heavy metal contamination above background levels; however, the extent of soil contamination was determined to be limited in quantity and depth. It was concluded the contamination had a low probability of migration. Following the site investigation, secondary containment equipment was installed around areas of concern. No further recommendations were provided by regulatory agencies. In March 1993, two USTs were removed from the facility. Samples did not identify detectable concentrations of potential contaminants. The site was issued an NFA letter from DEH in July 1993.

Western Municipal Water District Operations Center, 16451 El Sobrante Road, Riverside (Map ID #6). Also discussed in Section 3.13.2.6. The site formerly operated four USTs. During a tank tightness test, it was discovered that approximately 2,500 gallons of gasoline were missing from a 4,000-gallon UST. Several subsurface investigations were conducted and identified the presence of gasoline in on-site soil and groundwater. Groundwater monitoring wells were installed on site along with a soil vapor extraction system, which operated at the facility from April 1998 to March 2001. A High-Vacuum Soil Vapor Extraction System and Groundwater Extraction and Treatment System were installed for further remediation efforts, and operated concurrently between May 2005 and June 2008. Shutdown of the High-Vacuum Soil Vapor Extraction System and Groundwater Extraction and Treatment System was recommended in 2008, and closure requested in June 2009. Closure was granted by DEH in February 2011.

Department of Toxic Substances Control

9001 Cajalco Road, Corona (Map ID #3). Also identified in Section 3.13.2.6. A September 2004 site-specific Phase I Environmental Site Assessment (ESA) investigation and a response letter from DTSC were reviewed. Results of the Phase I ESA revealed no evidence of RECs in connection with the property, and no apparent environmental concerns relative to regulations and DTSC guidance with regard to the property. The response letter from DTSC concurred with the Phase I ESA findings. However, an Environmental Oversight Agreement/School Cleanup Agreement from 2007 identified multiple planned studies to be conducted on site. The planned studies included a Preliminary Endangerment Assessment, Supplemental Site Investigation, Site Investigation, Remedial Action Workplan, and Remedial Action Completion Report. None of these documents were available for review during the regulatory agency inquiries. As of 2017, the property was no longer under consideration for development with a school. Given the land use history associated with the property and the current case status identified as requiring additional evaluation (March 2008), this property was considered a REC for the project in the ISA.

Online Resources

In addition to the local regulatory agency review, supplemental research was conducted via online resources. The DTSC's Envirostor; the State Water Resources Control Board's GeoTracker; California Department of Conservation Division of Oil, Gas, and Geothermal Resources; and Office of California State Fire Marshal *Pipeline Mapping System* online databases were reviewed during completion of the ISA. No operational or abandoned oil or gas wells were identified in the vicinity of the project, and no oil or gas pipelines intersect or are located within 1,000 feet of the project area. Some of the sites identified in the previous sections were also found in the online resources reviewed (where applicable, it is noted in the site descriptions below). All data were used to get a more complete characterization of the site's environmental history and status.

Mobil Baldwin, 21020 Cajalco Road, Perris (Map ID #8). Site also discussed in Sections 3.13.2.6 and 3.13.2.8. The site historically has and currently operates as a gasoline station. The site was listed with five historical on-site USTs and an unauthorized release of gasoline that affected on-site soils and groundwater. Concentrations of petroleum hydrocarbons, benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary-butyl ether (MTBE) were detected in samples collected from the UST cavity during tank closure activities. Groundwater monitoring in 2003 indicated elevated concentrations of petroleum hydrocarbons and BTEX in on-site groundwater along with MTBE. Additional soil and groundwater analyses were conducted in February 2004 and a soil vapor extraction (SVE) feasibility study was conducted in May 2005. Due to shallow regional groundwater in the vicinity of the site (between approximately 9 and 13 feet below ground surface) and limited extent of the benzene contamination plume, soil excavation was identified as the most suitable remedial alternative, and commenced in January 2008. An abandoned UST and associated piping were discovered during excavation and handled according to regulatory requirements. Air sparging combined with SVE was implemented in 2014.

In January of 2016, a site-specific *Supplemental Remedial Action Plan* (A.C.C.E.S., Inc. Environmental Engineering 2016) proposed the expansion of the existing vapor extraction system with two additional horizontal vapor extraction lines in the northern portion of the site. As of June 2020, groundwater monitoring has continued as the corrective action for the site.

Lake Mathews General Store, 17679 Cajalco Road, Perris (Map ID #7). Site also discussed in Section 3.13.2.6. Soil samples collected during a 1992 tank removal indicated elevated concentrations of petroleum hydrocarbons and volatile organic compounds (VOCs). Remedial excavation ensued and confirmation soil samples indicated the presence of total petroleum hydrocarbons (TPH) and BTEX. Groundwater samples indicated significantly elevated concentrations of TPH, benzene, and MTBE. SVE was implemented between August 2005 and March 2006, and air sparging also installed in February 2007. SVE was not effective in treating contamination at the site; high-vacuum dual-phase extraction was installed in November 2010, and oxygen release compound socks were installed in August 2012. As a result, substantial decreases in chemical constituents in groundwater occurred.

In August 2013, the site met the criteria for the Low-Threat Underground Storage Tank Case Closure Policy. Operation of the groundwater remediation system continued until the first quarter of 2015. According to information obtained via GeoTracker, remedial efforts conducted at the site have been effective in reducing soil and groundwater impacts. Remaining

hydrocarbons are expected to further biodegrade and naturally attenuate with time and do not appear to pose a threat to human health or the environment. The status of the site is identified as Completed – Case Closed as of May 12, 2017.

Elementary School No. 30, El Sobrante Road/La Sierra Avenue, Riverside (Map ID #5). The property is approximately 200 feet east of the La Sierra Avenue and El Sobrante Road intersection and consists of 12 acres of land under consideration for development of a school. The property historically operated as a citrus orchard and egg ranch. Potential contaminants of concern were identified as arsenic, dichlorodiphenyldichloroethylene (DDE), and dichlorodiphenyldichloroethane (DDD). Remediation details were not disclosed. The site status was identified as NFA as of November 2000.

MWD Lake Mathews Facility, 18250 La Sierra Avenue, Riverside (Map ID #4). Site also discussed in Section 3.13.2.6. A waste oil UST was removed from the facility in July 1990. Soil samples collected from the tank excavation indicated the presence of petroleum hydrocarbons above regulatory thresholds. Approximately 96 cubic yards of contaminated soil were then excavated. Additional borings were taken between 1990 and 1994. Results of the March 1994 investigation indicated detectable concentrations of petroleum hydrocarbons; however, the concentrations were determined not to be substantial enough to warrant further investigations or remedial activities. Closure was issued to the facility in April 1997. In February 2010, a hydraulic hoist was observed to be compromised during hoist removal activities. Soil samples were analyzed and the results indicated the presence of petroleum hydrocarbons above regulatory thresholds. Soil excavated from the area of the former hoist and laboratory results from subsequent sampling indicated contamination was limited in mass and extent, and had not migrated beyond the area of investigation. An NFA letter was issued for the site in July 2010.

9001 Cajalco Road, Corona (Map ID #3). Site also discussed in Sections 3.13.2.6 and 3.13.2.8. Soil reported to be affected by former land use. Site listed as inactive under EnviroStor and in need of evaluation as of March 2008.

Liston Aluminum, 20401 Temescal Canyon Road, Corona (Map ID #2). Site also discussed in Section 3.13.2.6. The site was identified as being adjacent to a streambed and near drinking water wells. Approximately 25 tons of hazardous waste were deposited in a streambed behind the property in June 1984. This material was sampled, tested, and found to contain hazardous levels of zinc and lead. The hazardous waste was removed from the property, and cleanup was completed in October 1985.

3.13.2.7 Aerially Deposited Lead Investigation

An *Aerially Deposited Lead Site Investigation Work Plan, Cajalco Road Widening and Safety Enhancement Project, Riverside County*, *California* was prepared for the County in June of 2017 (Caltrans 2017a). The objective of the ADL investigation was to evaluate unpaved soil along the project alignment for the presence of ADL. Soil sampling for the ADL Investigation was conducted on October 30 and 31, 2017, following the methodology proposed in the work plan as described above. Twenty-six boring locations were tested, and 78 soil samples were collected at depths of 0.5 foot, 1 foot, and 2 feet below ground surface. Soil samples were analyzed for total lead via USEPA Method 6010B. Total lead was detected in each of the 63 samples analyzed, ranging from 1.1 milligrams per kilogram (mg/kg) to 66 mg/kg; however, no samples contained total lead concentrations exceeding the California Total Threshold Limit Concentration of 1,000 mg/kg.

Samples containing greater than or equal to 50 mg/kg total lead were analyzed for soluble lead using the California Waste Extraction Test (citric acid extraction/USEPA Method 3050A) and USEPA Method 6010B for extractable lead. Two of the 63 samples analyzed exceeded 50 mg/kg and, therefore, were subject to California Waste Extraction Test analysis. However, neither of the samples analyzed exceeded the California Soluble Threshold Limit Concentration threshold of 5 milligrams per liter and did not meet hazardous waste criteria.

Based on analytical results, the investigation report concluded that further statistical analysis of the results would not be warranted. Furthermore, excavated soil would not be restricted for on-site reuse and would be classified as non-hazardous waste if disposed off site. Soils removed as part of the project could be disposed of as nonhazardous waste at a Class III landfill.

3.13.2.8 Preliminary Site Investigation

The ISA prepared for the project identified the following two properties within the project limits as RECs, and recommended a PSI be conducted for each property: 9001 Cajalco Road and 21020 Cajalco Road. The results of the additional investigations were compared with the available data for these properties, and the combined data set evaluated to determine the need for specific protocols to be included in the site-specific Health and Safety Plan (HASP) and Soil Management Plan (SMP). In lieu of an additional intrusive investigation, a review of the historical documents and available contaminant analytical data related to these properties was conducted.

9001 Cajalco Road, Corona (Map ID #3)

The following summary regarding 9001 Cajalco Road is based on the PSI prepared for 9001 Cajalco Road and 21020 Cajalco Road. Sources of information for 9001 Cajalco Road included in the PSI are listed below, and are incorporated by reference:

- *Environmental Oversight Agreement/School Cleanup Agreement, Docket Number HAS-EOA/SCA 07/08-064, Corona Norco Unified School District, Rancho Serrano High School, Corona, Riverside County* (Site Code: 404759-11) (DTSC, October 2007)
- *Limited Phase II Soil Investigation Report for the Proposed Rancho Serrano High School Site, Located at 9001 Cajalco Road, Corona, Riverside County, California* (Leighton, August 2007)
- *Phase I Environmental Site Assessment, Corona-Norco Unified School District, Proposed Rancho Serrano High School, Lawson Drive/Temescal Canyon Road, Corona, Riverside County, California* (Kleinfelder, Inc., September 2004)

An assessment of limited existing soil analytical data previously collected in the region of the rock quarry/former red clay mine at 9001 Cajalco Road (APNs 279-231-011, 279-231-006, 279-231-004, and 281-140-021) was conducted to develop recommendations based on the proximity of at least four of the sampling locations to the property.

A Detailed Site Investigation (DSI) or Phase II ESA was completed in 2007 when the Corona Norco Unified School District considered the entire quarry site for development into a new high school. The investigation comprised collection and analyses of only surface soil samples across the entire 104-acre site. Although no samples were collected within the limits of the proposed

project, four borings (11 samples) were collected in the project vicinity at locations approximately 76 feet southwest and 215 feet south of the project limits. The highest detected arsenic concentration of the four borings was 47 mg/kg. Without the collection and analyses of soil samples within the limits of the proposed project down to depths of the proposed excavation, it is not possible to fully assess health and safety considerations for project construction workers and soil management requirements. Based on arsenic levels detected from the four borings that were located in the vicinity of the proposed acquisition property, soil generated from this area has the potential to be characterized as a California non-RCRA hazardous waste. However, because the soil samples were not further analyzed to determine their extractable arsenic concentrations, which is used to determine the soil's waste characteristic (i.e., hazardous waste), there is also potential for the soil to be characterized as RCRA hazardous waste.

The entirety of the mine and quarry activities appear to have been conducted primarily in the central and southern portions of the property and do not overlap with the planned acquisition property. The nearest feature to the project limits is an inactive clay pit approximately 300 feet to the southeast. A soil and debris stockpile of unknown origin along the northern access road at Cajalco Road and staining near the pit were noted.

Based on the 2007 DSI, there appears to have been no soil samples collected within a portion of the proposed project acquisition area (Leighton 2007). Due to the uncertainty of the stockpile location, there is potential that arsenic-impacted soil exists in the acquisition property resulting from historical stockpiling and/or spillage during soil transport. Based on a review of aerial photos taken of the property from 2007 through 2020, there appears to be significant movement/transport of the surface soils in this area. The shape and size of the inactive clay pit appear to have transformed over this same time period. Because only surface soil samples were collected across this region, there is potential for soil to be impacted with arsenic above screening levels at greater depths.

No soil remediation activities have been documented for the property up to the date of this report. No groundwater investigation or remediation has been performed at the property. Groundwater is expected below 100 feet below ground surface. Based on the type of contaminants detected in the upper 6 inches of soil and the depth to groundwater, the potential for soil contamination to affect groundwater is low. In addition, groundwater should not be encountered during construction.

Mobil Baldwin, 21020 Cajalco Road, Perris (Map ID #8)

The following summary regarding 21020 Cajalco Road is based on the PSI prepared for 9001 Cajalco Road and 21020 Cajalco Road. Sources of information for 21020 Cajalco Road included in the PSI are listed below, and are incorporated by reference:

- *Groundwater Monitoring Report First Semi-Annual 2020 (Second Quarter 2020) for Mobil Baldwin 21020 Cajalco Road, Perris, California* (A.C.C.E.S., July 2020)
- *Additional Subsurface Soil and Groundwater Investigation for Mobil Baldwin, 21020 Cajalco Road, Perris, California* (A.C.C.E.S., September 2019)
- California State Water Resources Control Board GeoTracker website (SWRCB 2020)
- Review Summary Report – Additional Work, Second Review (SWRCB, March 2019)

Mobil Baldwin, formerly located at 21020 Cajalco Road, Perris, California (APN 318-061-027 and 318-061-030), maintains an open LUST case with the RWQCB. Chemicals of concern are TPH and VOCs. Ongoing groundwater monitoring and remediation activities are being conducted to obtain case closure and a No Further Action determination by RWQCB.

An unauthorized release was reported in July 2000 when five USTs were removed. Since 2000, the site has been undergoing soil and groundwater investigation and remediation. In 2008, the former UST area was excavated, and 740 cubic yards of contaminated soil were disposed off site. Excavation activities ceased prior to reaching the contaminated soil limits due to budgetary reasons. Limited soil and groundwater remediation using a combination of air sparging and SVE was performed in December 2012, and again from March to May in 2014. The SWRCB concluded in its March 2019 Review Summary Report that a sufficient mass of contaminants had been removed during the two remediation periods such that residual contamination could not be a source of significant risk to utility workers (SWRCB 2019).

Despite not having recent soil analytical data representing residual soil contamination, there is sufficient information available regarding the site from the sources identified above to develop health and safety considerations for project construction personnel. One of the primary considerations will be the exposure of VOCs to project workers originating from both residual soil contamination and contaminated groundwater beneath the site. The affected groundwater is shallow at depths ranging from 5 to 12 feet below ground surface. Any waste generated from this area has the potential to be characterized as California non-RCRA hazardous waste or RCRA hazardous waste due to the presence of benzene.

Based upon the latest available groundwater monitoring results, it appears that case closure is not imminent for the property (A.C.C.E.S. 2020). Numerous groundwater monitoring and air sparging wells are located within the project limits, and ongoing groundwater monitoring will likely continue for the foreseeable future due to the relatively high concentrations of VOCs still present in the groundwater.

3.13.3 Environmental Consequences

3.13.3.1 Build Alternatives 1, 2C, and 4

Recognized Environmental Conditions

Two documented hazardous material sites occur within the limits of Build Alternatives 1, 2C, and 4; these include 9001 Cajalco Road and the former Mobil Baldwin located at 21020 Cajalco Road. The PSI conducted for both sites in September 2020 confirmed potential for arsenic to occur within the project limits at 9001 Cajalco Road, and the Mobil Baldwin site remained active with an open regulatory case status.

Lake Mathews General Store at 17679 Cajalco Road was identified as an HREC and was formerly associated with soil and soil vapor contamination. However, as the site was granted closure in May of 2017 by the Riverside County Local Oversight Program and the Santa Ana RWQCB, it is not considered a risk to the proposed project.

Table 3.13-3 on the following page lists the sites considered RECs for the proposed project and summarizes recommended studies performed and recommended measures.

Table 3.13-3. Recognized Environmental Conditions – Build Alternatives 1, 2C, and 4

Map ID	Site Name and Parcels	Agencies	Studies/Measures
3	**9001 Cajalco Road** APNs 279-231-004, -006, 011, and 281-140-021	DTSC	PSI conducted September 2020. HAZ-1(a): Detailed Site Investigation; to be conducted during final design. HAZ-1(b): Riverside County Department of Environmental Health Notification and soil remediation, if required, and case closure; prior to construction. HAZ-1(c) and PF HAZ-2: Health and Safety Plan; prior to construction. HAZ-1(d): Soil Management Plan, if required; prior to construction. PF HAZ-3: Handling, Transport, and Disposal of Wastes; during construction, throughout construction duration.
8	**Mobil Baldwin** **21020 Cajalco Road** APNs 318-061-027 and -030	Santa Ana RWQCB/ Riverside County LOP	PSI conducted September 2020. PF HAZ-3: Handling, Transport, and Disposal of Wastes; during and throughout construction. HAZ-4(a): Continued Coordination with Oversight Agencies; during final design through construction. HAZ-4(b): Abandonment of Existing Monitoring Structures; prior to construction. HAZ-4(c): Soil and Groundwater Investigation (Optional); during final design and prior to construction. HAZ-4(d) and PF HAZ-2: Health and Safety Plan; prior to construction. HAZ-4(e): Soil Management Plan; prior to construction. HAZ-4(f): SCAQMD Rule 1166 permitting and VOC monitoring; during construction. HAZ-4(g): Groundwater Disposal; during construction.

The 9001 Cajalco Road site is a former red clay mine and rock quarry; according to the Environmental Information Risk Services Database Report findings, it is associated with elevated concentrations of arsenic in soils. In 2007, an Environmental Oversight Agreement/ School Cleanup Agreement identified additional investigative studies to be prepared in advance of the site being considered for the construction of a new school. Partial acquisition of APNs 279-231-004 and -006 is proposed as part of the project. A 2004 Phase I ESA revealed no evidence of RECs in connection with the property, and a response letter from DTSC concurred with the Phase I ESA findings. Considering the land use history associated with the property and because the current case status identifies additional investigative studies (as of March 2008), this property is considered a REC.

Mitigation Measure **HAZ-1** is identified to minimize potential impacts related to the acquisition of APNs 279-231-004 and -006 (see Section 3.13.4); this measure, in addition to Standard Project Measures **PF HAZ-2** and **PF HAZ-3**, would ensure hazards associated with the acquisition of APNs 279-231-004 and -006, and soil disturbance activities during construction, are minimized to the greatest extent feasible:

- **PF HAZ-2. Health and Safety Plan.** The Health and Safety Plan (HASP) would provide direction for the identification, evaluation, and control of the wide variety of chemical, physical, biological, and ergonomic hazards that may be encountered during construction activities. The HASP will also address the management of potential health and safety

hazards to workers and the public, and will be prepared and implemented prior to initiation of the construction activities. Instructions, guidelines, and requirements for handling hazardous materials to ensure employee safety as provided in Chapter 16, "Hazardous Materials Communication Program," of the California Department of Transportation's Safety Manual will be included in the HASP. The HASP should be prepared and stamped by a Certified Industrial Hygienist (CIH) and will provide appropriate administrative controls, engineering controls, and personal protective equipment necessary to eliminate or reduce hazards to both project personnel and the community.

- **PF HAZ-3. Handling, Transport, and Disposal of Wastes.** Wastes and petroleum products used or encountered during construction will be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Health and Safety Administration standards, including Waste Management and Materials Pollution Control Best Management Practices (BMPs) – Spill Prevention and Control, Materials; and Waste Management BMPs, Hazardous Waste Management. The following California Department of Transportation (Caltrans) and other regulations will also be followed, as applicable:
  - All hazardous waste will be stored, transported, and disposed of as required in California Code of Regulations (CCR) Title 22, Division 4.5; Code of Federal Regulations (CFR) Title 49, Parts 261–263;
  - Applicable Caltrans requirements as stated in Section 7-109, Solid Waste Disposal and Recycling Reporting, of the Caltrans Construction Manual, Waste Management and Materials Pollution Control BMPs, and Standard Special Provisions (SSPs), will be implemented.
  - Handling of thermoplastic material would be conducted in accordance with Caltrans SSPs 36-4 and 14-11.12, or with 84-9.03C, as applicable. Thermoplastic waste will be disposed of in accordance with SSP 36-4. Environmental Rules and Requirements as outlined in the Caltrans Construction Manual—7-103H (1) Caltrans & Contractor Designated Disposal, Staging, and Borrow Sites—will be followed as required.
  - Handling, transport, and disposal of any contaminated media determined to exceed maximum concentration levels will be performed in accordance with all applicable state and federal regulations. If a commercial landfill will be used to dispose of soils: (1) soils will be transported to a landfill appropriately permitted to receive the material and (2) the contractor is responsible for identifying the appropriately permitted landfill to receive said soils.

The Mobil Baldwin site involved unauthorized release of gasoline that affected on-site soils and groundwater, and is currently undergoing remediation. Affected soil and groundwater may still remain at the site. Full acquisition of APNs 318-061-027 and -030, located on the southern portion of the Mobil Baldwin site, is proposed as part of the project. Due to elevated contaminant concentrations identified at the site and open regulatory case status, acquisition of the property associated with APNs 318-061-027 and -030 is considered a REC for the project. Mitigation Measure **HAZ-4** is identified to minimize potential impacts related to the acquisition of APNs 318-061-027 and -030 (see Section 3.13.4); these measures, in addition to Standard Project Measures **PF HAZ-2** and **PF HAZ-3**, would ensure hazards associated with the acquisition of

APNs 318-061-027 and -030, and soil disturbance activities during construction, are minimized to the greatest extent feasible.

Areas of Concern

In addition to the RECs, five AOCs were identified as potential issues associated with the implementation of the build alternatives and would require attention prior to construction.

Utility poles containing creosote-treated wood are located along several roads within the project limits. During construction, creosote-treated wood waste (TWW) may be generated when aforementioned poles are manipulated or removed. Pole-mounted transformers were also noted throughout the project limits (for all build alternatives). In addition, two pad-mounted transformers are located in the eastern portion of the project (at the intersection of Harvill Avenue and Cajalco Expressway). Historically, PCBs were widely used as dielectric and coolant fluids in electrical transformers. If disturbed, the materials within these electrical transformers will need to be profiled and managed appropriately. Compliance with Standard Project Measures **PF HAZ-2, PF HAZ-3**, and **PF HAZ-5** would ensure hazards would be minimized to the greatest extent feasible:

- **PF HAZ-5. Creosote-treated Wood Waste.** When handling creosote-treated wood waste (TWW), the following should be observed:
  - Proper removal and disposal of any materials or waste will be consistent with Caltrans' Standard Special Provision (SSP) 14-11.14.
  - Proper removal and disposal of all stained pole-mounted and/or pad-mounted transformers will be required for the utility company or agency operating them.
  - TWW material (being stored) should be labeled TREATED WOOD WASTE - DO NOT BURN OR SCAVENGE, and should include the handler's name and address as well as the accumulation date.
  - TWW will not be stored directly on the ground. TWW will be segregated from other wastes and stored in containers or on plastic sheeting, covered, and secured.
  - TWW will not be burned, scavenged, reused, recycled, or commingled with other waste prior to disposal.
  - TWW will be hauled by a Department of Toxic Substances Control (DTSC)-registered hazardous waste transporter.
  - All TWW will be disposed of at an approved landfill (liner-equipped/ permitted Class I landfill).
  - TWW handlers that generate more than 10,000 pounds in any calendar year will obtain a DTSC ID Number and submit the notification within 30 days of exceeding the 10,000-pound limit.

Several areas immediately adjacent to and within the construction limits of the build alternatives are either currently or have historically been used for agriculture (refer to Figure 3.13-2). As such, agricultural chemicals have likely been applied within these areas and these chemicals along with their associated metal constituents may be present in near-surface soils at residual

concentrations. The implementation of Mitigation Measure **HAZ-6** and compliance with Standard Project Measures **PF HAZ-2** and **PF HAZ-3** would ensure hazards would be minimized to the greatest extent feasible.

Yellow striping was observed along most of the proposed project. As yellow striping used prior to 2006 could contain significant levels of lead and chromium, disturbance of the paint striping could result in an exposure risk to construction personnel and the surrounding environment. The implementation of Mitigation Measure **HAZ-7** and compliance with Standard Project Measures **PF HAZ-2** and **PF HAZ-3** would ensure hazards would be minimized to the greatest extent feasible.

Based on the age (prior to 1978) of some structures, such as the Temescal Canyon Bridge, located within the project limits, there is a potential for either asbestos-containing materials (ACM) or lead-based paint (LBP) to be present in the building materials of said structures. If these structures are to be modified or removed as part of the implementation of the build alternatives, construction personnel and the surrounding environment could be exposed to these hazardous materials. In addition to the implementation of Mitigation Measure **HAZ-8**, the handling of LBP and ACM would be conducted consistent with Standard Project Measures **PF HAZ-2** and **PF HAZ-3**.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if constructed in the future, the median included as part of the Cajalco Road Widening and Safety Enhancement Project would be designed with sufficient width to accommodate the two additional travel lanes for future construction.

Construction activities associated with a Future Six-Lane Facility may include grading, and cut and fill; however, these activities would be anticipated to occur within the limits of disturbance of the widening and safety enhancement project. Because all applicable avoidance, minimization, and mitigation measures would have been applied during implementation of the widening and safety enhancement project, the construction activities associated with the future additional travel lanes would be unlikely to result in hazardous materials impacts. However, if grading, cut, and fill are proposed in areas previously undisturbed during implementation of the widening and safety enhancement project as part of a future Six-Lane Facility, then further analysis and measures described above under Build Alternatives 1, 2C, and 4 would apply.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the Lake Mathews Multiple Species Habitat Conservation Plan (LM MSHCP) area and Lake Mathews Multiple Species Reserve (LMR); if Build Alternative 4 is constructed, a combination of Cajalco Road and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities—including a drainage basin, culverts, bridges, and wildlife crossings—would also be constructed. An application to amend the LM MSHCP would be

required to allow for construction of the project within the conservation area. Approval would need to be obtained prior to any construction. If approved, the amendment would allow for the proposed project.

The two RECs identified within the limits of the proposed project would occur outside the LM MSHCP area and LMR, and would thus not affect the LM MSHCP area and LMR. A number of the AOCs identified within the limits of the project, however, are also within the LM MSHCP area and LMR; these include creosote-treated wood utility poles, agricultural areas, and yellow striping. With the implementation of Mitigation Measures **HAZ-1**, **HAZ-4**, and **HAZ-6** and compliance with Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF HAZ-5**, hazards impacts on the LM MSHCP area and LMR would be minimized to the greatest extent feasible.

3.13.3.2 No-Build Alternative

Under the No-Build Alternative, the project site would not be disturbed and no effects involving hazardous materials would occur.

3.13.4 Avoidance, Minimization, and/or Mitigation Measures

Implementation of the following avoidance, minimization, and mitigation measures would ensure that impacts involving hazards and hazardous materials would not be adverse.

- **HAZ-1: 9001 Cajalco Road (APNs 279-231-004, -006, -011, and 281-140-021).** The County of Riverside will be responsible for implementation of the following actions regarding 9001 Cajalco Road, prior to and during construction, where applicable. The Resident Engineer, or Project Engineer under contract to the County, will ensure that the Health and Safety Plan and Soil Management Plan included in the final Plans, Specifications, and Estimates (PS&E) are implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

  a). Detailed Site Investigation. A Detailed Site Investigation (DSI) for arsenic concentrations in shallow soil in proposed acquisition areas of Assessor's Parcel Numbers (APNs) 279-231-004 006, -011, and 281-140-021 will be conducted during final design and prior to project construction. The DSI report will provide recommendations for remediation, health and safety, and appropriate soil management during construction using recent site-specific data representative of areas that will be disturbed during construction.

  b). Riverside County Department of Environmental Health Notification and Soil Remediation. If site investigation concludes that contaminants are present within the project limits of disturbance that exceed regulatory thresholds, the Riverside County Department of Environmental Health (DEH) should be notified and a case opened if deemed necessary by the agency. If required, soil will be remediated to the satisfaction of the DEH or appropriate lead regulatory agency prior to commencement of construction activities. The County of Riverside will submit and file all required documentation with the appropriate regulatory agencies to formally confirm closure of the case and obtain a letter of No Further Action.

  c). Health and Safety Plan – APNs 279-231-004, -006, -011, and 281-140-021. Project special provisions will be developed directing the construction contractor to develop a

Health and Safety Plan (HASP) using data obtained during the DSI. The HASP would be prepared as outlined in Measure **PF HAZ-2**.

d). Soil Management Plan – APNs 279-231-004, -006, -011, and 281-140-021. Project special provisions will be prepared directing the contractor to develop a project-specific Soil Management Plan (SMP) summarizing contaminated soil management procedures, waste disposal requirements, and best management practices for work to be conducted at the site.

- **HAZ-4: 21020 Cajalco Road (APNs 318-061-027 and -030).** The County of Riverside will be responsible for implementation of the following actions regarding 21020 Cajalco Road prior to and during construction, where applicable. The Resident Engineer, or Project Engineer under contract to the County, will ensure that the Health and Safety Plan and Soil Management Plan included the final Plans, Specifications, and Estimates (PS&E), are implemented, and SCAQMD Rule 1166 and Groundwater provisions below met, by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

  a). Continued Coordination with Oversight Agencies. The Mobil Baldwin site at 21020 Cajalco Road (APNs 318-061-027 and -030) has undergone contaminant characterization, monitoring, and remediation beginning in June of 2000 (A.C.C.E.S., Inc., Environmental Engineering's *First Semi-Annual 2019 Groundwater Monitoring Report*). Currently, the site is undergoing groundwater monitoring and remediation focused around contaminants of concern (total petroleum hydrocarbons and benzene). As the site is well characterized and currently undergoing remediation activities, the risk of accidental exposure to the public is considered low. Coordination would continue among the County of Riverside, Regional Water Quality Control Board (RWQCB), and the responsible party (currently Mr. Fayez Sedrak) to ensure remediation achieves case closure and that relocation of any remediation equipment and/or utilities to accommodate construction activities, if necessary, is properly completed. Residual contamination will remain in soil and/or groundwater regardless of case status. Potential future obligations may include, but not necessarily be limited to, allowing encroachment access for future monitoring, sampling, and/or remediation activities.

  b). Abandonment of Existing Monitoring Structures. Prior to commencement of construction activity, any subsurface structures/conveyance systems pertaining to former contaminant monitoring (e.g., groundwater monitoring and vapor extraction wells, and associated conveyance piping) that interfere with proposed construction activities will be abandoned in accordance with the regulatory requirements of Riverside County Department of Environmental Health, RWQCB, and California Department of Water Resources. Removal of these structures and facilities should be conducted by the responsible party under the oversight of RWQCB and prior to site acquisition. Groundwater monitoring wells may need to be reinstalled and/or moved to different locations following completion of the project to enable long-term monitoring of the groundwater.

c). Soil and Groundwater Investigation (Optional). The County can consider a soil and groundwater investigation to provide current groundwater and/or soil contamination data on the parcel to support the development of health and safety and contaminated soil/groundwater management procedures/best management practices and/or estimation of contaminated soil-handling and disposal costs that would be incurred. If conducted, the additional investigation should be performed during final design and prior to construction. However, based upon the level of historical information available for the site, project specifications can be prepared directing the contractor for work proposed on this site using available data.

d). Health and Safety Plan – APNs 318-061-027 and -030. Significant historical soil, groundwater, and/or soil vapor analytical data exist for the Mobil Baldwin Site and provide an indication of potential contaminant constituents and their respective concentrations that may be encountered during construction at this location. Adequate historical data are available to develop a project-specific Health and Safety Plan (HASP). Project special provisions should be developed directing the construction contractor to develop a HASP using information from the Preliminary Site Investigation (PSI) and any other historical data deemed necessary by the preparer. The HASP would be prepared as outlined in Measure **PF HAZ-2**.

e). Soil Management Plan – APNs 318-061-027 and -030. Significant historical soil, groundwater, and/or soil vapor analytical data exist for the Mobil Baldwin site and provide an indication of potential contaminant constituents and their respective concentrations that may be encountered during construction at this location. Project special provisions should also be prepared directing the contractor to develop a project-specific Soil Management Plan (SMP) summarizing contaminated soil management procedures, waste disposal requirements, and best management practices for work to be conducted at the site.

f). South Coast Air Quality Management District (SCAQMD) Rule 1166 permitting and volatile organic compound (VOC) monitoring. Construction activities will be conducted in accordance with SCAQMD Rule 1166, *Volatile Organic Compound Emissions from Decontamination of Soil*, and permitting requirements, and include VOC monitoring during earthwork and excavation activities on parcels associated with Mobil Baldwin.

g). Groundwater Disposal. The disposition of the groundwater underlying the site must be considered for work activities that involve contact with the groundwater at this site for purposes of groundwater management (e.g., construction dewatering). In general, any excess groundwater generated during construction may be disposed of off site at a licensed facility or released under a discharge permit. Groundwater should not be discharged to the sewer or storm drain without proper permits. If sewer or storm drain permits are not obtained, groundwater should be containerized and transported to an appropriate disposal facility. The concentrations of VOCs and total petroleum hydrocarbons detected in groundwater would permit the water to be transported to and disposed of at an appropriate facility as non-hazardous wastewater. Special provisions should be prepared that provide the selected construction contractor with project requirements for groundwater management and discharge or disposal. Although

groundwater data are available, data are not sufficient for discharge permitting. If discharge is anticipated, the County should consider collection of representative groundwater samples from one or more wells prior to their abandonment; samples should be analyzed for the full suite required for National Pollutant Discharge Elimination System permitting with the RWQCB.

- **HAZ-6: Agricultural Land Uses.** The County of Riverside will be responsible for implementation of the following actions prior to and during construction, where applicable. The Resident Engineer, or Project Engineer under contract to the County, will ensure that the Agricultural Land Uses Soil Management Plan included in the final Plans, Specifications, and Estimates (PS&E), is implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

  a). Preliminary Site Investigation (PSI). A PSI that includes soil investigations for residual concentrations of metals and organochlorine pesticides, if suspected areas of preparation involving metals and organochlorine pesticides are identified, will be conducted prior to commencement of construction within acquisition areas immediately adjacent to or within land historically associated with agricultural land uses that has not undergone redevelopment. The locations of these areas are identified on Figure 3.13-2. Construction activities will not commence until the site is deemed safe for disturbance by the appropriate regulatory agencies. The specifications prepared for construction of the project and/or the project's Environmental Commitments Record will be updated as needed, based on the results of sampling. If the PSI concludes that contaminants are present and at levels above regulatory threshold standards, then the following corrective actions will be employed to remediate soil and/or groundwater conditions and prevent exposure of the public to hazardous levels of contaminants.

  b). Corrective Action (if PSI concludes contaminants present at levels above regulatory threshold standards). Based upon the findings of the PSI, special provisions will be prepared providing direction for construction activities where contaminated soil may be encountered or disturbed. If site investigation concludes that contaminants are present within the project limits that exceed regulatory thresholds, Riverside County Department of Environmental Health (DEH) will be notified and a case will be opened if deemed necessary by the agency. If required, soil will be remediated to the satisfaction of the DEH or appropriate lead regulatory agency prior to commencement of construction activity. The County of Riverside will submit and file all required documentation with the appropriate regulatory agencies to formally confirm closure of any cases and obtain letters of No Further Action.

  c). Soil Management Plan – Agricultural Land Uses. If contaminated soil is involved, a Soil Management Plan (SMP) will be prepared and implemented. The SMP would provide administrative, procedural, and analytical guidance to expedite and clarify decisions and actions if contaminated soils are encountered during project implementation.

- **HAZ-7: Yellow Paint.** Due to the possible presence of elevated lead concentrations within the yellow thermoplastic and yellow-painted traffic stripes along the existing highway, a yellow paint and thermoplastic striping survey will be conducted along the project alignment

for striping that will be removed. If materials will be removed in phases, samples will be collected in each phase to ensure that all materials are assessed. The paint and thermoplastic striping survey will be conducted during final design and prior to construction, by a Certified Industrial Hygienist. Handling of this material would be consistent with the California Department of Transportation's Standard Special Provisions 36-4 and 14-11.12, or with 84-9.03C, as applicable. The County of Riverside will be responsible for implementation of the above actions prior to and during construction, where applicable. The Resident Engineer, or Project Engineer under contract to the County, will ensure the handling of yellow thermoplastic and yellow-painted traffic stripe materials consistent with Caltrans SSP 36-4 and 14-11.12, or with 84-9.03C, as applicable, by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

- **HAZ-8**: **Asbestos-Containing Material and Lead-Based Paint.** Surveys for hazardous building materials, including asbestos-containing material (ACM) and lead-based paint (LBP), will be conducted for structures that will be removed in as part of the project, including the Temescal Canyon Wash Bridge. Surveys for ACM and LBP will be conducted during final design and prior to construction. A certified contractor will be retained to abate any identified ACM or LBP in accordance with all applicable laws, including Occupational Health and Safety Administration guidelines. Handling of ACM waste would be conducted consistent with California Department of Transportation (Caltrans) Standard Special Provision (SSP) 14-11.16, while LBP would be handled according to SSP 36-4. Furthermore, demolition or renovation of a structure requires submittal of Rule 1402 Form Notification of Demolition or Asbestos Removal to the South Coast Air Quality Management District for all impending demolition and renovation projects.

  In the event that ACM not identified in the asbestos study are uncovered during demolition/ renovation activities, the contractor must stop work and have these materials tested for asbestos content by a qualified subcontractor specializing in the identification, sampling, and handling of ACM. If ACM is present, handling of the materials would be conducted consistent with Caltrans SSP 14-11.16.

  The County of Riverside will be responsible for implementation of the above actions prior to and during construction, where applicable. The Resident Engineer, or Project Engineer under contract to the County, will ensure that the handling of ACM consistent with Caltrans SSP 14-11.16, and submittal of Rule 1402 Form, are implemented by the County's Construction Contractor or Project Construction Contractor under contract to the County, during construction.

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3.14 Air Quality

3.14.1 Regulatory Setting

The Federal Clean Air Act (FCAA), as amended in 1990, is the federal law that governs air quality while the California Clean Air Act of 1988 is its companion state law. These laws, and related regulations by the U.S. Environmental Protection Agency (U.S. EPA) and California Air Resources Board (ARB), set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). NAAQS and State ambient air quality standards have been established for six criteria pollutants that have been linked to potential health concerns. The criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM, broken down for regulatory purposes into particles of 10 micrometers or smaller—PM_{10} and particles of 2.5 micrometers and smaller ($PM_{2.5}$), Lead (Pb), and sulfur dioxide (SO_2). In addition, state standards exist for visibility reducing particles, sulfates, hydrogen sulfide (H_2S), and vinyl chloride. The NAAQS and state standards are set at a level that protects 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 within their general definition.

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

Conformity

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

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

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

transportation projects planned for a region over a period of at least 20 years (for the RTP) and 4 years (for the FTIP). RTP and FTIP conformity uses travel demand and emission models to determine whether or not the implementation of those projects would conform to emission budgets or other tests at various analysis years showing that requirements of the FCAA and the SIP are met. If the conformity analysis is successful, the Metropolitan Planning Organization (MPO), Federal Highway Administration (FHWA), and Federal Transit Administration (FTA) make the determinations that the RTP and FTIP are in conformity with the SIP for achieving the goals of the FCAA. Otherwise, the projects in the RTP and/or FTIP must be modified until conformity is attained. If the design concept and scope and the "open-to-traffic" schedule of a proposed transportation project are the same as described in the RTP and FTIP, then the proposed project meets regional conformity requirements for purposes of project-level analysis.

Project-level conformity is achieved by demonstrating that the project comes from a conforming RTP and TIP; the project has a design concept and scope[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.

3.14.2 Affected Environment

The information in this section is based on the Air Quality Study Report (AQSR) for the Cajalco Road Widening and Safety Project (Caltrans 2017a). The findings of the report are summarized in this section. The methodologies and assumptions for the air quality analysis are described in the AQSR (Caltrans 2017a).

3.14.2.1 Topography and Climate

The proposed project site is within the Riverside County portion of the South Coast Air Basin (SCAB), a 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The SCAB includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. The terrain and geographical location determine the distinctive climate of the SCAB, which is a coastal plain with connecting broad valleys and low hills. The topography and climate of Southern California combine to make the SCAB an area of high air pollution potential.

Data from the Western Regional Climate Center's Riverside-Rubidoux climate monitoring station were used to characterize project vicinity climate conditions because it is nearest to the proposed project site (Western Regional Climate Center 2016). The average project area summer (August) high and low temperatures are 94 degrees Fahrenheit (°F) and 60°F, respectively, while the average winter (January) high and low temperatures are 67°F and 39°F, respectively. The average annual rainfall is 10.2 inches. A map indicating the location of the monitoring station and potential sensitive receptors, is provided in Figure 3.14-1 on the following page.

[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.

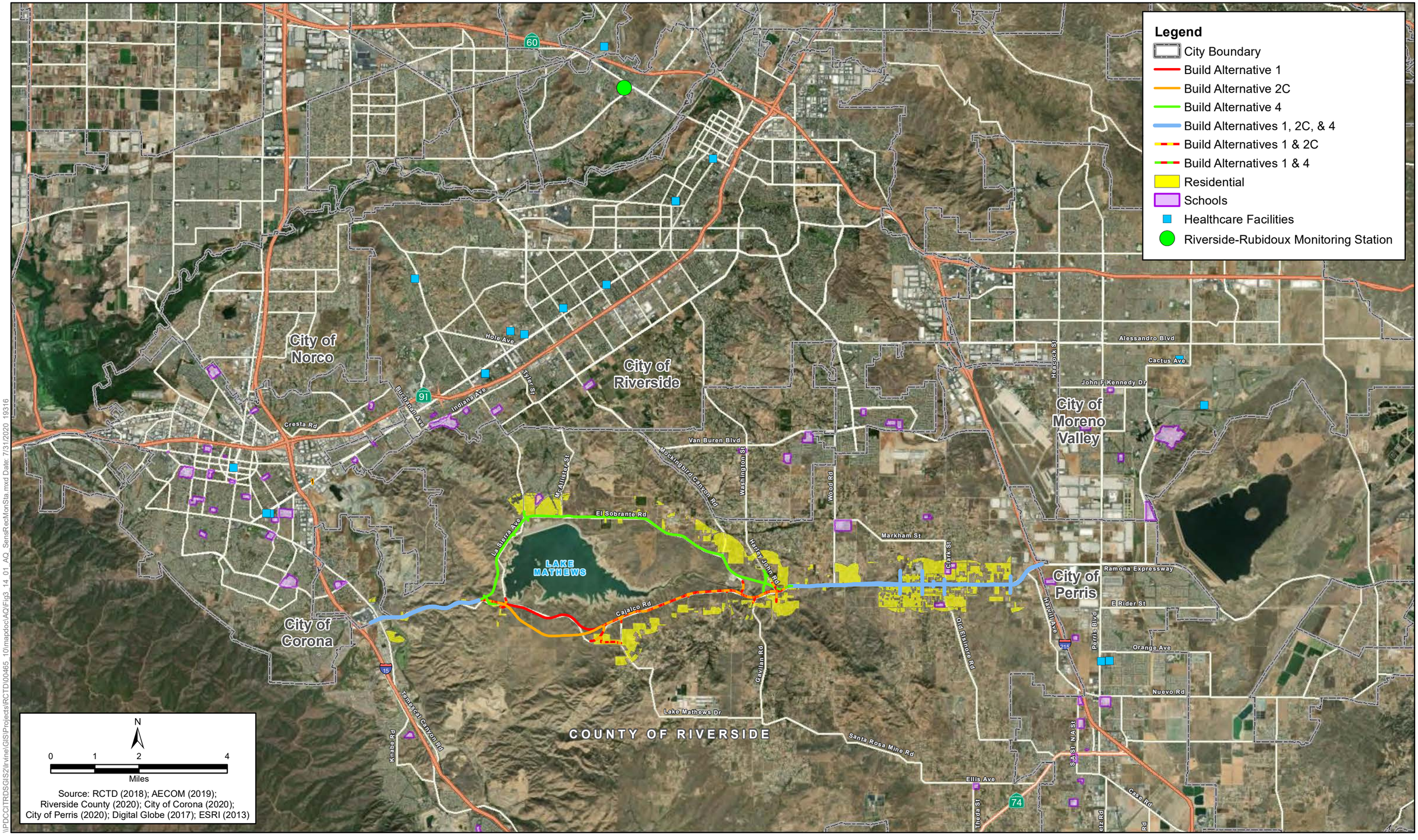

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Figure 3.14-1
Air Quality Sensitive Receptor and Monitoring Station Map
Cajalco Road Widening and Safety Enhancement Project

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The wind monitoring station nearest to the proposed project site is the University of California, Riverside Station, approximately 10 miles north of the central portion of the project alignment. Wind patterns in the project vicinity are either westerly or southeasterly, with an average annual speed of 4 miles per hour.

3.14.2.2 Lake Mathews MSHCP Area

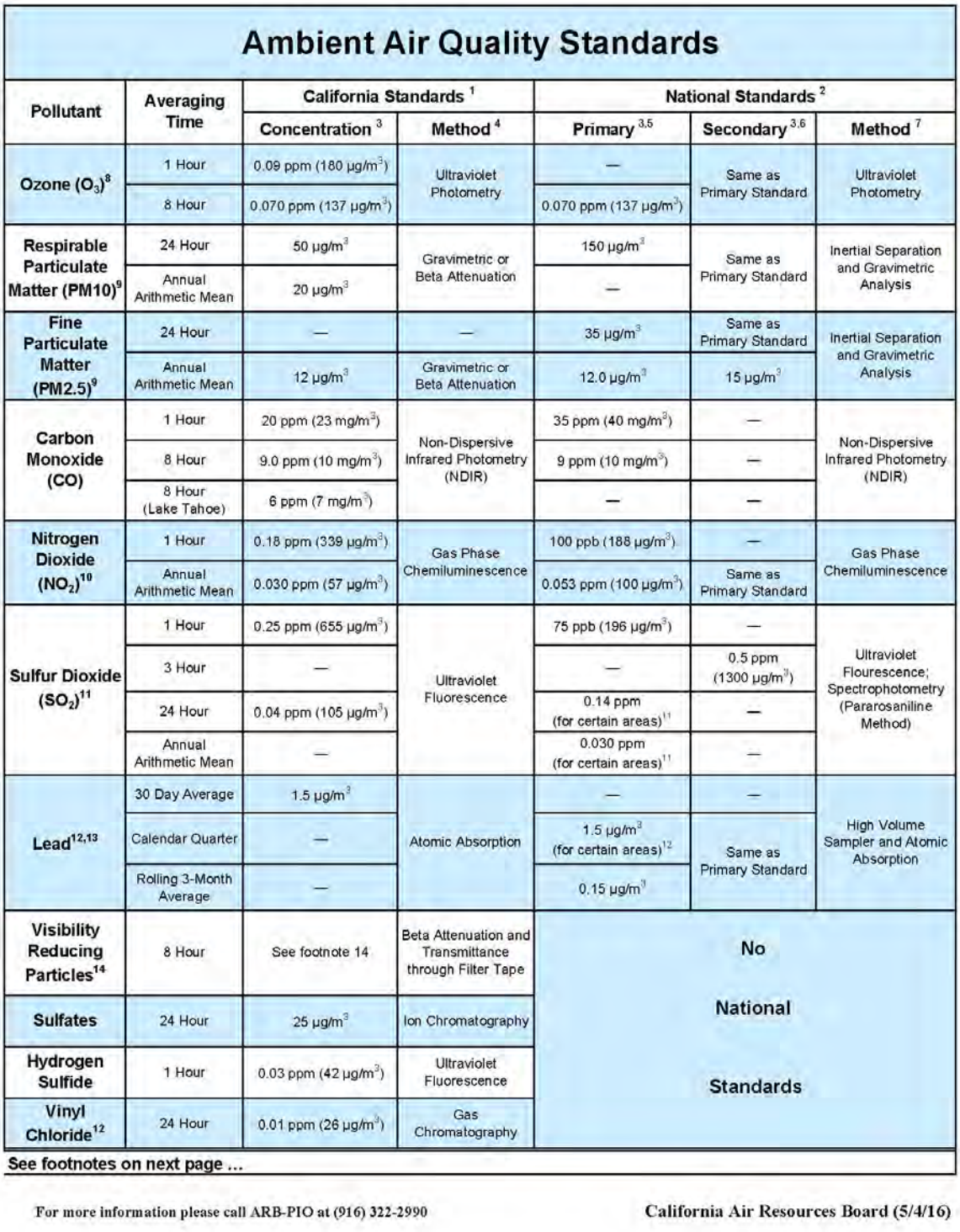
The project corridor travels through the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area and Lake Mathews Multiple Species Reserve (LMR), as well as the Lake Mathews-Estelle Mountain Reserve (LM-EM Reserve) of the Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP). The project corridor specifically travels through parcels of land that are owned by Metropolitan Water District of Southern California and Riverside County Habitat Conservation Agency (RCHCA 2007). Much of the land surrounding Lake Mathews is undeveloped because these lands are protected by the LMR and LM-EM Reserve. The LM MSHCP area is also within the Riverside County portion of the SCAB, and has a similar topography and climate to the project area as a whole.

3.14.2.3 Monitored Air Quality

Existing air quality conditions in the project area can be characterized in terms of the ambient air quality standards that the State of California and the federal government have established for several different pollutants. For some pollutants, separate standards have been set for different measurement periods. Most standards have been set to protect public health. For some pollutants, standards have been based on other values (such as protection of crops, protection of materials, or avoidance of nuisance conditions).

If a pollutant concentration is lower than the state or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified. The State of California has designated the SCAB as being a nonattainment area for O_3, $PM_{2.5}$, and PM_{10}. U.S. EPA has designated this area as being an extreme nonattainment area for O_3 (eight-hour standard) and a moderate nonattainment area for $PM_{2.5}$. Figure 3.14-2 on the following page shows the state and federal standards for a variety of pollutants. Table 3.14-1 follows Figure 3.14-2 and shows the attainment status of the SCAB for criteria air pollutants.

Figure 3.14-2. State and Federal Ambient Air Quality Standards (page 1 of 2)



Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [1]		National Standards [2]		
		Concentration [3]	Method [4]	Primary [3,5]	Secondary [3,6]	Method [7]
Ozone (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page ...

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

California Air Resources Board (5/4/16)

Figure 3.14-2. State and Federal Ambient Air Quality Standards (page 2 of 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

8. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9. On December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

    Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

12. The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

14. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

For more information please call ARB-PIO at (916) 322-2990 **California Air Resources Board (5/4/16)**

Table 3.14-1. Attainment Status of the South Coast Air Basin

Pollutants	Federal Classification	State Classification
Ozone (O_3) (1-hour standard)	Not Applicable (Federal standard revoked)	Nonattainment
Ozone (O_3) (8-hour standard)	Nonattainment, Extreme (2015 standard)	Nonattainment
Respirable Particulate Matter (PM_{10})	Attainment/Maintenance	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment, Moderate (2012 standard)	Nonattainment
Carbon Monoxide (CO)	Attainment/Maintenance	Attainment
Nitrogen Dioxide (NO_2)	Attainment/Maintenance	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment (except for Los Angeles County portion, which is designated nonattainment)	Attainment
Source: ARB 2018.		

The project site is in the Riverside County portion of the SCAB. Because the project alignment spans approximately 15.7 miles, it is within three distinct air monitoring areas. The Riverside-Rubidoux monitoring station, which is 10 miles north of the central portion of the project alignment, was used as the representative monitoring station for the study area due to its proximity to the project as well as the number of pollutants for which data are collected. Located at 5888 Mission Boulevard, Riverside, CA 92509, the Riverside-Rubidoux monitoring station (ARB Station No. 33144/ EPA AQS No. 060658001) monitors major criteria pollutants including O_3, NO_2, CO, PM_{10}, and $PM_{2.5}$. Table 3.14-2 presents air monitoring data from the Riverside-Rubidoux monitoring station.

As shown in Table 3.14-2 on the following page, there were numerous exceedances of the federal standard for 8-hour O_3 (69 in 2016, 81 in 2017, 53 in 2018, 59 in 2019, and 82 in 2020), and the California 1-hour standard (33 in 2016, 47 in 2017, 22 in 2018, and 24 in 2019). The 2020 California 1-hour standard data is not available. In addition, PM_{10} concentrations exceeded the California standard 60 times in 2016, 98 times in 2017, 127 times in 2018, and 110 times in 2019; no exceedances of the federal PM_{10} standards were recorded. The 2020 California PM_{10} standard data is not available. $PM_{2.5}$ concentrations exceeded the federal standard five times in 2016, seven times in 2017, three times in 2018, five times in 2019, and seven times in 2020. CO and NO_2 concentrations remained below state and federal standards during the 5-year reporting period.

Table 3.14-2. Monitoring Data Collected from the Riverside-Rubidoux Monitoring Station (ARB Station No. 33144/EPA AQS Site ID 060658001)

Pollutant Standards		2016	2017	2018	2019	2020
Ozone (O_3)						
Maximum 1-hour concentration (ppm)		0.142	0.145	0.123	0.123	0.143
Maximum 8-hour concentration (ppm)		0.104	0.118	0.101	0.096	0.115
Number of Days Standard Exceeded						
CAAQS 1-hour (> 0.09 ppm)		33	47	22	24	NA
NAAQS 8-hour (> 0.070 ppm)		69	81	53	59	82
Carbon Monoxide (CO) *						
Maximum 1-hour concentration (ppm)		1.7	2.4	2.2	1.5	1.5
Maximum 8-hour concentration (ppm)		1.3	1.8	2.0	1.2	1.4
Number of Days Standard Exceeded						
NAAQS/CAAQS 1-hour (> 35 ppm/ > 20 ppm)		0	0	0	0	0
NAAQS/CAAQS 8-hour (> 9.0 ppm)		0	0	0	0	0
Nitrogen Dioxide (NO_2)						
Maximum 1-hour concentration (ppm)		0.073	0.063	0.055	0.056	0.066
Annual average concentration (ppm); CAAQS = 0.030 ppm		0.014	0.014	0.014	0.014	0.015
Number of Days Standard Exceeded						
NAAQS 1-hour (> 0.100 ppm)		0	0	0	0	0
Particulate Matter (PM_{10})						
National maximum 24-hour concentration ($\mu g/m^3$)		84	92	86.5	132.5	142
National second-highest 24-hour concentration ($\mu g/m^3$)		80	81.7	67.0	99.1	141
State maximum 24-hour concentration ($\mu g/m^3$)		170.5	137.6	126.0	182.4	NA
State second-highest 24-hour concentration ($\mu g/m^3$)		82.6	120.3	107.0	123.6	NA
National annual average concentration ($\mu g/m^3$)		38.1	39.0	35.4	35.4	50.5
State annual average concentration ($\mu g/m^3$)		n/a	41.3	43.9	40.9	NA
Number of Days Standard Exceeded						
CAAQS 24-hour (> 50 $\mu g/m^3$)		60	98	127	110	NA
NAAQS 24-hour (> 150 $\mu g/m^3$) (estimated days)		0	0	0	0	0
Particulate Matter ($PM_{2.5}$)						
National maximum 24-hour concentration ($\mu g/m^3$)		51.5	50.3	66.3	55.7	61.9
National second-highest 24-hour concentration ($\mu g/m^3$)		39.1	43.8	50.7	46.7	56.7
National third-highest 24-hour concentration ($\mu g/m^3$)		38.3	43.1	40.2	36.9	49.0
National fourth-highest 24-hour concentration ($\mu g/m^3$)		37.7	41.5	34.1	36.3	48.8
National annual average concentration ($\mu g/m^3$)		12.5	12.2	12.5	11.2	13.8
State annual average concentration ($\mu g/m^3$)		12.6	14.5	12.6	11.2	13.8

Pollutant Standards		2016	2017	2018	2019	2020
Number of Days Standard Exceeded						
NAAQS 24-hour (> 35 μg/m^3)		5	7	3	5	7

Notes:
* Concentrations from two monitors are reported at this location. Where concentrations differ, the higher reading is identified.
CAAQS = California Ambient Air Quality Standards.
NAAQS = National Ambient Air Quality Standards.
NA = Not Available
Sources: ARB 2021; U.S. EPA 2021; compiled by ICF.

3.14.2.4 Pollutant Overview

Air pollutants are governed by multiple federal and state standards to regulate and mitigate health impacts. At the federal level, there are six criteria pollutants for which NAAQS have been established: CO, Pb, NO_2, O_3, PM ($PM_{2.5}$ and PM_{10}), and SO_2. U.S. EPA has also identified nine priority mobile source air toxics (MSATs): 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter (FHWA 2016). In California, sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride are also regulated.

Criteria Pollutants

The FCAA requires U.S. EPA to set NAAQS for six criteria air contaminants: O_3, PM, CO, N_2O, Pb, and SO_2. It also permits states to adopt additional or more protective air quality standards if needed. California has set standards for certain pollutants. Table 3.14-3 documents the current air quality standards while Figure 3.14-3, following Table 3.14-3, summarizes the sources and health effects of the six criteria pollutants and pollutants regulated in the state of California.

Table 3.14-3. State and Federal Criteria Air Pollutant Effects and Sources

Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.	Low-altitude ozone is almost entirely formed from reactive organic gases/volatile organic compounds (ROG or VOC) and nitrogen oxides (NO_X) in the presence of sunlight and heat. Common precursor emitters include motor vehicles and other internal combustion engines, solvent evaporation, boilers, furnaces, and industrial processes.
Respirable Particulate Matter (PM_{10})	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 and 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.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter – a toxic air contaminant – is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.	Combustion including motor vehicles, other mobile sources, and industrial activities; residential and agricultural burning; also formed through atmospheric chemical and photochemical reactions involving other pollutants including NO_X, sulfur oxides (SO_X), ammonia, and ROG.

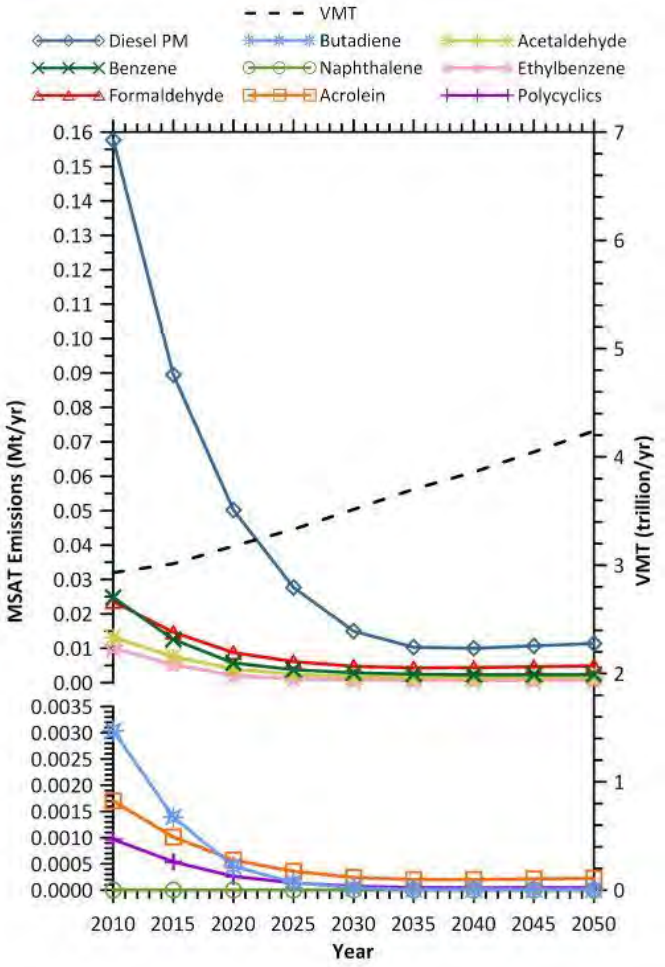
Pollutant	Principal Health and Atmospheric Effects	Typical Sources
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.	Combustion sources, especially gasoline-powered engines and motor vehicles. CO is the traditional signature pollutant for on-road mobile sources at the local and neighborhood scale.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain & nitrate contamination of stormwater. Part of the "NO_X" group of ozone precursors.	Motor vehicles and other mobile or portable engines, especially diesel; refineries; industrial operations.
Sulfur Dioxide (SO_2)	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.
Lead (Pb)	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.
Visibility-Reducing Particles (VRP)	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.
Sulfate	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.
Hydrogen Sulfide (H_2S)	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.
Vinyl Chloride	Neurological effects, liver damage, cancer. Also considered a toxic air contaminant.	Industrial processes.

Mobile Source Air Toxics

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that U.S. EPA regulate 188 air toxics, also known as hazardous air pollutants. U.S. EPA has assessed this expansive list in its rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007), and identified a group of 93 compounds emitted from mobile sources that are part of U.S. EPA's Integrated Risk Information System (https://www.epa.gov/iris). In addition, U.S. EPA identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers or contributors and non-hazard contributors from the 2011 National Air Toxics Assessment (https://www.epa.gov/national-air-toxics-assessment). These are 1,3-butadiene, acetaldehyde, acrolein, benzene, diesel particulate matter (diesel PM), ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter. While FHWA considers these the priority MSATs, the list is subject to change and may be adjusted in consideration of future U.S. EPA rules.

The 2007 U.S. EPA rule mentioned above requires controls that will dramatically decrease MSAT emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using U.S. EPA's MOVES2014a model, even if vehicle activity (vehicle-miles traveled [VMT]) increases by 45 percent from 2010 to 2050 as forecast, a combined reduction of 91 percent in the total annual emission rate for the priority MSATs is projected for the same time period, as shown on Figure 3.14-3.

Figure 3.14-3. State and Federal Criteria Air Pollutant Effects and Sources



Source: https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/.

3.14.2.5 Asbestos

Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by state, federal, and international agencies and was identified as a toxic air contaminant by ARB in 1986. All types of asbestos are hazardous and may cause lung disease and cancer.

Asbestos can be released from serpentine and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and

human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos-bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentine may contain chrysotile asbestos, especially near fault zones. Ultramafic rock, a rock closely related to serpentinite, may also contain asbestos minerals. Asbestos can also be associated with other rock types in California, though much less frequently than serpentinite and/or ultramafic rock. Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. The California Department of Conservation, Division of Mines and Geology has developed a map showing the general location of ultramafic rock in the state (www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos/Pages/index.aspx).

3.14.3 Environmental Consequences

3.14.3.1 Permanent Impacts

Build Alternatives 1, 2C, and 4

Regional Air Quality Conformity

Build Alternatives 1 and 2C are listed in the Southern California Association of Governments (SCAG) financially constrained 2020-2045 RTP/Sustainable Communities Strategy (SCS) under project number 3A04WT137A, which was adopted by SCAG on September 3, 2020; FHWA and FTA made a regional conformity determination finding on June 5, 2020. The project is also included in the SCAG financially constrained 2021 FTIP, page 9 (Riverside County – 100% Prior, project number RIV090903), which was found to conform by FHWA and FTA on April 16, 2021.[2] The design concept and scope of the proposed project is consistent with the project description in the 2020-2045 RTP/SCS, 2021 FTIP, and the "open to traffic" assumptions of SCAG's regional emissions analysis. Refer to Appendix G of this EIR/EIS for copies of the listing of the project in the 2020-2045 RTP and the 2021 FTIP.

[2] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

In the event that Build Alternative 4 is identified as the Preferred Alternative, the project description in the FTIP would need to be revised to reflect the widening of La Sierra Avenue and El Sobrante Road from two to four lanes to the west and north of Lake Mathews. While Build Alternative 4 would provide a transportation facility, the design and location would differ slightly from that of Build Alternatives 1 and 2C. In addition, Build Alternative 4 would not substantially change the overall number of VMT in the project area. Therefore, the project design and scope under Build Alternative 4 would change slightly from that in the current regional analysis. As such, the FTIP description would require revision to accurately reflect Build Alternative 4 if Build Alternative 4 is identified as the Preferred Alternative.

Project-Level Conformity

Carbon Monoxide

Caltrans, in coordination with the University of California, Davis, Institute of Transportation Studies, has developed a transportation project-level CO Protocol (Garza et al. 1997). This CO Protocol details a qualitative step-by-step screening procedure to determine whether project related CO concentrations have a potential to generate new air quality violations, worsen existing violations, or delay attainment of NAAQS for CO. If the screening procedure reveals that such a potential may exist, then the CO Protocol details a quantitative method to ascertain project-related CO impacts.

The proposed project was evaluated using the CO Protocol. The CO Protocol includes two flowcharts that illustrate when a detailed CO analysis needs to be prepared. The referenced flowcharts are included in Appendix D to the December 2017 AQSR.

Based on the first flowchart in the CO Protocol, it was determined that the proposed project is not exempt from emissions analyses and that the proposed project would be defined as regionally significant. It was also determined that the proposed project is not in a federal attainment area for all criteria pollutants. The responses to the questions from the first flowchart also documented that the project is within an area with a currently conforming RTP and FTIP and that the proposed project was included in the regional emissions analysis. It was also determined that the project design concept and/or scope has not changed significantly from that in the regional analysis.

On the basis of the answers to the first flowchart, a second flowchart is used to determine the level of local CO impact analysis required for the project. Responses to the second flowchart questions identified that the project is in a CO attainment/maintenance area for the federal CO standards, and that the SCAB was reclassified to attainment/maintenance from serious nonattainment, effective June 11, 2007, when a CO Maintenance Plan was approved. Based on ambient air monitoring data collected by the South Coast Air Quality Management District (SCAQMD), the SCAB has continually met the NAAQS for CO since 2002.

The response to Level 7 of the second flowchart identified that the proposed project has the potential to worsen air quality due to the increases in traffic volumes and increases in localized delay at intersections identified under each of the build alternatives at the Opening Year 2024 and Horizon Year 2044 relative to the corresponding No-Build Alternative.

Tables 3.14-4 and 3.14-5 on the following page show roadway segment volumes under Build Alternatives 1, 2C, and 4 relative to the No-Build Alternative for Opening Year 2024. As shown, increases in volumes would result from the increases in roadway capacity. Increases in roadway segment daily traffic volumes relative to the No-Build Alternative under Build Alternatives 1 and 2C would range from 37 percent to 125 percent.

Relative to the No-Build Alternative, the percentage increases in daily traffic volumes would generally be highest in the western portion of the alignment, with lower percentage increases in the eastern portion of the alignment. Although the absolute increases in traffic volumes would be similar between all segments, the percentage increases differ due to the No-Build Alternative baseline volumes. Level of service (LOS) would be similar to No-Build conditions, with no segments deteriorating to LOS E or F as a result of implementation of Build Alternatives 1 or 2C (see Table 3.14-4). Increases in roadway segment daily traffic volumes relative to the No-Build Alternative under Build Alternative 4 would range from 7 percent to 114 percent. LOS would be similar to No-Build conditions, with one segment (Cajalco Road between Temescal Canyon and La Sierra Avenue) deteriorating to LOS E or F as a result of Build Alternative 4 implementation and improvements in LOS on El Sobrante Road (see Table 3.14-5).

Table 3.14-4. Opening Year 2024 Daily Roadway Segment Volumes (No-Build and Build Alternatives 1 and 2C)

Segment	No-Build Alternative			Alternatives 1 and 2C			Percent Increase
	Lanes	2024 AADT	LOS	Lanes	2024 AADT	LOS	
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	2	15,800	D	6	28,940	A	83%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	10,200	A	4	22,900	B	125%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	2	10,250	A	4	22,300	B	118%
Cajalco Road between El Sobrante Road and Gavilian Road	2	26,170	F	4	39,800	F	52%
Cajalco Road between Gavilian Road and Harley John Road	2	30,050	F	4	44,570	F	48%
Cajalco Road between Harley John Road and Day Street	2	30,130	F	4	45,100	F	50%
Cajalco Road between Day Street and Harvill Avenue	2	37,730	F	4	51,690	F	37%
Source: Caltrans 2017b							

Table 3.14-5. Opening Year 2024 Daily Roadway Segment Volumes (No-Build and Build Alternative 4)

Segment	No-Build Alternative			Alternative 4			Percent Increase
	Lanes	2024 AADT	LOS	Lanes	2024 AADT	LOS	
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	2	14,140	C	4	24,380	B	72%
El Sobrante Road between Mockingbird Canyon Road and Harley John Road [1]	2	17,610	E	4	22,170	B	26%
El Sobrante Road between Harley John Road and Cajalco Road [2]	2	30,050	F	6	32,030	A	7%

Segment	No-Build Alternative			Alternative 4			Percent Increase
	Lanes	2024 AADT	LOS	Lanes	2024 AADT	LOS	
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	2	15,800	D	4	33,860	E	114%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	10,200	A	2	14,140	C	39%
Cajalco Road between Lake Mathews Drive and Gavilan Road [3]	2	10,250	A	2	11,860	B	16%
Cajalco Road between El Sobrante Road and Day Street [4]	2	30,130	F	4	46,060	F	53%
Cajalco Road between Day Street and Harvill Avenue	2	37,730	F	4	52,170	F	38%

Source: Caltrans 2017b

[1] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of El Sobrante Road between Harley John Road and Mockingbird Canyon Road is compared to the No-Build Alternative segment of El Sobrante Road between Cajalco Road and Mockingbird Canyon Road.

[2] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of El Sobrante Road between Cajalco Road and Harley John Road is compared to the No-Build Alternative segment Cajalco Road between Harley John Road and Gavilian Road.

[3] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of Cajalco Road between Gavilian Road and Lake Mathews Drive is compared to the No-Build Alternative segment Cajalco Road between El Sobrante Road and Lake Mathews Drive.

[4] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment Cajalco Road east of El Sobrante Road is compared to the No-Build Alternative segment of Cajalco Road east of Harley John Road.

Tables 3.14-6 and 3.14-7 on the following page show roadway segment volumes under Build Alternatives 1, 2C, and 4, relative to the No-Build Alternative for Horizon Year 2044. As shown, increases in volumes would result from the increases in roadway capacity. Increases in roadway segment daily traffic volumes relative to the No-Build Alternative under Build Alternatives 1 or 2C would range from 25 percent to 111 percent. LOS would be similar to No-Build conditions, with no segments deteriorating to LOS E or F as a result of Build Alternative 1 or 2C implementation (see Table 3.14-6). Increases in roadway segment daily traffic volumes relative to the No-Build Alternative under Build Alternative 4 would range from 10 to 129 percent. LOS would be similar to No-Build conditions, with no segments deteriorating to LOS E or F as a result of Build Alternative 4 implementation and improvements in LOS on El Sobrante Road (see Table 3.14-7).

Table 3.14-6. Horizon Year 2044 Daily Roadway Segment Volumes (No-Build and Build Alternatives 1 and 2C)

Segment	No-Build Alternative			Alternatives 1 and 2C			Percent Increase
	Lanes	2044 AADT	LOS	Lanes	2044 AADT	LOS	
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	2	13,460	C	6	20,340	A	51%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	4,310	A	4	8,950	A	108%
Cajalco Road between Lake Mathews Drive and El Sobrante Road	2	5,770	A	4	12,200	A	111%
Cajalco Road between El Sobrante Road and Gavilian Road	2	23,800	F	4	33,100	E	39%
Cajalco Road between Gavilian Road and Harley John Road	2	27,330	F	4	39,280	F	44%

Segment	No-Build Alternative			Alternatives 1 and 2C			Percent Increase
	Lanes	2044 AADT	LOS	Lanes	2044 AADT	LOS	
Cajalco Road between Harley John Road and Day Street	2	26,420	F	4	39,710	F	50%
Cajalco Road between Day Street and Harvill Avenue	2	28,800	F	4	35,750	F	24%
Source: Caltrans 2017b							

Table 3.14-7. Horizon Year 2044 Daily Roadway Segment Volumes (No-Build and Build Alternative 4)

Segment	No-Build Alternative			Alternative 4			Percent Increase
	Lanes	2044 AADT	LOS	Lanes	2044 AADT	LOS	
El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road	2	14,730	D	4	22,450	B	52%
El Sobrante Road between Mockingbird Canyon Road and Harley John Road [1]	2	19,410	F	4	21,280	B	10%
El Sobrante Road between Harley John Road and Cajalco Road [3]	2	27,330	F	6	39,490	C	44%
Cajalco Road between Temescal Canyon Road and La Sierra Avenue	2	13,460	C	4	32,820	E	143%
Cajalco Road between La Sierra Avenue and Lake Mathews Drive	2	4,310	A	2	6,360	A	47%
Cajalco Road between Lake Mathews Drive and Gavilian Road [3]	2	5,770	A	2	6,810	A	18%
Cajalco Road east of El Sobrante Road [4]	2	26,420	F	4	43,860	F	66%
Cajalco Road between Day Street and Harvill Avenue	2	28,800	F	4	37,630	F	31%

Source: Caltrans 2017b

[1] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of El Sobrante Road between Harley John Road and Mockingbird Canyon Road is compared to the No-Build Alternative segment El Sobrante Road between Cajalco Road and Mockingbird Canyon Road.

[2] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of El Sobrante Road between Cajalco Road and Harley John Road is compared to the No-Build Alternative segment Cajalco Road between Harley John Road and Gavilian Road.

[3] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of Cajalco Road between Gavilian Road and Lake Mathews Drive is compared to the No-Build Alternative segment Cajalco Road between El Sobrante Road and Lake Mathews Drive.

[4] Due to the change in roadway configuration under Alternative 4, the Alternative 4 segment of Cajalco Road east of El Sobrante Road is compared to the No-Build Alternative segment Cajalco Road east of Harley John Road.

The proposed project also has the potential to worsen air quality on the basis that it could worsen traffic flow at specific study area intersections under the build alternatives relative to the No-Build Alternative. The following intersections that operate at LOS D, E, or F for one or both peak hours under the Opening Year 2024 No-Build Alternative would experience an increase in delay of 5 seconds or greater under one or more of the build alternatives

Build Alternatives 1 and 2C:

- Interstate 15 (I-15) southbound ramps and Ontario Avenue
- Cajalco Road and Temescal Canyon Road

- Interstate 215 (I-215) southbound ramps and Cajalco Expressway/Ramona Expressway
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway
- Webster Avenue and Ramona Expressway

Build Alternative 4:

- I-15 northbound ramps and El Cerrito Road
- Cajalco Road and Temescal Canyon Road
- La Sierra Avenue and Victoria Avenue
- La Sierra Avenue and El Sobrante Road
- Day Street and State Route 60 (SR-60) eastbound ramps
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway
- I-215 northbound ramps and Nuevo Road
- Webster Avenue and Ramona Expressway

In addition, the following intersections that operate at LOS D, E, or F for one or both peak hours under the Horizon Year 2044 No-Build Alternative would experience an increase in delay of 5 seconds or greater under one or more of the build alternatives.

Build Alternatives 1 and 2C:

- Bedford Canyon Road and El Cerrito Road
- Cajalco Road and Bedford Canyon Road
- Cajalco Road and Temescal Canyon Road
- La Sierra Avenue and Victoria Avenue
- Cajalco Road and La Sierra Avenue
- Gavilian Road and Cajalco Road
- Cajalco Road and Harley John Road
- Alexander Street and Cajalco Road
- Clark Street and Cajalco Road
- Seaton Avenue and Markham Street
- Seaton Avenue and Cajalco Road
- Harvill Avenue and Placentia Avenue
- Sycamore Canyon Road and SR-60/I-215 southbound ramps
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road
- Day Street and SR-60 eastbound ramps
- I-215 ramps and Eucalyptus Avenue
- I-215 northbound ramps and Alessandro Boulevard
- I-215 northbound ramps/Old 215 Frontage Road and Cactus Avenue
- I-215 southbound ramps and Van Buren Boulevard
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway
- I-215 Northbound Frontage Road and Placentia Avenue
- Webster Avenue and Ramona Expressway
- Indian Street and Ramona Expressway

Build Alternative 4:

- I-15 northbound ramps and Ontario Avenue
- Bedford Canyon Road and El Cerrito Road
- Sycamore Canyon Road and SR-60/I-215 southbound ramps 49: SR-60/I-215

- Cajalco Road and Bedford Canyon Road
- Cajalco Road and Temescal Canyon Road
- I-15 northbound ramps and Weirick Road
- La Sierra Avenue and Victoria Avenue
- Cajalco Road and La Sierra Avenue
- Gavilian Road and Cajalco Road
- Cajalco Road and Harley John Road
- Alexander Street and Cajalco Road
- Clark Street and Cajalco Road
- Seaton Avenue and Markham Street
- Seaton Avenue and Cajalco Road
- Harvill Avenue and Placentia Avenue
- I-15 northbound ramps and Fair Isle Drive/Box Springs Road
- Day Street and SR-60 eastbound ramps
- I-215 ramps and Eucalyptus Avenue
- I-215 northbound ramps and Alessandro Boulevard
- I-215 northbound ramps/Old 215 Frontage Road and Cactus Avenue
- I-215 southbound ramps and Van Buren Boulevard
- I-215 Southbound Ramps and Cajalco Expressway/Ramona Expressway
- I-215 Northbound Frontage Road and Placentia Avenue
- Webster Avenue and Ramona Expressway
- Indian Street and Ramona Expressway

Because there would be increases in delay at study area intersections under the build alternatives relative to the No-Build condition, the project would worsen traffic flow.

On the basis of the CO Protocol screening criteria, the proposed project has the potential to worsen air quality; therefore, additional analysis is required (proceed to Section 4.7.2).

Level 7: Is the project suspected of resulting in higher CO concentrations than those existing within the region at the time of attainment demonstration?

Note: The Final 2016 Air Quality Management Plan (AQMP) is the most recent AQMP, but no additional regional or hot-spot CO modeling was conducted to demonstrate attainment of the 8-hour average O_3 standard, as SCAQMD submitted a request to U.S. EPA to redesignate the SCAB as an attainment area for the 8-hour federal CO standard in 2013 (SCAQMD 2013). Therefore, the 2003 AQMP is used as the basis for the following analysis. In addition, the 2003 AQMP did not provide model input assumptions. Instead, it refers to the 1992 CO Plan, where a general description of input assumptions was provided (SCAQMD 2003).

Response: No. According to Section 4.7.2 of the CO Protocol, project sponsors are encouraged to use the following criteria to determine the potential for the project to result in higher CO concentrations than those existing within the region at the time of attainment demonstration:

a. *The receptors at the location under study are at the same distance or farther from the traveled roadway than the receptors at the location where attainment has been demonstrated.*

A receptor distance of 3 meters from the traveled roadway was used in the CO attainment demonstration prepared for the 2003 AQMP. With respect to the proposed project, all sensitive receptors are located no closer than 3 meters from the traveled roadway. The closest sensitive receptors to the project site are residences adjacent to the widened roadway.

b. *The roadway geometry of the two locations is not significantly different. An example of a significant difference would be a larger number of lanes at the location under study compared with the location where attainment has been demonstrated.*

In the CO attainment demonstration prepared for the 2003 AQMP, four approach lanes in all directions were used to model the intersections at Wilshire/Veteran and La Cienega/Century, while three approach lanes in all directions were used to model the intersections at Sunset/ Highland and Long Beach/Imperial. Therefore, if the total number of intersection approach lanes associated with any of the proposed project alternatives exceeds 16 lanes, the intersection could result in a potentially adverse effect. Table 3.14-8 shows the number of approach lanes that would occur under the build alternatives. As shown therein, the maximum number of approach lanes at any intersection location under the build alternatives would be 10 (Webster Avenue at Ramona Expressway), which is fewer than the 16 lanes used in the attainment demonstration.

Table 3.14-8. Approach Lanes for the Proposed Project

Intersection	Number of Approach Lanes			
	Eastbound	Westbound	Northbound	Southbound
Opening Year 2024 Alternative 1 and 2C Intersections *				
I-15 Southbound Ramps and Ontario Avenue	2	2	-	-
Cajalco Road and Temescal Canyon Road	1	3	1	2
I-215 Southbound Ramps and Cajalco Road Expressway/Ramona Expressway	3	3	-	1
I-215 Northbound Ramps and Cajalco Expressway/Ramona Expressway	2	2	1	-
Webster Avenue and Ramona Expressway	3	3	2	2
Opening Year 2024 Alternative 4 Intersections *				
I-15 Northbound Ramps and El Cerrito Road	1	2	1	-
Cajalco Road and Temescal Canyon Road	1	2	1	2
La Sierra Avenue and Victoria Avenue	1	1	2	2
La Sierra Avenue and El Sobrante Road	-	-	2	1
Day Street and SR-60 Eastbound Ramps	-	-	2	3
I-215 Northbound Ramps and Cajalco Expressway/Ramona Expressway	2	2	1	-
I-215 Northbound Ramps and Nuevo Road	2	2	1	-
Horizon Year 2044 Alternative 1 and 2C Intersections *				
Cajalco Road and Bedford Canyon Road	2	2	-	-
Cajalco Road and Temescal Canyon Road	1	3	3	3
La Sierra Avenue and Victoria Avenue	1	2	3	3
Cajalco Road and Harley John Road	2	2	1	1
Sycamore Canyon Road and SR-60/I-215 Southbound Ramps	-	-	3	1
SR-60/I-215 Northbound Ramps and Fair Isle Drive/Box Springs Road	2	1	1	-
I-215 Ramps and Eucalyptus Avenue	2	2	-	-
Webster Avenue and Ramona Expressway	3	3	2	2
Horizon Year 2044 Alternative 4 Intersections *				
Cajalco Road and Bedford Canyon Road	1	2	1	-
Cajalco Road and Temescal Canyon Road	2	2	-	-
La Sierra Avenue and Victoria Avenue	1	3	3	3
Sycamore Canyon Road and SR-60/I-215 Southbound Ramps	1	2	3	3
SR-60/I-215 Northbound Ramps and Fair Isle Drive/Box Springs Road	-	-	3	1

Intersection	Number of Approach Lanes			
	Eastbound	Westbound	Northbound	Southbound
I-215 Ramps and Eucalyptus Avenue	2	1	1	-

* Intersections were selected for each scenario based on the following criteria:
1. Intersection operates at LOS D, E, or F under No-Build Conditions for one or both peak hours.
2. Intersection delay increases by 5 seconds or greater during one or both peak hours under the build alternative identified.
3. Intersection delay is one of the five highest of all 69 study area intersections in either the AM or PM peak hour.

c. *Expected worse-case meteorology at the location under study is the same or better than the worst-case meteorology at the location where attainment has been demonstrated. Relevant meteorological variables include wind speed, wind direction, temperature, and stability class.*

In the CO attainment demonstration prepared for the 2003 AQMP, a wind speed of 1 meter per second, stability class D, and worst-case wind angle were used as modeling assumptions. These assumptions are considered worst case; as such, the expected worst-case meteorology at the location under study would be the same or better. In addition, there is no meaningful difference in temperature between the attainment demonstration intersection locations and the proposed project study area intersection locations.

d. Traffic lane volumes at the location under study are the same or lower than those at the location where attainment has been demonstrated.

A comparison of the traffic volumes per lane used for modeling in the attainment plan demonstration and volumes per lane projected to occur at the studied intersection locations is provided in Table 3.14-9 for Opening Year 2024 and Horizon Year 2044. As shown therein, overall per-lane approach volumes would generally be lower than the approach lane volumes of the attainment demonstration intersections for Opening Year 2024 and Horizon Year 2044, with exception of the following intersections under Build Alternatives 1, 2C, and 4 in 2044, which would have per-lane volumes from some approaches greater than the highest per-lane approach volumes for the 2003 attainment demonstration:

- Sycamore Canyon Road and SR-60/I-215 southbound ramps
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road
- I-215 ramps and Eucalyptus Avenue

However, overall approach volumes at these locations would be lower than the attainment demonstration intersections, and the existing vehicle stock emits substantially less CO compared to vehicles in operation at the time of the 2003 attainment demonstration, a trend that will continue as older vehicles are replaced with newer vehicles that release less pollutants. Furthermore, as shown in Table 3.14-2, the existing maximum 8-hour background CO concentration in the project area is no greater than 1.8 parts per million (ppm) compared to an 8-hour background concentration of 7.8 ppm used for the 2003 attainment demonstration analysis (77 percent lower). Because of the lower overall intersection volumes, lower emissions from vehicles, and the lower background concentrations, no CO hotspot is anticipated.

e. Percentage of vehicles operating in cold-start mode at the location under study is the same or lower than the percentage at the location where attainment has been demonstrated.

The proposed project would not increase the percentage of vehicles operating in cold-start mode in the project area because no parking facilities would be constructed as part of the proposed project.

f. Percentage of heavy-duty gas trucks at the location under study is the same or lower than the percentage at the location where attainment has been demonstrated.

The attainment area demonstration intersections are located along urban arterial roadways with a commercial and residential mix of land uses within the SCAB, and the project area intersections are urban arterials near primarily residential land uses. Because neither the demonstration intersection areas nor the project area have a high concentration of industrial uses or other uses responsible for a substantial number of truck trips, the project area is anticipated to have a similar percentage of heavy-duty trucks to the attainment demonstration intersections. Aggregate mining operations near the western end of the project alignment are known to generate heavy-duty truck trips in the project vicinity at present, which is expected to continue in the future. Given the location of mining operations near I-15, it is anticipated that the bulk of the trips would continue to access the regional transportation network via I-15 and a substantial change in truck traffic elsewhere along the project alignment would not occur.

Table 3.14-9. 2024 and 2044 Peak-Hour Approach Lane Volumes: Proposed Project and 2003 AQMP Attainment Demonstration

Location	Eastbound (AM/PM)	Westbound (AM/PM)	Northbound AM/PM)	Southbound (AM/PM)
Opening Year 2024 Alternatives 1 and 2C Intersections *				
I-15 Southbound Ramps and Ontario Avenue	689/1,081	1,201/849	0/0	0/4
Cajalco Road and Temescal Canyon Road	532/757	212/271	465/1,022	263/178
I-215 Southbound Ramps and Cajalco Expressway/Cajalco Expressway	471/394	373/455	0/0	1/7
I-215 Northbound Ramps and Cajalco Expressway/Ramona Expressway	1,001/807	598/676	1/1	0/0
Webster Avenue and Ramona Expressway	513/548	635/626	8/15	2/10
Opening Year 2024 Alternative 4 Intersections *				
I-15 Northbound Ramps and El Cerrito Road	363/559	211/207	2/6	0/0
Cajalco Road and Temescal Canyon Road	524/798	312/401	377/938	231/136
La Sierra Avenue and Victoria Avenue	19/82	90/59	970/734	519/1,098
La Sierra Avenue and El Sobrante Road	0/0	0/0	410/283	343/1,156
Day Street and SR-60 Eastbound Ramps	0/0	0/0	309/669	331/426
I-215 Northbound Ramps and Cajalco Expressway/Ramona Expressway	940/797	575/669	1/1	0/0
I-215 Northbound Ramps and Nuevo Road	464/481	465/491	1/0	0/0
Horizon Year 2044 Alternatives 1 and 2C Intersections *				
Cajalco Road and Bedford Canyon Road	250/306	249/306	0/0	0/0
Cajalco Road and Temescal Canyon Road	438/552	106/308	404/634	382/348
La Sierra Avenue and Victoria Avenue	245/109	66/86	628/495	262/809
Cajalco Road and Harley John Road	499/821	616/564	7/5	6/11
Sycamore Canyon Road and SR-60/I-215 Southbound Ramps	0/0	0/0	754/758	772/1,521
SR-60/I-215 Northbound Ramps and Fair Isle Drive/Box Springs Road	440/823	1,863/1,261	36/2	0/0
I-215 Ramps and Eucalyptus Avenue	398/1482	959/377	0/0	0/0
Webster Avenue and Ramona Expressway	617/552	711/655	79/67	20/101
Horizon Year 2044 Alternative 4 Intersections *				
I-15 Northbound Ramps and Ontario Avenue	1,065/1,044	331/327	17/20	0/0
Cajalco Road and Bedford Canyon Road	296/348	252/358	0/0	0/0
Cajalco Road and Temescal Canyon Road	489/291	84/278	316/568	357/296
La Sierra Avenue and Victoria Avenue	201/103	68/76	755/587	367/884
Sycamore Canyon Road and SR-60/I-215 Southbound Ramps	0/0	0/0	738/752	765/1479

Location	Eastbound (AM/PM)	Westbound (AM/PM)	Northbound AM/PM)	Southbound (AM/PM)
SR-60/I-215 Northbound Ramps and Fair Isle Drive/Box Springs Road	474/1,112	1,875/1,402	36/2	0/0
I-215 Ramps and Eucalyptus Avenue	334/1,258	798/250	0/0	0/0
Attainment Demonstration Intersections (Used in the SCAQMD 2003 AQMP CO Attainment Demonstration)				
Wilshire Boulevard and Veteran Avenue (four lanes, all directions)	1,238/517	458/829	180/350	140/233
Sunset Boulevard and Highland Avenue (three lanes, all directions)	472/588	447/513	768/611	517/746
La Cienega Boulevard and Century Boulevard (four lanes, all directions)	635/561	473/682	346/507	205/419
Long Beach Boulevard and Imperial Highway (three lanes, all directions)	406/673	587/467	160/315	252/383

Sources: Based on Caltrans 2017b; SCAQMD 2003.
* Study area intersections were selected for each scenario based on the following criteria:
1. Intersection operates at LOS D, E, or F under No-Build Conditions for one or both peak hours.
2. Intersection delay increases by 5 seconds or greater during one or both peak hours under the build alternative identified.
3. Intersection delay is one of the five highest of all 69 study area intersections in either the AM or PM peak hour.

g. *For projects involving intersections, average delay and queue length figures for each approach are the same or smaller for the intersection under study compared with those found in the intersection where attainment has been demonstrated.*

   As shown in Table 3.14-9, the overall per-lane approach volumes would generally be lower than the approach lane volumes of the attainment demonstration intersections for Opening Year 2024 and Horizon Year 2044, with exception of the following intersections under Build Alternatives 1, 2C, and 4 in 2044, which would have per-lane volumes from some approaches greater than the highest per-lane approach volumes for the 2003 attainment demonstration.

   - Sycamore Canyon Road and SR-60/I-215 southbound ramps
   - SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road
   - I-215 ramps and Eucalyptus Avenue

   However, overall approach volumes (when approach volumes are not divided by the number of lanes) at these locations would be lower than the volumes at attainment demonstration intersections. Overall average delay and queue length figures for the build alternatives are anticipated to be less than those for the attainment demonstration intersections.

h. *Background concentration at the location under study is the same as or lower than the background concentration at the location where attainment has been demonstrated.*

   As shown earlier in Table 3.14-2, the maximum recorded background CO concentration in the project area in the past 3 years is 1.8 ppm for the 8-hour averaging period. This value is substantially less than the 8-hour average maximum background concentration of 7.8 ppm (2005) used for the 2003 AQMP attainment demonstration.

Because the answer to the second Level 7 question is "no," per the CO Protocol, the project is satisfactory and no further analysis is needed. Because project implementation would not result in CO concentrations that exceed the 1-hour or 8-hour ambient air quality standards, on the basis of CO Protocol analysis methodology, the build alternatives are not expected to result in a new

or more severe exceedance of either the NAAQS or California Ambient Air Quality Standards (CAAQS). As previously indicated, the proposed project was evaluated using Figure 1 and Figure 3 of the CO Protocol. Through this process, it was determined the build alternatives are not expected to result in a new or more severe exceedance of either the NAAQS or CAAQS related to CO.

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

In November 2015, U.S. EPA issued a guidance document titled *Transportation Conformity Guidance for Quantitative Hot-spot Analyses in PM2.5 and PM10 Nonattainment and Maintenance Areas* (FHWA and U.S. EPA 2015). This guidance details a step-by-step screening procedure to determine whether project-related particulate emissions have a potential to generate new air quality violations, worsen existing violations, or delay attainment of NAAQS for $PM_{2.5}$ or PM_{10}.

Although nearly all projects create particulate emissions during construction, construction activities lasting 5 years or less are considered temporary impacts under the U.S. EPA transportation conformity rule and are exempt from project-level conformity analysis. It is expected that this project would be constructed in approximately 4 years. As such, this project-level hot-spot analysis is limited to operational impacts.

U.S. EPA specifies in 40 CFR 93.123(b)(1) that only "projects of air quality concern" are required to undergo a $PM_{2.5}$ and PM_{10} hot-spot analysis. U.S. EPA defines projects of air quality concern as certain highway and transit projects that involve significant levels of diesel traffic or any other project that is identified by the $PM_{2.5}$ SIP as a localized air quality concern. A discussion of the proposed project compared to projects of air quality concern, as defined by 40 CFR 93.123(b)(1), is provided below.

1. *New or expanded highway projects that have a significant number of or significant increase in diesel vehicles.*

   The proposed project would involve the widening of existing roadways connecting I-15 and I-215, with some realignment under Build Alternatives 2C and 4. Under Opening Year 2024 conditions, medium- and heavy-duty truck traffic would increase in terms of annual average daily traffic (AADT) and percentage of total volumes. Truck volumes along improved Cajalco Road segments are expected to increase by 55 to 221 percent under Build Alternatives 1 and 2C relative to the 2024 No-Build scenario, with absolute increases of no more than 1,443 trucks per day. For Alternative 4, which includes improvements on El Sobrante Road, relative increases in truck traffic would range from 40 percent on El Sobrante Road to 127 percent on the western end of the alignment on Cajalco Road, but absolute increases in daily truck traffic would be no greater than 1,324 trucks per day. Diesel truck traffic would compose up to 8.4 percent of truck traffic under Build Alternatives 1 and 2C and up to 9.4 percent under Build Alternative 4. Overall Opening Year AADT (including passenger vehicles) would be no greater than 52,170 under each of the build alternatives.

   Under Horizon Year 2044 conditions, medium- and heavy-duty truck traffic would increase in terms of AADT and percentage of total volumes. Truck volumes along improved Cajalco Road segments are expected to increase by 25 to 79 percent under Build Alternatives 1 and 2C relative to the 2044 No-Build Scenario, with absolute increases of no more than 572

trucks per day. For Build Alternative 4, which includes improvements on El Sobrante Road, relative increases in truck traffic would be up to 72 percent on El Sobrante Road to the east of the Lake Mathews reservoir and an increase of up to 103 percent on Cajalco Road on the eastern end of the alignment, but absolute increases in daily truck traffic would be no greater than 1,449 trucks per day. Diesel truck traffic would compose up to 5.8 percent of truck traffic under Build Alternatives 1 and 2C, and up to 7.6 percent under Build Alternative 4. Overall Horizon Year AADT (including passenger vehicles) would be no greater than 43,860 under each of the build alternatives. Of note, the total AADT, truck volumes, and percentage of total AADT for most project roadway segments are lower under 2044 conditions than under 2024 conditions because the parallel Community and Environmental Transportation Acceptability Process (CETAP) Project (RTP/SCS ID: 3C01MA01) is assumed to be implemented prior to the 2044 Horizon Year. The CETAP Project would offer an additional east-west transportation corridor in the vicinity, which would reduce demand for the proposed project. Hence, the traffic volumes would be lower in 2044 than in 2024.

2. *Projects affecting intersections that are at LOS D, E, or F with a significant number of diesel vehicles or those that will change to LOS D, E, or F because of increased traffic volumes from a significant number of diesel vehicles related to the project.*

   Overall, the proposed project would reduce congestion at project vicinity intersections. Of the 69 study area intersections, some intersections that operate at LOS D, E, or F under the Opening Year 2024 No-Build Alternative would experience an increase in peak-hour delay of 5 seconds or greater under one or more of the build alternatives. For Build Alternatives 1 and 2C, five intersections operating at LOS D, E, and F would experience delays of 5 seconds or greater, all of which occur near I-15 and I-215. For Build Alternative 4, eight intersections operating at LOS D, E, and F would experience delays of 5 seconds or greater.

   Of the 69 study area intersections, some intersections that operate at LOS D, E, or F under the Horizon Year 2044 No-Build Alternative would experience an increase in peak-hour delay of 5 seconds or greater under one or more of the build alternatives. For Build Alternatives 1 and 2C, 23 intersections operating at LOS D, E, and F would experience delays of 5 seconds or greater. For Build Alternative 4, 24 intersections operating at LOS D, E, and F would experience delays of 5 seconds or greater.

3. *New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location.*

   The proposed project has no bus or rail terminal component, and it would not alter travel patterns to/from any existing bus or rail terminal.

4. *Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location.*

   The proposed project would not expand any bus terminal, rail terminal, or related transfer point that would increase the number of diesel vehicles congregating at any single location.

5. *Projects in or affecting locations, areas, or categories of sites that are identified in the $PM_{2.5}$- or PM_{10}-applicable implementation plan or implementation plan submission, as appropriate, as sites of violation or possible violation.*

The project site is not in or affecting an area or location identified in any PM_{10} or $PM_{2.5}$ implementation plan. The immediate project area is not considered to be a site of violation or possible violation.

The discussion provided above indicates that the proposed project would not be considered a project of air quality concern, as defined by 40 CFR 93.123(b)(1), because AADT would be no greater than 52,170 and truck AADT would be no greater than 4,084 for any of the segments under the build alternatives. In addition, volumes would fall over time because of the implementation of the parallel CETAP Project. Although the truck composition of total AADT would be greater than 8 percent for certain improved segments and increased delay would be experienced at a small number of study area intersections relative to the No-Build conditions, the traffic volumes are low enough that substantial $PM_{2.5}$ and PM_{10} emissions are not anticipated and hot-spot evaluations would not be required. It is unlikely that the proposed project would generate new air quality violations, worsen existing violations, or delay attainment of NAAQS for $PM_{2.5}$ or PM_{10}. The SCAG Transportation Conformity Working Group concurred with this determination during its Tuesday, May 23, 2017, meeting (refer to Appendix G of this EIR/EIS). FCAA (40 CFR 93.116) requirements are therefore met.

Criteria Pollutant Emissions

Criteria pollutant emissions would result from project implementation from vehicles operating in the project vicinity. A summary of mobile-source emissions estimates for the Baseline Year 2014, Opening Year 2024, and Horizon Year 2044 is provided in Table 3.14-10.

Table 3.14-10. Project Area Mobile-Source Emissions

Evaluation Scenario	Criteria Pollutant Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Existing Year 2014	1,356	30,327	13,189	201	191
Opening Year 2024					
No-Build Alternative	**551**	**14,814**	**4,059**	**50**	**47**
Build Alternative 1	**548**	**14,892**	**4,035**	**50**	**47**
Increase/(Decrease) Compared to Existing	(808)	(15,435)	(9,154)	(151)	(144)
Increase/(Decrease) Compared to No-Build Alternative	(3)	78	(24)	0	0
Build Alternative 2C	**551**	**14,969**	**4,063**	**51**	**47**
Increase/(Decrease) Compared to Existing	(805)	(15,358)	(9,126)	(150)	(144)
Increase/(Decrease) Compared to No-Build Alternative	0	155	4	1	0
Build Alternative 4	**549**	**14,945**	**4,046**	**51**	**47**
Increase/(Decrease) Compared to Existing	(807)	(15,382)	(9,143)	(150)	(144)
Increase/(Decrease) Compared to No-Build Alternative	(2)	131	(13)	(150)	(144)
Horizon Year 2044					
No-Build Alternative	**480**	**10,988**	**2,754**	**30**	**28**
Build Alternative 1	**484**	**11,074**	**2,778**	**30**	**28**
Increase/(Decrease) Compared to Existing	(872)	(19,253)	(10,411)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	4	86	24	0	0
Build Alternative 2C	**480**	**11,010**	**2,754**	**30**	**28**
Increase/(Decrease) Compared to Existing	(876)	(19,317)	(10,435)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	0	22	0	0	0

Evaluation Scenario	Criteria Pollutant Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Build Alternative 4	**484**	**11,083**	**2,783**	**30**	**28**
Increase/(Decrease) Compared to Existing	(1,810)	(19,244)	(10,406)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	4	95	29	0	0
SCAQMD Regional Significance Threshold [a]	**55**	**550**	**55**	**150**	**55**
[a] SCAQMD thresholds are provided for informational purposes only. Caltrans has not adopted and does not recognize SCAQMD thresholds.					

Re-Entrained Road Dust Emissions

Fugitive dust emissions from vehicle travel on paved roads (i.e., re-entrained dust) can be calculated using the emission factor equation provided in the Fifth Edition of U.S. EPA's AP-42 emissions factor compilation document (U.S. EPA 2011). The specific equation can be found in Section 13.2.1 of the AP-42 document. The emissions factor equation requires the input of several site-specific variables such as particle size multiplier, roadway silt loading factor, average vehicle weight, and rainfall correlation factor. The variables used in the analysis for the proposed project were obtained based on research conducted by Midwest Research Institute while they were performing California silt-loading measurements (Muleski 1996).

Based on U.S. EPA's AP-42 emission factor equation, re-entrained roadway emissions of PM_{10} and $PM_{2.5}$ around the Cajalco Road project vicinity are predicted to increase by 2.1 percent and 2.9 percent under Build Alternatives 1 and 2C, respectively, at Opening Year 2024. At Horizon Year 2044, re-entrained roadway emissions of PM_{10} and $PM_{2.5}$ are predicted to increase by 1.3 percent and 0.8 percent under Build Alternatives 1 and 2C, respectively, when compared to the No-Build Alternative. Under Build Alternative 4, re-entrained roadway emissions of PM_{10} and $PM_{2.5}$ around the Cajalco Road project vicinity are predicted to increase by 2.9 percent under Build Alternative 4 at Opening Year 2024. At Horizon Year 2044, re-entrained roadway emissions of PM_{10} and $PM_{2.5}$ are predicted to increase by 1.7 percent under Build Alternative 4 when compared to the No-Build Alternative.

Asbestos

Although naturally occurring asbestos is common in certain counties of California, it is not likely to be found in the project vicinity of Riverside County (California Department of Conservation 2000). Because roadway operation would not involve the disturbance of soils outside the right of way and no structures containing asbestos would be affected by roadway use, no permanent effects would occur. Construction-period effects are discussed under the temporary impacts section.

Lead

Lead (Pb) is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of aerially deposited lead (ADL) or painting or modification of structures with lead-based coatings. No permanent effects associated with lead would occur, given that roadway operation would not disturb soils outside the right of way. Construction-period effects are discussed under the temporary impacts section.

Mobile Source Air Toxics

FHWA has issued interim guidance on how MSATs should be addressed in NEPA documents for highway projects and has developed a tiered approach for analyzing MSATs in NEPA documents (FHWA Memorandum, Updated Interim Guidance on Mobile Source Air Toxics Analysis in NEPA Documents, October 18, 2016). Depending on the specific project circumstances, one of the following three levels of analysis identified by FHWA should be used:

1. No analysis for exempt projects or projects with no potential for meaningful MSAT effects.
2. Qualitative analysis for projects with low-potential MSAT effects.
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

According to FHWA's Interim Guidance, this project is classified as a Category 2 project (Projects with Low Potential MSAT Effects). This project is expected to meet this category because projected AADT volumes at Horizon Year 2044 would not exceed the 140,000 AADT criterion established by FHWA for projects considered to have higher potential for MSAT effects. Furthermore, overall MSAT emissions at Horizon Year 2044 are anticipated to be considerably less than Baseline Year 2014 levels, even though VMT is anticipated to increase.

Even though this project is classified as Category 2 (low) in terms of potential MSAT effects, a quantitative MSAT emissions analysis and estimates were prepared to allow for a comparison of the project alternatives. Using the CT-EMFAC2014 model, VMT and travel speed profile data provided were used to estimate project MSAT emissions. A summary of Horizon Year 2044 VMT and related MSAT emissions among build alternatives, in comparison to the Existing/Baseline Year 2014, is provided in Table 3.14-11.

Table 3.14-11. Comparison of Years 2014 and 2044 MSAT Emissions in Pounds per Day

MSAT Pollutant	Existing Year 2014	Horizon Year 2044			
		No-Build	Alternative 1	Alternative 2C	Alternative 4
Benzene	45	15	16	15	16
Acrolein	2	1	1	1	1
Acetaldehyde	42	17	17	17	17
Formaldehyde	96	39	39	39	39
Butadiene	9	3	3	3	3
Naphthalene	1	1	1	1	1
POM	2	1	1	1	1
Diesel PM	174	12	12	12	12
DEOG	479	205	207	205	207
Regional VMT	8,585,371	14,659,917	14,779,906	14,721,152	14,811,302

Regional VMT at Horizon Year 2044 is anticipated to increase under the build alternatives when compared to the Existing Year 2014 baseline condition and the Horizon Year No-Build Alternative, as travelers would use different routes to most efficiently reach their destinations. More importantly, overall MSAT emissions at Horizon Year 2044 are anticipated to be considerably less than Baseline Year 2014 levels, even though VMT is anticipated to increase.

To comply with Council on Environmental regulations (40 CFR 1502.22(b)) regarding incomplete or unavailable information, Appendix E to the December 2017 AQSR contains a discussion regarding how air toxics analysis is an emerging field and current scientific techniques, tools, and data are not sufficient to estimate accurately the human health effects that would result from a transportation project in a way that would be useful to decision-makers. Also in compliance with 40 CFR 1502.22(b), Appendix E to the December 2017 AQSR contains a summary of current studies regarding the health effects of MSATs.

Regardless of the alternative chosen, emissions would be lower than present levels at Horizon Year 2044 as a result of U.S. EPA's national control programs, which are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 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 U.S. 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 virtually all locations.

Under the build alternatives there would be localized areas where VMT would increase, and other areas where VMT would decrease. Therefore, it is possible that localized increases and decreases in MSAT emissions may occur. However, even if these increases do occur, they too would be substantially reduced in the future as a result of implementation of U.S. EPA's vehicle and fuel regulations.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. The future six-lane facility has not been planned and programmed as part of the SCAG RTP/SCS or FTIP, and would need to be included in these documents in order to comply with regional transportation conformity requirements. For project-level conformity, the future six-lane facility would require interagency consultation with the Transportation Conformity Working Group to determine whether or not the future six-lane facility would be considered a project of air quality concern. The project would also be required to demonstrate that it does not result in the creation of criteria pollutant hot-spots.

Estimated emissions of regional criteria pollutant and precursor pollutant emissions from mobile sources in the project area are shown in Table 3.14-12. Emissions estimates are based on VMT and speed profile data projected under the six-lane future facility and are compared to emissions that would occur under the build alternatives at the Horizon Year 2044. The future six-lane facility is compared to the corresponding Horizon Year 2044 build alternatives because the future six-lane facility would not be implemented until a later date and would only occur after the construction of the selected build alternative. As such, the 2044 build alternative scenarios are the appropriate baseline for comparison. As shown in the table, operational emissions are expected to be greater under the six-lane future facility when compared to the corresponding build alternatives, but the increases would not exceed any current regional standards set for bringing the region into attainment.

Table 3.14-12. Project Area Mobile-Source Emissions for Future Six-Lane Facility (2044)

Evaluation Scenario	Criteria Pollutant Emissions in Pounds per Day				
	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Horizon Year 2044					
Future Six-Lane Facility (Build Alternative 1/2C)	**488**	**11,138**	**2,806**	**30**	**28**
Increase/(Decrease) Compared to 2044 Build Alternative 1	4	64	28	< 1	< 1
Future Six-Lane Facility (Build Alternative 4)	**488**	**11,164**	**2,822**	**31**	**29**
Increase/(Decrease) Compared to 2044 Build Alternative 4	5	81	41	< 1	< 1
SCAQMD Regional Significance Threshold [a]	**55**	**550**	**55**	**150**	**55**

[a] SCAQMD thresholds are provided for informational purposes only. Caltrans has not adopted and does not recognize SCAQMD thresholds.

Table 3.14-13 shows the comparison of estimated MSAT emissions in the project area, which are expected to be similar under the future six-lane facility and the corresponding build alternative. Any increases would be due to the projected increases in VMT. Substantial reductions in MSAT emissions are estimated to occur relative to Existing Year 2014 based on the retirement of older vehicles.

Table 3.14-13. Comparison of Years 2014 and 2044 MSAT Emissions for Future Six-Lane Facility (in Pounds per Day)

MSAT Pollutant	Existing Year 2014	Horizon Year 2044			
		Build Alternative 1	6-Lane Future Facility (Alternative 1/2C)	Build Alternative 4	6-Lane Future Facility (Alternative 4)
Benzene	45	16	16	16	16
Acrolein	2	1	1	1	1
Acetaldehyde	42	17	18	17	18
Formaldehyde	96	39	39	39	39
Butadiene	9	3	3	3	3
Naphthalene	1	1	1	1	1
POM	2	1	1	1	1
Diesel PM	174	12	12	12	12
DEOG	479	207	209	207	209
Regional VMT	8,585,371	14,779,906	14,843,301	14,811,302	14,893,944

Naturally occurring asbestos is not likely to be an issue under the future six-lane facility, as it is not commonly found in the project vicinity and roadway operation would not involve the disturbance of soils outside the right of way. Similarly, lead is normally not an air quality issue for transportation projects unless the project involves disturbance of soils containing high levels of ADL or painting or modification of structures with lead-based coatings. No permanent effects associated with lead would occur, given that roadway operation would not disturb soils outside the right of way.

As discussed for criteria and precursor pollutant emissions, the future six-lane facility would attract greater traffic volumes than the No-Build Alternative. As such, MSAT emissions would be expected to increase proportionally to the increase in VMT in the project area.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the Lake Mathews MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP boundary responsible parties is proposed as part of the project to accommodate the proposed roadway improvements. Introducing the proposed project into to the LM MSHCP area is anticipated to result in permanent impacts within the LM MSHCP area associated with the increased emissions from greater vehicle volumes. As specified in Table 3.14-10, overall emissions for some pollutants under Build Alternatives 1 and 2C would increase relative to the No-Build Alternative, and a portion of those increases would occur in the LM MSHCP area. These increases would not exceed any regional standards set for bringing the region into attainment. As shown in Table 3.14-11, overall project MSAT emissions would be nearly identical under Alternatives 1 and 2C when compared to the No-Build Alternative, and any increases would be negligible within the LM MSHCP area. In addition to everyday roadway operations within the LM MSHCP area, ongoing maintenance activities for the appurtenant facilities would also result in air pollutant emissions. Given the infrequent nature of maintenance activities and that the maintenance activities would generally be limited in scope, such emissions would be minor.

No-Build Alternative

The No-Build Alternative is the baseline for the comparison of air quality impacts. Under this alternative, emissions would be lower for some pollutants and higher for others in comparison to the build alternatives (see Table 3.14-10 for a summary of the regional emissions). The No-Build Alternative would offer less vehicular capacity than the build alternatives, which would result in greater operational emissions for some, but not all, pollutants.

3.14.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

Construction Conformity

Construction activities will not last for more than 5 years at one general location, so construction-related emissions do not need to be included in regional and project-level conformity analysis (40 CFR 93.123(c)(5)).

Criteria Pollutant Emissions

Construction is anticipated to begin in 2023 and would last approximately 4 years. Temporary construction emissions would result from grubbing/land clearing, grading/excavation, drainage/subgrade construction, paving, and the commuting patterns of construction workers. Pollutant emissions would vary daily, depending on the level of activity, specific operations, and prevailing weather.

During construction, short-term degradation of air quality may occur because of the release of particulate emissions (airborne dust) generated by excavation, grading, hauling, and other

activities related to construction. Emissions from construction equipment also are anticipated and would include CO, nitrogen oxides (NO_X), reactive organic gases (ROG), directly emitted PM (PM_{10} and $PM_{2.5}$), and toxic air contaminants (MSATs), such as diesel exhaust PM. Ozone is a regional pollutant that is derived from NO_X and ROG in the presence of sunlight and heat.

Site preparation and roadway construction would involve clearing, site-work activities, grading, removing or improving portions of existing roadways, and paving roadway surfaces. Construction-related effects on air quality from most highway projects would be greatest during the site preparation phase because most engine emissions are associated with the excavation, handling, and transport of soils to and from the site.

Construction-period criteria pollutant emissions were quantified using the Road Construction Model, Version 8.1.0. A summary of emissions estimates is provided in Table 3.14-14. Modeling assumptions assumes compliance with SCAQMD Rule 403 (Fugitive Dust Control) are detailed in Appendix B to the December 2017 AQSR.

Table 3.14-14. Estimate of Criteria Pollutant Emissions during Construction (pounds per day)

Construction Phase	ROG	CO	NO_X	PM_{10}	$PM_{2.5}$
Grubbing and Clearing	1	13	9	11	2
Grading/Excavation	5	53	50	13	4
Drainage/Utilities/Sub-Grade	3	34	27	11	3
Paving	2	21	16	1	1
Daily Maximum Regional Emissions	5	53	50	13	4
SCAQMD Regional Emissions Daily Significance Threshold [b]	75	550	100	150	55
Daily Maximum Onsite Emissions	5	48	47	10	4
SCAQMD Localized Significance Threshold [b]	N/A [a]	1,700	270	12	8

Source: Calculated by ICF; detailed calculation assumptions are provided in Appendix B to the December 2017 AQSR.
[a] ROG emissions have no SCAQMD localized emissions threshold; SCAQMD Source Receptor Area 22, 5-acre site, 25-meter receptor distance.
[b] SCAQMD thresholds are provided for informational purposes only. Caltrans has not adopted and does not recognize SCAQMD thresholds.

The project would comply with all applicable construction requirements and standard measures for Caltrans projects related to construction emissions, as specified in Standard Project Measures **PF AQ-1** and **PF AQ-2**, below.

- **PF AQ-1**: The project would conform to California Department of Transportation (Caltrans) construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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. Exhaust emissions control measures may include, but are not limited to, the following:

    1. General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would have their engines turned off when not in use to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

2. All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. The equipment must be checked by an Automotive Service Excellence–certified mechanic and determined to be running in proper condition before it is operated.
3. All on-road and off-road equipment shall comply with California Air Resources Board (ARB) commercial vehicle idle regulations. California Code of Regulations Title 13, Section 2449(d)(3), which was adopted by ARB on June 15, 2008, restricts idling of construction vehicles to no longer than 5 consecutive minutes.
4. Use electricity from power poles, rather than temporary diesel- or gasoline powered generators if or where feasible.
5. Use onsite mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible.
6. Use solar-powered signal boards.
7. Develop a construction traffic management plan that includes, but is not limited to: (1) consolidating truck deliveries; (2) providing a rideshare or shuttle service for construction workers; and (3) providing dedicated turn lanes for movement of construction trucks and equipment on and off site.

- **PF AQ-2**: South Coast Air Quality Management District (SCAQMD) Rule 403 (Fugitive Dust) requires that fugitive dust control measures be applied to all construction projects in the South Coast Air Basin, unless said project is specifically exempted by the rule. Construction projects that are classified as "large operations" (i.e., 20 hectares [50 acres] or larger) are required to submit a fully executed Large Operation Notification Form (Form 403 N) to the Executive Office of SCAQMD within 7 days of qualifying as a large operation and to maintain daily records to document the specific control actions taken. The control measures incorporated in the rule are available in a Rule 403 Implementation Handbook, and include:
  - Water or dust palliative will be applied to the site and equipment as frequently as necessary to control fugitive dust emissions.
  - Soil binder will be spread on any unpaved roads used for construction purposes and all project construction parking areas.
  - Trucks will be washed off as they leave the right of way as necessary to control fugitive dust emissions.
  - Equipment and materials storage sites will be located as far away from residential and park uses as practical. Construction areas will be kept clean and orderly.
  - Track-out reduction measures, such as gravel pads at project access points, will be used to minimize dust and mud deposits on roads affected by construction traffic.
  - All transported loads of soils and wet materials will be covered prior to transport or adequate freeboard (i.e., space from the top of the material to the top of the truck) will be provided to reduce PM10 and deposition of particulate during transportation.
  - Dust and mud that are deposited on paved, public roads due to construction activity and traffic will be removed to decrease PM.

- During construction, dust palliatives will be used as specified in the Department's Standard Specifications, Section 18-1.03A, General.
- Construction equipment fleets will be in compliance with Best Available Control Technology requirements.

Asbestos

As discussed in the July 2020 Initial Site Assessment (ISA) prepared for the proposed project, the Temescal Canyon Wash Bridge is considered an environmental area of concern, as it may contain hazardous building materials including asbestos or lead. As identified in the ISA, surveys for hazardous building materials, including asbestos-containing materials (ACM) and lead-based paint (LBP), shall be conducted for structures that will be removed in support of the project, including the Temescal Canyon Wash Bridge. Surveys for ACM and LBP will be conducted during final design and prior to project construction. All applicable recommendations that result from these surveys and applicable regulations related to worker safety will be followed. No adverse effects are anticipated.

Lead

ADL refers to lead deposited on highway shoulders from past leaded fuel vehicle emissions. Although leaded fuel has been prohibited in California since the 1980s, ADL may still be present in soils adjacent to highways in use prior to that time. It is Caltrans' policy to evaluate and investigate these unpaved areas when they will be affected by a project, to ensure that workers are properly protected from lead exposure through training and appropriate work practices, and to manage ADL-containing soils in compliance with all applicable laws and regulations while minimizing costs to the project and future state liability.

As discussed in the November 2017 ADL Investigation prepared for the proposed project, soil samples were collected from areas of proposed widening based on the expected depths of soil disturbance. None of the 63 samples contained total lead concentrations exceeding the California Total Threshold Limit Concentration of 1,000 milligrams per kilogram, and the ADL Investigation concluded that excavated soil is not restricted for onsite reuse.

The July 2020 ISA also identified the potential presence of lead-chromate in traffic lane striping, as it has been used historically. As discussed in the ISA, a survey of yellow paint and thermoplastic striping will be conducted along the project alignment for striping that will be removed in support of the project to determine the likelihood of workers encountering lead. All applicable recommendations that result from this survey and applicable regulations related to worker safety will be followed. No adverse effects are anticipated.

Mobile Source Air Toxics

Construction activities associated with the proposed project would be sporadic, transitory, and short term in nature, and would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. Diesel exhaust would be emitted by construction equipment near residences, sometimes in areas adjacent to residences; however, the assessment of cancer risk typically is based on a 30-year exposure period. Because exposure to diesel exhaust would be well below the 30-year exposure period, construction of the proposed

project is not anticipated to result in an elevated cancer risk to exposed persons. Consequently, the estimation of diesel risks associated with construction activities would be expected to show that such risks are trivial for humans. Construction activities would be consistent with all applicable SCAQMD rules, including those related to the permitting and proper maintenance of construction equipment.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

For the future six-lane facility, construction is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that temporary impacts associated with the construction of two additional travel lanes within the median of Cajalco Road, or a combination of Cajalco Road and La Sierra Avenue, would involve air pollutant emissions resulting from construction equipment use, material movement, and worker commute trips. Construction activities anticipated for the future six-lane facility would include clearing, grading and paving, and temporary staging, for the segment of Cajalco Road between Temescal Canyon Road and La Sierra Avenue under Build Alternatives 1 or 2C, or for the segments of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4. Because the roadway areas represent less than half of the overall length and project area associated with the build alternatives, construction-period emissions would be anticipated to be less than that identified for the build alternatives shown in Table 3.14-14, above. Similarly, construction-period MSAT emissions under the future six-lane facility would be anticipated to be less than construction-period emissions under the build alternatives. The future six-lane alternative is not anticipated to change risks related to ACM and LBP from those risks identified for the build alternatives.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Temporary effects of the construction of the build alternatives in the LM MSHCP area would include air pollutant emissions associated with construction equipment use, material movement, and worker commute trips. Daily emissions for the portions of the project that would be within the LM MSHCP boundaries are expected to be similar to those emissions identified in Table 3.14-14, and would vary depending on the specific activities required on a given day. As shown in Table 3.14-14, emissions from construction activities would not exceed regional or localized emissions standards designed to bring the SCAB into attainment for criteria pollutants.

No-Build Alternative

Under the No-Build Alternative the improvements would not be implemented and there would be no construction-related air quality impacts.

3.14.4 Avoidance, Minimization, and/or Mitigation Measures

Standard Project Measures **PF AQ-1** and **PF AQ-2** would be implemented to minimize construction-period pollutant emissions. No additional avoidance, minimization, or mitigation measures are required.

3.14.5 Climate Change

Neither U.S. EPA nor 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 CEQA chapter of this document. The CEQA analysis may be used to inform the NEPA determination for the project.

3.15 Noise and Vibration

3.15.1 Regulatory Setting

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment. The requirements for noise analysis and consideration of noise abatement and/or mitigation, however, differ between NEPA and CEQA.

3.15.1.1 State Regulations

California Environmental Quality Act

CEQA requires a strictly baseline versus build analysis to assess whether a proposed project will have a noise impact. If a proposed project is determined to have a significant noise impact under CEQA, then CEQA dictates that mitigation measures must be incorporated into the project unless those measures are not feasible. The rest of this section will focus on the NEPA/Title 23 Part 772 of the Code of Federal Regulations (23 CFR 772) noise analysis; please see Chapter 4 of this document for further information on noise analysis under CEQA.

Section 216 of the California Streets and Highways Code

Section 216 of the California Streets and Highways Code concerns the noise effects of a proposed freeway project on elementary and secondary schools, both public and private. Under this code, a noise impact would occur if, as a result of a freeway project (or arterial roadway project, as it pertains to the proposed project), noise levels would exceed 52 A-weighted decibels (dBA), hourly equivalent sound level (L_{eq}[h]), in the interior of public or private elementary or secondary classrooms, libraries, multipurpose rooms, or other spaces. This requirement does not replace the noise abatement criteria (NAC) for classroom interiors and other indoor sensitive uses but is a requirement that must be addressed in addition to the requirements of 23 CFR 772. If a project results in a noise impact under this code, noise abatement must be provided to reduce classroom noise to a level that is at or below 52 dBA L_{eq}(h). If the noise levels generated from freeway and non-freeway sources exceed 52 dBA L_{eq}(h) prior to the construction of the proposed freeway project, then noise abatement must be provided to reduce the noise to the level that existed prior to construction of the project. This highway code relates directly to the interior threshold under Activity Category D in the Protocol.

3.15.1.2 Federal Regulations

National Environmental Policy Act and 23 CFR 772

For highway transportation projects with Federal Highway Administration (FHWA) involvement (and the Department, as assigned), the Federal-Aid Highway Act of 1970 and its implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations include noise abatement

criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria for use in the NEPA/23 CFR 772 analysis.

Table 3.15-1. 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.
[1] Includes undeveloped lands permitted for this activity category.		

Figure 3.15-1, on the following page, 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.

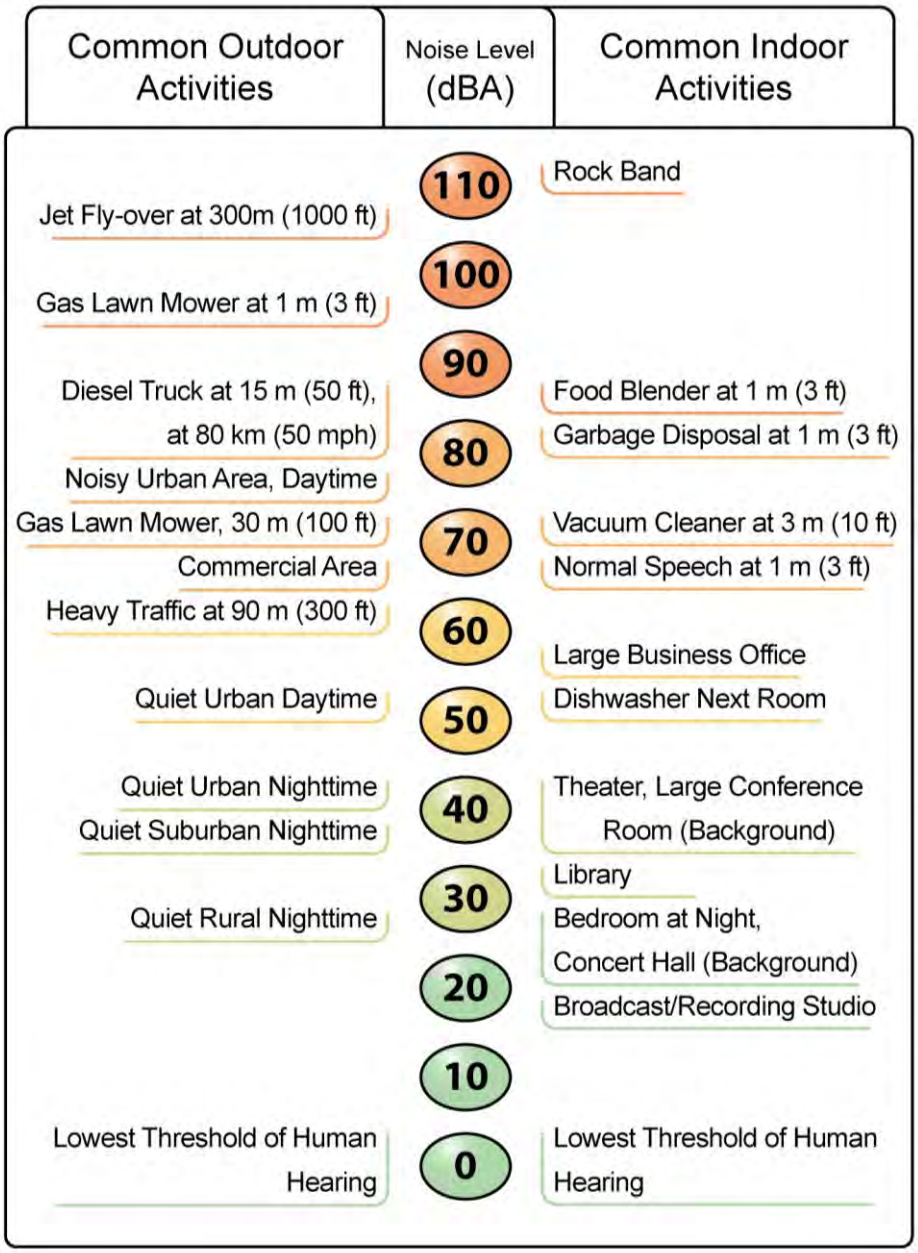


Figure 3.15-1. Noise Levels of Common Activities

According to the 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) or when the future noise level with the project approaches or exceeds the NAC. A noise level is considered to approach the NAC if it is within 1 dBA of the NAC.

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

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. Noise abatement must be predicted to reduce noise by at least 5 dBA at an impacted receptor to be considered feasible from an acoustical perspective. It must also be possible to design and construct the noise abatement measure for it to be considered feasible. Factors that affect the design and constructability of noise abatement include, but are not limited to, safety, barrier height, topography, drainage, access requirements for driveways, presence of local cross streets, underground utilities, other noise sources in the area, and maintenance of the abatement measure. The overall reasonableness of noise abatement is determined by the following three factors: 1) the noise reduction design goal of 7 dBA at one or more impacted receptors; 2) the cost of noise abatement; and 3) the viewpoints of benefited receptors (including property owners and residents of the benefited receptors).

3.15.2 Affected Environment

This section is based on the analysis and findings presented in the following technical studies:

- Noise Study Report, completed in October 2017 (Caltrans 2017)
- Noise Abatement Decision Report, completed in March 2019 (Caltrans 2019)

A field investigation was conducted to identify land uses that could be subject to traffic and construction noise impacts from the project. Land uses in the project area were categorized according to land use type, the extent of frequent human use, and activity category, as defined in Table 3.15-1. Although all land uses were evaluated in this analysis, as stated in the *Traffic Noise Analysis Protocol*, the focus of this impact analysis was on locations of frequent human use that would benefit from a lowered noise level, specifically, locations with defined outdoor activity areas.

3.15.2.1 Land Uses

Land uses along the project alignments consist primarily of a mix of undeveloped land (Activity Category G) and residences (Activity Category B [NAC = 67 dBA L_{eq}[h]). Other land uses along the project alignment include a fire station (Activity Category C [NAC = 67 dBA L_{eq}[h]), commercial uses (Activity Category E [NAC = 72 dBA L_{eq}[h]), and manufacturing and industrial facilities (Activity Category F).

Although all land uses were considered in this analysis, noise abatement was considered only for areas of frequent human use that would benefit from a lowered noise level. Accordingly, this impact analysis focuses on locations with defined outdoor activity areas, such as residences. Land uses that are considered non-noise sensitive were included for informational purposes only.

Because of the size of the project area, the existing- and design-year no-build and build alignments were divided into three analysis areas:

- Area A is located along Cajalco Road, west of Harley John Road. The western terminus of Area A is approximately 500 feet west of the Temescal Canyon Road/Cajalco Road intersection (refer to Figures 3.15-2 [Sheets 6 through 20] and 3.15-3 [Sheets 6 through 23]). Land uses in this area include industrial facilities (Activity Category F), commercial uses (Activity Category E), and residences (Activity Category B) as well as undeveloped land

(Activity Category G). West of Lake Mathews Drive, the Cajalco Road alignment and surrounding terrain are generally mountainous and undulating. East of Lake Mathews Drive, the Cajalco Road alignment and surrounding terrain flatten considerably. Surrounding land uses are at or above the grade of the Cajalco Road alignment. For the purposes of Build Alternative 4, the terminus of Area A would be from 500 feet west of the Temescal Canyon Road/Cajalco Road intersection to STA #130+00, the point where the alignment begins to turn north, along a new portion of the proposed La Sierra Avenue alignment (refer to Figure 3.15-4, Sheet 5).

- Area B is located along Cajalco Road, between Harley John Road and the Cajalco Road/ Interstate 215 (I-215) interchange (refer to Figures 3.15-2 [Sheets 20 through 31], 3.15-3 [Sheets 23 through 34], and 3.15-4 [Sheets 24 through 35]). Land uses in this area include industrial facilities (Activity Category F), residences (Activity Category B), and commercial uses (Activity Category E) as well as undeveloped land (Activity Category G). The area is generally flat and at grade with the Cajalco Road alignment.
- Area C is located along El Sobrante Road and La Sierra Avenue. The western terminus of this area is at the La Sierra Avenue/Cajalco Road intersection, between Temescal Canyon Road and Lake Mathews Drive (refer to Figure 3.15-4). The eastern terminus of Area C is at the Lake Mathews Drive/Cajalco Road intersection, between Kirkpatrick Road and Gavilan Road. Land uses in this area include industrial facilities (Activity Category F), residences (Activity Category B), commercial uses (Activity Category E), and a fire station (Activity Category C) as well as undeveloped land (Activity Category G). The La Sierra Avenue and El Sobrante Road alignment and the surrounding terrain in this area are generally hilly and occasionally undulating. Surrounding land uses are generally at or above the grade of the roadway alignment.

Lake Mathews MSHCP

Located within the western portion of the project alignments (generally in Areas A and C), the project corridor travels through the Lake Mathews Multiple Species Reserve (LMR) and Lake Mathews Multiple Species Habitat Conservation Plan (LM MSHCP) area (refer to Figure 2-1). Much of the land surrounding Lake Mathews is undeveloped because these lands are protected by the LMR and thus considered a Category G land use. The landscape of the LM MSHCP area is characterized by the predominantly rolling to gently rolling terrain associated with the open spaces surrounding Lake Mathews. The open spaces, rolling terrain, and lack of tall vegetation allow for scenic views of the surrounding mountains and Lake Mathews.

3.15.2.2 Existing Noise Environment

To establish the existing noise environment, short-term and long-term noise measurements were taken from February 14 to March 29, 2017. Short-term monitoring was conducted at 59 locations, ST-1 through ST-50 and ST-52 through ST-59,[1] which were selected to represent the various land use types within the project area. A minimum of two consecutive but separate measurements (each 20 to 30 minutes in duration) were taken at each site using a Larson Davis Type 1 (precision-grade) sound-level meter. Dominant noise sources and other relevant measurement conditions were identified and logged on field sheets, which are included as

[1] ST-51 was not included because of corrupted traffic video that affected the calibration data.

Appendix J to this environmental impact report/environmental impact statement (EIR/EIS). Traffic along Cajalco Road was generally determined to be the dominant contributor to the noise levels. Traffic on Cajalco Road and El Sobrante Road, as well as intersecting roadways, was videotaped and manually counted subsequent to the measurements. The locations of the short-term monitoring sites are shown on Figures 3.15-2 through 3.15-4. Figures 3.15-2 through 3.15-4 also show the three design-year build alternatives (Alternatives 1, 2C, and 4). It should also be noted that not all measurement locations are representative of each build alternative. Therefore, some measurement locations may not be included in every alternative.

Long-term monitoring was conducted at four locations (LT-1 through LT-4). The purpose of these measurements was to describe variations in sound levels throughout a typical 24-hour period and characterize the noise levels at the specific location being measured. The long-term sound-level data were collected over a 24-hour period, beginning April 13, 2017, and ending April 14, 2017. The long-term monitoring locations are shown on Figures 3.15-2 through 3.15-4 and described below.

- LT-1: Right of way southwest of residence at 9070 Cajalco Road. The maximum noise level measured was 78.3 dBA L_{eq}(h) during the 5:00 p.m. hour, and the minimum noise level was 66.3 dBA L_{eq}(h) during the 12:00 and 1:00 a.m. hours.
- LT-2: Right of way north of residence at 20295 Cajalco Road. The maximum noise level measured was 79.1 dBA L_{eq}(h) during the 6:00 a.m. hour, and the minimum noise level was 70.9 dBA L_{eq}(h) during the 12:00 a.m. hour.
- LT-3: Right of way east of residence at 22920 Cajalco Road. The maximum noise level measured was 82.7 dBA L_{eq}(h) during the 6:00 a.m. hour, and the minimum noise level was 74.2 dBA L_{eq}(h) during the 1:00 a.m. hour.
- LT-4: Right of way south of residence at 17990 Tangerine Way. The maximum noise level measured was 77.0 dBA L_{eq}(h) during the 6:00 a.m. hour, and the minimum noise level was 66.1 dBA L_{eq}(h) during the 1:00 a.m. hour.

To ensure that the FHWA Traffic Noise Model (TNM), version 2.5, represents actual conditions, the model was validated by comparing measured traffic noise levels to the model's estimate of existing noise levels at field measurement locations.

Lake Mathews MSHCP

Twenty field noise measurements (19 short term and one long term) were taken in Area A, and 13 field noise measurements (12 short term and one long term) were taken in Area C, all within the LM MSHCP area. Within Area A, the noise levels measured during the field measurements ranged from 39.5 dBA L_{eq} (20 min.) to 74.5 dBA L_{eq} (20 min.) at ST-42 and ST-16, respectively. Within Area C, the noise levels measured during the field measurements ranged from 42.7 dBA L_{eq} (20 min.) to 70.3 dBA L_{eq} (20 min.) at ST-43 and ST-54, respectively.

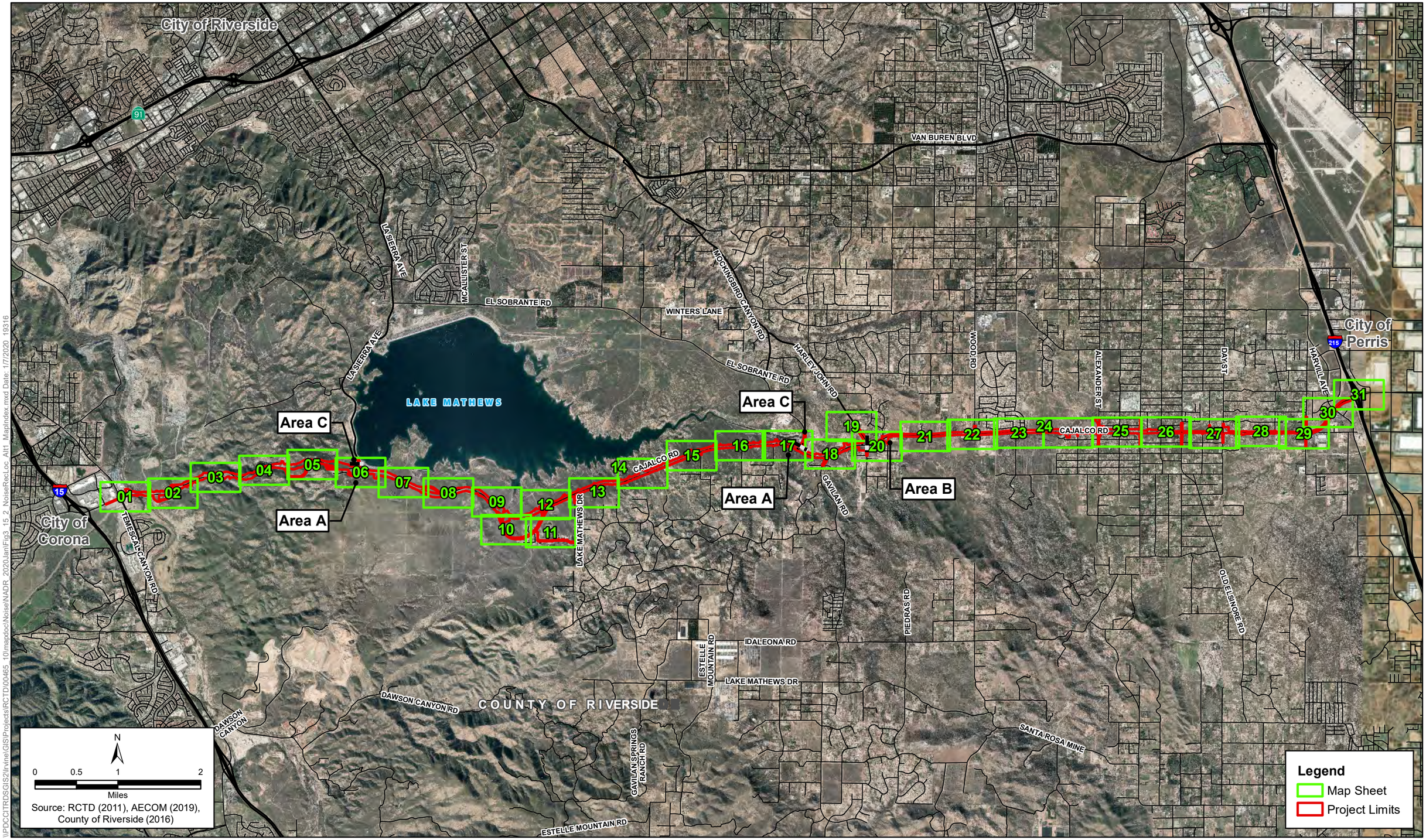


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Figure 3.15-2 - Map Index
Build Alternative 1
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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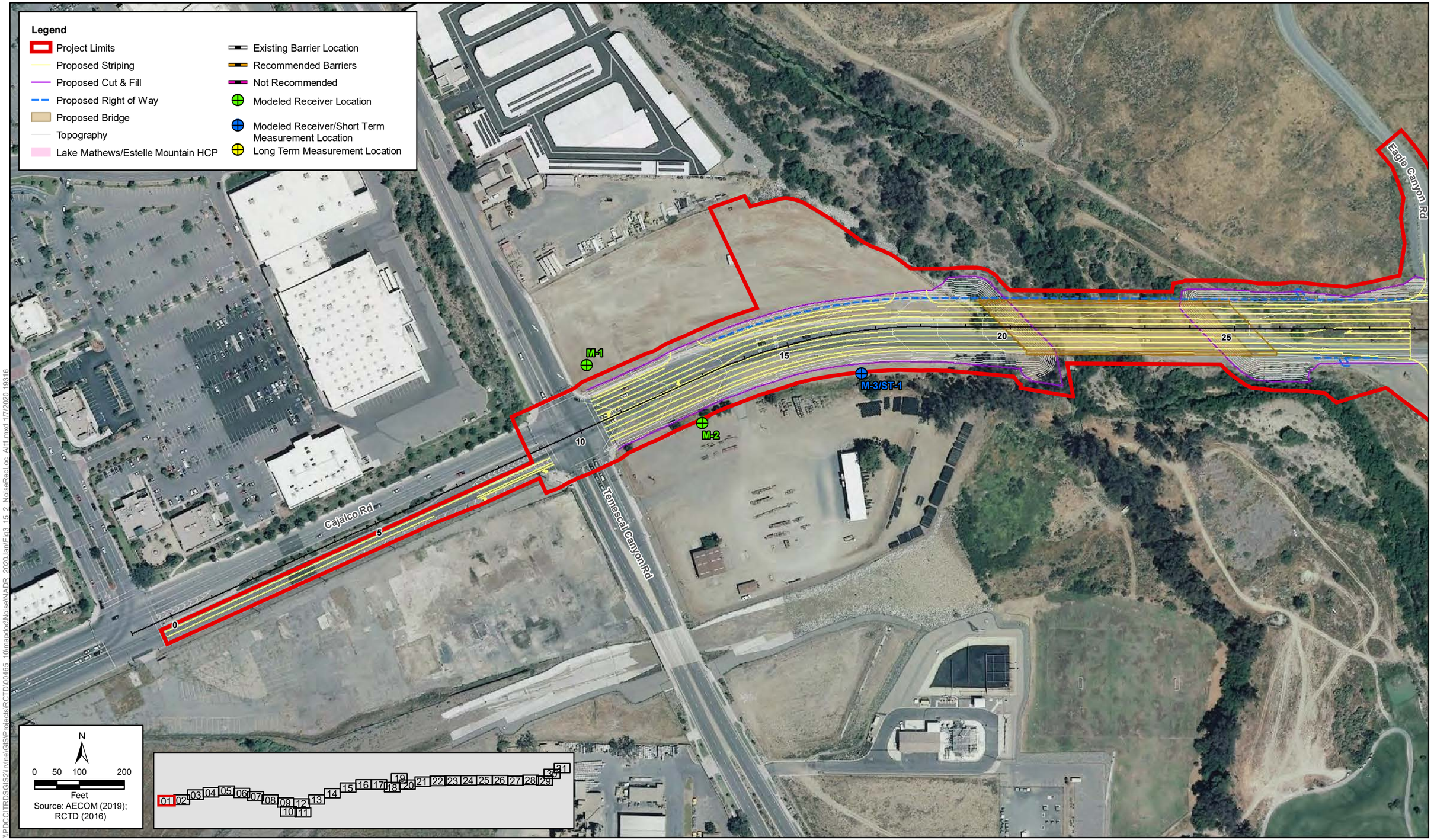

Figure 3.15-2 - Sheet 1 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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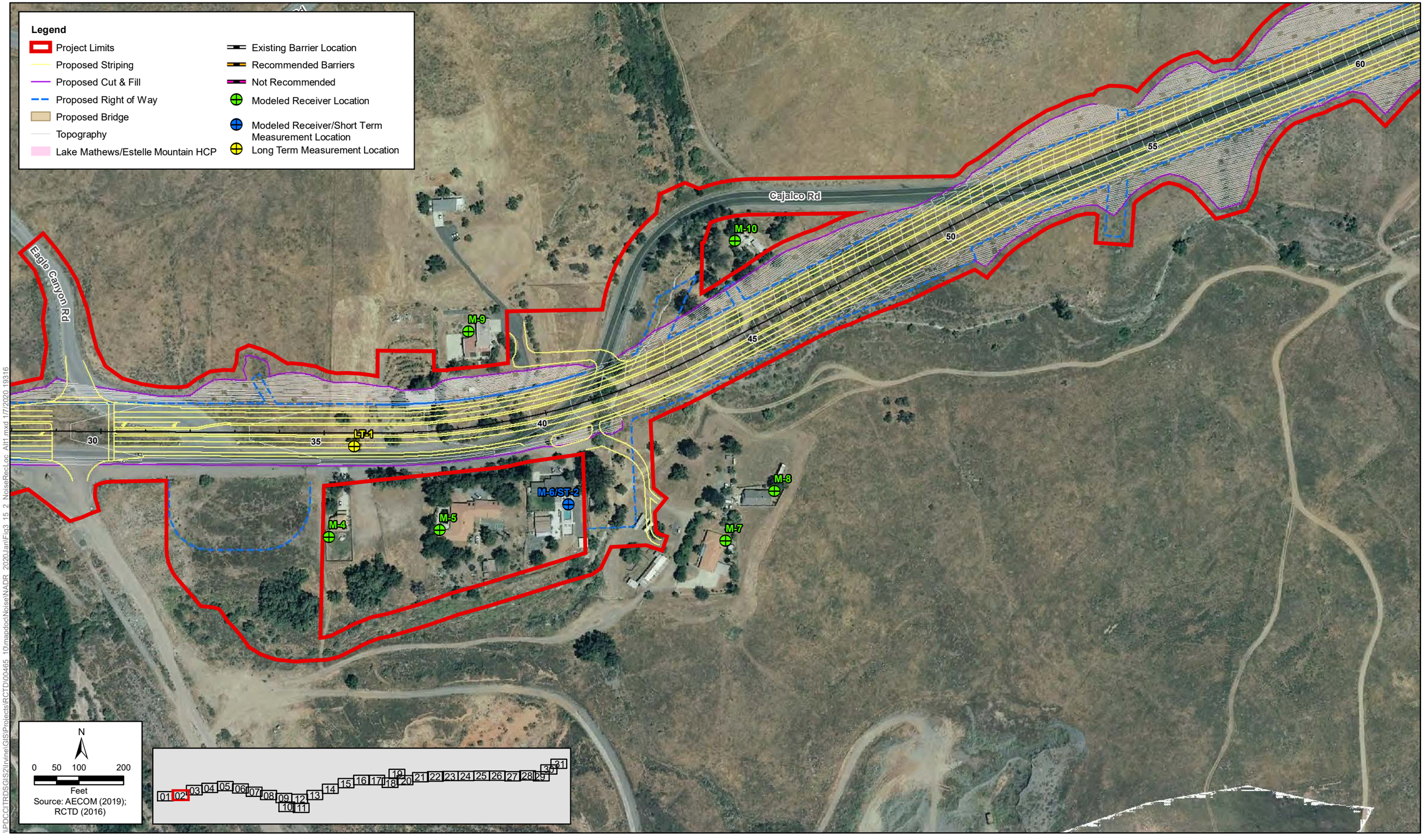

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Figure 3.15-2 - Sheet 2 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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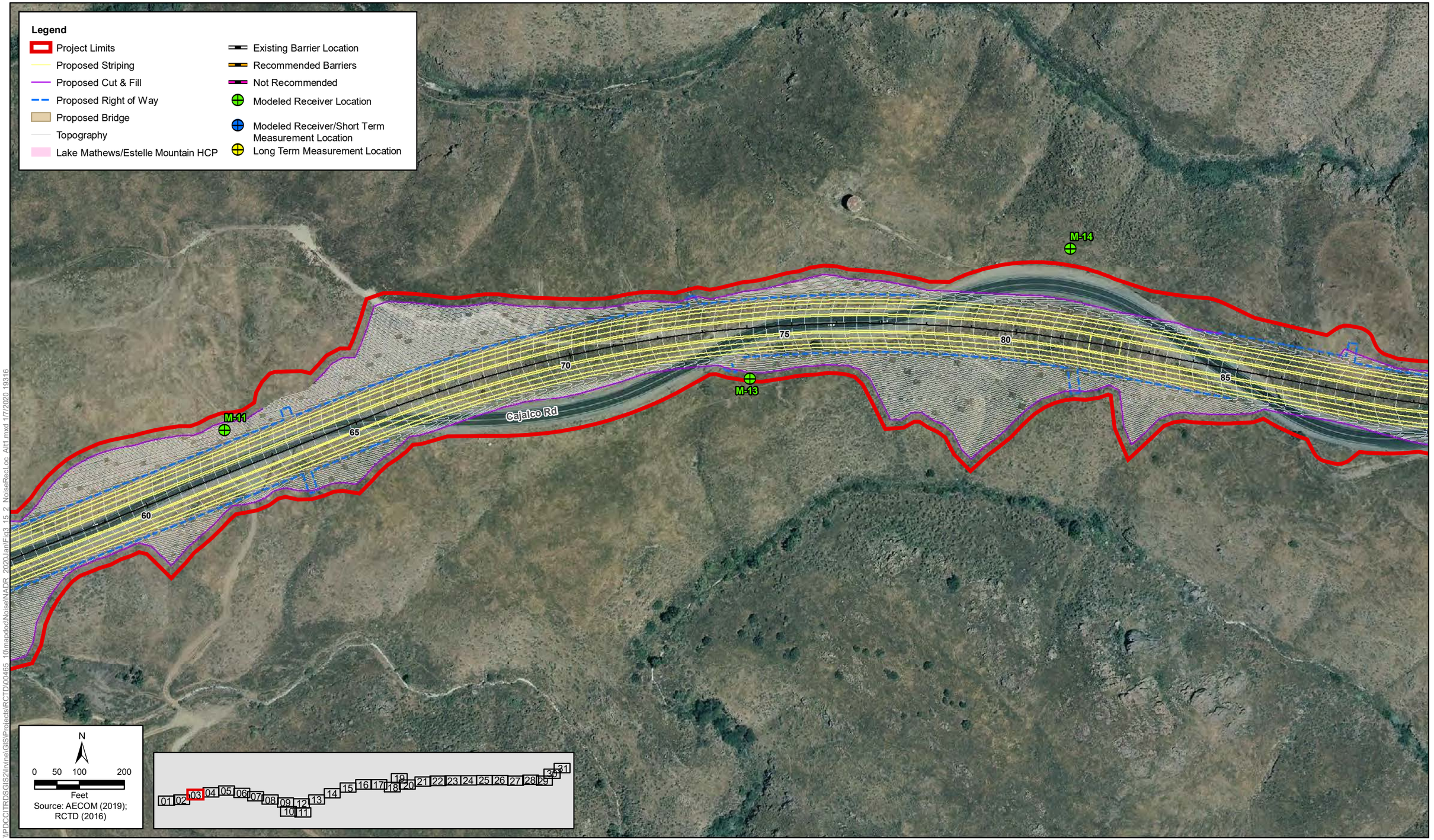

Figure 3.15-2 - Sheet 3 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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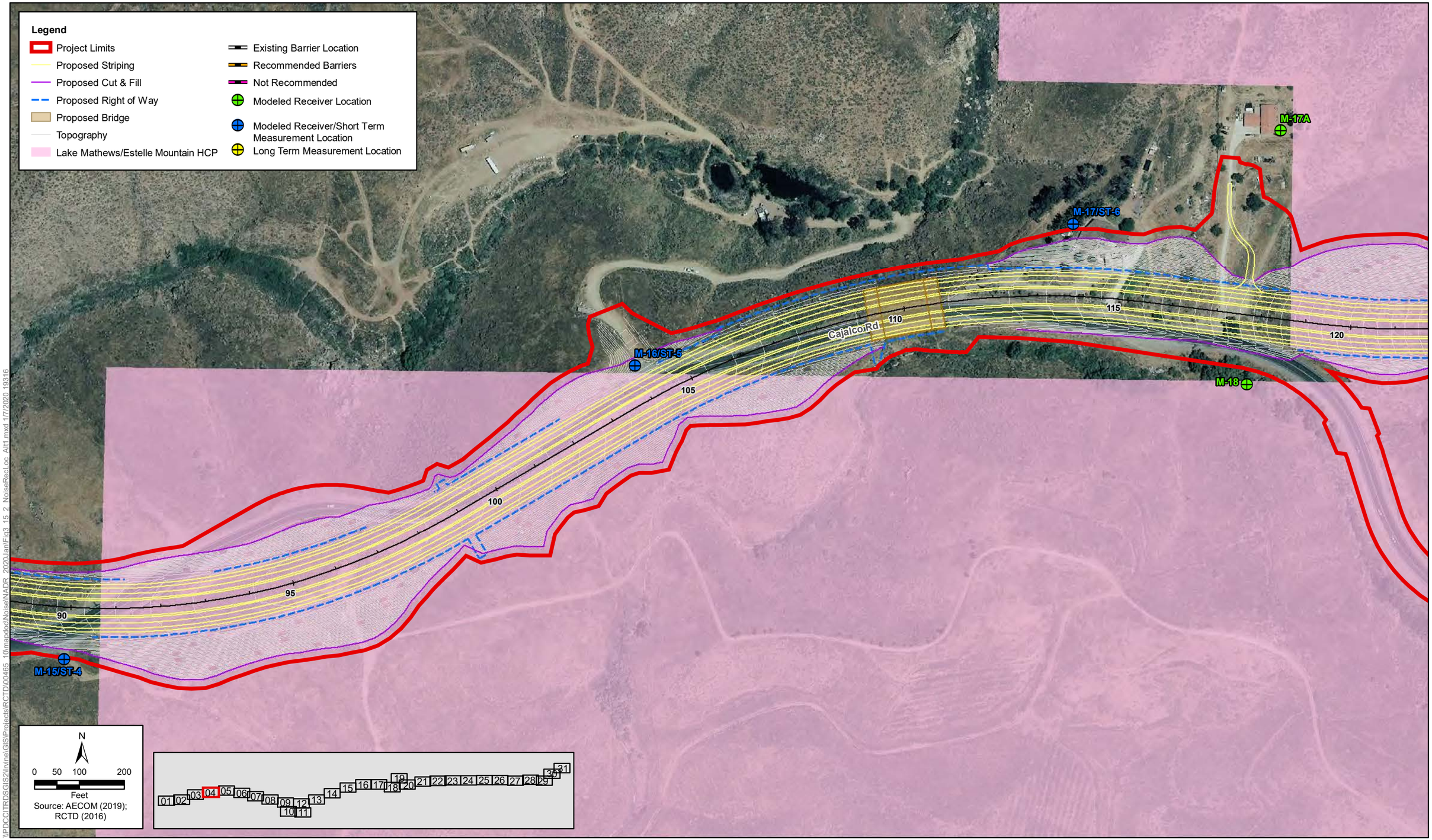

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Figure 3.15-2 - Sheet 4 of 31
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Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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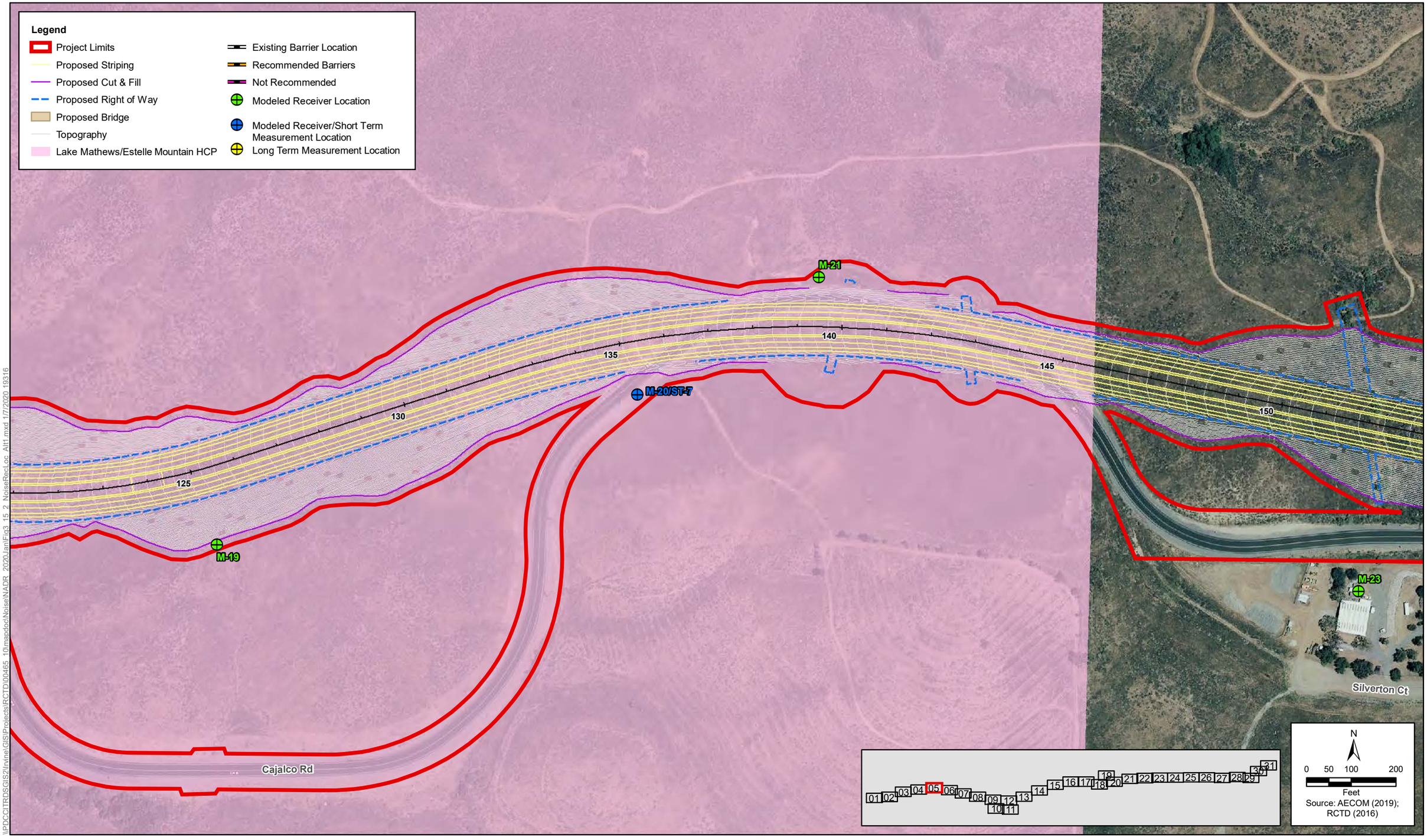

Figure 3.15-2 - Sheet 5 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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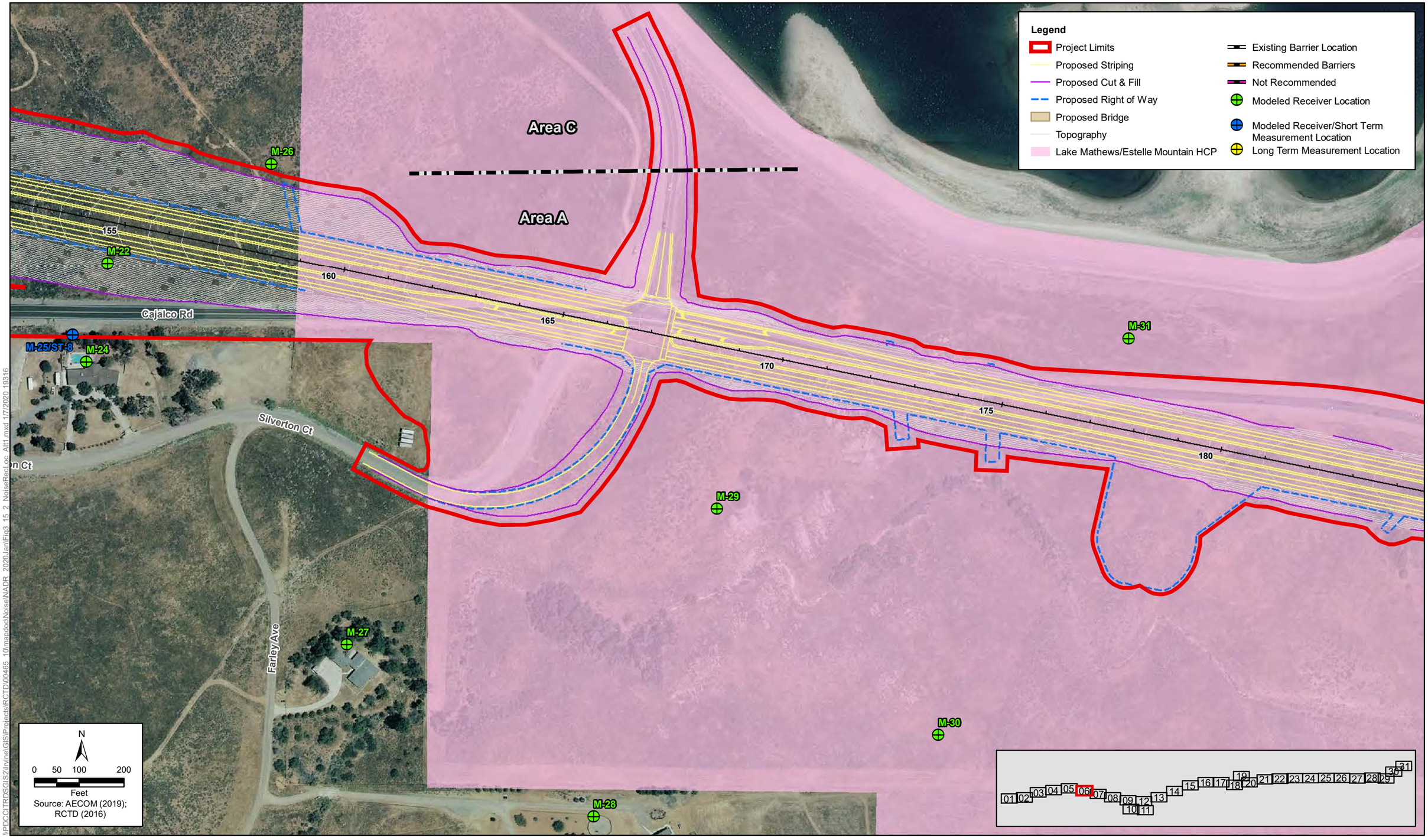

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Figure 3.15-2 - Sheet 6 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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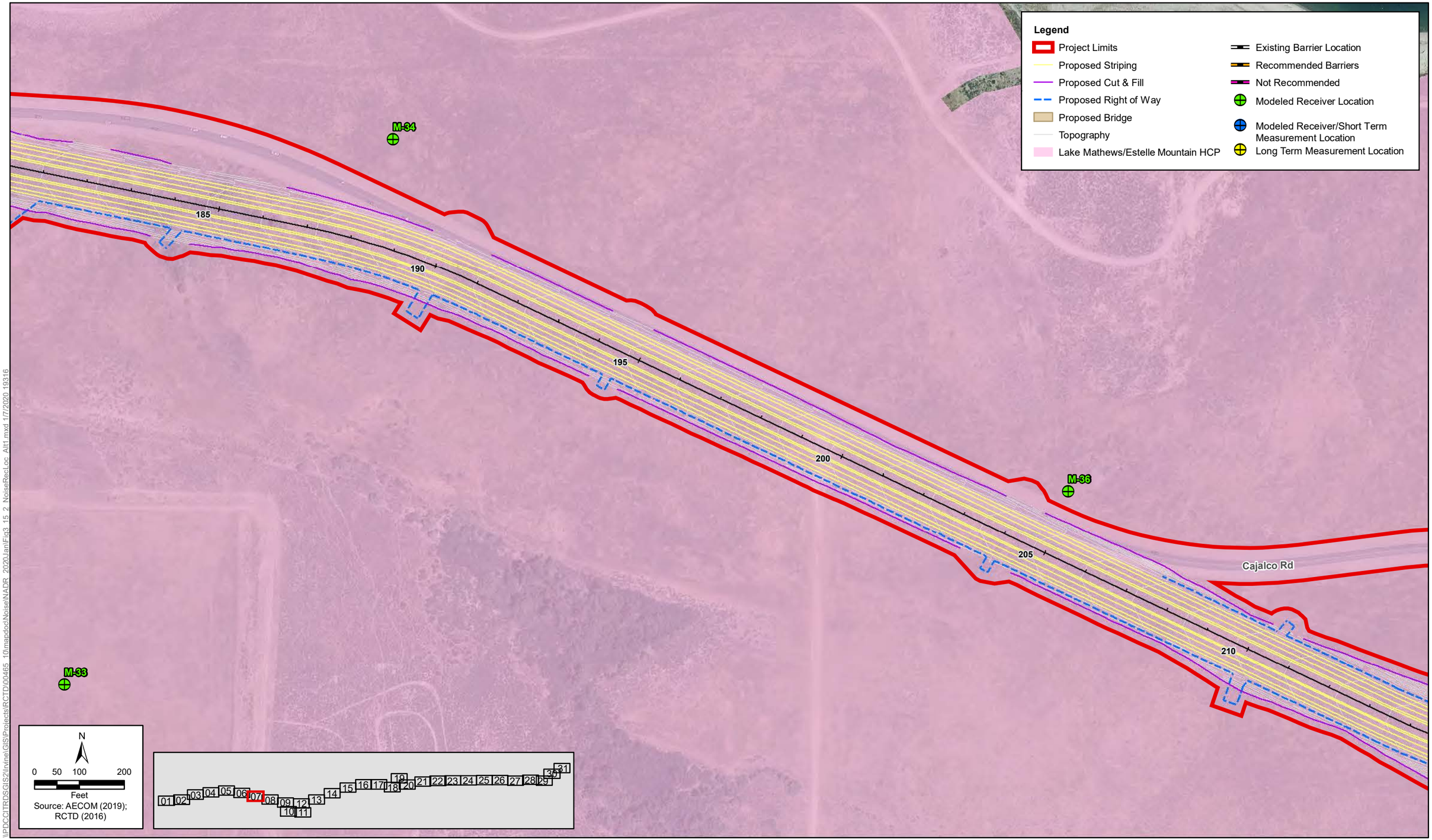

Figure 3.15-2 - Sheet 7 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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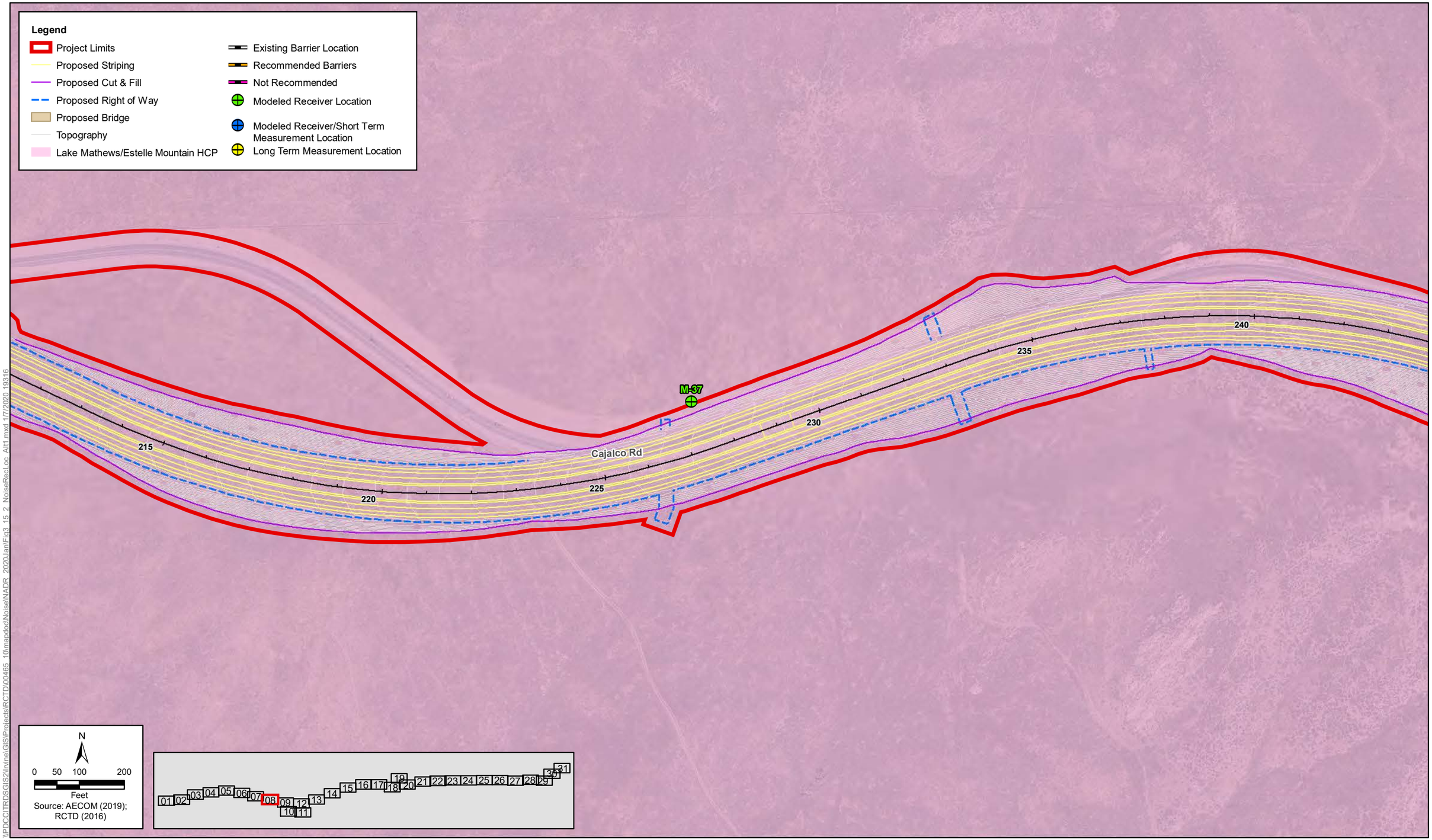

Figure 3.15-2 - Sheet 8 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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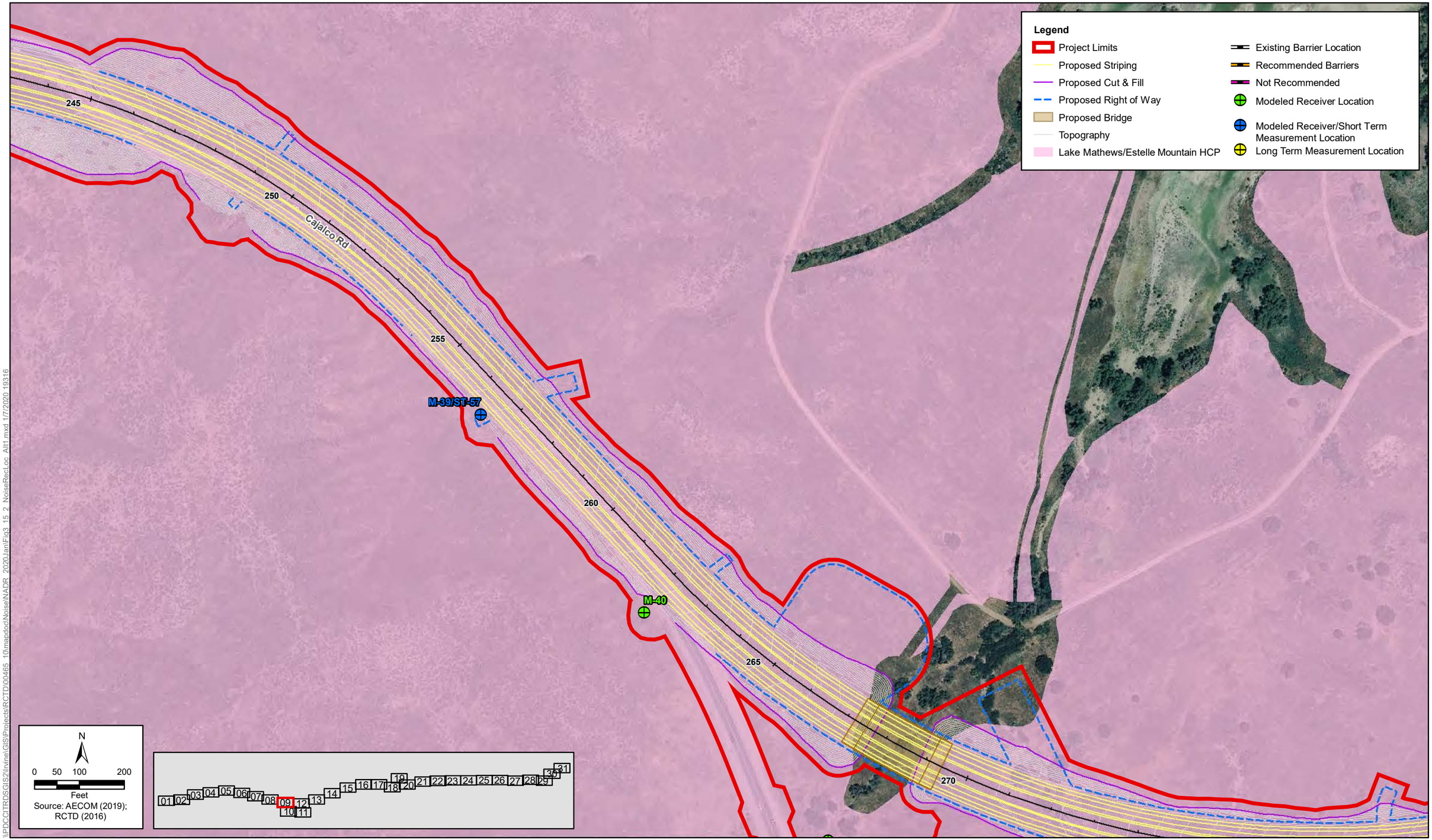

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Figure 3.15-2 - Sheet 9 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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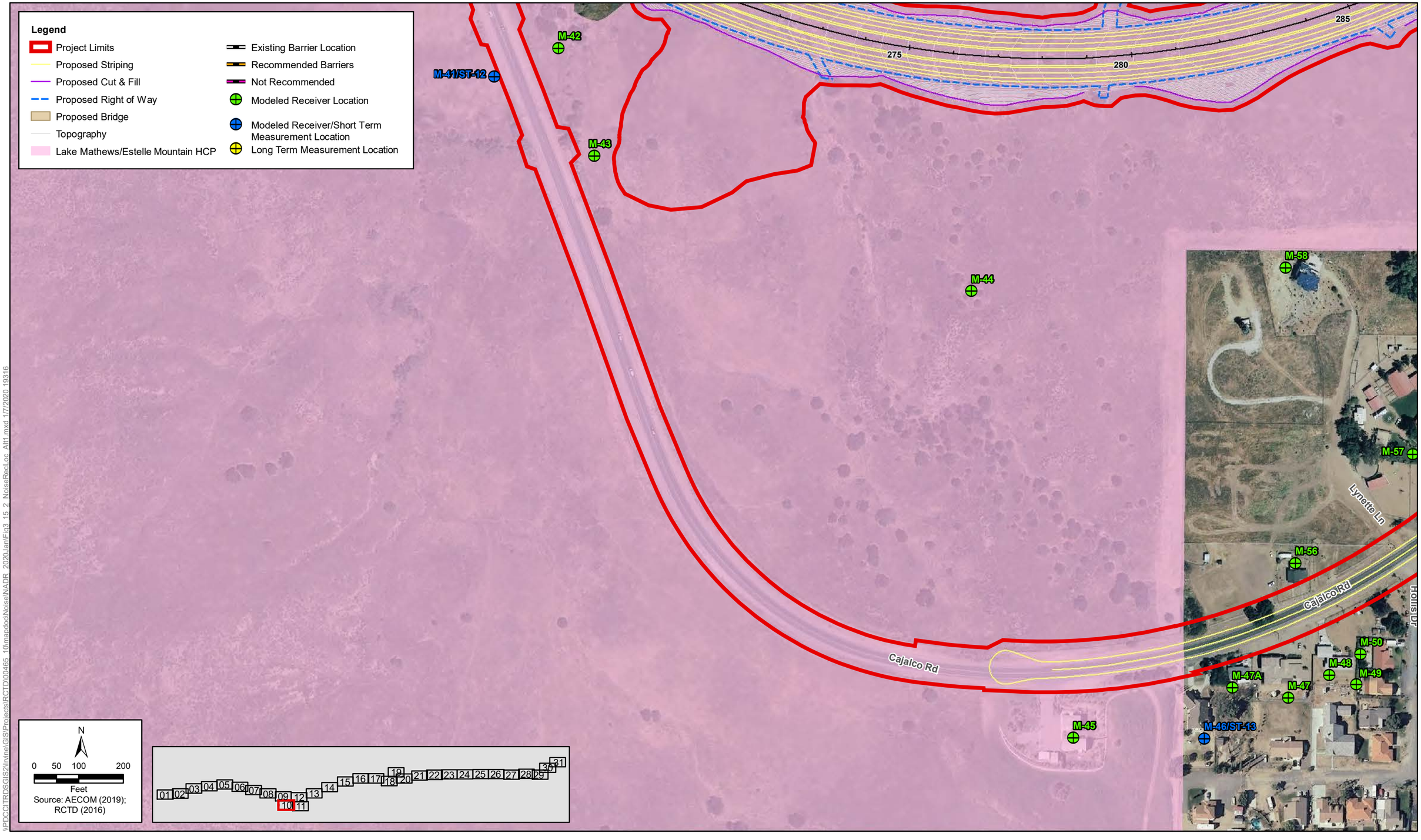

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Figure 3.15-2 - Sheet 10 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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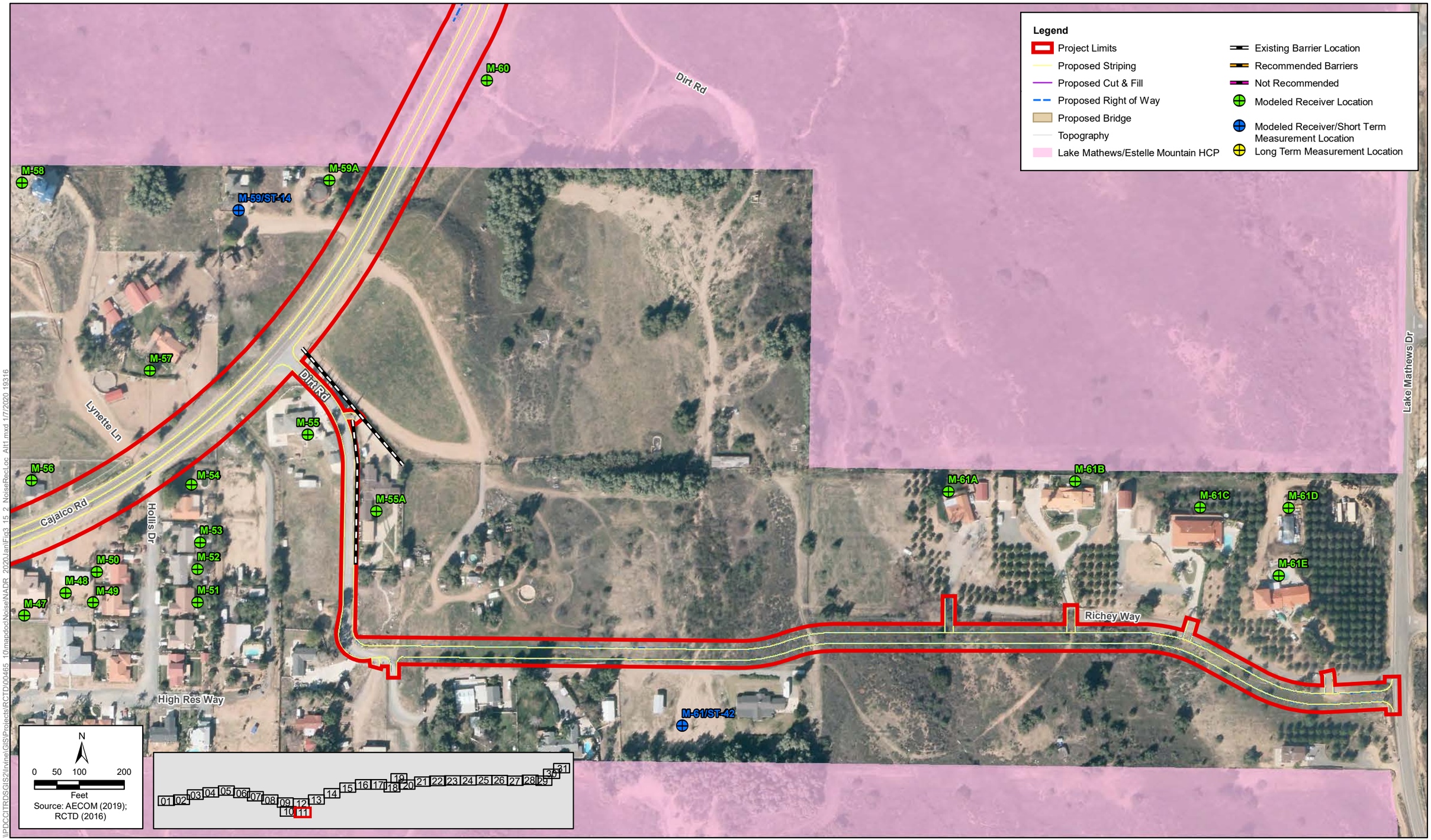

Figure 3.15-2 - Sheet 11 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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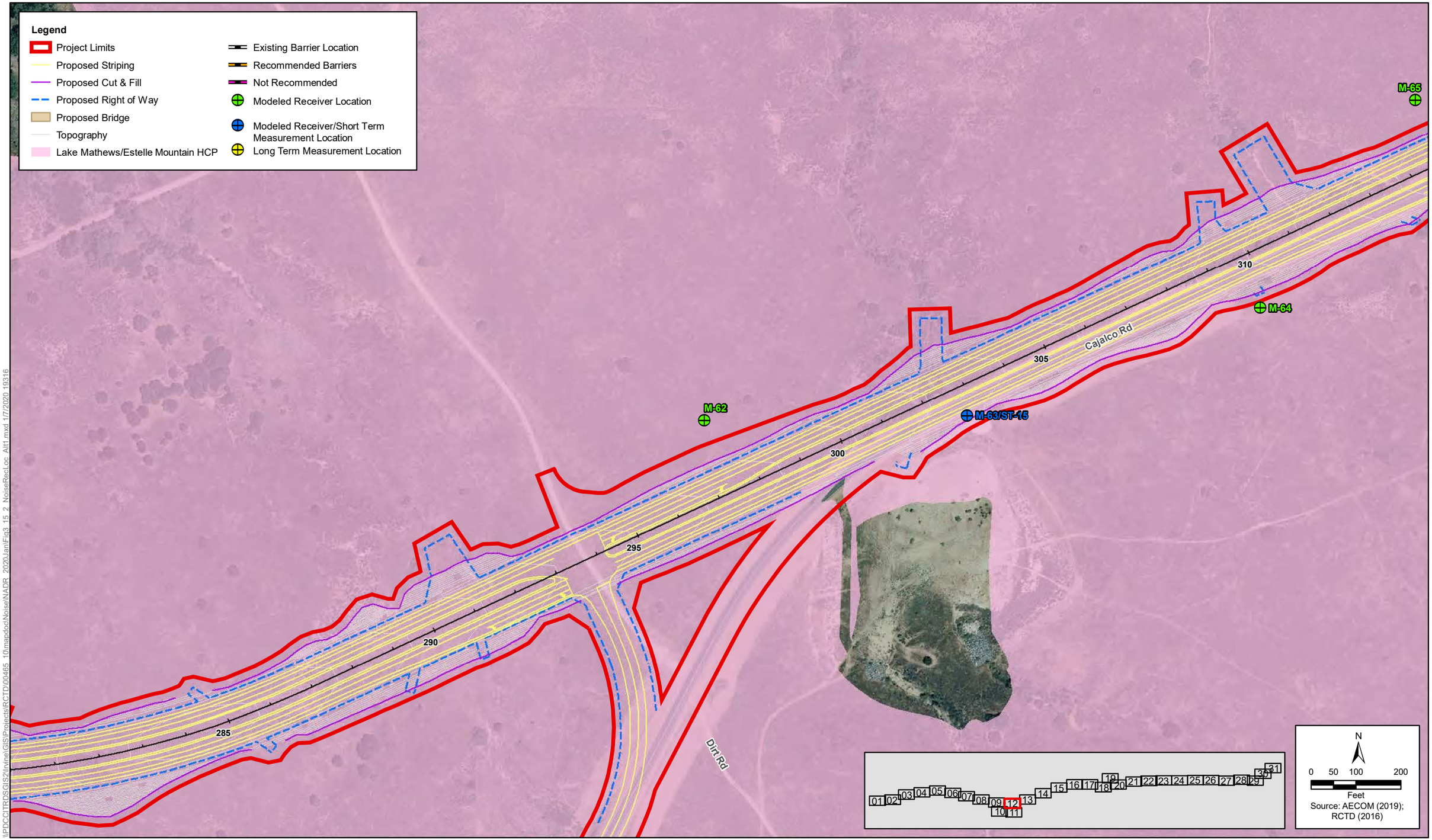

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Figure 3.15-2 - Sheet 12 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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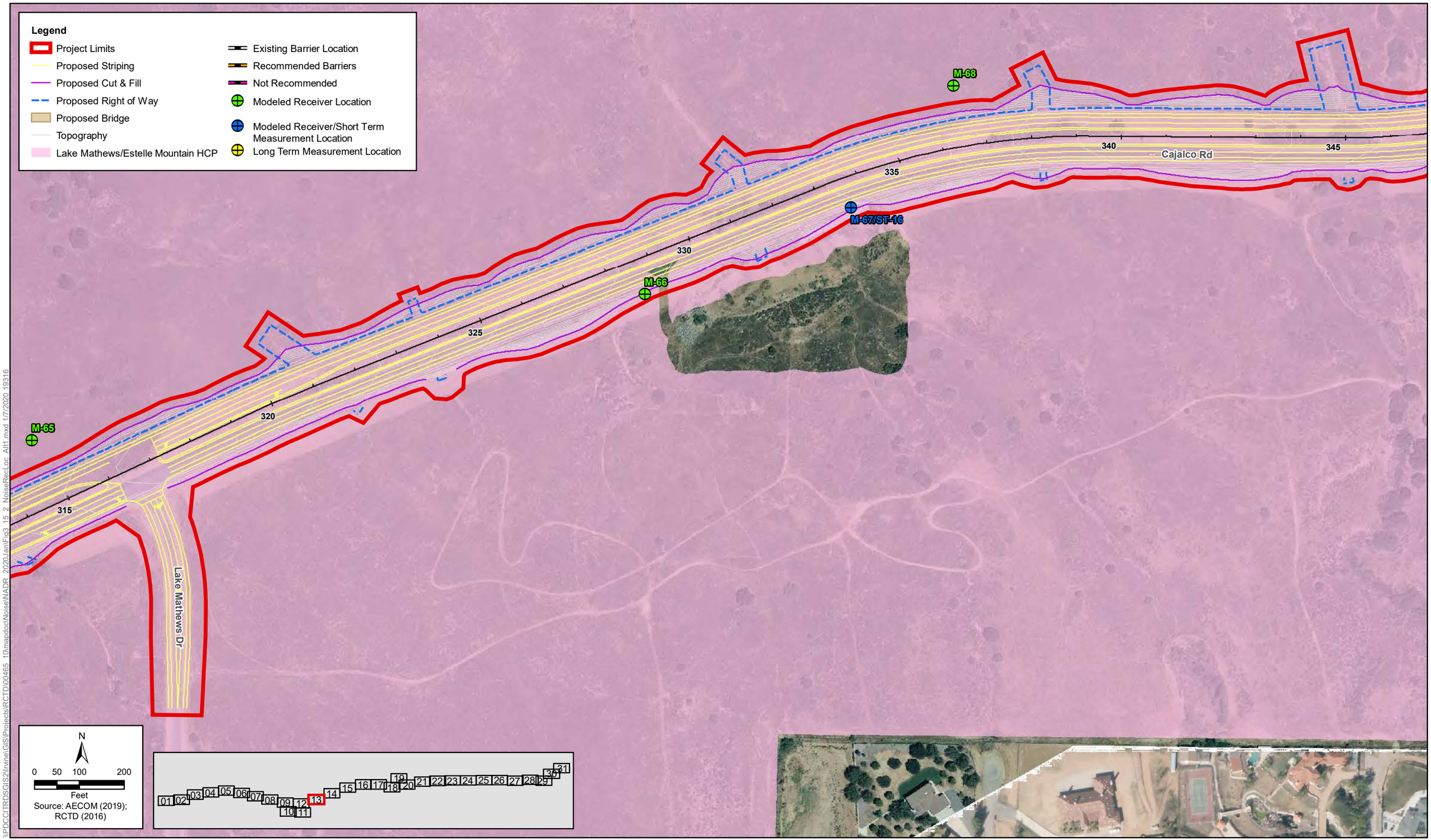

Figure 3.15-2 - Sheet 13 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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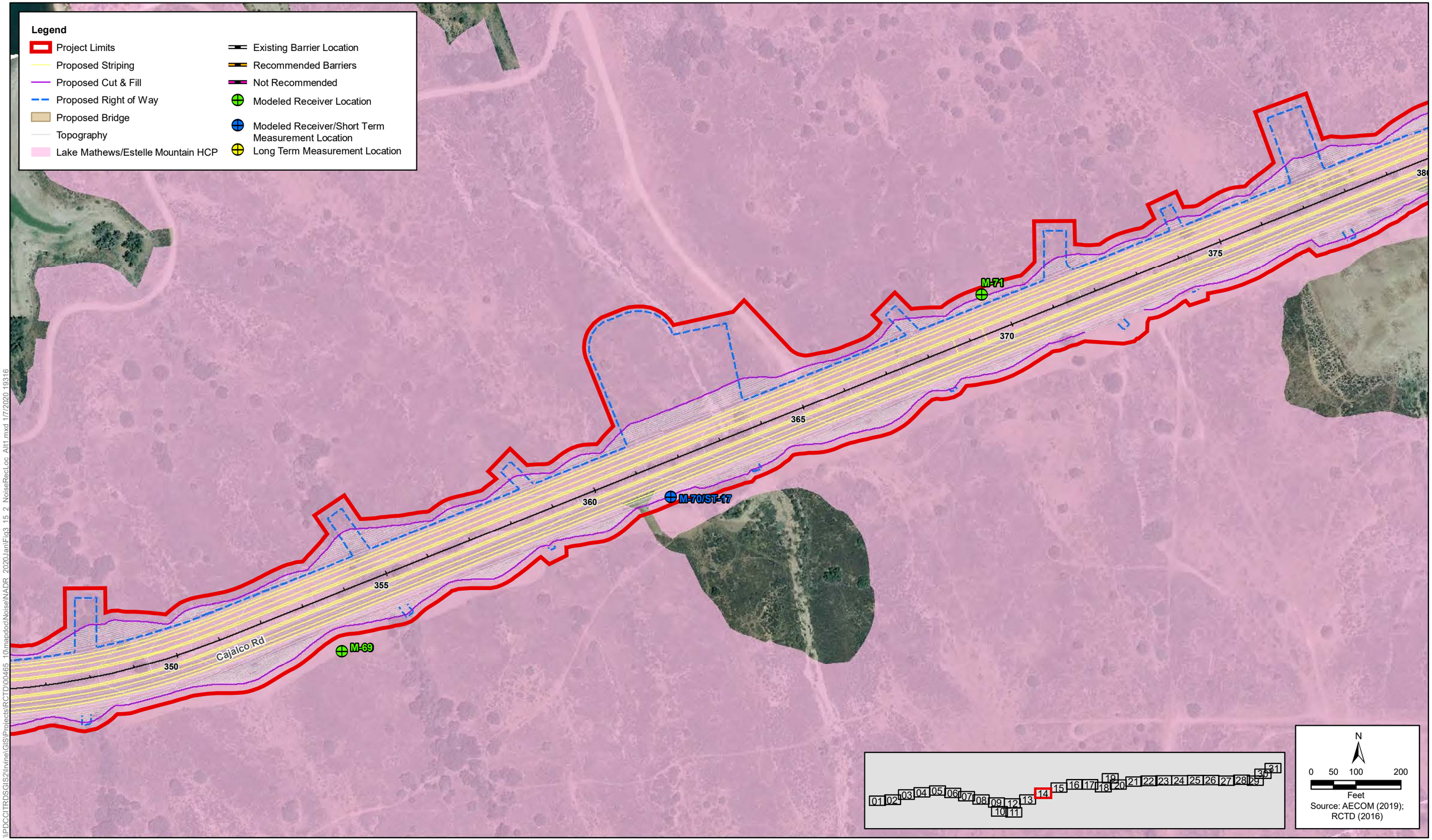

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Figure 3.15-2 - Sheet 14 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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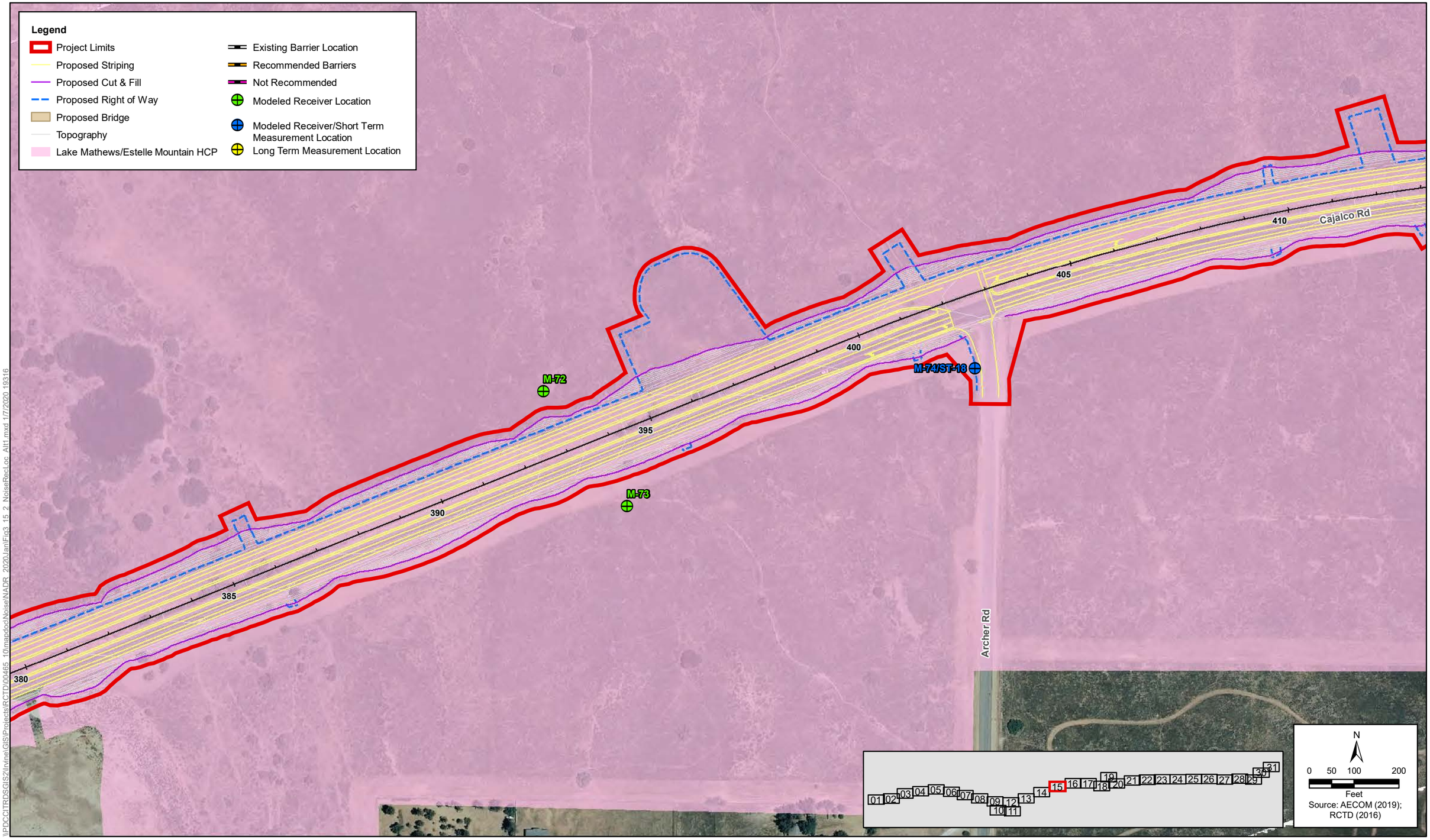

Figure 3.15-2 - Sheet 15 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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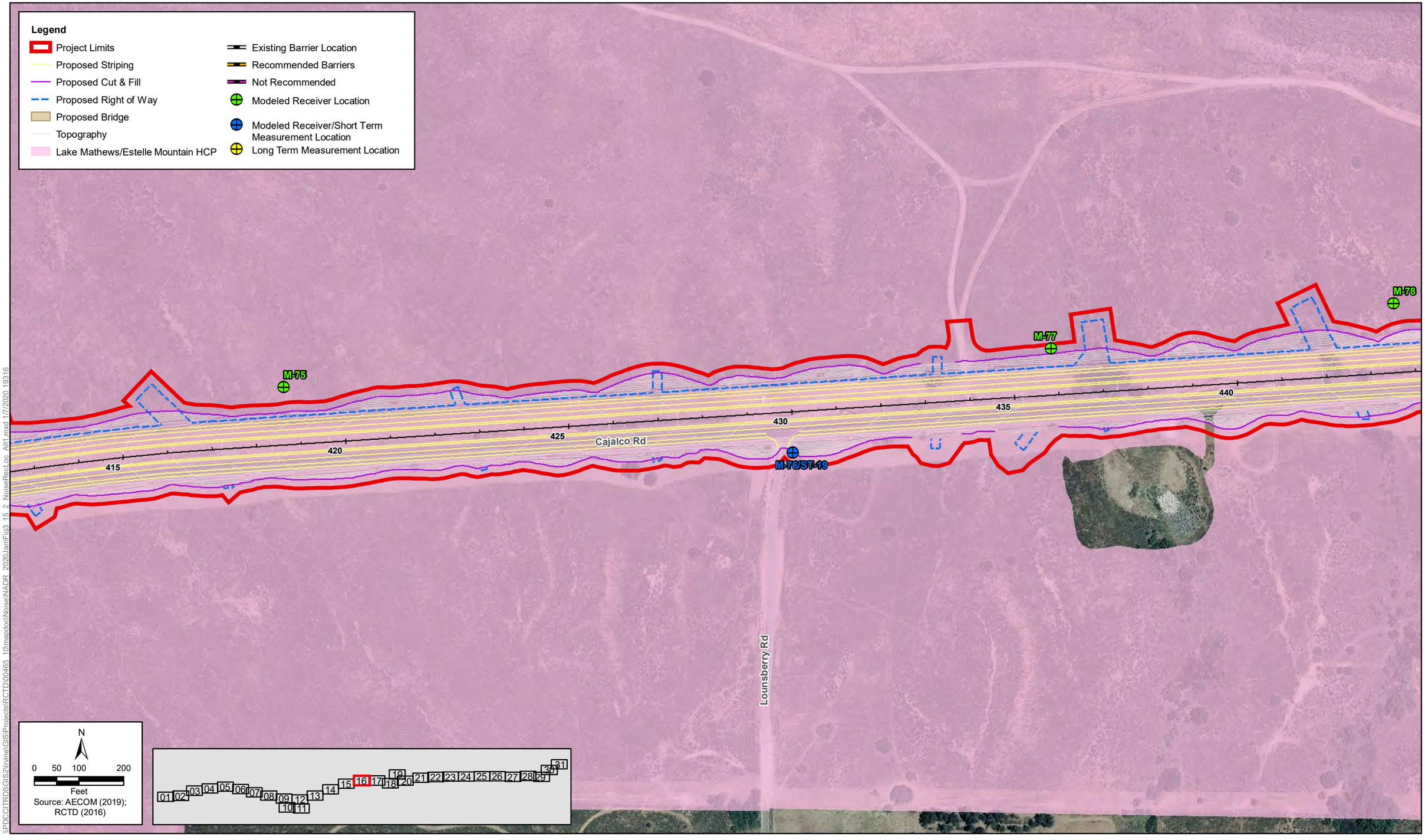

Figure 3.15-2 - Sheet 16 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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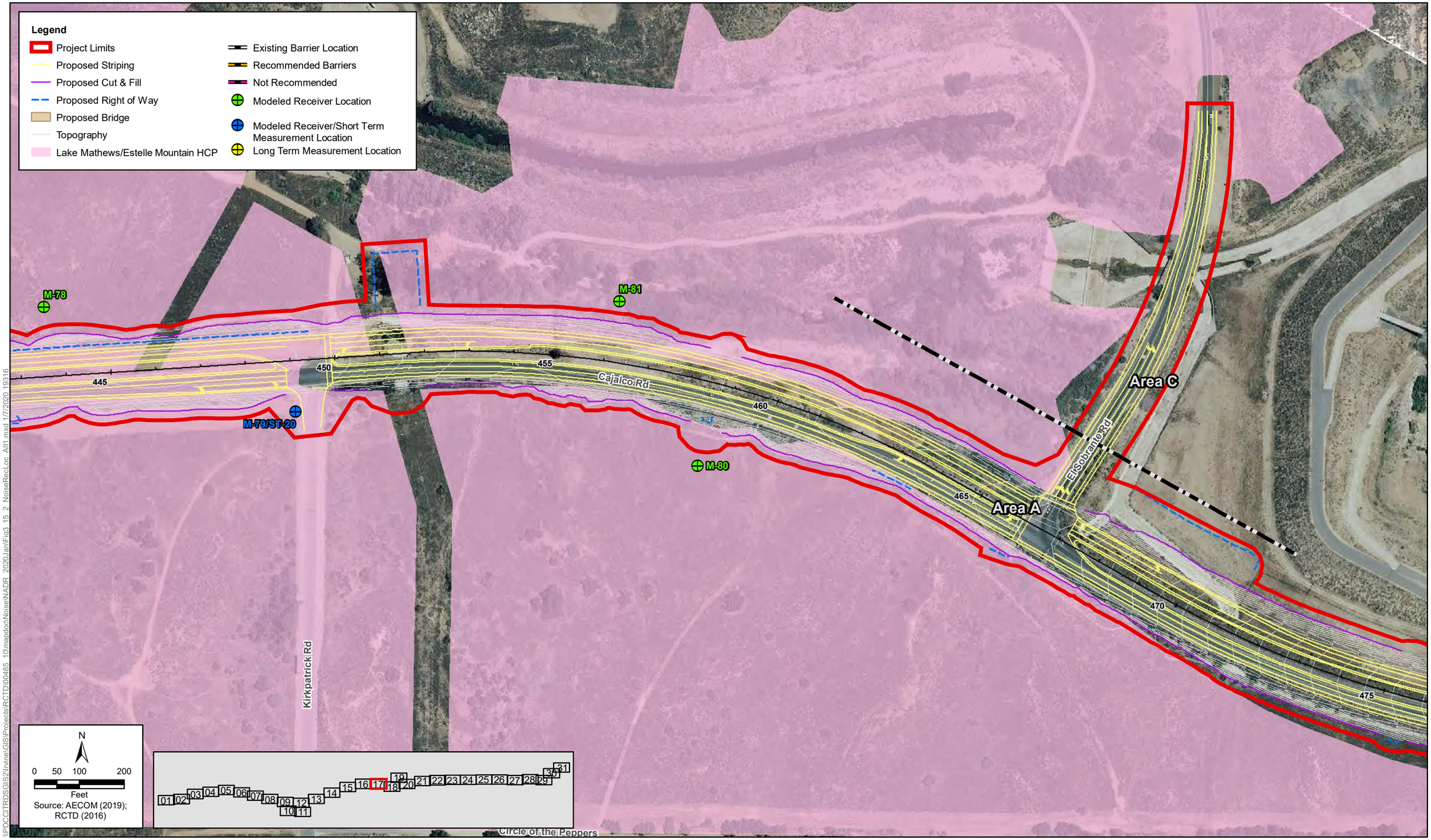

Figure 3.15-2 - Sheet 17 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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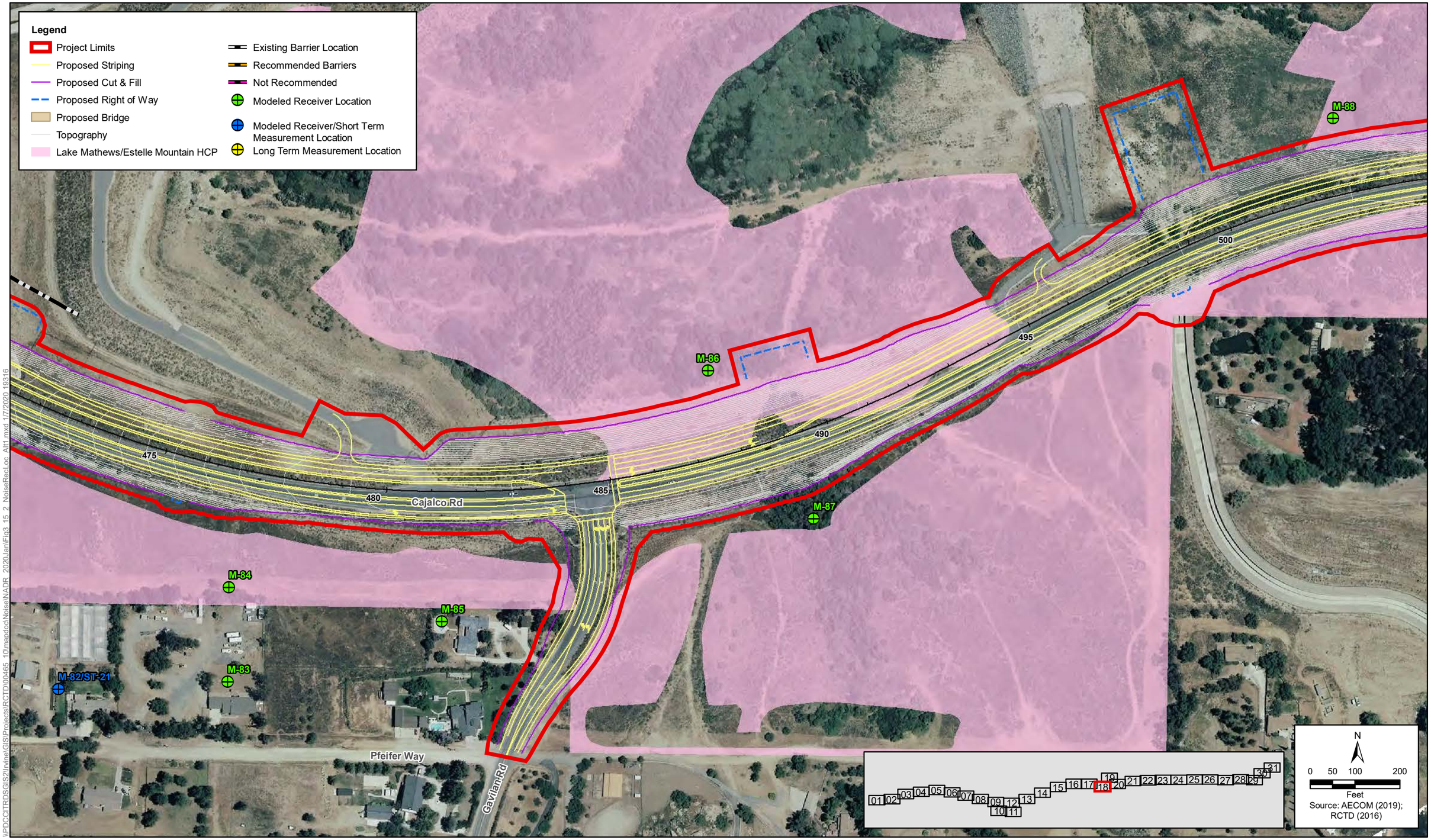

Figure 3.15-2 - Sheet 18 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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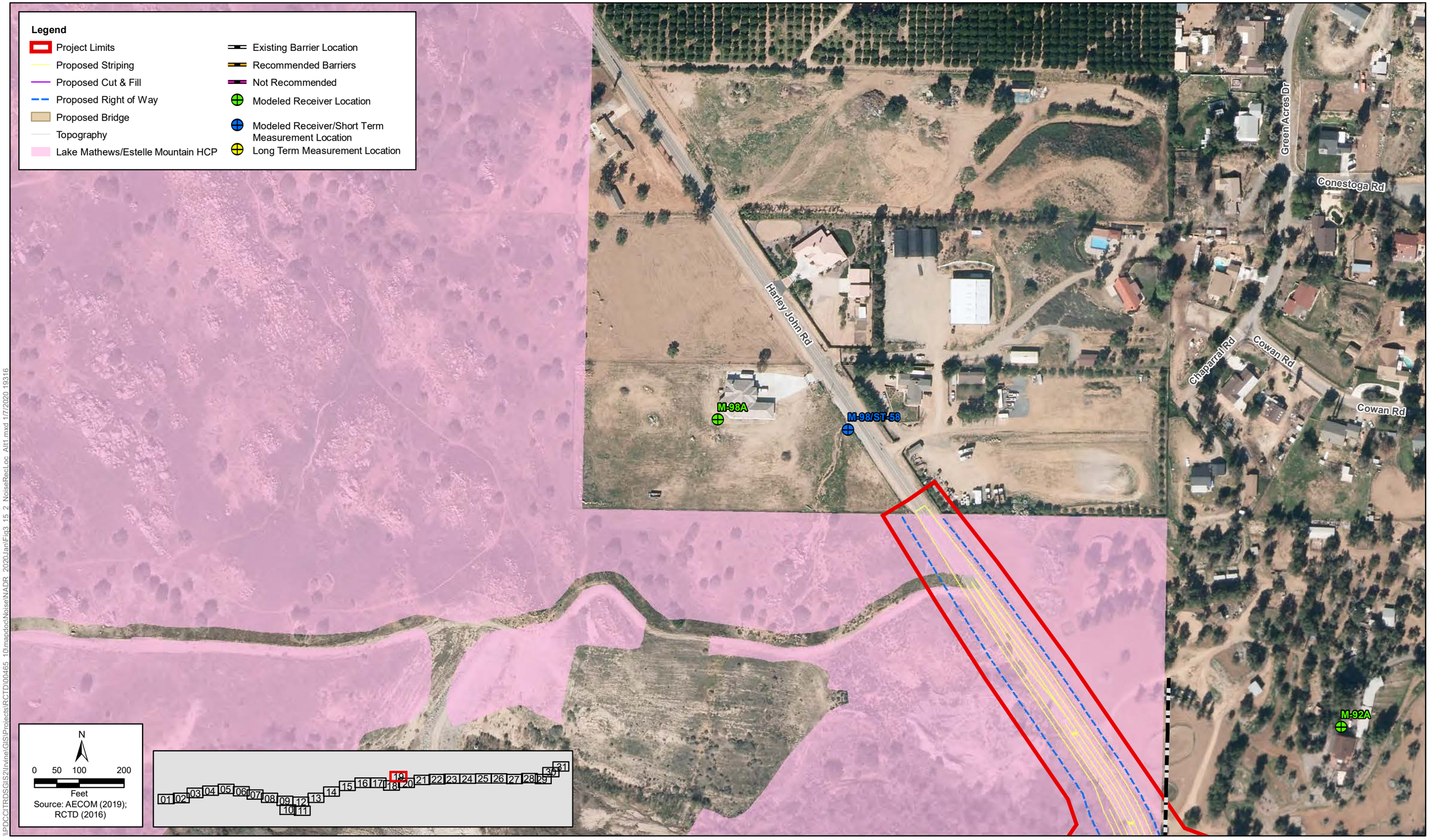

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Figure 3.15-2 - Sheet 19 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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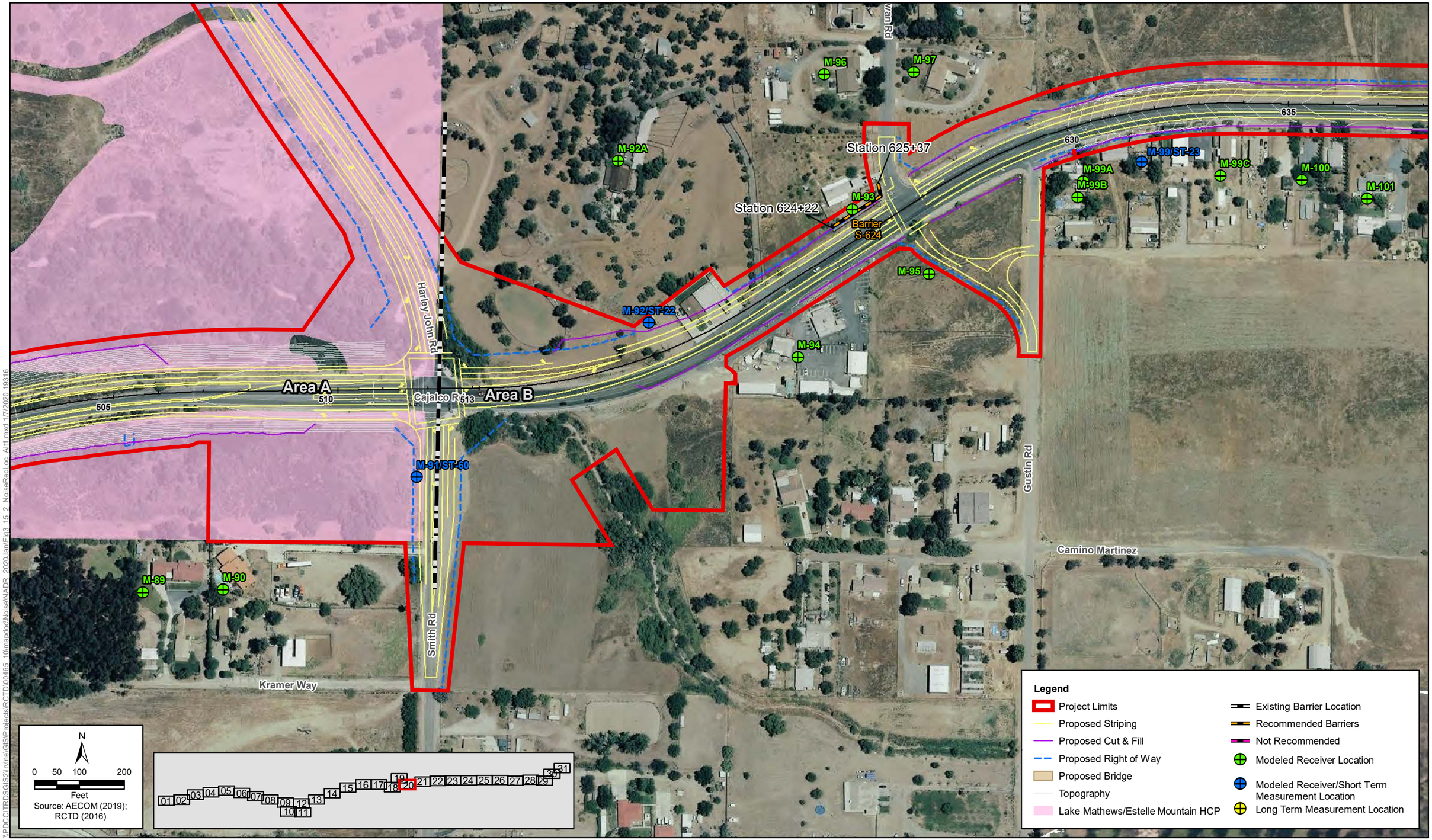

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Figure 3.15-2 - Sheet 20 of 31
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Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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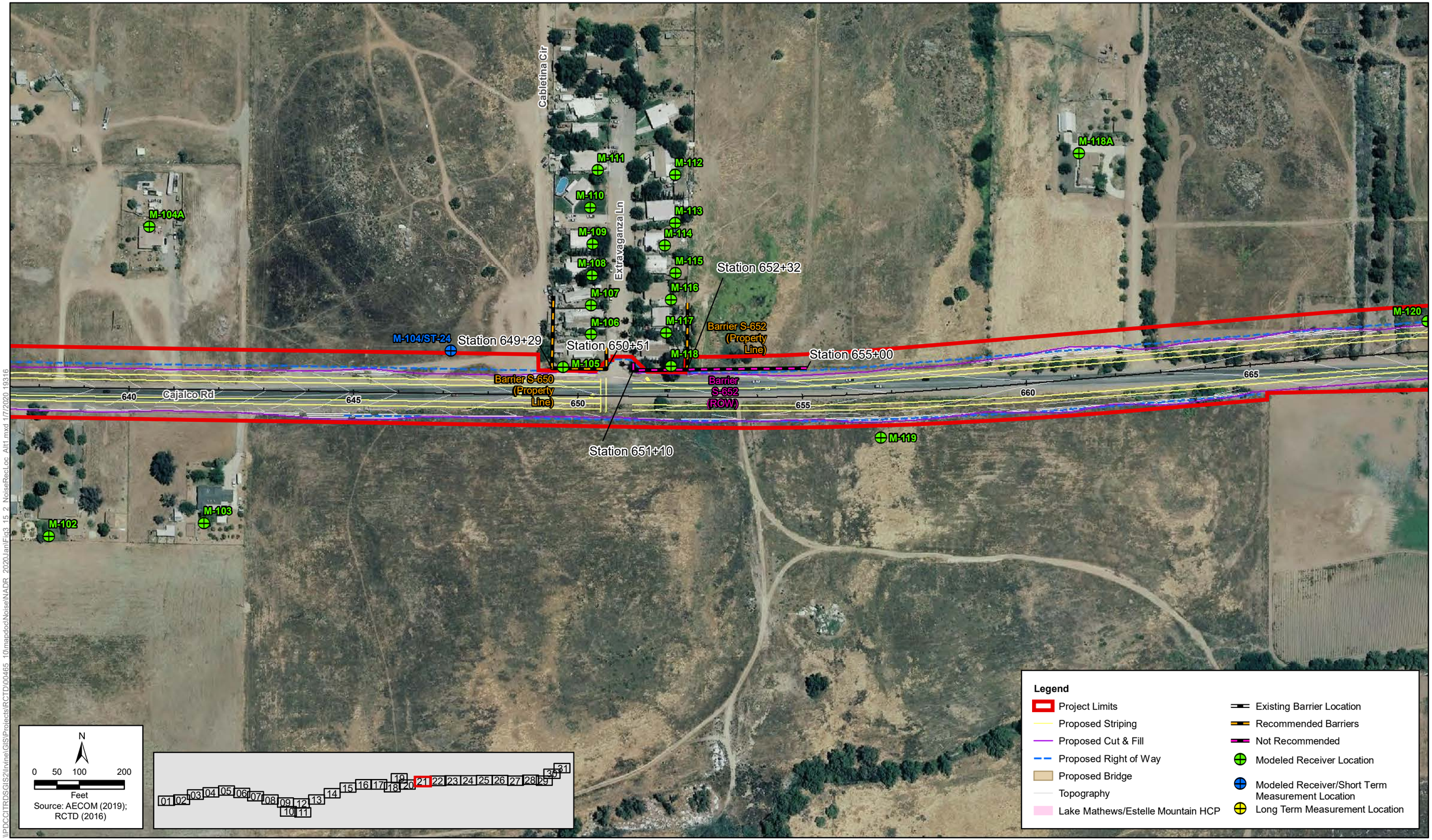

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Figure 3.15-2 - Sheet 21 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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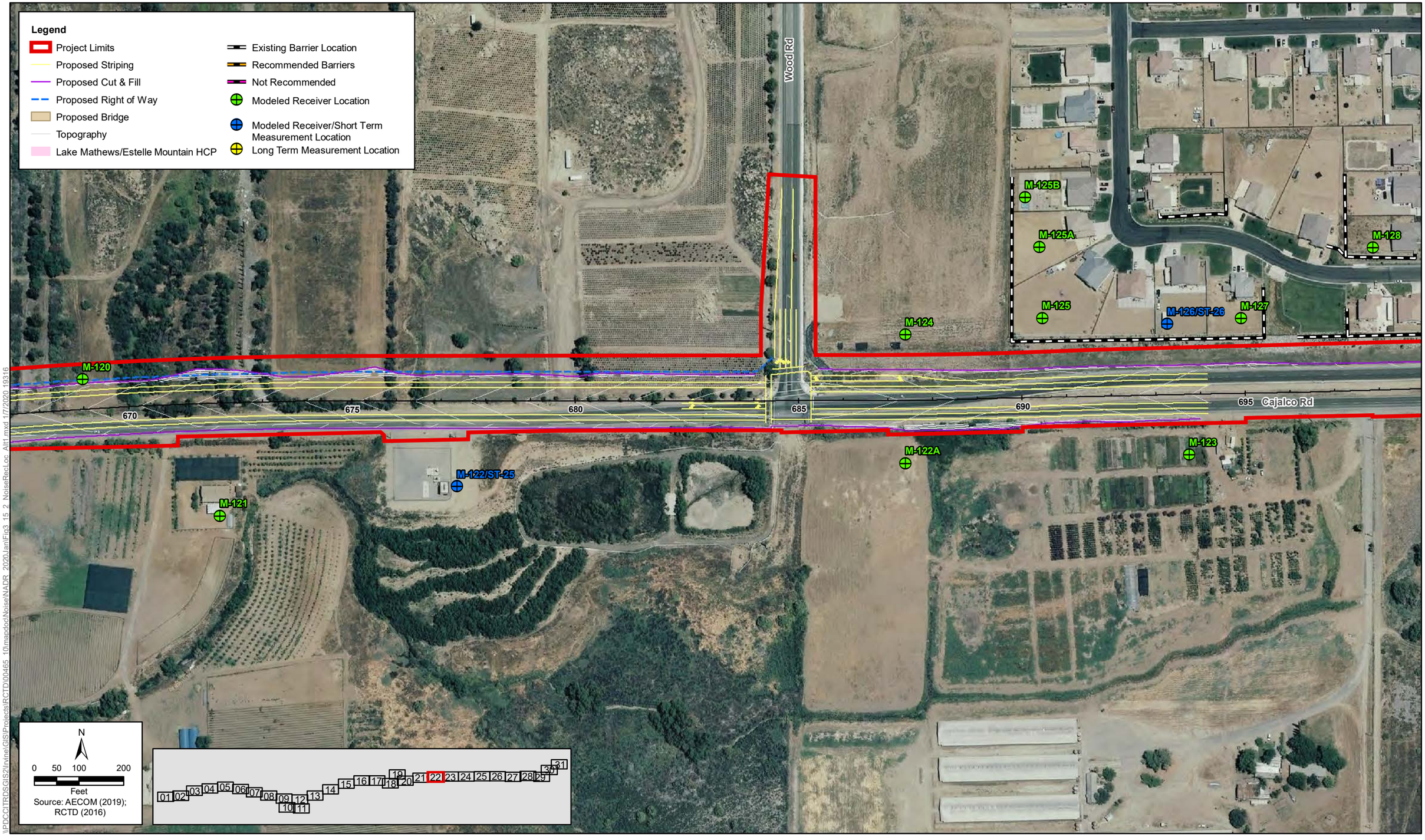

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Figure 3.15-2 - Sheet 22 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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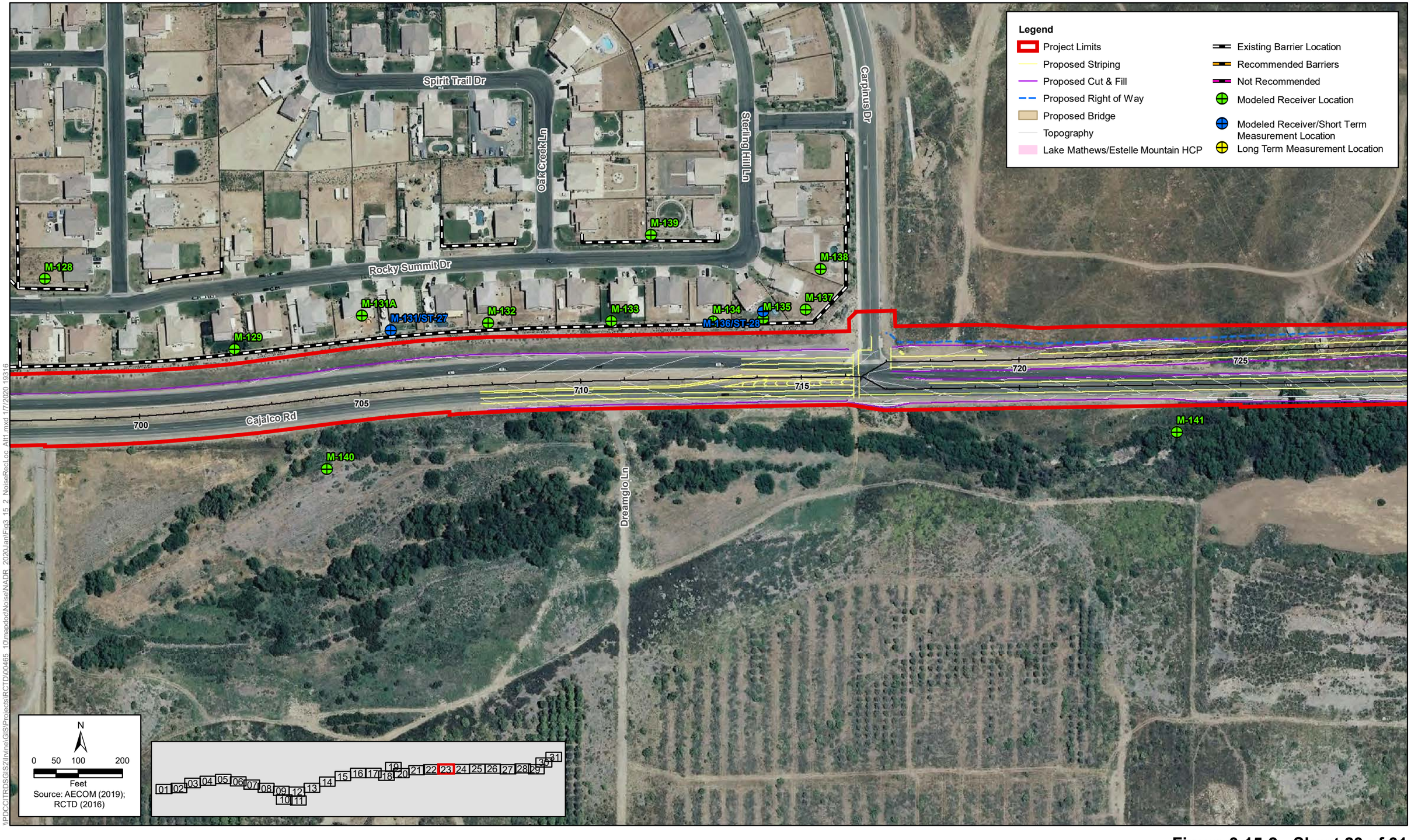

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Figure 3.15-2 - Sheet 23 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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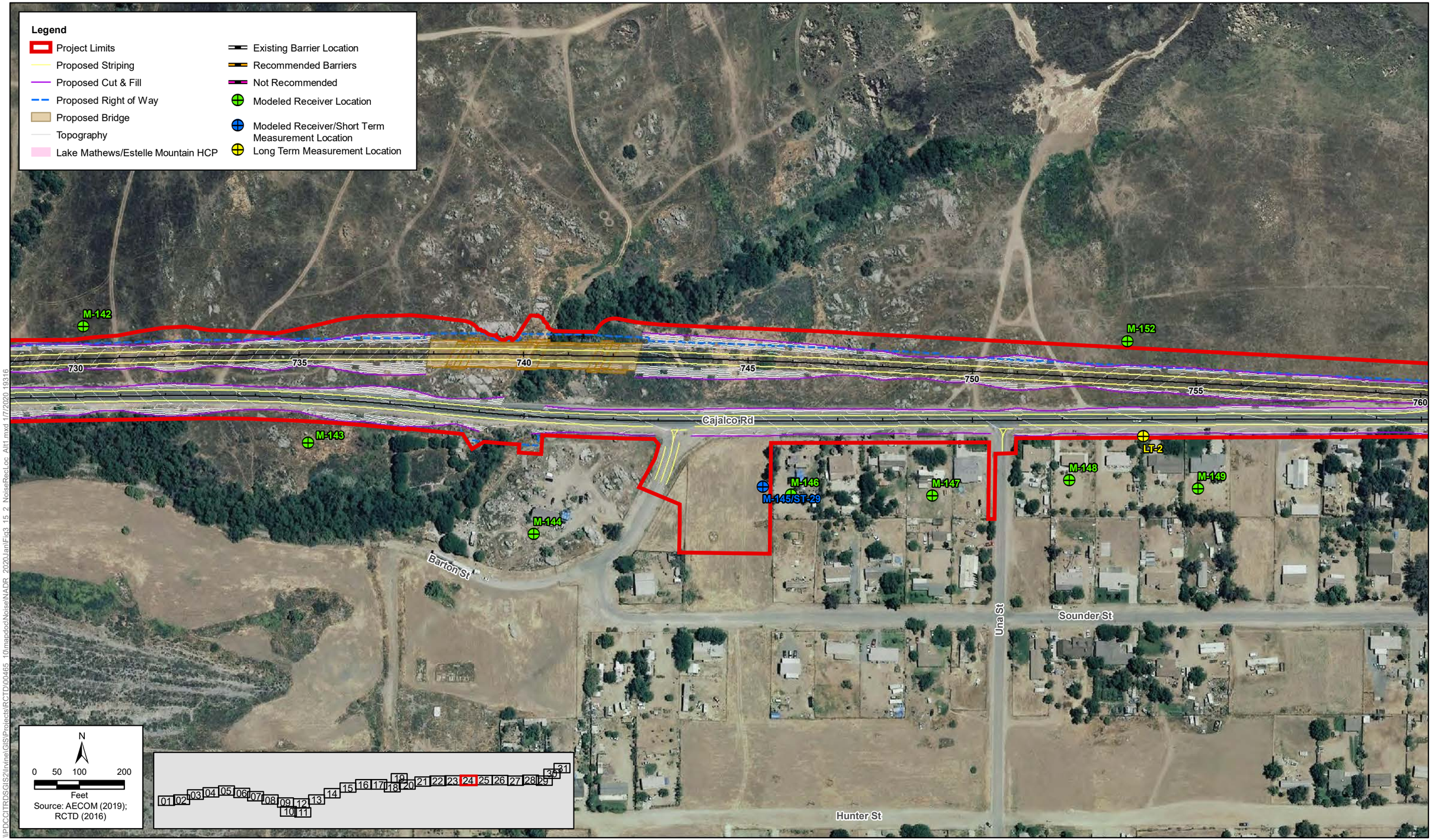

Figure 3.15-2 - Sheet 24 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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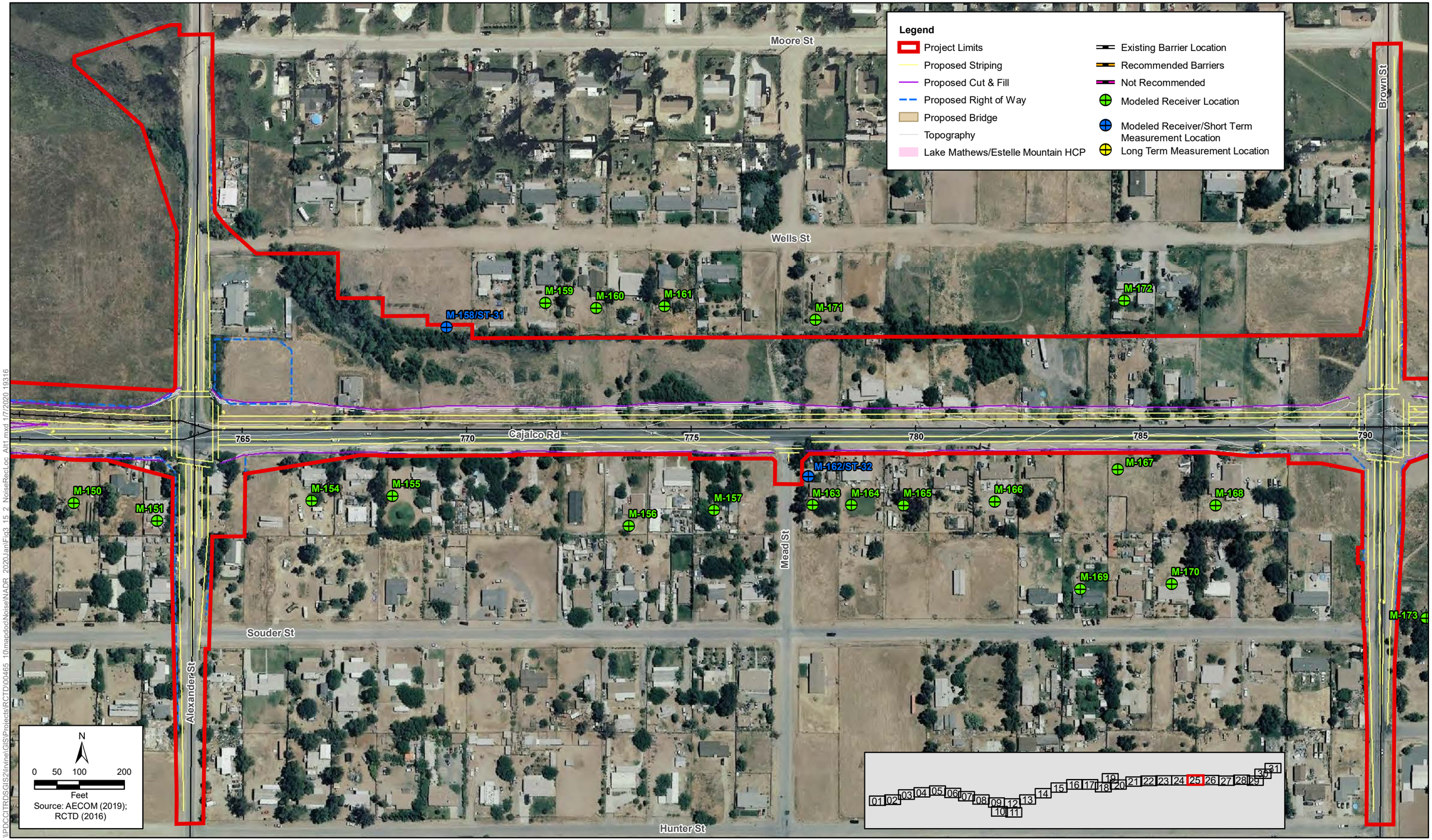

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Figure 3.15-2 - Sheet 25 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
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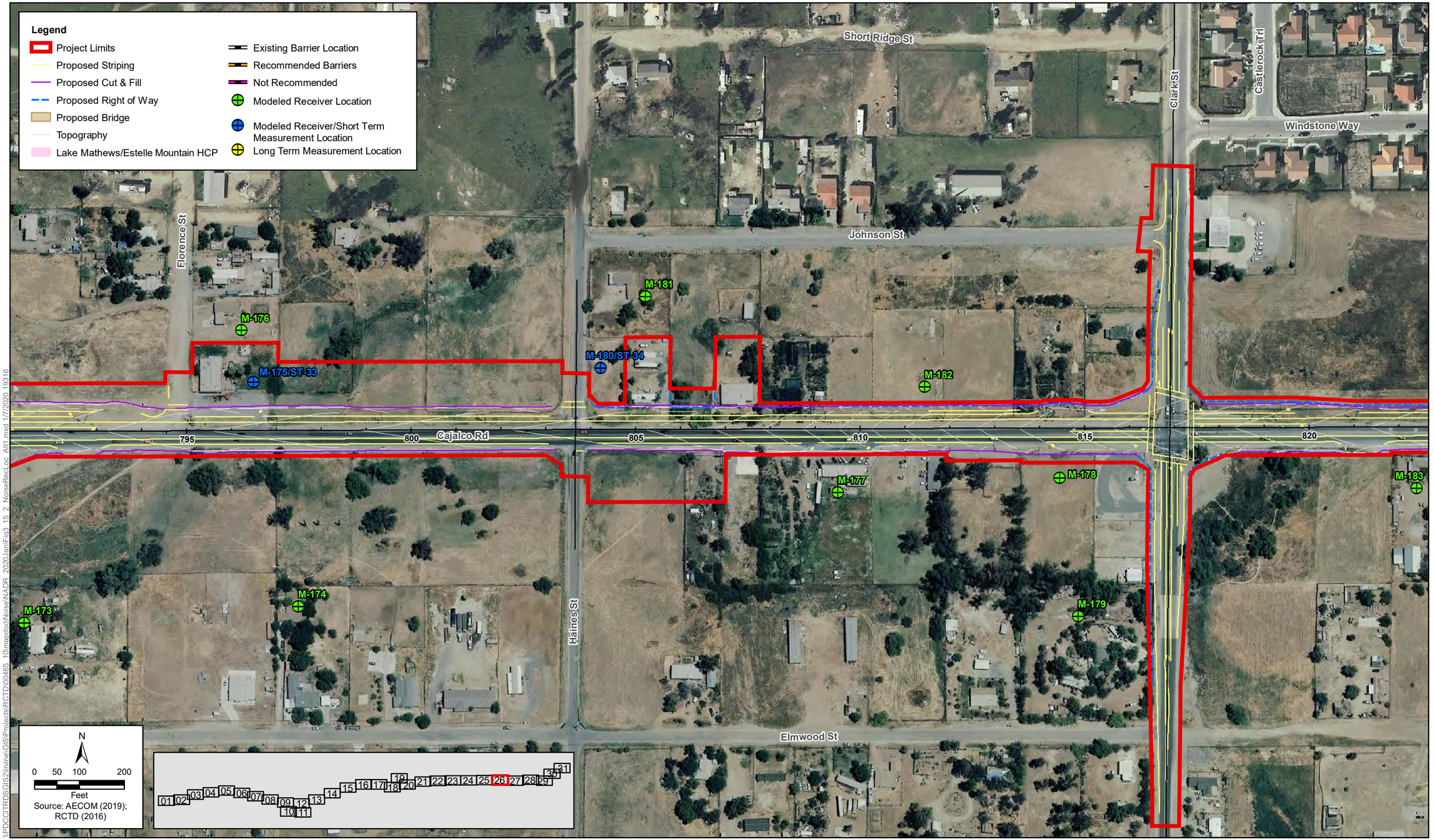

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Figure 3.15-2 - Sheet 26 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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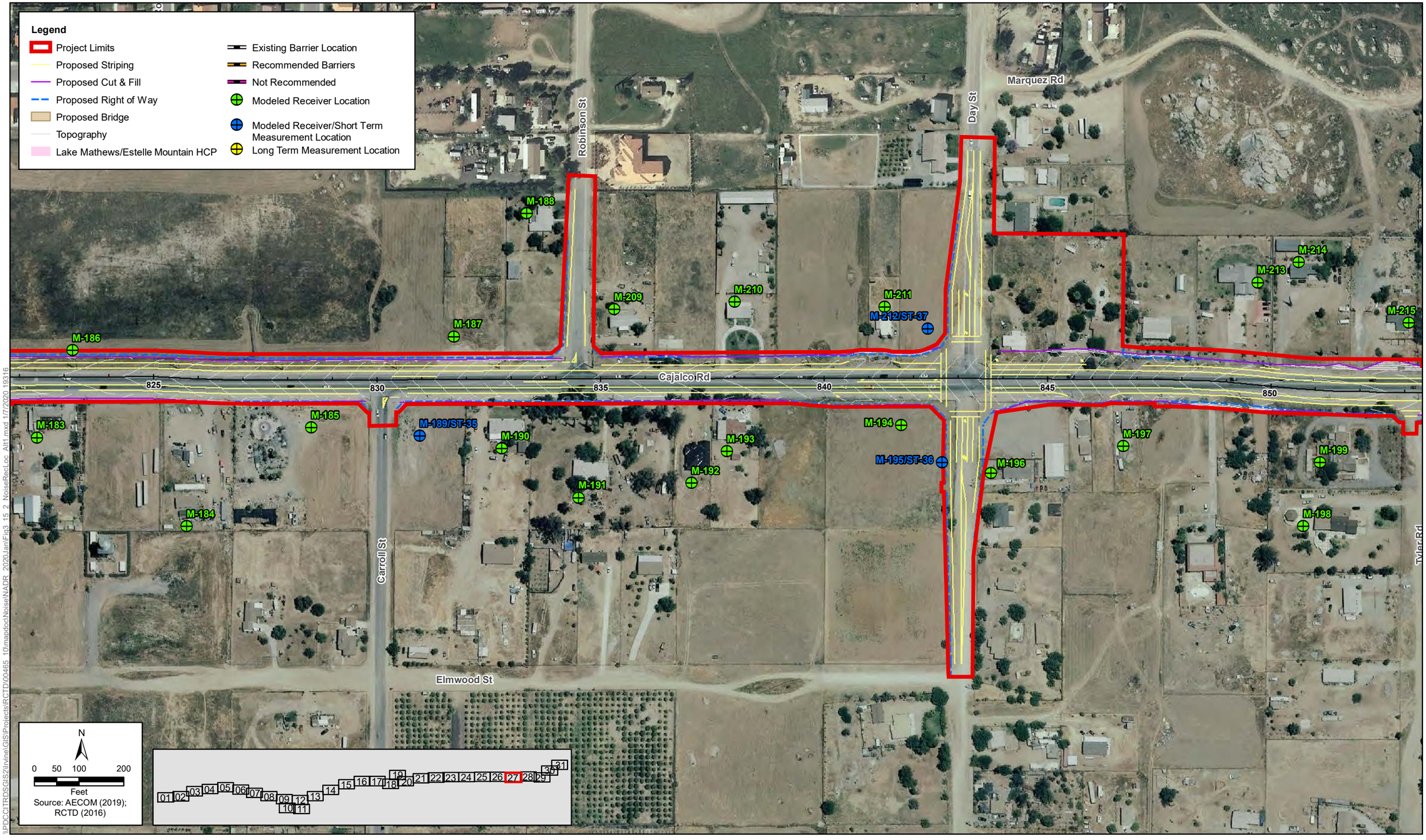

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Figure 3.15-2 - Sheet 27 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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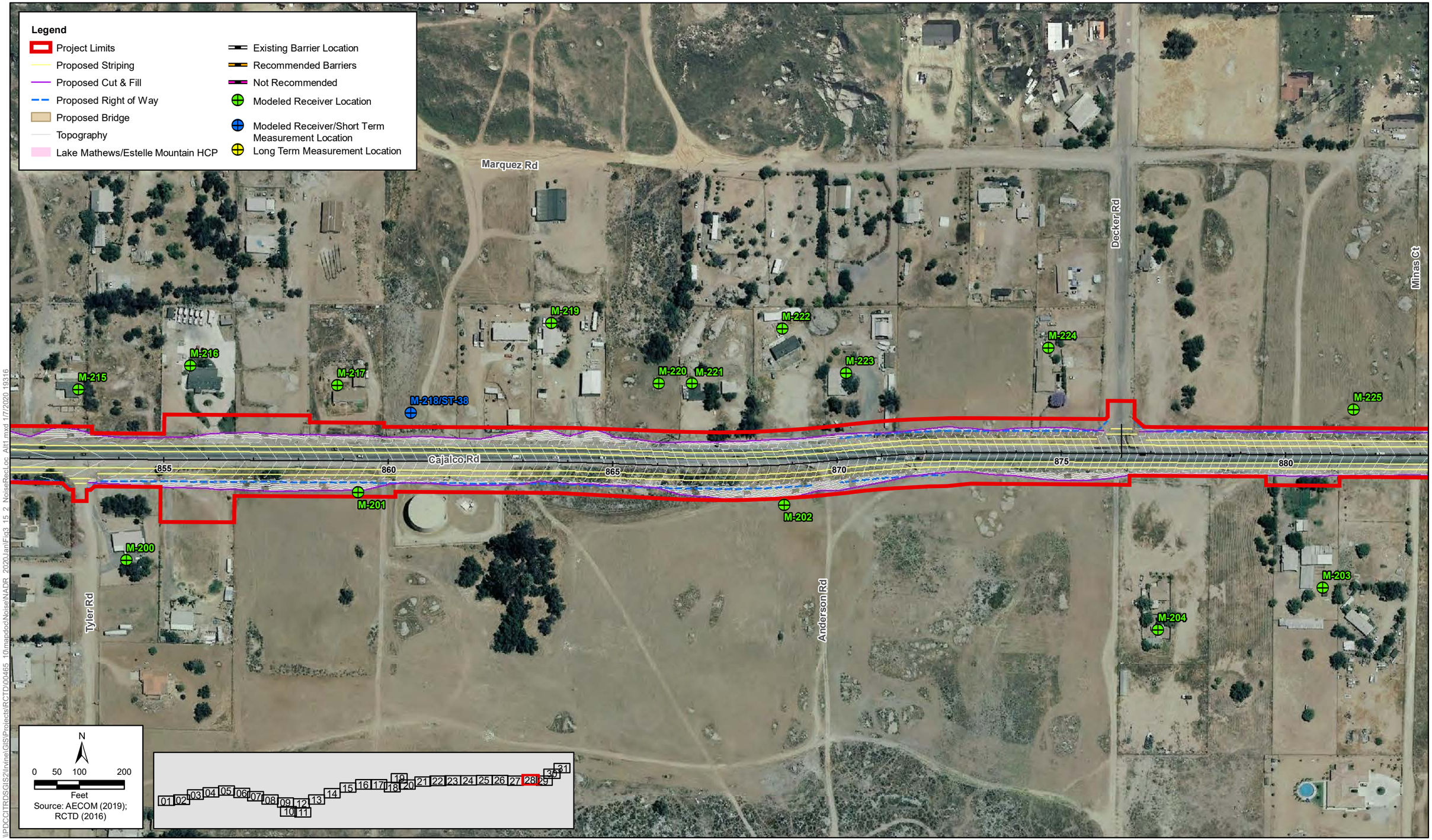

Figure 3.15-2 - Sheet 28 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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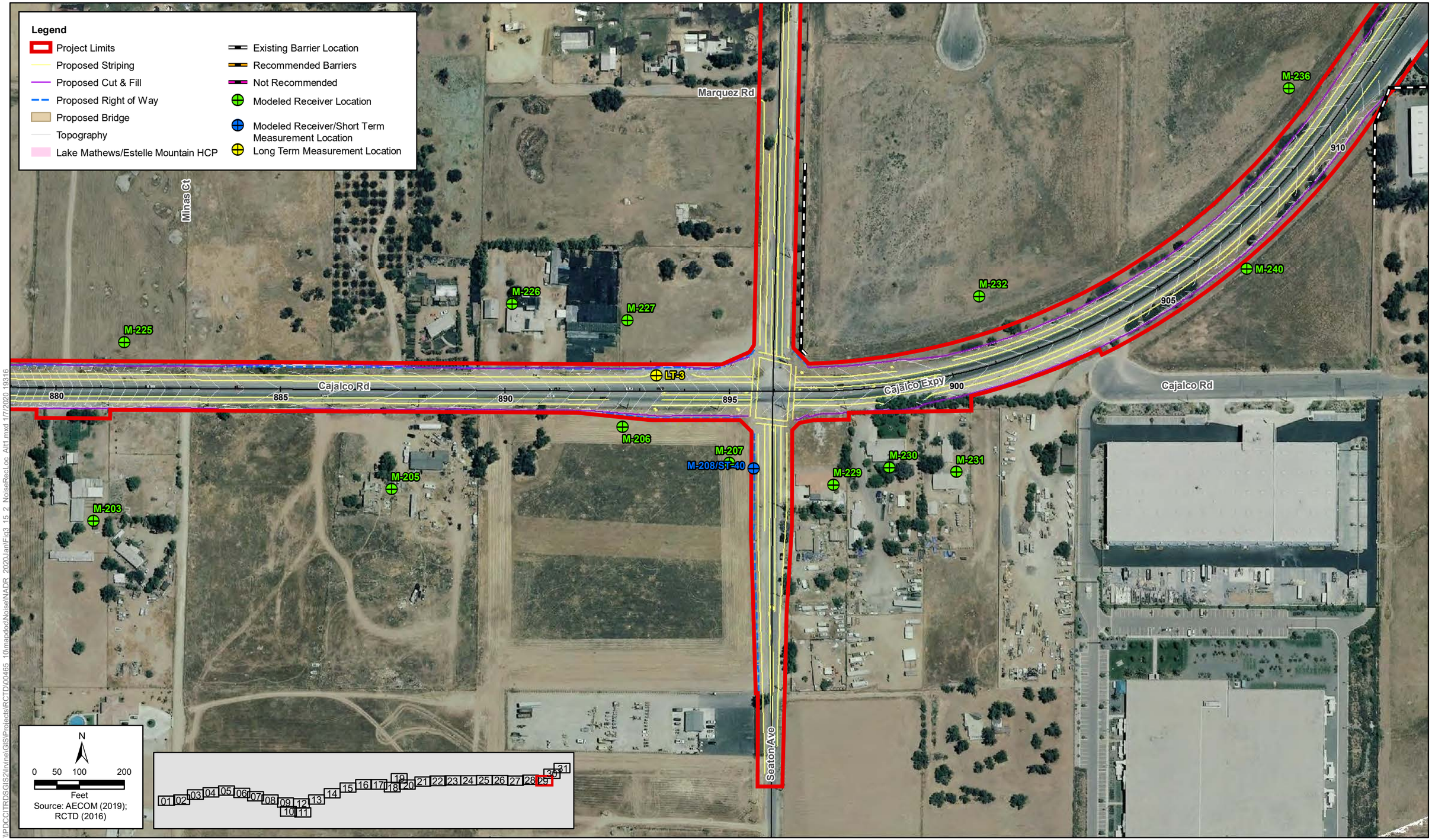

Figure 3.15-2 - Sheet 29 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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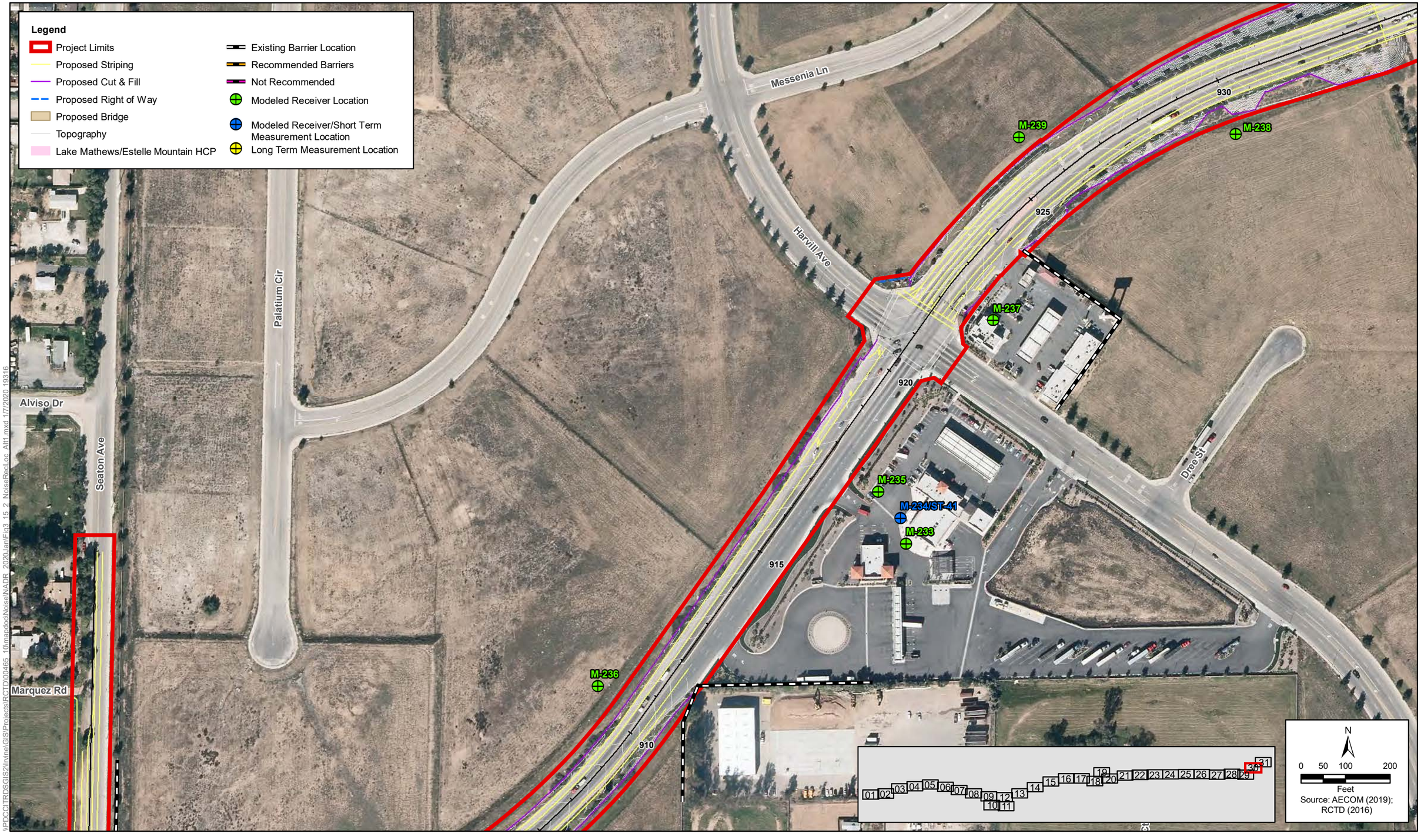

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Figure 3.15-2 - Sheet 30 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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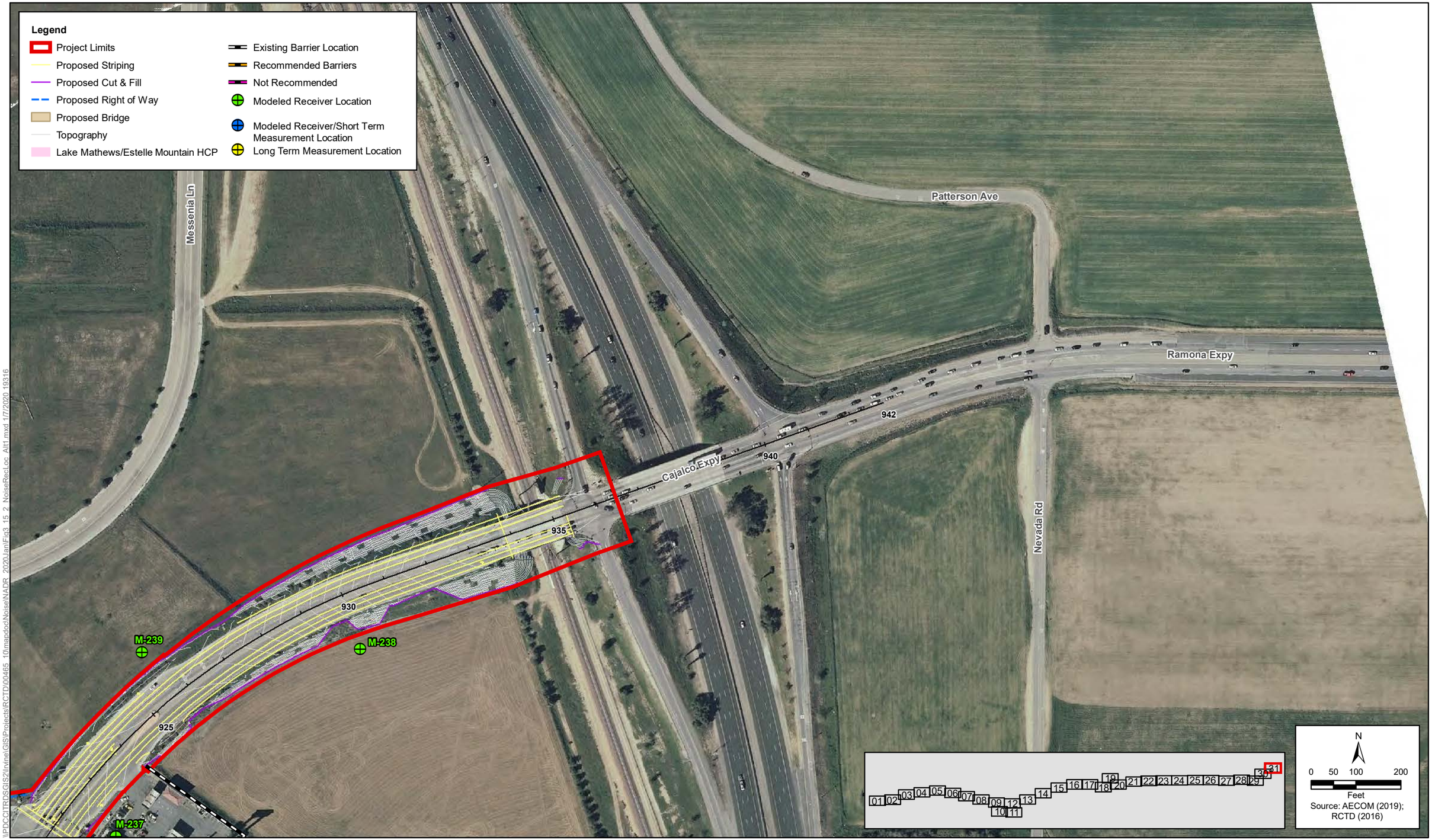

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Figure 3.15-2 - Sheet 31 of 31
Build Alternative 1
Noise Measurements and Modeling Locations, and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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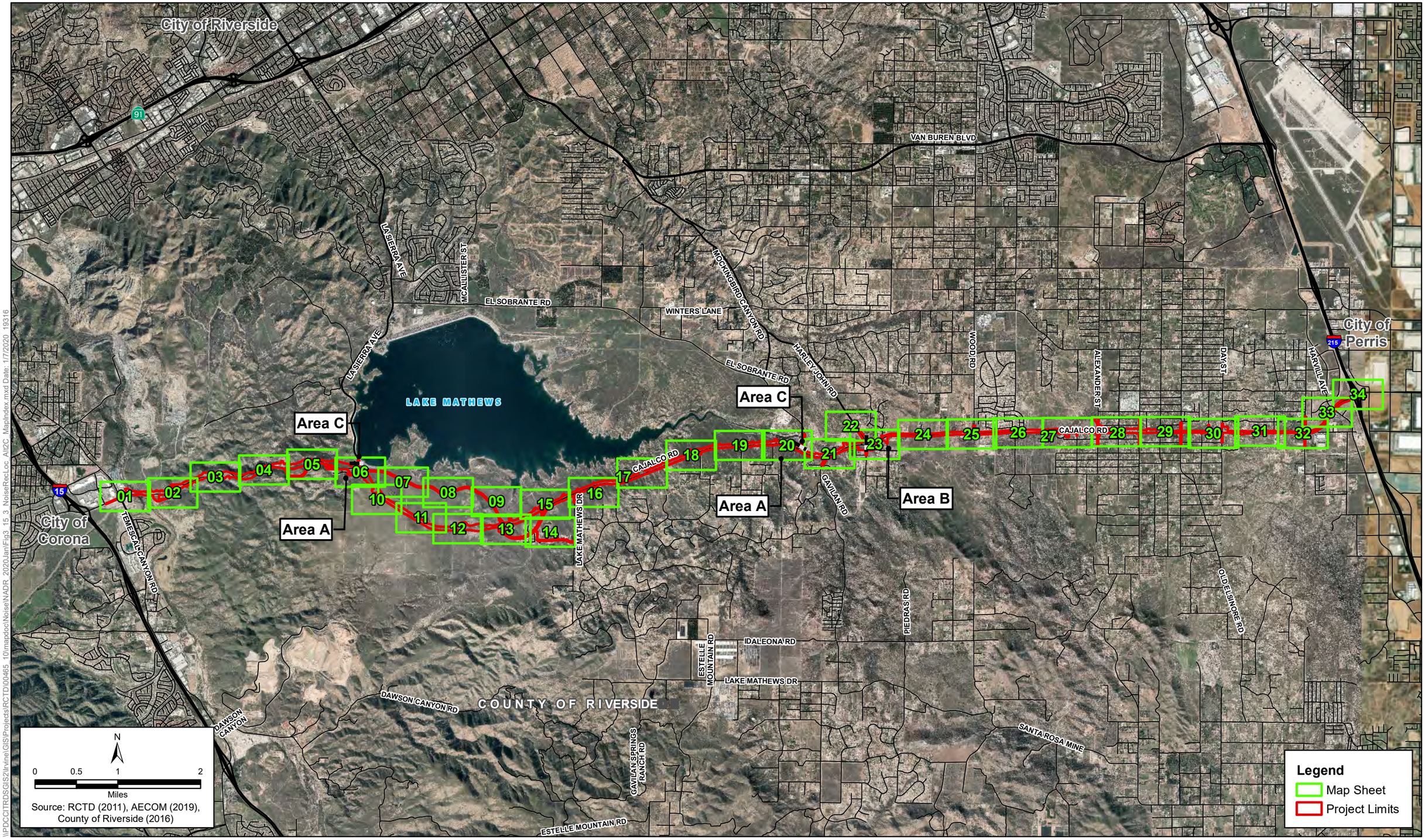

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Figure 3.15-3 - Map Index
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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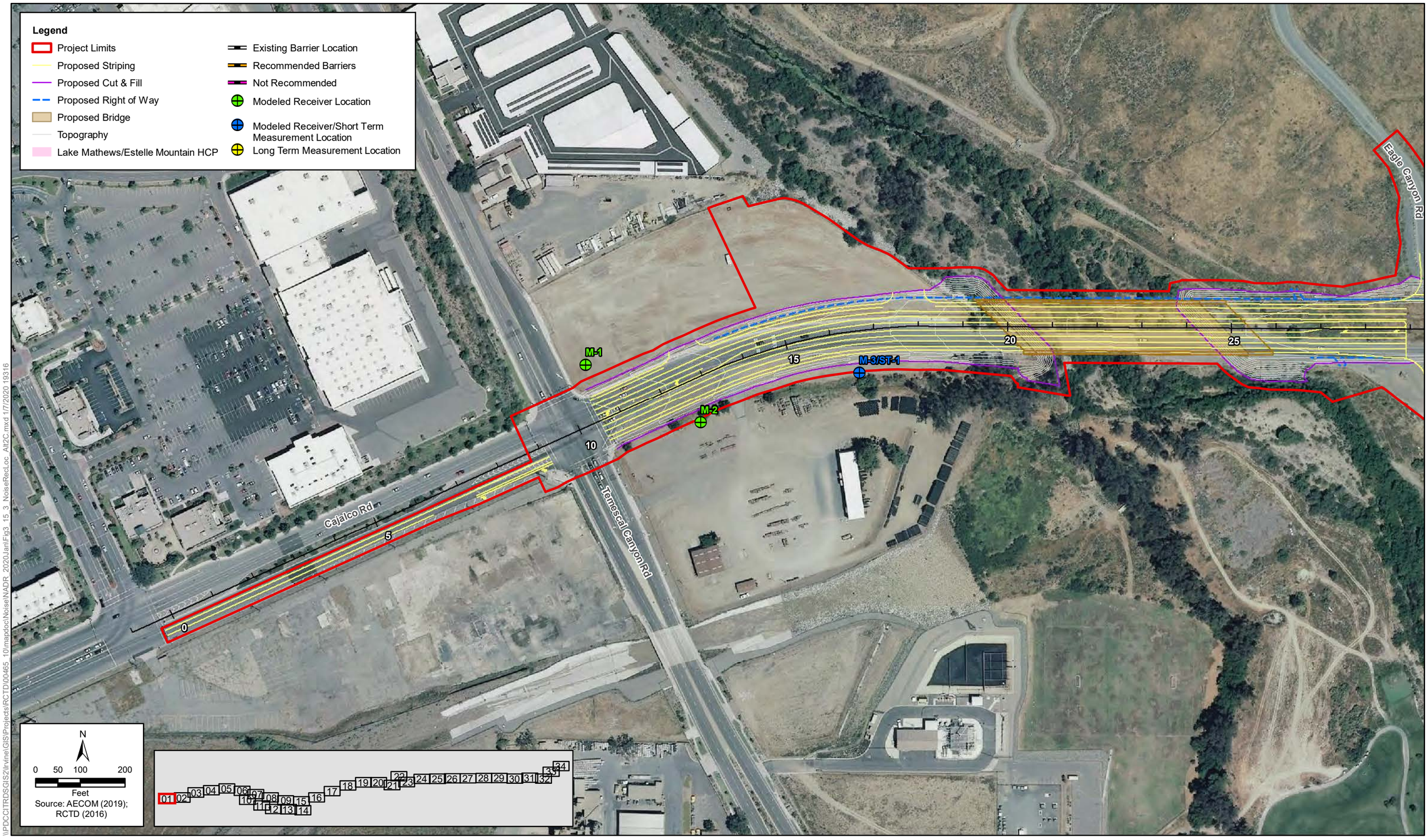

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Figure 3.15-3 - Sheet 1 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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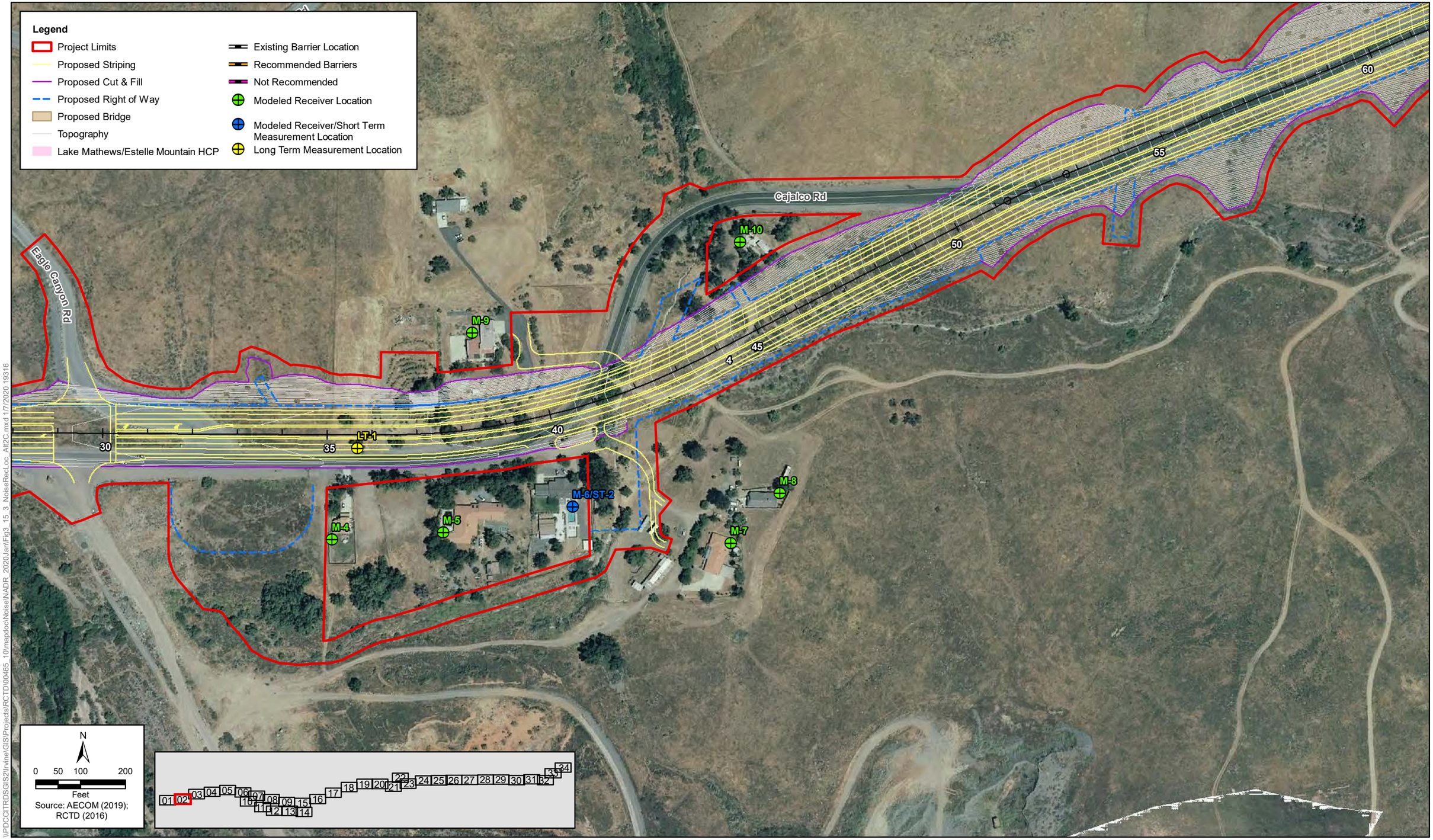

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Figure 3.15-3 - Sheet 2 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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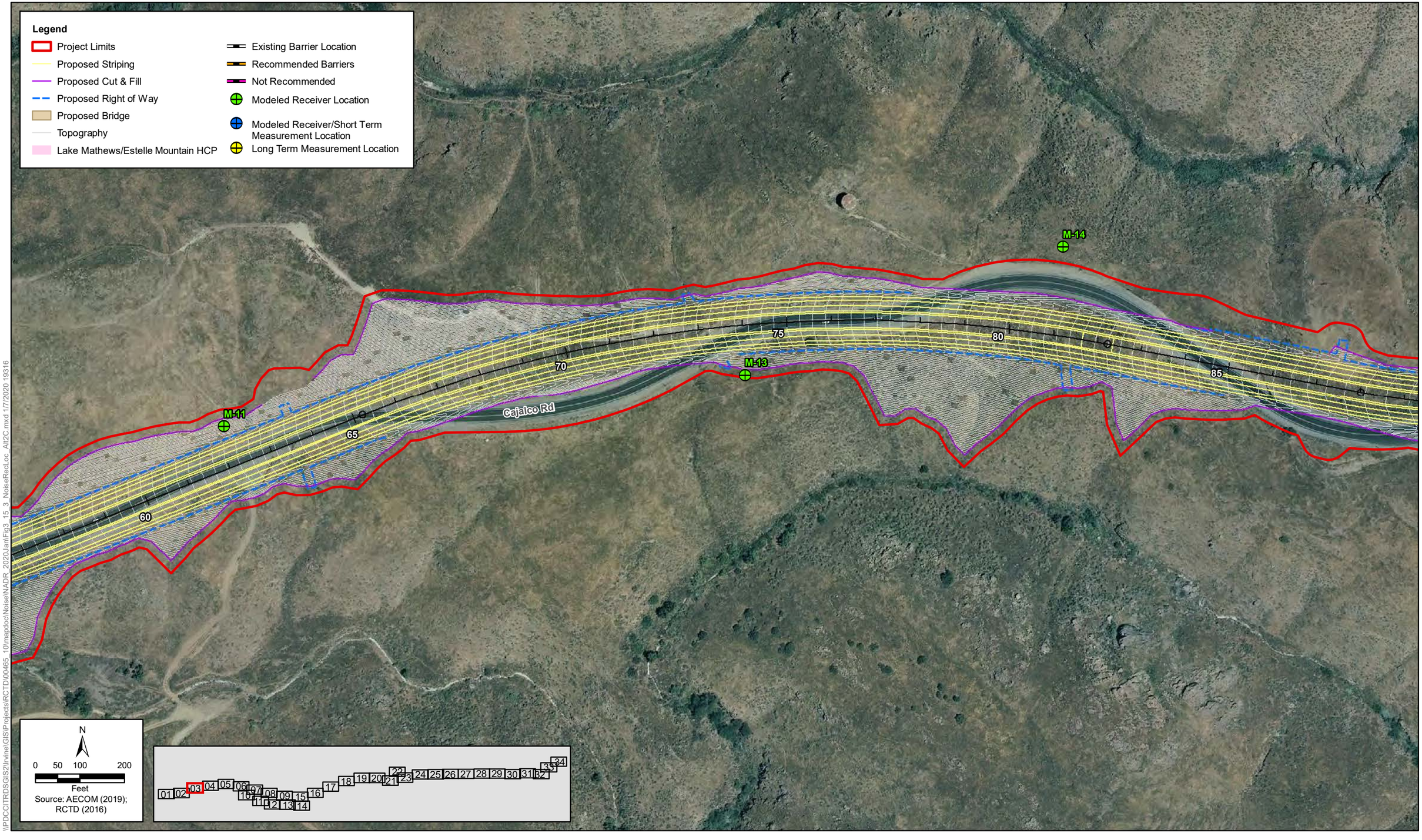

Figure 3.15-3 - Sheet 3 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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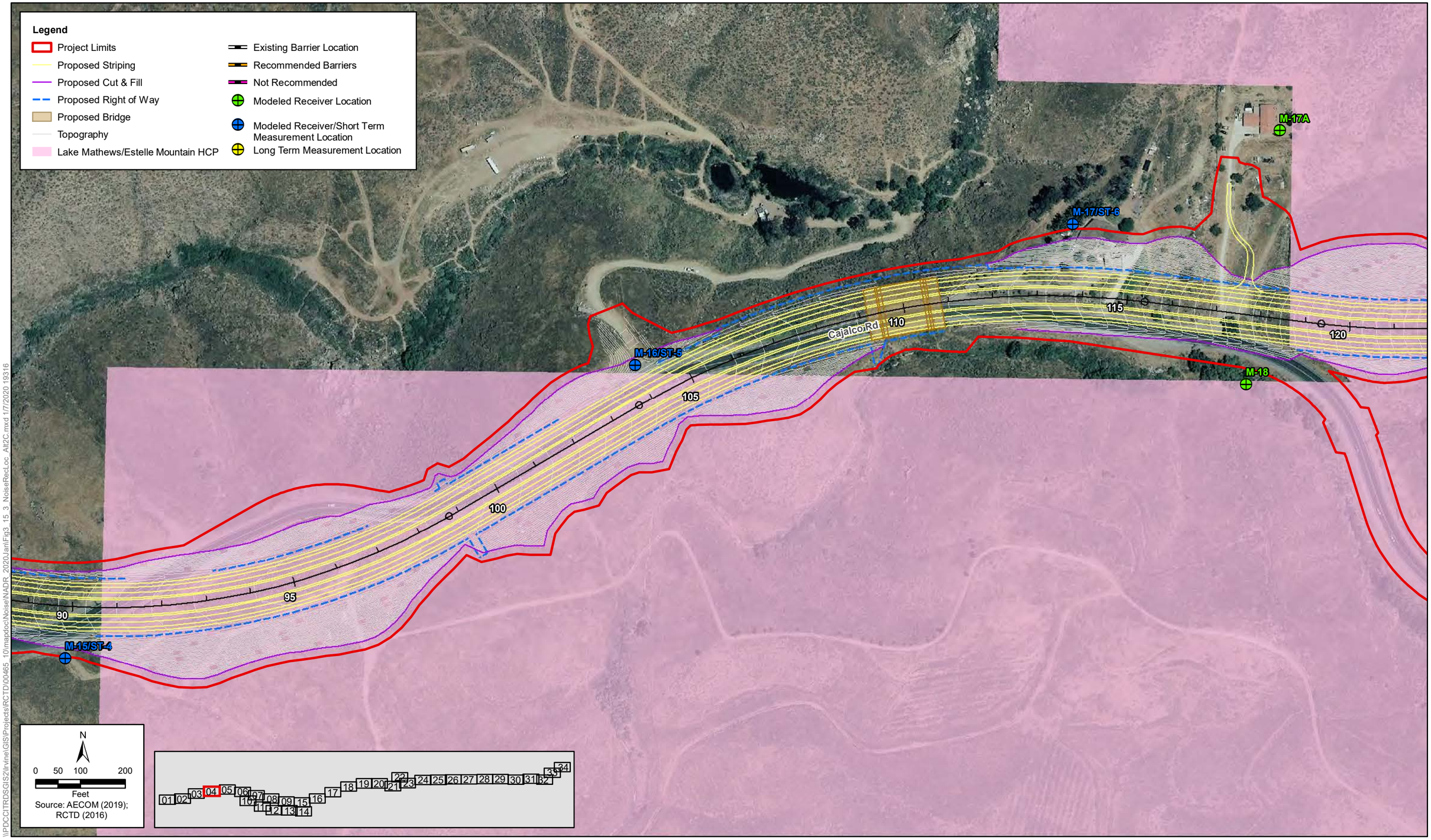

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Figure 3.15-3 - Sheet 4 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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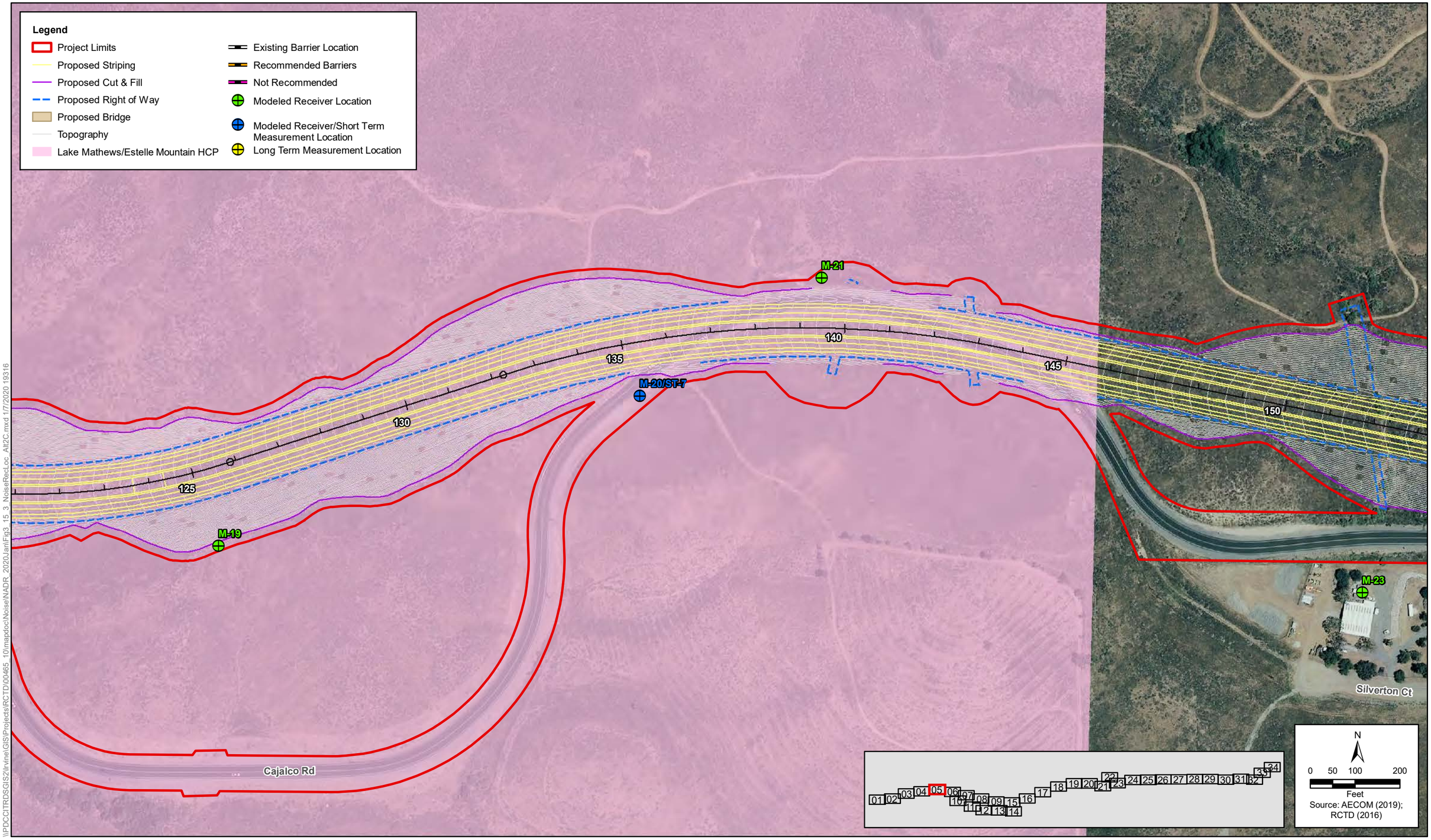

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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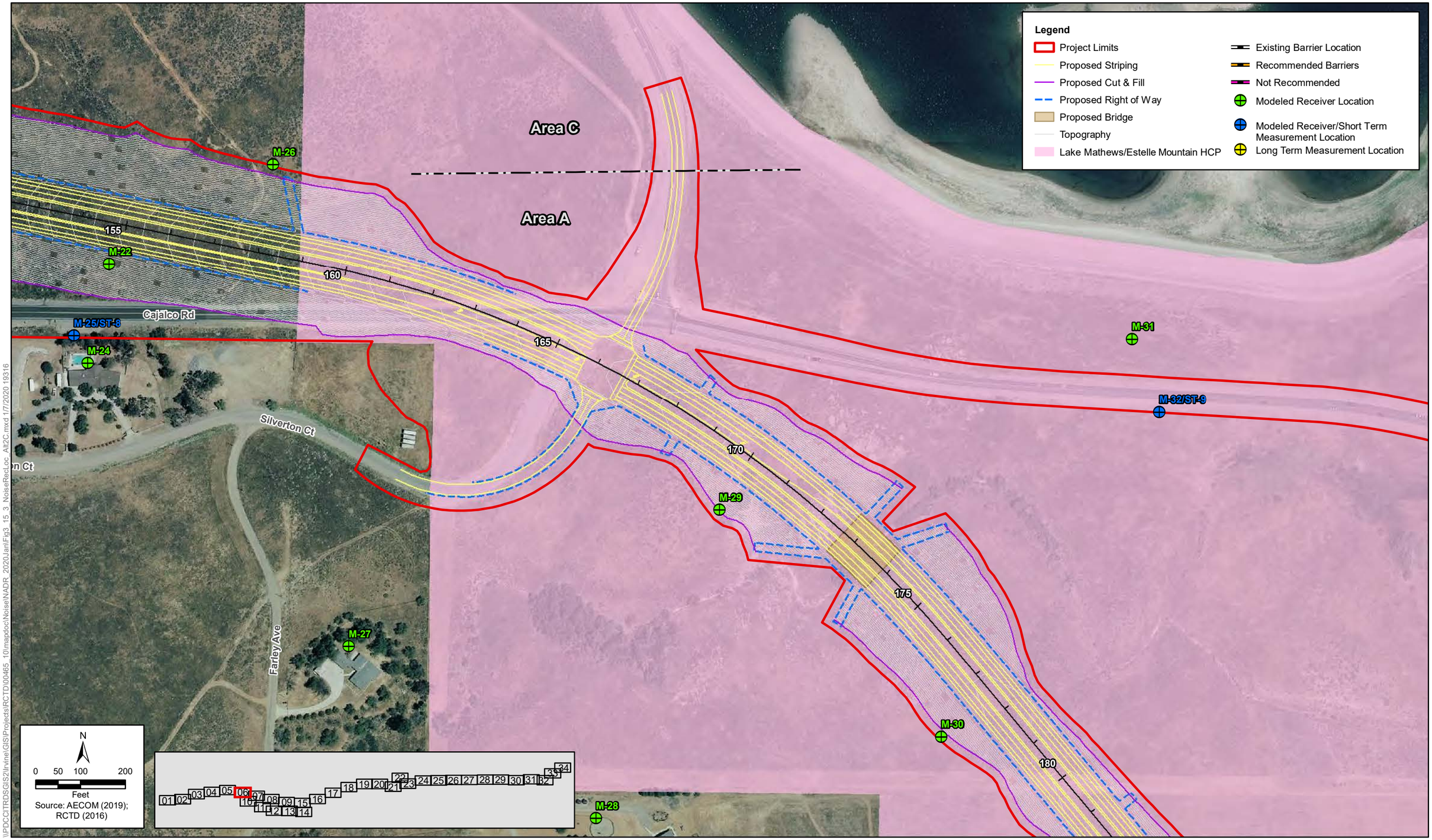

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Figure 3.15-3 - Sheet 6 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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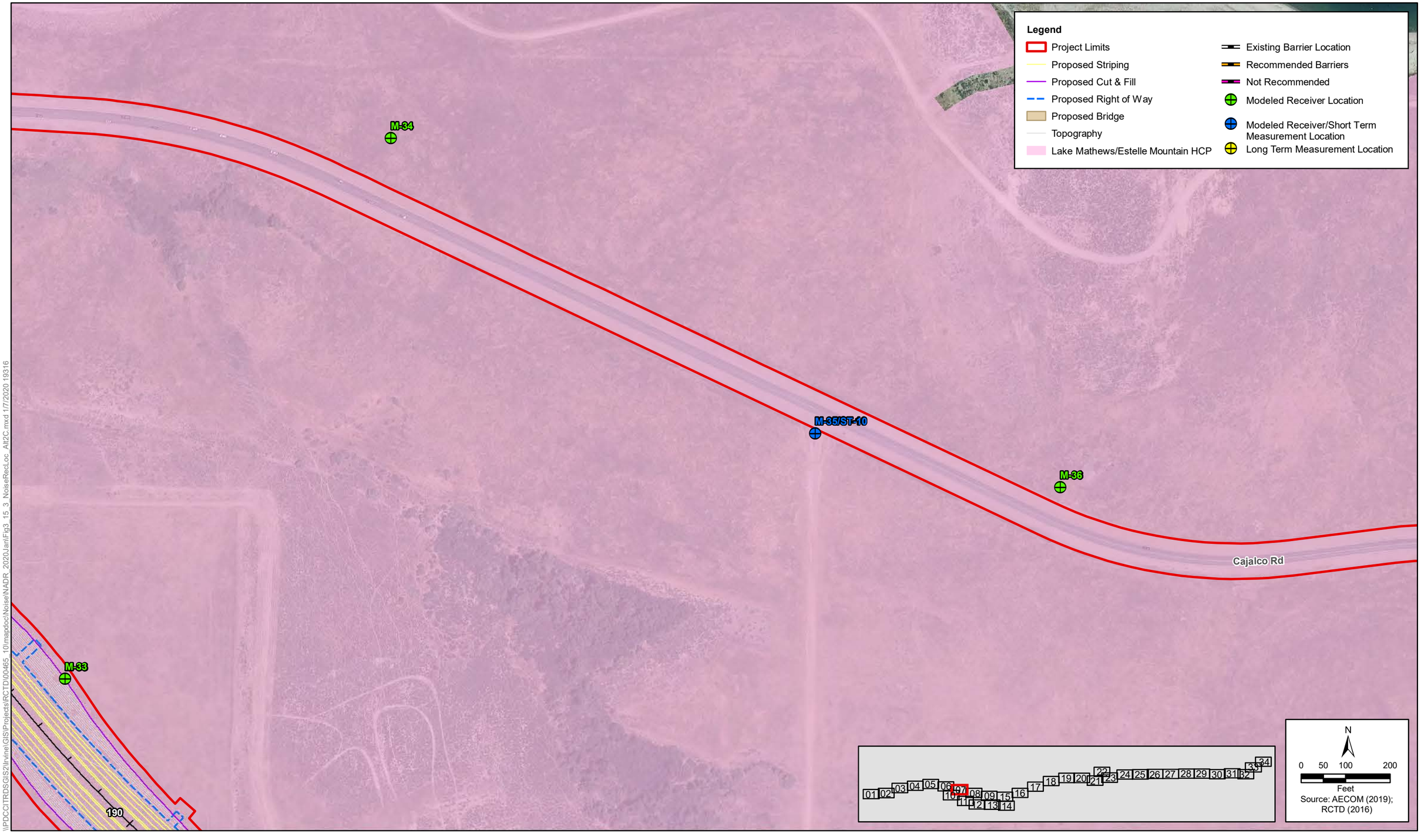

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Figure 3.15-3 - Sheet 7 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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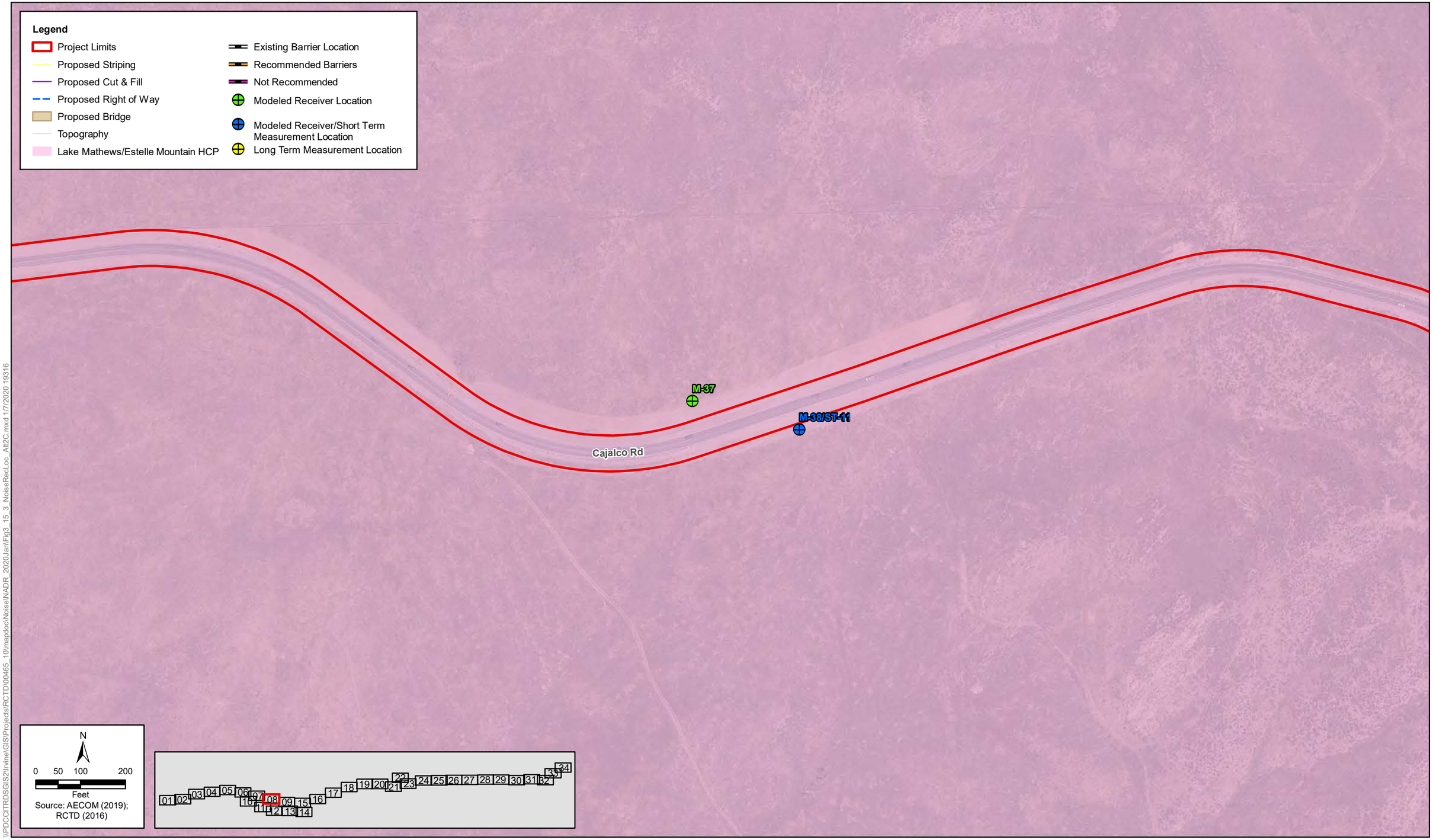

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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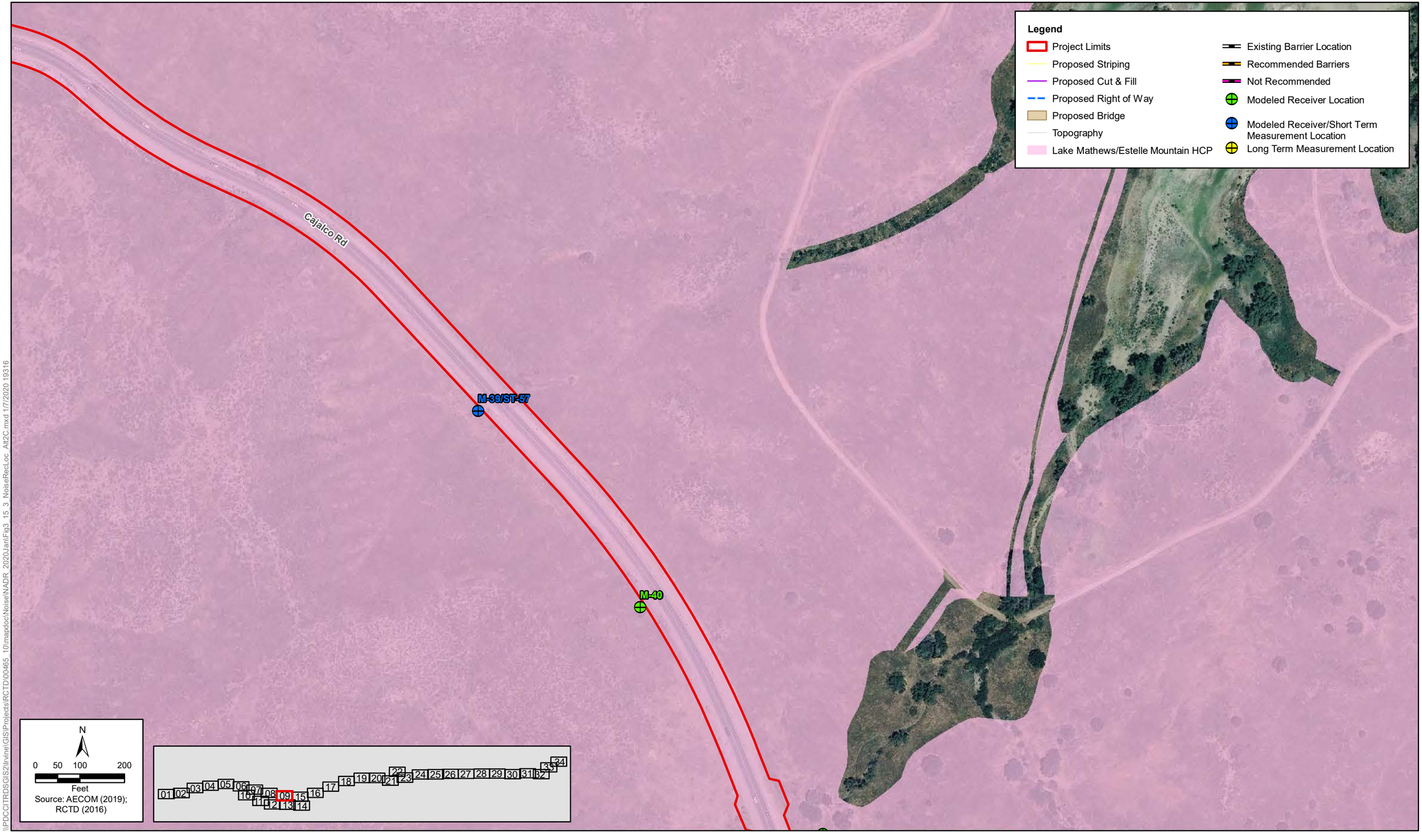

Figure 3.15-3 - Sheet 9 of 34
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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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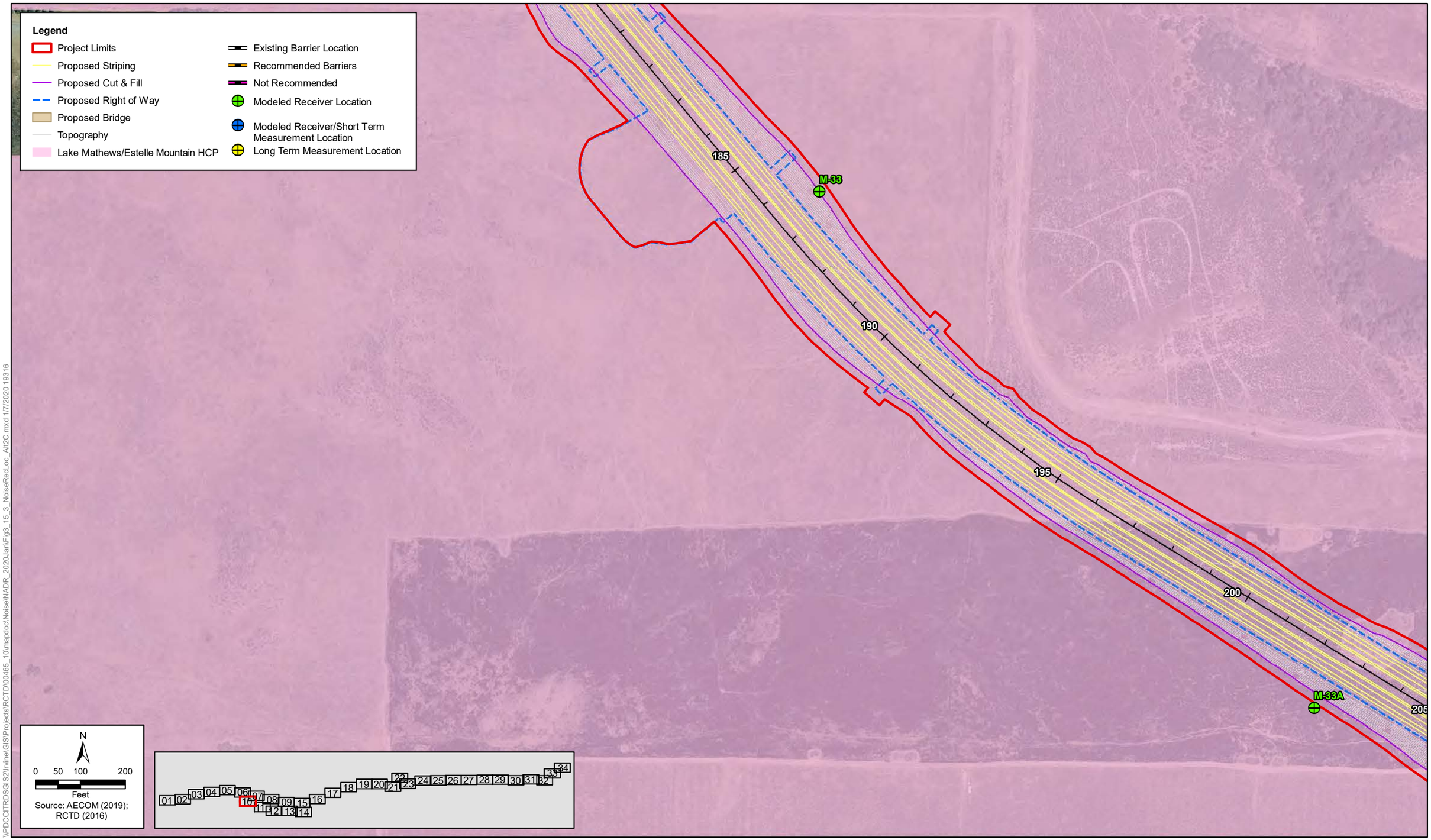

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Figure 3.15-3 - Sheet 10 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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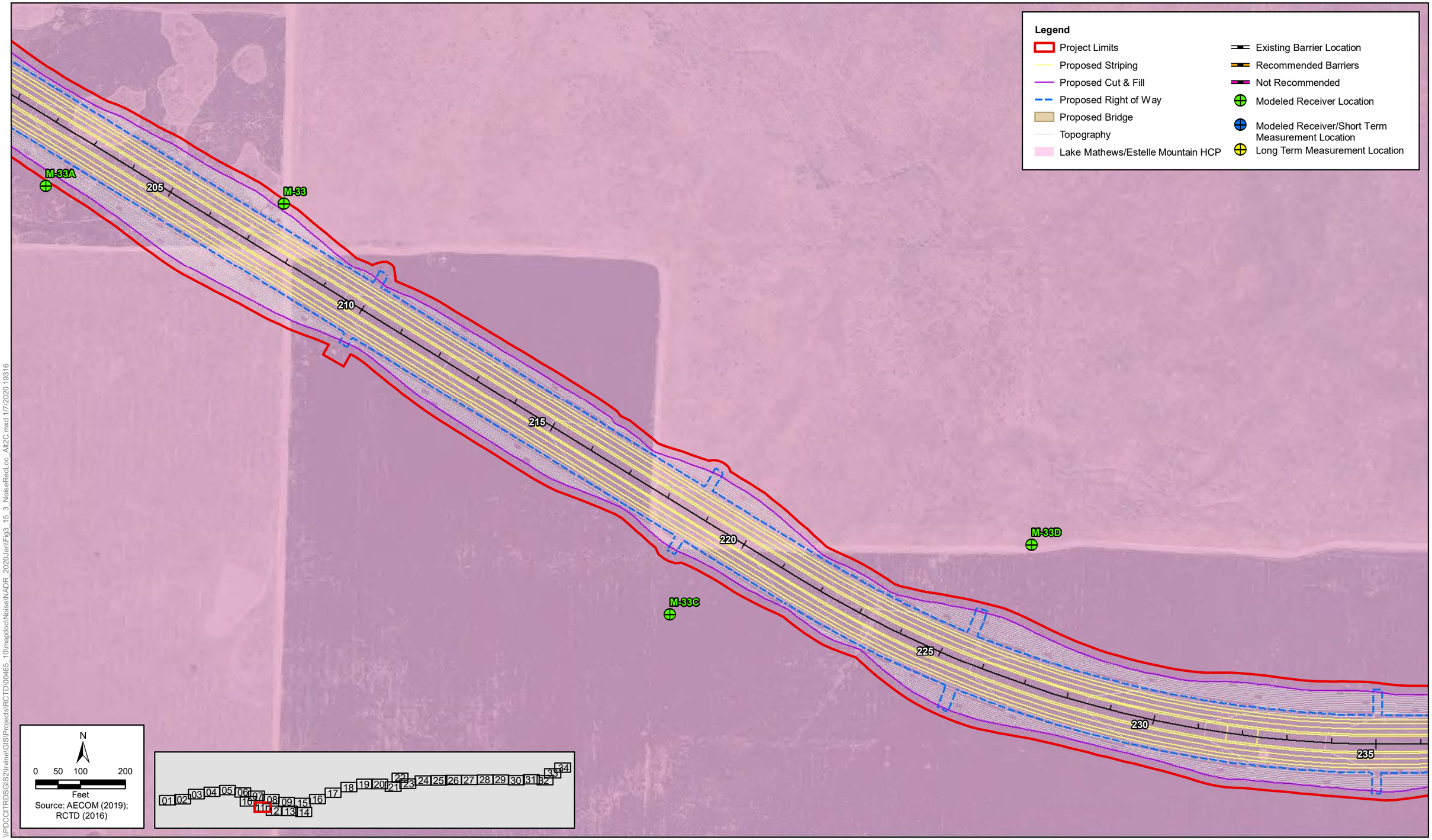

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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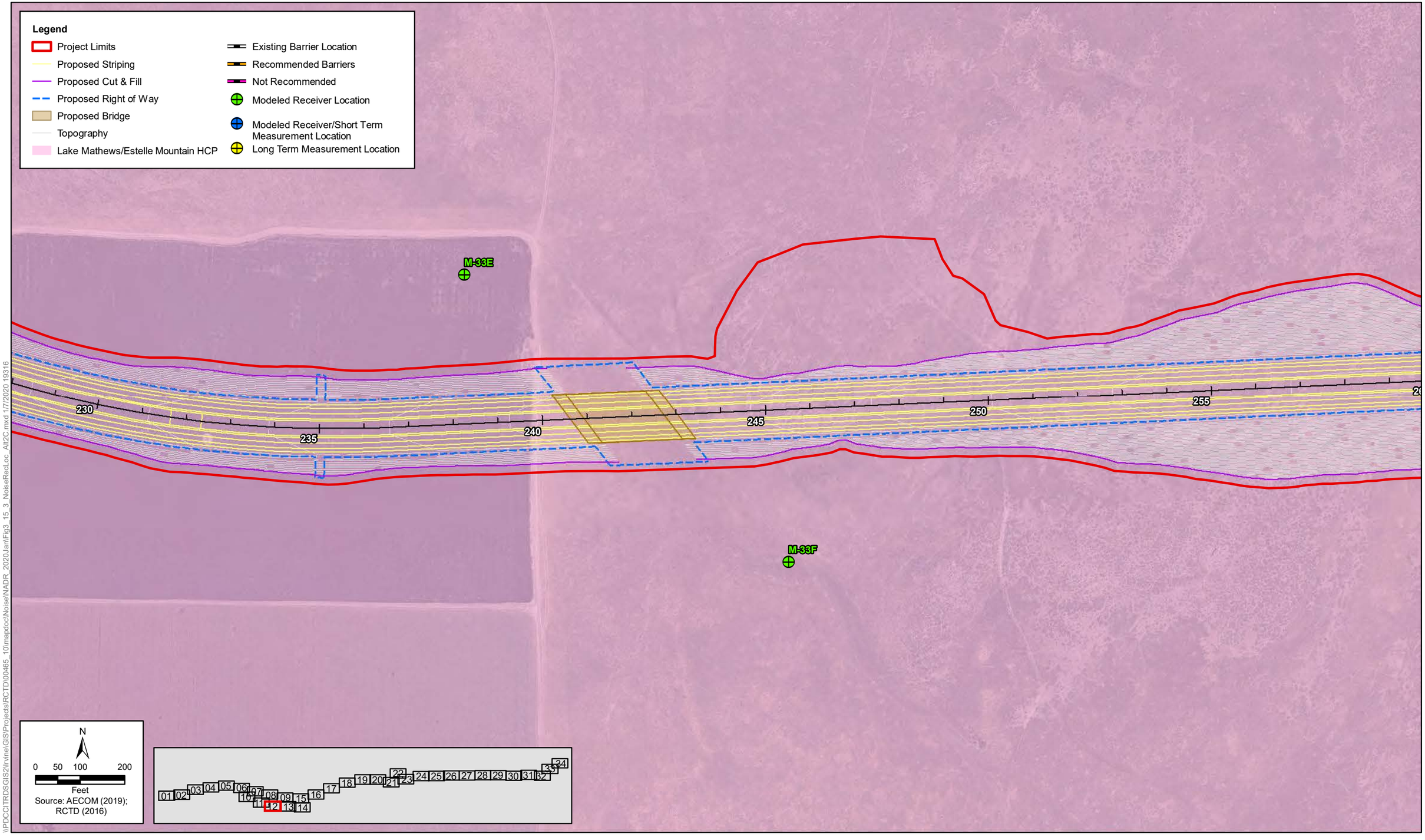

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Figure 3.15-3 - Sheet 12 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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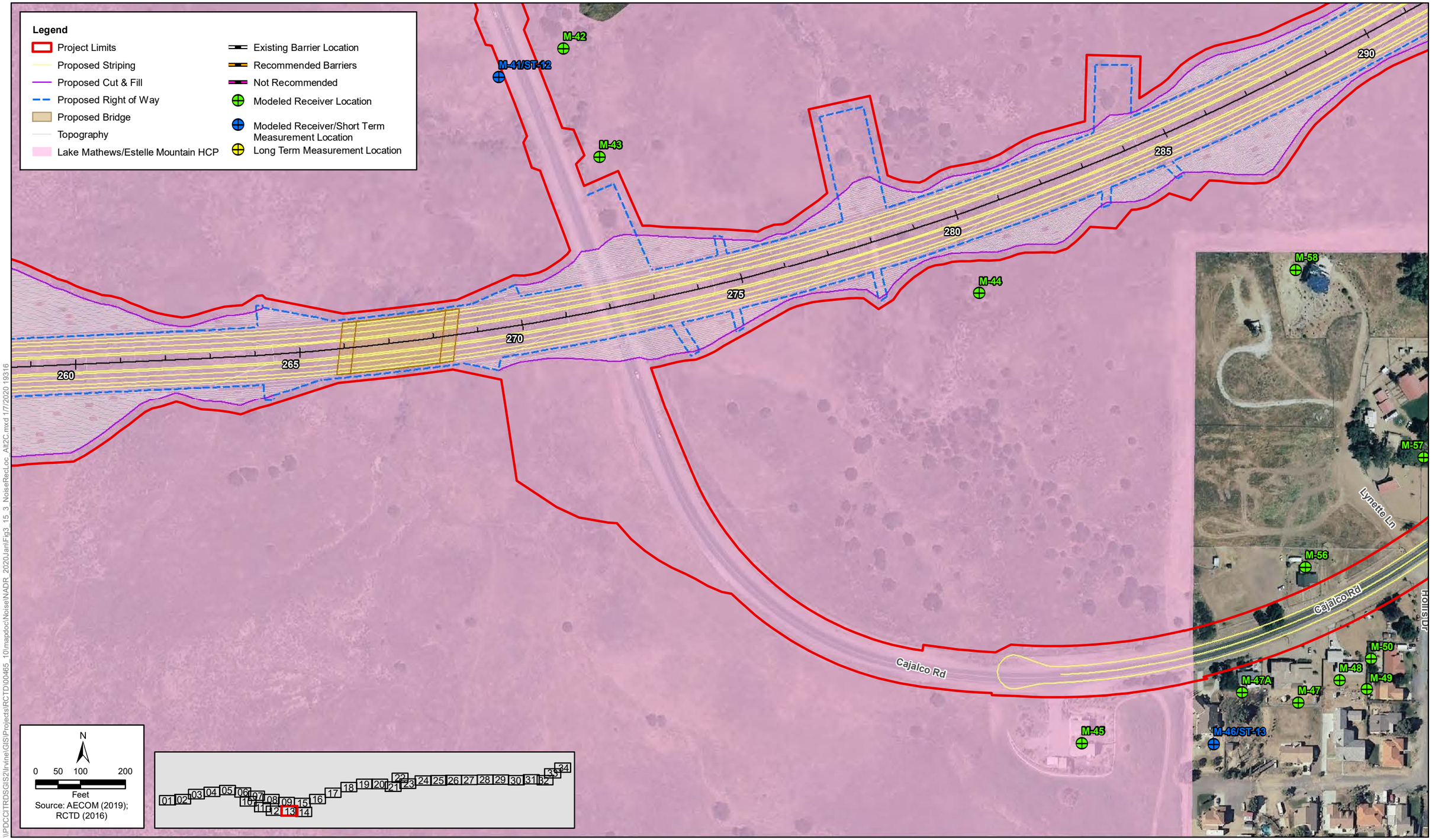

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Figure 3.15-3 - Sheet 13 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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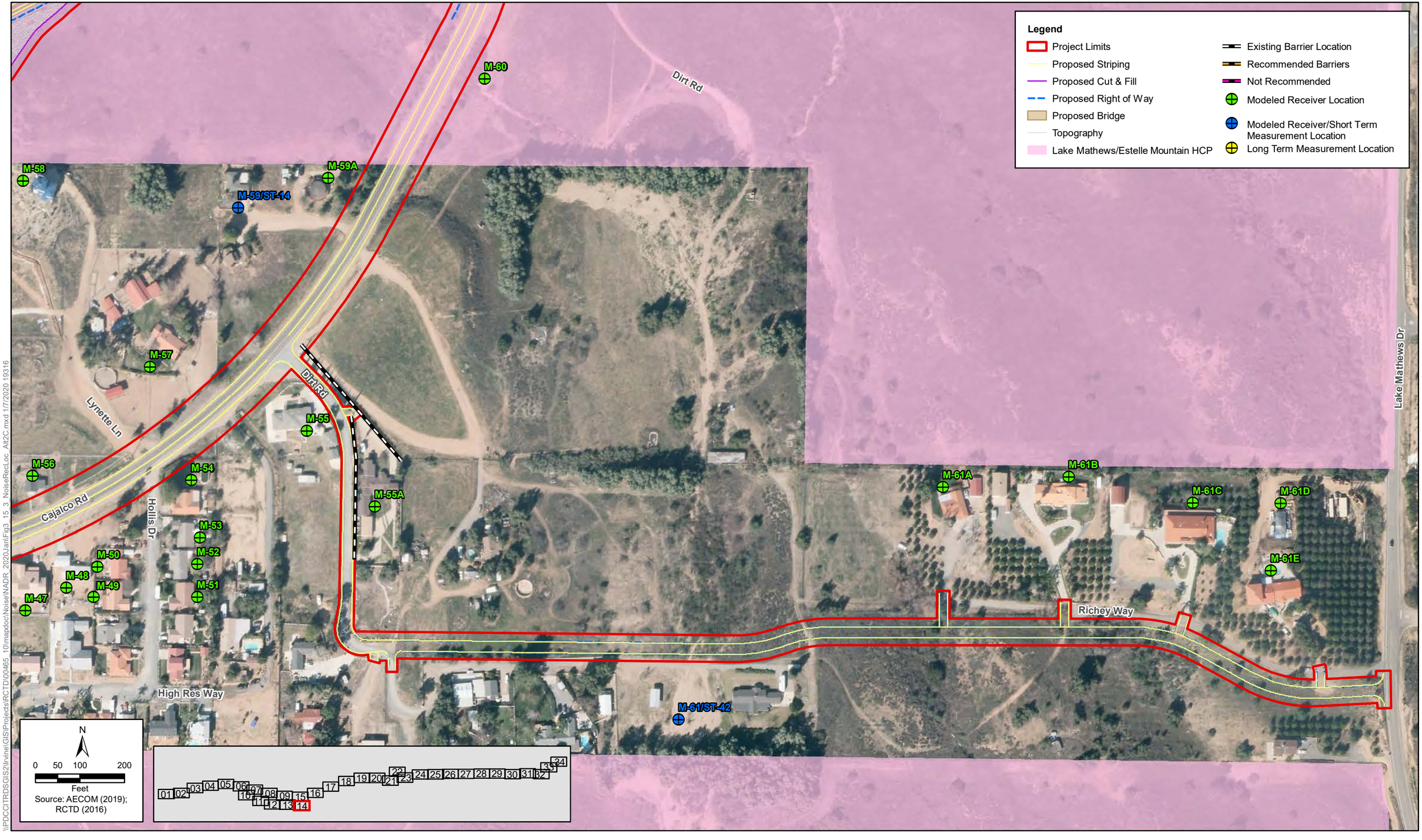

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Figure 3.15-3 - Sheet 14 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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Legend

- Project Limits
- Proposed Striping
- Proposed Cut & Fill
- Proposed Right of Way
- Proposed Bridge
- Topography
- Lake Mathews/Estelle Mountain HCP
- Existing Barrier Location
- Recommended Barriers
- Not Recommended
- Modeled Receiver Location
- Modeled Receiver/Short Term Measurement Location
- Long Term Measurement Location

M-62
M-63/ST-15
M-64
M-65
315
310
305
300
295
290
Cajalco Rd
Dirt Rd

01 02 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34

N
0 50 100 200
Feet
Source: AECOM (2019); RCTD (2016)

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Figure 3.15-3 - Sheet 15 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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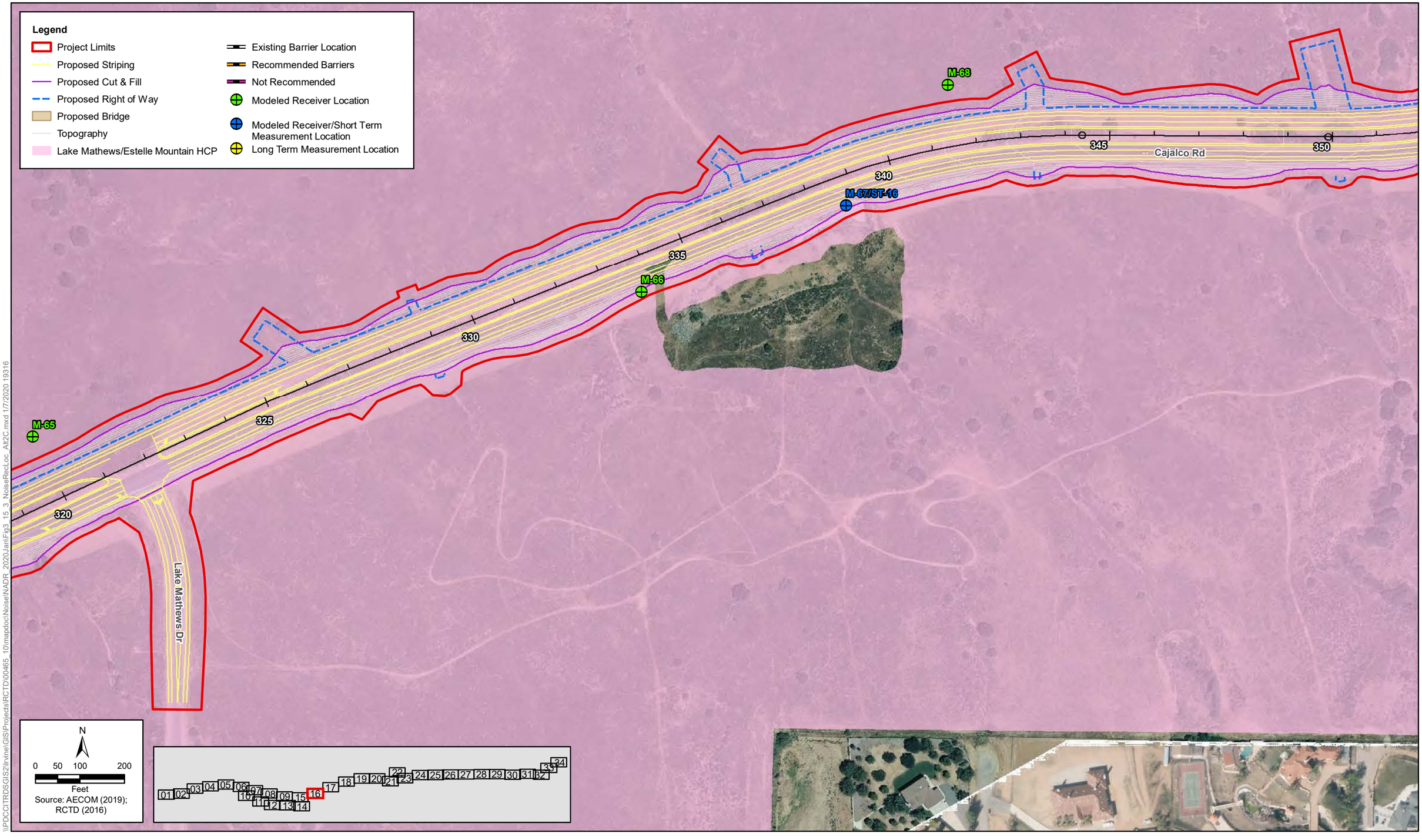

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Figure 3.15-3 - Sheet 16 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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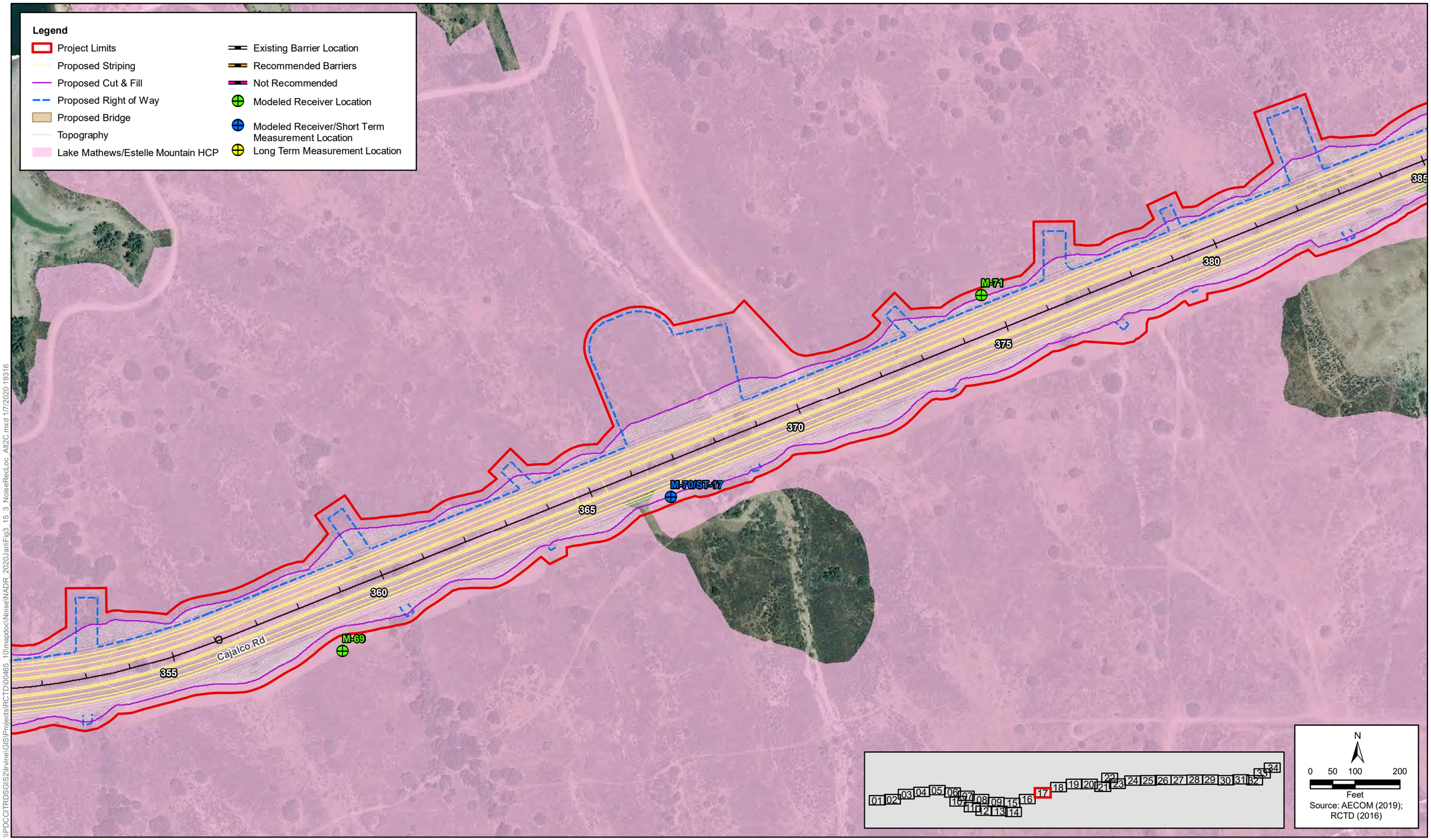

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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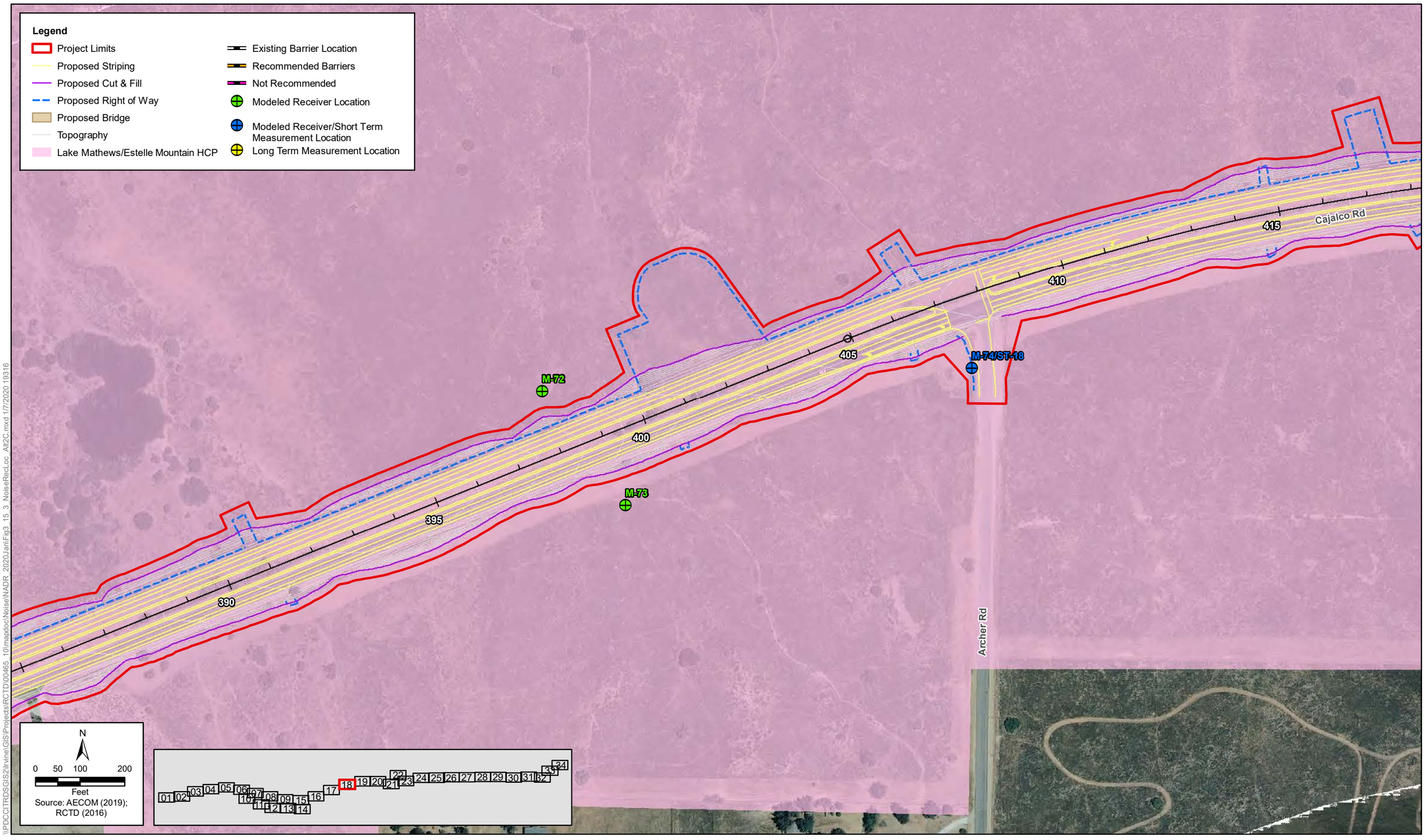

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Figure 3.15-3 - Sheet 18 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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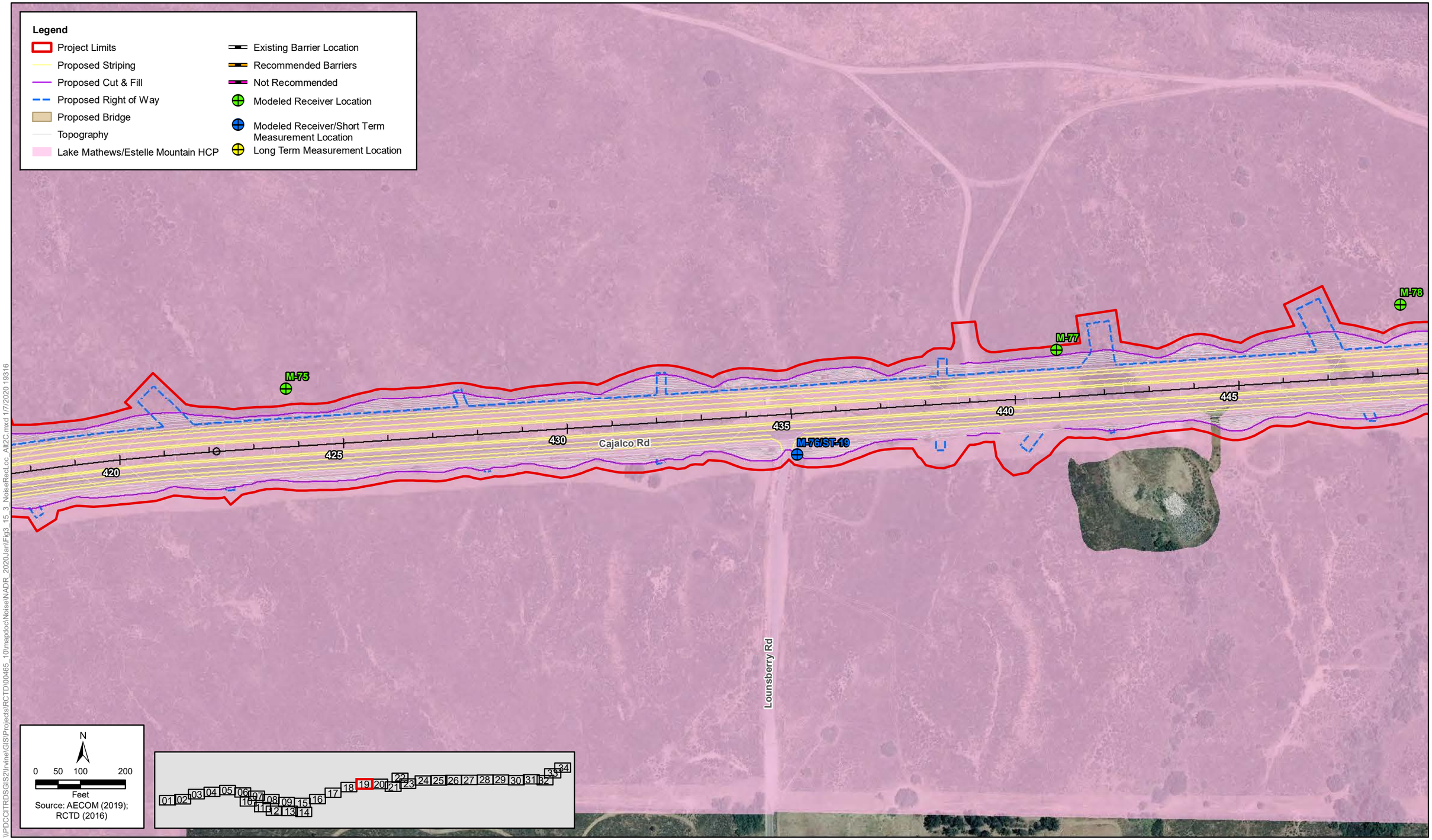

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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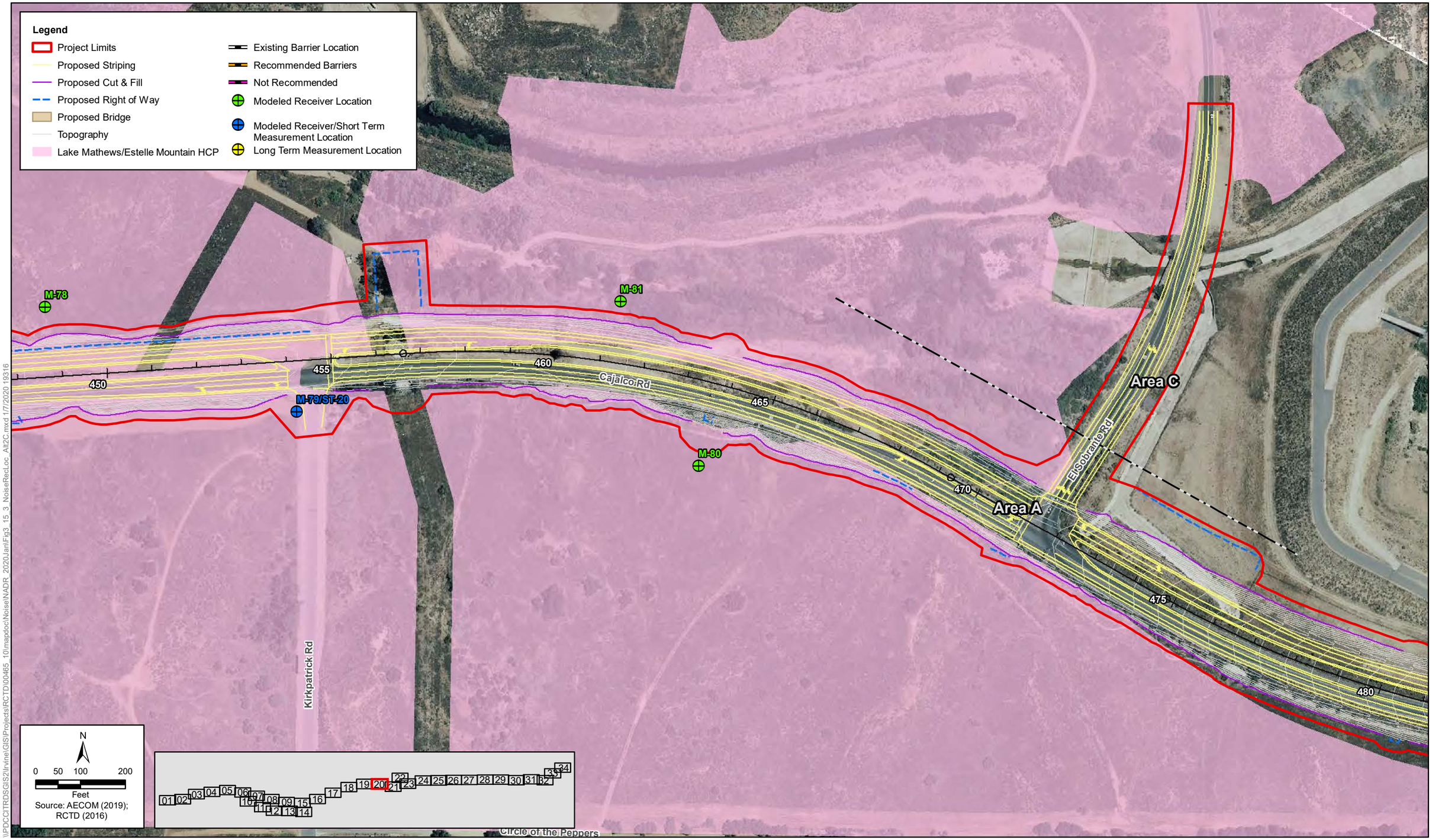

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Cajalco Road Widening and Safety Enhancement Project

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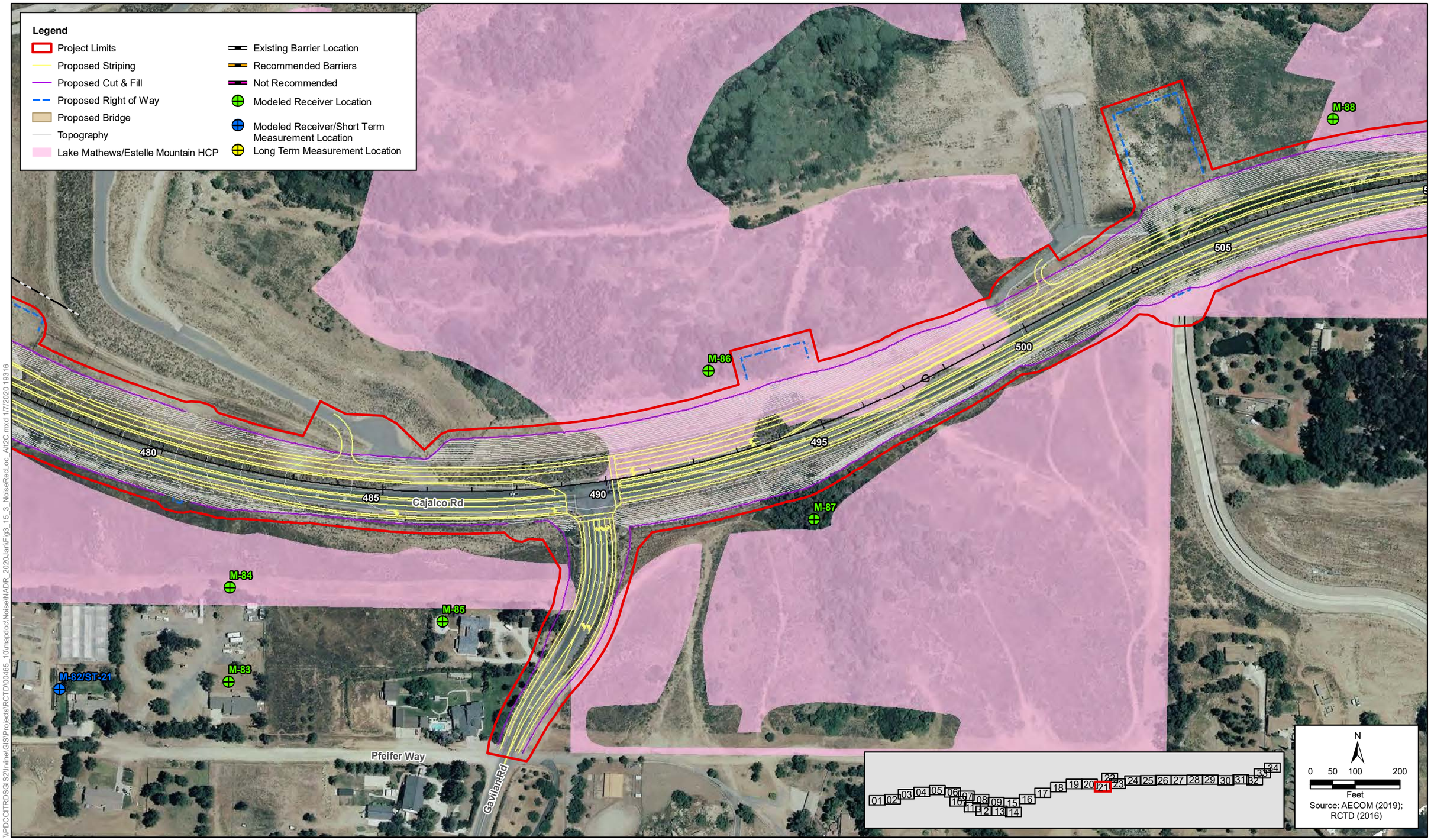

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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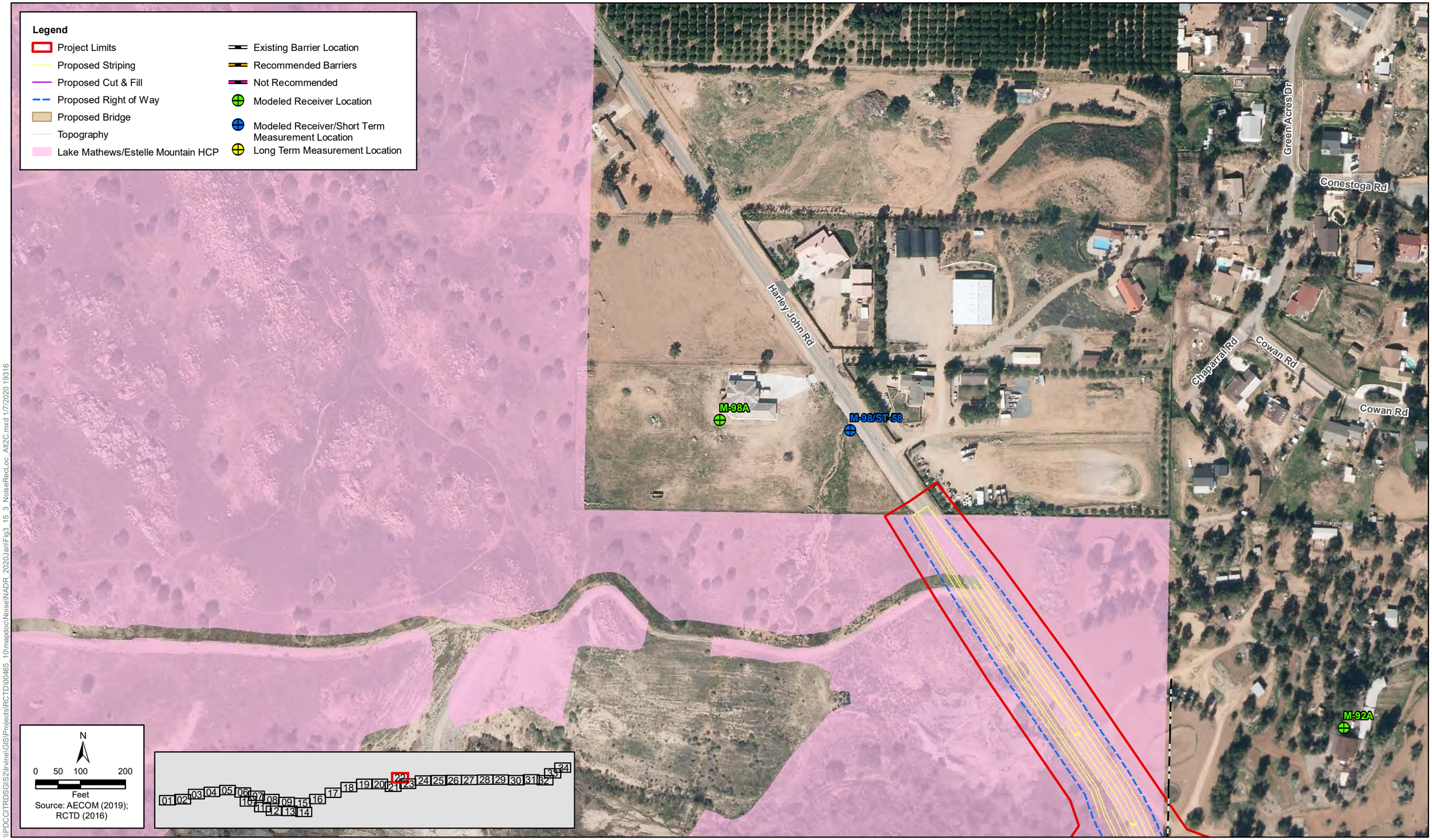

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Figure 3.15-3 - Sheet 22 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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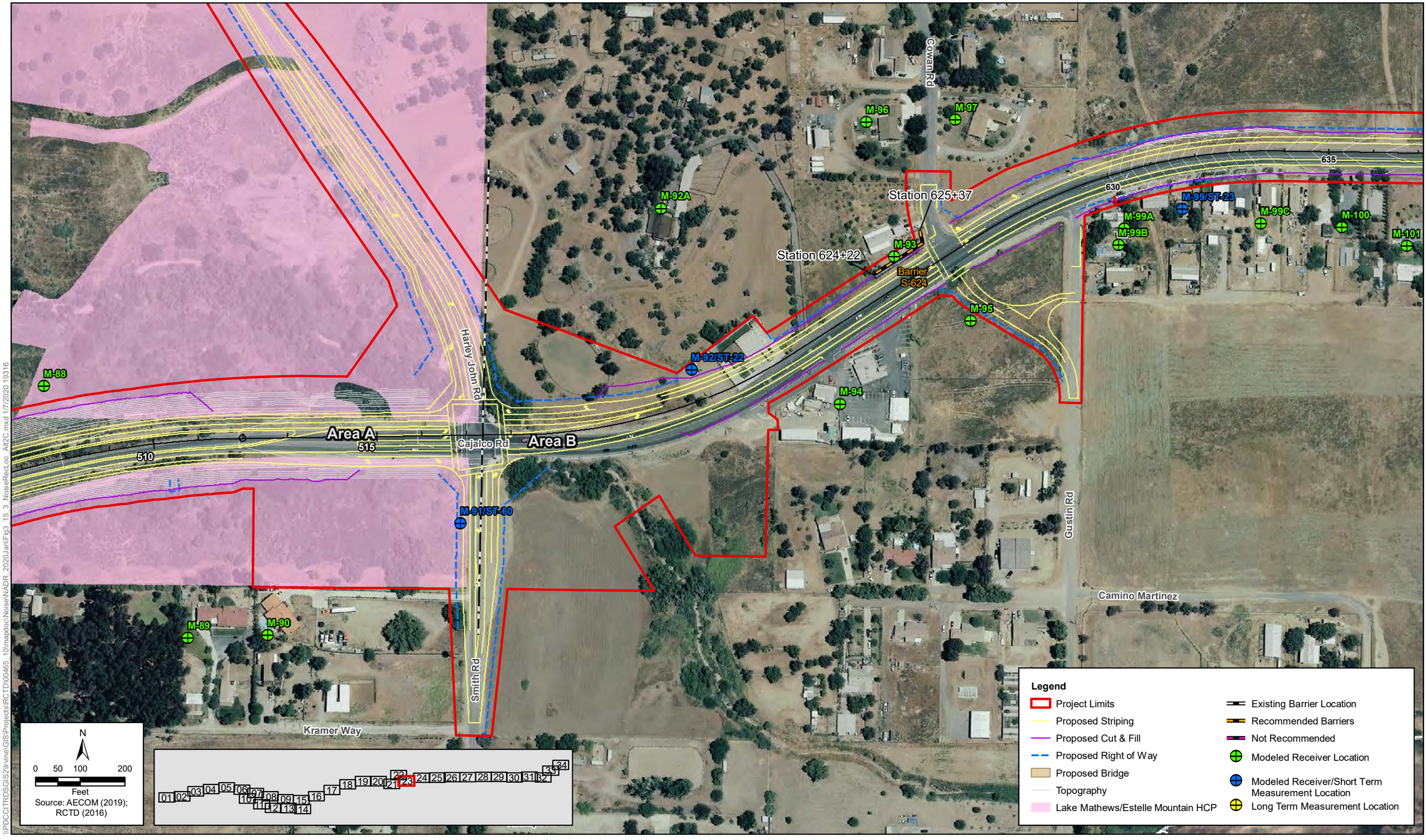

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Figure 3.15-3 - Sheet 23 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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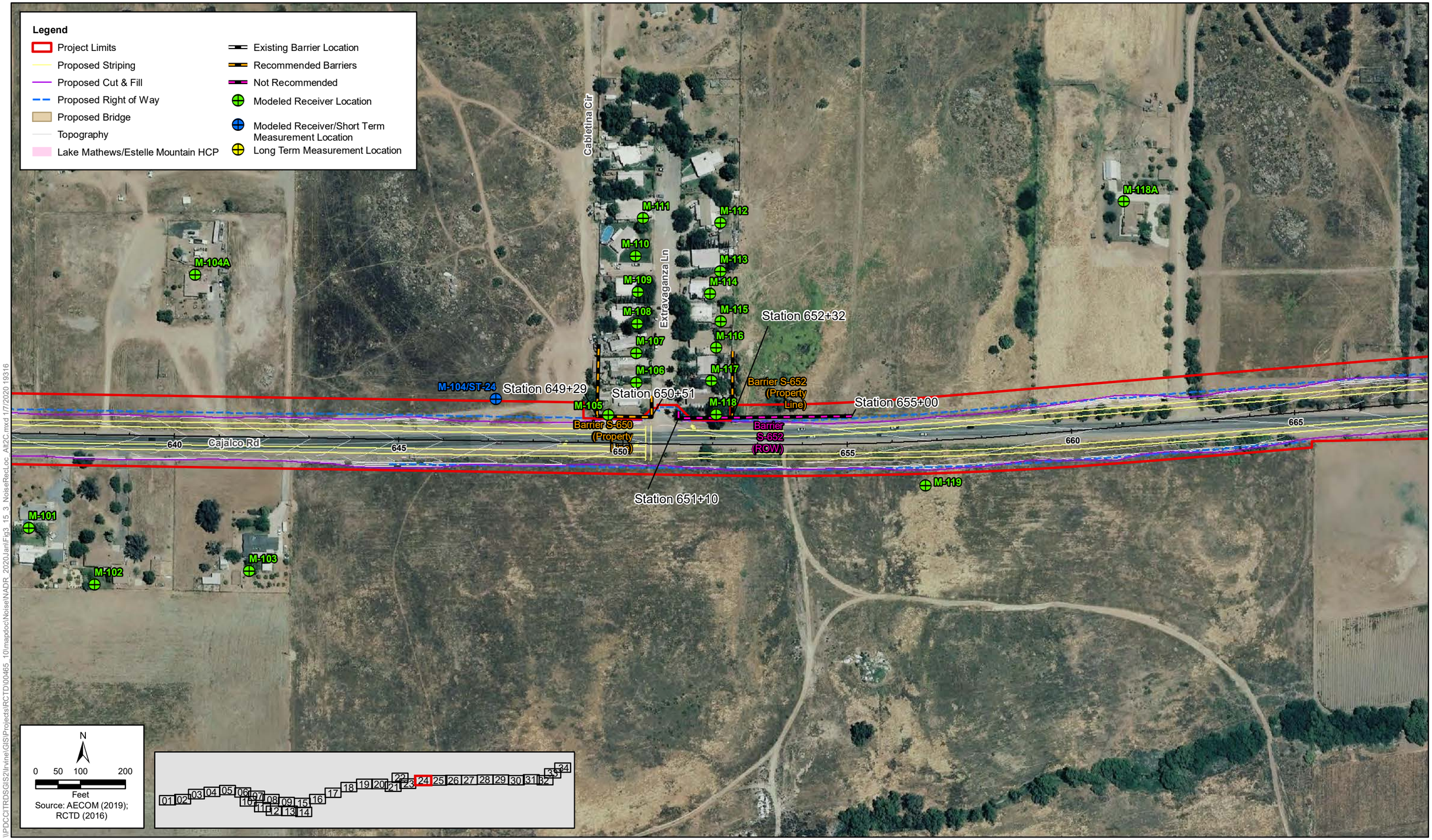

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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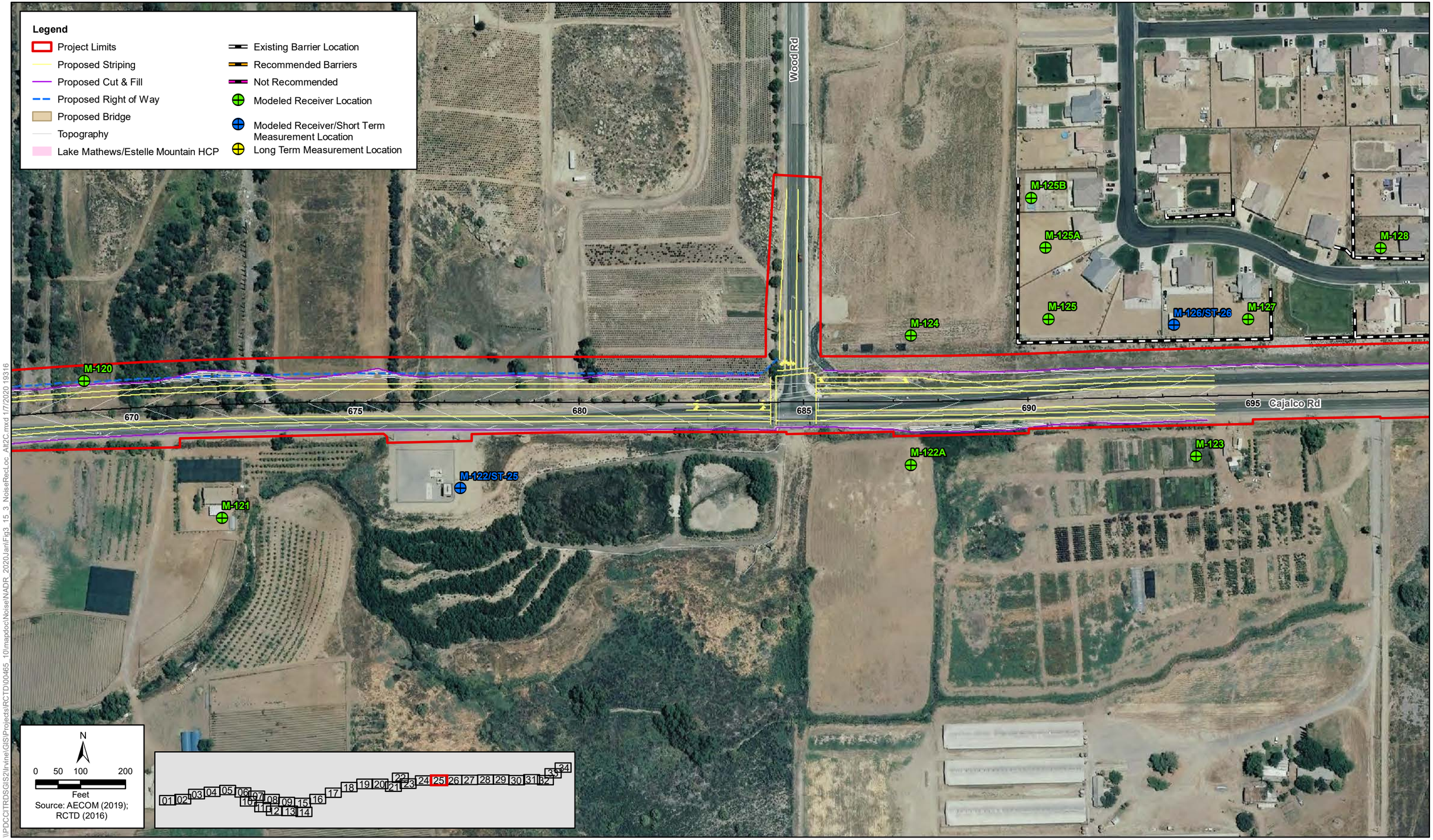

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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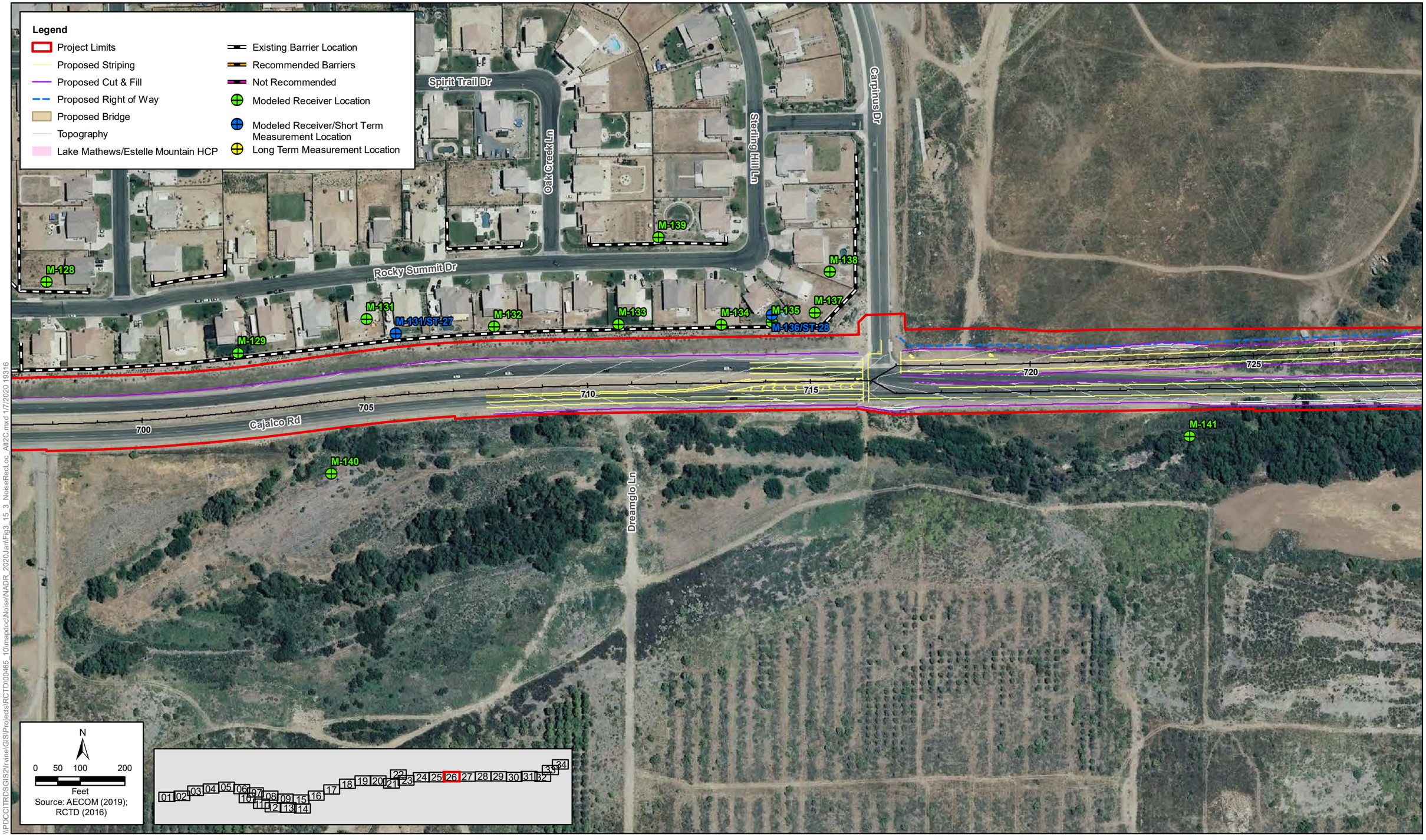

Figure 3.15-3 - Sheet 26 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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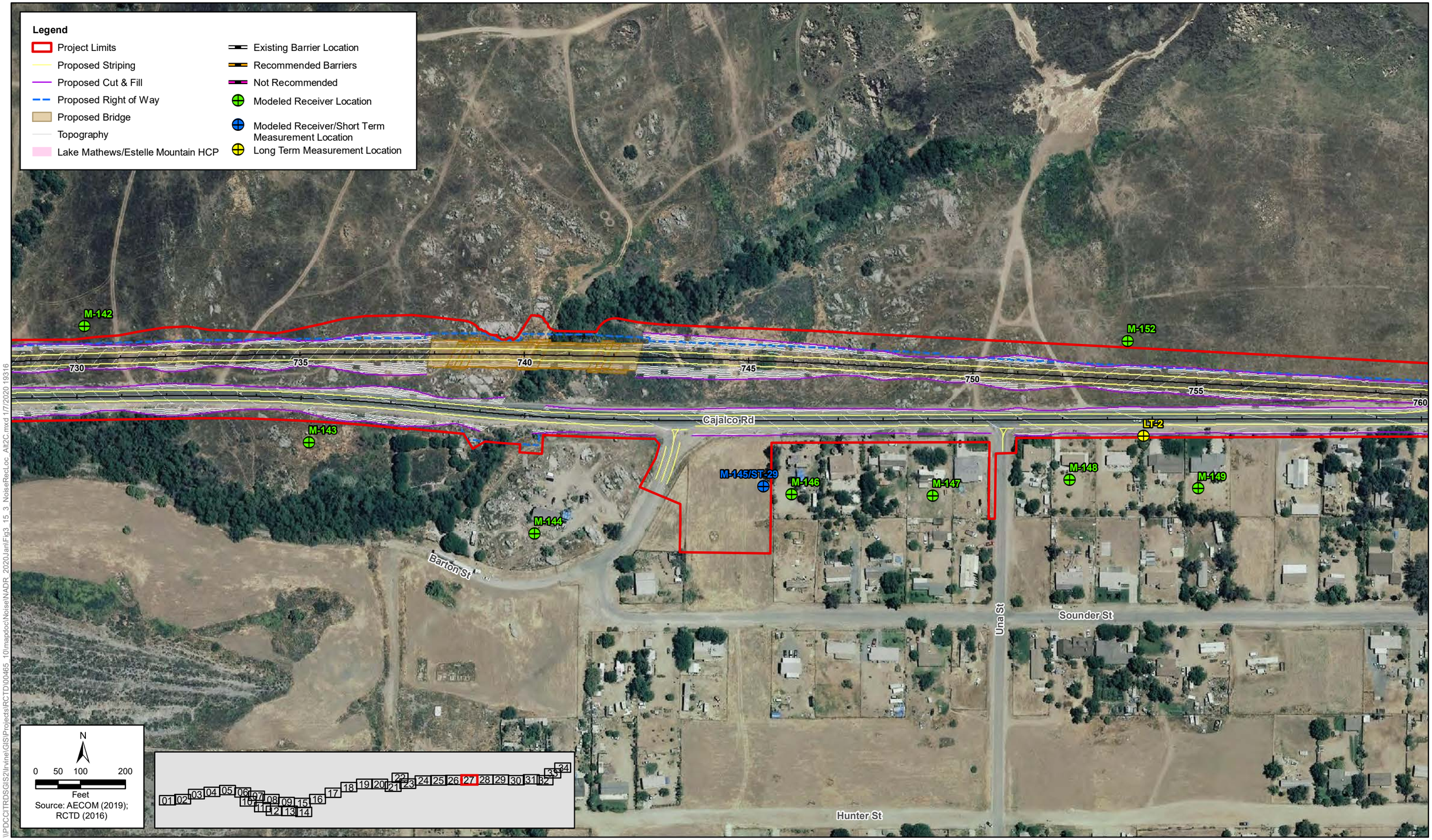

Figure 3.15-3 - Sheet 27 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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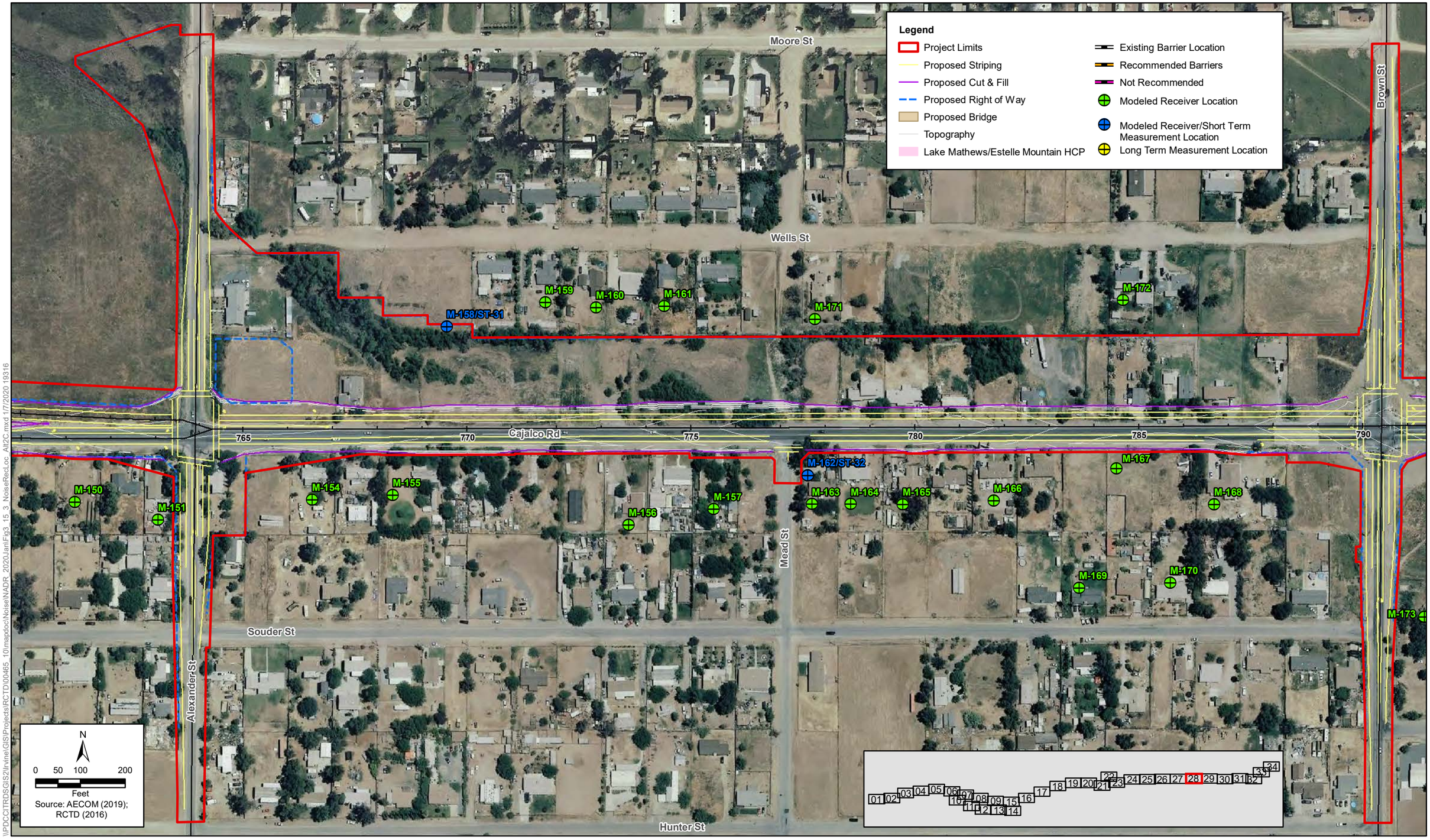

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Figure 3.15-3 - Sheet 28 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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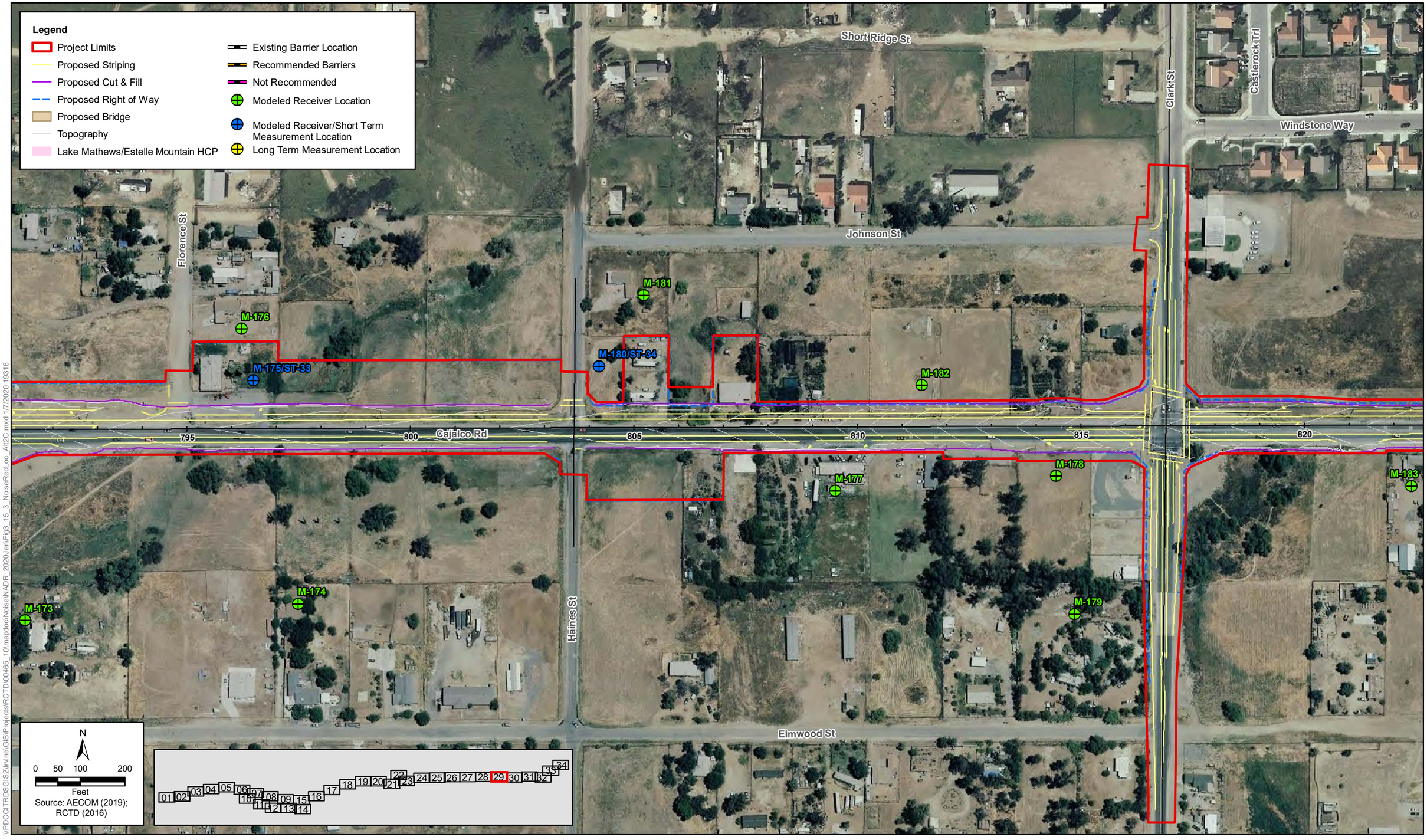

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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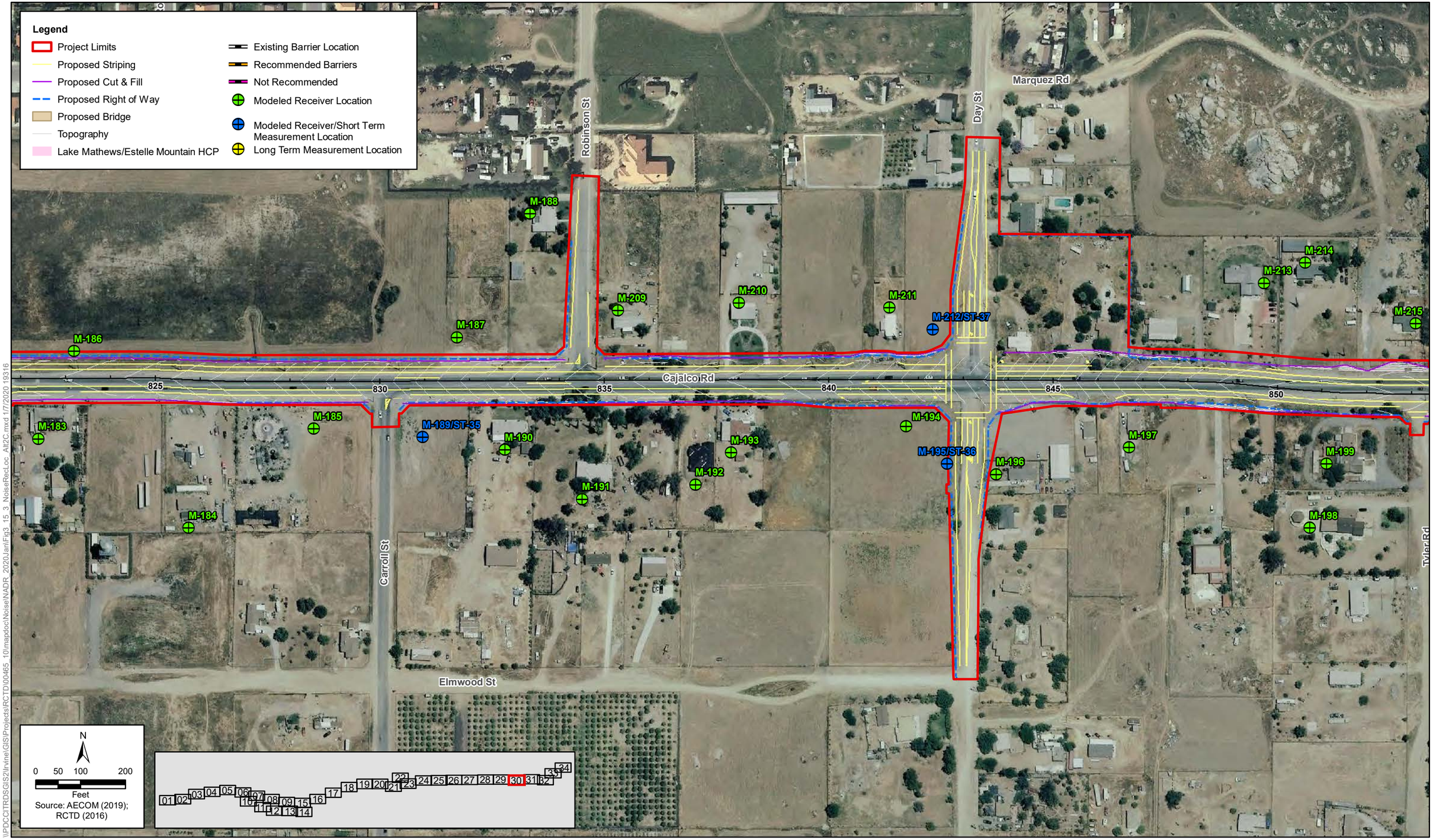

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Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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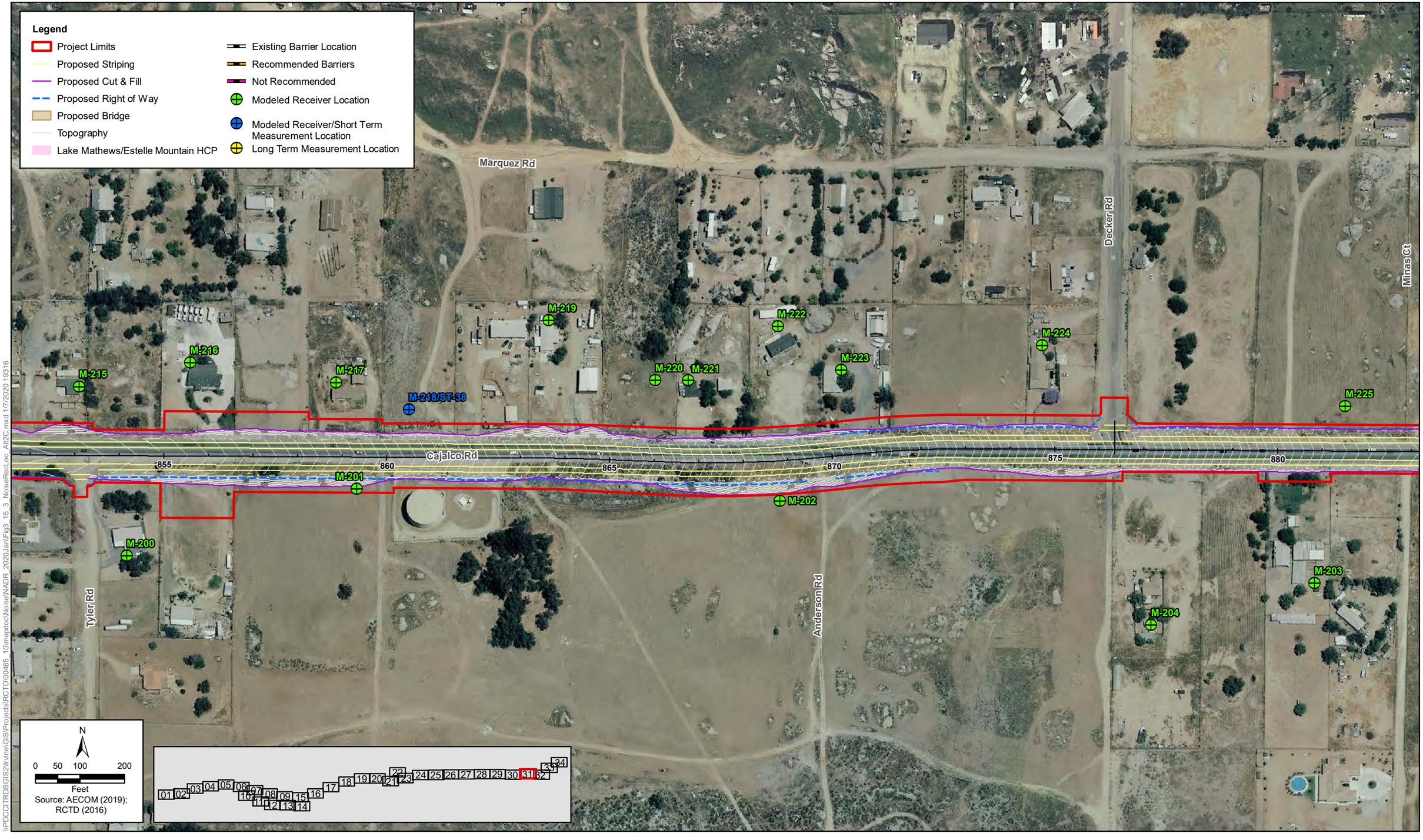

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Figure 3.15-3 - Sheet 31 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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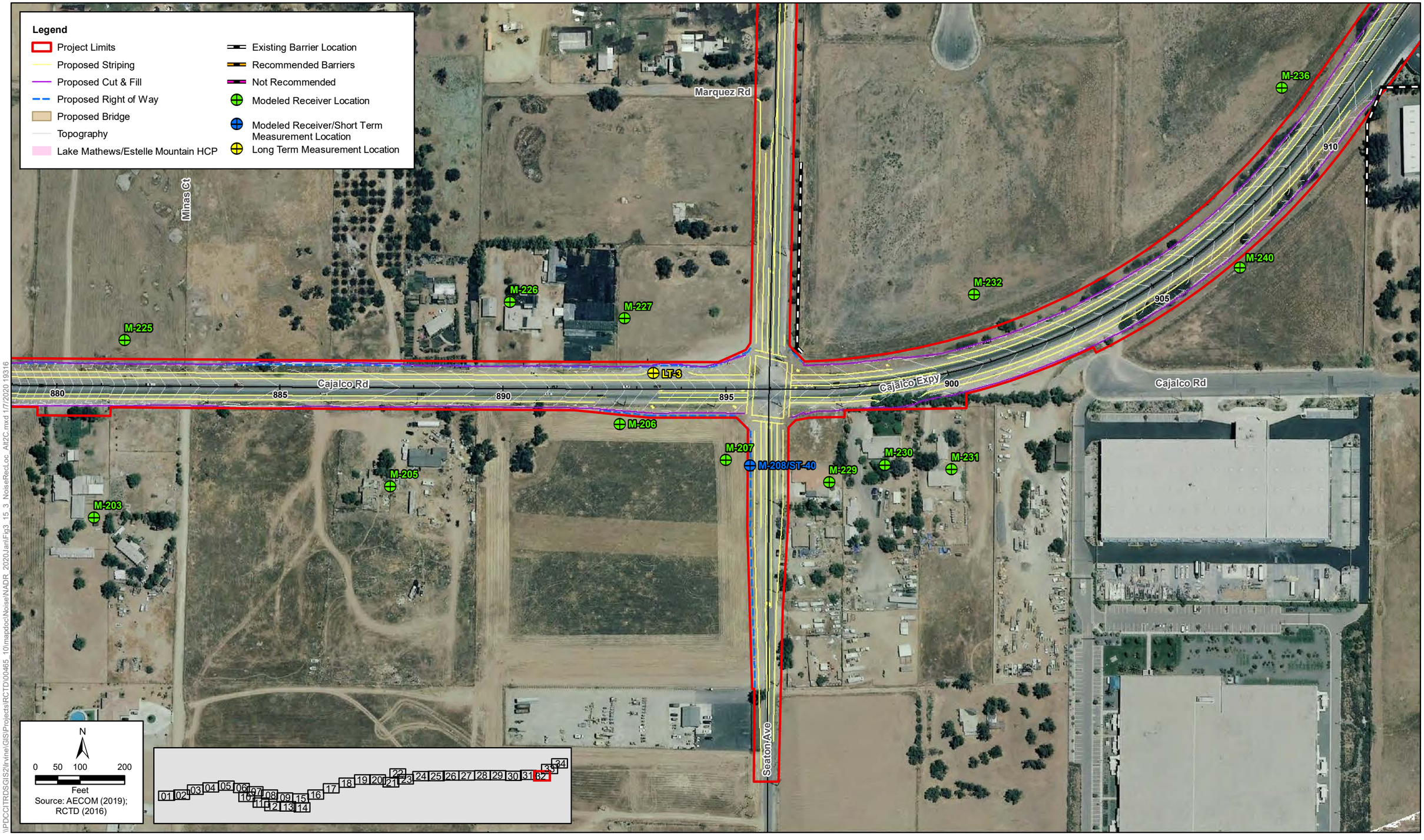

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Figure 3.15-3 - Sheet 32 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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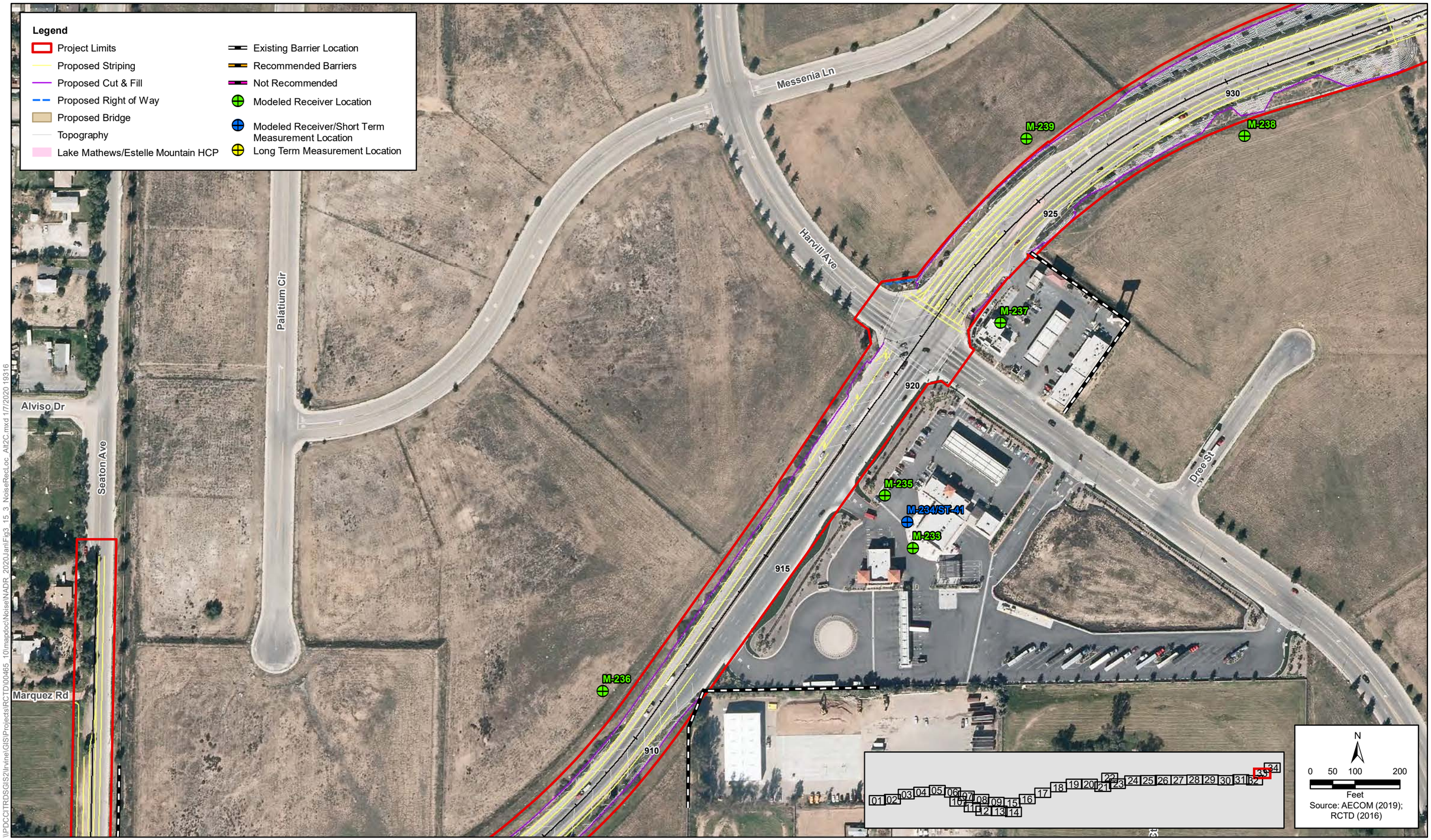

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Figure 3.15-3 - Sheet 33 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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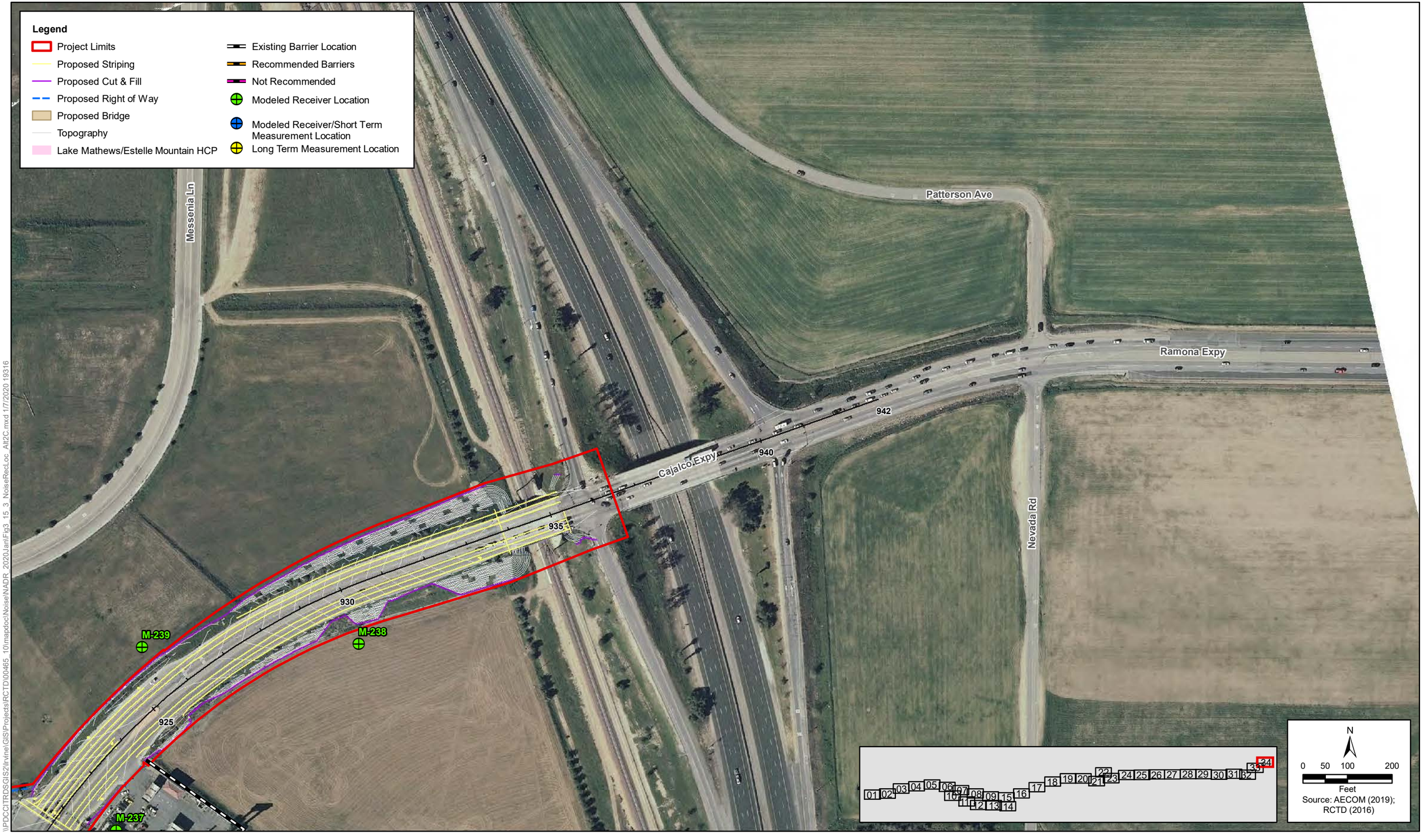

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Figure 3.15-3 - Sheet 34 of 34
Build Alternative 2C
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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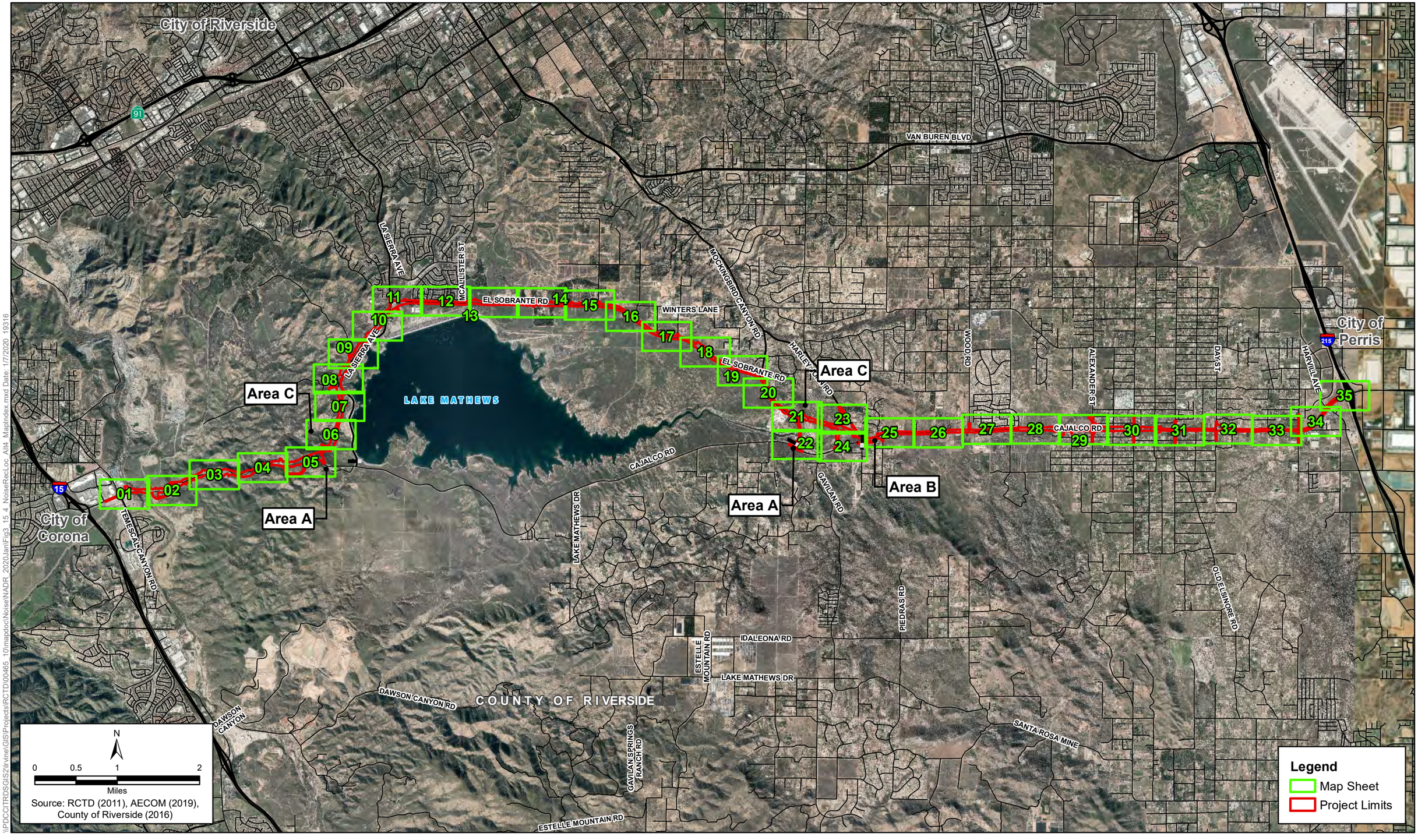

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Figure 3.15-4 - Map Index
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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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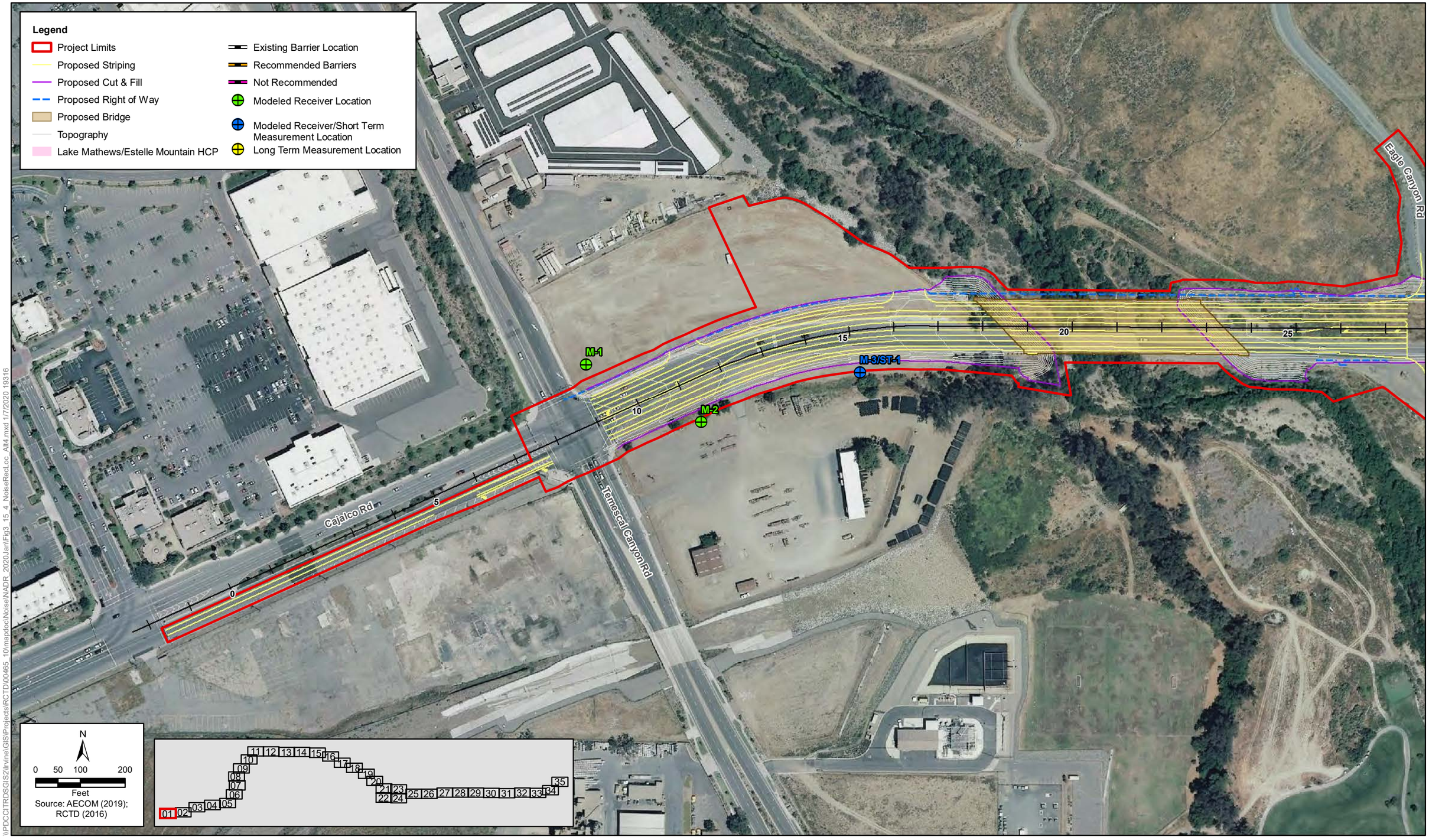

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Figure 3.15-4- Sheet 1 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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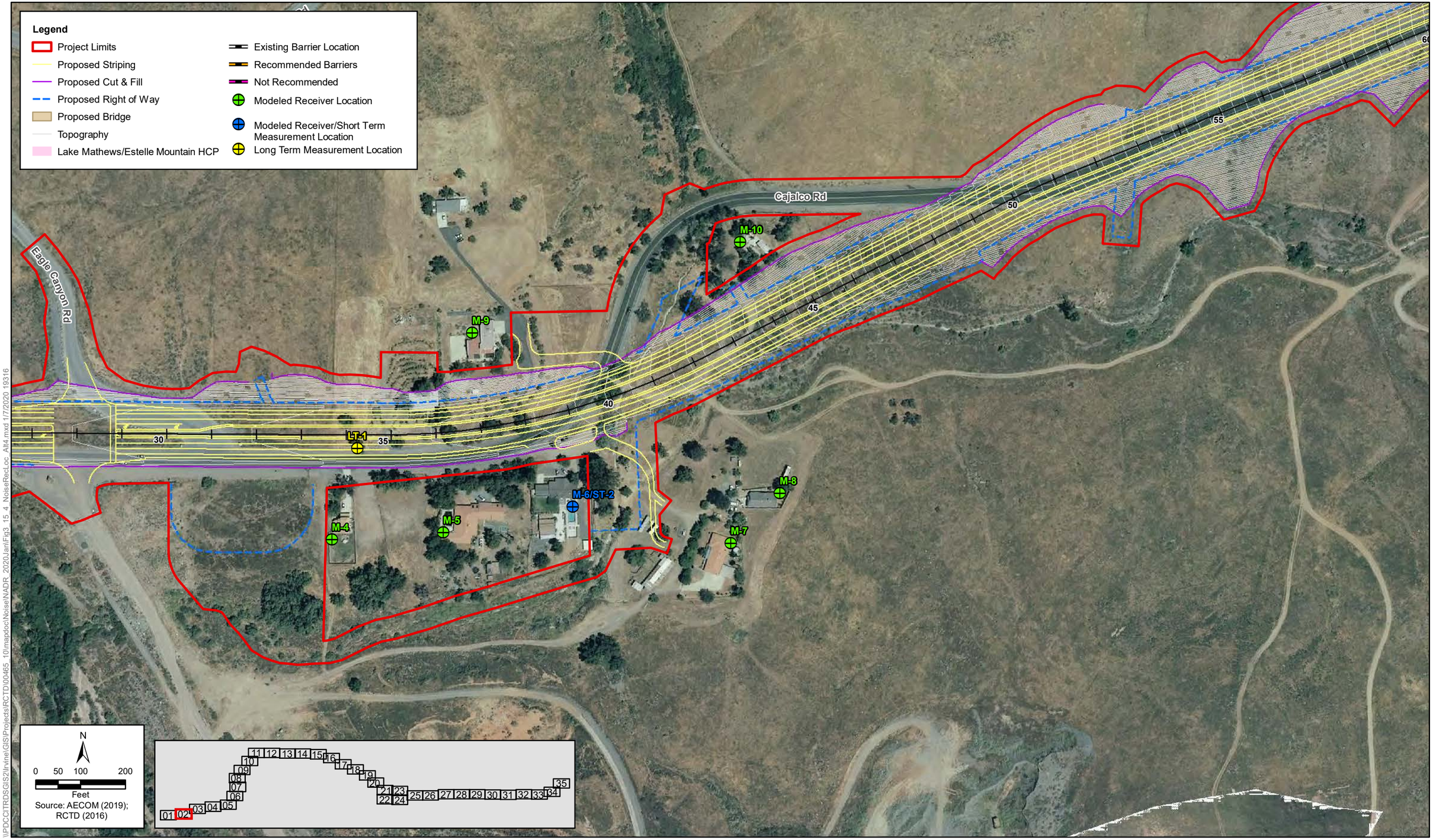

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Figure 3.15-4- Sheet 2 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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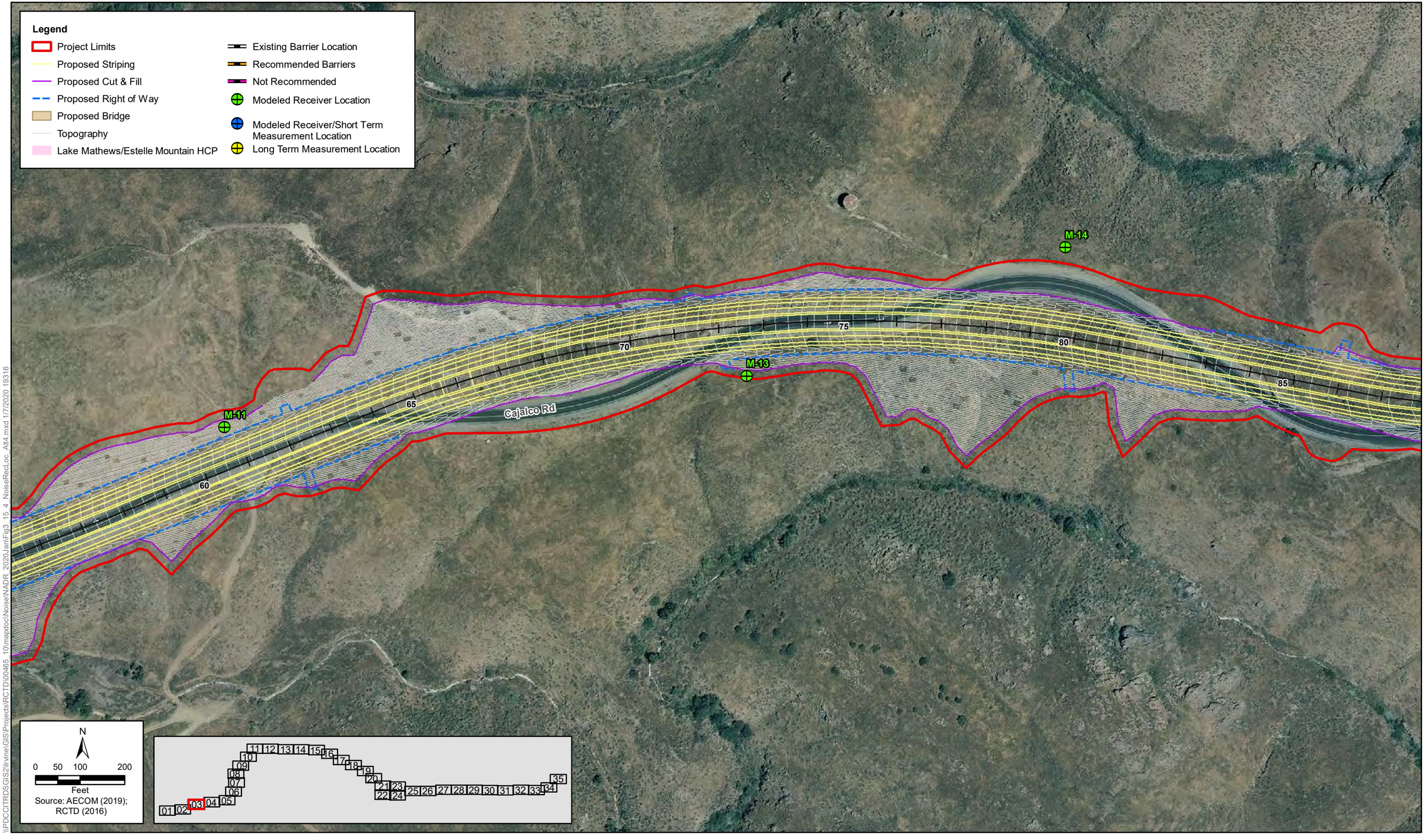

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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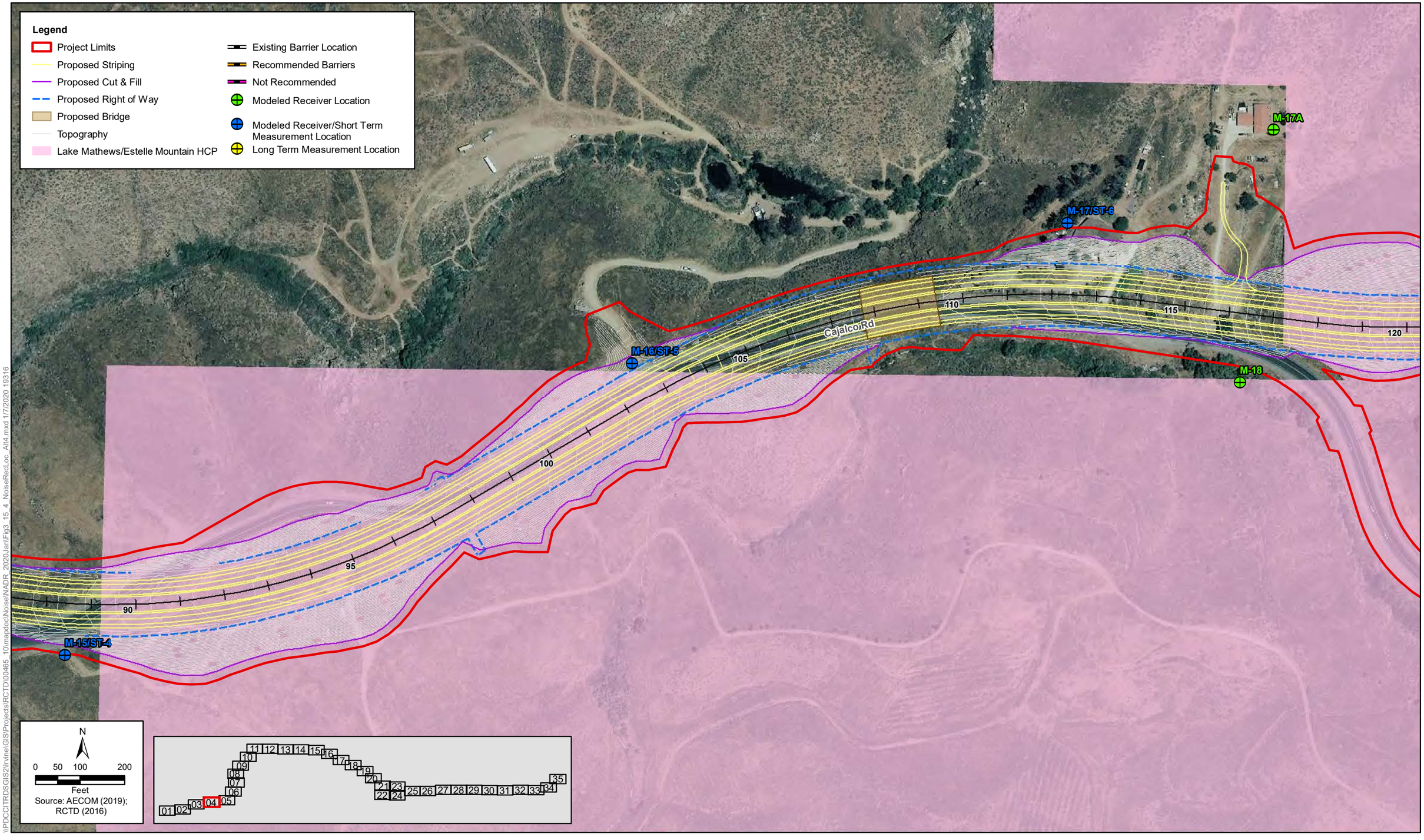

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Figure 3.15-4- Sheet 4 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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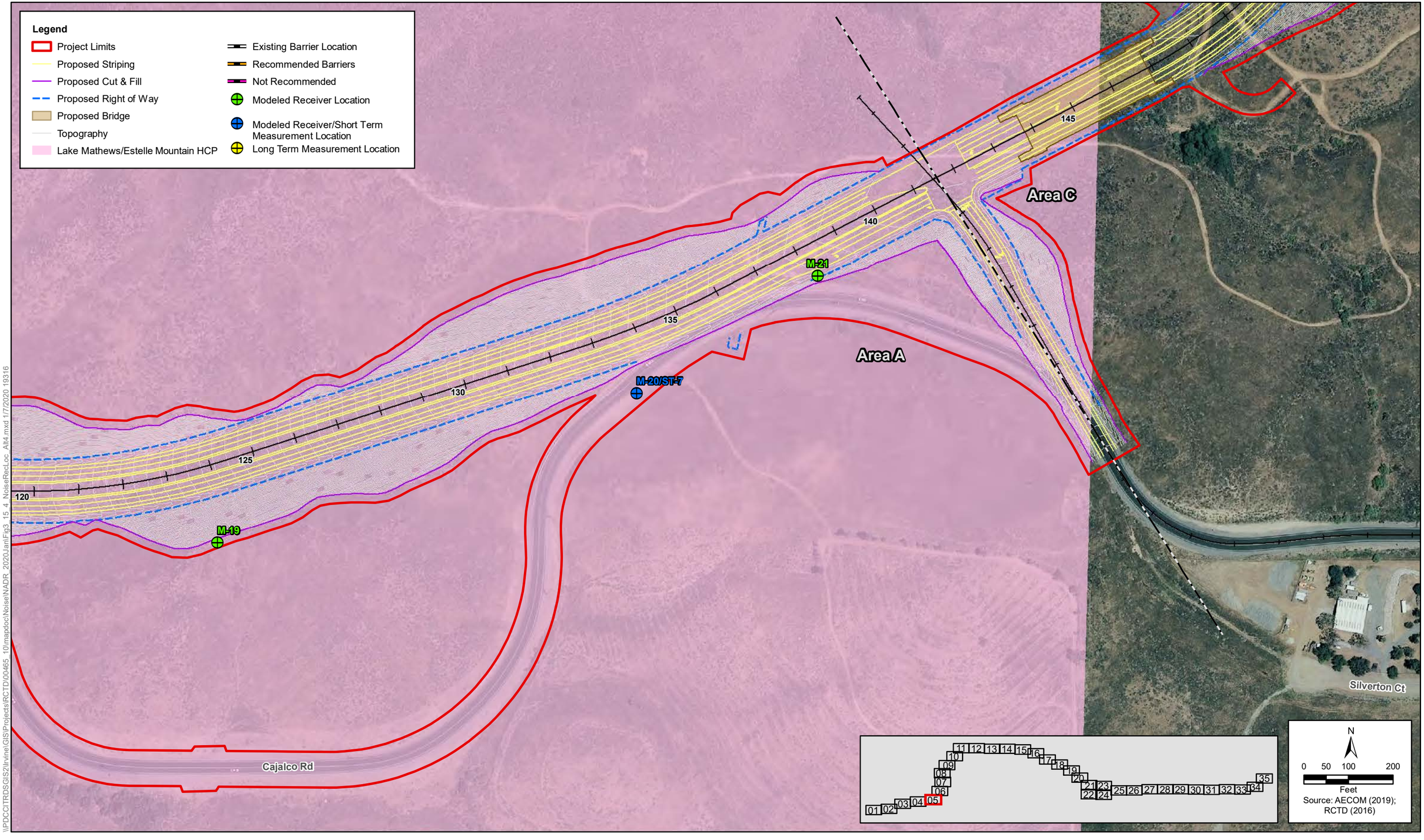

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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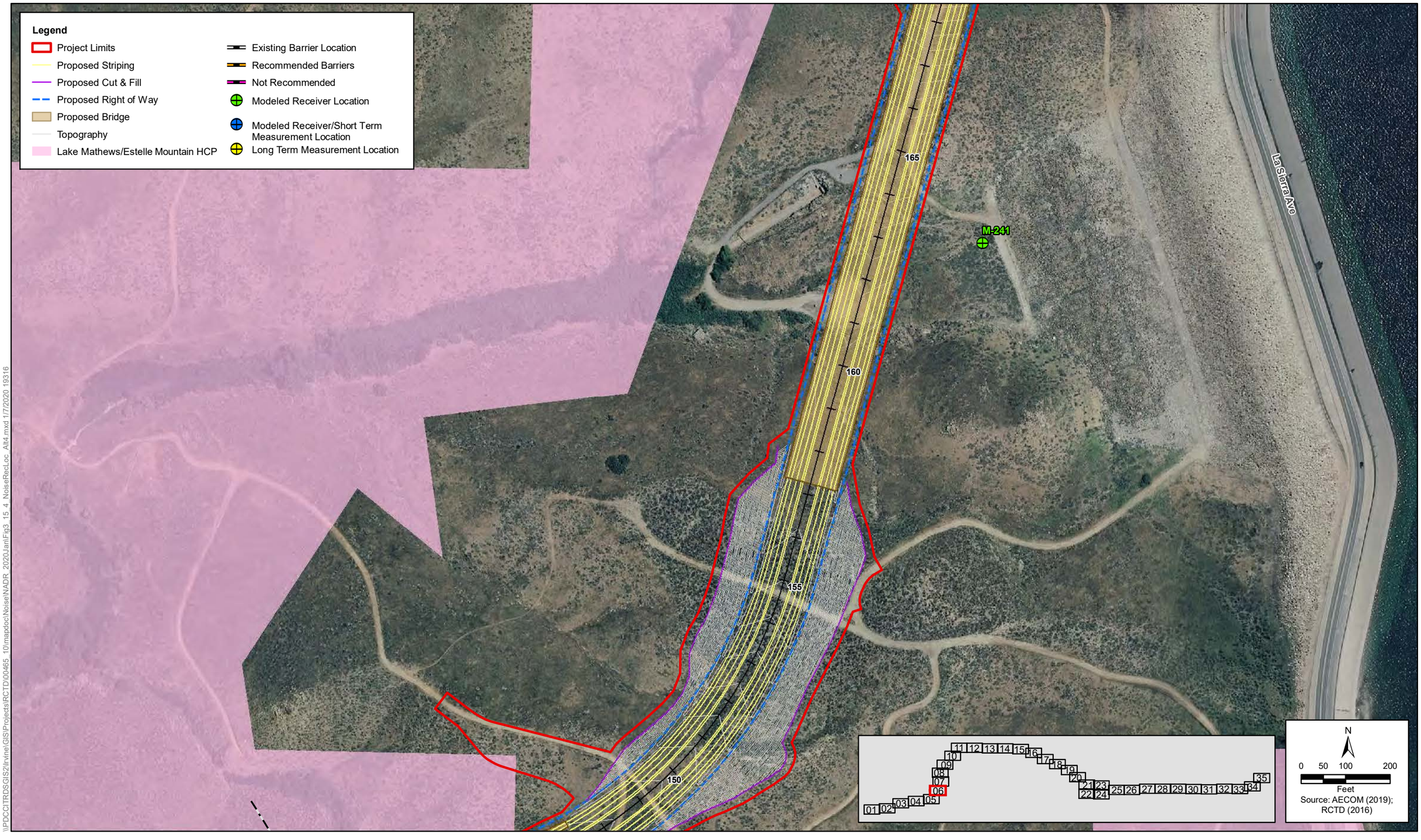

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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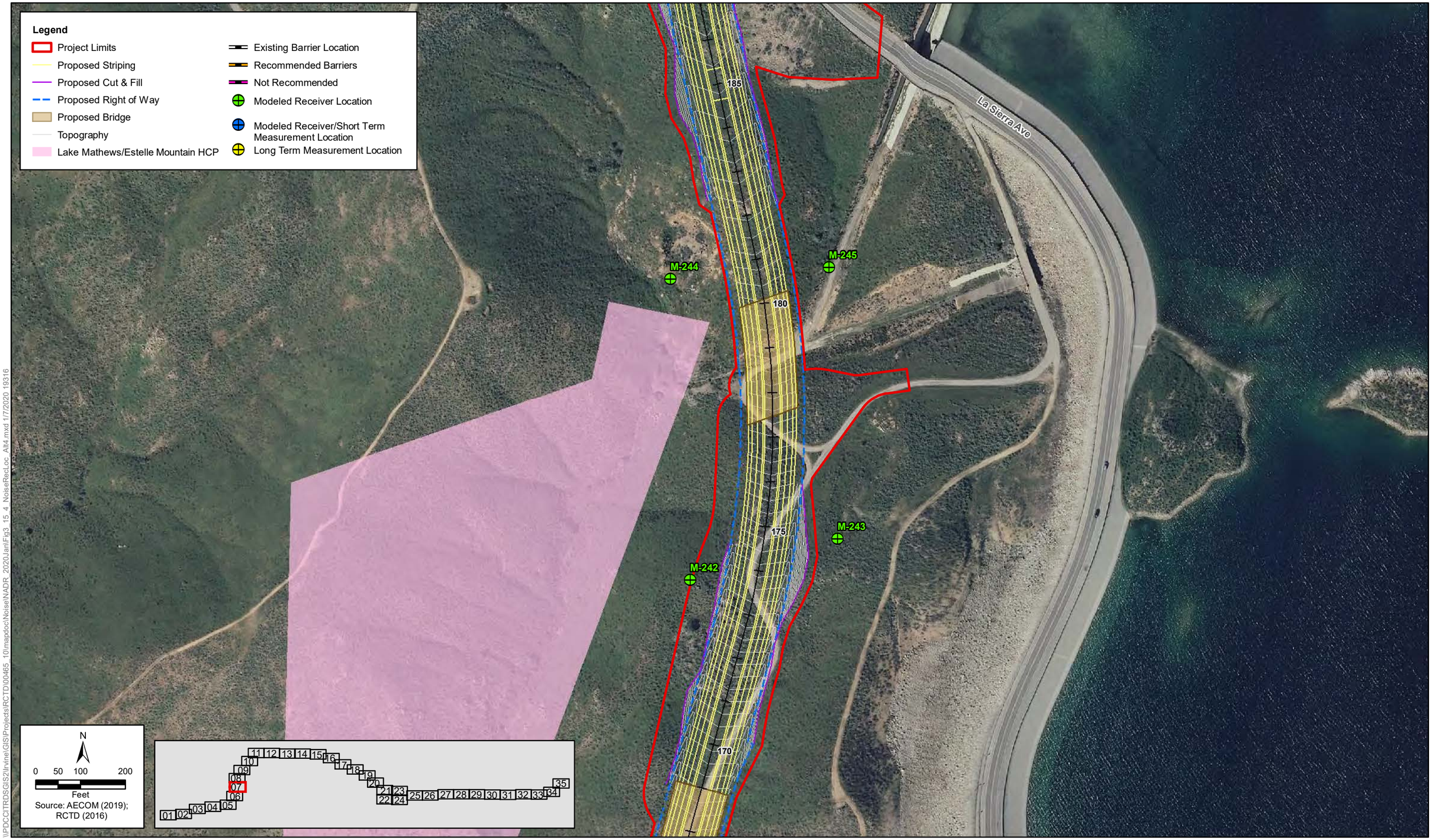

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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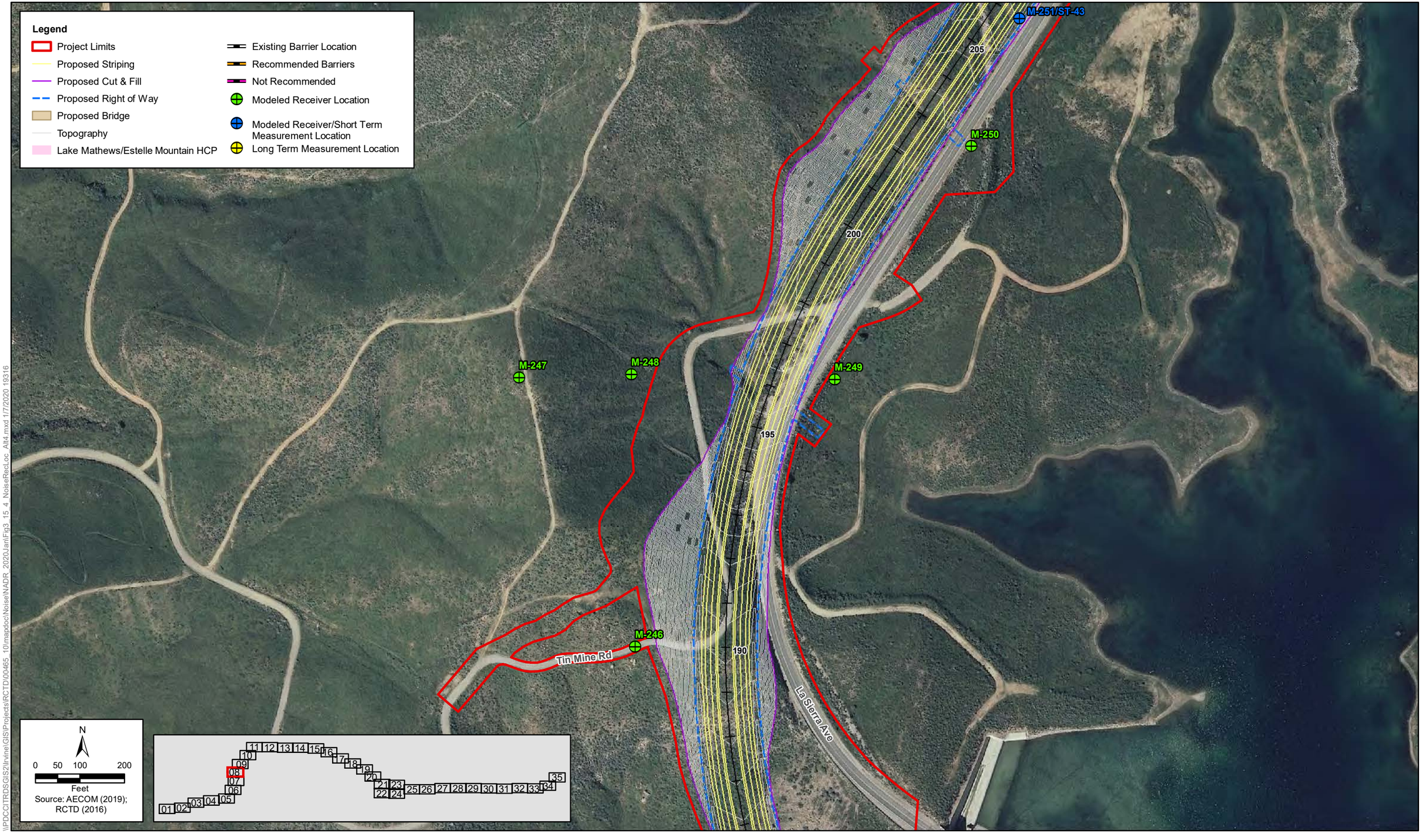

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Figure 3.15-4- Sheet 8 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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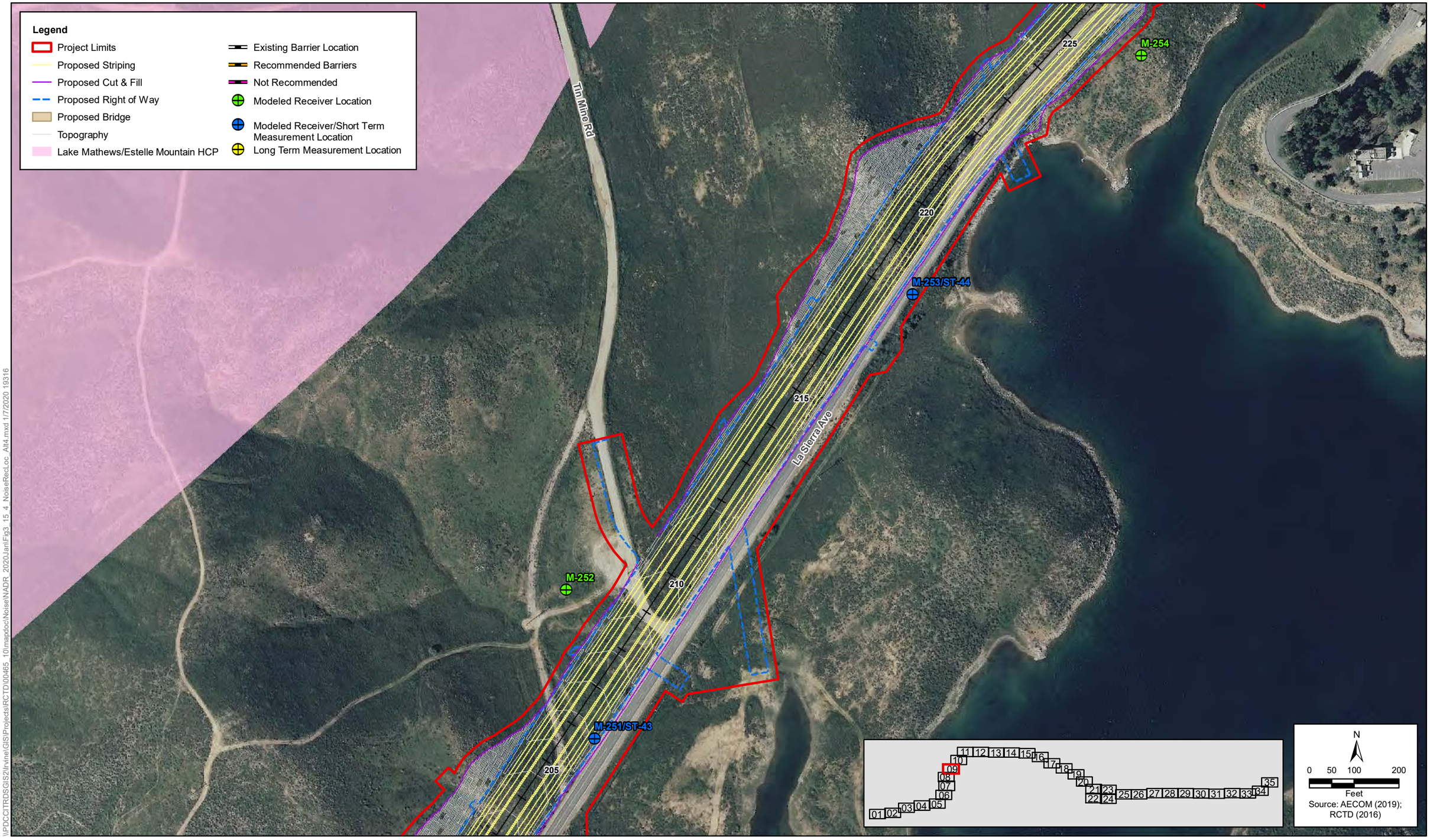

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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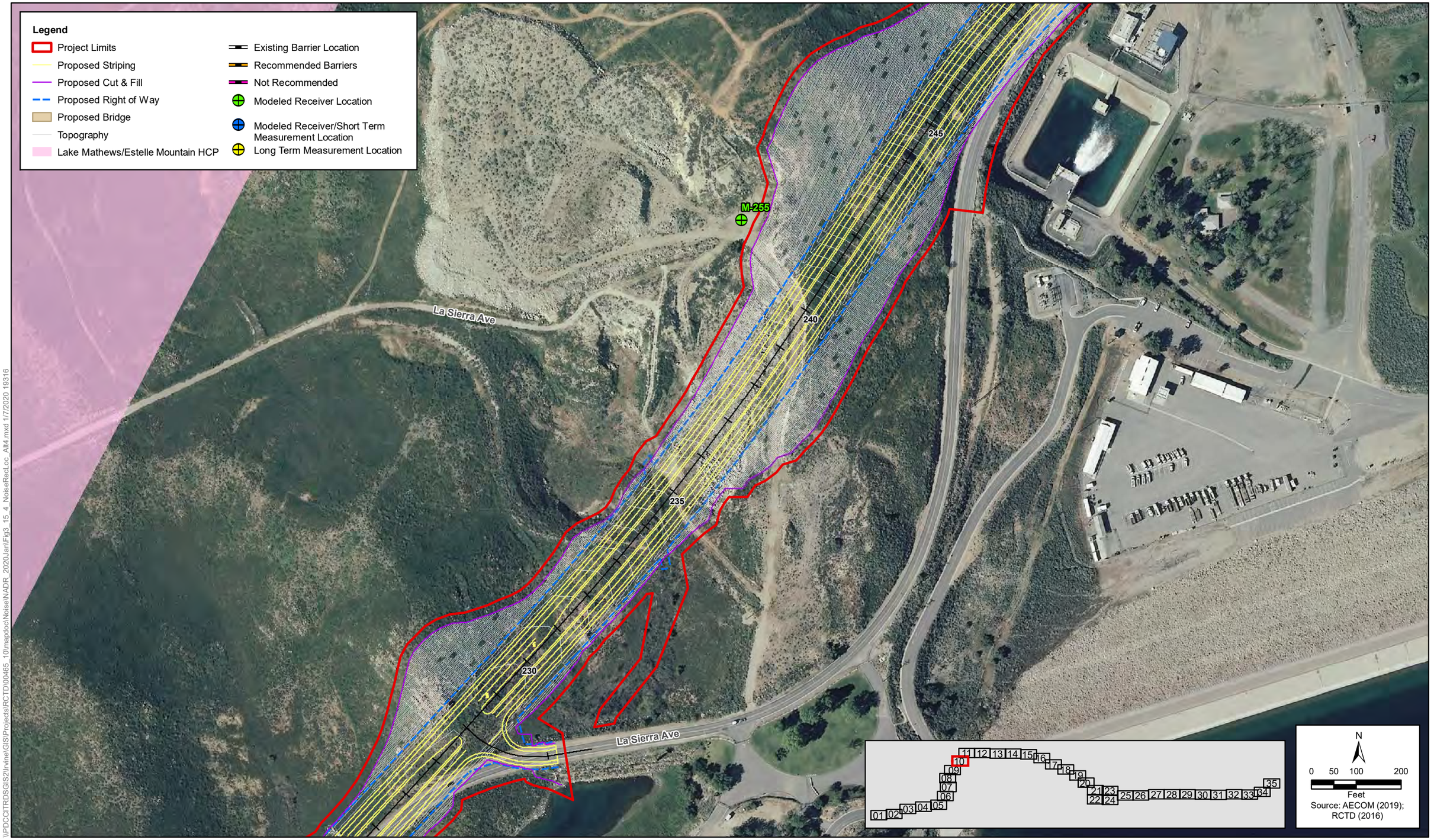

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Figure 3.15-4- Sheet 10 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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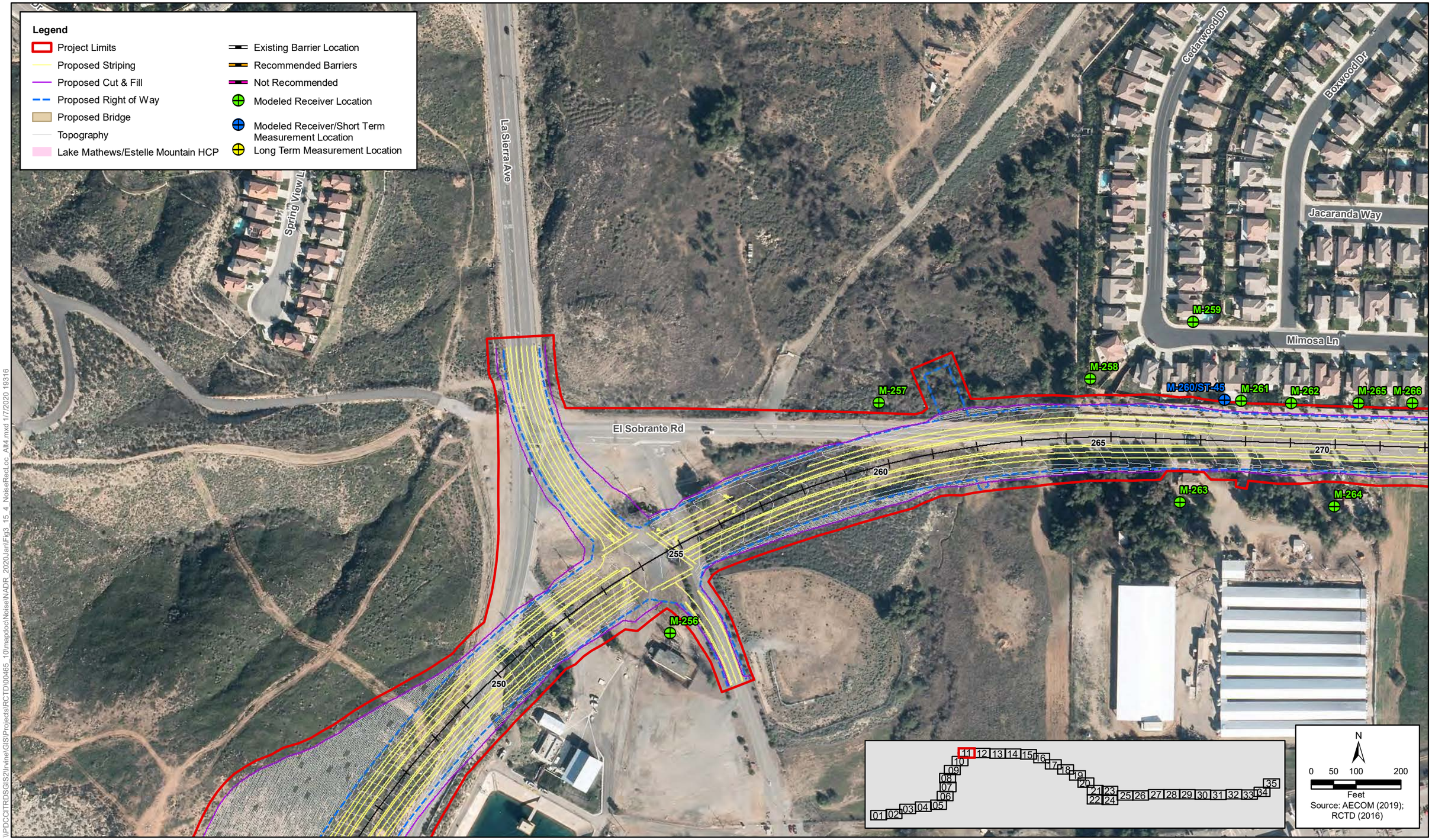

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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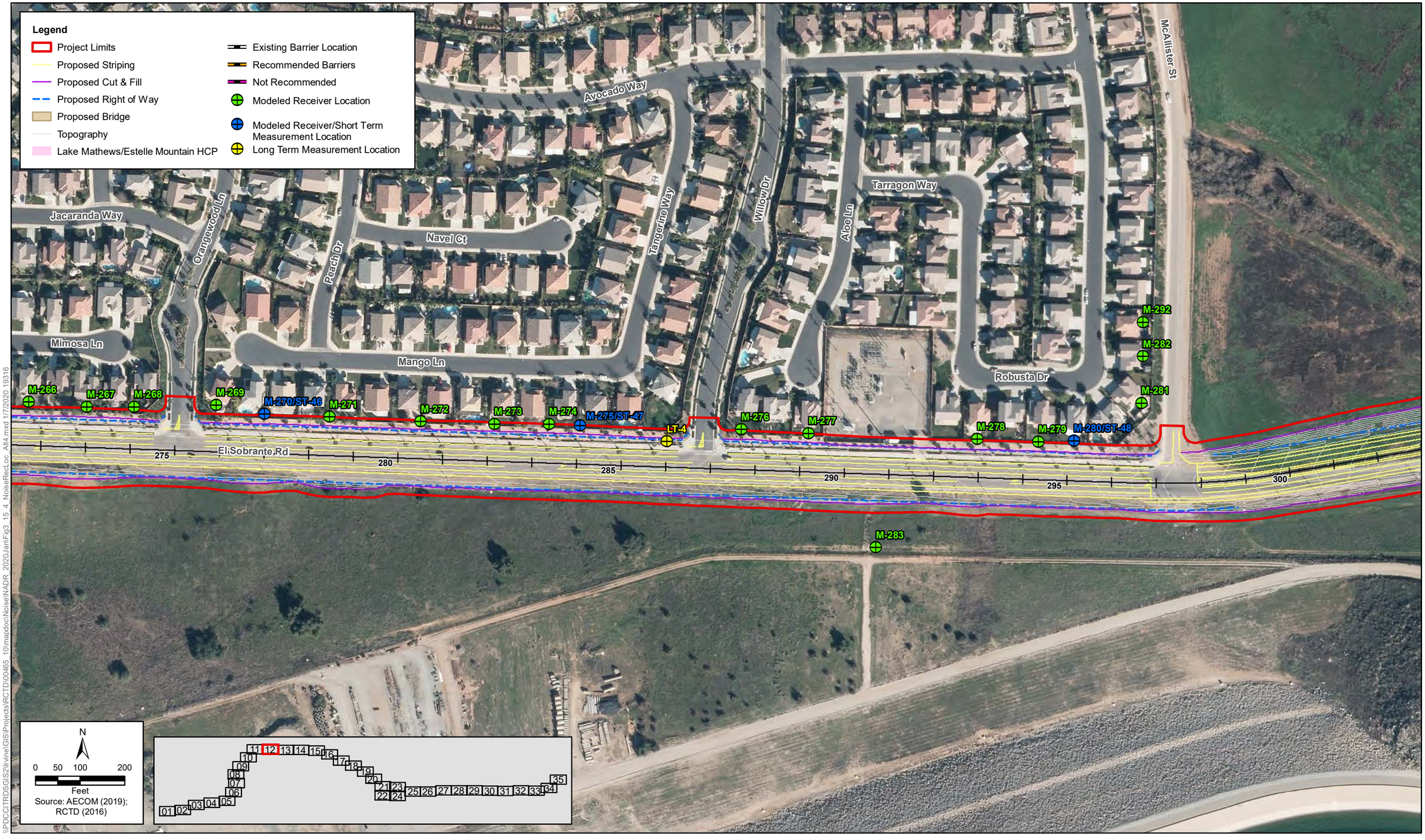

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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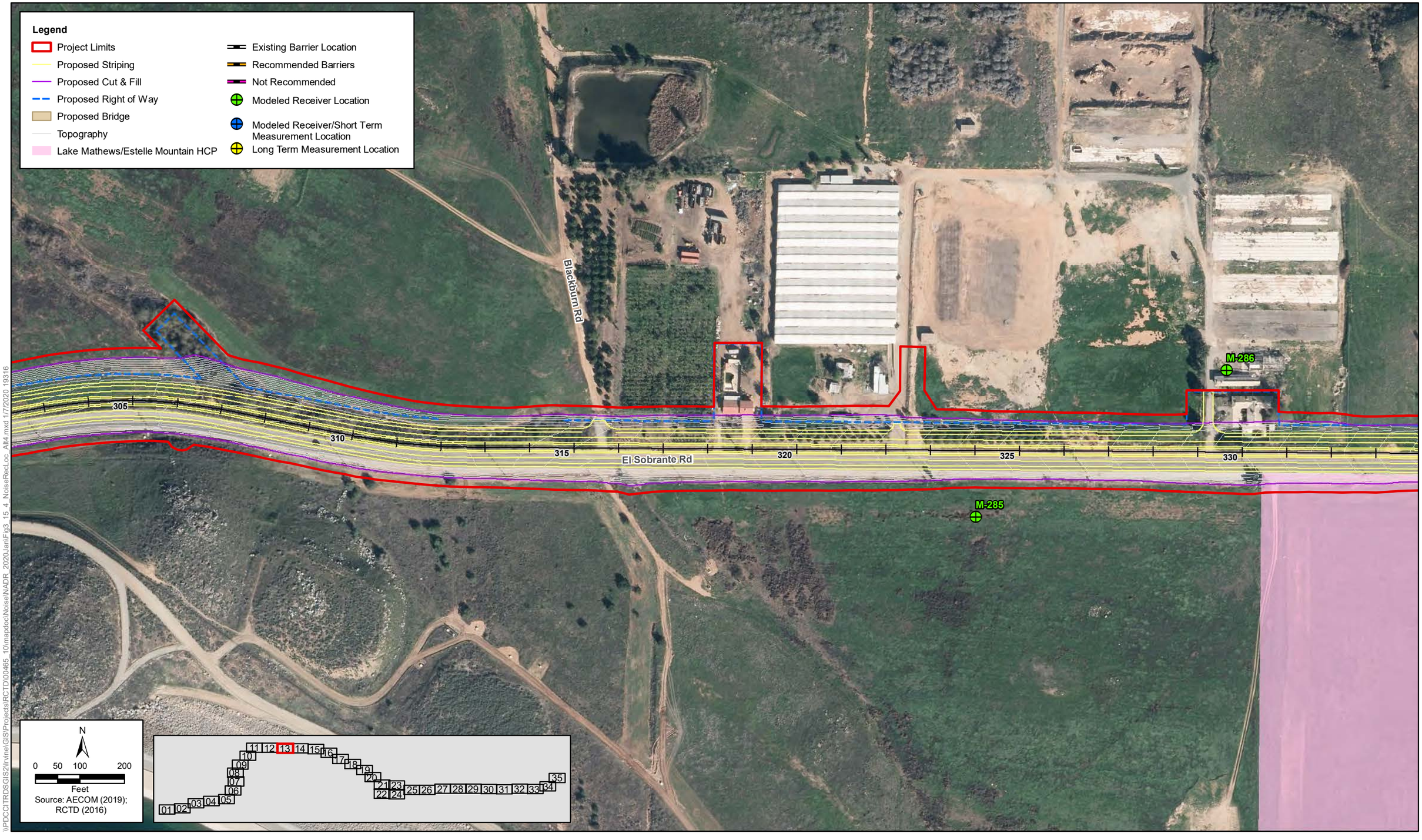

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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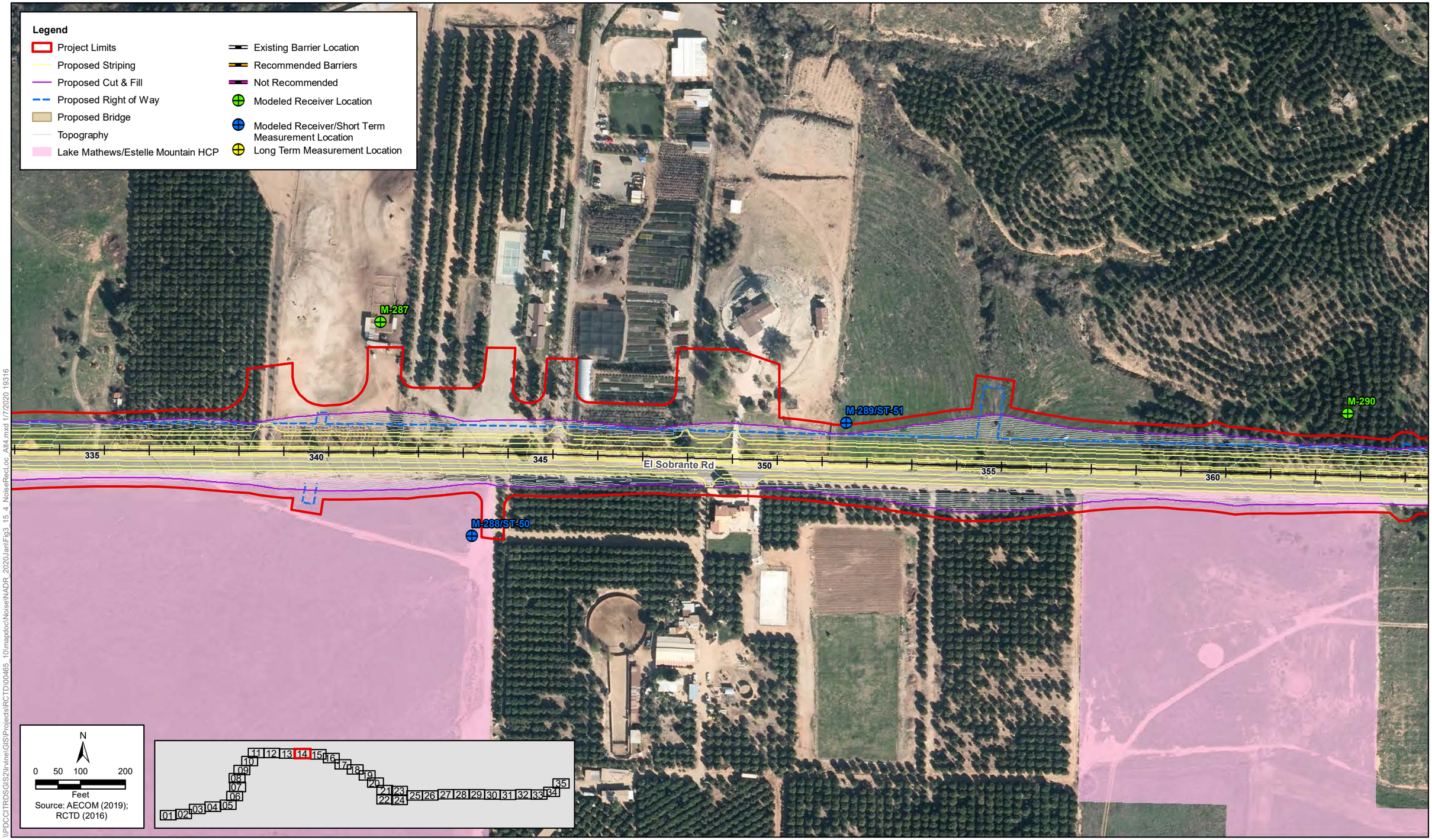

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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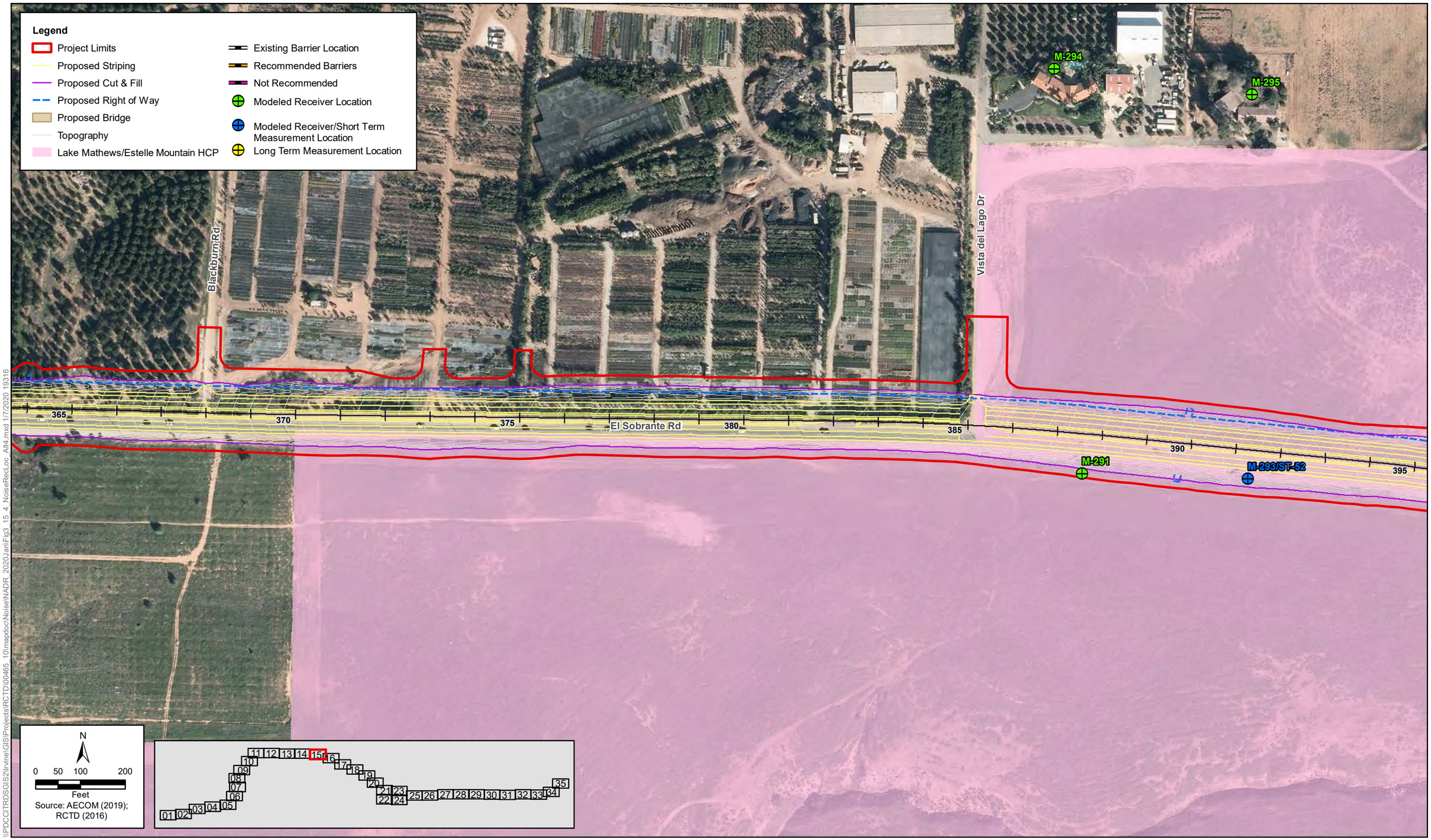

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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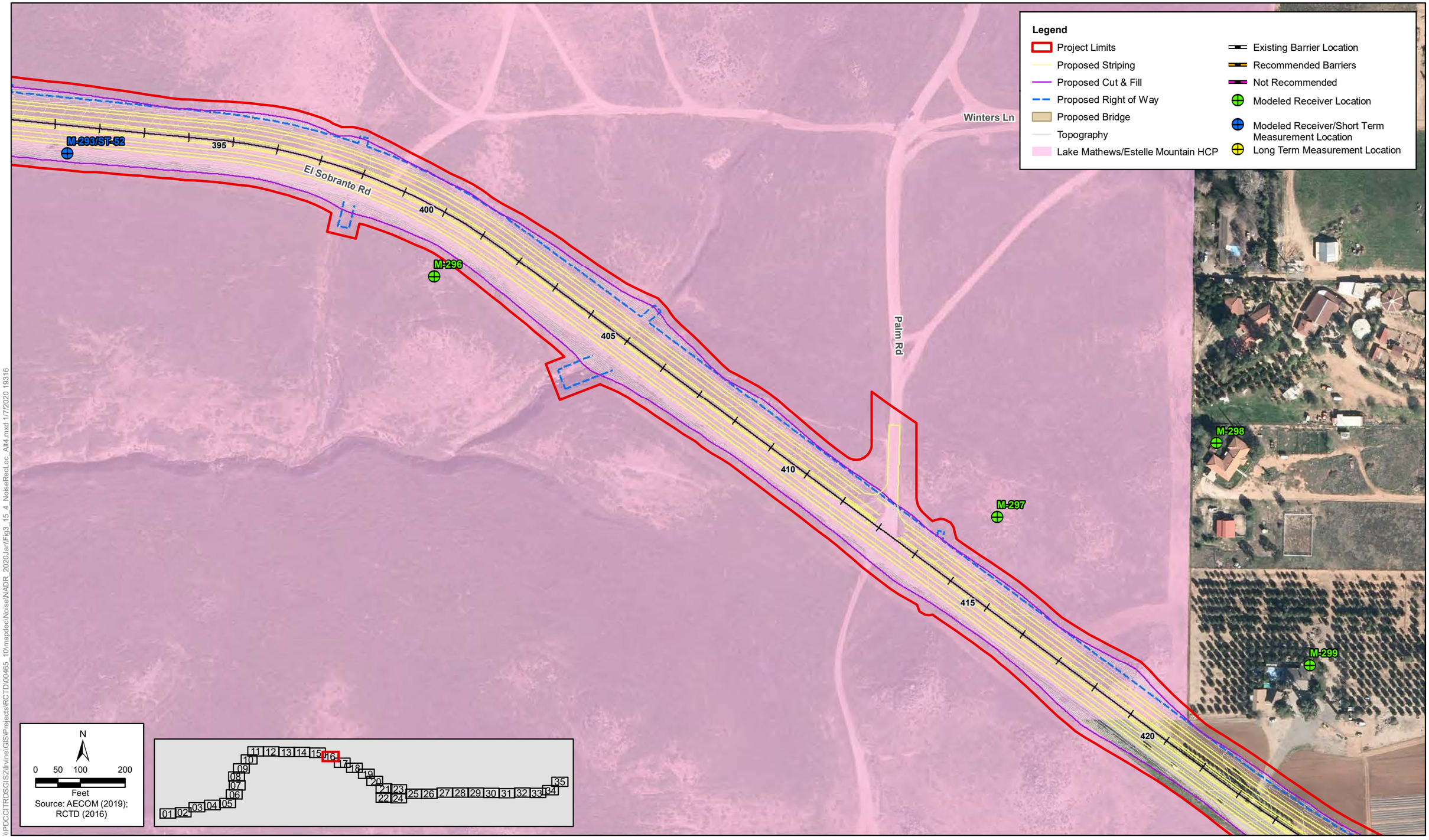

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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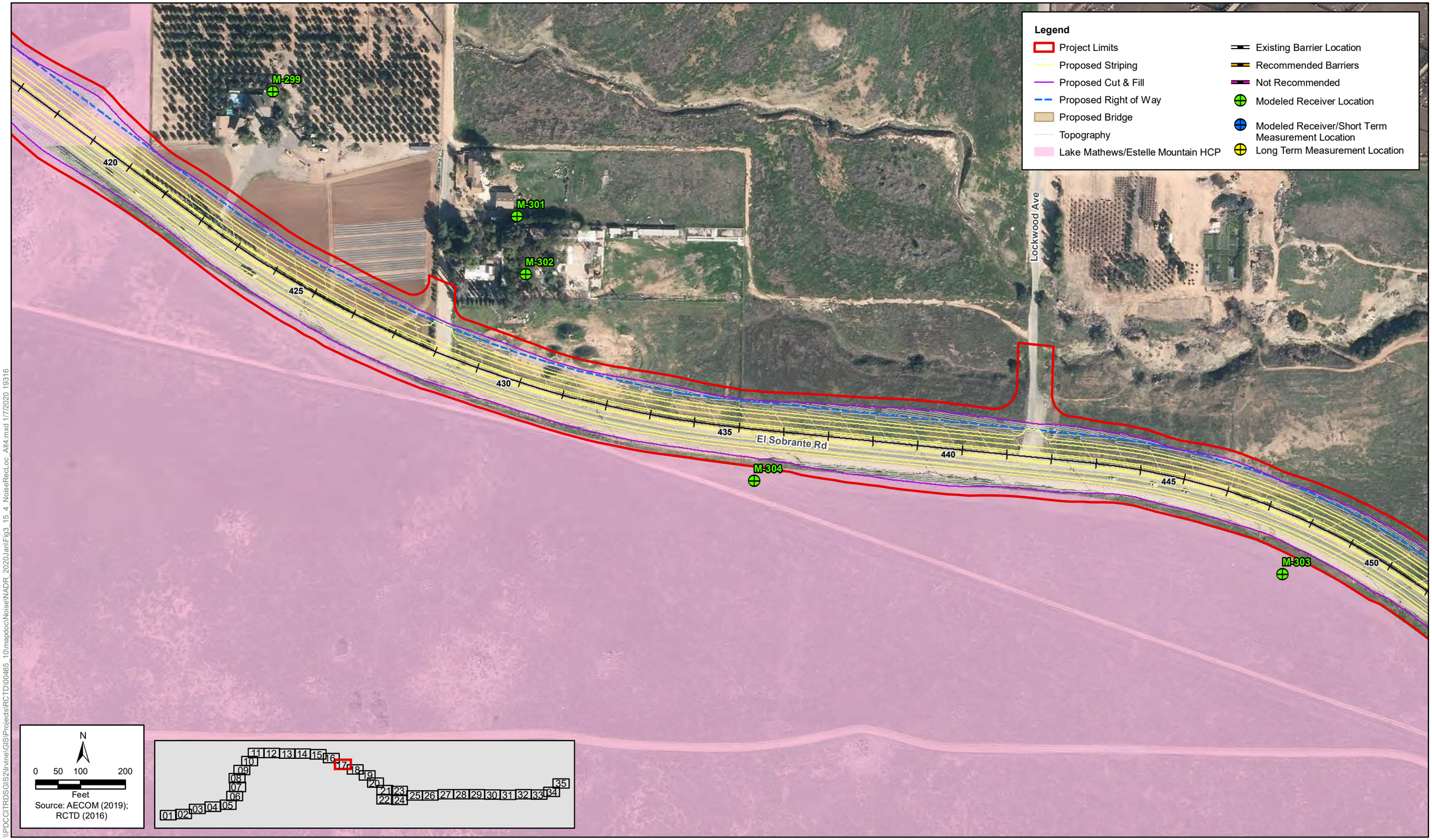

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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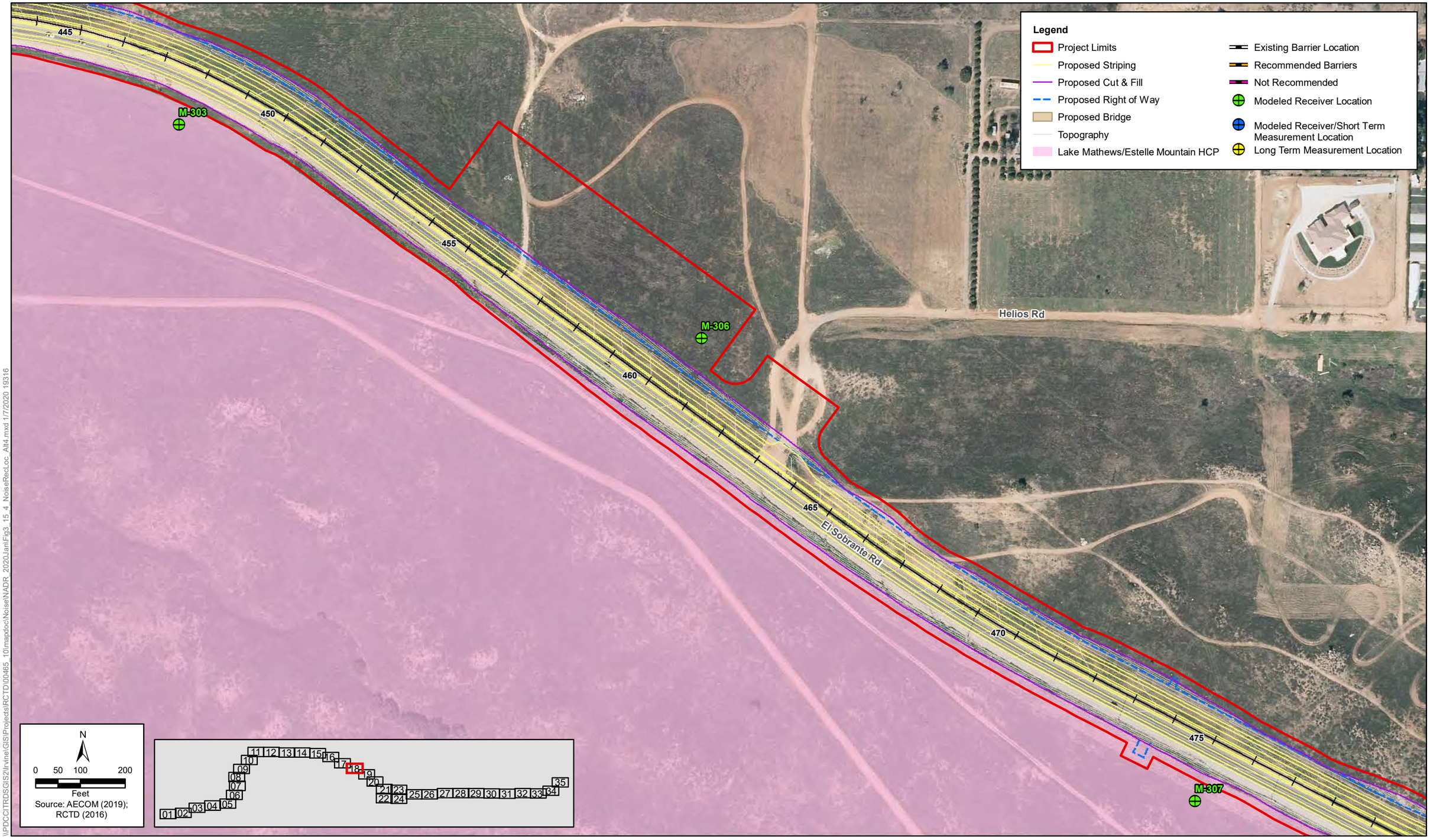

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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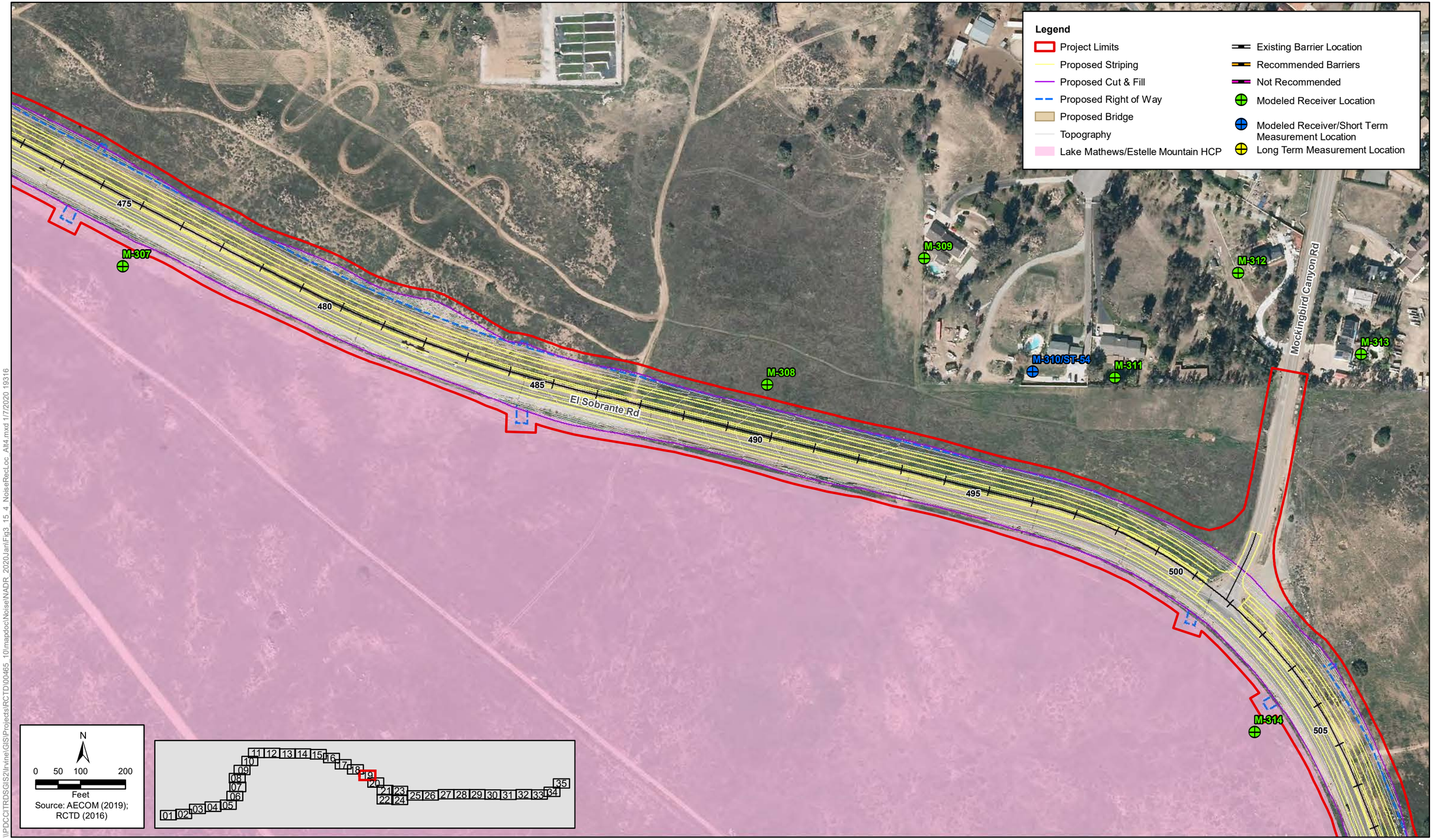

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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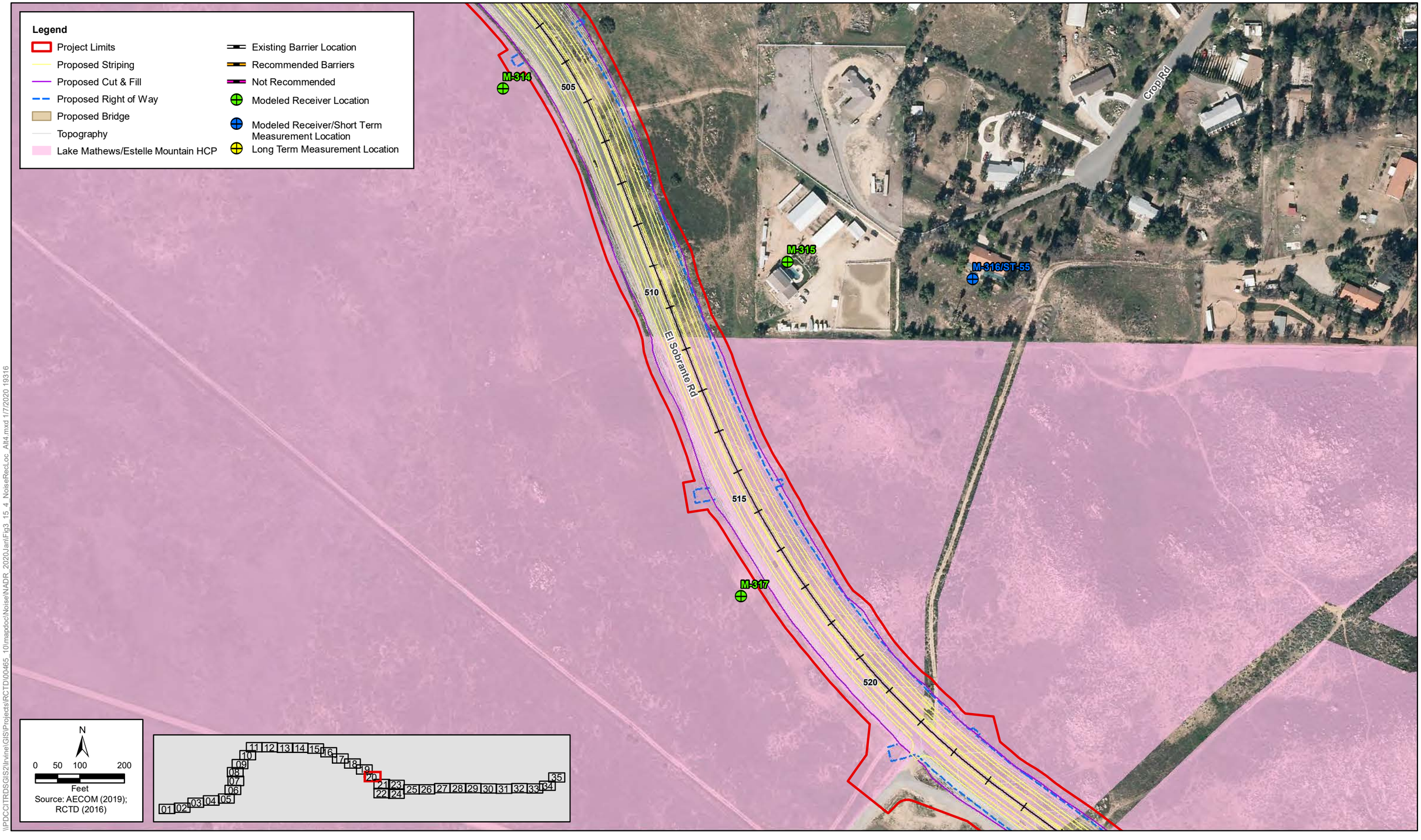

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Cajalco Road Widening and Safety Enhancement Project

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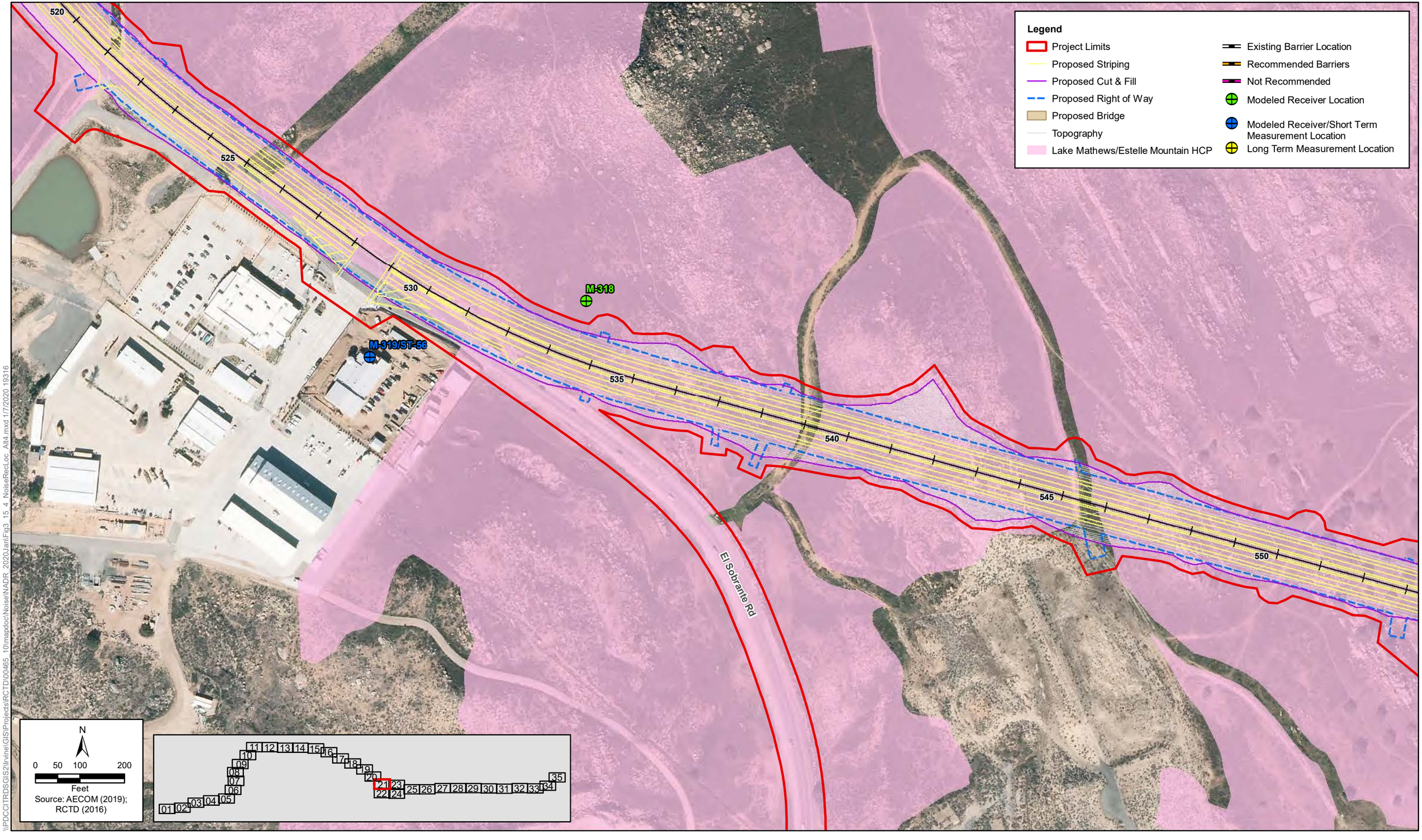

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Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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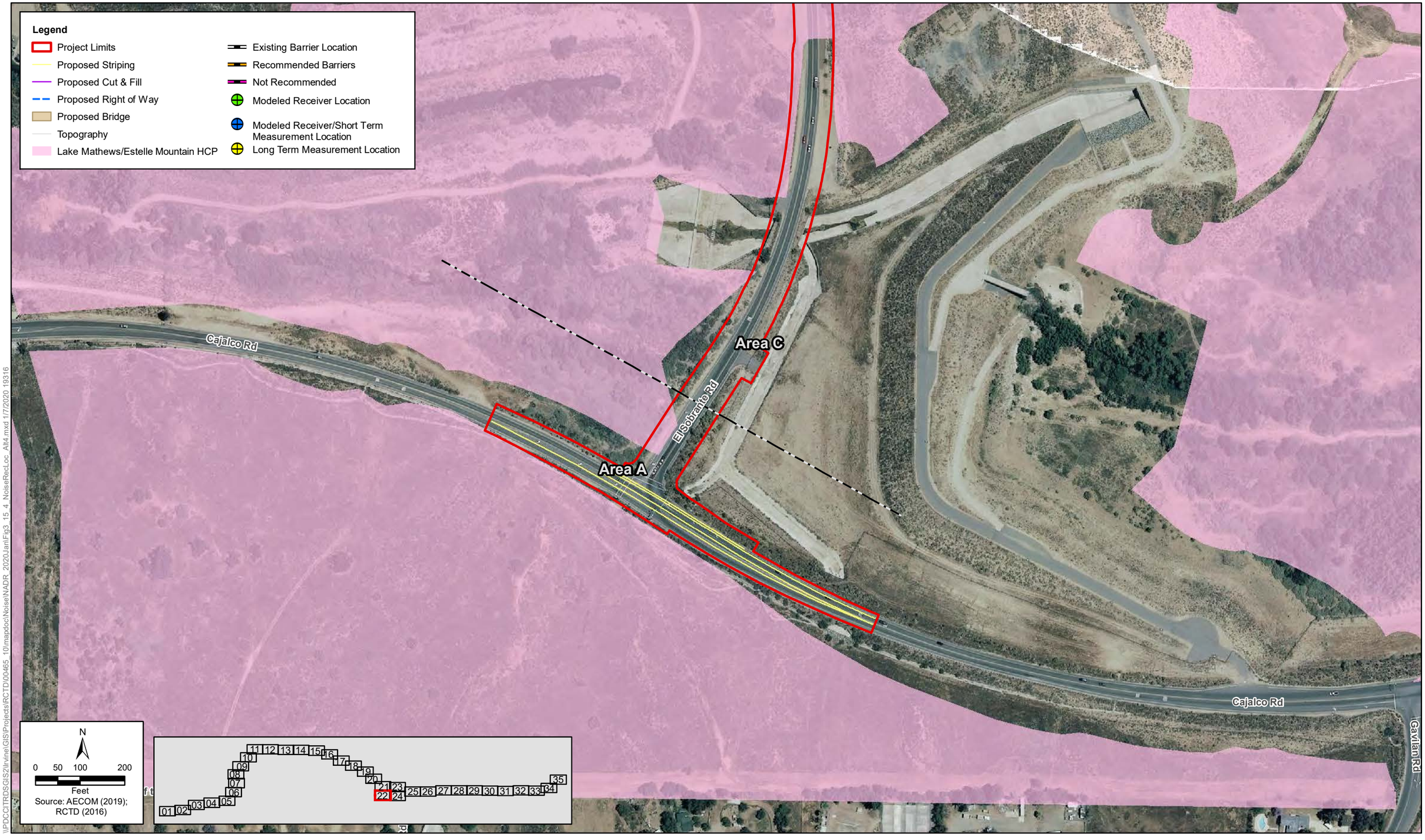

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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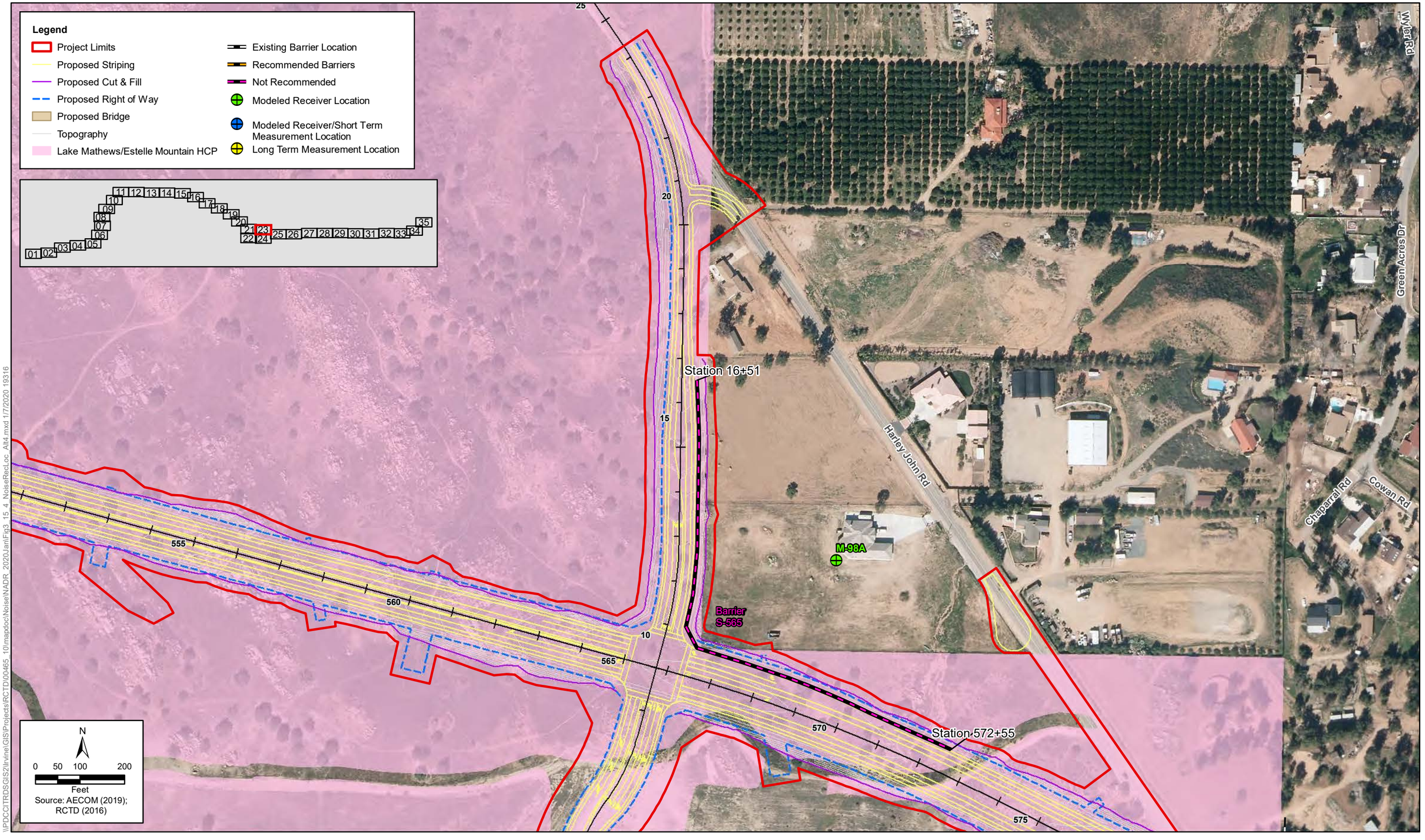

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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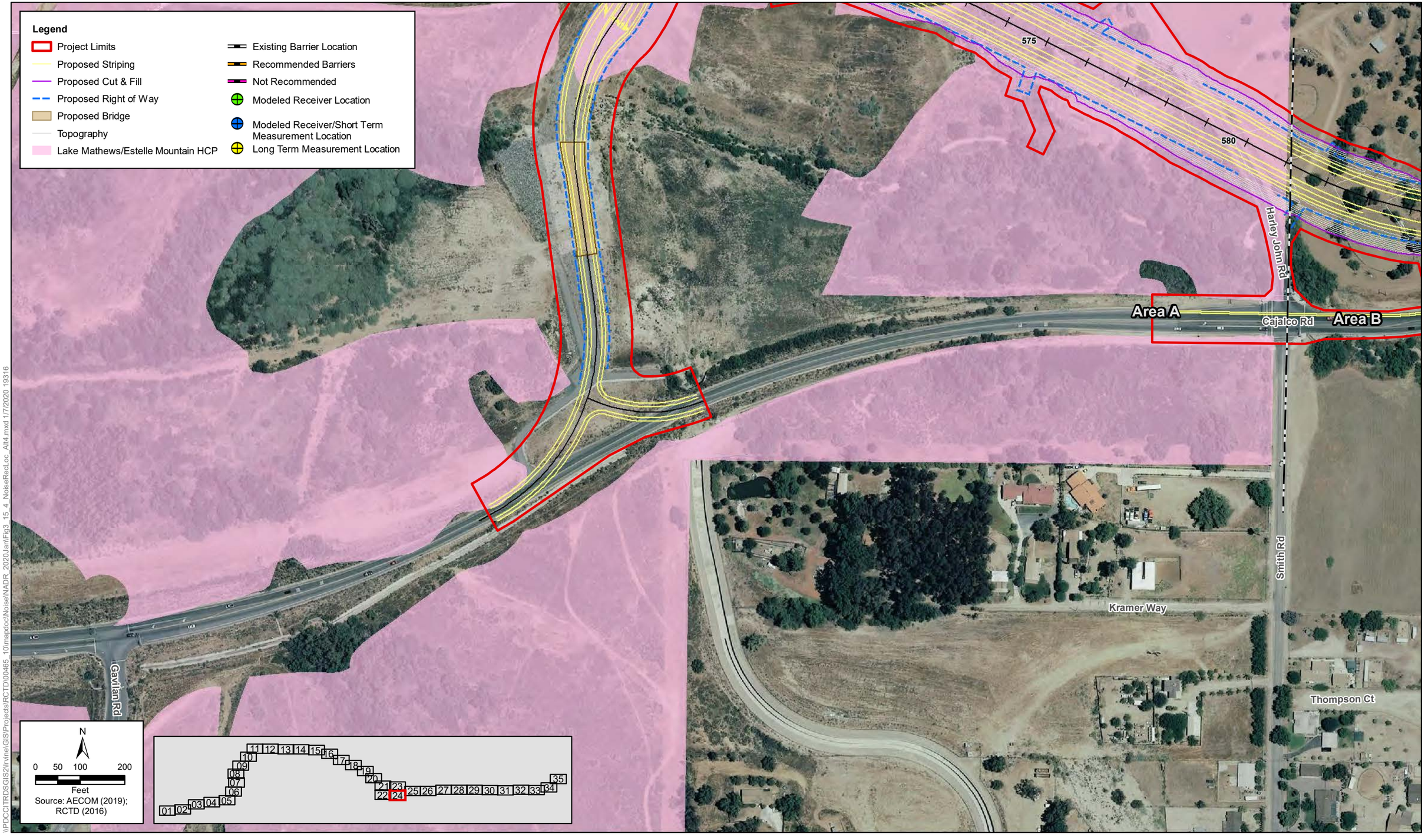

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Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
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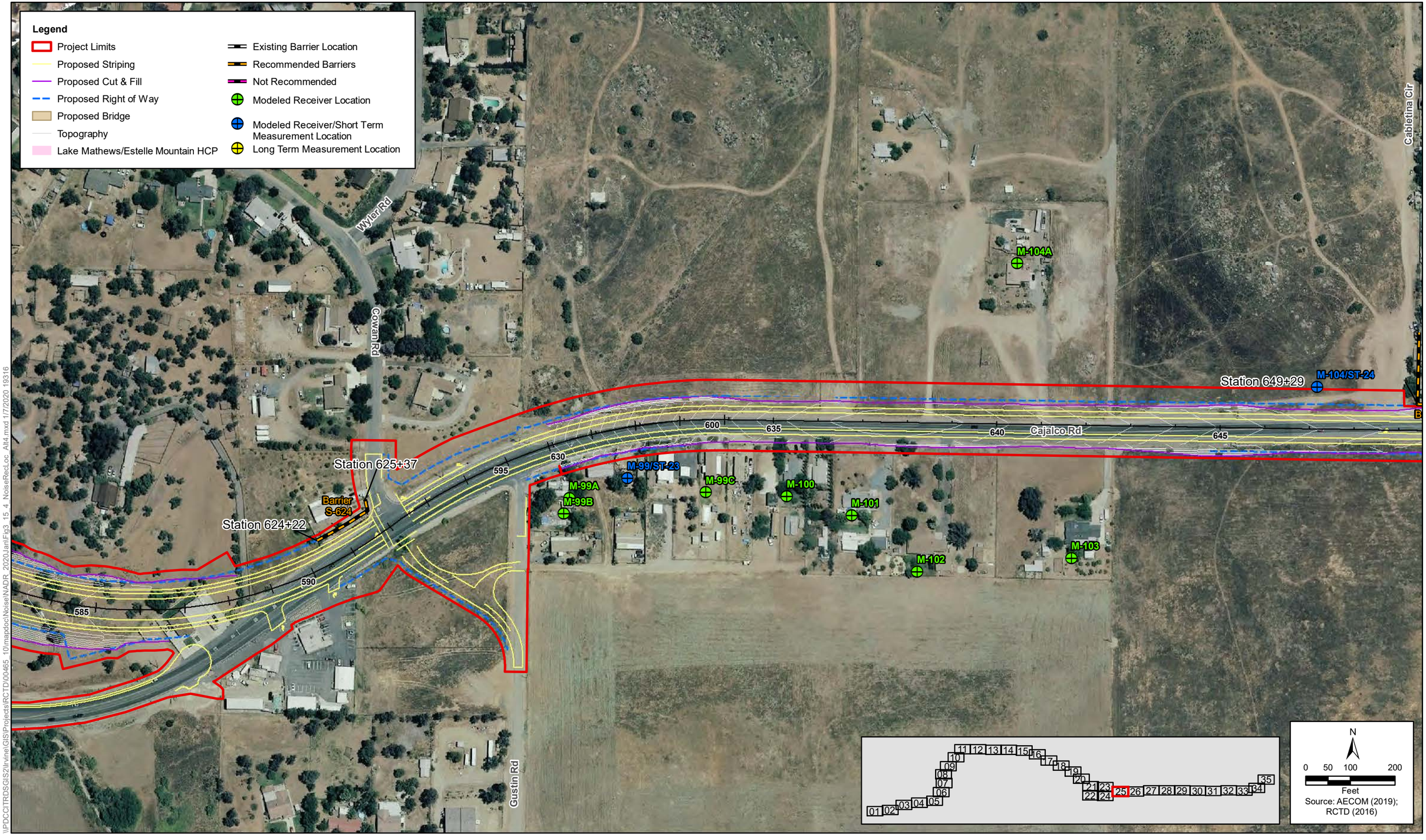

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Figure 3.15-4- Sheet 25 of 35
Build Alternative 4
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Cajalco Road Widening and Safety Enhancement Project

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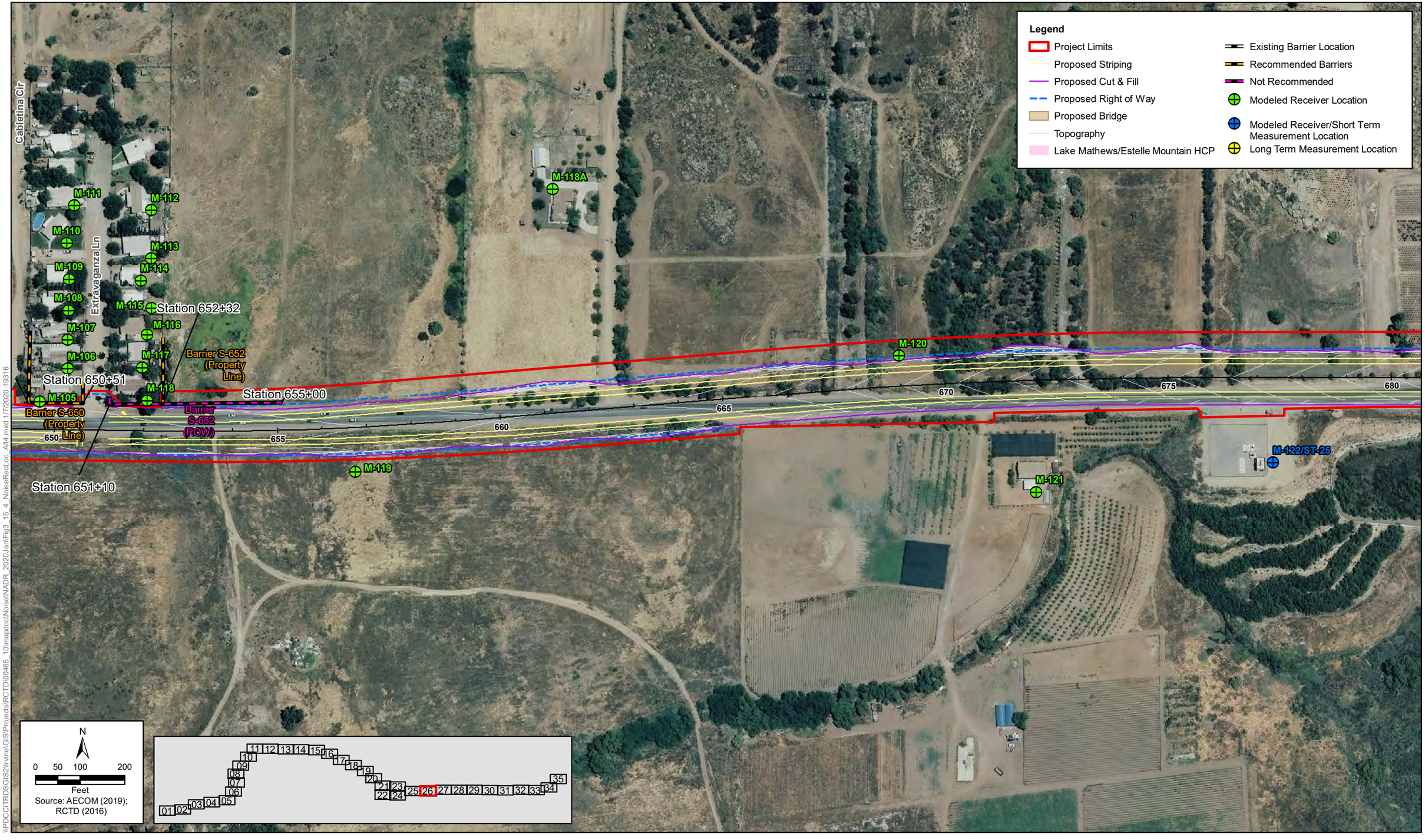

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Figure 3.15-4- Sheet 26 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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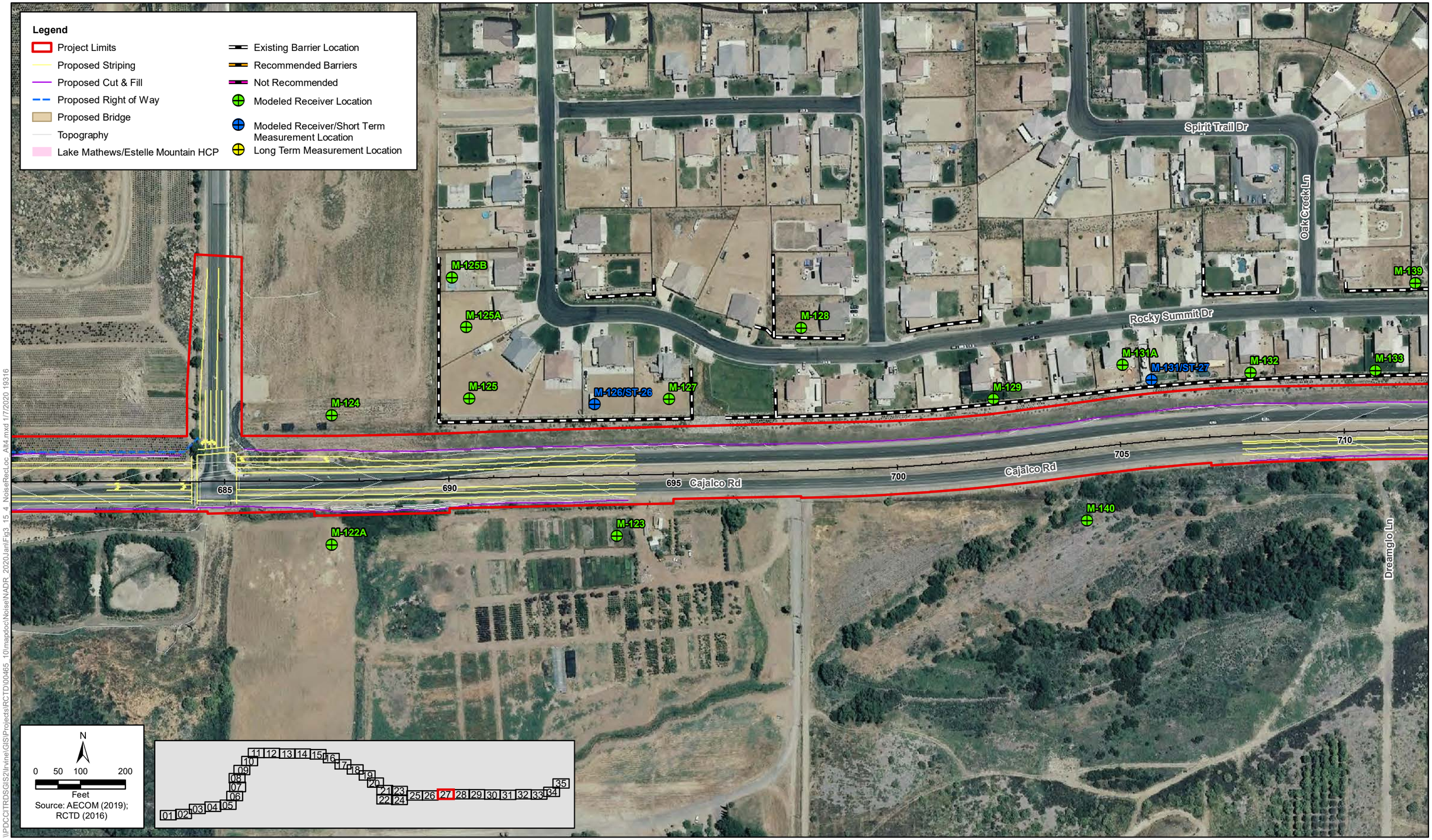

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Figure 3.15-4- Sheet 27 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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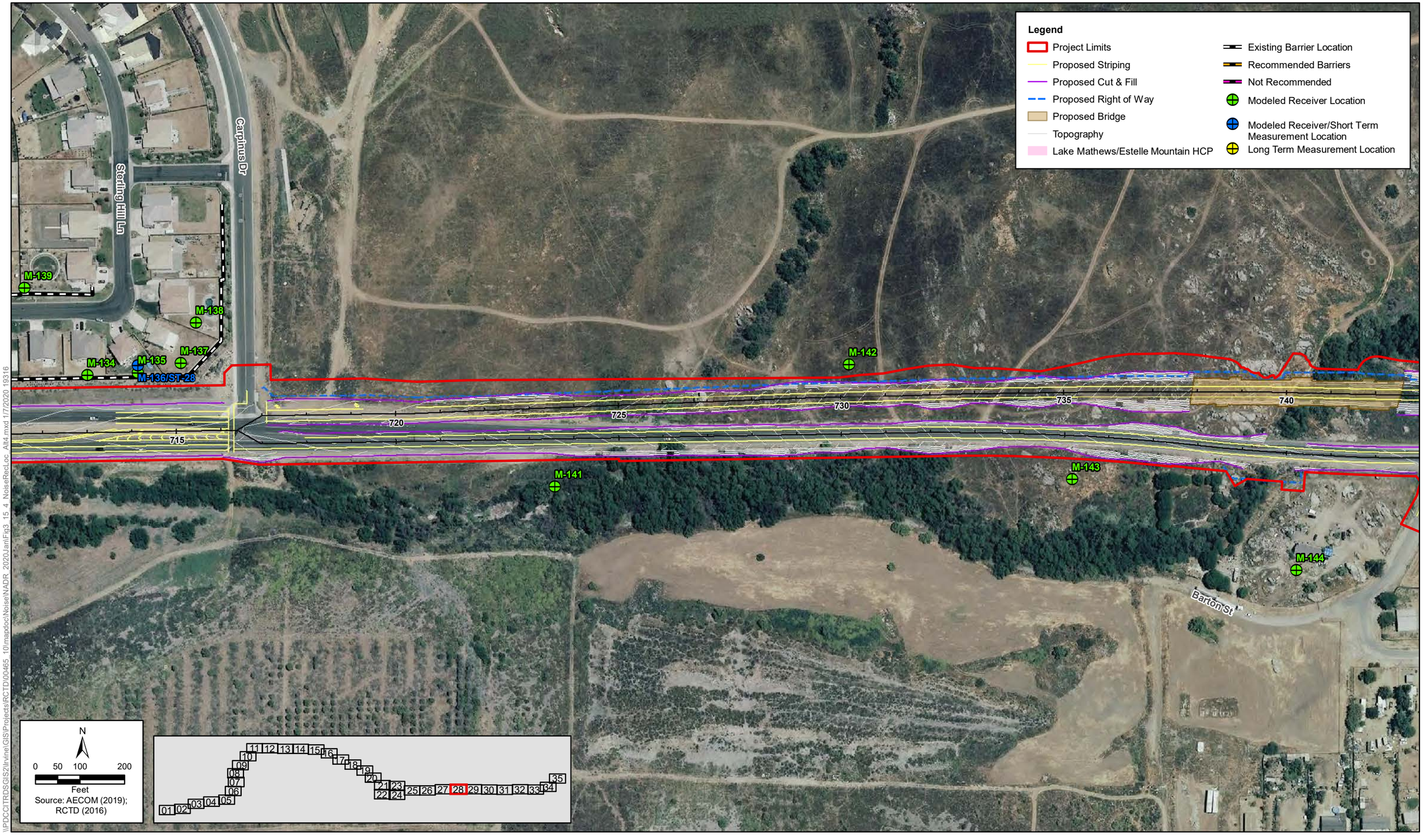

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Figure 3.15-4- Sheet 28 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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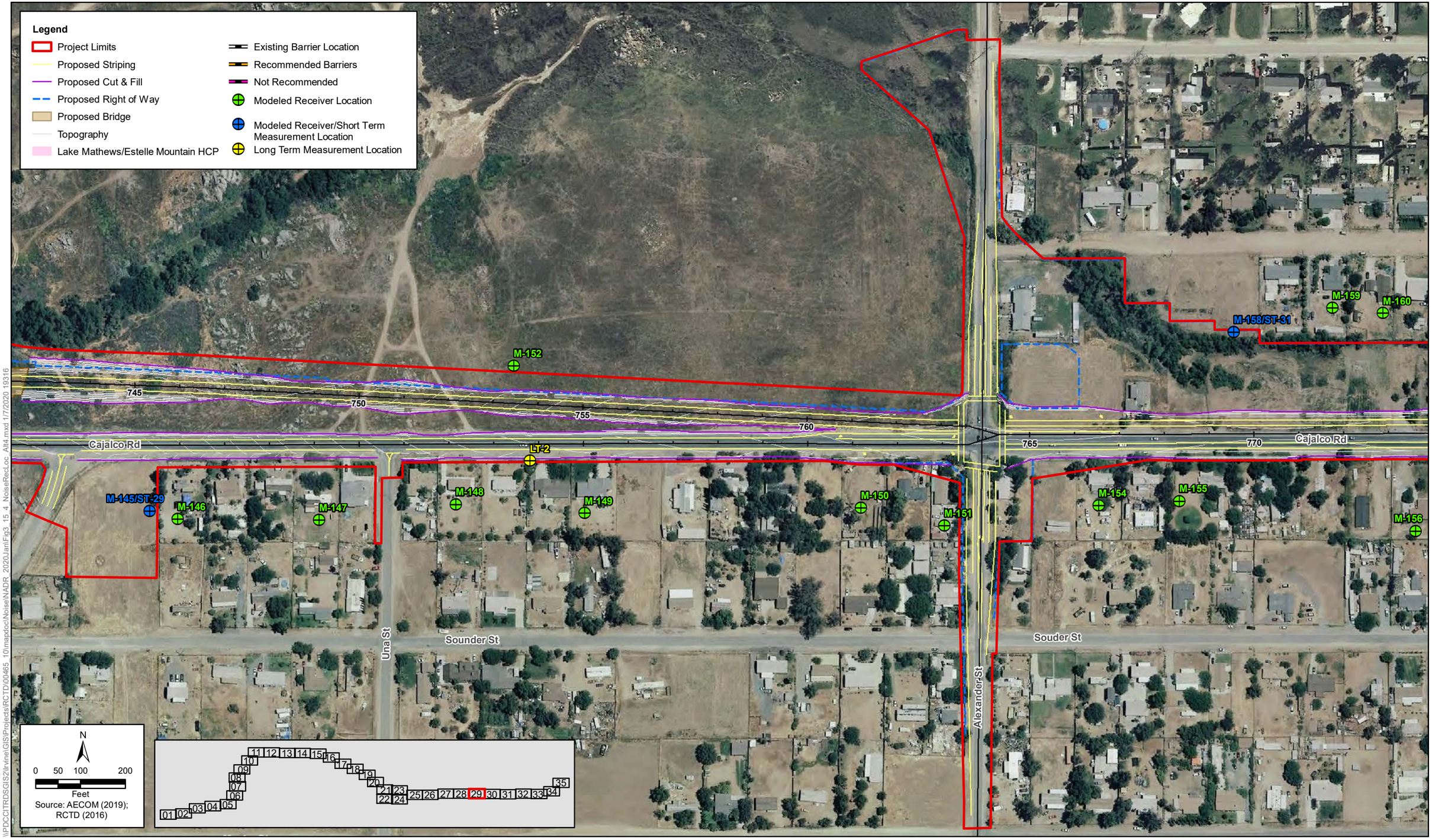

Figure 3.15-4- Sheet 29 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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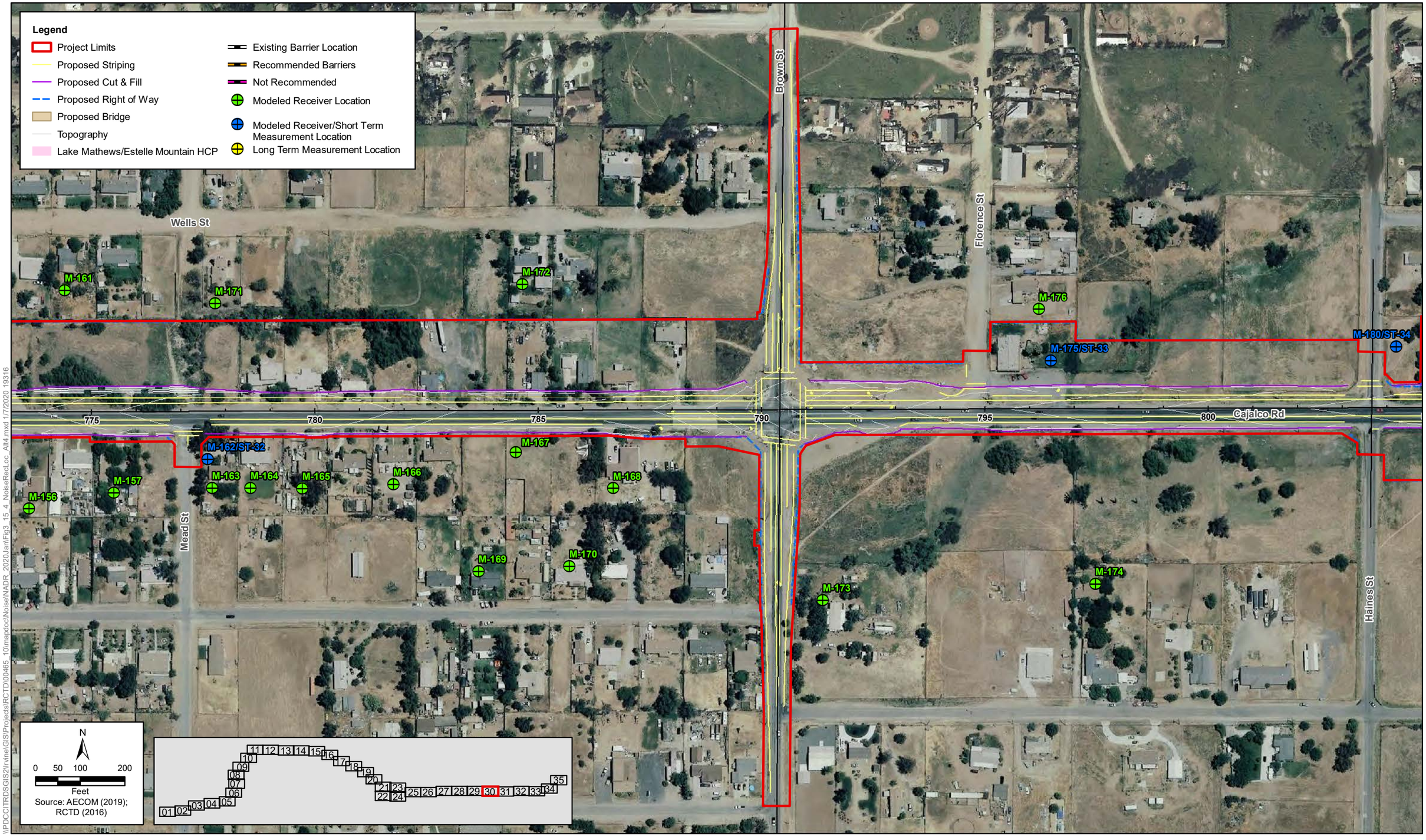

Figure 3.15-4- Sheet 30 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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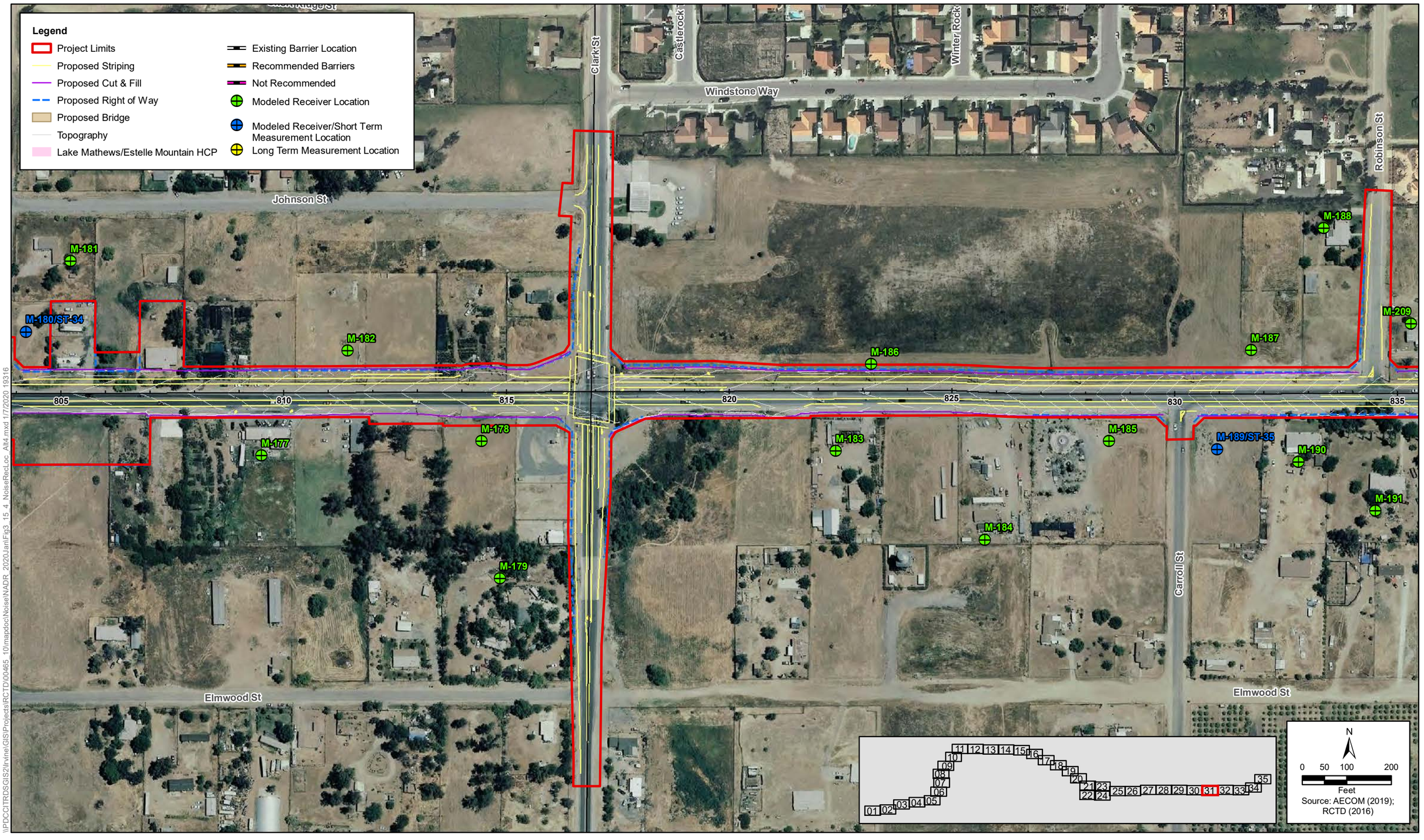

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Figure 3.15-4- Sheet 31 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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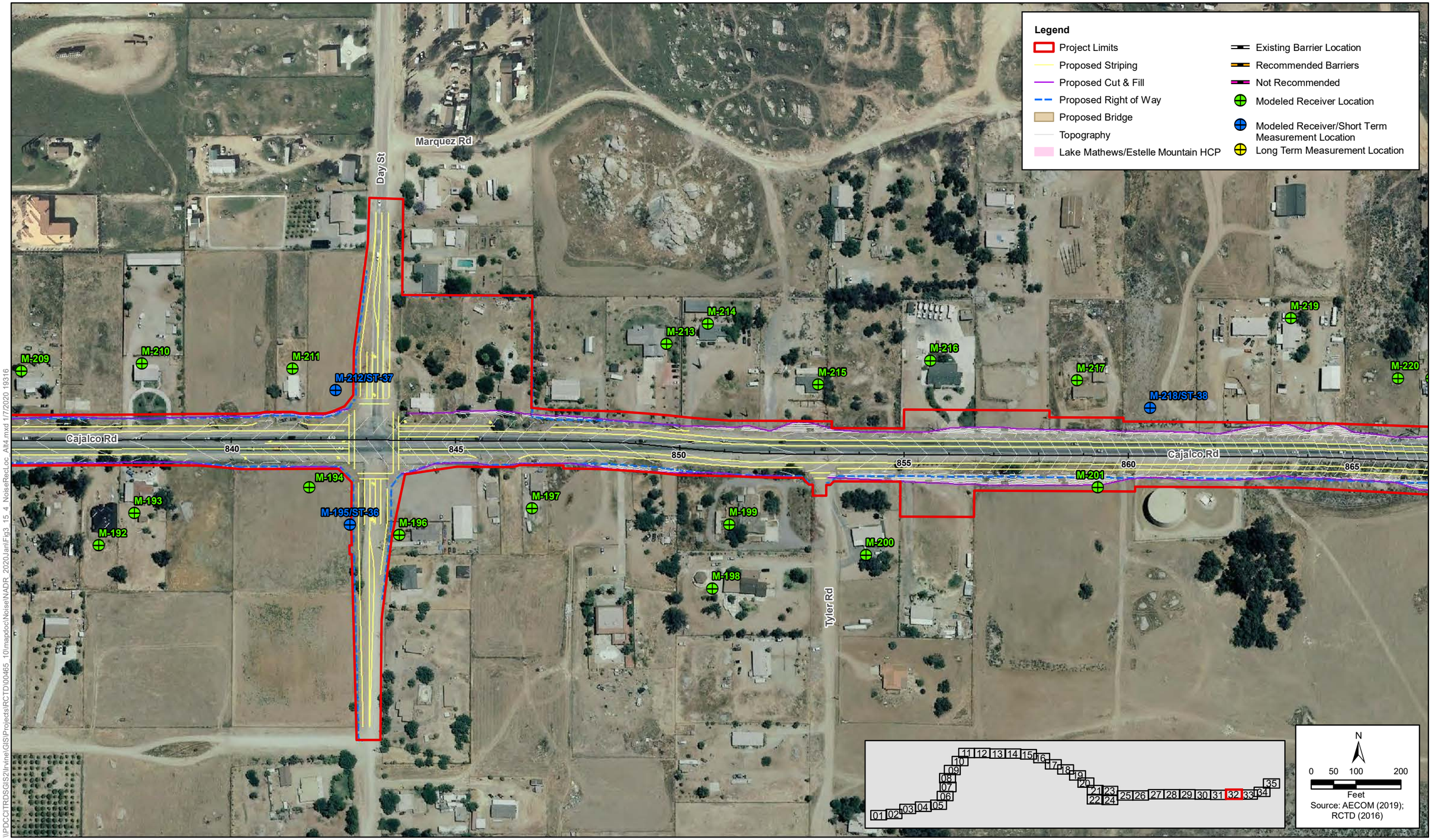

Figure 3.15-4- Sheet 32 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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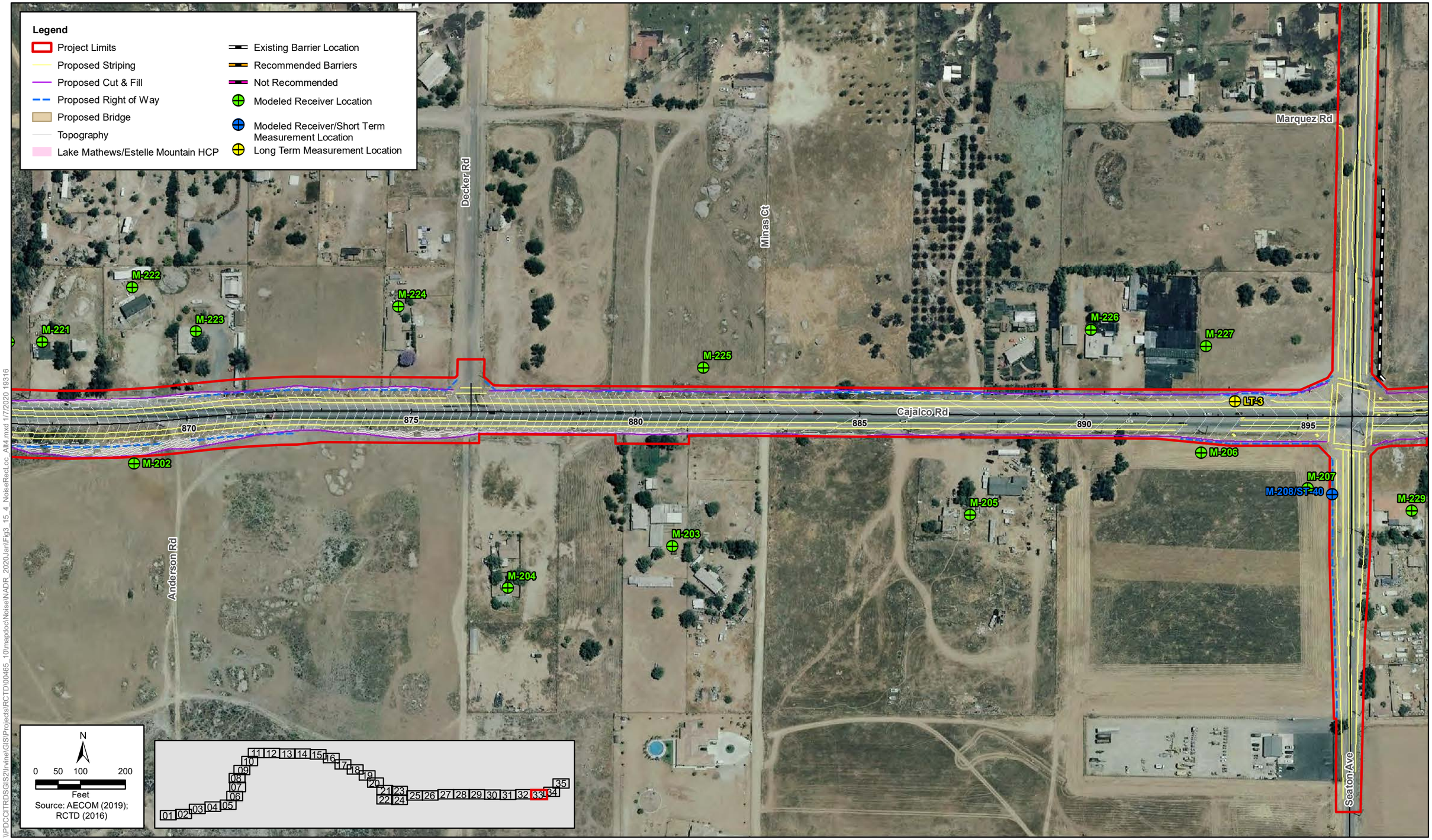

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Figure 3.15-4- Sheet 33 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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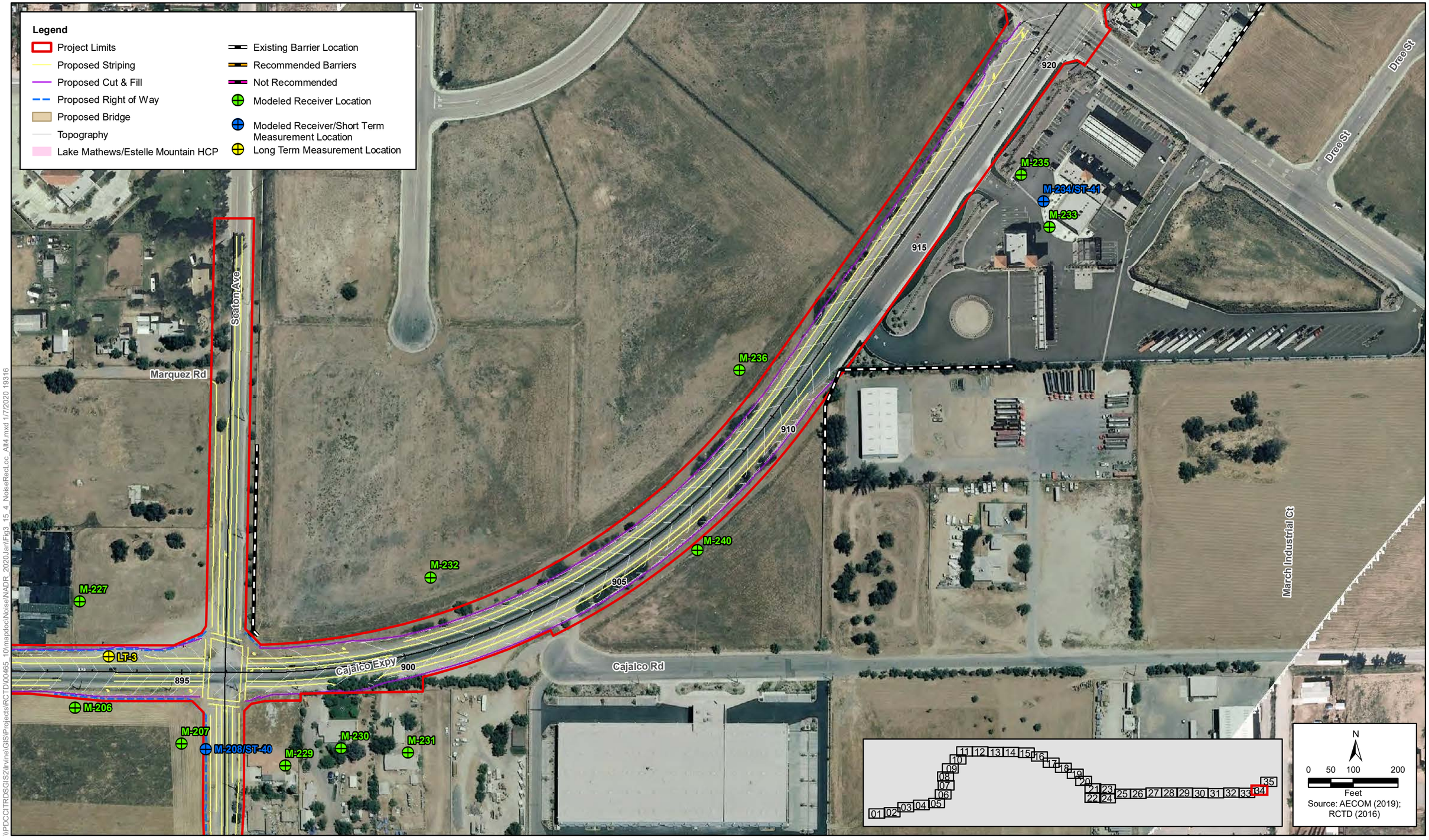

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Figure 3.15-4- Sheet 34 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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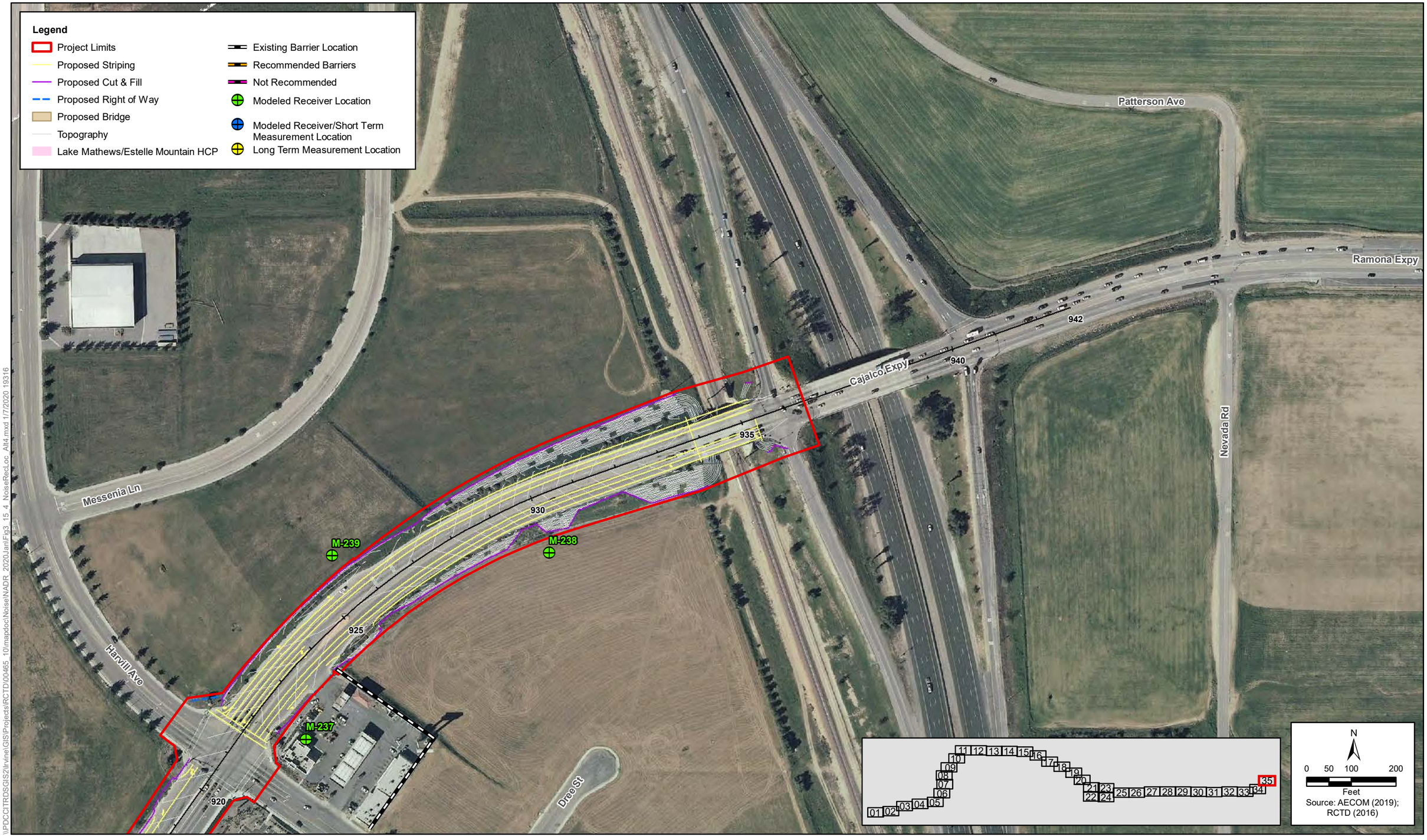

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Figure 3.15-4- Sheet 35 of 35
Build Alternative 4
Noise Measurements and Modeling Locations and Recommended Barriers
Cajalco Road Widening and Safety Enhancement Project

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Table 3.15-2 compares measured and modeled noise levels for existing traffic conditions.

Table 3.15-2. Comparison of Measured Sound Levels with Predicted Sound Levels in the TNM Model

Measurement Position	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured minus Predicted (dB)	K-Factor Used	K-Factor Applied to Additional Modeled Receiver(s)
M-3/ST-1	70.5	69.5	1.0	--	--
M-6/ST-2	56.4	56.6	-0.5	--	--
M-12/ST-3	67.5	67.7	-0.2	--	--
M-15/ST-4	67.2	67.1	0.1	--	--
M-16/ST-5	65.6	67.0	-1.4	--	--
M-17/ST-6	49.5	52.7	-3.2	-3.2	--
M-20/ST-7	70.6	69.7	0.9	--	--
M-25/ST-8	72.2	71.5	0.7	--	--
M-33/ST-9	71.0	70.6	0.4	--	--
M-36/ST-10	69.6	69.5	0.1	--	--
M-38/ST-11	66.1	67.0	-0.9	--	--
M-41/ST-12	69.8	69.5	0.3	--	--
M-46/ST-13	49.7	49.4	0.3	--	--
M-59/ST-14	49.9	51.7	-1.8	--	--
M-63/ST-15	72.8	71.3	1.5	--	--
M-67/ST-16	73.9	73.3	0.6	--	--
M-70/ST-17	72.7	71.6	1.1	--	--
M-74/ST-18	64.1	63.2	0.9	--	--
M-76/ST-19	65.9	69.4	-3.5	-3.5	--
M-79/ST-20	64.7	65.2	-0.5	--	--
M-82/ST-21	49.4	48.6	0.8	--	--
M-92/ST-22	64.2	64.1	0.1	--	--
M-99/ST-23	60.3	64	-3.7	-3.7	M-99A, M-99B, M-99C, M-100, M-101
M-104/ST-24	68.2	68.2	0	--	--
M-122/ST-25	62	63.7	-1.7	--	--
M-126/ST-26	54.3	55.2	-0.9	--	--
M-131/ST-27	58.1	55.3	2.8	2.8	M-129, M-131A, M-132
M-136/ST-28	57.2	54.9	2.3	2.3	M-133, M-134, M-135
M-145/ST-29	59.5	61.4	-1.9	--	--
M-153/ST-30	70.6	70	0.6	--	--
M-158/ST-31	52.3	56.3	-4	-4	M-159, M-160, M-161, M-171
M-162/ST-32	62.3	66.6	-4.3	-4.3	--
M-175/ST-33	62.6	60.7	1.9	--	--
M-180/ST-34	59.5	59.8	-0.3	--	--

Measurement Position	Measured Sound Level (dBA)	Predicted Sound Level (dBA)	Measured minus Predicted (dB)	K-Factor Used	K-Factor Applied to Additional Modeled Receiver(s)
M-189/ST-35	62.2	64.8	-2.6	-2.6	--
M-195/ST-36	64	62.6	1.4	--	--
M-212/ST-37	64.1	64.2	-0.1	--	--
M-218/ST-38	67.3	67.2	0.1	--	--
M-228/ST-39	75.5	72.1	3.4	3.4	--
M-208/ST-40	64	64.8	-0.8	--	--
M-234/ST-41	60	60.6	-0.6	--	--
M-61/ST-42	39.5	40.1	-0.6	--	--
M-251/ST-43	70.3	68.3	2	2	--
M-253/ST-44	69.8	69	0.8	--	--
M-260/ST-45	57.5	55.5	2	2	M-258, M-261, M-262, M-265, M-266, M-267, M-268
M-270/ST-46	56.1	56.5	-0.4	--	--
M-275/ST-47	59	55.1	3.9	-3.9	M273, M-274
M-280/ST-48	56.9	57	-0.1	--	--
M-284/ST-49	65.6	66.2	-0.6	--	--
M-288/ST-50	55.5	58.3	-2.8	-2.8	--
M-293/ST-52	74.1	73.2	0.9	--	--
M-305/ST-53	71.3	70.3	1	--	--
M-310/ST-54	42.8	46.8	-4	-4	M-311
M-316/ST-55	43.1	45.9	-2.8	-2.8	--
M-319/ST-56	58.8	56.7	2.1	2.1	--
M-39/ST-57	71.5	70.2	1.3	--	--
M-98/ST-58	65.8	65.8	0	--	--
M-299/ST-59	66.4	67.6	-1.2	--	--
M-91/ST-60	59.8	60.4	-0.6	--	--
Source: Caltrans 2017.					

The modeled noise levels show some deviation from the measured noise levels but, in general, show relatively good agreement. In general, agreement (within 0 to 5 decibels [dB])[2] was achieved between the measured and modeled results.

[2] The Caltrans TeNS generally uses a 3 dB difference between measured and modeled noise levels as the threshold for which model validation does not need to be considered and suggests that modeled differences between 3 and 4 dB may be validated by using a validation constant. For this analysis, validation constants have been included for all differences more than 2 dB. For any validation above 2 dB the model parameters, traffic inputs and speeds were reviewed for accuracy and determined to be accurate.

3.15.3 Environmental Consequences

3.15.3.1 Permanent Impacts

As defined in 23 CFR 772, a Type I project is a federal or federal-aid highway project that constructs a highway at a new location or physically alters an existing highway or facility, resulting in the addition of through lanes. All three build alternatives include the addition of a through lane in each direction; therefore, the project is considered a Type I project.

The future worst-case traffic noise impact at frequent outdoor human use areas along the project corridor was modeled for existing conditions, design-year (2044) no-build conditions, and design-year (2044) build-conditions to determine appropriate noise abatement measures. This section discusses the future noise environment and feasible noise abatement measures for affected locations.

Build Alternative 1—Cajalco Alignment

Build Alternative 1 would construct two 12-foot lanes in each direction (eastbound and westbound) along portions of Cajalco Road, from Temescal Canyon Road on the west to I-215 on the east, replacing the existing two-lane roadway segments. Between Harvill Avenue and the I-215 southbound ramps as well as between Temescal Canyon Road and Temescal Creek Bridge, three lanes would be constructed in each direction (eastbound and westbound), replacing the existing four-lane roadway segments. The bridge over Temescal Creek would be replaced with a new widened bridge. New striping is proposed along Cajalco Road, between Grand Oaks and Temescal Canyon Road; however, the limit of roadway construction at the west end of the project would be at Temescal Canyon Road. The proposed alignment would generally follow the existing roadway. In addition, because of limited opportunities for future roadway expansion within the boundaries of the LM MSHCP area, the median of Cajalco Road between Temescal Canyon Road and Harley John Road would be designed to be wide enough to accommodate two additional travel lanes (one in each direction) in the future. A discussion of this is included below and in Chapter 4 under the CEQA noise discussion.

Table 3.15-3, on page 3.15-53, lists the existing and design-year (2044) noise levels at modeled receivers, including sensitive receptors, along the Build Alternative 1 alignment.

Under Build Alternative 1, noise levels at three modeled receivers would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for residential land uses. The traffic noise modeling results in Table 3.15-4 indicate that Receivers M-93, M-105, and M-118, within Area B, would experience design-year (2044) noise levels of 74, 74, and 69 dBA $L_{eq}(h)$, respectively. Modeling results indicate that noise levels at other modeled receivers would not approach or exceed the NAC or increase substantially.

Traffic noise impacts are predicted to occur at Receivers M-93, M-105, and M-118. Therefore, noise abatement must be considered.

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Table 3.15-3. Traffic Noise Results and Barrier Analysis – Build Alternative 1

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-1	--	A	--	68	71	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-2	--	A	--	65	66	71	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-3	ST-1	A	--	68	69	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-4	--	A	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-5	--	A	--	59	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-6	ST-2	A	--	57	57	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-7	--	A	--	52	52	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-8	--	A	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-9	--	A	--	48	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-10	--	A	--	64	64	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-11	--	A	--	68	68	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-13	--	A	--	63	63	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-14	--	A	--	65	66	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-15	ST-4	A	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-16	ST-5	A	--	70	71	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17	ST-6	A	--	52	53	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17A	--	A	--	48	49	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-18	--	A	--	62	63	56	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-19	--	A	--	53	53	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-20	ST-7	A	--	73	73	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-21	--	A	--	70	70	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-22	--	A	--	62	63	53	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-23	--	A	--	64	64	58	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-24	--	A	--	58	59	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-25	ST-8	A	--	71	71	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-26	--	A	--	57	58	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-27	--	A	--	42	42	47	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-28	--	A	--	44	44	50	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-29	--	A	--	47	45	52	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-30	--	A	--	45	43	51	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-31	--	A	--	59	56	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33	--	A	--	42	40	50	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-34	--	A	--	59	56	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-36	--	A	--	64	61	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-37	--	A	--	65	62	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-39	ST-57	A	--	71	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-40	--	A	--	71	68	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-41	ST-12	A	--	71	67	56	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-42	--	A	--	58	54	54	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-43	--	A	--	65	62	54	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-44	--	A	--	49	46	54	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-45	--	A	--	51	48	36	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-46	ST-13	A	--	50	46	36	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-47	--	A	--	49	46	35	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-47A	--	A	--	57	54	36	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-48	--	A	--	49	46	35	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-49	--	A	--	52	48	39	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-50	--	A	--	58	55	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-51	--	A	--	49	46	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-52	--	A	--	52	49	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-53	--	A	--	54	51	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-54	--	A	--	64	61	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-55	--	A	--	55	52	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-55A	--	A	--	42	39	37	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-56	--	A	--	59	56	43	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-57	--	A	--	58	55	40	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-58	--	A	--	44	41	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-59	ST-14	A	--	53	50	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-59A	--	A	--	61	58	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-60	--	A	--	64	61	48	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-61	ST-42	A	--	38	35	39	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-61A	--	A	--	41	38	43	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61B	--	A	--	42	39	45	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61C	--	A	--	40	37	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61D	--	A	--	40	37	43	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61E	--	A	--	41	38	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-62	--	A	--	52	49	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-63	ST-15	A	--	72	69	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-64	--	A	--	65	62	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-65	--	A	--	59	56	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-66	--	A	--	70	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-67	ST-16	A	--	72	70	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-68	--	A	--	56	55	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-69	--	A	--	64	63	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-70	ST-17	A	--	70	69	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-71	--	A	--	58	57	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-72	--	A	--	51	50	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-73	--	A	--	60	59	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-74	ST-18	A	--	62	61	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-75	--	A	--	54	53	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-76	ST-19	A	--	65	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-77	--	A	--	57	56	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-78	--	A	--	56	54	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-79	ST-20	A	--	66	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-80	--	A	--	59	58	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-81	--	A	--	54	52	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-82	ST-21	A	--	51	51	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-83	--	A	--	53	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-84	--	A	--	58	58	62	G (None)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-85	--	A	--	62	62	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-86	--	A	--	58	59	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-87	--	A	--	58	59	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-88	--	A	--	59	60	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-89	--	A	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-90	--	A	--	47	48	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-91	ST-60	A	--	64	64	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-92	ST-22	B	--	64	64	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-92A	--	B	--	54	55	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-93	**--**	**B**	**S-624 (Right of Way [ROW])**	**69**	**69**	**74**	**B (67)**	**8**	**11**	**13**	**14**	**14**	**15**	**Yes**	**Yes**	**6**	**$95,000**	**$39,778**
														Yes	**Yes**	**8**	**$95,000**	**$58,861**
														Yes	**Yes**	**10**	**$95,000**	**$82,802**
														Yes	**No**	**12**	**$95,000**	**$104,924**
														Yes	**No**	**14**	**$95,000**	**$130,966**
														Yes	**No**	**16**	**$95,000**	**$160,740**
M-94	--	B	--	64	64	61	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-95	--	B	--	64	64	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-96	--	B		52	52	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-97	--	B		54	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-98	ST-58	A	--	69	75	77	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-98A	--	A	--	48	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99	ST-23	B	--	60	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99A	--	B	--	48	49	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99B	--	B	--	52	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99C	--	B	--	51	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-100	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-101	--	B	--	44	44	48	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-102	--	B	--	48	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-103	--	B	--	53	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-104	ST-24	B	--	66	66	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-104A	--	B	--	50	51	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-105	**--**	**B**	**S-650 (Property Line) and S-652 (ROW)**	**70**	**71**	**74**	**B (67)**	**9**	**12**	**14**	**16**	**17**	**18**	**Yes**	**No**	**6**	**$95,000**	**$402,169**
M-106	--	B		61	62	65	B (67)	3	5	5	6	6	6					
M-107	--	B		57	58	62	B (67)	3	4	4	4	4	5	**Yes**	**No**	**8**	**$380,000**	**$447,038**
M-108	--	B		54	54	59	B (67)	0	1	1	1	1	1					
M-109	--	B		50	51	56	B (67)	1	2	2	2	2	2	**Yes**	**Yes**	**10**	**$570,000**	**$487,376**
M-110	--	B		49	50	56	B (67)	1	1	1	1	1	1					
M-111	--	B		47	47	52	B (67)	0	1	1	1	1	1	**Yes**	**Yes**	**12**	**$665,000**	**$524,606**
M-112	--	B		46	47	51	B (67)	0	0	0	0	0	0					
M-113	--	B		51	51	56	B (67)	2	2	2	3	3	3	**Yes**	**Yes**	**14**	**$665,000**	**$558,680**
M-114	--	B		52	52	57	B (67)	3	4	4	5	5	5					
M-115	--	B		54	55	60	B (67)	4	4	5	6	6	6					
M-116	--	B		57	58	61	B (67)	3	4	5	6	6	7	**Yes**	**Yes**	**16**	**$760,000**	**$592,674**
M-117	--	B		61	62	64	B (67)	3	5	6	7	8	8					
M-118	**--**	**B**		**67**	**67**	**69**	**B (67)**	**3**	**6**	**8**	**10**	**11**	**12**					
M-105	**--**	**B**		**70**	**71**	**74**	**B (67)**	**9**	**12**	**14**	**16**	**17**	**18**	**Yes**	**No**	**6**	**$95,000**	**$398,157**

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-106	--	B	**S-650 (Property Line) and S-652 (Property Line)**	61	62	65	B (67)	4	5	6	6	6	7					
M-107	--	B		57	58	62	B (67)	3	4	4	4	4	5	**Yes**	**Yes**	**8**	**$475,000**	**$442,241**
M-108	--	B		54	54	59	B (67)	0	1	1	1	1	1					
M-109	--	B		50	51	56	B (67)	1	1	2	2	2	2	**Yes**	**No [a]**	**10**	**$475,000**	**$484,699**
M-110	--	B		49	50	56	B (67)	0	1	1	1	1	1					
M-111	--	B		47	47	52	B (67)	0	0	0	0	0	0	**Yes**	**No**	**12**	**$475,000**	**$522,535**
M-112	--	B		46	47	51	B (67)	0	0	0	0	0	0					
M-113	--	B		51	51	56	B (67)	0	0	0	0	0	0					
M-114	--	B		52	52	57	B (67)	1	1	1	2	2	2	**Yes**	**No**	**14**	**$475,000**	**$557,215**
M-115	--	B		54	55	60	B (67)	1	2	2	2	2	2					
M-116	--	B		57	58	61	B (67)	3	5	5	6	7	7					
M-117	--	B		61	62	64	B (67)	4	6	8	9	10	11	**Yes**	**No [a]**	**16**	**$570,000**	**$591,861**
M-118	**--**	**B**		**67**	**67**	**69**	**B (67)**	**3**	**7**	**9**	**11**	**12**	**13**					
M-118A	--	B	--	49	50	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-119	--	B	--	65	66	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-120	--	B	--	64	65	74	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-121	--	B	--	58	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-122	ST-25	B	--	63	64	65	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-122A	--	B	--	64	65	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-123	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-124	--	B	--	62	63	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-125	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125A	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125B	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-126	ST-26	B	--	54	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-127	--	B	--	53	54	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-128	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-129	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131	ST-27	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131A	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-132	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-133	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-134	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-135	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-137	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-138	--	B	--	51	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-139	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-140	--	B	--	63	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-141	--	B	--	65	66	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-142	--	B	--	62	63	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-143	--	B	--	65	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-144	--	B	--	52	52	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-145	ST-29	B	--	64	64	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-146	--	B	--	61	61	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-147	--	B	--	54	54	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-148	--	B	--	57	58	58	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-149	--	B	--	58	58	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-150	--	B	--	57	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-151	--	B	--	60	62	65	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-152	--	B	--	61	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-154	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-155	--	B	--	60	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-156	--	B	--	51	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-157	--	B	--	60	60	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-158	ST-31	B	--	53	54	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-159	--	B	--	51	52	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-160	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-161	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-163	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-164	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-165	--	B	--	52	53	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-166	--	B	--	57	57	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-167	--	B	--	67	68	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-168	--	B	--	55	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-169	--	B	--	52	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-170	--	B	--	54	54	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-171	--	B	--	51	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-172	--	B	--	53	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-173	--	B	--	56	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-174	--	B	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-175	ST-33	B	--	61	62	68	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-176	--	B	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-177	--	B	--	55	56	59	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-178	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-179	--	B	--	54	56	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-180	ST-34	B	--	60	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-181	--	B	--	52	53	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-182	--	B	--	63	64	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-183	--	B	--	60	59	62	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-184	--	B	--	52	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-185	--	B	--	65	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-186	--	B	--	66	66	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-187	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-188	--	B	--	50	49	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-189	ST-35	B	--	62	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-190	--	B	--	57	56	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-191	--	B	--	52	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-192	--	B	--	53	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-193	--	B	--	59	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-194	--	B	--	66	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-195	ST-36	B	--	61	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-196	--	B	--	59	60	63	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-197	--	B	--	58	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-198	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-199	--	B	--	60	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-200	--	B	--	53	53	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-201	--	B	--	66	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-202	--	B	--	63	63	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-203	--	B	--	54	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-204	--	B	--	52	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-205	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-206	--	B	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-207	--	B	--	64	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-208	ST-40	B	--	64	68	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-209	--	B	--	56	56	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-210	--	B	--	55	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-211	--	B	--	59	59	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-212	ST-37	B	--	63	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-213	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-214	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-215	--	B	--	59	60	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-216	--	B	--	50	50	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-217	--	B	--	56	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-218	ST-38	B	--	65	65	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-219	--	B	--	52	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-220	--	B	--	59	60	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-221	--	B	--	55	55	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-222	--	B	--	51	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-223	--	B	--	58	58	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-224	--	B	--	55	55	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-225	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-226	--	B	--	53	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-227	--	B	--	61	61	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-229	--	B	--	60	61	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-230	--	B	--	56	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-231	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-232	--	B	--	59	59	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-234	ST-41	B	--	59	60	61	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-236	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-237	--	B	--	65	66	67	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-238	--	B	--	62	62	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-239	--	B	--	67	67	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-240	--	B	--	67	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--

a. Total reasonable allowance is within 10% of the estimated construction cost.

Build Alternative 1 would not involve changes that would result in noticeable increases in ground-borne vibration or ground-borne noise levels from use or maintenance of the roadway compared with the No-Build Alternative.

Future Six-Lane Facility (Build Alternative 1)

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not change existing land uses.

Additional analysis was conducted to identify potential impacts from the addition of two travel lanes along limited segments of Cajalco Road in the future. Table 3.15-4 shows design-year noise levels at sensitive receptors along the alignment of Build Alternative 1. As shown in Table 3.15-4, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would affect traffic noise in a manner similar to that described for Build Alternative 1.

Table 3.15-4. Proposed Project vs. Future Six-Lane Design Traffic Noise – Build Alternative 1

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 1 Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs Four-Lane Configuration
M-1	Undeveloped / G	71.9	71.9	0
M-2	Industrial / F	70.8	70.8	0
M-3/ST-1	Undeveloped / G	71.2	71.1	-0.1
M-4	Residential / B	57.9	58.1	0.2
M-5	Residential / B	62.0	62.7	0.7
M-6/ST-2	Residential / B	62.2	62.7	0.5
M-7	Residential / B	60.3	60.2	-0.1
M-8	Residential / B	63.0	63.1	0.1
M-9	Residential / B	52.3	52.4	0.1
M-10	Undeveloped / G	61.5	61.4	-0.1
M-11	Undeveloped / G	72.3	72.2	-0.1
M-13	Undeveloped / G	64.6	64.5	-0.1
M-14	Undeveloped / G	65.2	65.9	0.7
M-15/ST-4	Undeveloped / G	70.3	70.5	0.2
M-16/ST-5	Undeveloped / G	73.1	73	-0.1
M-17/ST-6	Undeveloped / G	65.9	66	0.1
M-17A	Residential / B	56.0	56.3	0.3
M-18	Undeveloped / G	55.7	55.6	-0.1
M-19	Undeveloped / G	67.1	67.5	0.4
M-20/ST-7	Undeveloped / G	68.5	68.5	0
M-21	Undeveloped / G	69.9	69.9	0
M-22	Undeveloped / G	52.8	52.7	-0.1
M-23	Industrial / F	57.6	57.5	-0.1
M-24	Residential / B	58.5	58.4	-0.1

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 1 Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs Four-Lane Configuration
M-25/ST-8	Undeveloped / G	59.1	58.9	-0.2
M-26	Undeveloped / G	58.1	58.1	0
M-27	Residential / B	46.8	47	0.2
M-28	Undeveloped / G	50.4	50.9	0.5
M-29	Undeveloped / G	51.8	52.1	0.3
M-30	Undeveloped / G	50.8	51.4	0.6
M-31	Undeveloped / G	63.0	63.4	0.4
M-33	Undeveloped / G	49.7	49.9	0.2
M-34	Undeveloped / G	61.9	62.3	0.4
M-36	Undeveloped / G	65.0	65.2	0.2
M-37	Undeveloped / G	61.5	61.6	0.1
M-39/ST-57	Undeveloped / G	70.8	70.5	-0.3
M-40	Undeveloped / G	68.2	68.1	-0.1
M-41/ST-12	Undeveloped / G	56.2	56.9	0.7
M-42	Undeveloped / G	53.5	54	0.5
M-43	Undeveloped / G	53.5	54.1	0.6
M-44	Undeveloped / G	54.1	54.5	0.4
M-45	Residential / B	36.4	36.5	0.1
M-46/ST-13	Residential / B	35.7	35.7	0
M-47	Residential / B	34.6	34.6	0
M-47A	Residential / B	35.9	36	0.1
M-48	Residential / B	34.7	34.8	0.1
M-49	Residential / B	39.2	39.2	0
M-50	Residential / B	40.5	40.6	0.1
M-51	Residential / B	40.9	40.9	0
M-52	Residential / B	41.6	41.6	0
M-53	Residential / B	41.8	41.9	0.1
M-54	Residential / B	42.0	42	0
M-55	Residential / B	41.1	41.1	0
M-55A	Residential / B	36.9	37	0.1
M-56	Residential / B	43.0	43.2	0.2
M-57	Residential / B	39.9	40.1	0.2
M-58	Residential / B	52.4	52.8	0.4
M-59/ST-14	Residential / B	43.8	44	0.2
M-59A	Residential / B	51.8	52.1	0.3
M-60	Undeveloped / G	48.3	48.2	-0.1
M-61/ST-42	Undeveloped / G	39.4	39.4	0
M-61A	Residential / B	42.6	42.6	0
M-61B	Residential / B	44.5	44.7	0.2
M-61C	Residential / B	43.6	43.7	0.1
M-61D	Residential / B	43.1	43.2	0.1
M-61E	Residential / B	43.6	43.8	0.2
M-62	Undeveloped / G	60.3	60.3	0
M-63/ST-15	Undeveloped / G	71.5	71.2	-0.3

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 1 Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs Four-Lane Configuration
M-64	Undeveloped / G	60.1	60.3	0.2
M-65	Undeveloped / G	65.2	65.5	0.3
M-66	Undeveloped / G	71.4	71.1	-0.3
M-67/ST-16	Undeveloped / G	72.7	72.4	-0.3
M-68	Undeveloped / G	65.8	66.1	0.3
M-69	Undeveloped / G	66.8	66.9	0.1
M-70/ST-17	Undeveloped / G	71.7	71.4	-0.3
M-71	Undeveloped / G	70.2	70.1	-0.1
M-72	Undeveloped / G	58.9	59.1	0.2
M-73	Undeveloped / G	64.4	64.7	0.3
M-74/ST-18	Undeveloped / G	65.5	65.7	0.2
M-75	Undeveloped / G	66.5	66.7	0.2
M-76/ST-19	Undeveloped / G	70.6	70.4	-0.2
M-77	Undeveloped / G	58.7	58.5	-0.2
M-78	Undeveloped / G	64.7	64.8	0.1
M-79/ST-20	Undeveloped / G	67.0	67.1	0.1
M-80	Undeveloped / G	63.8	64.4	0.6
M-81	Undeveloped / G	62.0	61.9	-0.1
M-82/ST-21	Residential / B	56.7	57.2	0.5
M-83	Residential / B	57.7	58.4	0.7
M-84	Undeveloped / G	61.8	62.1	0.3
M-85	Undeveloped / G	65.9	66	0.1
M-86	Undeveloped / G	58.1	57.9	-0.2
M-87	Undeveloped / G	58.8	58.6	-0.2
M-88	Undeveloped / G	59.9	59.6	-0.3
M-89	Residential / B	59.4	60.1	0.7
M-90	Residential / B	54.2	54.6	0.4
M-91/ST-60	Undeveloped / G	63.5	63.4	-0.1
M-92/ST-22	Undeveloped / G	73.3	73.3	0
M-92A	Residential / B	60.8	60.8	0
M-93	**Residential / B**	**74.4**	**74.4**	**0**
M-94	Commercial / E	60.9	60.9	0
M-95	Undeveloped / G	68.7	68.7	0
M-96	Residential / B	58.2	58.2	0
M-97	Residential / B	61.1	61.1	0
M-98/ST-58	Undeveloped / G	76.5	76.5	0
M-98A	Residential / B	55.8	55.9	0.1

* Traffic noise results represent uncalibrated noise levels

[1] Bolded receivers represent traffic noise results that approach or exceed the respective NAC or result in a substantial increase.

Lake Mathews MSHCP (Build Alternative 1)

The roadway modifications resulting from the conversion of conservation lands to a transportation facility along the Cajalco Road alignment would not result in any receiver approaching or exceeding the NAC for residential land uses within the LM MSHCP area, including the LMR.

Build Alternative 2C—Modified Cajalco Alignment

Build Alternative 2C would include the same improvements as Build Alternative 1, except that a new four-lane segment of Cajalco Road would be constructed from La Sierra Avenue to just west of Lake Mathews Drive. Under this alternative, Cajalco Road between La Sierra Avenue and a point just west of Lake Mathews Drive would be closed to public traffic. The pavement in this portion of existing Cajalco Road would be partially or completely removed and fenced to prevent access. The remaining dirt, gravel, or partially paved road may be used by the Metropolitan Water District of Southern California (MWD) for access to the LMR and Lake Mathews.

Table 3.15-5, on the following page, indicates existing and design-year (2044) noise levels at modeled receivers, including sensitive receptors, along the Build Alternative 2C alignment.

Under Build Alternative 2C, noise levels at three modeled receivers would approach or exceed the NAC of 67 dBA L_{eq}(h) for residential land uses. The traffic noise modeling results in Table 3.15-5 indicate that Receivers M-93, M-105, and M-118, within Area B, would experience design-year noise levels of 74, 74, and 69 dBA L_{eq}(h), respectively. Modeling results indicate that noise levels at other modeled receivers would not approach or exceed the NAC or increase substantially. Traffic noise impacts are predicted to occur at Receivers M-93, M-105, and M-118. Therefore, noise abatement must be considered.

Similar to Build Alternative 1, Build Alternative 2C would not involve changes that would result in noticeable increases in ground-borne vibration or ground-borne noise levels from use or maintenance of the roadway compared with the No-Build Alternative.

Table 3.15-5. Traffic Noise Results and Barrier Analysis – Build Alternative 2C

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-1	--	A	--	68	71	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-2	--	A	--	65	66	71	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-3	ST-1	A	--	68	69	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-4	--	A	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-5	--	A	--	59	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-6	ST-2	A	--	57	57	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-7	--	A	--	52	52	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-8	--	A	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-9	--	A	--	48	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-10	--	A	--	64	64	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-11	--	A	--	68	68	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-13	--	A	--	63	63	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-14	--	A	--	65	66	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-15	ST-4	A	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-16	ST-5	A	--	70	71	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17	ST-6	A	--	52	53	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17A	--	A	--	48	49	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-18	--	A	--	62	63	56	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-19	--	A	--	53	53	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-20	ST-7	A	--	73	73	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-21	--	A	--	70	70	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-22	--	A	--	62	63	52	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-23	--	A	--	64	64	57	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-24	--	A	--	58	59	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-25	ST-8	A	--	71	71	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-26	--	A	--	57	58	56	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-27	--	A	--	42	42	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-28	--	A	--	44	44	52	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-29	--	A	--	47	45	51	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-30	--	A	--	45	43	54	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33	--	A	--	42	40	53	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33A	--	A	--	--	--	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33B	--	A	--	--	--	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33C	--	A	--	--	--	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33D	--	A	--	--	--	53	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33E	--	A	--	--	--	54	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-33F	--	A	--	--	--	53	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-43	--	A	--	65	62	52	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-44	--	A	--	49	46	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-45	--	A	--	51	48	38	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-46	ST-13	A	--	50	46	37	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-47	--	A	--	49	46	36	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-47A	--	A	--	57	54	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-48	--	A	--	49	46	38	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-49	--	A	--	52	48	39	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-50	--	A	--	58	55	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-51	--	A	--	49	46	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-52	--	A	--	52	49	41	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-53	--	A	--	54	51	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-54	--	A	--	64	61	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-55	--	A	--	55	52	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-55A	--	A	--	42	39	37	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-56	--	A	--	59	56	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-57	--	A	--	58	55	40	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-58	--	A	--	44	41	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-59	ST-14	A	--	53	50	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-59A	--	A	--	61	58	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-60	--	A	--	64	61	47	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-61	ST-42	A	--	38	35	39	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-61A	--	A	--	41	38	42	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61B	--	A	--	42	39	45	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61C	--	A	--	40	37	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61D	--	A	--	40	37	43	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-61E	--	A	--	41	38	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-62	--	A	--	52	49	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-63	ST-15	A	--	72	69	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-64	--	A	--	65	62	56	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-65	--	A	--	59	56	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-66	--	A	--	70	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-67	ST-16	A	--	72	70	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-68	--	A	--	56	55	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-69	--	A	--	64	63	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-70	ST-17	A	--	70	69	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-71	--	A	--	58	57	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-72	--	A	--	51	50	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-73	--	A	--	60	59	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-74	ST-18	A	--	62	61	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-75	--	A	--	54	53	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-76	ST-19	A	--	65	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-77	--	A	--	57	56	59	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-78	--	A	--	56	54	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-79	ST-20	A	--	66	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-80	--	A	--	59	58	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-81	--	A	--	54	52	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-82	ST-21	A	--	51	51	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-83	--	A	--	53	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-84	--	A	--	58	58	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-85	--	A	--	62	62	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-86	--	A	--	58	59	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-87	--	A	--	58	59	59	G (None)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-88	--	A	--	59	60	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-89	--	A	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-90	--	A	--	47	48	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-91	ST-60	A	--	64	64	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-92	ST-22	B	--	64	64	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-92A	--	B	S-624	54	55	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-93	**--**	**B**	**S-624**	**69**	**69**	**74**	**B (67)**	**8**	**11**	**13**	**14**	**14**	**15**	**Yes**	**Yes**	**6**	**$95,000**	**$39,778**
														Yes	**Yes**	**8**	**$95,000**	**$58,861**
														Yes	**Yes**	**10**	**$95,000**	**$82,802**
														Yes	**No**	**12**	**$95,000**	**$104,924**
														Yes	**No**	**14**	**$95,000**	**$130,966**
														Yes	**No**	**16**	**$95,000**	**$160,740**
M-94	--	B	--	64	64	67	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-95	--	B	--	64	64	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-96	--	B	S-624	52	52	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-97	--	B	S-624	54	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-98	ST-58	A	--	69	75	78	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-98A	--	A	--	48	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99	ST-23	B	--	60	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99A	--	B	--	48	49	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99B	--	B	--	52	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99C	--	B	--	51	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-100	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-101	--	B	--	44	44	48	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-102	--	B	--	48	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-103	--	B	--	53	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-104	ST-24	B	--	66	66	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-104A	--	B	--	50	51	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-105	**--**	**B**	**S-650 (Property Line) and S-652 (ROW)**	**70**	**71**	**74**	**B (67)**	**9**	**12**	**14**	**16**	**17**	**18**	**Yes**	**No**	**6**	**$95,000**	**$402,169**
M-106	--	B		61	62	65	B (67)	3	5	5	6	6	6					
M-107	--	B		57	58	62	B (67)	3	4	4	4	4	5	**Yes**	**No**	**8**	**$380,000**	**$447,038**
M-108	--	B		54	54	59	B (67)	0	1	1	1	1	1					
M-109	--	B		50	51	56	B (67)	1	2	2	2	2	2	**Yes**	**Yes**	**10**	**$570,000**	**$487,376**
M-110	--	B		49	50	56	B (67)	1	1	1	1	1	1					
M-111	--	B		47	47	52	B (67)	0	1	1	1	1	1	**Yes**	**Yes**	**12**	**$665,000**	**$524,606**
M-112	--	B		46	47	51	B (67)	0	0	0	0	0	0					
M-113	--	B		51	51	56	B (67)	2	2	2	3	3	3	**Yes**	**Yes**	**14**	**$665,000**	**$558,680**
M-114	--	B		52	52	57	B (67)	3	4	4	5	5	5					
M-115	--	B		54	55	60	B (67)	4	4	5	6	6	6					
M-116	--	B		57	58	61	B (67)	3	4	5	6	6	7	**Yes**	**Yes**	**16**	**$760,000**	**$592,674**
M-117	--	B		61	62	64	B (67)	3	5	6	7	8	8					
M-118	**--**	**B**		**67**	**67**	**69**	**B (67)**	**3**	**6**	**8**	**10**	**11**	**12**					

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-105	**--**	**B**	**S-650 (Property Line) and S-652 (Property Line)**	**70**	**71**	**74**	**B (67)**	**9**	**12**	**14**	**16**	**17**	**18**	**Yes**	**No**	**6**	**$95,000**	**$398,157**
M-106	--	B		61	62	65	B (67)	4	5	6	6	6	7					
M-107	--	B		57	58	62	B (67)	3	4	4	4	4	5	**Yes**	**Yes**	**8**	**$475,000**	**$442,241**
M-108	--	B		54	54	59	B (67)	0	1	1	1	1	1					
M-109	--	B		50	51	56	B (67)	1	1	2	2	2	2	**Yes**	**No [a]**	**10**	**$475,000**	**$484,699**
M-110	--	B		49	50	56	B (67)	0	1	1	1	1	1					
M-111	--	B		47	47	52	B (67)	0	0	0	0	0	0	**Yes**	**No**	**12**	**$475,000**	**$522,535**
M-112	--	B		46	47	51	B (67)	0	0	0	0	0	0					
M-113	--	B		51	51	56	B (67)	0	0	0	0	0	0	**Yes**	**No**	**14**	**$475,000**	**$557,215**
M-114	--	B		52	52	57	B (67)	1	1	1	2	2	2					
M-115	--	B		54	55	60	B (67)	1	2	2	2	2	2					
M-116	--	B		57	58	61	B (67)	3	5	5	6	7	7	**Yes**	**No [a]**	**16**	**$570,000**	**$591,861**
M-117	--	B		61	62	64	B (67)	4	6	8	9	10	11					
M-118	**--**	**B**		**67**	**67**	**69**	**B (67)**	**3**	**7**	**9**	**11**	**12**	**13**					
M-118A	--	B	--	49	50	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-119	--	B	--	65	66	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-120	--	B	--	64	65	74	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-121	--	B	--	58	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-122	ST-25	B	--	63	64	65	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-122A	--	B	--	64	65	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-123	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-124	--	B	--	62	63	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-125	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125A	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125B	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-126	ST-26	B	--	54	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-127	--	B	--	53	54	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-128	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-129	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131	ST-27	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131A	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-132	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-133	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-134	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-135	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-137	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-138	--	B	--	51	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-139	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-140	--	B	--	63	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-141	--	B	--	65	66	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-142	--	B	--	62	63	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-143	--	B	--	65	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-144	--	B	--	52	52	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-145	ST-29	B	--	64	64	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-146	--	B	--	61	61	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-147	--	B	--	54	54	55	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-148	--	B	--	57	58	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-149	--	B	--	58	58	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-150	--	B	--	57	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-151	--	B	--	60	62	65	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-152	--	B	--	61	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-154	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-155	--	B	--	60	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-156	--	B	--	51	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-157	--	B	--	60	60	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-158	ST-31	B	--	53	54	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-159	--	B	--	51	52	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-160	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-161	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-163	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-164	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-165	--	B	--	52	53	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-166	--	B	--	57	57	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-167	--	B	--	67	68	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-168	--	B	--	55	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-169	--	B	--	52	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-170	--	B	--	54	54	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-171	--	B	--	51	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-172	--	B	--	53	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-173	--	B	--	56	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-174	--	B	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-175	ST-33	B	--	61	62	68	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-176	--	B	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-177	--	B	--	55	56	59	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-178	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-179	--	B	--	54	56	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-180	ST-34	B	--	60	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-181	--	B	--	52	53	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-182	--	B	--	63	64	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-183	--	B	--	60	59	62	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-184	--	B	--	52	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-185	--	B	--	65	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-186	--	B	--	66	66	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-187	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-188	--	B	--	50	49	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-189	ST-35	B	--	62	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-190	--	B	--	57	56	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-191	--	B	--	52	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-192	--	B	--	53	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-193	--	B	--	59	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-194	--	B	--	66	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-195	ST-36	B	--	61	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-196	--	B	--	59	60	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-197	--	B	--	58	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-198	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-199	--	B	--	60	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-200	--	B	--	53	53	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-201	--	B	--	66	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-202	--	B	--	63	63	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-203	--	B	--	54	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-204	--	B	--	52	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-205	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-206	--	B	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-207	--	B	--	64	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-208	ST-40	B	--	64	68	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-209	--	B	--	56	56	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-210	--	B	--	55	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-211	--	B	--	59	59	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-212	ST-37	B	--	63	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-213	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-214	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-215	--	B	--	59	60	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-216	--	B	--	50	50	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-217	--	B	--	56	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-218	ST-38	B	--	65	65	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-219	--	B	--	52	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-220	--	B	--	59	60	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-221	--	B	--	55	55	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-222	--	B	--	51	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-223	--	B	--	58	58	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-224	--	B	--	55	55	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-225	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-226	--	B	--	53	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-227	--	B	--	61	61	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-229	--	B	--	60	61	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-230	--	B	--	56	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-231	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-232	--	B	--	59	59	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-234	ST-41	B	--	59	60	61	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-236	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-237	--	B	--	65	66	67	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-238	--	B	--	62	62	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-239	--	B	--	67	67	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-240	--	B	--	67	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--

a. Total reasonable allowance is within 10% of the estimated construction cost.

Future Six-Lane Facility (Build Alternative 2C)

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, construction may result in intermittent traffic delays until the project is completed; however, the delays would be temporary and would not be anticipated to be substantial enough to interfere with existing land uses.

Additional analysis was conducted to identify potential impacts from the addition of two travel lanes along limited segments of Cajalco Road in the future. Table 3.15-6 shows design-year noise levels at sensitive receptors along the alignment of Build Alternative 2C. As shown in Table 3.15-6, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would affect traffic noise in a manner similar to that described for Build Alternative 2C.

Table 3.15-6. Proposed Project vs. Future Six-Lane Design Traffic Noise – Build Alternative 2C

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 2C Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs. Four-Lane Configuration
M-1	Undeveloped / G	71.9	71.9	0
M-2	Industrial / F	70.8	70.8	0
M-3	Undeveloped / G	71.2	71.1	-0.1
M-4	Residential / B	57.9	58.1	0.2
M-5	Residential / B	62	62.7	0.7
M-6	Residential / B	62.2	62.7	0.5
M-7	Residential / B	60.3	60.2	-0.1
M-8	Residential / B	63	63	0
M-9	Residential / B	52.3	52.4	0.1
M-10	Undeveloped / G	61.5	61.4	-0.1
M-11	Undeveloped / G	72.3	72.2	-0.1
M-13	Undeveloped / G	64.6	64.5	-0.1
M-14	Undeveloped / G	65.2	65.6	0.4
M-15	Undeveloped / G	70.3	70.4	0.1
M-16	Undeveloped / G	73.2	73	-0.2
M-17	Undeveloped / G	66	66.1	0.1
M-17A	Residential / B	56.1	55.9	-0.2
M-18	Undeveloped / G	55.7	55.6	-0.1
M-19	Undeveloped / G	67.1	67.5	0.4
M-20	Undeveloped / G	68.4	68.4	0
M-21	Undeveloped / G	69.8	69.8	0
M-22	Undeveloped / G	52.1	51.9	-0.2
M-23	Industrial / F	57.4	57.2	-0.2
M-24	Residential / B	58.8	58.7	-0.1
M-25	Undeveloped / G	58.6	58.4	-0.2
M-26	Undeveloped / G	56.2	56.2	0
M-27	Residential / B	50.6	50.5	-0.1
M-28	Undeveloped / G	52	52.2	0.2
M-29	Undeveloped / G	51.2	51.1	-0.1

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 2C Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs. Four-Lane Configuration
M-30	Undeveloped / G	53.7	53.6	-0.1
M-31	Undeveloped / G	52.9	52.6	-0.3
-32	Undeveloped / G	51.4	51.5	0.1
M-33	Undeveloped / G	53	52.8	-0.2
M-33A	Undeveloped / G	63.6	64.3	0.7
M-33B	Undeveloped / G	66.5	67.1	0.6
M-33C	Undeveloped / G	61.7	62.5	0.8
M-33D	Undeveloped / G	53	53	0
M-33E	Undeveloped / G	53.5	53	-0.5
M-33F	Undeveloped / G	53.4	53.6	0.2
M-34	Undeveloped / G	45.7	45.8	0.1
M-35	Undeveloped / G	43.2	43.4	0.2
M-36	Undeveloped / G	42.2	41.9	-0.3
M-37	Undeveloped / G	38.8	38.6	-0.2
M-38	Undeveloped / G	38.8	38.5	-0.3
M-39	Undeveloped / G	42.1	42.2	0.1
M-40	Undeveloped / G	49.1	49.5	0.4
M-41	Undeveloped / G	51.4	51.2	-0.2
M-42	Undeveloped / G	47.9	47.7	-0.2
M-43	Undeveloped / G	51.9	51.5	-0.4
M-44	Undeveloped / G	63	63.2	0.2
M-45	Residential / B	37.9	38	0.1
M-46	Residential / B	36.6	36.7	0.1
M-47	Residential / B	36.2	36.3	0.1
M-47A	Residential / B	40.9	41.1	0.2
M-48	Residential / B	37.8	38	0.2
M-49	Residential / B	38.8	38.9	0.1
M-50	Residential / B	41.4	41.6	0.2
M-51	Residential / B	40.8	40.9	0.1
M-52	Residential / B	41.4	41.4	0
M-53	Residential / B	41.7	41.7	0
M-54	Residential / B	42.3	42.4	0.1
M-55	Residential / B	41.8	41.9	0.1
M-55A	Residential / B	37	37	0
M-56	Residential / B	43.7	43.8	0.1
M-57	Residential / B	40	40.2	0.2
M-58	Residential / B	52.9	53.3	0.4
M-59	Residential / B	44.3	44.7	0.4
M-59A	Residential / B	51.7	52.1	0.4
M-60	Undeveloped / G	46.7	46.7	0
M-61	Undeveloped / G	39.2	39.1	-0.1
M-61A	Residential / B	41.8	41.9	0.1
M-61B	Residential / B	44.8	44.9	0.1

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 2C Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs. Four-Lane Configuration
M-61C	Residential / B	43.8	43.9	0.1
M-61D	Residential / B	43.2	43.2	0
M-61E	Residential / B	43.9	44.0	0.1
M-62	Undeveloped / G	60.7	60.9	0.2
M-63	Undeveloped / G	62.1	61.6	-0.5
M-64	Undeveloped / G	55.7	55.5	-0.2
M-65	Undeveloped / G	63.3	63.4	0.1
M-66	Undeveloped / G	71.4	71.1	-0.3
M-67	Undeveloped / G	72.7	72.4	-0.3
M-68	Undeveloped / G	65.4	65.9	0.5
M-69	Undeveloped / G	66.8	66.9	0.1
M-70	Undeveloped / G	71.7	71.4	-0.3
M-71	Undeveloped / G	70.2	70.1	-0.1
M-72	Undeveloped / G	58.9	59.1	0.2
M-73	Undeveloped / G	64.4	64.7	0.3
M-74	Undeveloped / G	65.5	65.7	0.2
M-75	Undeveloped / G	66.5	66.7	0.2
M-76	Undeveloped / G	70.6	70.4	-0.2
M-77	Undeveloped / G	58.7	58.5	-0.2
M-78	Undeveloped / G	64.7	64.8	0.1
M-79	Undeveloped / G	67	67.1	0.1
M-80	Undeveloped / G	63.8	64.4	0.6
M-81	Undeveloped / G	62	61.9	-0.1
M-82	Residential / B	56.7	57.2	0.5
M-83	Residential / B	57.7	58.4	0.7
M-84	Undeveloped / G	61.8	62.1	0.3
M-85	Undeveloped / G	65.9	66	0.1
M-86	Undeveloped / G	58.1	57.9	-0.2
M-87	Undeveloped / G	58.8	58.6	-0.2
M-88	Undeveloped / G	59.9	59.6	-0.3
M-89	Residential / B	59.4	60.1	0.7
M-90	Residential / B	54.2	54.7	0.5
M-91	Undeveloped / G	63.5	63.4	-0.1
M-92	Undeveloped / G	73.2	73.3	0.1
M-92A	Residential / B	60.8	60.8	0
M-93	Residential / B	74.3	74.4	0.1
M-94	Commercial / E	66.7	66.8	0.1
M-95	Undeveloped / G	68.6	68.7	0.1
M-96	Residential / B	58.2	58.2	0
M-97	Residential / B	61	61.1	0.1
M-98	Undeveloped / G	78.3	78.3	0
M-98A	Residential / B	56.3	56.3	0

* Traffic noise results represent uncalibrated noise levels
[1] Bolded receivers represent traffic noise results that approach or exceed the respective NAC or result in a substantial increase.

Lake Mathews MSHCP (Build Alternative 2C)

As mentioned above, roadway modifications as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment would not result in any receiver approaching or exceeding the NAC for residential land uses within the LM MSHCP area, including the LMR.

Build Alternative 4—El Sobrante Alignment

Between Temescal Canyon Road and the area west of La Sierra Avenue as well as between Gustin Road and I-215, improvements proposed under Build Alternative 4 would be identical to those of Build Alternatives 1 and 2C. Between the area west of La Sierra Avenue and Gustin Road, El Sobrante Road would be improved from the existing two-lane facility to a four-lane facility, generally following the existing El Sobrante Road alignment from La Sierra Avenue to Harley John Road (see Figure 3.15-4). The El Sobrante Road intersection with La Sierra Avenue would be improved. La Sierra Avenue would be slightly realigned from just west of Tin Mine Road eastward to the intersection with El Sobrante Road. At a point approximately one mile west of Harley John Road, El Sobrante Road would be realigned to provide a smoother transition from Cajalco Road to El Sobrante Road. In addition, existing Cajalco Road would be realigned west of Harley John Road to tie into El Sobrante Road.

Between La Sierra Avenue and Temescal Canyon Road, the western portion of Build Alternative 4 would extend south to Cajalco Road, then continue west along Cajalco Road to Temescal Canyon Road. Between El Sobrante Road and Cajalco Road, La Sierra Avenue would be realigned slightly west of the existing La Sierra Avenue alignment. Between the realigned La Sierra Avenue intersection with Cajalco Road and Temescal Canyon Road, the roadway improvements would be the same as those proposed under Build Alternative 1.

The portion of Cajalco Road between La Sierra Avenue and Gustin Road would remain in its current configuration. Between Temescal Creek Bridge and the realigned La Sierra Avenue, as well as along the realigned La Sierra Avenue south of El Sobrante Road, wildlife crossings of various widths would be constructed beneath Cajalco Road. New traffic signals would be installed at the realigned intersection of El Sobrante Road and La Sierra Avenue/the main MWD Lake Mathews facility entrance as well as the new intersection of El Sobrante Road and Harley John Road.

Table 3.15-7, on the following page, indicates existing and design-year (2044) noise levels at modeled receivers, including sensitive receptors, along the Build Alternative 4 alignment.

Table 3.15-7. Traffic Noise Results and Barrier Analysis – Build Alternative 4

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-1	--	A	--	68	71	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-2	--	A	--	65	66	71	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-3	ST-1	A	--	68	69	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-4	--	A	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-5	--	A	--	59	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-6	ST-2	A	--	57	57	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-7	--	A	--	52	52	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-8	--	A	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-9	--	A	--	48	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-10	--	A	--	64	64	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-11	--	A	--	68	68	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-13	--	A	--	63	63	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-14	--	A	--	65	66	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-15	ST-4	A	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-16	ST-5	A	--	70	71	74	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17	ST-6	A	--	52	53	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-17A	--	A	--	48	49	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-18	--	A	--	62	63	55	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-19	--	A	--	53	53	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-20	ST-7	A	--	73	73	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-21	--	A	--	70	70	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-92A	--	B	--	54	55	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-93	**--**	**B**	**S-624**	**69**	**69**	**75**	**B (67) A/E**	**9**	**12**	**13**	**14**	**15**	**16**	**Yes**	**Yes**	**6**	**$95,000**	**$39,032**
														Yes	**Yes**	**8**	**$95,000**	**$57,866**
														Yes	**Yes**	**10**	**$95,000**	**$79,738**
														Yes	**No [a]**	**12**	**$95,000**	**$103,354**
														Yes	**No**	**14**	**$95,000**	**$128,905**
														Yes	**No**	**16**	**$95,000**	**$158,347**
M-94	--	B	--	64	64	61	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-95	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-96	--	B	--	52	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-97	--	B	--	54	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-98A	**--**	**B**	**S-565**	**48**	**52**	**63**	**B (67) Sub**	**3**	**5**	**5**	**6**	**7**	**7**	**No**	**No**	**6**	**$95,000**	**--**
														No	**No**	**8**	**$95,000**	**--**
														No	**No**	**10**	**$95,000**	**--**
														No	**No**	**12**	**$95,000**	**--**
														Yes	**No**	**14**	**$95,000**	**$966,191**
														Yes	**No**	**16**	**$95,000**	**$1,050,441**
M-99	**ST-23**	**B**	**--**	**60**	**61**	**66**	**B (67) A/E**	--	--	--	--	--	--	--	--	--	--	--
M-99A	--	B	--	48	49	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99B	--	B	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-99C	--	B	--	51	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-100	--	B	--	53	53	57	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-101	--	B	--	44	44	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-102	--	B	--	48	49	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-103	--	B	--	53	54	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-104	ST-24	B	--	66	66	72	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-104A	--	B	--	50	51	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-105	**--**	**B**	**S-650 (Property Line) and S-652 (ROW)**	**70**	**71**	**75**	**B (67) A/E**							**Yes**	**No**	**6**	**$95,000**	**$402,169**
M-106	--	B		61	62	67	B (67)											
M-107	--	B		57	58	63	B (67)							**Yes**	**Yes**	**8**	**$475,000**	**$447,038**
M-108	--	B		54	54	61	B (67)											
M-109	--	B		50	51	57	B (67)							**Yes**	**Yes**	**10**	**$570,000**	**$487,376**
M-110	--	B		49	50	57	B (67)											
M-111	--	B		47	47	54	B (67)							**Yes**	**Yes**	**12**	**$570,000**	**$524,606**
M-112	--	B		46	47	53	B (67)											
M-113	--	B		51	51	57	B (67)							**Yes**	**Yes**	**14**	**$665,000**	**$558,680**
M-114	--	B		52	52	58	B (67)											
M-115	--	B		54	55	61	B (67)											
M-116	--	B		57	58	63	B (67)							**Yes**	**Yes**	**16**	**$665,000**	**$592,674**
M-117	--	B		61	62	66	B (67)											
M-118	**--**	**B**		**67**	**67**	**70**	**B (67) A/E**											
M-105	**--**	**B**	**S-650 (Property Line) and S-652 (Property Line)**	**70**	**71**	**75**	**B (67) A/E**							**Yes**	**No**	**6**	**$190,000**	**$398,157**
M-106	--	B		61	62	67	B (67)											
M-107	--	B		57	58	63	B (67)							**Yes**	**Yes**	**8**	**$475,000**	**$442,241**
M-108	--	B		54	54	61	B (67)											
M-109	--	B		50	51	57	B (67)							**Yes**	**No [a]**	**10**	**$475,000**	**$484,699**
M-110	--	B		49	50	57	B (67)											
M-111	--	B		47	47	54	B (67)							**Yes**	**No**	**12**	**$475,000**	**$522,535**
M-112	--	B		46	47	53	B (67)											
M-113	--	B		51	51	57	B (67)							**Yes**	**No**	**14**	**$475,000**	**$557,215**
M-114	--	B		52	52	58	B (67)											
M-115	--	B		54	55	61	B (67)											
M-116	--	B		57	58	63	B (67)							**Yes**	**No**	**16**	**$475,000**	**$591,861**
M-117	--	B		61	62	66	B (67)											
M-118	**--**	**B**		**67**	**67**	**70**	**B (67) A/E**											
M-118A	--	B	--	49	50	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-119	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-120	--	B	--	64	65	75	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-121	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-122	ST-25	B	--	63	64	67	F (None)	--	--	--	--	--	--	--	--	--	--	--
M-122A	--	B	--	64	65	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-123	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-124	--	B	--	62	63	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-125	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125A	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-125B	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-126	ST-26	B	--	54	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-127	--	B	--	53	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-128	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-129	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131	ST-27	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-131A	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-132	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-133	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-134	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-135	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-137	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-138	--	B	--	51	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-139	--	B	--	46	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-140	--	B	--	63	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-141	--	B	--	65	66	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-142	--	B	--	62	63	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-143	--	B	--	65	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-144	--	B	--	52	52	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-145	ST-29	B	--	64	64	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-146	--	B	--	61	61	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-147	--	B	--	54	54	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-148	--	B	--	57	58	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-149	--	B	--	58	58	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-150	--	B	--	57	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-151	--	B	--	60	62	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-152	--	B	--	61	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-154	--	B	--	58	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-155	--	B	--	60	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-156	--	B	--	51	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-157	--	B	--	60	60	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-158	ST-31	B	--	53	54	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-159	--	B	--	51	52	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-160	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-161	--	B	--	51	52	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-163	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-164	--	B	--	54	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-165	--	B	--	52	53	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-166	--	B	--	57	57	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-167	--	B	--	67	68	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-168	--	B	--	55	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-169	--	B	--	52	53	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-170	--	B	--	54	54	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-171	--	B	--	51	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-172	--	B	--	53	54	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-173	--	B	--	56	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-174	--	B	--	52	53	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-175	ST-33	B	--	61	62	68	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-176	--	B	--	55	56	63	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-177	--	B	--	55	56	59	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-178	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-179	--	B	--	54	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-180	ST-34	B	--	60	61	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-181	--	B	--	52	53	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-182	--	B	--	63	64	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-183	--	B	--	60	59	62	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-184	--	B	--	52	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-185	--	B	--	65	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-186	--	B	--	66	66	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-187	--	B	--	64	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-188	--	B	--	50	49	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-189	ST-35	B	--	62	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-190	--	B	--	57	56	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-191	--	B	--	52	51	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-192	--	B	--	53	52	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-193	--	B	--	59	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-194	--	B	--	66	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-195	ST-36	B	--	61	61	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-196	--	B	--	59	60	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-197	--	B	--	58	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-198	--	B	--	53	53	56	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-199	--	B	--	60	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-200	--	B	--	53	53	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-201	--	B	--	66	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-202	--	B	--	63	63	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-203	--	B	--	54	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-204	--	B	--	52	52	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-205	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-206	--	B	--	69	69	70	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-207	--	B	--	64	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-208	ST-40	B	--	64	68	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-209	--	B	--	56	56	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-210	--	B	--	55	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-211	--	B	--	59	59	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-212	ST-37	B	--	63	64	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-213	--	B	--	55	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-214	--	B	--	48	48	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-215	--	B	--	59	60	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-216	--	B	--	50	50	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-217	--	B	--	56	56	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-218	ST-38	B	--	65	65	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-219	--	B	--	52	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-220	--	B	--	59	60	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-221	--	B	--	55	55	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-222	--	B	--	51	52	55	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-223	--	B	--	58	58	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-224	--	B	--	55	55	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-225	--	B	--	64	64	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-226	--	B	--	53	54	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-227	--	B	--	61	61	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-229	--	B	--	60	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-230	--	B	--	56	57	59	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-231	--	B	--	58	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-232	--	B	--	59	59	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-234	ST-41	B	--	59	60	62	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-236	--	B	--	65	66	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-237	--	B	--	65	66	67	E (72)	--	--	--	--	--	--	--	--	--	--	--
M-238	--	B	--	62	62	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-239	--	B	--	67	67	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-240	--	B	--	67	68	71	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-241	--	C	--	43	46	57	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-242	--	C	--	48	52	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-243	--	C	--	51	54	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-244	--	C	--	41	44	57	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-245	--	C	--	42	46	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-246	--	C	--	50	53	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-247	--	C	--	48	52	58	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-248	--	C	--	52	55	63	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-249	--	C	--	59	62	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-250	--	C	--	69	72	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-251	ST-43	C	--	71	75	78	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-252	--	C	--	51	55	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-253	ST-44	C	--	69	73	73	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-254	--	C	--	57	60	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-255	--	C	--	42	45	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-256	--	C	--	53	56	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-257	--	C	--	62	64	62	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-258	--	C	--	56	58	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-259	--	C	--	46	49	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-260	ST-45	C	--	59	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-262	--	C	--	59	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-263	--	C	--	59	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-264	--	C	--	57	60	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-265	--	C	--	59	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-266	--	C	--	59	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-267	--	C	--	58	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-268	--	C	--	58	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-269	--	C	--	57	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-270	ST-46	C	--	57	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-271	--	C	--	57	59	61	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-272	--	C	--	57	60	62	B (67)	--	--	--	--	--	--	--	--	--	--	--

Receiver ID	Measurement Location	Area	Barrier ID	Existing Noise Level (dBA)	Design Year (2044) No-Build Noise Level (dBA)	Design Year (2044) Build Noise Level (dBA)	Noise Impact Criteria Requiring Abatement Consideration	Predicted Noise Level Reduction with Abatement (dBA)						Noise Abatement				
								6-foot wall	8-foot wall	10-foot wall	12-foot wall	14-foot wall	16-foot wall	Feasible/ Design Goal Met	Reasonable	Barrier Height (FT)	Total Allowable Cost	Construction Cost
M-273	--	C	--	53	55	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-274	--	C	--	53	56	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-275	ST-47	C	--	53	55	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-276	--	C	--	58	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-277	--	C	--	58	61	63	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-278	--	C	--	57	59	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-279	--	C	--	58	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-280	ST-48	C	--	59	61	64	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-281	--	C	--	54	57	60	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-282	--	C	--	51	54	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-283	--	C	--	62	65	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-285	--	C	--	63	66	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-286	--	C	--	49	51	58	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-287	--	C	--	51	53	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-288	ST-50	C	--	55	57	61	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-289	ST-51	C	--	55	58	65	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-290	--	C	--	58	61	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-291	--	C	--	68	71	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-292	--	C	--	49	52	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-293	ST-52	C	--	72	74	60	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-294	--	C	--	38	40	44	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-295	--	C	--	39	42	46	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-296	--	C	--	64	66	67	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-297	--	C	--	56	58	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-298	--	C	--	45	47	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-299	--	C	--	49	51	57	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-301	--	C	--	48	50	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-302	--	C	--	53	56	62	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-303	--	C	--	64	67	68	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-304	--	C	--	65	67	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-306	--	C	--	57	60	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-307	--	C	--	63	65	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-308	--	C	--	58	61	69	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-309	--	C	--	48	50	55	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-310	ST-54	C	--	44	46	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-311	--	C	--	49	51	53	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-312	--	C	--	53	54	54	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-313	--	C	--	48	50	51	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-314	--	C	--	65	66	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-315	--	C	--	46	48	52	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-316	ST-55	C	--	43	46	49	B (67)	--	--	--	--	--	--	--	--	--	--	--
M-317	--	C	--	64	66	64	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-318	--	C	--	55	57	66	G (None)	--	--	--	--	--	--	--	--	--	--	--
M-319	ST-56	C	--	56	58	58	C (67)	--	--	--	--	--	--	--	--	--	--	--

a. Total reasonable allowance is within 10% of the estimated construction cost.

Under Build Alternative 4, noise levels at four modeled receivers would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ for residential land uses; one modeled receiver is predicted to experience a substantial increase (12 dB increase relative to the existing modeled noise level) as a result of the proposed project. The traffic noise modeling results in Table 3.15-4 indicate that Receivers M-93, M-99, M-105, and M-118, within Area B, would experience design-year noise levels of 75, 66, 75, and 70 dBA $L_{eq}(h)$, respectively. The traffic noise modeling results in Table 3.15-4 indicate that traffic noise levels at modeled Receiver M-98A would increase by 15 dB (48 dBA $L_{eq}(h)$ in the existing year and 63 dBA $L_{eq}(h)$ in the design year [build condition]). Modeling results indicate that noise levels at other modeled receivers would not approach or exceed the NAC or increase substantially. Traffic noise impacts are predicted to occur at Receivers M-93, M-99, M-105, and M-118. Therefore, noise abatement must be considered.

Build Alternative 4 would not involve changes that would result in noticeable increases in ground-borne vibration or ground-borne noise levels from use or maintenance of the roadway compared with the No-Build Alternative.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not change existing land uses.

Additional analysis was conducted to identify potential impacts from the addition of two travel lanes along limited segments of Cajalco Road and La Sierra Avenue in the future. Table 3.15-8 shows design-year noise levels at sensitive receptors along the Build Alternative 4 alignment. As shown in Table 3.15-8, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would affect traffic noise in a manner similar to that described for Build Alternative 4.

Table 3.15-8. Proposed Project vs. Future Six-Lane Design Traffic Noise – Build Alternative 4

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 4 Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs. Four-Lane Configuration
M-1	Undeveloped / G	71.8	71.8	0
M-2	Industrial / F	70.9	70.8	-0.1
M-3/ST-1	Undeveloped / G	71.2	71.2	0
M-4	Residential / B	58.1	58.4	0.3
M-5	Residential / B	62.1	63	0.9
M-6/ST-2	Residential / B	62.3	62.9	0.6
M-7	Residential / B	60.6	60.6	0
M-8	Residential / B	63.3	63.3	0
M-9	Residential / B	52.4	52.6	0.2
M-10	Undeveloped / G	61.9	61.8	-0.1
M-11	Undeveloped / G	72.7	72.6	-0.1

Modeled Receiver [1]	Land Use / Activity Category	Build Alternative 4 Design Year Noise Level (dBA) *	Six-Lane Future Condition Noise Level (dBA) *	Traffic Noise Difference Six-Lane vs. Four-Lane Configuration
M-13	Undeveloped / G	64.2	64.2	0
M-14	Undeveloped / G	65.5	66.2	0.7
M-15/ST-4	Undeveloped / G	70.3	70.5	0.2
M-16/ST-5	Undeveloped / G	73.6	73.5	-0.1
M-17/ST-6	Undeveloped / G	65.8	66.2	0.4
M-17A	Residential / B	55.9	56.2	0.3
M-18	Undeveloped / G	55.4	55.5	0.1
M-19	Undeveloped / G	67.4	67.7	0.3
M-20/ST-7	Undeveloped / G	65.5	65.6	0.1
M-21	Undeveloped / G	72.6	72.5	-0.1

* Traffic noise results represent uncalibrated noise levels
[1] Bolded receivers represent traffic noise results that approach or exceed the respective NAC or result in a substantial increase.

Lake Mathews MSHCP (Build Alternative 4)

As mentioned above, roadway alignment modifications along Cajalco Road, El Sobrante Road, and La Sierra Avenue as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment would not result in any receiver approaching or exceeding the NAC for residential land uses within the LM MSHCP area, including the LMR.

No-Build Alternative

The noise study results provided in Table 3.15-3 indicate that predicted traffic noise levels for design-year worst-hour noise levels would range from 37 to 71 dBA $L_{eq}(h)$ at representative land uses, meaning that noise levels would approach or exceed the NAC for Activity Category B land uses at three modeled receiver locations.

3.15.3.2 Temporary Impacts

Build Alternatives 1, 2C, and 4

During construction of the project, noise from construction activities may intermittently dominate the noise environment in the immediate area of construction. Table 3.15-9 on the following page summarizes the noise levels that would be produced by the equipment that is anticipated to be used during project construction. This conventional construction equipment is expected to generate noise levels ranging from 74 to 85 dBA maximum noise level (L_{max}) at a distance of 50 feet; pile driving would generate a noise level of approximately 101 dBA L_{max} at 50 feet. Noise produced by construction equipment would be reduced at a rate of about 6 dB per doubling of distance.

Table 3.15-9. Construction Equipment Noise

Equipment	L_{max} at 50 feet (dBA, slow)
Air compressor	78
Auger drill rig	84
Backhoe	78
Compactor	83
Concrete mixer truck	79
Concrete pump truck	81
Crane	81
Dozer	82
Dump truck	76
Excavator	81
Front-end loader	79
Generator	81
Grader	85
Impact pile driver	101
Jackhammer	89
Paver	77
Pneumatic tools	85
Rollers	80
Scraper	84
Welder/torch	74
Source: Federal Highway Administration. 2008. *Roadway Construction Noise Model*. Version 1.1. Available: http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.	

The proposed project would include compliance with Standard Project Measure **PF NOI-1**, whereby noise associated with construction is controlled by the 2018 Caltrans Standard Specifications, Section 14-8.02, Noise Control:

- **PF NOI-1**: Do not exceed 86 A-weighted decibels maximum noise level at 50 feet from job site activities between 9:00 p.m. and 6:00 a.m. (2018 California Department of Transportation Standard Specifications, Section 14-8.02, Noise Control[3]).

No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with Caltrans Standard Specifications, Section 14.8-02.[4]

The project would include construction activities related to laying new pavement along the existing roadway alignment on Cajalco Road, as well as intersecting roads, under Build Alternatives 1 and 2C; the same activities would occur on Cajalco Road, La Sierra Avenue, and El Sobrante Road, as well as intersecting roads, under Build Alternative 4. According to Caltrans' *Transportation and Construction Vibration Guidance Manual*, the typical type of construction equipment involved in laying new pavement produces a peak particle velocity (PPV) of 0.21 PPV inch per second (for vibratory rollers) at a reference distance of 25 feet (Caltrans 2020). The vibration damage threshold for older residential building is 0.5 PPV.

[3] The project NSR referenced the 2015 SS 14-8.02; however, the ED has been updated to reference the 2018 SS 14-8.02 as the 2018 version was released after the NSR was completed. The time requirements of 9:00 p.m. and 6:00 a.m. remain unchanged between the 2015 and 2018 versions.
[4] Refer to Section 4.2.13, *Noise*, of Chapter 4, *California Environmental Quality Act*, for discussion on local construction noise ordinances.

Vibration-sensitive structures that are considered extremely susceptible to vibration damage would not be located within 50 feet of construction activities.

Pile driving is proposed at new bridge locations where engineering designs and geotechnical conditions indicate that pile driving is the appropriate construction method. The nearest residence to a proposed bridge location would be approximately 310 feet south of the proposed westbound Cajalco Road bridge at STA #740, which is west of Barton Street (refer to Figures 3.15-2 [Sheet 24], 3.15-3 [Sheet 27], and Figure 3.15-4 [Sheet 29]). The use of cast-in-drilled-hole (CIDH) piles, or shallow-spread footings, is recommended for bridge construction at this location; therefore, pile driving and associated vibration effects are not anticipated at the residence (County 2017). As discussed in Section 3.8, *Cultural Resources*, vibration-sensitive cultural resources have been identified at this location and therefore would be exposed to vibration associated with construction equipment used for clearing, grubbing, and bridge construction. Measures in Section 3.8 are proposed to avoid or otherwise minimize construction impacts on sensitive cultural resources to the greatest extent feasible.

The next-nearest residence to a proposed bridge location would be approximately 330 feet northwest of the proposed Cajalco Road bridge at STA #110, between Temescal Canyon Road and La Sierra Avenue (refer to Sheet 4 on Figures 3.15-2, 3.15-3, and Figure 3.15-4). The estimated vibration that the residence would experience during construction of the bridge is based on the following calculation:

Vibration PPV would dissipate at a rate of PPVref x (25/D)N x (Eequip/Eref) 0.5, where:

- PPVref = 0.65 inch/second at a reference distance of 25 feet,
- D = distance from the pile driver,
- N = 1.1 is the value related to attenuation of vibration throughout the ground,
- Eref = 36,000 foot-pound (rated energy of reference pile driver),
- Eequip = rated energy of impact pile driver in foot-pounds (assumed same as reference).

For proposed bridge locations where engineering designs and geotechnical conditions warrant pile driving, the closest habitable structure would be approximately 330 feet from the vibration sources. As such, vibration levels would be on the order of 0.04 PPV (Caltrans 2020). No impacts from vibration during construction are predicted at habitable structures. In addition, CIDH piles, or shallow-spread footings, may be used, depending on engineering designs and geotechnical conditions. These construction techniques would be considerably less vibration intensive (0.089 PPV), which would further reduce vibration levels.

No-Build Alternative

Under the No-Build Alternative, widening along Cajalco Road would not be implemented at this time. No construction-related noise or vibration impacts would occur.

3.15.4 Avoidance, Minimization, and/or Abatement Measures

Before adoption of the final environmental document, 23 CFR 772 requires noise abatement measures that are reasonable and feasible, as well as likely to be incorporated into the project, to be identified.

The preliminary reasonableness determination is made by calculating an allowance, which is considered a reasonable amount of money, per benefited residence, to spend on abatement. The overall reasonable abatement is determined by considering factors such as cost, the absolute predicted noise levels, predicted future increases in noise levels, the opinion of affected residents, input from the public and local agencies, and social, legal, and technological factors. This reasonable allowance is then compared to the engineer's cost estimate for the abatement. If the engineer's cost estimate is less than the allowance, the preliminary determination is that the abatement is reasonable. If the cost estimate is higher than the allowance, the preliminary determination is that abatement is not reasonable.

The recommended soundwall locations are shown on Figure 3.15-2 (Sheets 20 and 21) for Build Alternative 1, Figure 3.15-3 (Sheets 23 and 24) for Build Alternative 2C, and Figure 3.15-4 (Sheets 25 and 26) for Build Alternative 4; heights are listed in Tables 3.15-3, 3.15-5, and 3.15-7 for each build alternative, respectively. The results of the preliminary noise abatement decision report are based on acoustical and non-acoustical feasibility factors, the design goal, and the relationship between noise abatement allowances and the cost estimate. The final overall reasonableness decision will take these results into account, along with the results of the survey of benefited receptors conducted during the environmental review process. At the end of the public review process for this EIR/EIS, the final noise abatement decision will be made and presented in the final EIR/EIS. The preliminary noise abatement decision presented in this EIR/EIS will become the final noise abatement decision, unless compelling information received during the environmental review process, or as part of the survey of benefited receptors, indicates that it should be changed.

The following Mitigation Measures **NOI-2** and **NOI-3** have been identified based on the results of the noise abatement analysis for each build alternative.

3.15.4.1 NOI-2: Noise Barrier S-624

Build Alternative 1–Cajalco Alignment

Modeled Receiver M-93 would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ under the design-year build condition. Noise Barrier S-624 was modeled and found to be acoustically feasible. Furthermore, the barrier would meet the 7 dB insertion loss at the design receiver (M-93) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-624 would be constructed on the right of way, with a length of approximately 160 feet. The location of Noise Barrier S-624 is shown on Figure 3.15-2, Sheet 20.

Under Build Alternative 1, Noise Barrier S-624 would provide benefit for one receptor (Activity Category B land use [residential]) and have a total reasonable allowance of $95,000 for all barrier heights (6 to 16 feet) versus a construction cost of $39,778 at 6 feet, $58,861 at 8 feet, $82,802 at 10 feet, $104,924 at 12 feet, $130,966 at 14 feet, and $160,740 at 16 feet. The cost at barrier heights of 12, 14, and 16 feet would exceed the reasonable allowances. However, the

reasonable allowances for barrier heights of 6, 8, and 10 feet would be below the construction costs. Therefore, this barrier is considered reasonable to construct for barrier heights of 6, 8, and 10 feet. Because a barrier height of 10 feet would provide the most noise reduction at the benefited receptor, a 10-foot height for Noise Barrier S-624 is recommended.

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barrier S-624 at the right of way between STA 624+22 and 625+37 (see Figure 3.15-2, Sheet 20), with respective lengths and average heights of 160 feet and 10 feet. Calculations based on preliminary design data show that Noise Barrier S-624 will reduce noise levels by 5 to 13 dB for one residence at a cost of $82,802. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

Build Alternative 2C–Modified Cajalco Alignment

Modeled Receiver M-93 would approach or exceed the NAC of 67 dBA L_{eq}(h) under the design-year build condition. Noise Barrier S-624 was modeled and found to be acoustically feasible. Furthermore, the barrier would meet the 7 dB insertion loss at the design receiver (M-93) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-624 would be constructed on the right of way, with a length of approximately 160 feet. The location of Noise Barrier S-624 is shown on Figure 3.15-3, Sheet 23.

Under Build Alternative 2C, Noise Barrier S-624 would provide benefit for one receptor (Activity Category B land use [residential]) and have a total reasonable allowance of $95,000 for all barrier heights (6 to 16 feet) versus a construction cost of $39,778 at 6 feet, $58,861 at 8 feet, $82,802 at 10 feet, $104,924 at 12 feet, $130,966 at 14 feet, and $160,740 at 16 feet. The cost at barrier heights of 12, 14, and 16 feet would exceed the reasonable allowances. However, the reasonable allowances for barrier heights of 6, 8, and 10 feet would be below the construction costs. Therefore, this barrier is considered reasonable to construct for barrier heights of 6, 8, and 10 feet. Because a barrier height of 10 feet would provide the most noise reduction at the benefited receptor, a 10-foot height for Noise Barrier S-624 is recommended.

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barrier S-624 at the right of way between STA 624+22 and 625+37 (see Figure 3.15-3, Sheet 23), with respective lengths and average heights of 160 feet and 10 feet. Calculations based on preliminary design data show that Noise Barrier S-624 will reduce noise levels by 5 to 13 dB for one residence at a cost of $82,802. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

Build Alternative 4–El Sobrante Alignment

Modeled Receiver M-93 would approach or exceed the NAC of 67 dBA L_{eq}(h) under the design-year build condition. Noise Barrier S-624 was modeled and found to be acoustically feasible, Furthermore, the barrier would meet the 7 dB insertion loss at the design receiver (M-93) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-624 would be constructed on

the right of way, with a length of approximately 155 feet. The location of Noise Barrier S-624 is shown on Figure 3.15-4, Sheet 25.

Under Build Alternative 4, Noise Barrier S-624 would provide benefit for one receptor (Activity Category B land use [residential]) and have a total reasonable allowance of $95,000 for all barrier heights (6 to 16 feet) versus a construction cost of $39,032 at 6 feet, $57,866 at 8 feet, $79,738 at 10 feet, $103,354 at 12 feet, $128,905 at 14 feet, and $158,347 at 16 feet. The cost at barrier heights of 14 and 16 feet would exceed the reasonable allowances. However, the reasonable allowances for barrier heights of 6, 8, and 10 feet would be below the construction costs, with a barrier height of 12 feet being within the 10 percent contingency. Therefore, this barrier is considered reasonable to construct for barrier heights of 6, 8, 10, and 12 feet. Because a barrier height of 10 feet would provide the most noise reduction at the benefited receptor, a 10-foot height for Noise Barrier S-624 is recommended.

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barrier S-624 at the right of way between STA #624+22 and 625+37 (see Figure 3.15-4, Sheet 25), with respective lengths and average heights of 155 feet and 10 feet. Calculations based on preliminary design data show that Noise Barrier S-624 will reduce noise levels by 5 to 13 dB for one residence at a cost of $79,738. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

3.15.4.2 NOI-3: Noise Barriers S-650 (Property Line) and S-652 (Property Line)

Build Alternative 1–Cajalco Alignment

Modeled Receivers M-105 and M-118 would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ under the design-year build condition. Two sets of noise barriers (Noise Barriers S-650 and S-652 Right of Way [ROW] and Noise Barriers S-650 and S-652 [Property Line]) were modeled and found to be acoustically feasible. The barriers would meet the 7 dB insertion loss at the design receiver (M-105) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-650 would be constructed on the property line under both modeling scenarios; modeling this barrier along the right of way would restrict access to a dirt road on the adjacent parcel. Noise Barrier S-650 would be approximately 330 feet in length. Noise Barrier S-652 (ROW) was modeled along the right of way, with a length of approximately 450 feet. Noise Barrier S-652 (Property Line) was modeled along the property line, with a length of approximately 285 feet. The locations of Noise Barriers S-650 and 652 are shown on Figure 3.15-2, Sheet 21.

Noise Barriers S-650 and S-652 (Property Line) under Build Alternative 1 were found to be acoustically feasible. The barriers would meet the design goal of 7 dB insertion loss at the design receivers (M-105 and M-118) if constructed at heights ranging from 6 to 16 feet, with a total length of approximately 610 feet. Noise Barriers S-650 and S-652 (Property Line) would both be constructed along the property line and include a step-down design. Barrier heights of 14 and 16 feet would block the line of sight to an 11.5-foot truck stack at all the benefited receptors.

Under Build Alternative 1, Noise Barriers S-650 and S-652 (Property Line) would provide benefit for one to six receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $95,000 for a barrier height of 6 feet versus a construction

cost of $398,157, a total reasonable allowance of $475,000 for a barrier height of 8 feet versus a construction cost of $442,241, a total reasonable allowance of $475,000 for a barrier height of 10 feet versus a construction cost of $484,699, a total reasonable allowance of $475,000 for a barrier height of 12 feet versus a construction cost of $522,535, a total reasonable allowance of $475,000 for a barrier height of 14 feet versus a construction cost of $557,215, and a total reasonable allowance of $570,000 for a barrier height of 16 feet versus a construction cost of $591,861. The cost at barrier heights of 6, 12, and 14 feet would exceed the reasonable allowances. However, the reasonable allowance for a barrier height of 8 feet would be below the construction costs. In addition, the reasonable allowance for a barrier height of 10 and 16 feet would be within 10 percent of the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 8, 10, and 16 feet. Thus, under Build Alternative 1, Noise Barriers S-650 and S-652 (Property Line) are recommended to be constructed at a barrier height of 8 feet, benefitting five receptors.

Barrier heights of 10 and 16 feet would provide additional noise reduction and benefit a maximum of six receptors (in the case of the 16-foot barrier height); however, the additional barrier height would block the line of sight from the benefited residences and the additional receptor significantly (in the case of a 16-foot barrier).

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barriers S-650 and S-652 (Property Line) at the property line between STA #649+29 and 650+51 (S-650) and between STA #652+32 and 655 (S-652) (see Figure 3.15-2, Sheet 21), with respective lengths and average heights of 330 and 285 feet, and 8 feet. Calculations based on preliminary design data show that Noise Barriers S-650 and S-652 (Property Line) will reduce noise levels by 5 to 12 dB for benefited residences at a cost of $442,241. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

Build Alternative 2C–Modified Cajalco Alignment

Modeled Receivers M-105 and M-118 would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ under the design-year build condition. Two sets of noise barriers (Noise Barriers S-650 and S-652 [ROW] and Noise Barriers S-650 and S-652 [Property Line]) were modeled and found to be acoustically feasible. The barriers would meet the 7 dB insertion loss at the design receiver (M-105) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-650 would be constructed on the property line under both modeling scenarios; modeling this barrier along the right of way would restrict access to a dirt road on the adjacent parcel. Noise Barrier S-650 would be approximately 330 feet in length. Noise Barrier S-652 (ROW) was modeled along the right of way, with a length of approximately 450 feet. Noise Barrier S-652 (Property Line) was modeled along the property line, with a length of approximately 285 feet. The locations of Noise Barriers S-650 and 652 are shown on Figure 3.15-3, Sheet 24.

Under Build Alternative 2C, Noise Barriers S-650 (Property Line) and S-652 (Property Line) were found to be acoustically feasible. The barriers would meet the design goal of 7 dB insertion loss at the design receivers (M-105 and M-118) if constructed at heights ranging from 6 to 16 feet, with a total length of approximately 610 feet. Noise Barriers S-650 (Property Line) and S-652 (Property Line) would both be constructed along the property line and include a step-down

design. Barrier heights of 14 and 16 feet would block the line of sight to an 11.5-foot truck stack at all the benefited receptors.

Under Build Alternative 2C, Noise Barriers S-650 (Property Line) and S-652 (Property Line) would provide benefit for one to six receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $95,000 for a barrier height of 6 feet versus a construction cost of $398,157, a total reasonable allowance of $475,000 for a barrier height of 8 feet versus a construction cost of $442,241, a total reasonable allowance of $475,000 for a barrier height of 10 feet versus a construction cost of $484,699, a total reasonable allowance of $4754,000 for a barrier height of 12 feet versus a construction cost of $522,535, a total reasonable allowance of $475,000 for a barrier height of 14 feet versus a construction cost of $557,215, and a total reasonable allowance of $570,000 for a barrier height of 16 feet versus a construction cost of $591,861. The cost at barrier heights of 6, 12, and 14 feet would exceed the reasonable allowances. However, the reasonable allowance for a barrier height of 8 feet would be below the construction costs. In addition, the reasonable allowance for a barrier height of 10 and 16 feet would be within 10 percent of the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 8, 10, and 16 feet. Thus, under Build Alternative 2C, Noise Barriers S-650 (Property Line) and S-652 (Property Line) are recommended to be constructed at a barrier height of 8 feet, benefitting five receptors.

Barrier heights of 10 and 16 feet would provide additional noise reduction and benefit a maximum of six receptors (in the case of the 16-foot barrier height); however, the additional barrier height would block the line of sight from the benefited residences and the additional receptor significantly (in the case of a 16-foot barrier).

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barriers S-650 and S-652 at the property line between STA #649+29 and 650+51 (S-650) and between STA #652+32 and 655 (S-652) (see Figure 3.15-3, Sheet 24), with respective lengths and average heights of 330 and 285 feet, and 8 feet. Calculations based on preliminary design data show that Noise Barriers S-650 and S-652 (Property Line) will reduce noise levels by 5 to 12 dB for residences at a cost of $442,241. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

Build Alternative 4–El Sobrante Alignment

Modeled Receivers M-105 and M-118 would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ under the design-year build condition. Two sets of noise barriers (Noise Barriers S-650 [Property Line] and S-652 [ROW] and Noise Barriers S-650 [Property Line] and S-652 [Property Line]) were modeled and found to be acoustically feasible. The barriers would meet the 7 dB insertion loss at the design receiver (M-105) if constructed at heights ranging from 6 to 16 feet. Noise Barrier S-650 would be constructed on the property line under both modeling scenarios; modeling this barrier along the right of way would restrict access to a dirt road on the adjacent parcel. Noise Barrier S-650 would be approximately 330 feet in length. Noise Barrier S-652 (ROW) was modeled along the right of way, with a length of approximately 450 feet. Noise Barrier S-652 (Property Line) was modeled along the property line, with a length of

approximately 285 feet. The locations of Noise Barriers S-650 and S-652 are shown on Figure 3.15-4, Sheet 26.

Under Build Alternative 4, Noise Barriers S-650 and S-652 (Property Line) were found to be acoustically feasible. The barriers would meet the design goal of 7 dB insertion loss at the design receivers (M-105 and M-118) if constructed at heights ranging from 6 to 16 feet, with a total length of approximately 610 feet. Noise Barriers S-650 and S-652 (Property Line) would both be constructed along the property line and include a step-down design. Barrier heights of 14 and 16 feet would block the line of sight to an 11.5-foot truck stack at all the benefited receptors.

Under Build Alternative 4, Noise Barriers S-650 and S-652 (Property Line) would provide benefit for one to five receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $190,000 for a barrier height of 6 feet versus a construction cost of $398,157, a total reasonable allowance of $475,000 for a barrier height of 8 feet versus a construction cost of $442,241, a total reasonable allowance of $475,000 for a barrier height of 10 feet versus a construction cost of $484,699, a total reasonable allowance of $475,000 for a barrier height of 12 feet versus a construction cost of $522,535, a total reasonable allowance of $475,000 for a barrier height of 14 feet versus a construction cost of $557,215, and a total reasonable allowance of $475,000 for a barrier height of 16 feet versus a construction cost of $591,861. The cost at barrier heights of 6, 12, 14, and 16 feet would exceed the reasonable allowances. However, the reasonable allowance for a barrier height of 8 feet would be below the construction costs. In addition, the reasonable allowance for a barrier height of 10 feet would be within 10 percent of the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 8 and 10 feet. Under Build Alternative 4, Noise Barriers S-650 and S-652 (Property Line) are recommended to be constructed at a barrier height of 8 feet, benefitting five receptors.

A barrier height of 10 feet would provide additional noise reduction; however a 10-foot barrier would block the line of sight from the benefited residences to a greater extent compared with an eight-foot barrier.

Based on the studies completed to date, the County intends to incorporate noise abatement in the form of Noise Barriers S-650 and S-652 (Property Line) at the property line between STA #649+29 and 650+51 (S-650) and between STA #652+32 and 655 (S-652) (see Figure 3.15-4, Sheet 26), with respective lengths and average heights of 330 and 285 feet, and 8 feet. Calculations based on preliminary design data show that Noise Barriers S-650 and S-652 (Property Line) will reduce noise levels by 5 to 12 dB for residences at a cost of $442,241. These measures may change based on input received from the public. If conditions have substantially changed during final design, noise abatement may not be constructed. The final decision on noise abatement will be made upon completion of the project design.

3.15.4.3 Additional Modeled and Evaluated Noise Abatement and Receptors

The following noise abatement and receptors were modeled and considered in this analysis. Based on Section 5 of the Protocol, the noise impact analysis presented in this EIR/EIS is based on a preliminary design. If the project design is changed in a way that could affect the acoustical performance of the barriers, the barrier design would need to be modified to achieve the same performance as that of the barriers outlined in this EIR/EIS. If conditions have substantially

changed during final design, noise abatement may not be necessary. The final decision on noise abatement will be made upon completion of the project design.

Noise Barrier S-652 (ROW)

Noise Barrier S-652 (ROW) was modeled along the right of way (see Figure 3.15-2, Sheet 21 [Build Alternative 1], Figure 3.15-3, Sheet 24 [Build Alternative 2C], and Figure 3.15-4, Sheet 26 [Build Alternative 4]), with a length of approximately 450 feet, and found to be acoustically feasible. Noise Barrier S-652 (ROW) was not recommended because the wall would extend along the right of way in front of an adjacent property.

Build Alternative 1–Cajalco Alignment

Under Build Alternative 1, Noise Barriers S-650 and S-652 (ROW) would provide benefit for one to eight receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $95,000 for a barrier height of 6 feet versus a construction cost of $402,169, a total reasonable allowance of $380,000 for a barrier height of 8 feet versus a construction cost of $447,038, a total reasonable allowance of $570,000 for a barrier height of 10 feet versus a construction cost of $487,376, a total reasonable allowance of $665,000 for a barrier height of 12 feet versus a construction cost of $524,606, a total reasonable allowance of $665,000 for a barrier height of 14 feet versus a construction cost of $558,680, and a total reasonable allowance of $760,000 for a barrier height of 16 feet versus a construction cost of $592,674. The cost at barrier heights of 6 and 8 feet would exceed the reasonable allowances. However, the reasonable allowances for barrier heights of 10, 12, 14, and 16 feet would be below the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 10, 12, 14, and 16 feet. However, under Build Alternative 1, Noise Barriers S-650 and S-652 (ROW) are not recommended a barrier height of 16 feet because Noise Barrier S-652 (ROW) would extend along the right of way in front of the adjacent property.

Build Alternative 2C–Modified Cajalco Alignment

Under Build Alternative 2C, Noise Barriers S-650 (Property Line) and S-652 (ROW) would provide benefit for one to eight receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $95,000 for a barrier height of 6 feet versus a construction cost of $402,169, a total reasonable allowance of $380,000 for a barrier height of 8 feet versus a construction cost of $447,038, a total reasonable allowance of $570,000 for a barrier height of 10 feet versus a construction cost of $487,376, a total reasonable allowance of $665,000 for a barrier height of 12 feet versus a construction cost of $524,606, a total reasonable allowance of $665,000 for a barrier height of 14 feet versus a construction cost of $558,680, and a total reasonable allowance of $760,000 for a barrier height of 16 feet versus a construction cost of $592,674. The cost at barrier heights of 6 and 8 feet would exceed the reasonable allowances. However, the reasonable allowances for barrier heights of 10, 12, 14, and 16 feet would be below the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 10, 12, 14, and 16 feet. However, under Build Alternative 2C, Noise Barriers S-650 (Property Line) and S-652 (ROW) are not recommended to be constructed at a barrier height of 16 feet because Noise Barrier S-652 (ROW) would extend along the right of way in front of the adjacent property.

Build Alternative 4–El Sobrante Alignment

Under Build Alternative 4, Noise Barriers S-650 (Property Line) and S-652 (ROW) 4 would provide benefit for one to seven receptors (representative of Activity Category B land uses [residential]) and have a total reasonable allowance of $95,000 for a barrier height of 6 feet versus a construction cost of $402,169, a total reasonable allowance of $475,000 for a barrier height of 8 feet versus a construction cost of $447,038, a total reasonable allowance of $570,000 for a barrier height of 10 feet versus a construction cost of $487,376, a total reasonable allowance of $570,000 for a barrier height of 12 feet versus a construction cost of $524,606, a total reasonable allowance of $665,000 for a barrier height of 14 feet versus a construction cost of $558,680, and a total reasonable allowance of $665,000 for a barrier height of 16 feet versus a construction cost of $592,674. The cost at a barrier height of 6 feet would exceed the reasonable allowances. However, the reasonable allowances for barrier heights of 8, 10, 12, 14, and 16 feet would be below the construction costs. Therefore, these barriers are considered reasonable to construct for barrier heights of 8, 10, 12, 14, and 16 feet. However, under Build Alternative 4, Noise Barriers S-650 (Property Line) and S-652 (ROW) are not recommended to be constructed at a barrier height of 16 feet because the Noise Barrier S-652 (ROW) would extend along the right of way in front of the adjacent property.

Noise Barrier S-565 (Build Alternative 4)

Noise Barrier S-565, under Build Alternative 4 (see Figure 3.15-4, Sheet 23), was found to be acoustically feasible if constructed at heights ranging from 8 to 16 feet but would meet the design goal of 7 dB insertion loss at the design receiver (M-98A) only at barrier heights of 14 to 16 feet, with a length of approximately 1,225 feet.

Noise Barrier S-565 would provide benefit for one receptor (Activity Category B land use [residential]) and have a total reasonable allowance of $95,000 at barrier heights of 14 and 16 feet versus a construction cost of $966,191 at 14 feet and a construction cost of $1,050,441 at 16 feet. Because the construction cost would exceed the reasonable allowance for both barrier heights, Noise Barrier S-565 is not recommended and will not be included as abatement.

Modeled Receptor M-99 (Build Alternative 4)

Modeled receptor M-99 (see Figure 3.15-4, Sheet 25) would approach or exceed the NAC of 67 dBA $L_{eq}(h)$ during the design year. Noise abatement was not considered for this location because any noise abatement would restrict access to the property by cutting off the driveway. Therefore, no abatement is available.

3.16 Energy

3.16.1 Regulatory Setting

3.16.1.1 Federal Regulations

The National Environmental Policy Act (NEPA) (42 United States Code [USC] Part 4332) requires the identification of all potentially significant impacts to the environment, including energy impacts.

3.16.1.2 State Regulations

The California Environmental Quality Act (CEQA) Guidelines section 15126.2(b) and Appendix F, Energy Conservation, require an analysis of a project's energy use to determine if the project may result in significant environmental effects due to wasteful, inefficient, or unnecessary use of energy, or wasteful use of energy resources.

3.16.2 Affected Environment

California is the most populated state in the nation, has the largest economy, and is second only to Texas in total energy consumption. Although California has the world's fifth-largest economy, the state has one of the lowest per-capita energy consumption levels in the United States. California's extensive efforts to increase energy efficiency and implement alternative technologies have restrained growth in energy demand. California is also rich in energy resources. The state has an abundant supply of crude oil and is a top producer of conventional hydroelectric power. California also leads the nation in electricity generation from solar, geothermal, and biomass resources (U.S. Energy Information Administration 2018).

Driven by high demand from California's many motorists, major airports, and military bases, the transportation sector is the state's largest energy consumer, responsible for approximately 40 percent of the state's energy consumption in 2016 by British Thermal Units (U.S. Energy Information Administration 2016). Petroleum-based fuels account for 91 percent of California ground transportation fuel use (California Energy Commission 2018a:9). Gasoline is the most used transportation fuel in California, with 9 percent of all gasoline being consumed by light-duty cars, pickup trucks, and sport utility vehicles. In 2015, 15.1 billion gallons of gasoline were sold, according to the State Board of Equalization (California Energy Commission 2019). Diesel fuel is the second largest transportation fuel used in California, representing 17 percent of total fuel sales behind gasoline. According to the state Board of Equalization, in 2015 4.2 billion gallons of diesel, including off-road diesel, were sold (California Energy Commission 2019).

As discussed in the 2017 *Integrated Energy Policy Report*, California Energy Commission (CEC) staff projects that petroleum-based fuels will continue to represent the largest shares of transportation fuel demand through at least 2030. However, CEC staff projects that demand for gasoline is expected to wane over time, primarily due to increases in fuel efficiency and electrification. Based on a middle-case scenario, gasoline consumption in the state is predicted to fall from just under the current 15 billion gallons in 2016 to just over 12 billion gallons in 2030. During the same period, demand for jet fuel and diesel fuel is projected to remain constant at

approximately 4 billion gallons of gasoline equivalent for each fuel type (California Energy Commission 2018a:212–213).

In the Southern California Association of Governments (SCAG) region, 9.3 billion gallons of fuel were consumed in 2012, which is projected to fall to 6.8 billion gallons of fuel annually in 2040 with full implementation of the 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy. Despite a projected net increase in vehicle miles traveled (VMT) in the region, fuel consumption reductions are anticipated to result from better fuel economy, the Advanced Clean Cars Program, reduced total daily hours of delays in the regional transportation system, and more alternative fuel and zero emissions vehicles on the road (SCAG 2015:3.6-26).

3.16.2.1 Lake Mathews MSHCP Area

The project corridor travels through the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area and Lake Mathews Multiple Species Reserve (LMR). Much of the land surrounding Lake Mathews is undeveloped because these lands are protected. Much of the energy use within the LM MSHCP area and surrounding area at present results from the operation of motor vehicles and the small number of buildings present, as well as from maintenance activities within the LM MSHCP area. Such energy use is a negligible portion of the total energy use in the project region and the state.

3.16.3 Environmental Consequences

3.16.3.1 Methodology

This energy analysis is based on California Department of Transportation's (Caltrans') Standard Environmental Reference, Volume 1, Chapter 13, Energy, updated in August 2018. The energy analysis addresses two elements: direct and indirect energy consumption. Direct energy refers to the fuel consumed by vehicles using the highway facility. Indirect energy refers to the energy associated with the construction and operation of the facility.

Based on the traffic analysis prepared for the proposed project, sub-regional VMT and roadway network travel speeds were calculated using Opening Year 2024 traffic data (VMT apportioned into 5-mile-per-hour [mph] speed bins) derived from a micro-simulation model that captures regional project effects on traffic circulation (Caltrans 2017). The sub-regional VMT was used to estimate operational automobile traffic energy consumption from the No-Build Alternative and the build alternatives. The VMT-by-speed-bin data were used as inputs in CT-EMFAC2014, which is Caltrans' tool for estimating pollutant emissions from on-road vehicles. The outputs for carbon dioxide (CO_2) were converted to fuel equivalents and million British thermal units (MMBTU) using conversion factors. The estimate of operational energy use includes direct energy from vehicles using the project alignment, as well as the indirect energy use from the effects of the project on circulation patterns and speeds elsewhere in the region.

The estimate of construction-related energy use was estimated using the outputs from the Road Construction Emissions Model, which includes details on construction equipment and activity assumptions. The estimated CO_2 emissions were then converted to fuel equivalents and MMBTU using conversion factors.

3.16.3.2 Permanent Impacts

Build Alternatives 1, 2C, and 4

Local energy demand for transportation projects typically is dominated by vehicle fuel usage. The build alternatives would improve operational efficiency, providing an improvement in traffic flow. Based on the traffic analysis prepared for the proposed project, each of the build alternatives would increase the VMT in the study area at Opening Year 2024 relative to the No-Build Alternative as a result of more vehicles operating on the widened roadway. As shown in Table 3.16-1, energy consumption (in MMBTU and its equivalent in gallons of gasoline) would increase under each of the build alternatives relative to the No-Build Alternative. Under Build Alternative 1, operational energy consumption at Opening Year 2024 would be 0.67 percent higher than under the No-Build Alternative. Under Build Alternative 2C, operational energy consumption at Opening Year 2024 would be 1.25 percent higher than under the No-Build Alternative. Under Build Alternative 4, operational energy consumption at Opening Year 2024 would be 1.07 percent higher than under the No-Build Alternative.

Table 3.16-1 also shows operational energy consumption projected for Horizon Year 2044. Under Build Alternative 1, operational energy consumption at Opening Year 2044 would be 0.88 percent higher than under the No-Build Alternative. Under Build Alternative 2C, operational energy consumption at Opening Year 2044 would be 0.39 percent higher than under the No-Build Alternative. Under Build Alternative 4, operational energy consumption at Opening Year 2044 would be 1 percent higher than under the No-Build Alternative.

Table 3.16-1. Estimated Operational Energy Consumption and Vehicle Miles Traveled, by Alternative

Alternative	Annual Energy Consumption (MMBTU)	Annual Energy Consumption (Gallons of Gasoline Equivalent)	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2014	19,413,114	155,304,913	2,979,123,737
Open to Traffic 2024			
No Build	18,294,593	146,356,745	3,699,198,298
Build Alternative 1	18,416,974	147,335,796	3,751,722,597
Build Alternative 2C	18,522,989	148,183,910	3,771,736,039
Build Alternative 4	18,491,106	147,928,848	3,768,515,922
Horizon Year 2044			
No Build	19,429,723	155,437,786	5,086,991,199
Build Alternative 1	19,601,538	156,812,301	5,128,627,382
Build Alternative 2C	19,504,966	156,039,730	5,108,239,744
Build Alternative 4	19,623,207	156,985,653	5,139,521,794

Source*:* EMFAC 2014. See calculations in Appendix K.
[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per California Air Resources Board methodology (California Air Resources Board 2014).

Although there would be increases in operational energy consumption from vehicles in the project vicinity when comparing the Opening Year 2024 build alternatives to the No-Build Alternative, annual operational energy consumption would decrease by approximately 5 percent under each of the Opening Year 2024 build alternatives when compared to Year 2014

Existing/Baseline. These decreases in energy consumption are attributable to increasing fuel economy standards and the retirement of older, less fuel-efficient vehicles projected to take place by Opening Year 2024. The decrease in fuel consumption at Opening Year 2024 under each of the build alternatives would also occur despite increases in VMT of approximately 26 percent under each of the build alternatives relative to the Existing/Baseline Year 2014.

At Horizon Year 2044, energy consumption from vehicles in the project vicinity would be higher under the build alternatives when compared to the Existing/Baseline Year 2014 conditions. However, for each build alternative, the increase in energy consumption would be approximately 1 percent higher than the Existing/Baseline Year 2014 increases despite increases in VMT of at least 70 percent. Furthermore, Standard Project Measure **PF VIS-4**, which includes the use of energy efficient lighting, would be employed and would reduce energy usage related to operational lighting. Refer to Section 3.7, *Visual/Aesthetics*, for Standard Project Measure **PF VIS-4**. Thus, there would be a minor increase in operational energy consumption to fuel a substantial increase in vehicle travel in the project area, and the build alternatives would not result in the wasteful, inefficient, or unnecessary consumption of energy resources.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would involve greater energy consumption.

Estimated annual operational energy consumption from vehicles in the project area is shown in Table 3.16-2 and would occur almost entirely as fuel use. Energy consumption estimates are based on VMT and speed profile data projected under the six-lane future facility and are compared to the energy consumption estimated under the build alternatives at the Horizon Year 2044. The future six-lane facility is compared to the corresponding Horizon Year 2044 build alternatives because the future six-lane facility, if constructed, would not be implemented until a later date and occur after the construction of the selected build alternative. As such, Year 2044 build alternative scenarios are the appropriate baseline for comparison.

As shown in Table 3.16-2, operational energy consumption is expected to be greater under the six-lane future facility when compared to the corresponding build alternatives, but the increases would not be substantial. The future six-lane facility under Build Alternative 1 or 2C would result in an estimated 0.55 percent increase in operational fuel use compared to Build Alternative 1 at the 2044 Horizon Year. The future six-lane facility under Build Alternative 4 would result in a 0.69 percent increase in operational fuel use compared to Build Alternative 4 at the 2044 Horizon Year. All projected increases in fuel use in the study area are attributable to the increase in VMT projected under the future six-lane future facility.

Table 3.16-2. Estimated Annual Operational Energy Consumption and Vehicle Miles Traveled, Future Six-Lane Facility

Alternative	Annual Energy Consumption (MMBTU)	Annual Energy Consumption (Gallons of Gasoline Equivalent)	Annual Vehicle Miles Traveled[1]
Horizon Year 2044			
Future Six-Lane Facility (Build Alternative 1/2C)	19,709,768	157,678,147	5,150,625,375
Future Six-Lane Facility (Build Alternative 4)	19,758,168	158,065,342	5,168,198,490

Source: EMFAC 2014. See calculations in Appendix K.
[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per California Air Resources Board methodology (California Air Resources Board 2014).

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under each of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements. Any of the build alternatives would result in permanent impacts within the LM MSHCP area associated with the increased emissions from greater vehicle volumes. As specified in Table 3.16-1, operational energy consumption would increase under the build alternatives relative to the No-Build Alternative, and a portion of those increases would occur in the MSHCP area. In addition to everyday roadway operations within the MSHCP area, ongoing maintenance activities for the appurtenant facilities would also result in increases in energy emissions. Given the infrequent nature of maintenance activities and that the maintenance activities would generally be limited in scope, such energy consumption would be minor.

No-Build Alternative

Under the No-Build Alternative, the capacity and condition of the roadways in the project vicinity would remain the same as current conditions. As shown in Table 3.16-1, operational energy consumption would be lower than under each of the build alternatives, but the roadway would not accommodate the additional VMT projected to occur under each of the build alternatives. Energy use in the form of fuel consumption would fall under the No-Build Alternative relative to the Existing/Baseline Year 2014.

3.16.3.3 Temporary Impacts

Build Alternatives 1, 2C, and 4

The construction of the project is expected to involve the use of diesel-powered heavy equipment, portable diesel generators, and heavy-duty trucks for material hauling and delivery and light-duty vehicles for worker commute trips, almost all of which would involve the

consumption of petroleum-based gasoline or diesel fuel. Temporary construction-period activities would require the consumption of the equivalent of 462,000 gallons of diesel fuel, or approximately 64,000 MMBTU (see Table 3.16-3 and Appendix K). Although there would be some differences in the amount of construction-period energy consumed between each of the build alternatives, the construction activities would be similar and the differences are expected to be minor.

Table 3.16-3. Estimated Construction-Period Energy Consumption

Construction Phase	Equipment Used	Gallons of Fuel	Energy Consumption (MMBTU)
Grubbing/Land Clearing	Crawler Tractors (1) Forklifts (2) Water Truck (1) Delivery and Haul Trucks Worker Commute Trips	14,962	2,075
Grading/Excavation	Crawler Tractors (1) Excavators (3) Graders (2) Rollers (2) Rubber Tired Loaders (1) Scrapers (2) Tractors/Loaders/Backhoes (4) Water Truck (1) Delivery and Haul Trucks Worker Commute Trips	244,363	33,893
Drainage/Utilities/Sub-Grade	Air Compressors (1) Generator Sets (1) Graders (1) Plate Compactors (1) Pumps (1) Rough Terrain Forklifts (1) Scrapers (1) Tractors/Loaders/Backhoes (3) Water Truck (1) Delivery and Haul Trucks Worker Commute Trips	138,126	19,158
Paving	Pavers (1) Paving Equipment (1) Rollers (2) Tractors/Loaders/Backhoes (3) Delivery and Haul Trucks Worker Commute Trips	64,656	8,968
	TOTAL	**462,106**	**64,094**
Source: Road Construction Emissions Model outputs. See Appendix K.			

In addition to direct fuel consumption, some battery-operated support equipment and electric equipment may be used during the construction period, which would rely on electricity from the existing grid. There would be an irreversible impact from the consumption of diesel fuel (and other fuels) related to these construction activities.

Although construction activities under each of the build alternatives would require energy consumption, the construction fuel requirements would be temporary in nature and would be limited to the approximately 4-year construction period. Furthermore, Standard Project Measure **PF AQ-1**, which includes restrictions on idling of construction vehicles and the use of onsite mobile equipment powered by alternative fuel sources, would be employed and reduce energy consumption during construction. Refer to Section 3.14, *Air Quality*, for Standard Project Measure **PF AQ-1**. Fuel required for construction would represent a negligible increase in regional demand and an insignificant amount relative to the more than 19 billion gallons of fuels sold in the state as of 2015 (California Energy Commission 2018a, 2018b). Given the extensive network of fueling stations throughout the project vicinity and the fact that construction would be short term, no new or expanded sources of energy or infrastructure would be required to meet the energy demands of the build alternatives. All construction activities would be in the service of constructing the build alternatives to improve existing transportation facilities, and would therefore not be a wasteful, inefficient, or unnecessary consumption of energy resources.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

For the future six-lane facility, construction is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that temporary impacts associated with the construction of two additional travel lanes within the median of Cajalco Road, or within the medians of Cajalco Road and La Sierra Avenue for Build Alternative 4, would result from the use of construction equipment, material movement, and worker commute trips. Construction activities anticipated for the future six-lane facility would include clearing, grading and paving, and temporary staging, for the segment of Cajalco Road between Temescal Canyon Road and La Sierra Avenue under Build Alternatives 1 or 2C, or for the segments of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4. Because the roadway areas represent less than half of the overall length and project area associated with the build alternatives, construction-period energy consumption would be anticipated to be less than that identified for the build alternatives. Such temporary increases in energy consumption are not anticipated to be wasteful or inefficient.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Energy consumed within the LM MSHCP area would represent a portion of the energy consumed for the overall construction of the build alternatives. Because the energy consumption for the overall construction period is not considered a wasteful, inefficient, or unnecessary consumption of energy resources, the portion of the energy consumption within the LM MSHCP area would also not be considered wasteful, inefficient, or unnecessary.

No-Build Alternative

Under the No-Build Alternative, no construction activities would occur and consequently no additional energy would be consumed.

3.16.4 Avoidance, Minimization, and/or Mitigation Measures

The proposed project includes Standard Project Measure **PF AQ-1** to reduce energy consumption during construction. It also includes Standard Project Measure **PF VIS-4**, which

would reduce energy consumption used for operational lighting. No avoidance, minimization, and/or mitigation measures are required.

3.17 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. The emphasis of the section is on the ecological function of the natural communities within the area. 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 (FESA) are discussed in Section 3.21, *Threatened and Endangered Species*. Wetlands and other waters are discussed in Section 3.18, *Wetlands and Other Waters*.

3.17.1 Regulatory Setting

The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), Stephens' kangaroo rat (SKR) (*Dipodomys stephensi*) Habitat Conservation Plan (HCP), and Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), were reviewed because the plans provide specific conservation goals for natural vegetation communities that are rapidly declining throughout the region (e.g., Riversidian sage scrub [RSS] and riparian-riverine resources); these communities provide suitable habitat for the species covered under the plans.

Modifications to the LM MSHCP and associated agreements, easements, and permits, including the identification of proposed mitigation, require approvals by regulatory and responsible parties, and are subject to NEPA and CEQA where such agreements, easements, and permits apply. Therefore, analyses specific to the LM MSHCP are provided under separate headings, *Lake Mathews MSHCP,* within this section. Refer to Section 3.17.1.3, *Lake Mathews Multiple Species Habitat Conservation Plan*, below for further discussion.

3.17.1.1 Western Riverside County Multiple Species Habitat Conservation Plan

The WRC MSHCP, a comprehensive regional HCP, was adopted in June 2003. Major participants in the regional planning effort included the California Department of Transportation (Caltrans), Riverside County, California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), Riverside County Transportation Commission, 18 cities, and interested individuals and groups. The purpose of the plan was to develop methods and procedures that provide for development while protecting environmental resources in the western Riverside County area over a 75-year period. The County signed the Implementation Agreement on December 15, 2003. This plan provides, among other things, impact mitigation for future County projects on circulation element roads in the covered area of western Riverside County.

Participation by the County is intended to streamline the environmental process for future transportation projects in western Riverside County (e.g., through pre-mitigation) and save money over the long term. The proposed project involves an existing facility and is a Covered Activity under Volume I, Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP. The covered transportation routes require discretion by the County with respect to design, construction, and operational decisions to minimize adverse impacts on existing habitat that may

be affected by project activities. For covered projects, compliance with WRC MSHCP Volume I, Section 7.5.1 (Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasi-public Lands), 7.5.2 (Guidelines for Construction of Wildlife Crossings), 7.5.3 (Construction Guidelines), and Appendix C (Standard Best Management Practices) is required. Where impacts cannot be avoided, the County will make reasonable efforts to mitigate the impacts.

A consistency review by the Western Riverside County Regional Conservation Authority (RCA), USFWS, and CDFW will be performed to ensure that the project is consistent with the requirements of the plan. Because there is a federal nexus for the project, formal consultation would occur through the consistency review performed by USFWS and will result in a streamlined biological opinion from USFWS.

3.17.1.2 Stephens' Kangaroo Rat Habitat Conservation Plan

The Riverside County Habitat Conservation Authority (RCHCA) obtained incidental take permits from USFWS and CDFW for SKR within the SKR HCP area. The purpose of the SKR HCP is to streamline the permitting process for otherwise lawful activities resulting in the incidental take of SKR while also meeting FESA and California Endangered Species Act (CESA) requirements without seeking individual permits and agreements with USFWS and CDFW. Conservation goals for SKR were incorporated into the HCP to ensure full mitigation for all SKR occupied habitat that would be incidentally taken. One of these goals included the acquisition and conservation of SKR habitat within an SKR regional reserve system. The SKR HCP provides take authorization for SKR within its boundaries through the establishment of Core Reserves.

The SKR HCP occurs entirely within the WRC MSHCP area. The SKR HCP establishes conservation of 15,000 acres in Core Reserves within the plan's boundary for SKR. The proposed project would occur in one of the long-term SKR HCP Core Reserve areas, Existing Core C. This Core Reserve was established as part of the SKR HCP and is now managed under the WRC MSHCP Conservation Area, consistent with the SKR HCP and other management agreements for the reserve. Public facilities projects receive coverage under this HCP for potential take of SKR; however, because the proposed project would affect SKR Core Reserve lands, a Core Reserve Land Disturbance Report would be prepared that documents the impacts on SKR and compensatory mitigation. The report would be submitted to the RCHCA for Board approval.

3.17.1.3 Lake Mathews Multiple Species Habitat Conservation Plan

The LM MSHCP is a joint conservation effort initiated by the Metropolitan Water District of Southern California (MWD) and RCHCA in cooperation with USFWS and CDFW that spans 5,993.5 acres of open land around Lake Mathews. The LM MSHCP provides take of federally (Endangered Species Act [ESA]) and state-listed (California Endangered Species Act [CESA]) species covered under the plan and the measures necessary to minimize and mitigate for such take. The LM MSHCP also provides take of species that are candidates for federal or state listing under the ESA and CESA; bird species protected by the Migratory Bird Treaty Act or Bald and Golden Eagle Protection Act; species of special concern in California, as identified by CDFW; species on the California Rare Plant Ranking list of sensitive plants; species on the NCCP list of

sensitive coastal sage scrub species; and species of special local concern because of rarity or unique biological value. There are 65 listed and non-listed species covered under the LM MSHCP (Lake Mathews target species). Thirty-one of the LM MSHCP target species are also covered under the WRC MSHCP. The plan provides a broad-based ecosystem approach to planning for the protection and perpetuation of biological diversity. The LM MSHCP includes MWD Plan Area projects and operations areas, the existing State Ecological Reserve, and Mitigation Bank lands established for the LM MSHCP. The Lake Mathews Reserve (LMR) is composed of the State Ecological Reserve and Mitigation Bank area within the LM MSHCP area.

Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements.

The responsible parties (i.e., MWD, USFWS, CDFW, and RCHCA) will need to approve and authorize any new amendment or agreements, and implementation would be conducted by the Lake Mathews Reserve Management Committee (LMRMC).[1] Public/Quasi-public (PQP) lands replacement within the LM MSHCP lands would also require consultation with the RCA. It is anticipated that MWD, as the primary managing entity of Lake Mathews and surrounding operations, will be included in the development of procedures for the discretionary action; however, it should be noted that MWD is not a joint project lead or co-sponsor of the project. Refer to Section 3.1, *Land Use,* for details of the LM MSHCP process.

3.17.2 Affected Environment

Unless otherwise noted, the information from this section was based upon the Natural Environment Study (NES) prepared for the project (Caltrans 2018, 2021). References used in the NES are not carried over into this section. The analysis in this document focuses on those species and habitats that occur or have the potential to occur in the Biological Study Area (BSA).

Several references were used to determine what natural vegetation communities of concern are present. The California Natural Diversity Database (CNDDB) was initially reviewed because it tracks natural communities of concern by CDFW. The WRC MSHCP and LM MSHCP were also reviewed for the sensitive natural vegetation communities that are tracked in the plans.

3.17.2.1 Study Areas

The resources described in this section occur within the BSA, which is composed of the proposed project footprint for Build Alternatives 1, 2C, and 4 and up to a 500-foot buffer (Figure 3.17-1). For WRC MSHCP riparian-riverine resources, the jurisdictional delineation study area (JSA) includes the project footprint and 200-foot buffer for each of the build alternatives.

The BSA occurs in the South Coast subregion of the Southwestern California region and within the California Floristic Province. The natural vegetation of the subregion consists primarily of chaparral, sage scrub, annual grasslands, woodland, and riparian scrub and forest. Much of the natural vegetation occurs in preserved open space or scattered in fragmented patches in areas that are not developed.

[1] The LMRMC is composed of representatives from MWD, RCHCA, USFWS, and CDFW.

The BSA is located within valleys and foothills between the Santa Ana and San Jacinto Mountain ranges. Major topographic features in the vicinity of the BSA include the Gavilan Plateau, Estelle Mountain, Temescal Creek, Lake Mathews, the Gavilan Hills to the immediate south, and the Santa Ana Mountains to the southwest. Human activities and land use in the area surrounding the BSA have historically included ranching, farming, mining, and associated infrastructure; the landscape condition reflects this disturbance. The BSA currently contains a mosaic of undeveloped lands, farming lands, mining, and rural residential development, with a large amount of open lands, including preserved open space, specifically surrounding the western portion of the BSA that includes conserved lands under the ownership of the RCA, Riverside-Corona Resource Conservation District (RCRCD), RCHCA, and MWD (Figure 3.17-2), and multiple restored areas functioning as compensatory mitigation for aquatic impacts related to several public and private projects. These conserved lands include the LMR within the LM MSHCP and SKR Core Reserve within the SKR HCP. WRC MSHCP Additional Reserve Lands managed by RCA are located west of La Sierra Road. In addition, the RCRCD manages several restorations sites off of Cajalco Road; however, none of these are managed under an HCP.

A majority of the undeveloped lands, open space, and conserved lands are located on the western end of the BSA, between Temescal Canyon Road and Harley John Road. The BSA is generally undeveloped in the westernmost portion, with some residential and other land uses occurring along the BSA toward the east. The BSA from Harley John Road east to Interstate 215 (I-215) is dominated by more developed and residential lands with some interspersed open space areas.

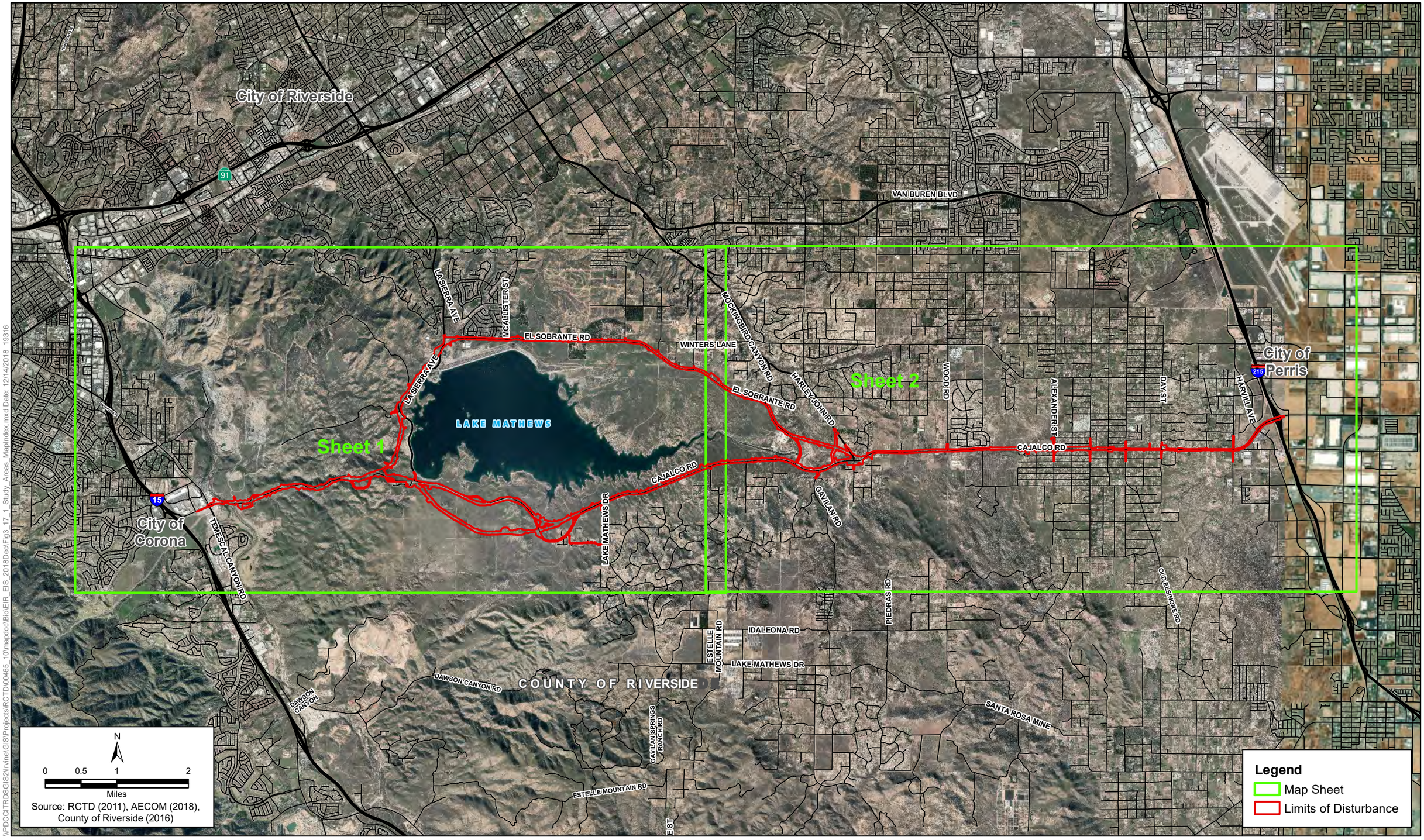

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Figure 3.17-1 - Map Index
Study Areas
Cajalco Road Widening and Safety Enhancement Project

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- Biological Study Area
- Limits of Distubance - Alternative 1
- Limits of Disturbance - Alternative 2C
- Limits of Disturbance - Alternatives 1 & 2C
- Limits of Disturbance - Alternative 4
- Limits of Disturbance - All Alternatives
- Bats Study Area
- Riparian Bird Study Area
- Jurisdictional Delineation Study Area
- Fairy Shrimp Study Area
- Rare Plants Study Area
- Burrowing Owl Study Area

N

0 1,500 3,000 6,000

Feet

Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Figure 3.17-1 - Sheet 1 of 2
Study Areas
Cajalco Road Widening and Safety Enhancement Project

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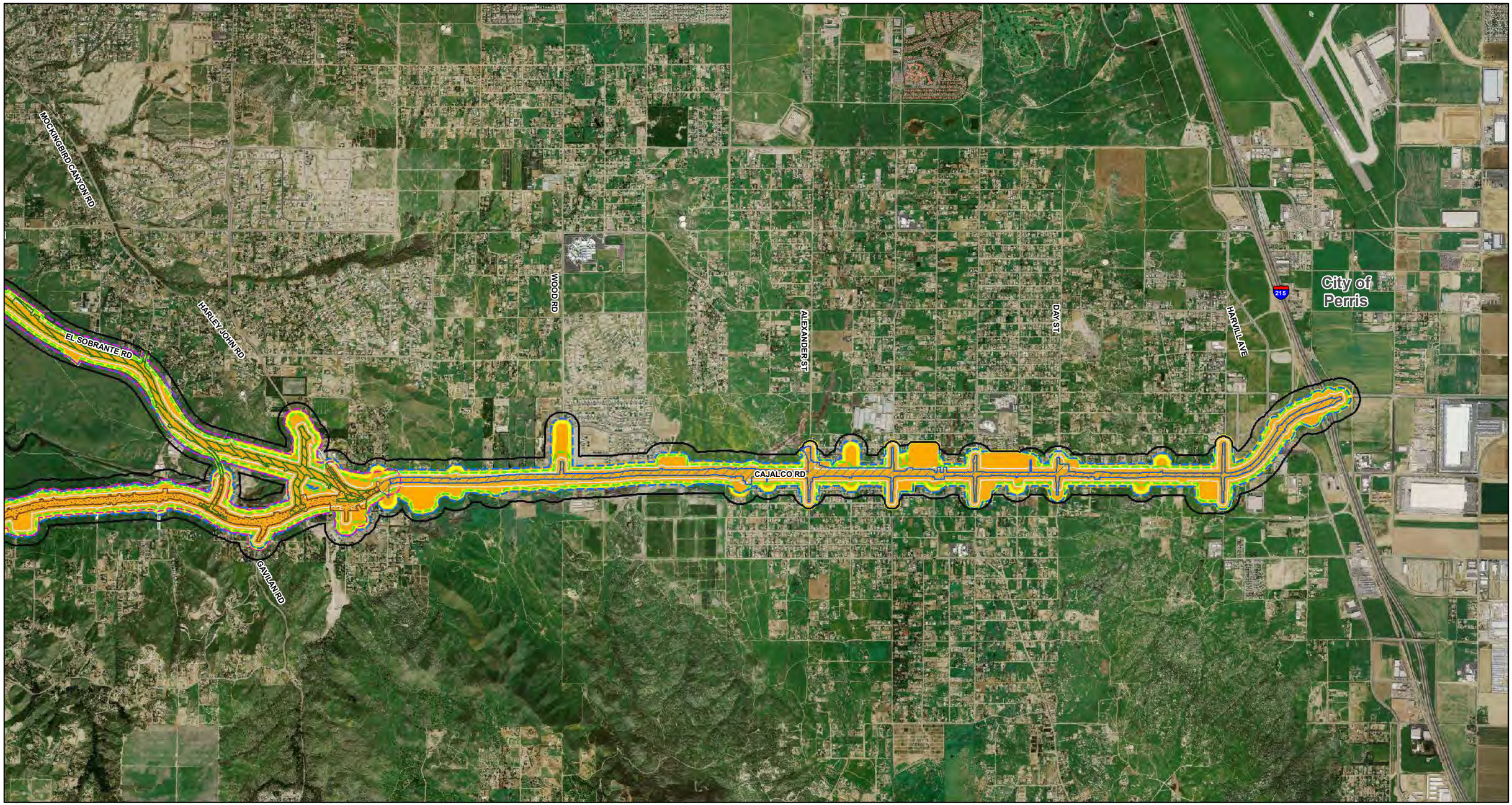

- Biological Study Area
- Limits of Distubance - Alternative 1
- Limits of Disturbance - Alternative 2C
- Limits of Disturbance - Alternatives 1 & 2C
- Limits of Disturbance - Alternative 4
- Limits of Disturbance - All Alternatives
- Bats Study Area
- Riparian Bird Study Area
- Jurisdictional Delineation Study Area
- Fairy Shrimp Study Area
- Rare Plants Study Area
- Burrowing Owl Study Area

N

0 1,500 3,000 6,000

Feet

Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Figure 3.17-1 - Sheet 2 of 2
Study Areas
Cajalco Road Widening and Safety Enhancement Project

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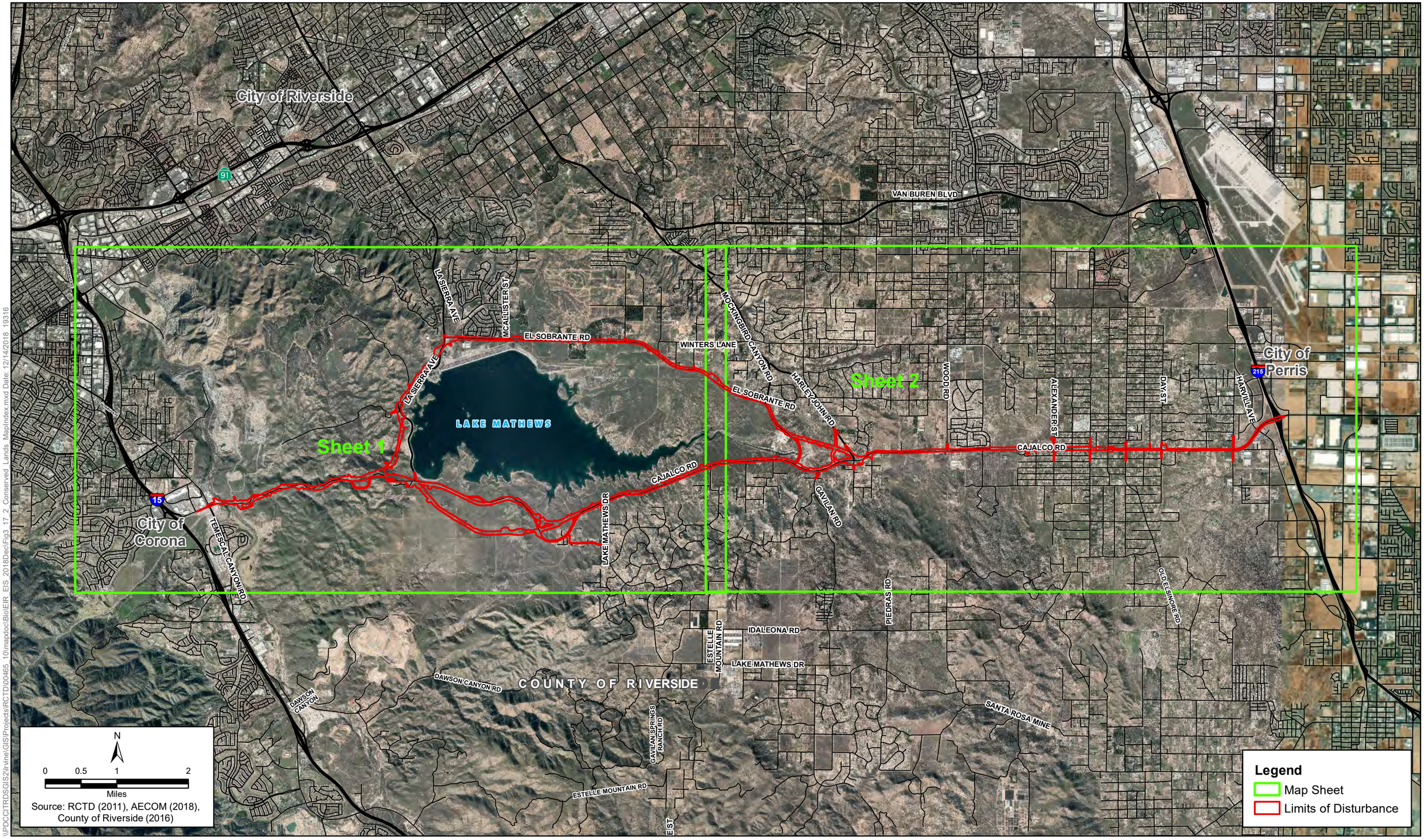

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Figure 3.17-2 - Map Index
Conserved Lands
Cajalco Road Widening and Safety Enhancement Project

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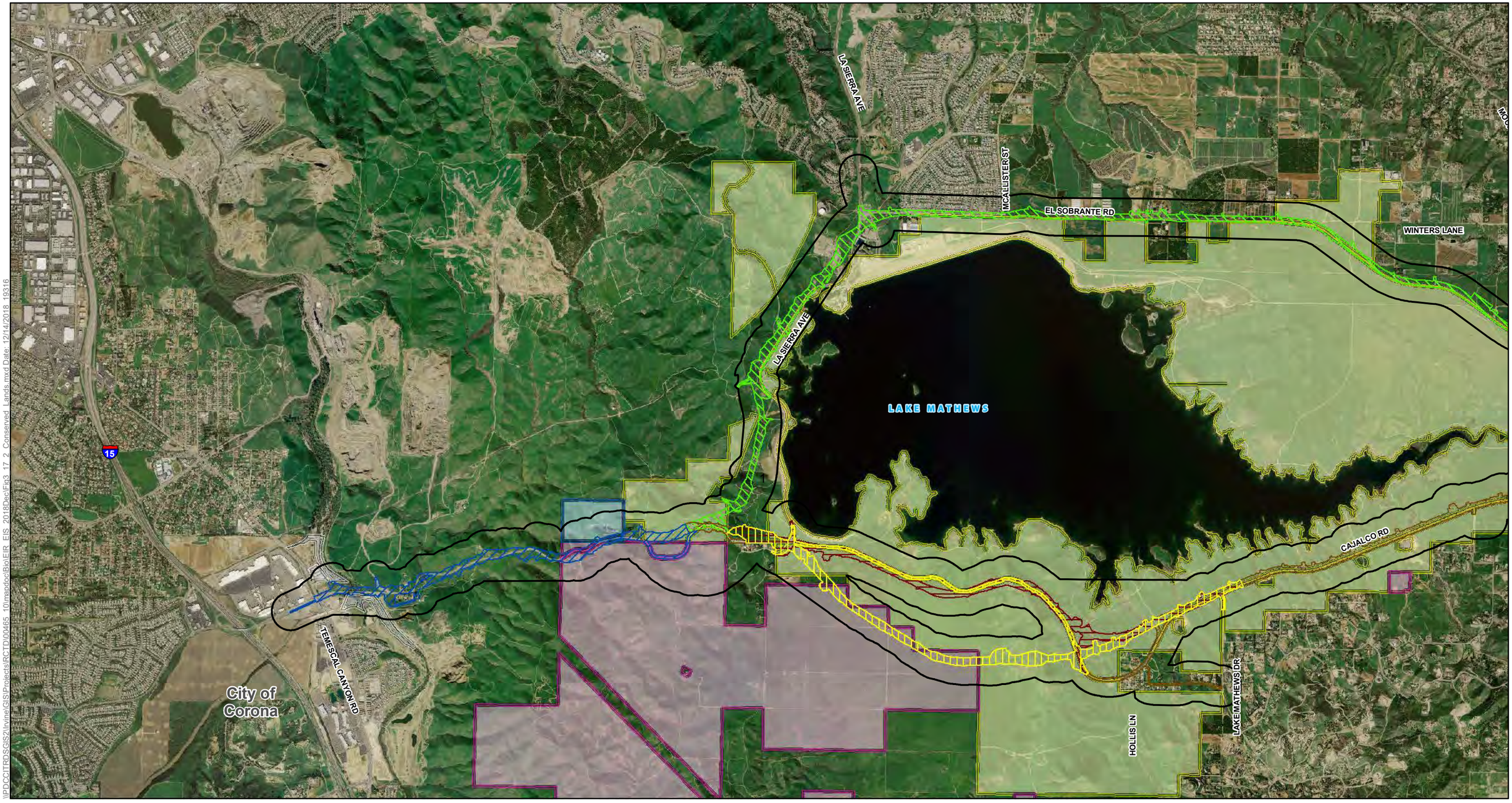

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Biological Study Area
Limits of Distubance - Alternative 1
Limits of Disturbance - Alternative 2C
Limits of Disturbance - Alternatives 1 & 2C
Limits of Disturbance - Alternative 4
Limits of Disturbance - All Alternatives

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

N
0 1,500 3,000 6,000
Feet

Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Figure 3.17-2 - Sheet 1 of 2
Conserved Lands
Cajalco Road Widening and Safety Enhancement Project

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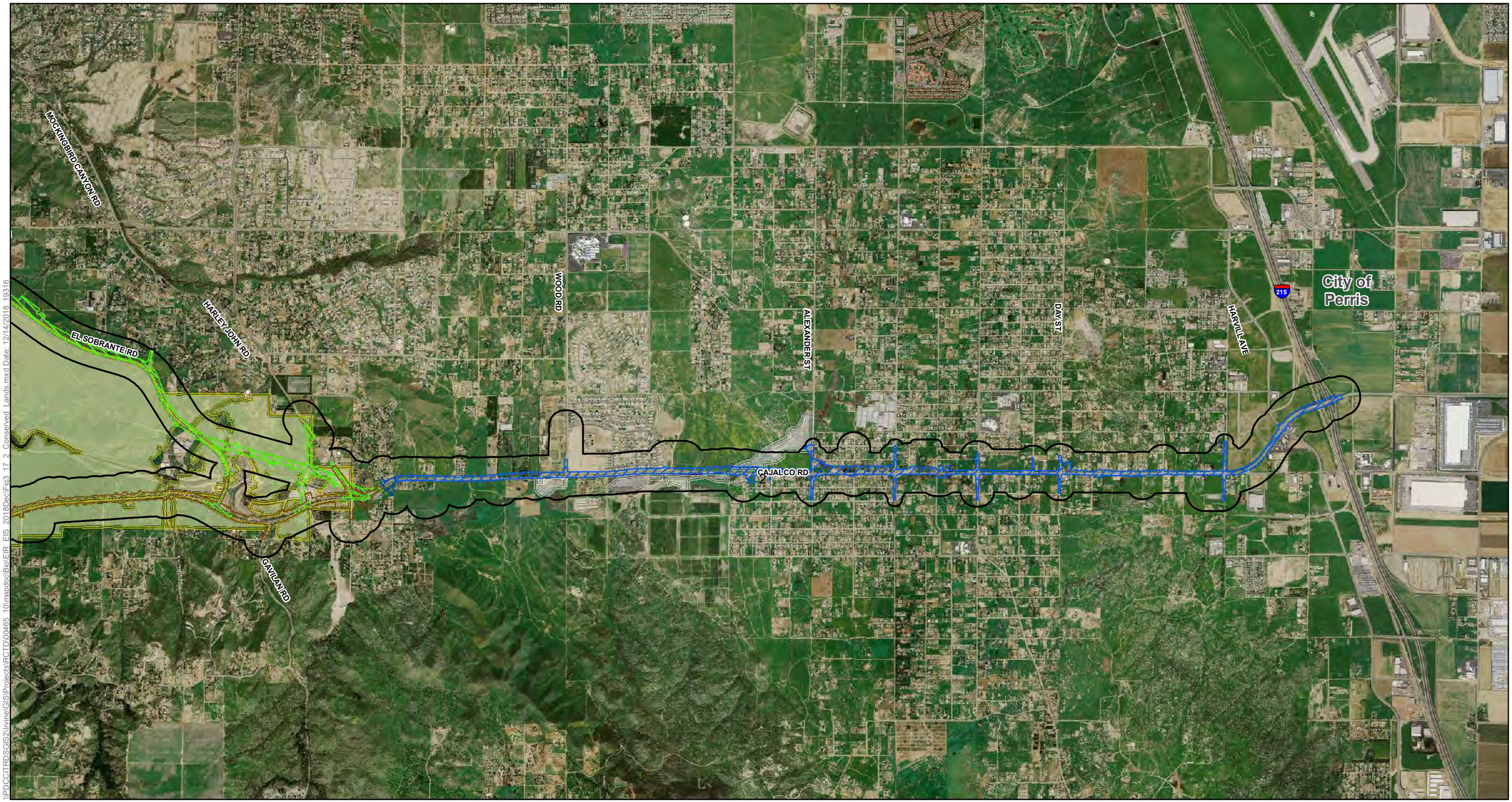

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Biological Study Area
Limits of Distubance - Alternative 1
Limits of Disturbance - Alternative 2C
Limits of Disturbance - Alternatives 1 & 2C
Limits of Disturbance - Alternative 4
Limits of Disturbance - All Alternatives

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

N

0 1,500 3,000 6,000
Feet

Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Figure 3.17-2 - Sheet 2 of 2
Conserved Lands
Cajalco Road Widening and Safety Enhancement Project

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3.17.2.2 Vegetation Communities within the Biological Study Area

Forty-three vegetation communities/land types were identified within the BSA (Figure 3.17-3). Thirty-five of the vegetation communities/land types documented within the BSA were found within the boundaries of the LM MSHCP (hereafter referred to as the LM MSHCP area) (Figure 3.17-3). Table 3.17-1 summarizes the amount of each vegetation community within the BSA and the portion of those communities that occurs within the LM MSHCP area.

Table 3.17-1. Biological Study Area Vegetation Community Acreages

Vegetation Communities/Land Types	Biological Study Area (acres)	BSA within the LM MSHCP Area only (acres)[1]
Agriculture	55.91	0.63
Brittlebush Scrub	82.35	26.40
California Juniper Riparian	8.13	7.79
California Juniper Woodland	5.99	5.99
California Juniper/Nonnative Grassland*	90.16	87.98
California Juniper/Riversidian Sage Scrub	59.12	55.38
California Sycamore Woodland	0.64	0.64
Coast Live Oak/Sycamore Riparian*	0.03	0.03
Coast Live Oak Woodland	0.03	-
Coastal and Valley Freshwater Marsh*	1.84	-
Concrete Channel/Spillway/V-Ditch/Rip Rap	6.81	0.17
Developed/Disturbed Land	1,273.42	42.09
Disturbed Riversidian Sage Scrub*	110.15	15.40
Disturbed Southern Willow Scrub	3.50	-
Eucalyptus/Tamarisk	3.05	1.93
Exotic Tree(s)/Woodland	37.62	2.97
Fallow Agriculture	80.59	2.70
Lakebed	4.26	0.01
Mexican Elderberry Scrub	3.78	3.02
Mexican Elderberry/Ruderal	4.80	4.48
Mulefat Scrub	12.93	6.29
Mulefat/Mexican Elderberry Scrub	7.57	6.24
Native/Nonnative Riparian Scrub	0.49	-
Nonnative Grassland	1526.22	1,098.62
Open Water/Reservoir/Pond	24.77	0.92
Ruderal/Exotic	0.05	-
Riparian Forest*	4.47	--
Riparian Herbaceous	1.48	0.31
Riparian Ruderal	2.10	0.03
Riparian Scrub	13.23	0.92
Riparian/Open Water/Reservoir/ Pond	0.23	-
Riversidian Alluvial Fan Sage Scrub*	9.17	3.26
Riversidian Sage Scrub*	753.26	371.84
Riversidian Sage Scrub/Nonnative Grassland*	46.14	29.70
Ruderal	631.48	37.96
Ruderal Herbaceous	0.04	-
Saltbush Scrub	2.76	1.75
Sandbar Willow Scrub	1.41	0.85

Vegetation Communities/Land Types	Biological Study Area (acres)	BSA within the LM MSHCP Area only (acres)[1]
Southern Cottonwood-Willow Riparian Forest*	4.88	-
Southern Willow Scrub*	96.85	38.69
Tamarisk Scrub	5.47	1.89
Unvegetated	15.02	3.41
Willow/Mulefat Scrub	2.17	1.48
Total Vegetation within the BSA	**4,994.41**	**1,861.79**

* Classified as a natural community of concern by CDFW.
[1] The BSA includes all conserved (including LM MSHCP lands) and non-conserved lands. The portion of the BSA that occurs within the LM MSHCP planning area is provided in a separate column to facilitate environmental reviews and approvals specific to LM MSHCP accommodation of the project.

A general description of each vegetation community mapped within the BSA and the dominant plant species in those communities is provided below.

Southern Cottonwood-Willow Riparian Forest

This vegetation community has a well-developed tree canopy, with the dominant species being arroyo willow (*Salix lasiolepis*), red willow (*S. laevigata*), black willow (*S. gooddingii*), and Fremont's cottonwood (*Populus fremontii*). In some areas, this community has a well-developed shrub and/or herb layer, depending especially on hydrology and disturbance. Species dominating the shrub and herb layer include mulefat (*Baccharis salicifolia*) and stinging nettle (*Urtica dioica*). This community occurs primarily within Temescal Creek and portions of Cajalco Creek. Southern cottonwood-willow riparian forest is considered a natural community of concern.

Riparian Forest

Riparian forest habitat occurs within drainages with intermittent hydrology in the BSA. Dominant species observed included Fremont's cottonwood, western sycamore, and willows. There is little to no vegetation in the herbaceous layer and the ground is composed of leaf litter. Riparian forest is considered a natural community of concern.

Southern Willow Scrub

The species dominating this community are arroyo willow, Goodding's black willow, and red willow, with a limited amount of mulefat present. This shrubby vegetation community lacks a well-developed tree canopy. The southern willow scrub occurs along perennial and intermittent streams within the BSA. Southern willow scrub is considered a natural community of concern.

Disturbed Southern Willow Scrub

The disturbed southern willow scrub community occurs within the more developed areas of the BSA. The tree canopy is composed of a few willow trees surrounded by residential properties and other human disturbances. The hydrology of the drainages where the disturbed southern willow scrub occurs has been altered due to development. There is also an increase in human disturbances, such as trash and debris, and disking in the vicinity. Southern willow scrub (including disturbed) is considered a natural community of concern.

Mulefat Scrub

This vegetation community is dominated by mulefat, including nearly monotypic stands. This community occurs primarily along ephemeral and intermittent streams.

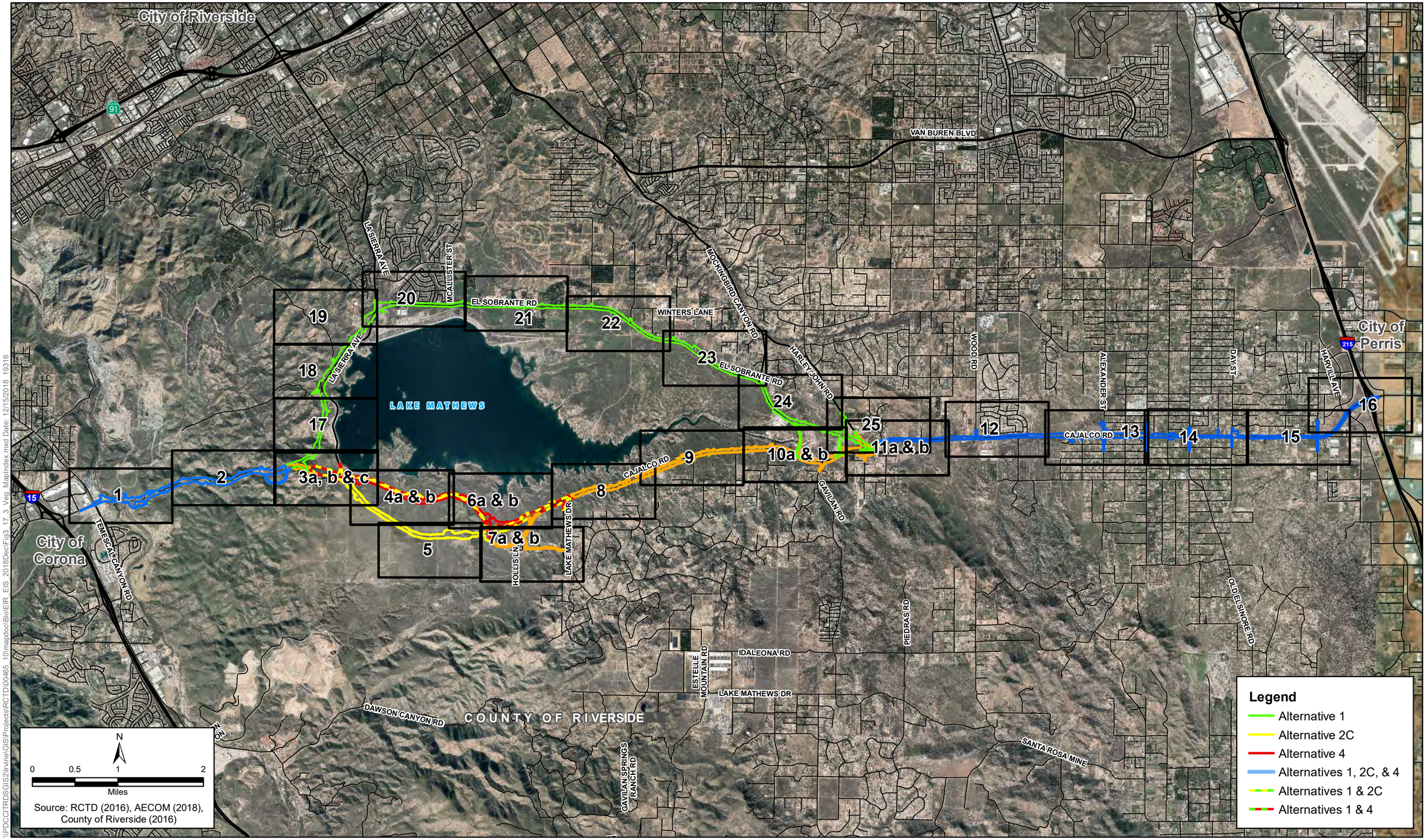

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Figure 3.17-3 - Map Index
Vegetation Communities Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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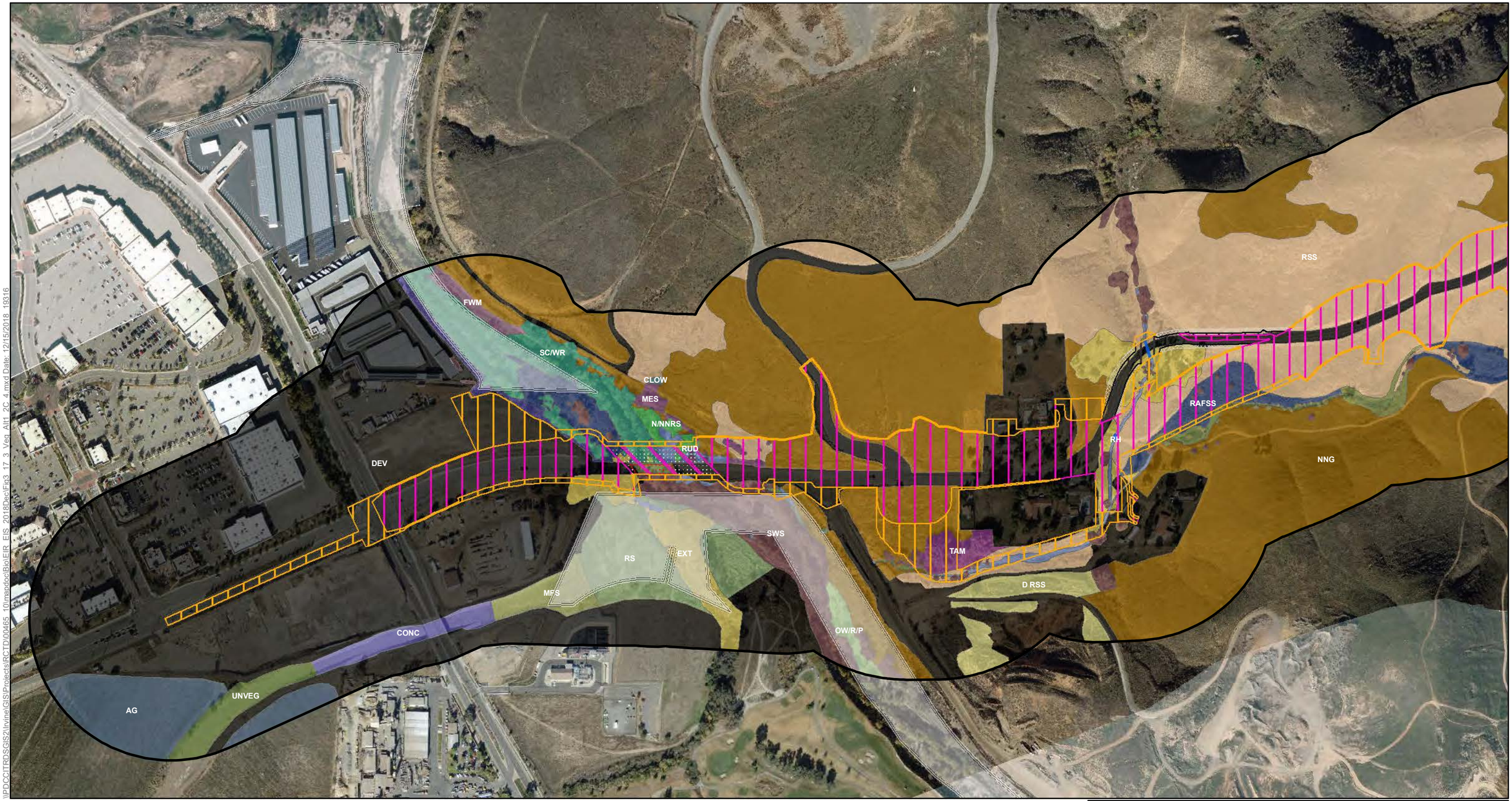


Vegetation Study Area (500-foot Buffer)

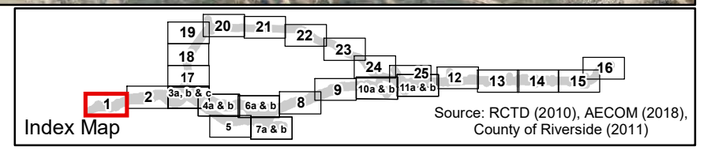
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 1
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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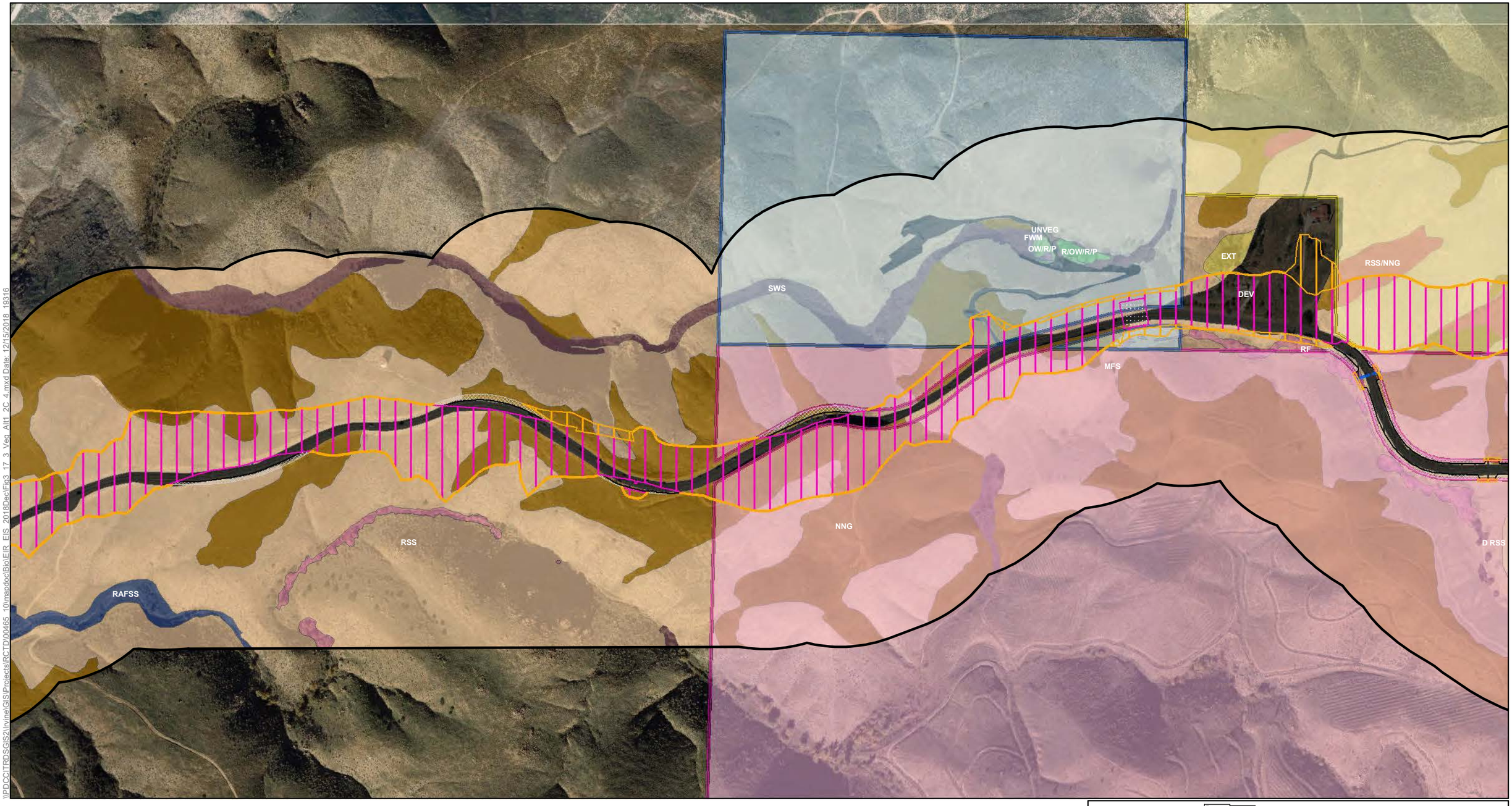

Vegetation Study Area (500-foot Buffer)

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- WRCRCA

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- CJ/RSS, California Juniper/Riversidean Sage Scrub
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- CJW, California Juniper Woodland
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- CLOW, Coast Live Oak Woodland
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- CSW, California Sycamore Woodland
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- D SWS, Southern Willow Scrub (disturbed)
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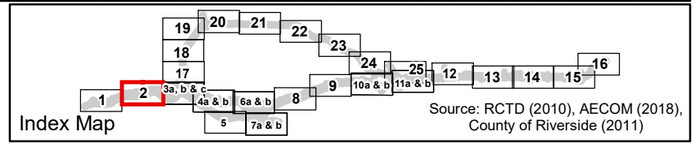
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 2
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet

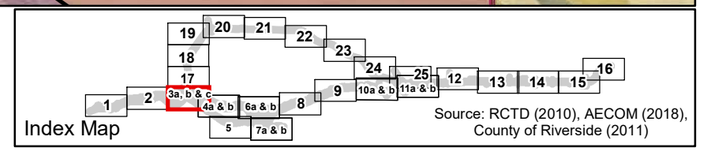

Figure 3.17-3 - Sheet 3a
Vegetation Communities Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

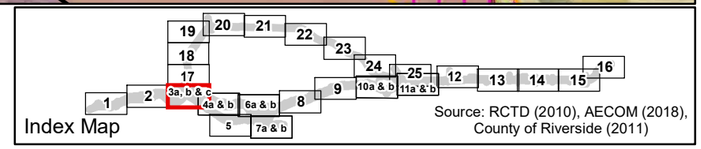
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 3b
Vegetation Communities Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

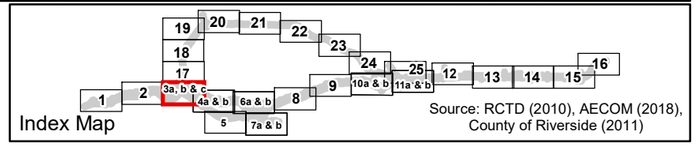
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 3c
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

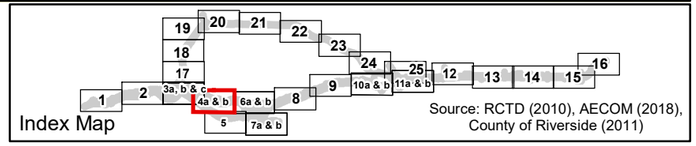
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 4a
Vegetation Communities Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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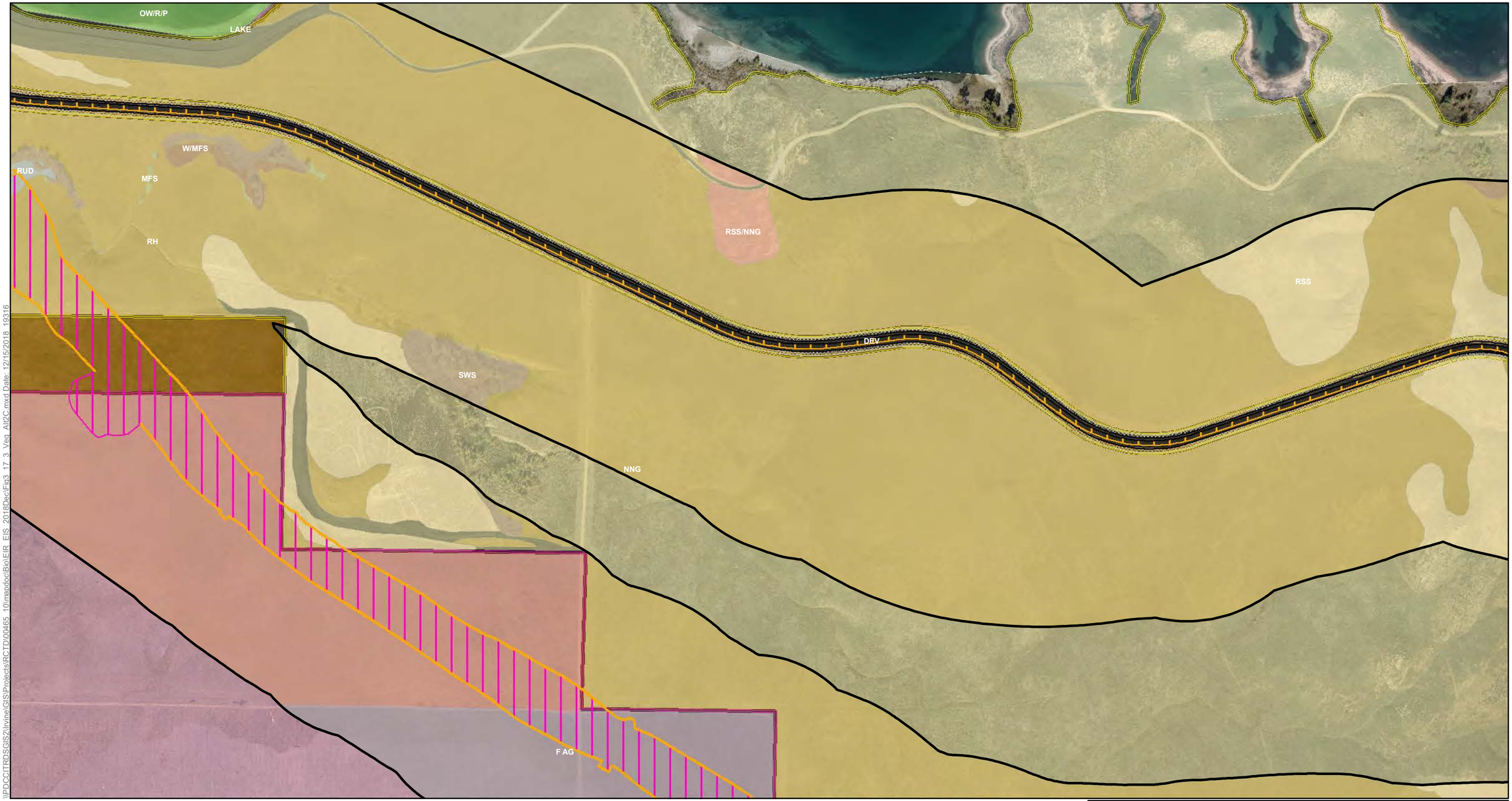

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

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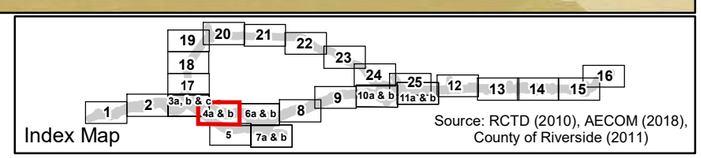
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 4b
Vegetation Communities Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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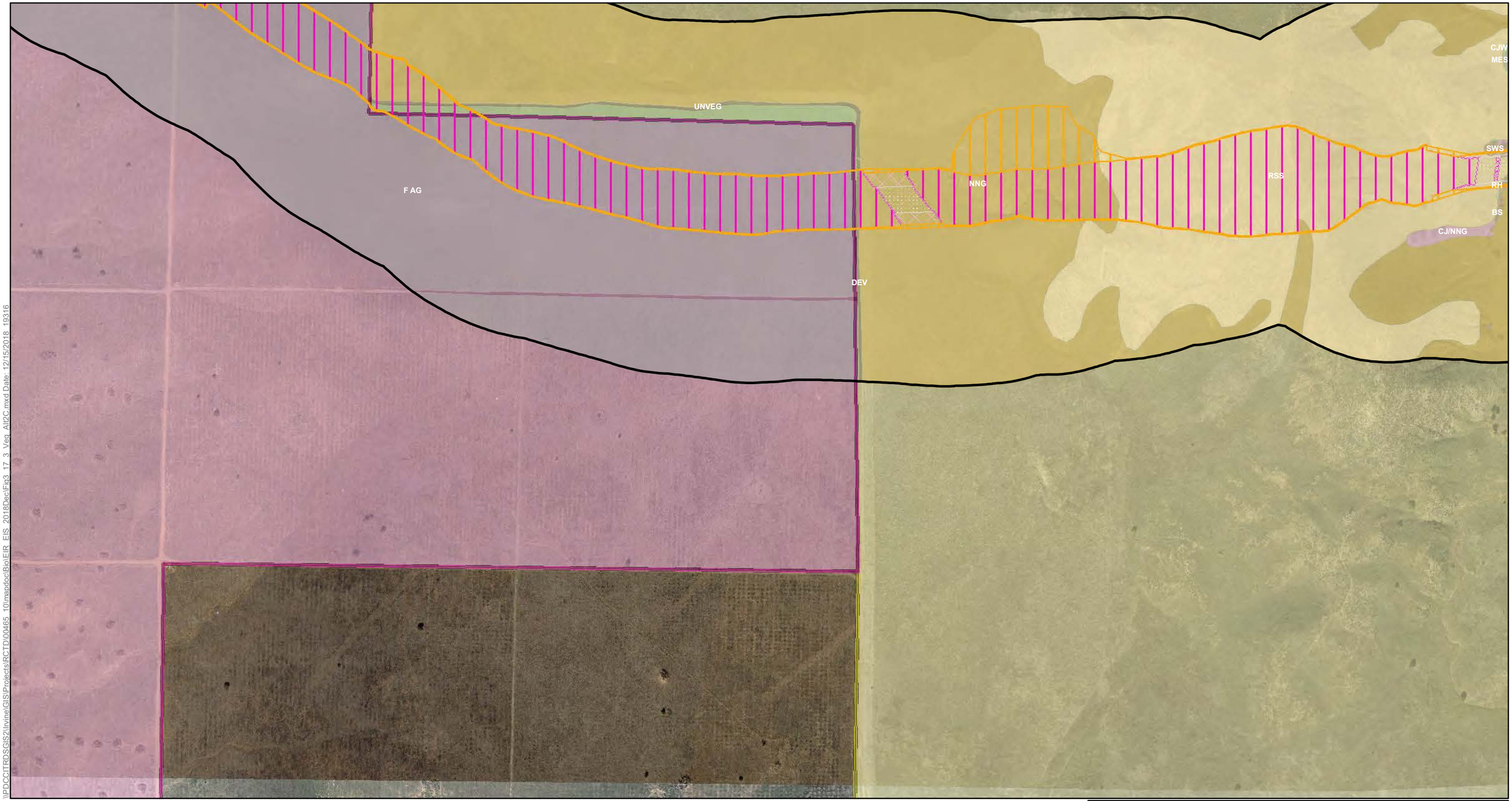

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Vegetation Study Area (500-foot Buffer)

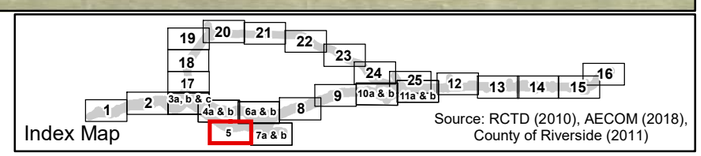
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 5
Vegetation Communities Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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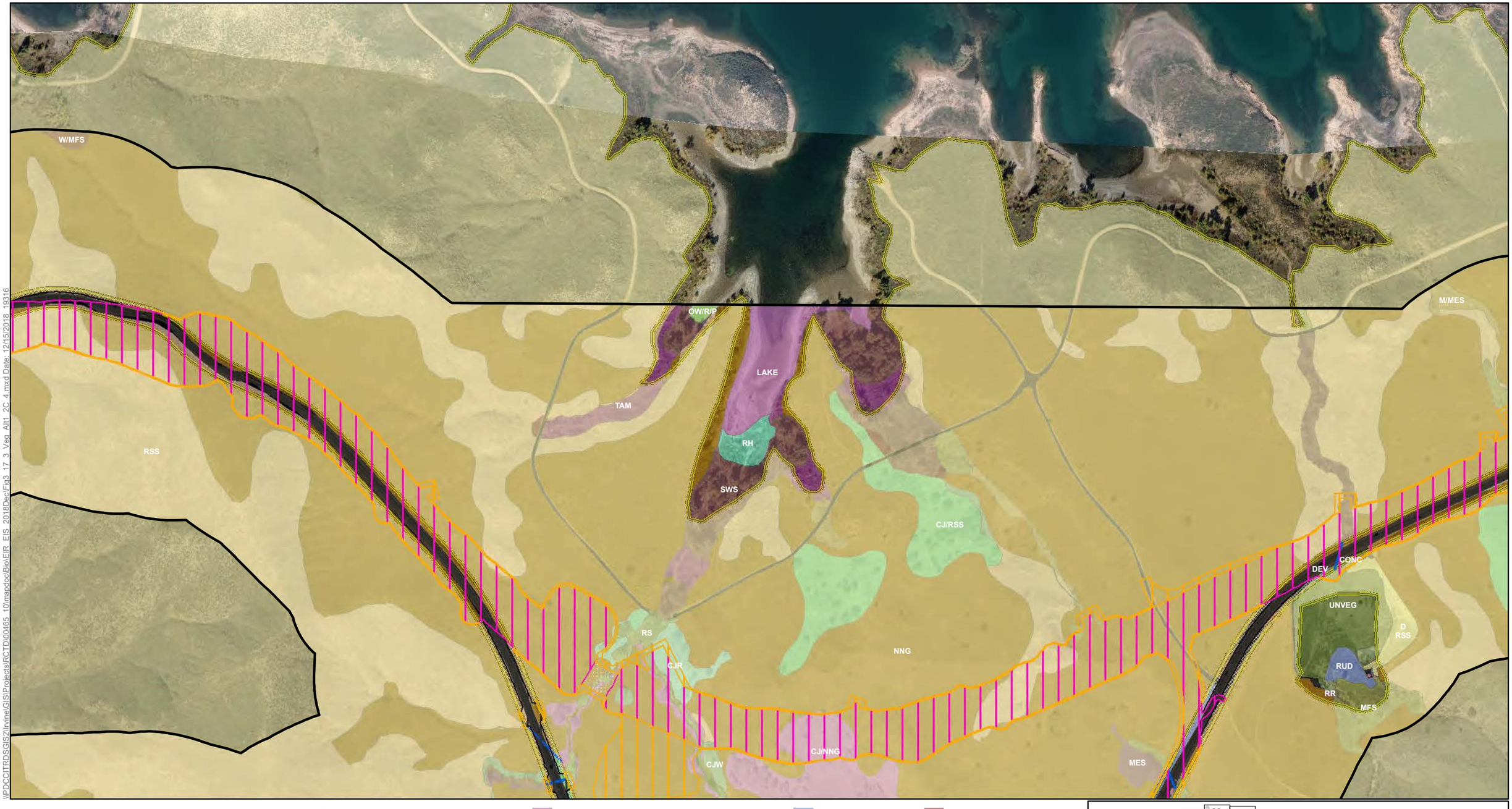


Vegetation Study Area (500-foot Buffer)

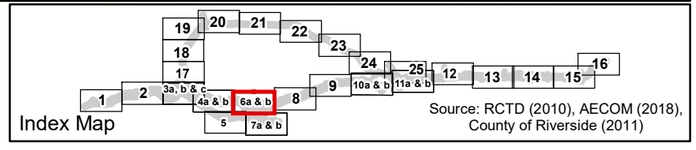
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 6a
Vegetation Communities Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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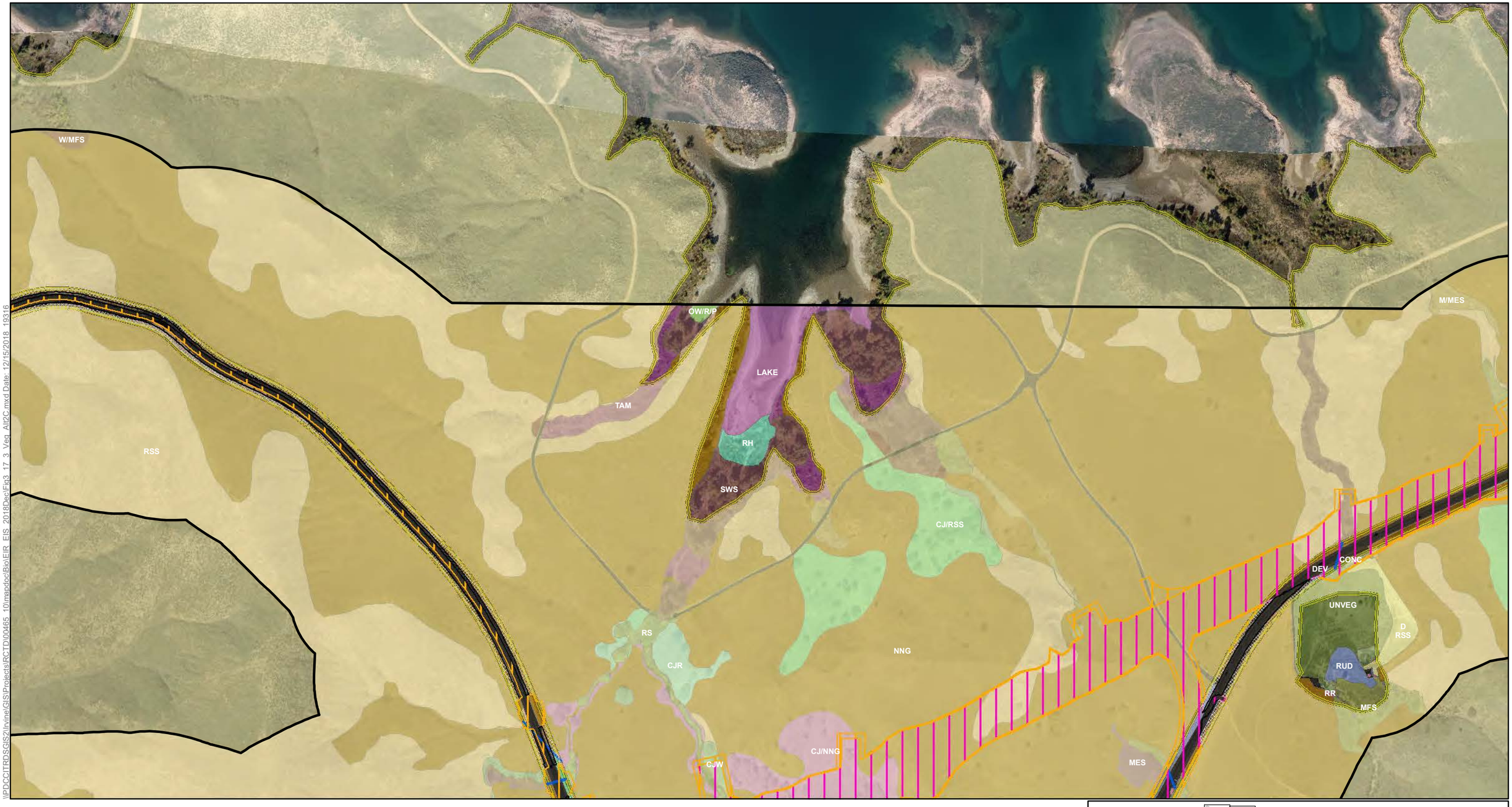

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

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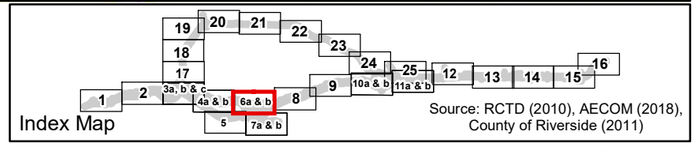
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 6b
Vegetation Communities Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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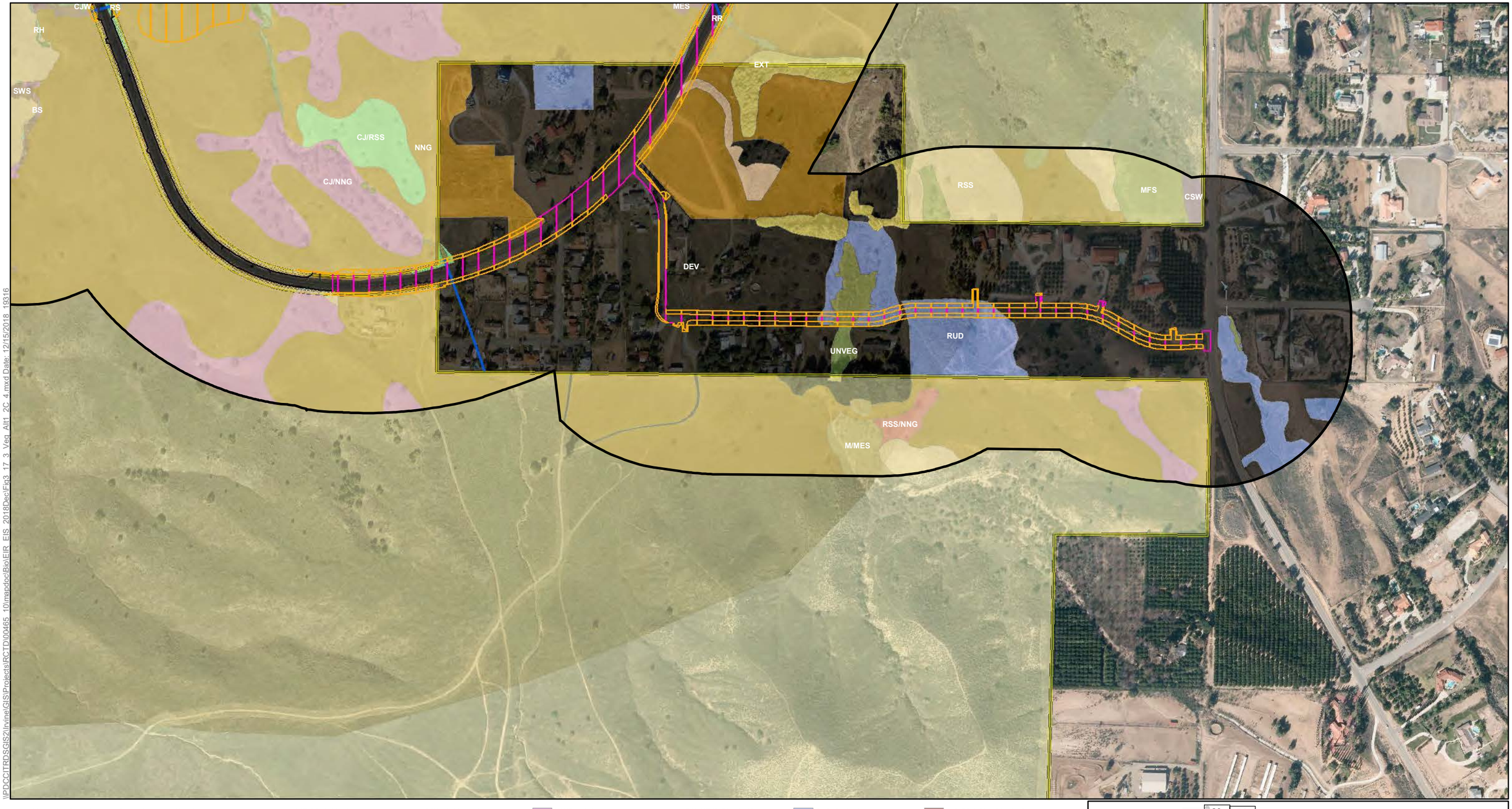

Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

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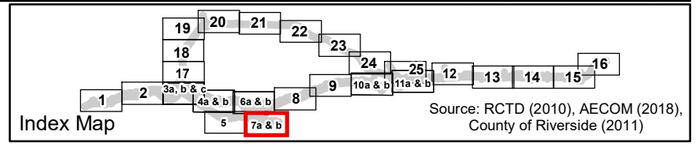
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 7a
Vegetation Communities Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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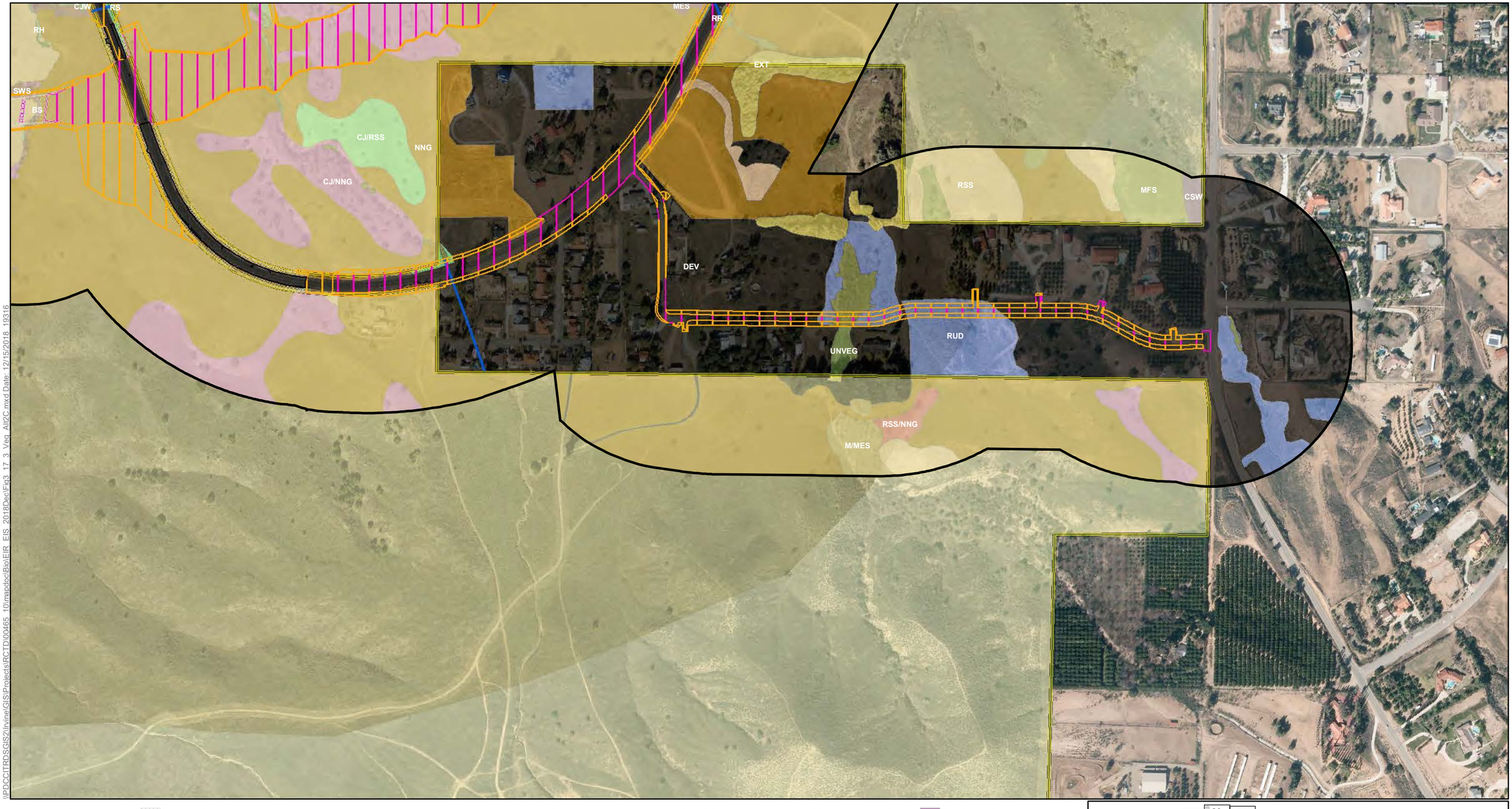


Vegetation Study Area (500-foot Buffer)

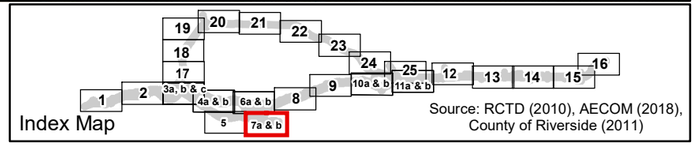
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 7b
Vegetation Communities Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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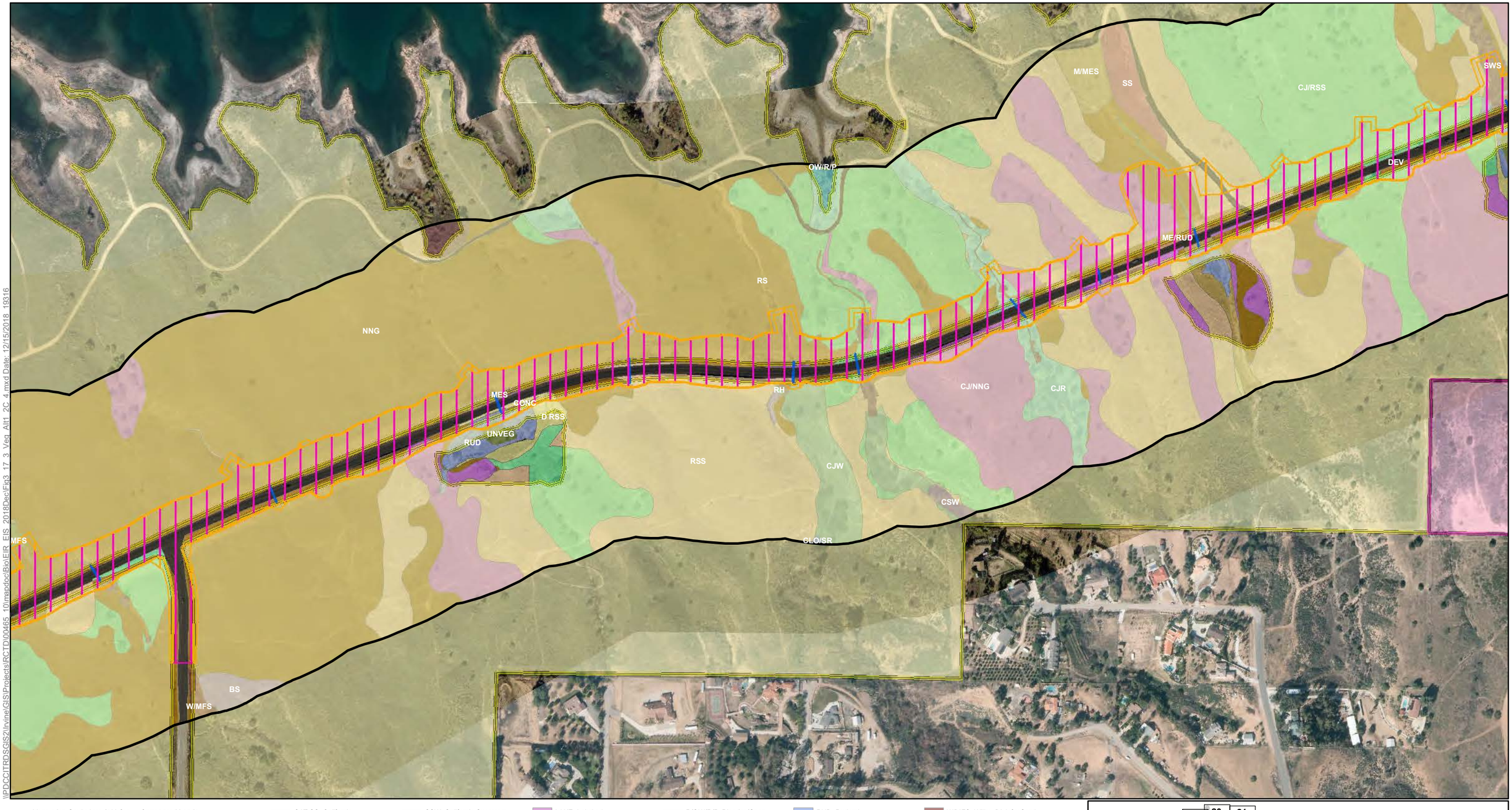

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Vegetation Study Area (500-foot Buffer)

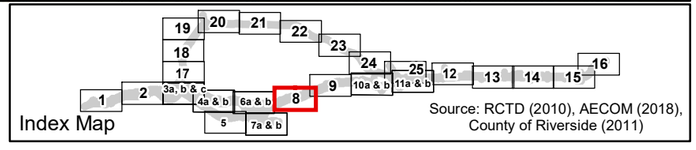
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 8
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

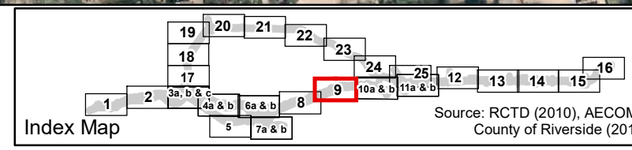
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 9
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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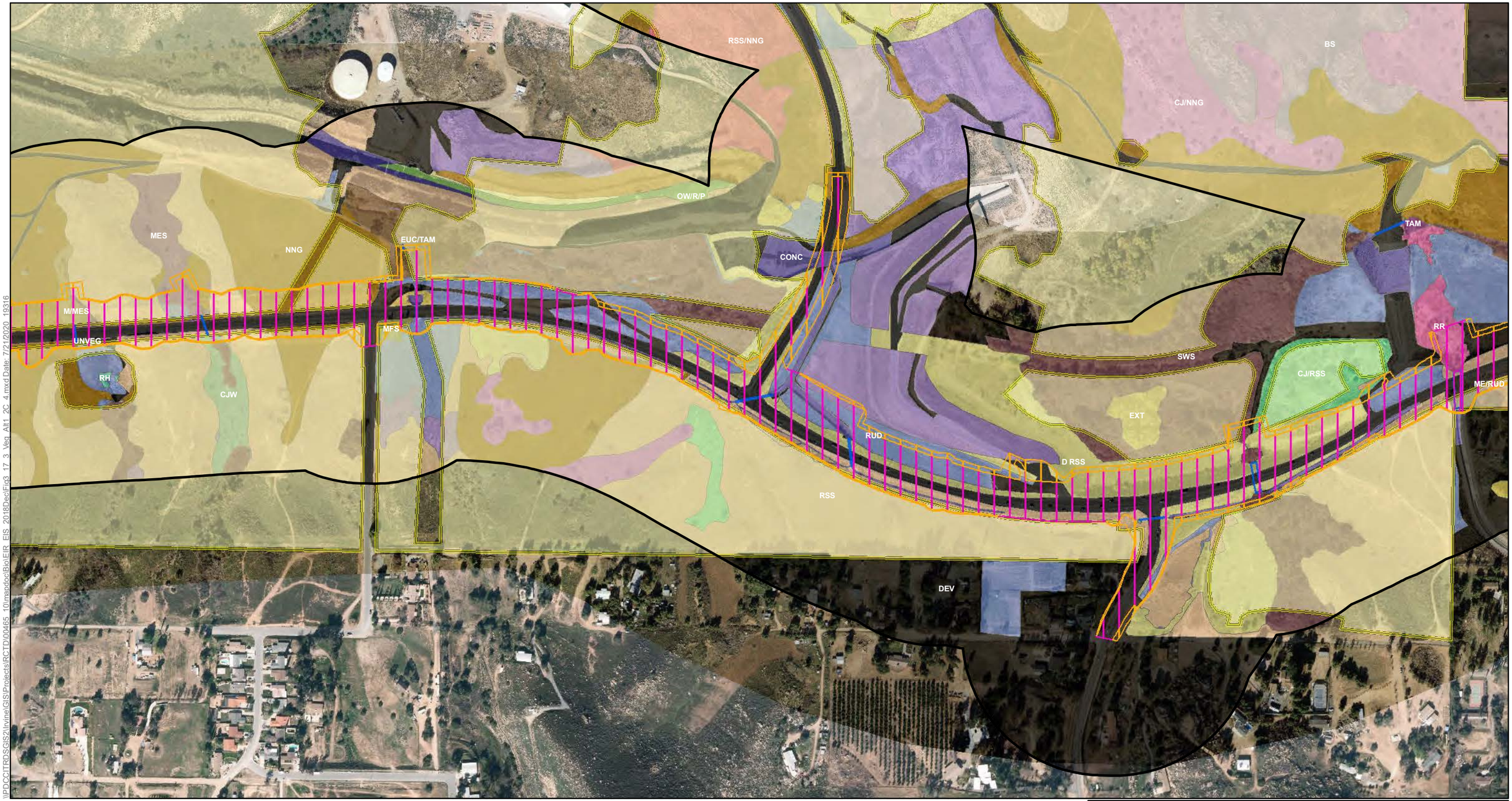

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Vegetation Study Area (500-foot Buffer)

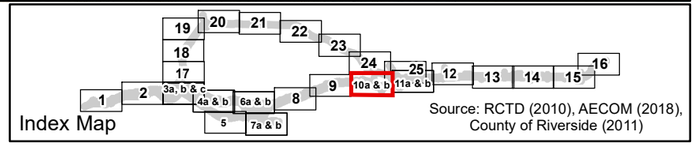
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 10a
Vegetation Communities Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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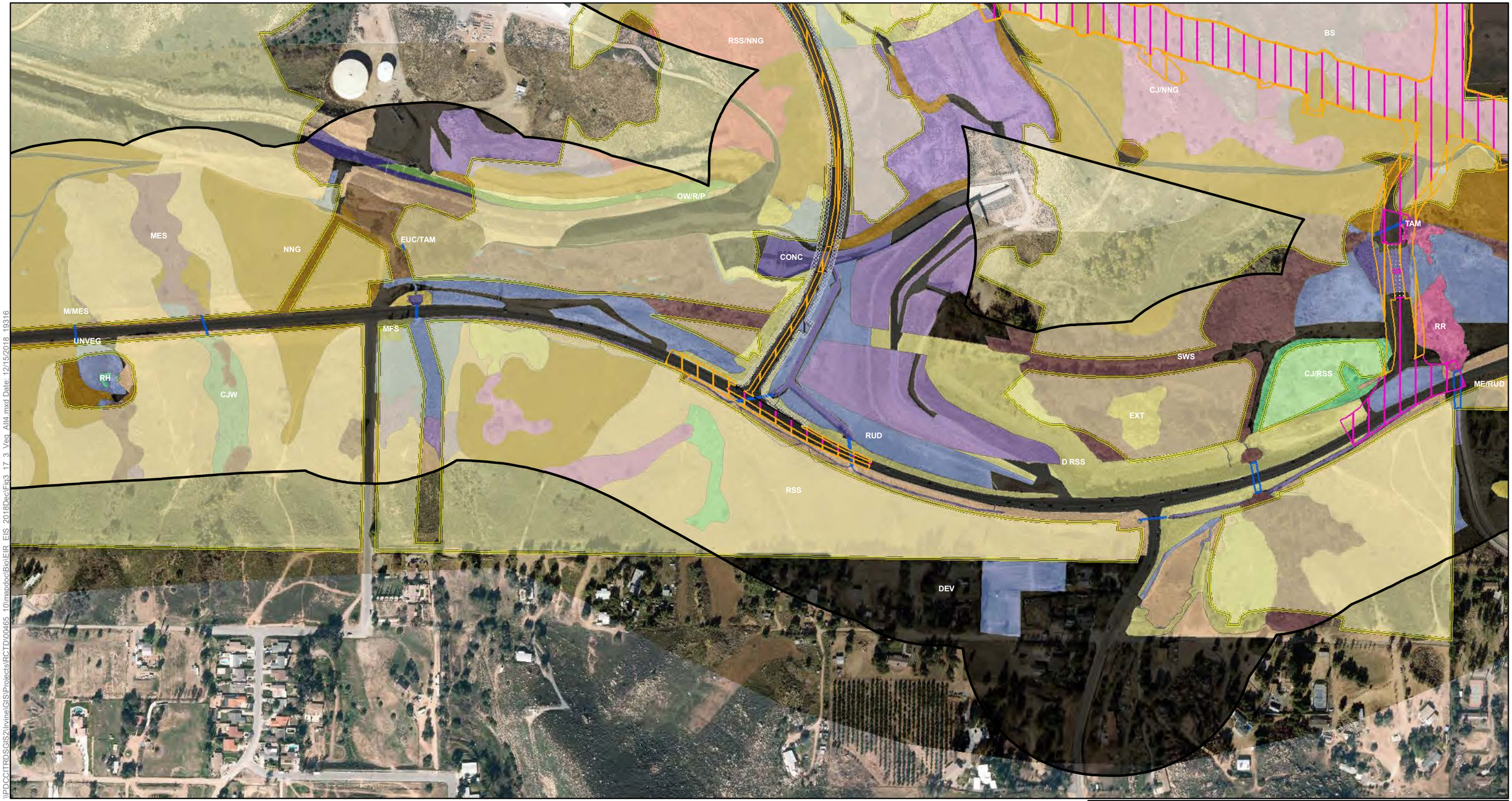


Vegetation Study Area (500-foot Buffer)

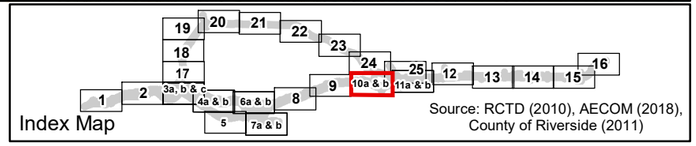
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 10b
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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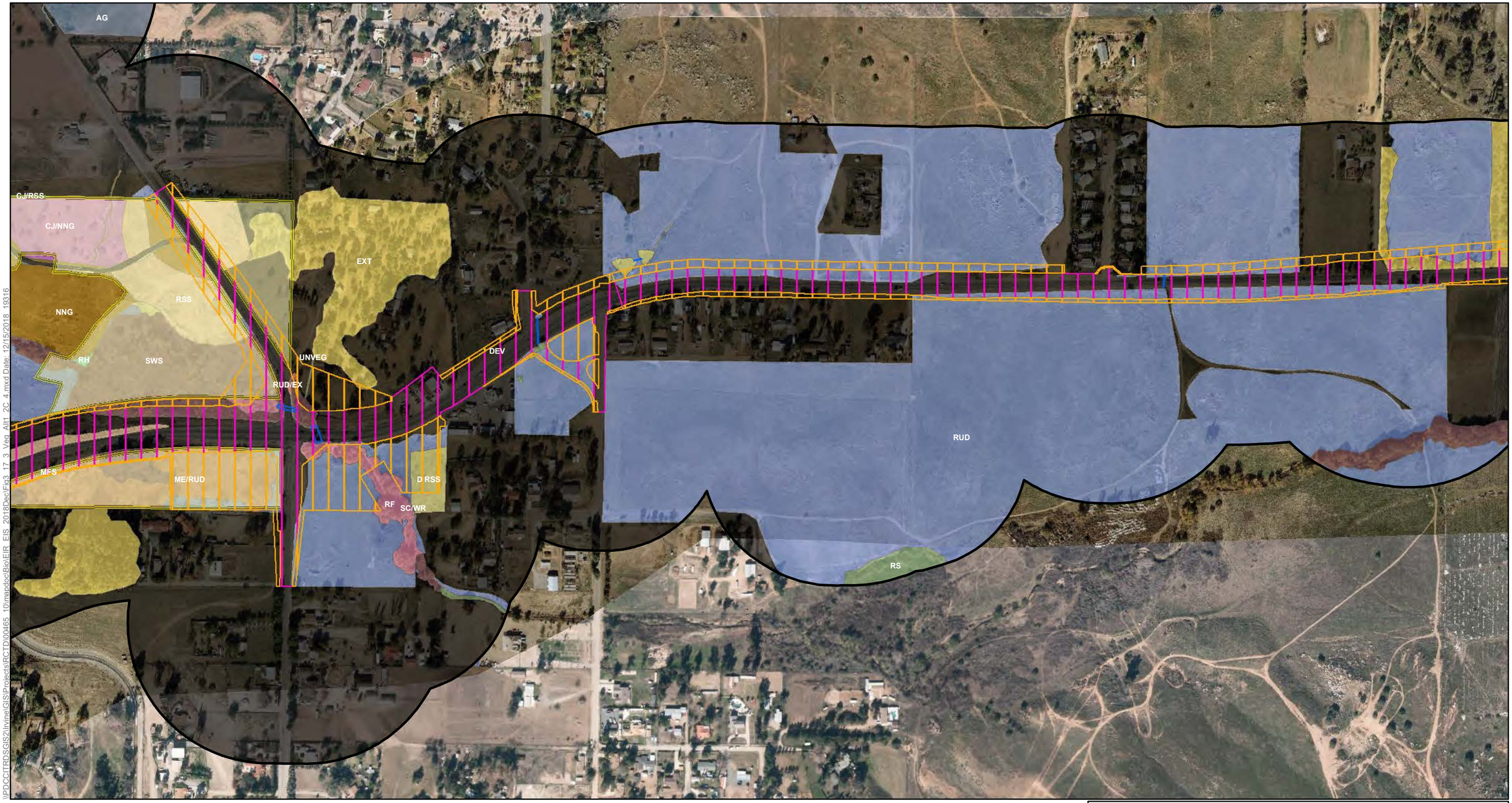

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Vegetation Study Area (500-foot Buffer)

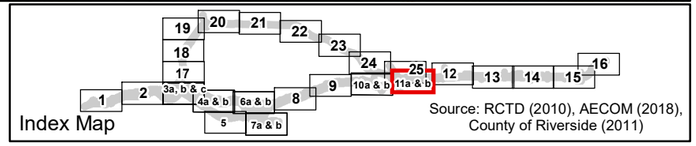
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 11a
Vegetation Communities Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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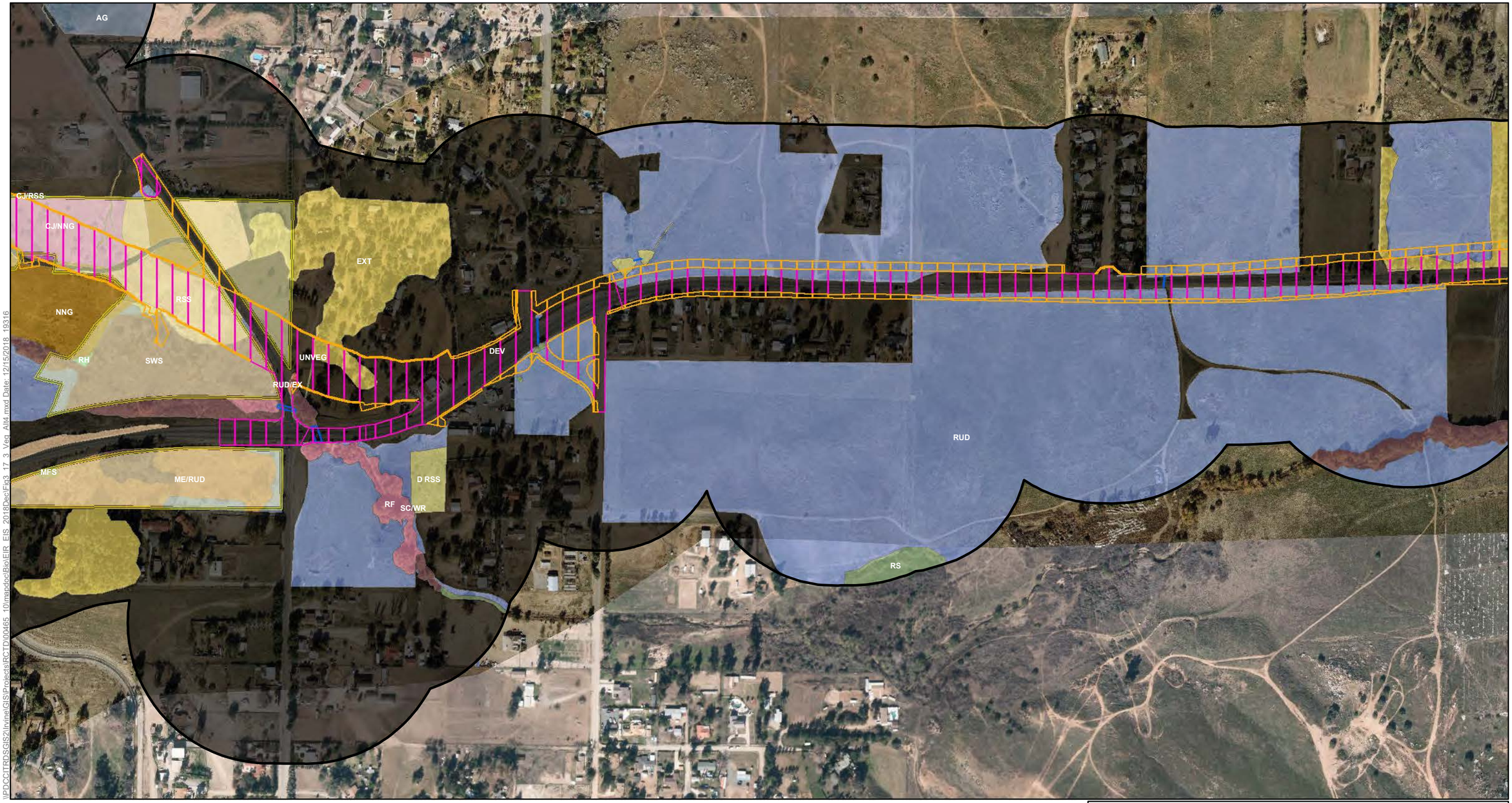

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Vegetation Study Area (500-foot Buffer)

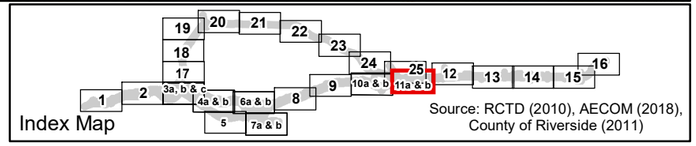
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 11b
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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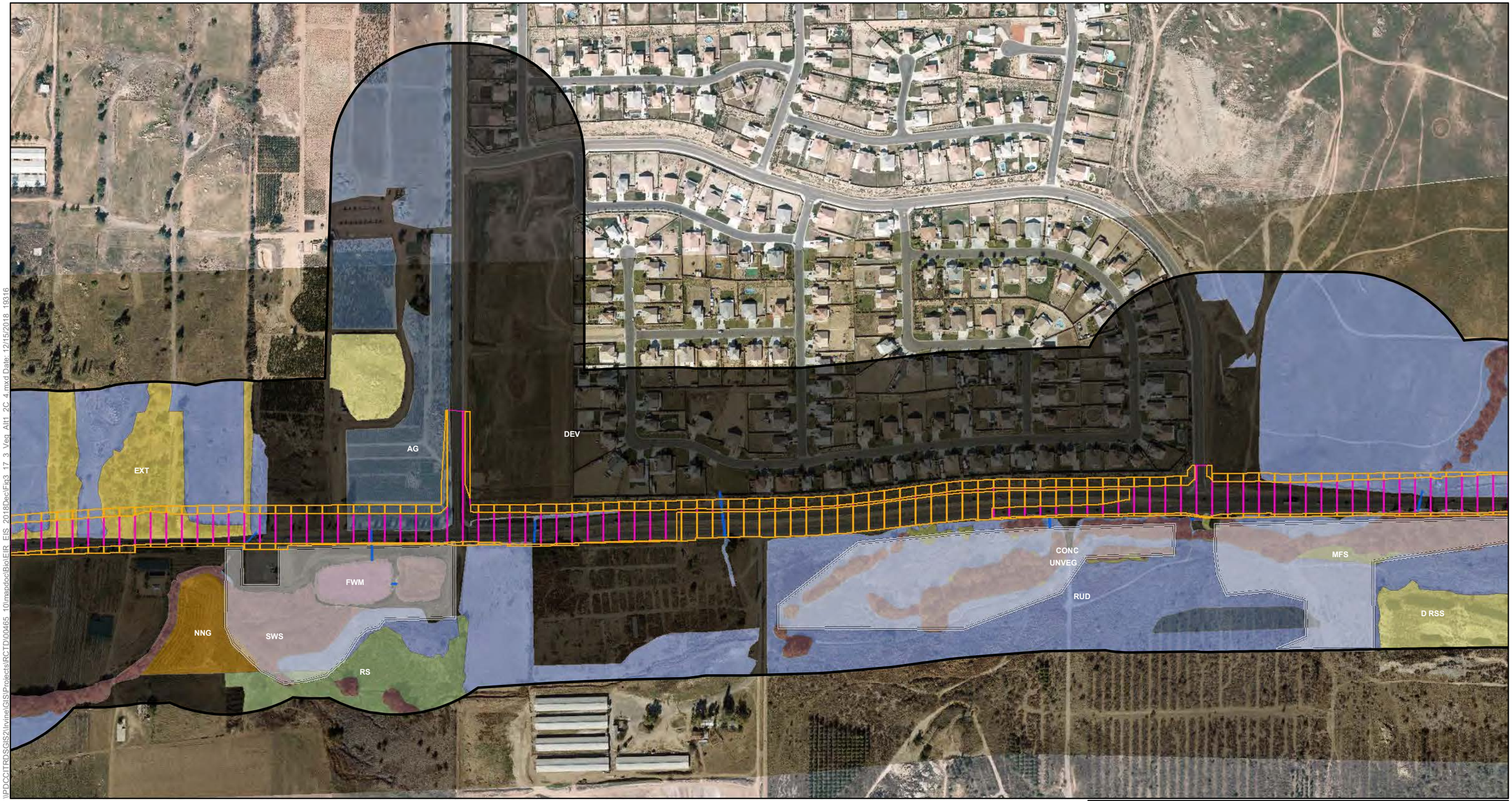

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Vegetation Study Area (500-foot Buffer)

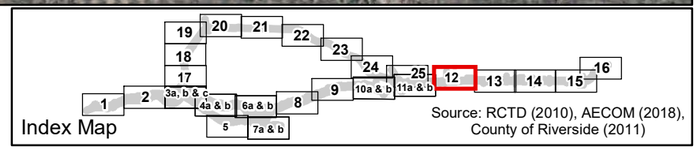
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 12
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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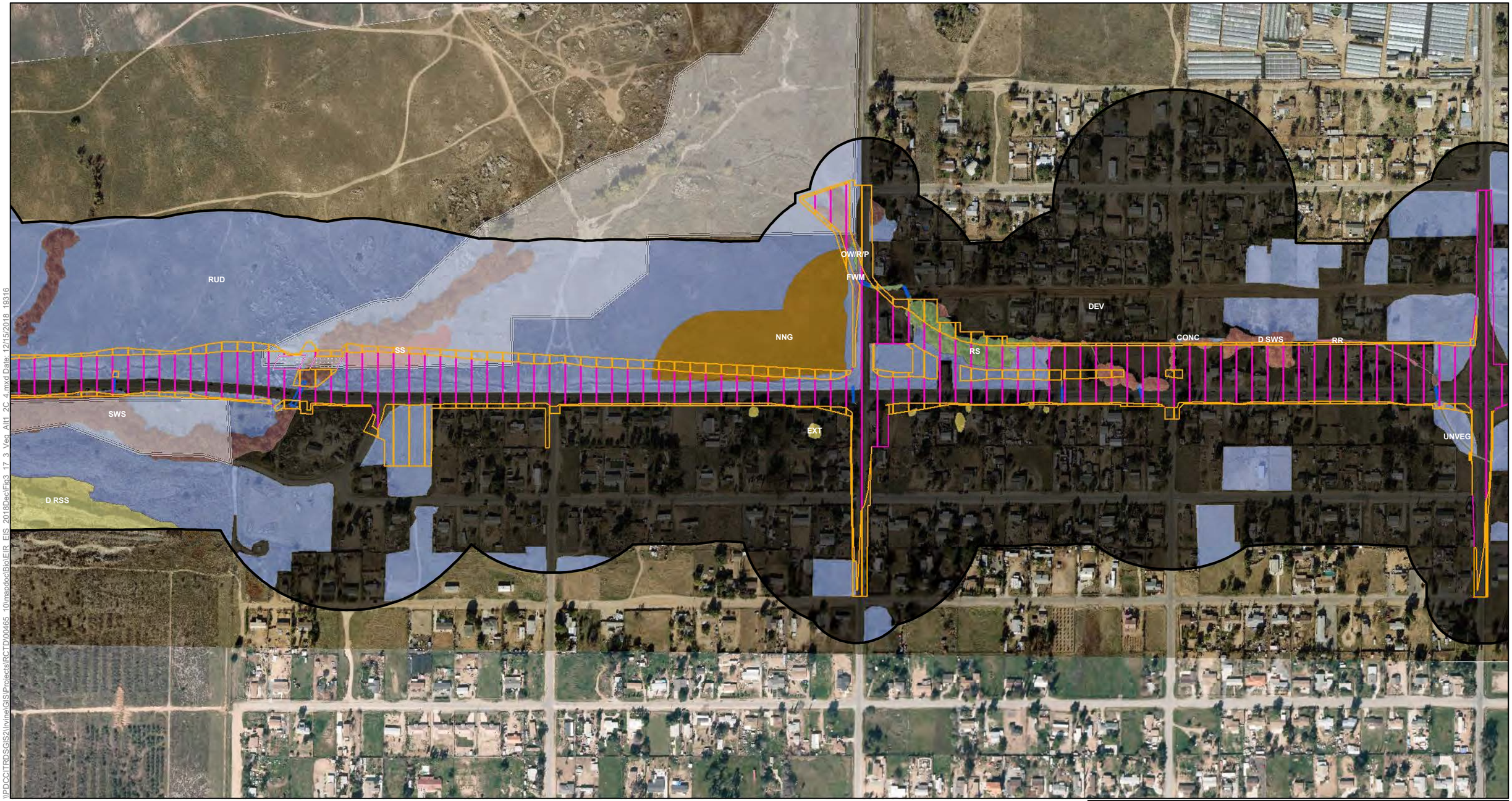

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 13
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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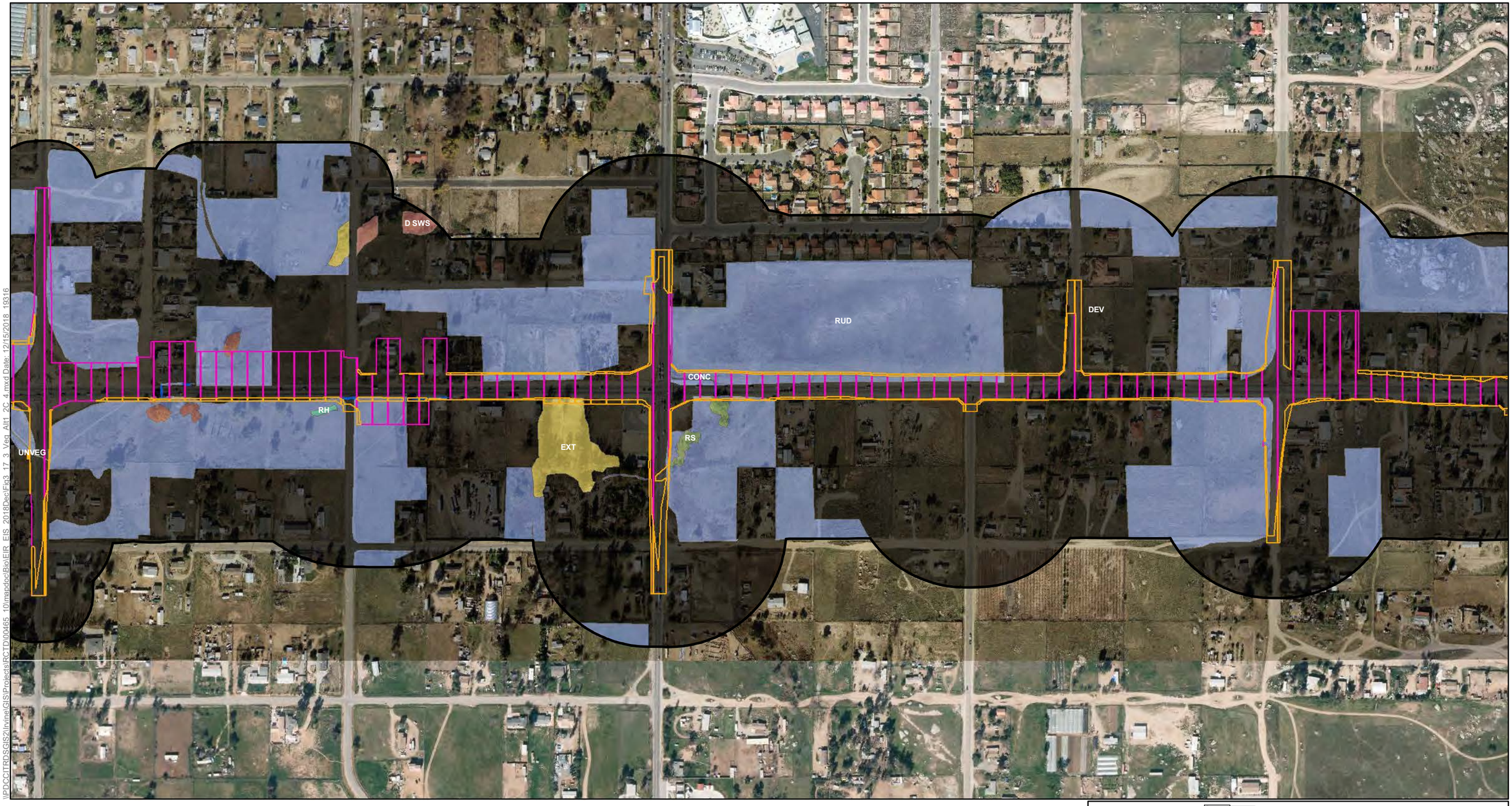

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Vegetation Study Area (500-foot Buffer)

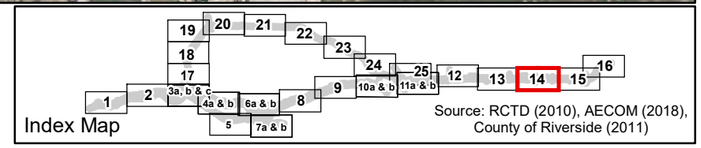
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 14
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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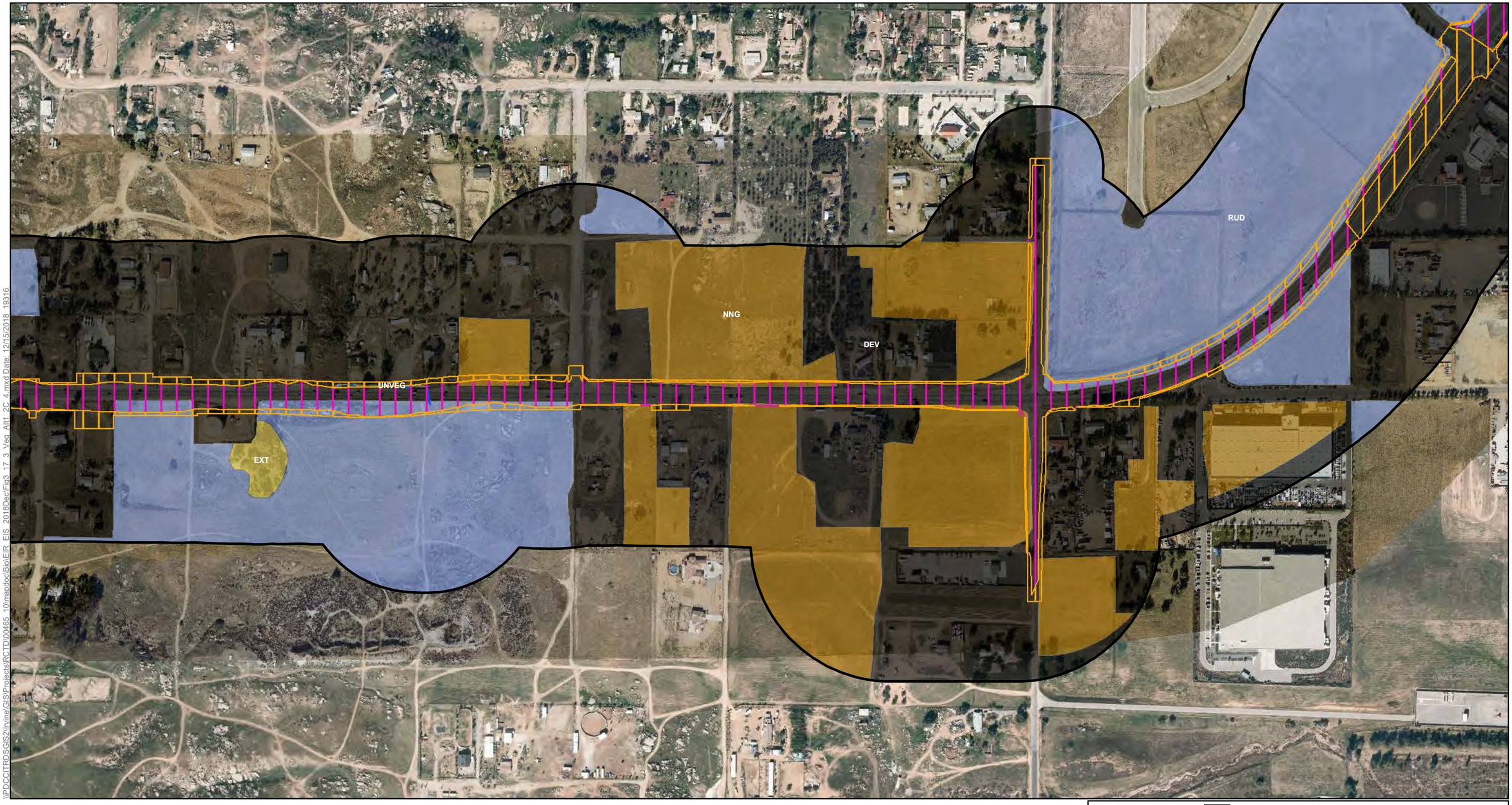

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Vegetation Study Area (500-foot Buffer)

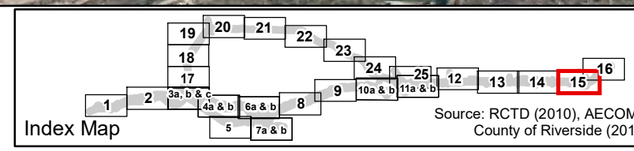
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 15
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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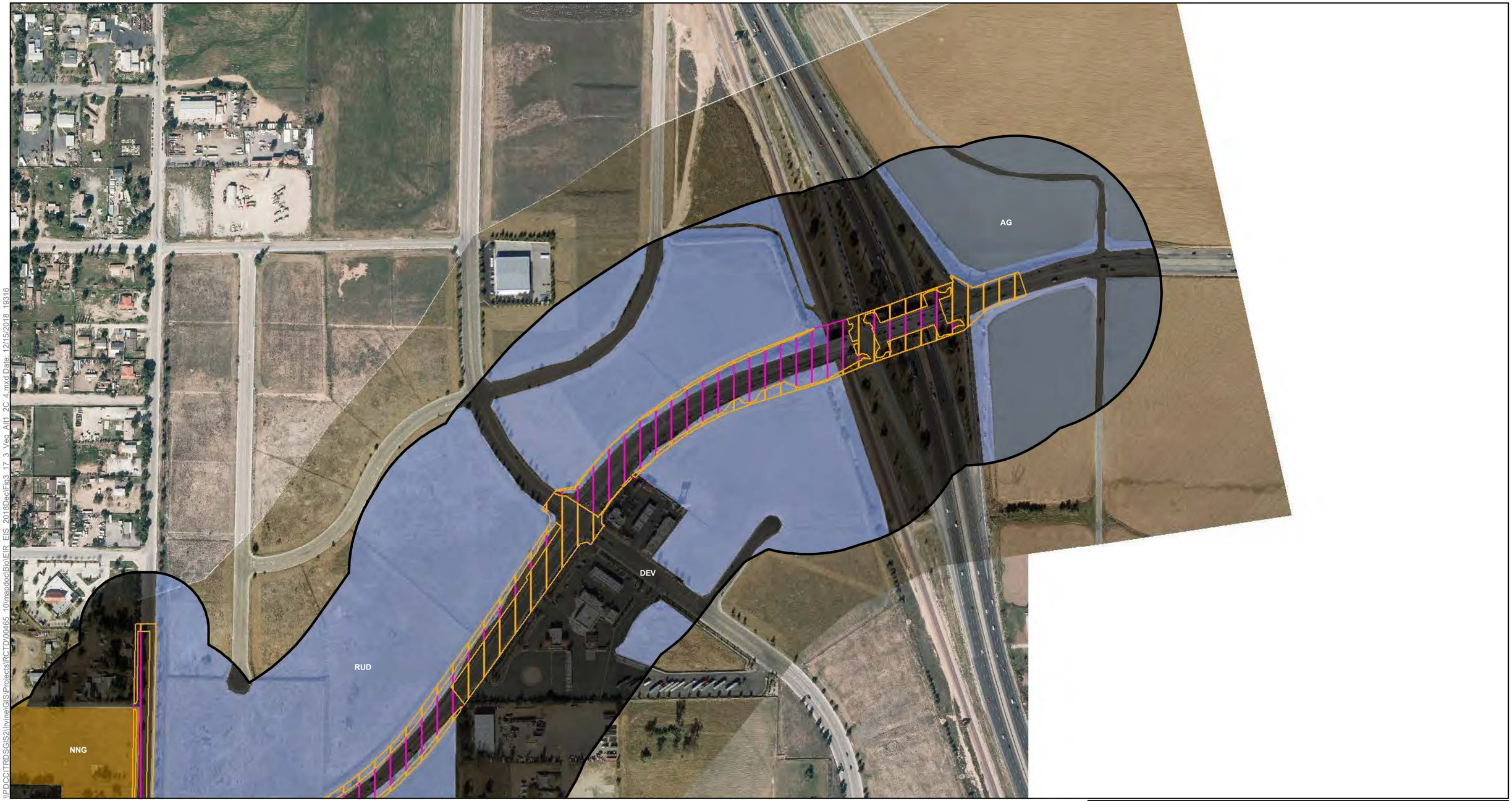

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
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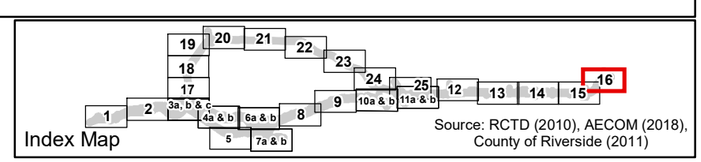
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 16
Vegetation Communities Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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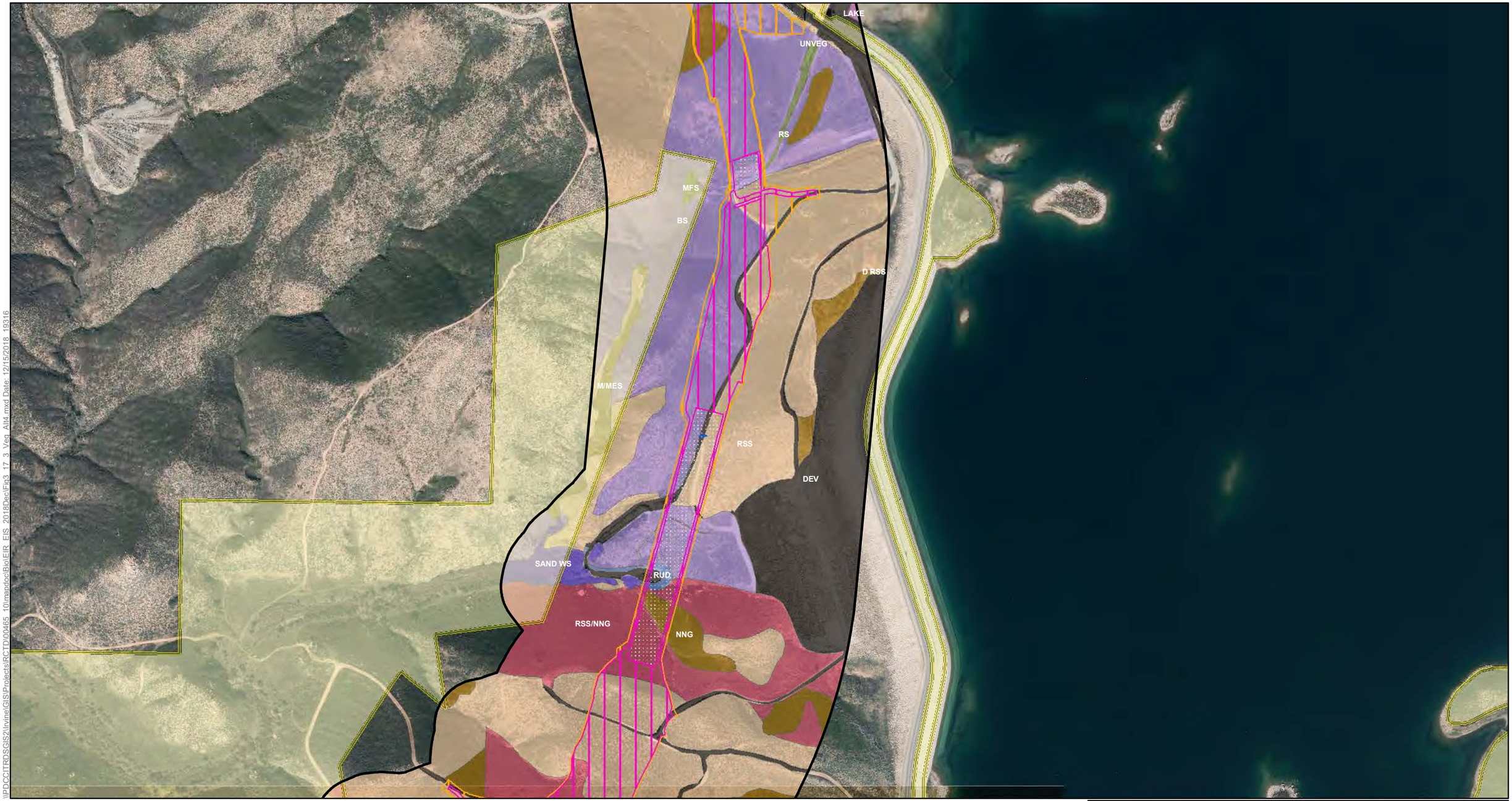

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
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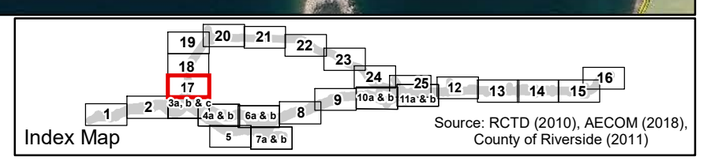
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 17
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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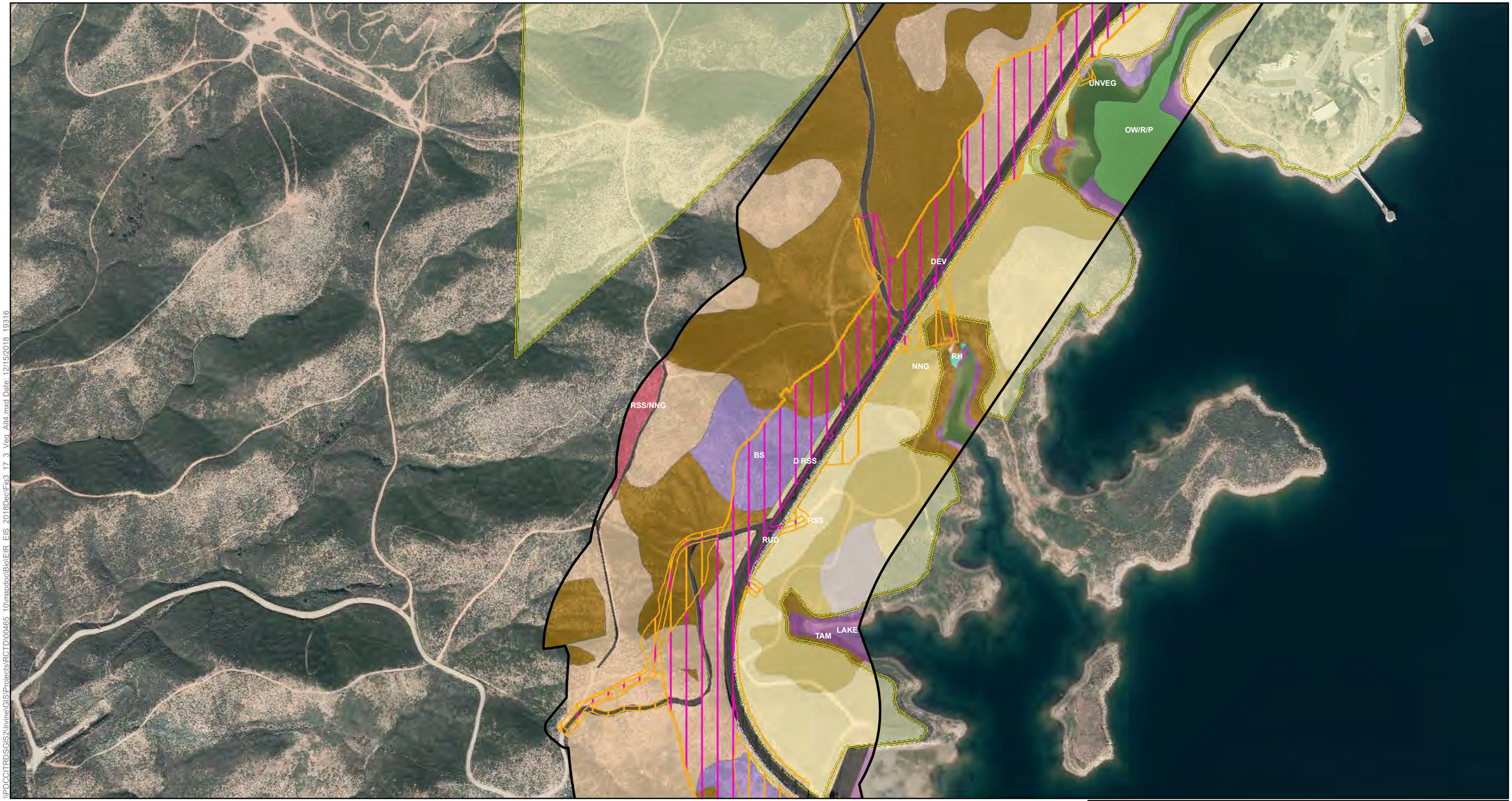


Vegetation Study Area (500-foot Buffer)

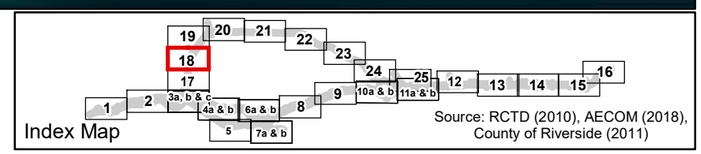
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 18
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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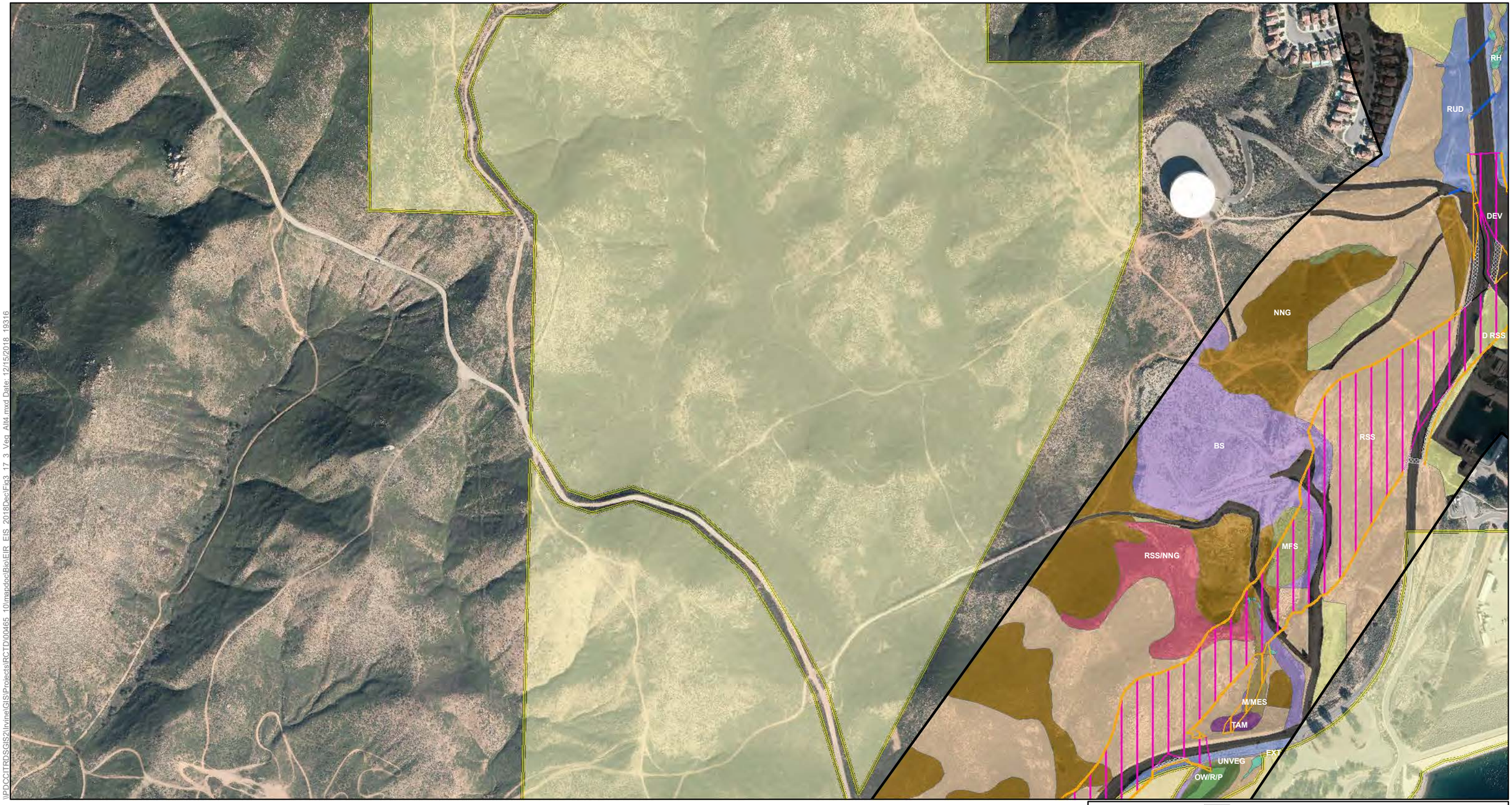

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Vegetation Study Area (500-foot Buffer)

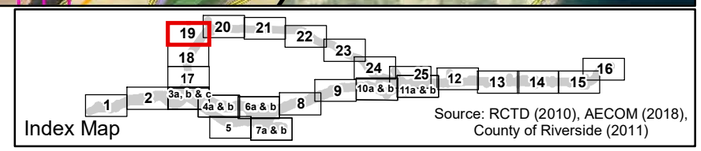
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 19
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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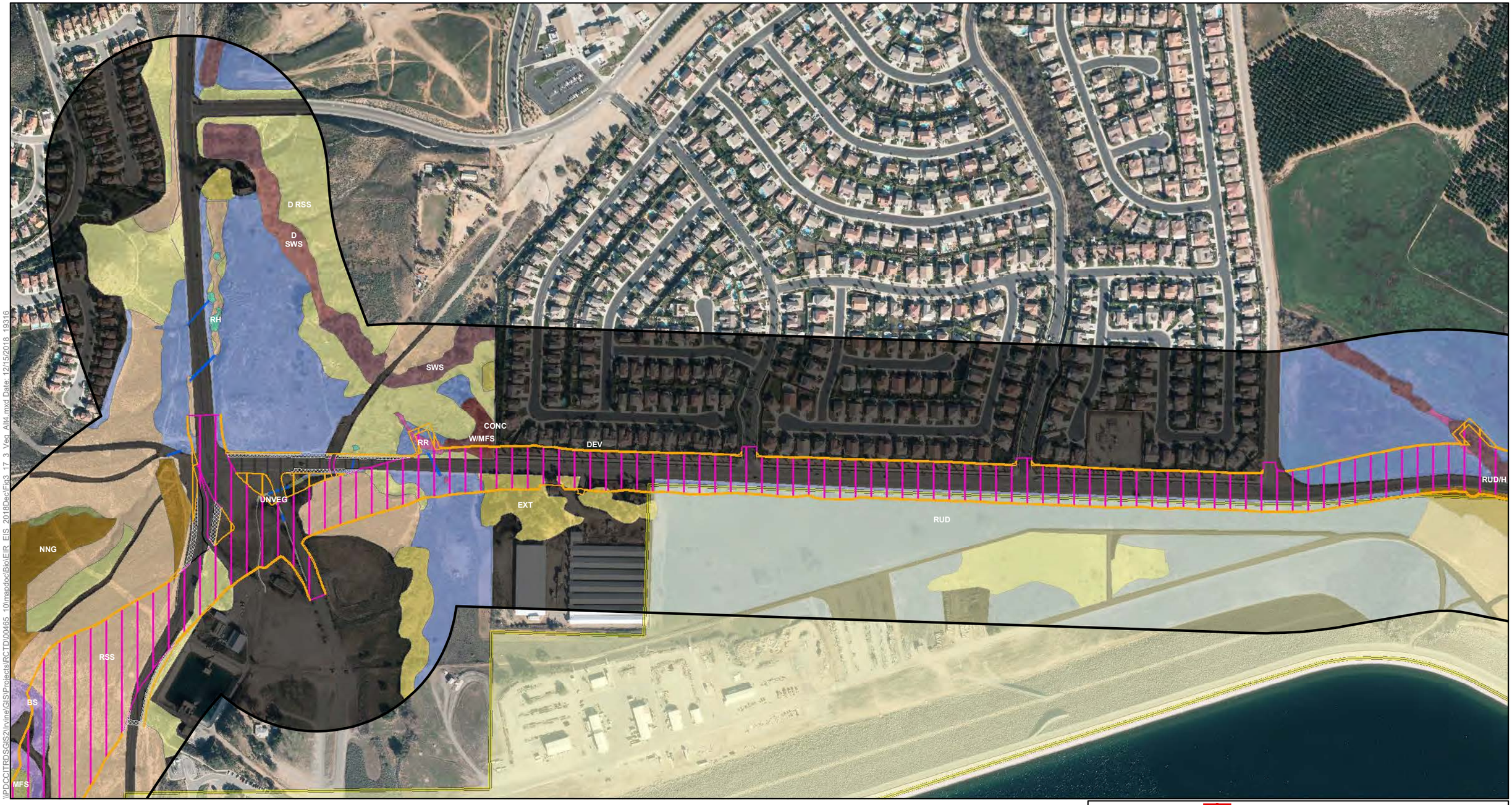

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Vegetation Study Area (500-foot Buffer)

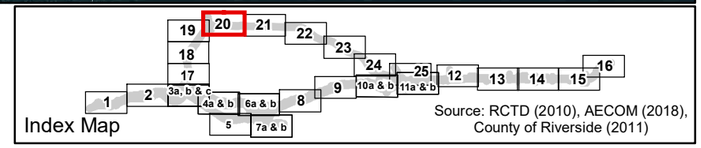
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 20
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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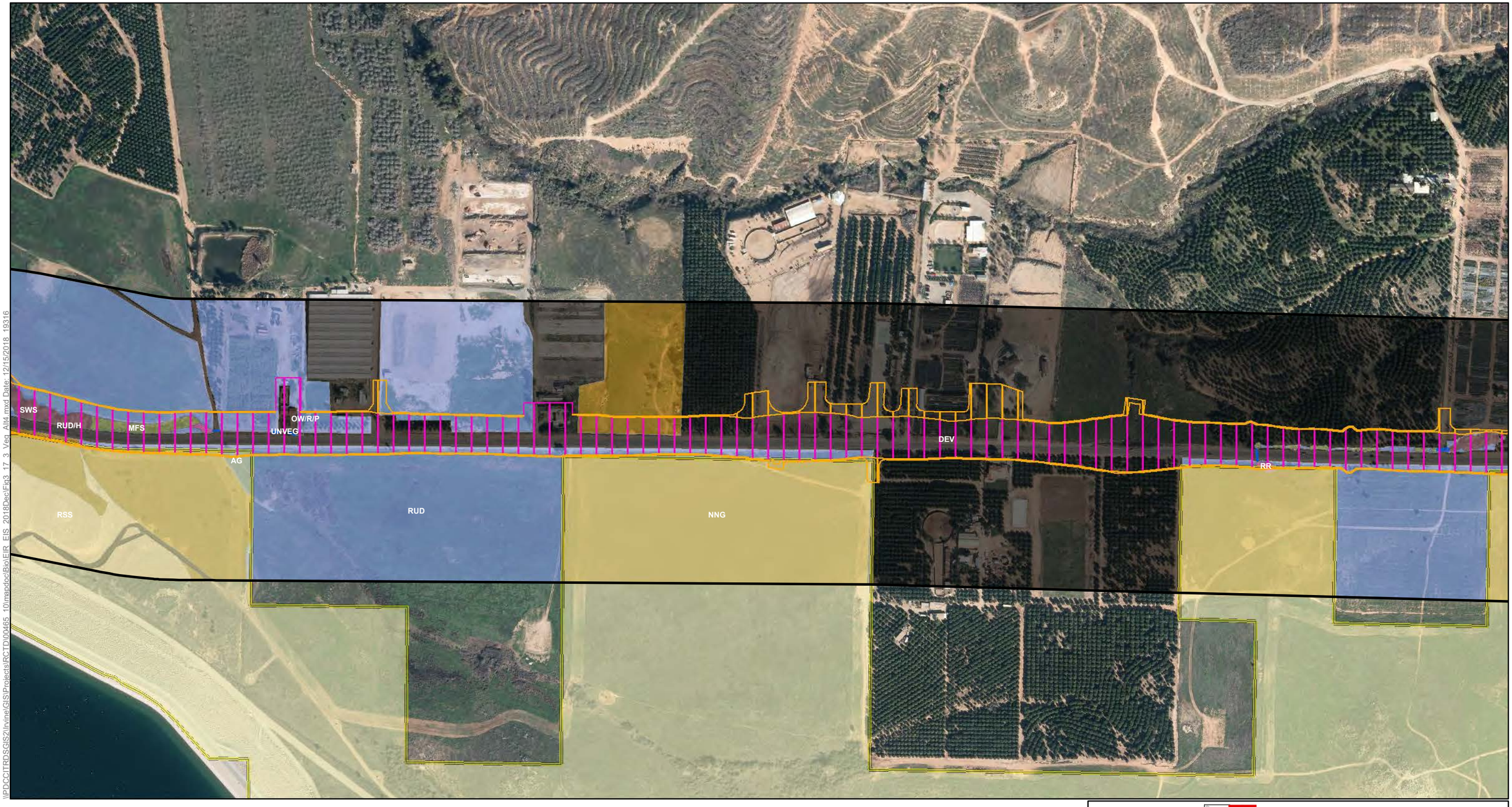


Vegetation Study Area (500-foot Buffer)

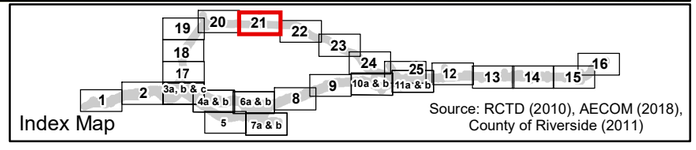
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 21
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Vegetation Study Area (500-foot Buffer)

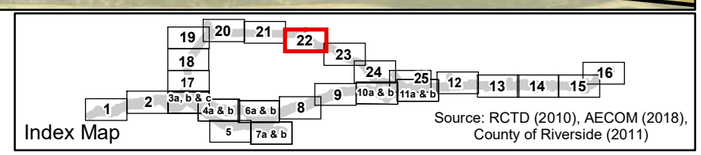
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 22
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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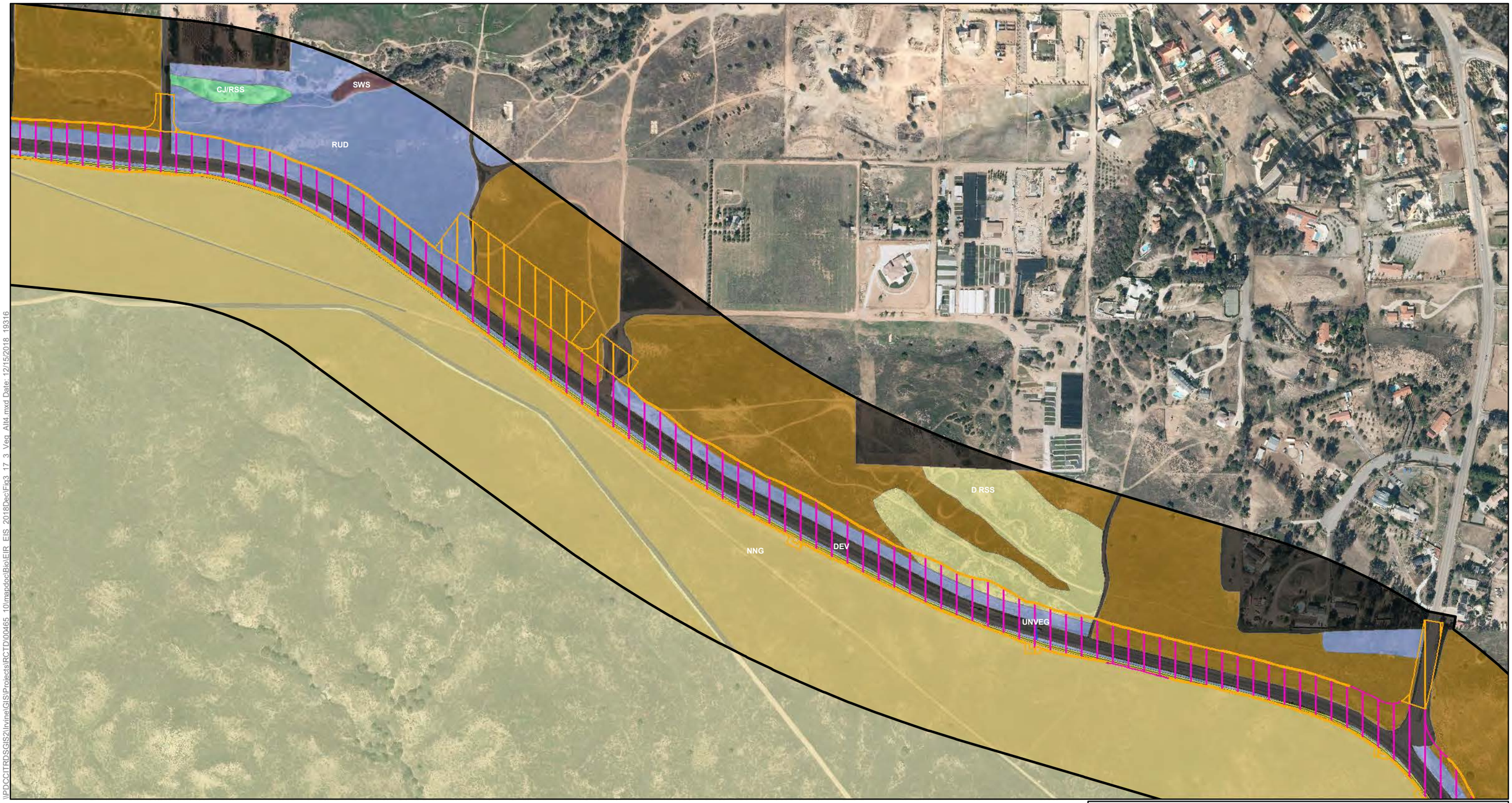

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Vegetation Study Area (500-foot Buffer)

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

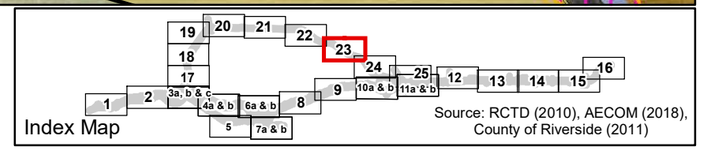
Vegetation Communities

- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 23
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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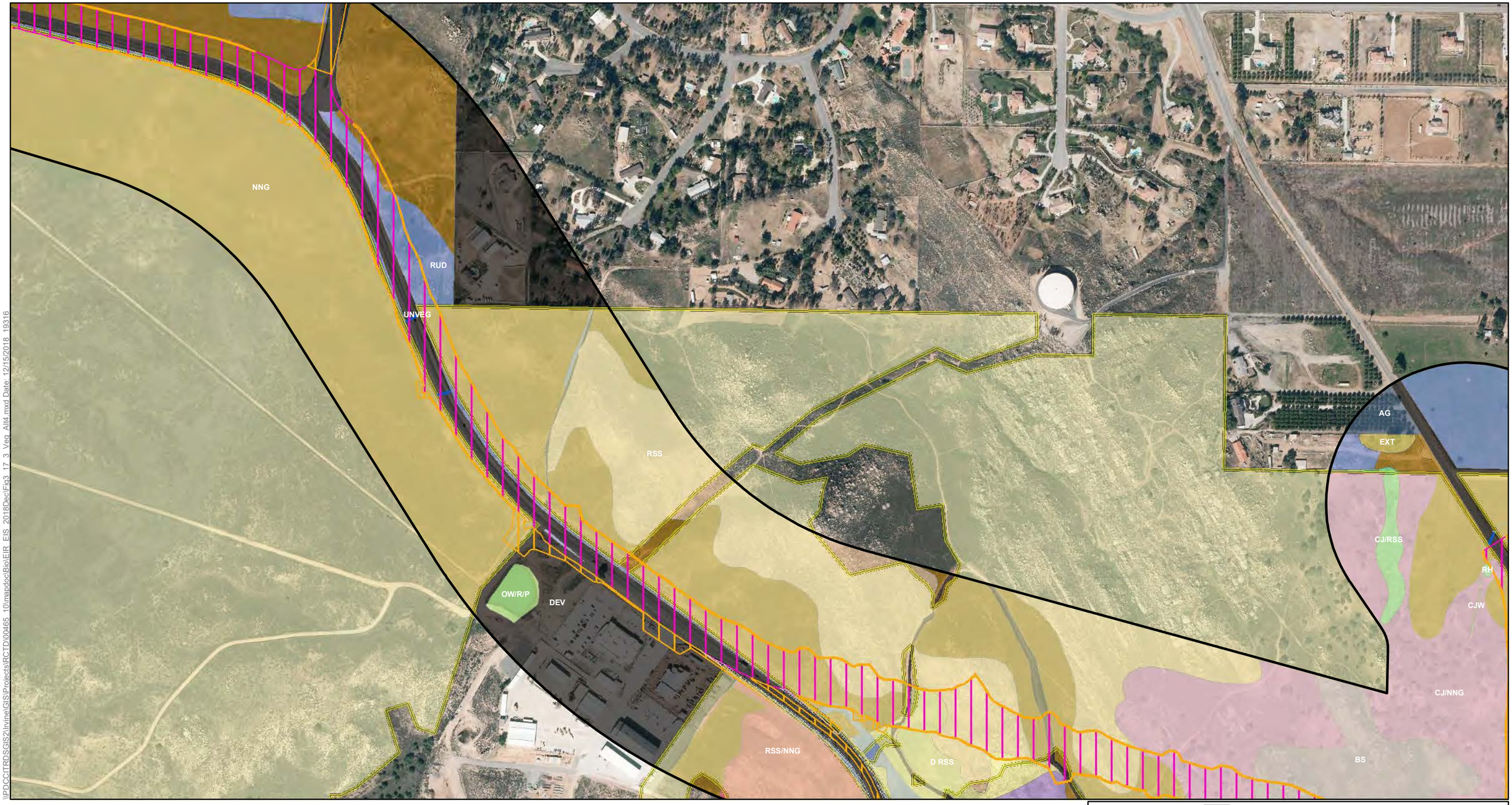

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Vegetation Study Area (500-foot Buffer)

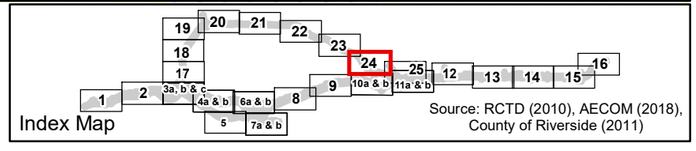
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 24
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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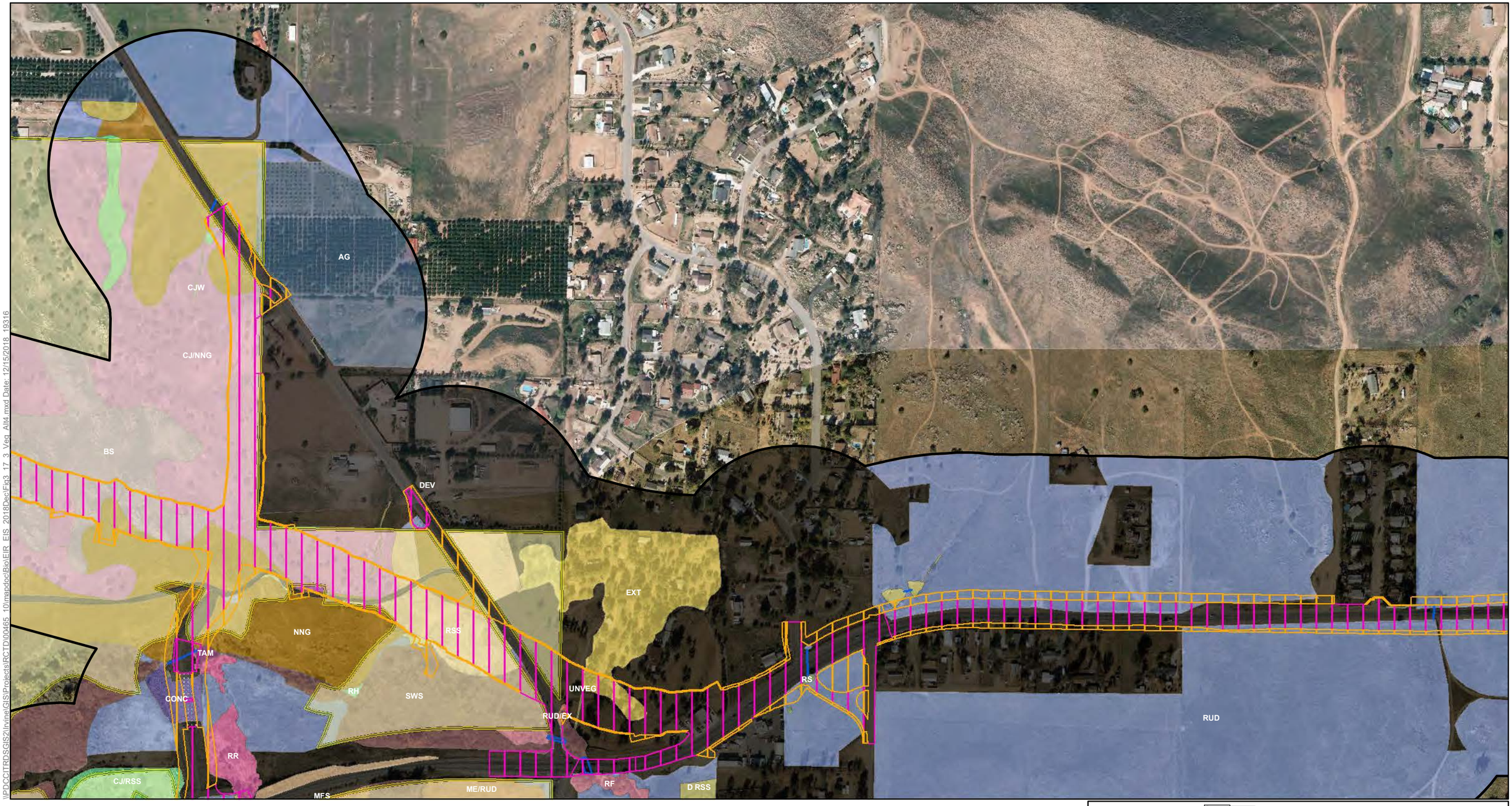

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Vegetation Study Area (500-foot Buffer)

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Vegetation Communities
- AG, Agriculture
- BS, Brittlebush Scrub
- CJ/NNG, California Juniper/Non-native Grassland
- CJ/RSS, California Juniper/Riversidean Sage Scrub
- CJR, California Juniper Riparian
- CJW, California Juniper Woodland
- CLO/SR, Coast Live Oak - Sycamore Riparian
- CLOW, Coast Live Oak Woodland
- CONC, Concrete Channel/Spillway/V-Ditch/Rip...
- CSW, California Sycamore Woodland
- D RSS, Riversidean Sage Scrub (disturbed)
- D SWS, Southern Willow Scrub (disturbed)
- DEV, Developed/Disturbed Land
- EUC/TAM, Eucalyptus/Tamarisk
- EXT, Exotic Tree(s)/Woodland
- F AG, Fallow Agriculture
- FWM, Coastal and Valley Freshwater Marsh
- LAKE, Lakebed
- M/MES, Mulefat/Mexican Elderberry Scrub
- ME/RUD, Mexican Elderberry/Ruderal
- MES, Mexican Elderberry Scrub
- MFS, Mule Fat Scrub
- N/NNRS, Native/Non-native Riparian Scrub
- NNG, Non-native Grassland
- OW/R/P, Open Water/Reservoir/Pond
- R/OW/R/P, Riparian/Open Water/Reservoir/Pond
- RAFSS, Riversidean Alluvial Fan Sage Scrub
- RF, Riparian Forest
- RH, Riparian Herbaceous
- RR, Riparian Ruderal
- RS, Riparian Scrub
- RSS, Riversidean Sage Scrub
- RSS/NNG, Riversidean Sage Scrub/Non-native Grassland
- RUD, Ruderal
- RUD/EX, Ruderal/Exotics
- RUD/H, Ruderal Herbaceous
- SAND WS, Sandbar Willow Scrub
- SC/WR, Southern Cottonwood/Willow Riparian
- SS, Saltbush Scrub
- SWS, Southern Willow Scrub
- TAM, Tamarisk Scrub
- UNVEG, Unvegetated
- W/MFS, Willow/Mulefat Scrub
- Culvert

N

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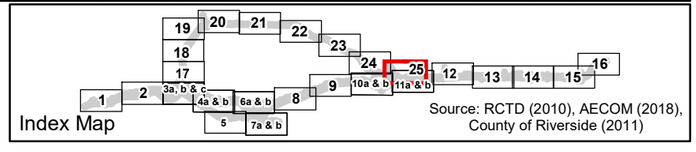
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-3 - Sheet 25
Vegetation Communities Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Willow/Mulefat Scrub

This community is composed of a transitional area between southern willow scrub and mulefat scrub and is composed of willows and mulefat. The community occurs adjacent to ephemeral and intermittent streams in the BSA.

Sandbar Willow

The sandbar willow community occurs in a low valley in a drainage area. The community is dominated by sand bar willow (*Salix exigua*) with some mulefat near the edges.

Coast and Valley Freshwater Marsh

Freshwater marsh occurs mostly in streams (i.e., Temescal Wash) and drainage features. This community is dominated by hydrophytic vegetation, such as cattails (*Typha* spp.), sedges (*Eleocharis* spp., *Cyperus* spp., *Schoenoplectus* spp.), and rushes (*Juncus* spp.). Other species observed include salt grass (*Distichlis spicata*), common duckweed (*Lemna minor*), floating water primrose (*Ludwigia peploides*), water cress (*Nasturtium officinale*), and water speedwell (*Veronica anagallis-aquatica*). This vegetation community is limited to a few small areas in the BSA. Coast and valley freshwater marsh is considered a natural community of concern.

Native/Nonnative Riparian Scrub

This community is composed of a mosaic of riparian scrub species, including mulefat, blue elderberry (*Sambucus nigra* ssp. *caerulea*), willows, tree tobacco (*Nicotiana glauca*), short-pod mustard (*Hirschfeldia incana*), and nonnative grasses. The native/nonnative riparian scrub occurs on a terrace at Temescal Wash.

Riparian Vegetated

Riparian vegetated areas are mapped where small patches of CDFW jurisdictional riparian-associated vegetation was present. The “riparian vegetated” designation does not represent a vegetation classification; however, to be consistent with WRC MSHCP riparian-riverine policies, it is included here. Riparian vegetated areas are characterized as small patches and often as individual mulefat or willow plants that, by themselves, would not function or be classified as a vegetation community; however, because of their association with CDFW streambed, they qualify as riparian-riverine.

Riparian Herbaceous

Riparian herbaceous habitat occurs within drainages in the BSA and is dominated by herbaceous plants, including curly dock (*Rumex crispus*), willow dock (*R. salicifolius*), willow smartweed (*Persicaria lapathifolia*), yerba mansa (*Anemopsis californica*), saltmarsh-fleabane (*Pluchea odorata* var. *odorata*), and fringed willowherb (*Epilobium ciliatum*).

Riparian Ruderal

The riparian ruderal classification is given to areas located along roadsides and mechanically disturbed areas within and adjacent to riparian areas. Species within this community include

mulefat saplings, short-pod mustard, salt grass, and alkali heliotrope (*Heliotropium curassavicum* var. *oculatum*).

Riparian Scrub

The riparian scrub community is composed of a mosaic of riparian and non-riparian vegetation. Species within this community include mulefat, willow, Mexican palo verde (*Parkinsonia aculeata*), and sparse nonnative grasses. Most of the riparian scrub communities are associated with a drainage feature. There is also riparian scrub mapped at culvert inlets/outlets.

Tamarisk Scrub

This community is dominated by the invasive species tamarisk (*Tamarix ramosissima*). This community contains monotypic stands of tamarisk, often associated with drainage features.

Coast Live Oak/Sycamore Riparian

This woodland community consists of mature coast live oak (*Quercus agrifolia*) and western sycamore (*Platanus racemosa*) trees. The canopy is open to continuous with a sparsely vegetated understory. This community is associated with an ephemeral earthen drainage. Coast live oak/sycamore riparian is considered a natural community of concern.

Coast Live Oak Woodland

This woodland habitat occurs on an upper terrace of Temescal Creek. The community comprises mature coast live oak. The canopy is open to continuous, with a sparsely vegetated understory comprising nonnative grasses and herbs. Coast live oak woodland is a natural community of concern.

California Sycamore Woodland

The California sycamore woodland is an open canopy community dominated by California sycamore with a shrub layer composed of mulefat.

Mexican Elderberry Scrub

This shrub community occurs in open to moderately dense stands and is dominated by blue elderberry. Other species observed in this community include nonnative Peruvian peppertree (*Schinus molle*) and mulefat. Mexican elderberry scrub typically occurs within drainages and flood terraces.

Mulefat/Mexican Elderberry Scrub

This scrub community consists of scattered mulefat and blue elderberry with an herbaceous layer of nonnative grasses.

Mexican Elderberry/Ruderal

The Mexican elderberry/ruderal vegetation community is composed of a patchy Mexican elderberry scrub habitat. Shrubs also occurring in this community include California buckwheat

(*Eriogonum fasciculatum*) and mulefat. Historically, the Mexican elderberry/ruderal habitat was part of the Cajalco Creek drainage system.

Saltbush Scrub

This upland community is dominated by saltbush including big saltbush (*A. lentiformis*) and four-wing saltbush (*A. canescens* var. *canescens*) in the shrub canopy. Other dominant species found in this community include five-hooked bassia (*Bassia hyssopifolia*) and smooth tarplant (*Centromadia pungens* ssp. *laevis*). Often this community is associated with alkaline soils.

Riversidian Sage Scrub

This vegetation community is a xeric form of coastal sage scrub and contains mostly drought-deciduous shrubs with small leaves. The dominant plants are California sagebrush (*Artemisia californica*), California buckwheat, brittlebush (*Encelia farinosa*), and short-winged deerweed (*Acmispon glaber* var. *brevialatus*). A number of nonnative plants also occur, including slender wild oat (*Avena barbata*), red brome (*B. madritensis* ssp. *rubens*), Mediterranean schismus (*Schismus barbatus*), and redstem filaree (*Erodium cicutarium*). RSS is a natural community of concern.

Disturbed Riversidian Sage Scrub

Disturbed RSS occurs in areas that have been disturbed by routine mowing or are adjacent to developed areas and subject to edge impacts, thereby minimizing vegetation community function and value. These communities are identified as disturbed RSS. This community is included with RSS as a natural community of concern because of the potential for the community to be enhanced and provide value for special-status species, and its function as a buffer between disturbed areas and RSS.

Riversidian Alluvial Fan Sage Scrub

Riversidian alluvial fan sage scrub (RAFSS) occurs on alluvial fans and drainages. Vegetation within RAFSS is composed of California buckwheat, California sagebrush, white sage (*Salvia apiana*), and California broomsage (*Lepidospartum squamatum*). RAFSS is a natural community of concern.

Nonnative Grassland

Areas mapped as nonnative grassland (NNG) in the BSA are heavily dominated by nonnative annual grasses including ripgut brome (*Bromus diandrus*), red brome, soft brome (*B. hordeaceus*), wild oat (*Avena fatua*), slender wild oat, Mediterranean schismus, and wall barley (*Hordeum murinum*). Forb species common in the NNG are short-pod mustard and Menzies' fiddleneck (*Amsinckia menziesii*). Most of the NNG areas occur within open space areas throughout the BSA with a majority of the NNG occurring on the LM MSHCP area and within the LMR. NNG within preserved lands have relatively low levels of human disturbance. NNG adjacent to Cajalco Road, El Sobrante Road, and La Sierra Avenue is heavily disturbed by routine mowing and disking for fire and weed abatement.

Riversidian Sage Scrub/Nonnative Grassland

This community is composed of a mosaic of RSS and NNG. This community occurs on the LM MSHCP area. RSS is a natural community of concern.

California Juniper Woodland

This woodland community is dominated by open to intermittent stands of California juniper (*Juniperus californica*) with scattered grasses such as Mediterranean schismus, wild oat, short-pod mustard, and doveweed occurring in the herbaceous layer. This community primarily occurs within the LM MSHCP area on ridges, slopes, and valley bottoms and, in many areas, adjacent to drainage features.

California Juniper Riparian

The California juniper riparian vegetation type occurs as dense stands of California juniper shrubs within drainages that convey flows toward Lake Mathews within the LM MSHCP area.

California Juniper Scrub/Nonnative Grassland

California juniper scrub/NNG is composed of scattered California juniper within an NNG matrix in the openings.

California Juniper Scrub/Riversidian Sage Scrub

California juniper scrub/RSS is composed of scattered California juniper within an RSS matrix in the openings. RSS is a natural community of concern.

Brittlebush Scrub

Brittlebush scrub is similar in structure and function to the RSS community, but is dominated by brittlebush with a few scattered RSS species intermixed within this community, such as California buckwheat. An herbaceous layer underneath the shrubs is primarily composed of Mediterranean schismus.

Ruderal

Ruderal areas generally lack natural topography and support only nonnative grasses and forbs, such as ripgut brome, red brome, prickly Russian thistle (*Salsola tragus*), tocalote (*Centaurea melitensis*), horseweed (*Erigeron canadensis*), telegraph weed (*Heterotheca grandiflora*), prickly lettuce (*Lactuca serriola*), bristly ox-tongue (*Helminthotheca echioides*), and common sow thistle (*Sonchus oleraceus*). Ruderal areas in the BSA are often disked routinely for weed abatement or are too heavily disturbed for native vegetation to establish. Areas with bare ground often have compacted soils, which prevent vegetation growth and often occur along the existing paved roadway.

Ruderal Herbaceous

This community occurs along roadside areas adjacent to riparian vegetation. Vegetation is composed of horseweed (*Erigeron canadensis*), tree tobacco, short-pod mustard, and mulefat saplings.

Exotic Tree(s)/Woodland

Most of this type of community support mature red gum trees (*Eucalyptus camaldulensis*) as well as other mature ornamental trees. This community occurs in small patches throughout the BSA along the road right of way and around developed areas. Mature ornamental trees do not function as a natural vegetation community and may lack some habitat function and value relative to native trees and woodlands, but may still be used by birds such as raptors and bats for roosting.

Eucalyptus/Tamarisk

This community is composed of a mix of red gum tree woodland with a shrub layer composed of tamarisk species (*Tamarix* spp.) and a mix of nonnative grasses in the herb layer.

Developed/Disturbed

The majority of developed/disturbed areas occur within residential and commercial areas, and also include paved and dirt roadways within the BSA.

Residential/Urban/Exotic

This land type occurs on private property. Dominant plants include tree tobacco and Peruvian peppertree.

Concrete Channel/Spillway/V-Ditch/Rip-Rap

Areas designated as concrete include concrete structures such as channels, spillways, v-ditches, and rip-rap.

Unvegetated

Areas categorized as unvegetated occur within BSA drainages. This land type is associated with unvegetated earthen drainage or wash bottoms. There is typically no tree, shrub, or herbaceous layer present.

Open Water/Reservoir/Pond

Open water/reservoir/pond is present in the Lake Mathews reservoir, perennial streams (e.g., Temescal Creek), and ponds that occurs within the BSA. These areas are unvegetated.

Riparian/Open Water/Reservoir/Pond

This land type occurs within an open pond on the north side of Cajalco Road. Some riparian vegetation, such as willows, are present within the pond.

Lakebed

This land type occurs within the lakebed of Lake Mathews on the LMR. It consists of the submerged portion of the lake.

Agriculture

Lands mapped as agricultural are currently used for agriculture and may be routinely plowed or disked. Some sites are also active nurseries and orchards.

Fallow Agriculture

Historically, these lands were active agricultural lands, but the lands have been converted to conservation lands within the SKR Core Reserve. These lands will remain fallow and uncultivated.

3.17.2.3 Natural Communities of Concern

Based on a review of the CNDDB (CDFW 2018), WRC MSHCP, and LM MSHCP, eight of the vegetation communities listed in Table 3.17-1 above are deemed natural communities of concern. The following natural communities of concern were identified as present within the BSA during reconnaissance surveys: RSS, RAFSS, coast live oak woodland, coastal and valley freshwater marsh, southern cottonwood-willow riparian forest, southern coast live oak riparian forest, southern riparian forest, and southern willow scrub. Of these, coast live oak woodland, southern cottonwood-willow riparian forest, and coastal and valley freshwater marsh were absent from the LM MSHCP area. Table 3.17-2 summarizes the total acreage of each natural community of concern that occurs within the BSA and the portion of those communities in the BSA which occur within the LM MSHCP area.

Table 3.17-2. Natural Communities of Concern within the BSA

Natural Community of Concern	Total within the BSA[1] (acres)	Total within the LM MSHCP[2] (acres)
Riversidian Sage Scrub (RSS, disturbed RSS, RSS/NNG, California juniper/RSS)	968.55[3]	472.32
Riversidian Alluvial Fan Sage Scrub	7.67	3.26
Coast Live Oak Woodland	0.03	-
Southern Coast Live Oak Riparian Forest (coast live oak/sycamore riparian)	0.03	0.03
Southern Cottonwood-Willow Riparian Forest	4.88	-
Southern Riparian Forest (riparian forest)	4.47	0.00
Southern Willow Scrub (southern willow scrub and disturbed southern willow scrub)	100.35	38.69
Coastal and Valley Freshwater Marsh	1.84	-
Total Natural Community of Concern	**1,087.82[2]**	**514.3[3]**

[1] Total amount of natural communities of concern present within the BSA.
[2] The portion of the BSA that occurs in within the LM MSHCP planning area is provided in a separate column to facilitate environmental reviews and approvals specific to LM MSHCP accommodation of the project.
[3] This total is composed of high-quality RSS (approximately 753 acres) and low-quality RSS (approximately 215 acres).

Riversidian Sage Scrub

RSS is a xeric form of coastal sage scrub characterized by low-growing drought-deciduous shrubs with shallow roots and an open canopy, which allows for a diverse herbaceous community of annual vegetation. RSS is a plant community of concern because its extent has been drastically reduced during recent decades, primarily because of residential development in the coastal foothills of Southern California. Portions of this vegetation community occur within

WRC MSHCP riparian-riverine resources (refer to description below). Threats to this community include habitat loss and fragmentation; competition from nonnative, invasive species; altered fire cycles; and air pollution. RSS provides habitat for a number of special-status species such as coastal California gnatcatcher (*Polioptila californica*), Quino checkerspot butterfly (*Euphydryas editha quino*), SKR, Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*), and cactus wren (*Campylorhynchus brunneicapillus*). Most special-status species associated with RSS are covered species under the WRC MSHCP (refer to Sections 3.20 and 3.21 for further discussion of these species).

The RSS within the BSA has been classified into the following categories based on the density of the intact sage scrub vegetation, disturbances, and function and value to wildlife: RSS, disturbed RSS, RSS/NNG, and California juniper/RSS (Figure 3.17-3). Within the BSA, there are an estimated 968.55 acres of RSS, composed of intact RSS, disturbed RSS, RSS/NNG, and California juniper/RSS (Table 3.17-1). The overall habitat value of the intact RSS (approximately 753 acres) in the BSA is judged to be moderate to high, with disturbed RSS, California juniper/RSS, and RSS/NNG (approximately 215 acres) judged to be lower in value based on increased disturbances and lower densities of native RSS vegetation compared to nonnative components. The disturbed RSS occurs in areas that have been disturbed by routine mowing or are adjacent to developed areas and subject to edge effects, thereby decreasing this disturbed vegetation community's function and value for wildlife. Within the LM MSHCP area of the BSA, RSS occurs as a mosaic of RSS/NNG and California juniper/RSS and is composed of scattered California juniper within an RSS matrix in the openings.

The RSS occurs within Extension of Existing Core 2, Proposed Linkage 3, and Existing Core C of the WRC MSHCP (see discussion in Section 3.17.2.5 below for further details).

Riversidian Alluvial Fan Sage Scrub

RAFSS is a Mediterranean shrubland type that occurs on gently sloping alluvial fans and drainages. This community occurs within recent or active alluviated drainages that experience infrequent but severe flood events. Threats to RAFSS include changes in flood regime from flood control, urban irrigation, edge effects, and disturbances from off-highway vehicles. This vegetation community is considered a WRC MSHCP riparian-riverine resource when associated with a stream. Vegetation within RAFSS is composed of California buckwheat, California sagebrush, white sage (*Salvia apiana*), and California broomsage (*Lepidospartum squamatum*). Two special-status species are endemic to RAFSS in the WRC MSHCP area: slender-horned spineflower (*Dodecahema leptoceras*) and Santa Ana River woollystar (*Eriastrum densifolium* ssp. *sanctorum*). In addition, RAFSS can provide habitat for a number of special-status wildlife species, including coastal California gnatcatcher and Quino checkerspot butterfly. Most special-status species associated with RAFSS are covered species under the WRC MSHCP (refer to Sections 3.19, 3.20, and 3.21 for further discussion of these species).

There are an estimated 9.17 acres of RAFSS within the BSA (Table 3.17-1). Approximately 3.26 acres of the RAFSS mapped within the BSA occur within the LM MSHCP area. There are no other conserved areas in the BSA with the RAFSS vegetation community.

The RAFSS occurs within Extension of Existing Core 2 and Existing Core C of the WRC MSHCP and is within the LMR (see discussion in Section 3.17.2.5 below for further details).

Coast Live Oak Woodland

Coast live oak woodland is a natural community of concern that has declined greatly over past decades. Threats to this community include land development, clearing for agriculture, use for fuelwood, soil compaction and grazing, and groundwater depletion lowering water tables in valleys. Coast live oak woodland provides suitable habitat for special-status species, such as fish's milkwort (*Polygala cornuta* var. *fishiae*), and suitable foraging habitat and shelter for a number of wildlife species.

Coast live oak woodland is relatively rare in the BSA, with only two locations mapped, both associated with terraces within Temescal Wash. An estimated 0.03 acre of coast live oak woodland is present within the BSA. There are no other conserved areas in the BSA with the coast live oak woodland vegetation community.

Southern Coast Live Oak Riparian Forest

Coast live oak/sycamore riparian habitat (which would be classified in the CNDDB Natural Community hierarchy as southern coast live oak riparian forest) was mapped near the edge of the BSA south of Cajalco Road and east of Lake Mathews Road (Sheet 8 of Figure 3.17-3). This vegetation community is considered a WRC MSHCP riparian-riverine resource. This riparian forest community consists of mature coast live oak (*Quercus agrifolia*) located on stream banks and terraces.

Approximately 0.03 acre of southern coast live oak riparian forest occurs within the BSA, entirely within the LMR. This community has the potential to provide habitat for terrestrial animal species, including use for foraging and shelter. The community occurs within WRC MSHCP Existing Core C; however, due to the small acreage present in the BSA and small extent of the southern coast live oak riparian forest adjacent to the BSA, this community is only expected to have moderate functions and values for wildlife. The southern coast live oak riparian forest occurs within Existing Core C of the WRC MSHCP (see discussion in Section 3.17.2.5 below for further details).

Southern Cottonwood-Willow Riparian Forest

Southern cottonwood-willow riparian forests occur along rivers and streams in Southern California. They are also often associated with wetland areas. Within the BSA, the southern cottonwood-willow riparian forest community has a well-developed tree canopy made up of willows and cottonwoods, and a shrub/herbaceous layer composed of mulefat, stinging nettle, and emergent species. This vegetation community is usually found within perennial streams. Within the BSA it is primarily found within Temescal Wash and has a well-developed shrub and herbaceous layer, due to sufficient hydrology and relatively low disturbances within the creek bed. This community is also found within a riparian corridor within Cajalco Creek southeast of Harley John Road and Cajalco Road. This vegetation community is also considered a WRC MSHCP riparian-riverine resource.

There are 4.88 acres of southern cottonwood-willow riparian forest within the BSA. This community provides habitat for special-status species, such as least Bell's vireo (*Vireo bellii pusillus*), yellow warbler (*Setophaga petechia*), and yellow-breasted chat (*Icteria virens*); terrestrial mammals, such as mule deer; and reptiles and amphibians. The community occurs

within WRC MSHCP Proposed Linkage 3 (Cajalco Creek) and adjacent to WRC MSHCP Proposed Extension of Existing Core 2 (Temescal Wash). Because this community occurs within and adjacent to WRC MSHCP core/linkages and provides suitable habitat for a number of special-status species and other wildlife, southern cottonwood-willow riparian forest provides high functions and values for the region. Southern cottonwood-willow riparian forest does not occur within the LM MSHCP area.

Southern Riparian Forest

Southern riparian forest habitat often occurs within streams with perennial or intermittent hydrology. The dominant plant species include box elder (*Acer negundo*), Fremont cottonwood, western sycamore, willows, California walnut (*Juglans californica*), blue elderberry, and wild grape (*Vitus girdiana*). Southern riparian forest provides important habitat for wildlife including providing shading and refugia in streams for fish and other aquatic species; food, shelter, and nesting sites for mammals and birds; and a source of cover, food, and water for wildlife movement. Threats to riparian communities include colonization by invasive plants (i.e., giant reed), changes in hydrology from surrounding land uses and development, degraded water quality, and degraded instream ecology. This vegetation community is tracked by the CNDDB and is also considered a WRC MSHCP riparian-riverine resource.

There are approximately 4.47 acres of riparian forest within the BSA. Because of the dense tree canopy, there is little to no vegetation in the herbaceous layer and the ground is composed of leaf litter. This community is found within streams adjacent to Cajalco Road and occurs within WRC MSHCP Proposed Linkage 3 (Cajalco Creek). This community provides habitat for special-status species, such as least Bell's vireo and southwestern willow flycatcher (*Empidonax traillii extimus*); cover for terrestrial mammals, such as mule deer; and shade within streams for amphibians and fish species. Because this community occurs within and adjacent to WRC MSHCP core/linkages and provides suitable habitat for a number of special-status species and other wildlife, southern riparian forest is a valuable resource within the region. Southern riparian forest does not occur within the LM MSHCP area.

Southern Willow Scrub

Southern willow scrub is a natural community of concern tracked by the CNDDB and is considered a WRC MSHCP riparian-riverine resource. This community is characterized by willow trees and shrubs, such as mulefat, and is often found associated with perennial and intermittent streams. Southern willow scrub provides habitat for special-status species, such as least Bell's vireo, yellow warbler, and yellow-breasted chat; cover and food for terrestrial mammals, including mule deer; and reptiles and amphibians. The southern willow scrub community is threatened by introduction of invasive plant species, changes in hydrology from flood control activities, and degraded water quality.

There are approximately 100.34 acres of the southern willow scrub community (including disturbed southern willow scrub) within the BSA. The community occurs within WRC MSHCP Proposed Linkage 3 (Cajalco Creek) and adjacent to WRC MSHCP Proposed Extension of Existing Core 2 (Temescal Wash). Because this community occurs within and adjacent to WRC MSHCP core/linkages and provides suitable breeding habitat, foraging, and shelter for a number of special-status species and other wildlife, southern willow scrub is a valuable resource in the

region. Approximately 38.68 acres of the southern willow scrub community occurs within the LM MSHCP area.

Coastal and Valley Freshwater Marsh

Coastal and valley freshwater marsh is an herbaceous freshwater wetland community that occurs along perennial streams but can also occur where only seasonal flows occur. This vegetation community is tracked by CNDDB and is also considered a WRC MSHCP riparian-riverine resource. This community provides food, water, cover, and reproductive opportunities for numerous resources, including habitat for mammals, birds, reptiles, and amphibians. In addition, it is a wetland community, which is also a rare and declining resource in Southern California. This wetland community is an important source of inorganic and organic nutrients (refer to Section 3.18, *Wetlands and Other Waters*, for additional details on functions and values of wetlands). Wetland resources contribute to filtration of pollutants and nutrient retention; therefore, this community has high functions and values. Freshwater marshes are threatened by pollution (e.g., from fertilizer and pesticides), grazing, introduction of invasive plants, erosion, and conversion of land uses, such as agricultural.

This vegetation community is limited to a few small areas in the BSA, totaling 1.84 acres. The coastal and valley freshwater marsh on the western end of the project is associated with WRC MSHCP Proposed Extension of Existing Core 2. There are no coastal and valley freshwater marshes within the LM MSHCP area.

3.17.2.4 WRC MSHCP Riparian-Riverine and Vernal Pool Resources

The WRC MSHCP also has specific policies and procedures regarding the evaluation and conservation of riparian-riverine resources (including riparian vegetation) because these resources support WRC MSHCP covered species (WRC MSHCP Volume I, Section 6.1.2). Similar to RSS, natural communities of concern within riparian systems and vernal pools have declined throughout Southern California during past decades. These sensitive riparian communities often occur within federal and state jurisdictional drainages and wetland areas, which are also declining and protected resources (refer to Section 3.18 for the discussion of waters and wetlands).

WRC MSHCP riparian-riverine resources are not specifically tracked by the CNDDB as natural communities of concern; however, the WRC MSHCP classification of riparian-riverine includes the sensitive riparian vegetation communities described above, as well as riparian vegetation associated with ephemeral drainages, such as mulefat scrub (not tracked by the CNDDB) and some upland vegetation, such as RSS, that occurs adjacent to ephemeral drainages. These natural communities are distributed throughout the BSA and occur within riparian and riverine areas, and adjacent uplands.

Under Section 6.1.2 of the WRC MSHCP Volume I, WRC MSHCP riparian-riverine resources are afforded special considerations under this policy. Specifically, the WRC MSHCP states that "riparian/riverine areas are natural lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." Therefore, the WRC MSHCP classification of riparian-riverine includes both riparian (natural community of concern) as well as ephemeral drainages that are natural in

origin but may lack riparian vegetation. The WRC MSHCP defines vernal pools as "seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season."

For the evaluation of WRC MSHCP riparian-riverine resources, a smaller JSA (up to a 200-foot buffer) was used (refer to Figure 3.17-1). In addition to the sensitive natural vegetation communities identified as WRC MSHCP riparian-riverine resources (described above), the following vegetation classifications were used for the remaining WRC MSHCP riparian-riverine resources within the JSA: riparian scrub, riparian ruderal, native/nonnative riparian scrub, Mexican elderberry scrub, California juniper riparian, mulefat scrub, mulefat/Mexican elderberry scrub, tamarisk scrub, riparian/open water/reservoir/pond, sandbar willow scrub, Mexican elderberry ruderal, and riparian herbaceous. Riverine resources in the JSA were composed of ephemeral drainages and unvegetated streambeds when vegetation consisted of xeric upland species (i.e., RSS, RAFSS, salt bush scrub) or was absent entirely, such as in the RSS ruderal, unvegetated, and lakebed classifications. Ephemeral riverine drainages transport water during or for a short time after rainfall events.

All WRC MSHCP riparian-riverine resources occur in state jurisdictional streambeds, and robust adjacent upland vegetation along streambeds also provides greater value to wildlife than surrounding upland vegetation that is not associated with riparian-riverine resources; therefore, robust adjacent upland vegetation was included in the WRC MSHCP riparian-riverine resources mapping. This methodology is consistent with correspondence and guidance from CDFW. The majority of the WRC MSHCP riparian-riverine resources in the jurisdictional delineation study area are located within Temescal Creek, Cajalco Creek, and Lake Mathews and its tributaries.

WRC MSHCP riparian-riverine resources support a large variety of special-status wildlife species, such as least Bell's vireo, southwestern willow flycatcher, arroyo toad (*Anaxyrus californicus*), western pond turtle (*Actinemys marmorata*), yellow-breasted chat, western yellow warbler, and coastal California gnatcatcher (refer to Sections 3.19 and 3.21 for further discussion of these sensitive species). In addition, WRC MSHCP riparian-riverine resources provide foraging, nesting, and shelter, and are used for wildlife passage by numerous other species, including small to large mammals, birds, reptiles, amphibians, and fish species.

In total, there are 120.21 acres of riparian-riverine resources within the JSA, of which 86.75 acres are riparian and 33.46 acres are riverine. Approximately 63.72 acres of WRC MSHCP riparian-riverine resources occur within conserved lands. Within these reserve lands, the LM MSHCP target species that would use riparian-riverine systems includes least Bell's vireo, coastal California gnatcatcher, and yellow warbler.

No vernal pools or vernal pool watersheds were documented within the JSA.

Lake Mathews MSHCP

In total, there are 70.73 acres of WRC MSHCP riparian-riverine resources within the LM MSHCP, of which 47.56 acres are riparian and 23.17 acres are riverine. The LM MSHCP target species that would use riparian-riverine systems include least Bell's vireo, coastal California gnatcatcher, and yellow warbler.

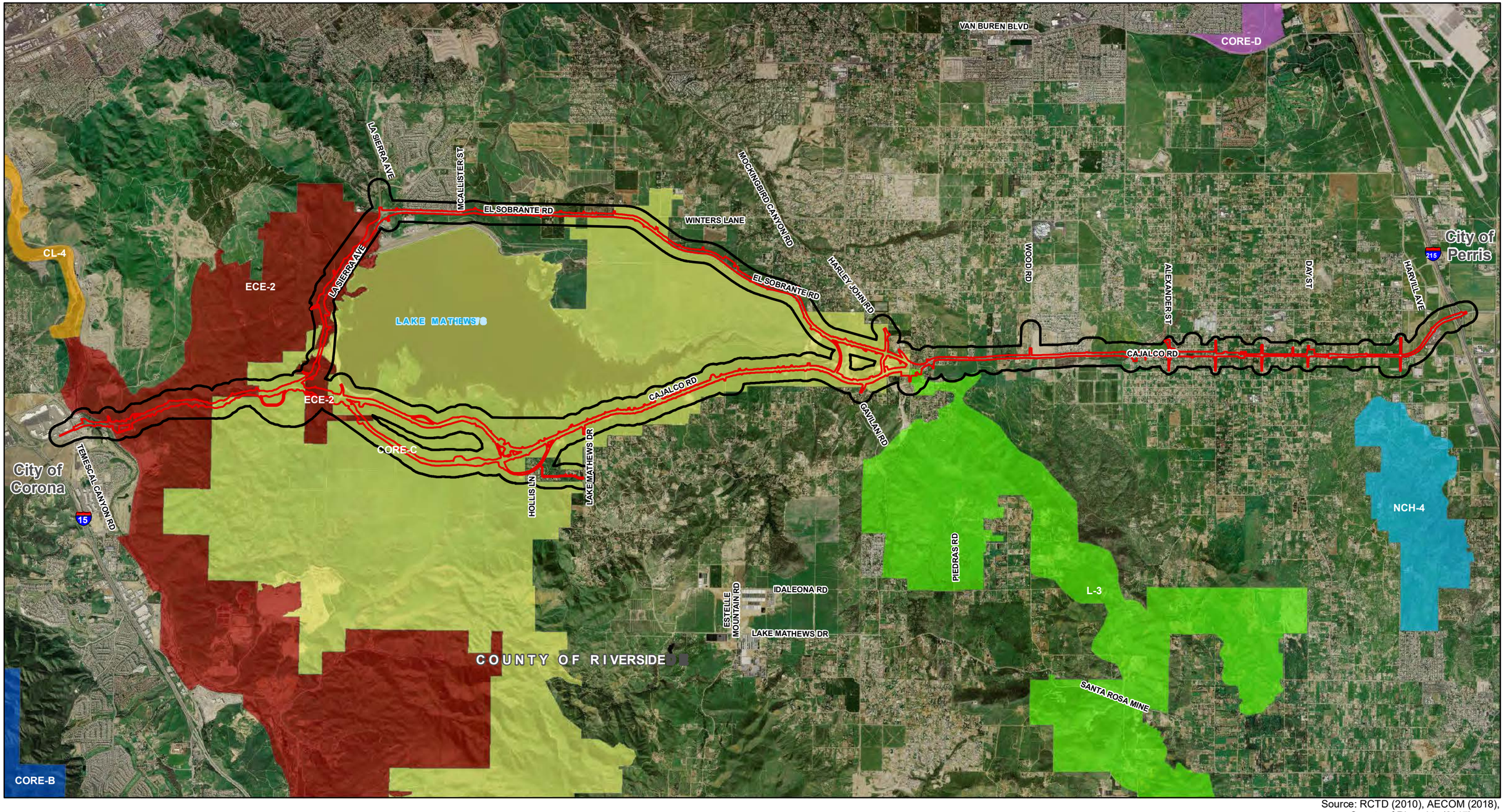
In addition to the sensitive natural vegetation communities identified as WRC MSHCP riparian-riverine resources (described above), the following vegetation classifications were used for the remaining WRC MSHCP riparian-riverine resources within the JSA: riparian scrub, riparian ruderal, native/nonnative riparian scrub, Mexican elderberry scrub, California juniper riparian, mulefat scrub, mulefat/Mexican elderberry scrub, tamarisk scrub, sandbar willow scrub, Mexican elderberry ruderal, and riparian herbaceous. Riverine resources in the JSA were composed of ephemeral drainages and unvegetated streambeds when vegetation consisted of xeric upland species (i.e., RSS, RAFSS, salt bush scrub) or was absent entirely, such as in the RSS ruderal, unvegetated, and lakebed classifications.

3.17.2.5 Corridors and Linkages

The BSA and surrounding area provide opportunities for movement and landscape connectivity for a wide variety of species. West of Harley John Road, the existing landscape immediately surrounding the proposed project is largely composed of open space bounded by existing roads; diverse topographical conditions, including flats and canyons; riparian corridors; and relatively low levels of human use. These conditions provide "live-in" habitat and home ranges for a number of species and also provide relatively high-quality function and value for local wildlife movement and habitat connectivity in a region largely constrained by existing highways and developments that act as barriers and are of concern for the conservation of many species in the region. The western end includes the WRC MSHCP Temescal Canyon and Lake Mathews/Woodcrest Area Plan, LM MSHCP, Lake Mathews Ecological Reserve, SKR HCP, and LMR area. East of Harley John Road, the project lies within the WRC MSHCP Mead Valley Area Plan where the density of residential development increases and the proximity to open space decreases as Cajalco Road approaches I-215.

The specific WRC MSHCP linkages and cores, from west to east, that overlap the BSA are the Proposed Extension of Existing Core 2, Existing Core C (LMR), and Proposed Linkage 3 (Figure 3.17-4). As defined by the WRC MSHCP, linkages are specific areas of connectivity delineated between core areas with adequate size, configuration, and vegetation characteristics to generally provide for "live-in" habitat and/or for genetic flow for identified planning species. Wildlife movement corridors are often linear and facilitate movement by providing adequate cover and lack of physical obstacles for movement. These movement corridors do not provide "live-in" habitat for species. Core areas are blocks of habitat of appropriate size, configuration, and vegetation characteristics to generally support the life history requirements of one or more WRC MSHCP covered species. Wildlife crossing design considerations and guidelines specified in WRC MSHCP Section 7.5.2, Guidelines for Construction of Wildlife Crossings, specify the general approach to analyzing project area connectivity and the number and frequency, design guidelines and standards, and species-specific considerations for wildlife crossings.

Existing roadways intersecting open space include Cajalco Road, La Sierra Avenue, El Sobrante Road, and Harley John Road, all of which are composed of two-lane, undivided minor arterial and major collector roads lacking wildlife fencing, dedicated wildlife crossings, median barriers, and standard shoulders.



Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Study Area
Limits of Disturbance
CL-4 - Constrained Linkage 4
CORE-B - Existing Core B
CORE-C - Existing Core C
CORE-D - Existing Core D
ECE-2 - Extension of Existing Core 2
L-3 - Proposed Linkage 3
NCH-4 - Proposed Noncontiguous Habitat Block 4

N

0 0.5 1 2

Miles

Figure 3.17-4
WRC MSHCP Conceptual Cores and Linkages
Cajalco Road Widening and Safety Enhancement Project

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Local Wildlife Connectivity and Movement Conditions

The project BSA generally traverses relatively undeveloped open space habitat areas that have high potential for wildlife movement across the landscape. The BSA and surrounding area support movement of a wide variety of species, including avian species and small, medium, and large mammals, including mountain lion and mule deer, which were observed during various field studies conducted as part of the proposed project.

A variety of landscape features and habitats in the region—including draws and drainages, ridgelines, riparian and stream corridors, gentle terrain, grasslands, riparian scrub and forest, scrublands, and agricultural fields—provide structure and function that facilitate the movement of a wide variety of species. Generally, areas that have low levels of human development and connectedness to open space provide at least some function and value to wildlife movement in the region.

Several existing man-made structures within the BSA facilitate at least nominal movement between adjacent habitat areas. These include Temescal Wash Bridge and various culverts ranging in size from 24 to 60 inches in diameter throughout the BSA, including the existing sets of culverts connecting Proposed Linkage 3 to Existing Core C near the intersection of Cajalco Road and Harley John Road, which include a double-barrel 9-foot-wide by 5-foot-tall culvert and triple-barrel 48-inch-diameter culvert. Temescal Wash Bridge contains high habitat connectedness through the riparian corridor and provides the largest, most open structure with regard to wildlife movement and connectivity in the BSA.

Although these existing structures may provide some safe movement opportunities under the existing roadway, it is important to note that they were not specifically designed for wildlife movement. No dedicated wildlife crossing structures, designed specifically for facilitating wildlife movement, exist in the BSA. Some species may still be crossing over the existing roadway and avoiding such structures because they may not be suitable to facilitate movement. This may be due to their design, size, maintenance needs, or environmental or physical conditions (e.g., may be too small and narrow, may lack dry crossing, may lack suitable substratum, or may not be located in suitable habitat or conditions for some species), all of which have potential to prohibit or obstruct passage. Without dedicated wildlife structures and fencing designed to facilitate movement for a variety of species by guiding them toward dedicated crossing structures, many animals cross existing roadways, where they are subject to vehicle collisions.

WRC MSHCP Proposed Linkage 3

This linkage is generally made up of upland habitats under a combination of Public/Quasi-Public (PQP) and private land ownership. This linkage is one of two connections between the LMR and Core 1 to the south. WRC MSHCP planning species with habitat in this linkage include coastal California gnatcatcher, Quino checkerspot butterfly, SKR, thread-leaved brodiaea (*Brodiaea filifolia*), Munz's onion (*Allium munzii*), and many-stemmed dudleya (*Dudleya multicaulis*). This linkage is relatively unimpeded by existing land use but is subject to edge impacts such as fire, fire suppression, livestock grazing, and off-road vehicle activities associated with rural land uses.

The northernmost limit of Proposed Linkage 3 is located in the central portion of the BSA where it connects to the easternmost limits of Core C, near the intersection of Harley John Road and

Cajalco Road (Figure 3.17-4). Two culverts exist in this area connecting a drainage that flows under, and supports riparian scrub and forest on both sides of, Cajalco Road (refer to Figure 3.17-3 for vegetation communities).

Criteria Cells located in Proposed Linkage 3 that overlap the BSA include Criteria Cells 2324 and 2325. These cells contribute to the conservation and assembly of Proposed Linkage 3. Criteria in these cells focus on grassland and riparian habitats, including riparian scrub, woodland, and forest adjacent to the Colorado River Aqueduct to the east.

Crossing the BSA where Proposed Linkage 3 connects to Core C is an existing double-barrel culvert measuring 9 feet wide by 5 feet tall under Cajalco Road and a triple-barrel 48-inch-diameter culvert under Harley John Road. These culverts provide some opportunity for smaller wildlife species to cross safely under the existing roadways and connect Proposed Linkage 3 to Core C, but are not currently designed or retrofitted for wildlife movement.

WRC MSHCP Existing Core C

Existing Core C is composed of public lands located in the LMR area. This area was originally assembled as a Core Reserve for the SKR HCP. Existing Core C is connected to Proposed Linkage 3 to the east, Proposed Extension of Existing Core 2 to the west, and Core 1 to the south. WRC MSHCP planning species include Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*), Bell's sage sparrow (*Amphispiza belli belli*), burrowing owl (*Athene cunicularia*), cactus wren (*Campylorhynchus brunneicapillus*), northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), loggerhead shrike (*Lanius ludovicianus*), coastal California gnatcatcher, SKR, bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), western pond turtle, Munz's onion, slender-horned spineflower, and many-stemmed dudleya.

This core area encompasses the LM MSHCP area and extends southward toward Dawson Canyon and Estelle Mountain. The northern block of this core area overlaps with the western end of the BSA from Cajalco Canyon on the western side of Lake Mathews to Harley John Road (Figure 3.17-4).

Criteria Cells located in Existing Core C that overlap with the BSA include 2405, 2310, 2311, 2407, 2408, 2121, and 2323. These cells contribute to assembly of Existing Core C, and their criteria focus on coastal sage scrub, grassland, riparian scrub, woodland, and forest conservation. Criteria Cell 2323 also contributes to the assembly of Proposed Linkage 3 and also focuses on conservation of chaparral habitat.

No major structures such as culverts or bridges that may facilitate safe wildlife movement under the existing roadways exist within the area of Core C overlapping the BSA, including within the LM MSHCP area. Topographical features and habitat exist that provide function and value to wildlife movement, but animals must cross over the existing roadway.

WRC MSHCP Proposed Extension of Existing Core 2

Proposed Extension of Existing Core 2 (Lake Mathews/Estelle Mountain Extension) is an extension of Existing Core C and is located along its eastern border. This extension is also connected to Proposed Constrained Linkage 4 (North Temescal Wash) to the north and Proposed Linkage 1 and Proposed Constrained Linkages 3, 5 (Horsethief Canyon), and 6 (Temescal Wash

south) to the south. This region supports known populations of, and suitable habitat for, coastal California gnatcatcher and the same WRC MSHCP planning species as Existing Core C.

This core area extends from the western edge of Core C south toward and along Temescal Wash. The westernmost portion of the BSA overlaps with this core area along Cajalco Road (Figure 3.17-4).

Criteria Cells located in Proposed Extension of Existing Core 2 that overlap the BSA include 2400, 2402, 2403, 2404, 2310, 2311, 2214, 2120, 2121, and 2026. These cells contribute to assembly of existing Proposed Extension of Existing Core C and Core 2, and criteria focus on coastal sage scrub, grassland, riparian scrub, woodland, wetland, and forest habitat conservation.

Temescal Wash and Temescal Wash Bridge at the westernmost end of the BSA provide high-functioning wildlife movement and "live-in" habitat for a wide variety of species. There are no other major structures such as culverts or bridges that may facilitate safe wildlife movement under the existing roadways within the area of Proposed Extension of Existing Core 2 overlapping with the existing BSA, including within the LM MSHCP area. Topographical features and habitat exist in this portion of the BSA that provide function and value to wildlife movement, but animals must cross over the existing roadway.

Lake Mathews MSHCP

There are no wildlife or movement corridors identified within the LM MSHCP area. However, as mentioned above, the LM MSHCP area occurs within PQP lands and Existing Core C and Proposed Extension of Existing Core 2, and is adjacent to Proposed Linkage 3 of the WRC MSHCP. These WRC MSHCP cores and linkages would also serve to support wildlife movement and connectivity for the LM MSHCP target wildlife species, such as coastal California gnatcatcher and SKR. However, there are no existing culverts or bridges within the LM MSHCP area that would facilitate safe wildlife movement through the LMR area. There are a small number of culverts underneath the existing roadway that could potentially be used for wildlife movement; however, the culverts are for water conveyance and there are no structures within the culverts permitting dry passage for wildlife during rainfall. In addition, existing security fencing north of Cajalco Road, east of La Sierra Avenue, and south of El Sobrante Road may impede some wildlife from entering the lakeside of the LM MSHCP area.

3.17.3 Environmental Consequences

This section addresses the effects on natural communities of concern (Section 3.17.3.1), WRC MSHCP riparian-riverine resources (Section 3.17.3.2), and WRC MSHCP wildlife corridors and linkages (Section 3.17.3.3). In addition, to ensure the project would not affect conserved lands for the WRC MSHCP and the LM MSHCP, an evaluation of those impacts and requirements for consistency are provided in Section 3.17.2.5. For each resource discussed in this section, an additional evaluation of the impacts within the LMR is also provided to facilitate environmental reviews and approvals specific to LM MSHCP accommodation of the project.

The effects from permanent and temporary impacts on natural communities of concern, WRC MSHCP riparian/riverine resources, and WRC MSHCP wildlife corridors and linkages were analyzed for each build alternative and the No-Build Alternative. The permanent and temporary impacts can also be classified as direct or indirect. *Direct impacts* are those impacts that can be

expected from direct removal and disturbances to the land and resources. Examples of direct impacts include mortality of individuals and permanent loss of habitat. *Indirect impacts* are those impacts that give rise to delayed, secondary impacts. Indirect impacts are those that can be assumed to increase mortality, reduce productivity, and/or reduce the functions and values of natural open space for native species.

An additional analysis of impacts that would occur on LM MSHCP target species is also provided in Section 3.21, *Threatened and Endangered Species*.

3.17.3.1 Natural Vegetation Communities

Build Alternatives 1, 2C, and 4

Build Alternative 1 would result in widening the existing Cajalco Road roadbed from two to four lanes, with medians and paved shoulders to improve mobility and increase traffic capacity. Bridge expansions would occur at Temescal Creek (STA #20 to 25), Cajalco Creek (STA #740 to 742), and an unnamed drainage (STA #268 to 269).

Build Alternative 2C includes the same improvements as Build Alternative 1, with the exception of a new four-lane segment of Cajalco Road that would be constructed from La Sierra Avenue to just west of Lake Mathews Drive in a currently undeveloped area south of Lake Mathews. Due to the differences in terrain, land use in this area, and proposed project design of this new four-lane segment, proposed wildlife crossings in this area include an additional bridge structure compared to Build Alternative 1. This bridge underpass would be included within the newly constructed segment of Cajalco Road west of Hollis Lane. The underpass would be designed with a minimum 15-foot clearance height for mule deer passage, with a 50-foot width on each side of the bridge for sheep and wildlife passage through the area. Sheep are used for land and resource conservation management in the adjacent lands; ensuring the sheep have the ability to pass under the roadway would be important under Build Alternative 2C for facilitating ongoing management and conservation activities. The width of the bridge is also advantageous for wildlife movement because it would provide an expansive openness for wildlife under the crossing structure.

Unlike Build Alternatives 1 and 2C, Build Alternative 4 would widen La Sierra Avenue and El Sobrante Road along the north side, and La Sierra Avenue along the west side, of Lake Mathews. Under this alternative, Cajalco Road between La Sierra Avenue and Gustin Road would remain in its current configuration and no changes are proposed.

Table 3.17-3 provides the total impacts that would occur on all vegetation communities and land use types described in Section 3.17.2.2 present within the limits of disturbance (LOD). These include impacts that would occur on natural communities of concern, WRC MSHCP riparian-riverine resources, corridors and linkages, and impacts within the conserved areas such as the LM MSHCP area (described below).

Table 3.17-3. Summary of Impacts on All Vegetation Communities

Impact Type	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Permanent (acres)	386.85	395.49	388.17
Temporary (acres)	88.61	96.53	87.91
Beneficial (Roadway Removal) (acres)	23.08	28.84	18.04
Shading[1] (acres)	1.64	2.22	5.73
[1] Shading effects = permanent indirect impacts from bridge extensions and new bridges onto vegetation communities.			

Impacts on Natural Communities of Concern

Natural communities of concern would be directly and indirectly affected under each of the three build alternatives. The direct and indirect effects on natural communities of concern are described below, including a quantitative and qualitative analysis of the direct effects, shading effects, and beneficial effects. In addition, a description of the potential indirect effects and long-term operational effects for each build alternative is provided. Under Build Alternatives 1, 2C, and 4, construction activities would result in the permanent removal of natural communities of concern within the LOD. Construction activities that would permanently remove vegetation include grading and creation of slopes, addition of new lanes, bridge widening, installation of new drainages and culverts, creation of wildlife crossing features, and installation of signage. Also included in the permanent impacts are any full property acquisitions within the project impact area and roadbed removal along the existing paved roadways and adjacent right of way. Table 3.17-4 summarizes the permanent impacts for Build Alternatives 1, 2C, and 4 for each natural community of concern.

Table 3.17-4. Permanent Impacts on Natural Communities of Concern within the LOD

Natural Community of Concern	Permanent Impacts (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	69.43	78.61	75.25
Riversidian Alluvial Fan Sage Scrub	1.33	1.33	1.28
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.19	0.19	0.19
Southern Riparian Forest	0.34	0.34	0.01
Southern Willow Scrub	5.23	4.67	2.99
Coast and Valley Freshwater Marsh	0.06	0.06	0.06
Total	**76.58**	**85.20**	**79.78**

Portions of the existing roadways and the roadway right of way would be permanently removed, returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with native vegetation. Although removal of the existing roadbed would be considered permanent, this is also considered a beneficial effect because the land would generally be returned to natural topography and revegetated with native vegetation. Under the build alternatives, roadbed removal areas in the vicinity of the LM MSHCP area would be replaced with an approximately 20-foot-wide dirt, gravel, or partially paved road for MWD access. Table 3.17-5 on the following page summarizes the beneficial effects under Build Alternatives 1, 2C, and 4 for each natural community of concern.

Table 3.17-5. Beneficial Effects on Natural Communities of Concern

Natural Community of Concern	Beneficial Effects (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	2.99	3.38	4.30
Riversidian Alluvial Fan Sage Scrub	0.00	0.00	0.00
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	0.00
Southern Riparian Forest	0.05	0.05	0.05
Southern Willow Scrub	0.00	0.00	0.00
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**3.04**	**3.43**	**4.35**

Temporary effects from project construction would occur within areas used for staging, access, and temporary construction areas (LOD). Table 3.17-6 summarizes the temporary impacts under Build Alternatives 1, 2C, and 4 for each natural community of concern.

Table 3.17-6. Temporary Impacts on Natural Communities of Concern

Natural Community of Concern	Temporary Impacts (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	7.81	8.08	8.42
Riversidian Alluvial Fan Sage Scrub	0.30	0.30	0.29
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.10	0.10	0.10
Southern Riparian Forest	0.56	0.56	0.09
Southern Willow Scrub	2.63	2.69	1.59
Coast and Valley Freshwater Marsh	0.06	0.06	0.06
Total	**11.46**	**11.79**	**10.55**

Indirect effects identified under the build alternatives may be permanent or temporary. Permanent indirect effects are those effects that would occur once construction is completed and during operation of the project. Permanent indirect effects include edge effects and habitat degradation in areas adjacent to the roadway; increased risk of fire, litter, and spread of invasive weeds due to increased human encroachment; compacted soils that could hinder re-establishment of vegetation; increased noise and light from traffic that may alter wildlife behavior or use of areas adjacent to the roadway; erosion, siltation, sedimentation, and runoff that alters the soil conditions to make the soil less suitable or no longer suitable for native plant communities; construction equipment leaks that result in soil and water contamination; habitat fragmentation that could prevent the dispersal of plant species and/or reduce survival and movement of wildlife species that are pollinators or seed dispersers; introduction of invasive plant species that could outcompete native plant communities or pathogens that could infect native plant communities; and shading effects.

Bridge expansions under all three build alternatives would result in permanent (indirect) shading effects on existing riparian vegetation. New bridges may permanently alter the amount of sunlight available for photosynthesis and vegetative growth, thereby reducing vegetation density

and functions and values. During operation of the selected build alternative, there would be ongoing maintenance of the road right of way, which would not differ appreciably from current maintenance activities within the existing right of way. Table 3.17-7 summarizes the shading effects under Build Alternatives 1, 2C, and 4 for each natural community of concern.

Table 3.17-7. Shading Effects on Natural Communities of Concern

Natural Community of Concern	Shading Effects (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	0.17	0.50	2.09
Riversidian Alluvial Fan Sage Scrub	0.05	0.05	0.05
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.17	0.17	0.17
Southern Riparian Forest	0.00	0.00	0.00
Southern Willow Scrub	0.14	0.17	0.18
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**0.53**	**0.89**	**2.49**

Temporary indirect effects could occur on lands adjacent to the LOD. Temporary indirect effects are those secondary effects that would only occur during construction-related activities and could temporarily alter plant growth, survival, dispersal or germination; fragment habitat; alter hydrology; result in water or soil contamination; or increase litter and pest attractiveness. The potential temporary indirect effects include increased risk of fire, chemical spills during construction, increased dust levels, risk of introduction of invasive plant species, and increased trash, each of which can contribute to a temporary degradation of habitat and water quality. There is also a risk of encroachment from equipment operating outside of the LOD. Construction activities performed during day or night could also alter behavior of wildlife moving through the landscape. Implementation of avoidance and minimization measures (Measures **NC-1 [NES BIO-1]** through **NC-12 [NES BIO-12]** in Section 3.17.4) would ensure the potential indirect effects during project construction are reduced or eliminated.

Once construction is completed, disturbed areas or rehabilitation areas would be revegetated with a native seed mix (Measure **NC-13 [NES BIO-9]** in Section 3.17.4). Full compensatory requirements and details for riparian-riverine habitats (including impacts from shading effects) will be provided in the Determination of Biologically Equivalent or Superior Preservation (DBESP) report for the selected build alternative (Measure **NC-14 [NES BIO-13]** in Section 3.17.4). Replacement of riparian-riverine resources would occur through on-site restoration or through the purchase of RCRCD In-lieu Fee Program (ILFP) credits, Santa Ana Watershed Association ILFP, a permittee responsible mitigation bank, and/or other approved mitigation program (Measure **NC-15 [NES BIO-14]** in Section 3.17.4). Additional details for impacts on jurisdictional waters is provided in Section 3.18, *Wetlands and Other Waters*.

After construction is completed, there is a potential for long-term indirect effects during operation of the selected build alternative. Ongoing road maintenance operations would not have direct impacts on natural communities of concern that have already been removed; however, direct impacts would occur where additional habitat losses occur due to the incidental trampling or crushing of vegetation by vehicles or human activities, or exposure to accidental spills of

contaminants and pollutants. Vegetation control activities through the application of herbicides and fire breaks could contribute to runoff and pollution that would result in direct mortality of vegetation or habitat degradation. Fire risks could be greater because of the presence of maintenance and operation crews within the right of way. Operation of Build Alternatives 1, 2C, or 4 would have potential long-term indirect impacts on natural communities of concern related to fire risks, application of herbicides and pesticides, and increases in litter. These potential indirect operational impacts may reduce the function and value of natural communities of concern but would be similar to those of the No-Build Alternative.

A brief comparison of the quantity of impacts among the build alternatives, significance of impacts as it relates to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA), and the avoidance, minimization, and mitigation measures that are directly applicable to each community are provided below.

Riversidian Sage Scrub

The direct effects on RSS for the build alternatives are summarized in Tables 3.17-2 through 3.17-4. Of the three build alternatives, Build Alternative 2C would cause the greatest permanent impact on RSS and Build Alternative 1 would cause the smallest permanent impact on RSS. Build Alternative 4 would cause the greatest temporary impact on RSS, while Build Alternative 1 would have the smallest temporary impact on RSS.

Because RSS is rapidly declining, becoming fragmented, or degrading within the region, the loss of this resource caused by Build Alternatives 1, 2C, or 4 would be considered significant under CEQA and biologically substantial under NEPA. The permanent impacts on RSS outside of conservation lands are fully covered under the WRC MSHCP through consistency with the plan. The avoidance and minimization measures (Measures **NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]** in Section 3.17.4) would ensure that potential direct and indirect impacts on RSS from construction are reduced or avoided entirely and ensure compliance with the WRC MSHCP.

RSS habitat suitable for special-status species within the RCHCA SKR Reserve and for several of the LM MSHCP target species within the LM MSHCP area would require compensatory mitigation (refer to Section 3.21, *Threatened and Endangered Species*, for further details).

Riversidian Alluvial Fan Sage Scrub

The direct effects on RAFSS for each of the build alternatives are summarized in Tables 3.17-2 through 3.17-4. This community is rapidly declining, fragmented, and degrading within the region; therefore, the permanent loss of this resource caused by Build Alternatives 1, 2C, or 4 may be significant under CEQA and biologically substantial under NEPA. The proposed project is a Covered Activity under the WRC MSHCP (Volume I, Section 7.2.2); therefore, with the exception of impacts on conserved lands and riparian-riverine resources (described below), permanent direct impacts from construction on RAFSS are expected to be addressed through consistency with the WRC MSHCP. The quantity of temporary direct impacts would be the same for Build Alternatives 1 and 2C, and slightly smaller for Build Alternative 4.

Measures **NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]** in Section 3.17.4 would be applied to avoid and minimize the potential direct and indirect effects during project construction and ensure project compliance with the WRC MSHCP.

RAFSS habitat that is suitable for LM MSHCP target species within the LM MSHCP area would require compensatory mitigation (refer to Section 3.20, *Animal Species*, and Section 3.21, *Threatened and Endangered Species*, for further details).

Coast Live Oak Woodland

There would be no temporary or permanent direct effects on coast live oak woodlands that occur within the BSA. This community occurs entirely outside of the LOD for Build Alternatives 1, 2C, and 4. No indirect effects would occur with implementation of avoidance and minimization measures identified for the project.

Southern Coast Live Oak Riparian Forest

There would be no temporary or permanent direct effects on southern coast live oak riparian forest that occur within the BSA. This community occurs entirely outside of the LOD for Build Alternatives 1, 2C, and 4. No indirect effects would occur with implementation of avoidance and minimization measures identified for the project.

Southern Cottonwood-Willow Riparian Forest

The direct effects on southern cottonwood-willow riparian forest from the build alternatives are summarized in Tables 3.17-2 through 3.17-4. The indirect effect from shading from new bridge structures would occur when the height and width of the new bridge structure reduces the light attenuation available to vegetation, thereby greatly reducing the canopy and density of vegetation or eliminating the potential for the vegetation to grow back once construction is completed.

Because this vegetation community provides suitable habitat for special-status species (refer to Section 3.20, *Animal Species,* and Section 3.21, *Threatened and Endangered Species*) and is becoming fragmented and degraded throughout the region, the impacts on southern cottonwood-willow riparian forest would be significant under CEQA and biologically substantial under NEPA. To reduce these impacts, compensatory mitigation for this vegetation community would be required. A mitigation ratio of 3:1 is currently proposed for permanent impacts on southern cottonwood-willow riparian forest as a result of the selected build alternative; a ratio of 2:1 is proposed for shading effects; and a ratio of 1:1 is proposed for temporary impacts (Measures **NC-14 [NES BIO-13]** and **NC-15 [NES BIO-14]** in Section 3.17.4). Mitigation for riparian-riverine habitats associated with Temescal Wash and Cajalco Creek may require higher compensatory mitigation and will be addressed further in the DBESP report and Clean Water Act (CWA) (Sections 401 and 404) and Lake and Streambed Alteration Program permits (refer to Section 3.18, *Wetlands and Other Waters*). Approval of the DBESP by RCA, USFWS, and CDFW, and adequate compensatory mitigation for riparian-riverine resources, would ensure full compliance with the WRC MSHCP riparian-riverine policy (see Section 3.17.3.2 below for more details). In addition, implementation of avoidance and minimization measures would address potential indirect effects on this natural community of concern.

Southern Riparian Forest

The direct effects on southern riparian forest from the build alternatives are summarized in Tables 3.17-2 through 3.17-4. Permanent shading effects from new or expanded bridge structures under all three build alternatives would be the same.

Southern riparian forest provides suitable habitat for special-status species (refer to Section 3.20, *Animal Species,* and Section 3.21, *Threatened and Endangered Species*, for further details) and is becoming fragmented and degraded throughout the region; therefore, impacts on the community would be significant under CEQA and biologically substantial under NEPA. To reduce these impacts, compensatory mitigation for this vegetation community would be required. A mitigation ratio of 3:1 is currently proposed for permanent impacts on southern riparian forest as a result of the selected build alternative; a ratio of 2:1 is proposed for shading effects; and a ratio of 1:1 is proposed for temporary impacts (Measures **NC-14 [NES BIO-13]** and **NC-15 [NES BIO-14]** in Section 3.17.4). Mitigation for riparian-riverine habitats associated with Temescal Wash and Cajalco Creek may require higher compensatory mitigation and will be addressed further in the DBESP report and CWA (Section 401 and 404) and Lake and Streambed Alteration Program permits (refer to Section 3.18, *Wetlands and Other Waters*). Approval of the DBESP by RCA, USFWS, and CDFW, and adequate compensatory mitigation for riparian-riverine resources, would ensure full compliance with the WRC MSHCP riparian-riverine policy (see Section 3.17.3.2 below for more details). In addition, implementation of avoidance and minimization measures would address potential indirect effects on this natural community of concern.

Southern Willow Scrub

The direct effects on southern willow scrub from each of the build alternatives are summarized in Tables 3.17-2 through 3.17-4. Build Alternative 1 would have the greatest permanent effect, while Build Alternative 2C would have the greatest temporary effect of the three build alternatives. Shading effects from new or expanded bridge structures under all three build alternatives would be the same.

Southern willow scrub provides suitable habitat for special-status species (refer to Section 3.20, *Animal Species*, and Section 3.21, *Threatened and Endangered Species*, for further details) and is becoming fragmented and degraded throughout the region; therefore, impacts on the community may be significant under CEQA and biologically substantial under NEPA. To reduce these impacts, compensatory mitigation for this vegetation community would be required. A mitigation ratio of 3:1 is currently proposed for permanent impacts on southern willow scrub as a result of the selected build alternative; a ratio of 2:1 is proposed for shading effects; and a ratio of 1:1 is proposed for temporary impacts (Measures **NC-14** and **NC-15** in Section 3.17.4). Mitigation for riparian-riverine habitats will be addressed further in the DBESP report and CWA (Sections 401 and 404) and Lake and Streambed Alteration Program permits (refer to Section 3.18, *Wetlands and Other Waters*). Approval of the DBESP by RCA, USFWS, and CDFW, and adequate compensatory mitigation for riparian-riverine resources, would ensure full compliance with the WRC MSHCP riparian-riverine policy (see Section 3.17.3.2 below for more details). In addition, implementation of avoidance and minimization measures would address potential indirect effects on this natural community of concern.

Coastal and Valley Freshwater Marsh

The direct effects on coastal and valley freshwater marsh from each of the build alternatives are summarized in Tables 3.17-2 through 3.17-4. There would be no shading effects on this vegetation community.

Because wetlands and marsh habitats are rare and rapidly declining in the region, impacts on coastal and valley freshwater marsh would be significant under CEQA and substantial under NEPA. To reduce these impacts, compensatory mitigation for this vegetation community would be required. A mitigation ratio of 3:1 is currently proposed for permanent impacts on coastal and valley freshwater marsh as a result of the selected build alternative; a ratio of 2:1 is proposed for shading effects; and a ratio of 1:1 is proposed for temporary impacts (Measures **NC-14** and **NC-15** in Section 3.17.4). Mitigation for riparian-riverine habitats will be addressed further in the DBESP report and CWA (Section 401 and 404) and Lake and Streambed Alteration Program permits (refer to Section 3.18, *Wetlands and Other Waters*). Approval of the DBESP by RCA, USFWS, and CDFW, and adequate compensatory mitigation for riparian-riverine resources, would ensure full compliance with the WRC MSHCP riparian-riverine policy (see Section 3.17.3.2 below for more details). In addition, implementation of avoidance and minimization measures would address potential indirect effects.

Lake Mathews MSHCP

Table 3.17-8 provides the total impacts that would occur on all vegetation communities that occur within the LOD in the LMR. This does not include areas generally considered developed (Developed/Disturbed or Concrete Channel/Spillway/V-ditch/Riprap).

Table 3.17-8. Vegetation Communities Impacts: Lake Mathews Reserve

Impact Type	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Permanent (acres)	120.50	111.39	56.52
Temporary (acres)	20.09	22.56	9.01
Beneficial (Roadway Removal) (acres)	0.14	0.07	0.70
Shading[1] (acres)	0.30	0.88	0.39
[1] Shading effects = permanent indirect impacts from bridge extensions and new bridges onto vegetation communities.			

Natural communities of concern would be directly and indirectly affected under each of the three build alternatives. The direct and indirect effects on natural communities of concern are described in the previous section that discusses impacts within the entire BSA, and includes a quantitative and qualitative analysis of the direct effects, shading effects, and beneficial effects. In addition, a description of the potential indirect effects and long-term operational effects for each build alternative is provided.

Under Build Alternatives 1, 2C, and 4, construction activities would result in the permanent removal of natural communities of concern within the LMR. Table 3.17-9 summarizes the permanent impacts by Build Alternatives 1, 2C, and 4 for each natural community of concern within the LMR.

Table 3.17-9. Permanent Impacts on Natural Communities of Concern: Lake Mathews Reserve

Natural Community of Concern	Permanent Impacts (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	25.87	35.32	21.95
Riversidian Alluvial Fan Sage Scrub	0.02	0.02	0.00
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00

Natural Community of Concern	Permanent Impacts (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	0.00
Southern Riparian Forest	0.00	0.00	0.00
Southern Willow Scrub	2.27	1.72	0.29
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**28.16**	**37.06**	**22.24**

Build Alternative 4 is the only alternative that would result in beneficial effects on natural communities of concern. Table 3.17-10 summarizes the beneficial effects under Build Alternatives 1, 2C, and 4 for each natural community of concern within the LMR.

Table 3.17-10. Beneficial Effects on Natural Communities of Concern: Lake Mathews Reserve

Natural Community of Concern	Beneficial Effects (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	0.00	0.00	0.49
Riversidian Alluvial Fan Sage Scrub	0.00	0.00	0.00
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	0.00
Southern Riparian Forest	0.00	0.00	0.00
Southern Willow Scrub	0.00	0.00	0.00
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.49**

Table 3.17-11 summarizes the temporary impacts under Build Alternatives 1, 2C, and 4 for each natural community of concern within the LMR.

Table 3.17-11. Temporary Impacts on Natural Communities of Concern: Lake Mathews Reserve

Natural Community of Concern	Temporary Impacts (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	3.12	3.63	2.19
Riversidian Alluvial Fan Sage Scrub	0.01	0.01	0.00
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	0.00
Southern Riparian Forest	0.00	0.00	0.00
Southern Willow Scrub	0.78	0.84	0.17
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**3.91**	**4.48**	**2.36**

Permanent (indirect) shading effects from bridge expansions would only affect natural communities of concern in Build Alternatives 2C and 4 within the LMR. Shading effects would not affect natural communities of concern in Build Alternative 1. Table 3.17-12 summarizes the shading effects under Build Alternatives 1, 2C, and 4 for each natural community of concern.

Table 3.17-12. Shading Effects on Natural Communities of Concern: Lake Mathews Reserve

Natural Community of Concern	Shading Effects (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riversidian Sage Scrub	0.00	0.33	0.22
Riversidian Alluvial Fan Sage Scrub	0.00	0.00	0.00
Coast Live Oak Woodland	0.00	0.00	0.00
Southern Coast Live Oak Riparian Forest	0.00	0.00	0.00
Southern Cottonwood-Willow Riparian Forest	0.00	0.00	0.00
Southern Riparian Forest	0.00	0.00	0.00
Southern Willow Scrub	0.00	0.03	0.03
Coast and Valley Freshwater Marsh	0.00	0.00	0.00
Total	**0.00**	**0.36**	**0.25**

Future Six-Lane (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road, under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road, or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that no additional impacts would occur on natural communities of concern because all development would occur in a previously graded median. In addition, operation of the proposed future six-lane facility is not expected to affect these resources.

No-Build Alternative

Under the No-Build Alternative, there would be no permanent or temporary impacts on natural communities of concern beyond those that would be expected to occur from the existing facility.

3.17.3.2 WRC MSHCP Riparian-Riverine and Vernal Pool Resources

Build Alternatives 1, 2C, and 4

Construction of Build Alternatives 1, 2C, or 4 would result in a permanent loss and temporary impact on WRC MSHCP riparian and riverine resources (WRC MSHCP Volume I, Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools). The vegetation communities classified as WRC MSHCP riparian that would be affected by the build alternatives are riparian forest, southern cottonwood-willow riparian, southern willow scrub, disturbed southern willow scrub, coastal and valley freshwater marsh, riparian scrub, riparian ruderal, native/nonnative riparian scrub, Mexican elderberry scrub, California juniper riparian, mulefat scrub, mulefat/Mexican elderberry scrub, tamarisk scrub, riparian/open water/reservoir/pond, sandbar willow scrub, Mexican elderberry ruderal, and riparian herbaceous. Bridge expansions proposed at Temescal Creek (STA #20 to 25) and Cajalco Creek (STA #740 to 742) under all three build alternatives would result in permanent shading effects on existing riparian vegetation. Additional shading effects would occur with construction of new bridges at unnamed drainages at STA #268 to 269 under Build Alternative 1, STA #266 to 268

under Build Alternative 2C, and STA #145+50 under Build Alternative 4. The height and width of new bridge structures are expected to cause shading effects on existing riparian vegetation that would greatly reduce or eliminate the canopy of the riparian habitat at those locations.

Riverine resources, which include drainages and upland communities that depend on the soil moisture of the drainage and provide valuable upland habitat for WRC MSHCP planning species, would be affected during project construction through direct removal, temporary disturbance, or indirect effects adjacent to the LOD of the build alternatives. Upland communities classified as riverine resources when they are directly adjacent to drainages include RSS, disturbed RSS, RAFSS, brittlebush scrub, California juniper woodland, California juniper/NNG, concrete channel/spillway/V-ditch/riprap, eucalyptus/tamarisk, exotic tree(s)/woodland, fallow agriculture, NNG, open water/reservoir/pond, RSS/NNG, ruderal, saltbush scrub, unvegetated, and developed/disturbed land.

The proposed build alternatives would have permanent, temporary, and shading impacts on WRC MSHCP riparian-riverine resources (Figure 3.17-5). Table 3.17-13 summarizes the direct impacts on riparian-riverine resources by each of the build alternatives.

Table 3.17-13. Riparian-Riverine Resource Impacts

Impact Type	Build Alternative 1 (acres)	Build Alternative 2C (acres)	Build Alternative 4 (acres)
Riparian			
Permanent	11.36	9.55	6.62
Temporary	7.53	7.40	3.75
Shading[1]	0.45	0.43	0.58
Riverine			
Permanent	4.65	4.76	2.39
Temporary	1.49	1.48	1.89
Shading[1]	0.33	0.36	0.64
[1] Shading effects = permanent indirect impacts from bridge extensions and new bridges.			

Portions of the existing roadways and right of way would be permanently removed during project construction but returned to natural earthen drainage topography (rehabilitated) under the three build alternatives. Removal of the roadbed and rehabilitated areas would permanently affect some riparian-riverine resources, but because these resources would be returned to a natural state and natural drainage topography, this permanent impact is considered beneficial. The beneficial permanent impact from roadbed removal and rehabilitation of riparian-riverine resources under each build alternative is provided in Table 3.17-14. It should be noted that under Build Alternatives 1 and 2C, an approximately 20-foot-wide dirt, gravel, or partially paved road would be left in place to be used for access by MWD through the LM MSHCP area, but this is not included as a beneficial effect.

Table 3.17-14. Roadbed Removal Beneficial Impacts: Rehabilitated Riparian-Riverine Resources

Stream Type	Rehabilitation (acres)		
	Build Alternative 1	Build Alternative 2C	Build Alternative 4
Riparian	0.07	0.05	0.05
Riverine	0.09	0.10	0.21
Total	**0.16**	**0.15**	**0.26**
Note: No roadbed removal would occur within existing conserved lands.			

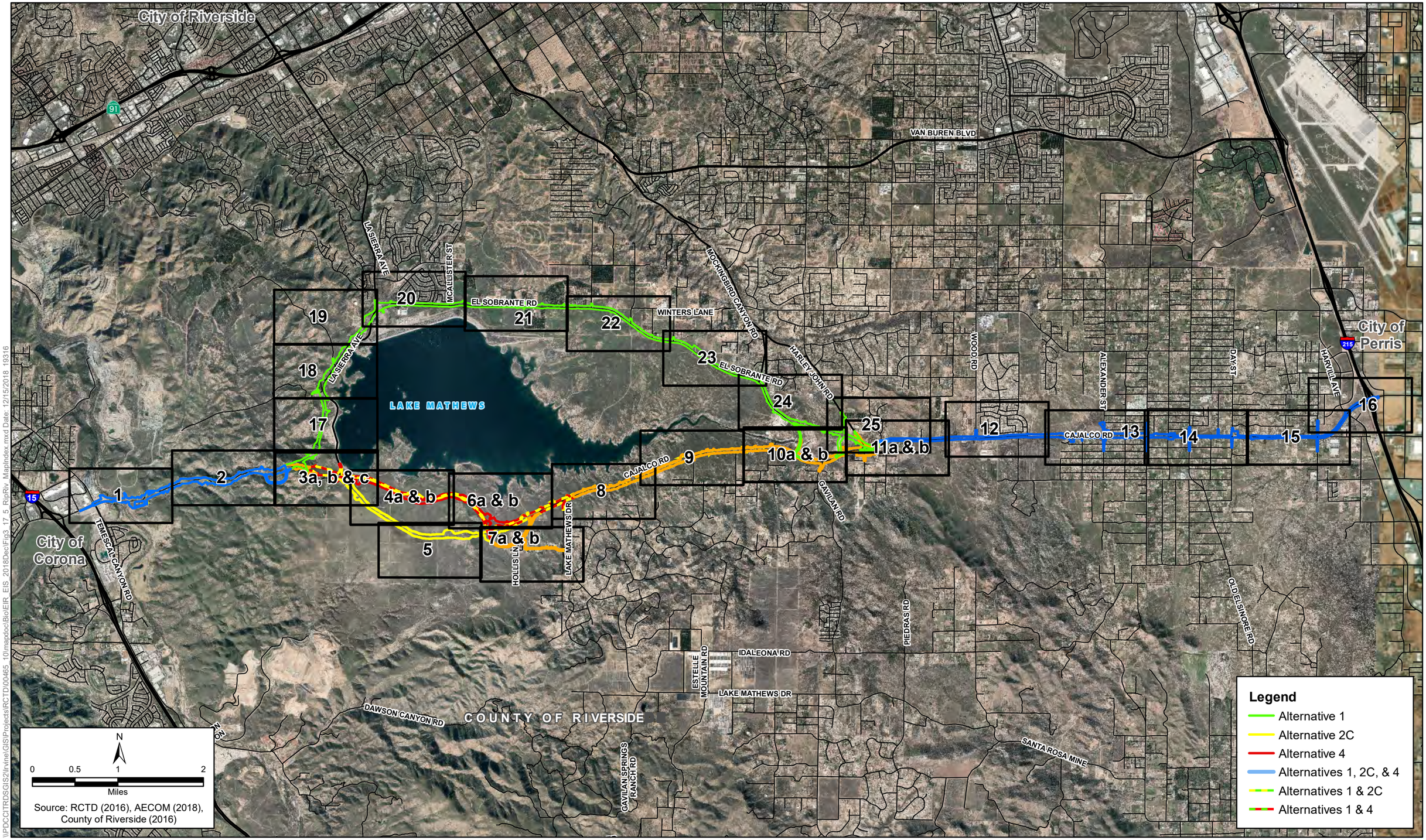

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Figure 3.17-5 - Map Index
Riparian/Riverine Resources Results Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Riparian-Riverine Study Area

Impact Areas

Permanent Impact Area

Temporary Impact Area

Roadbed Removal (Beneficial)

Roadbed Removal ROW (Beneficial)

Temporary (Existing Shading)

Permanent (Proposed Shading)

Conserved Lands

MWD

RCHCA

RCRCD

WRCRCA

Riparian-Riverine Resources

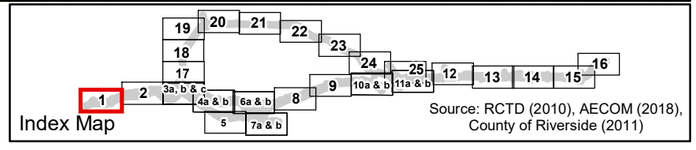
MSHCP Riparian

MSHCP Riverine

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 1
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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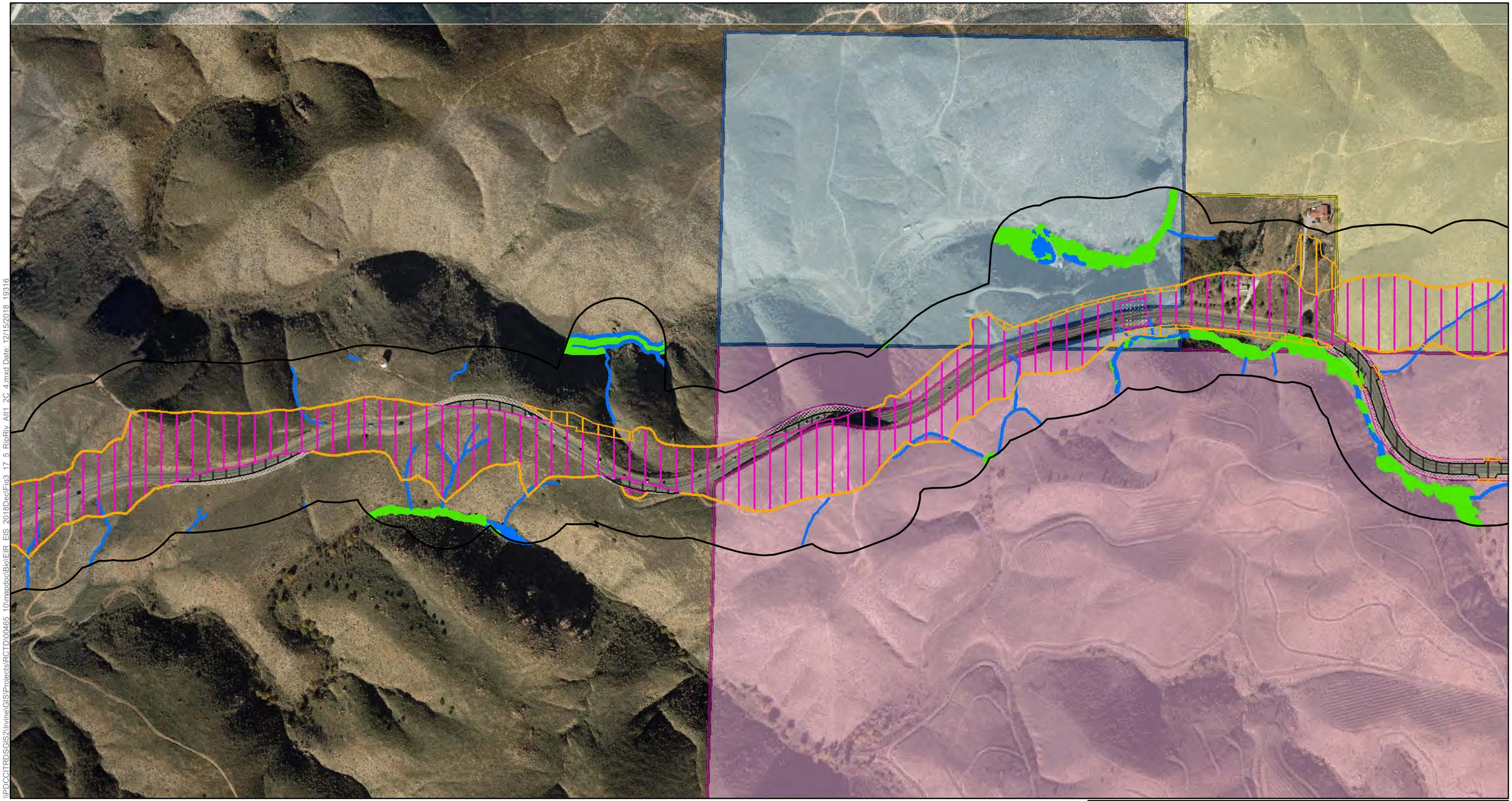

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

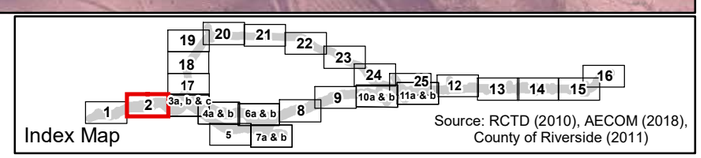

Figure 3.17-5 - Sheet 2
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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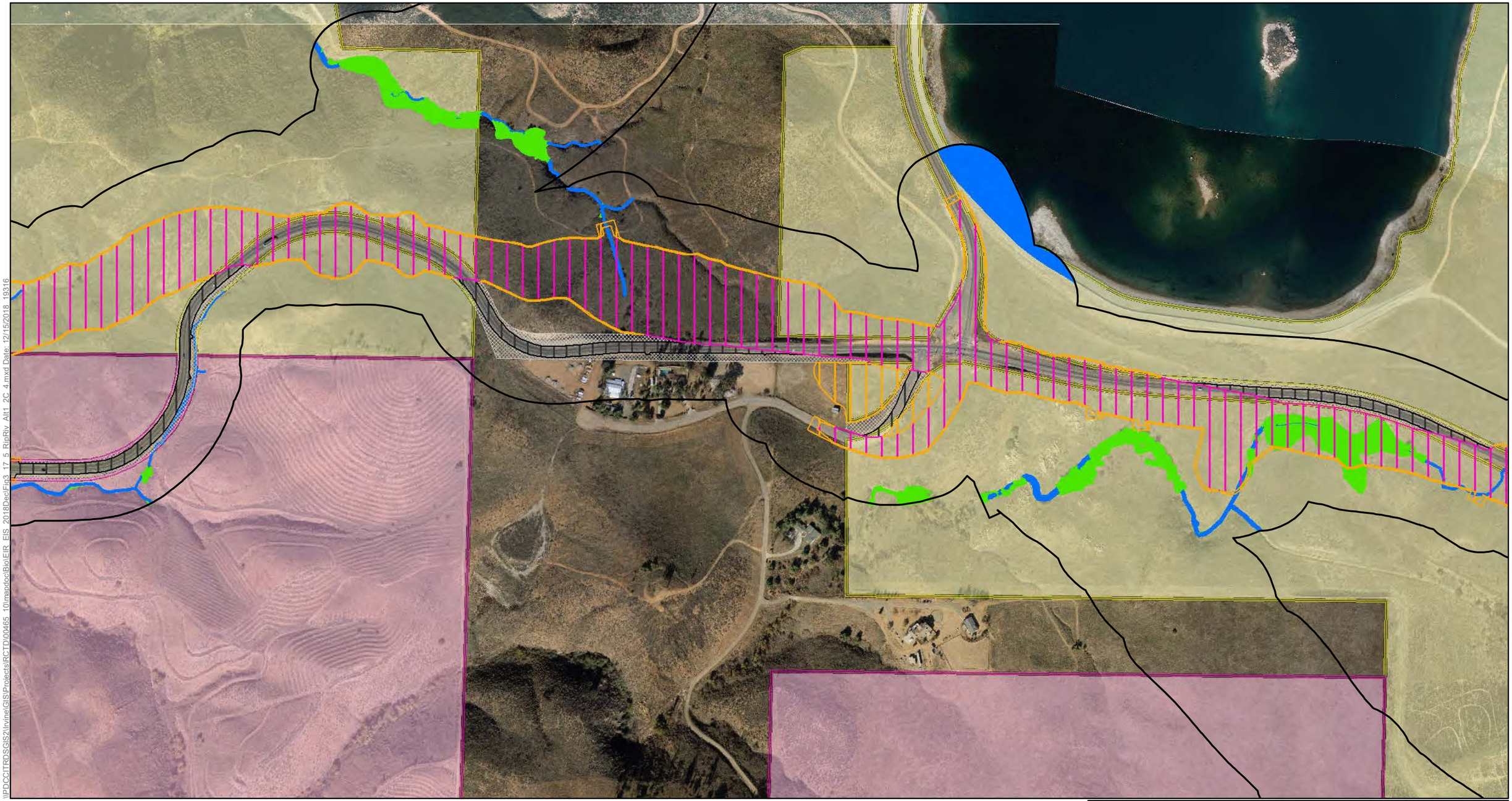

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Riparian-Riverine Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400
Feet

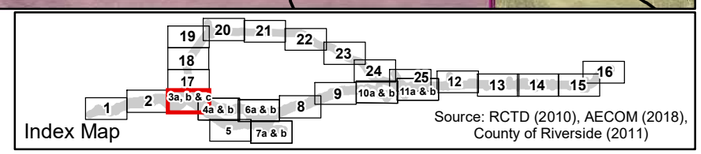

Figure 3.17-5 - Sheet 3a
Riparian/Riverine Resources Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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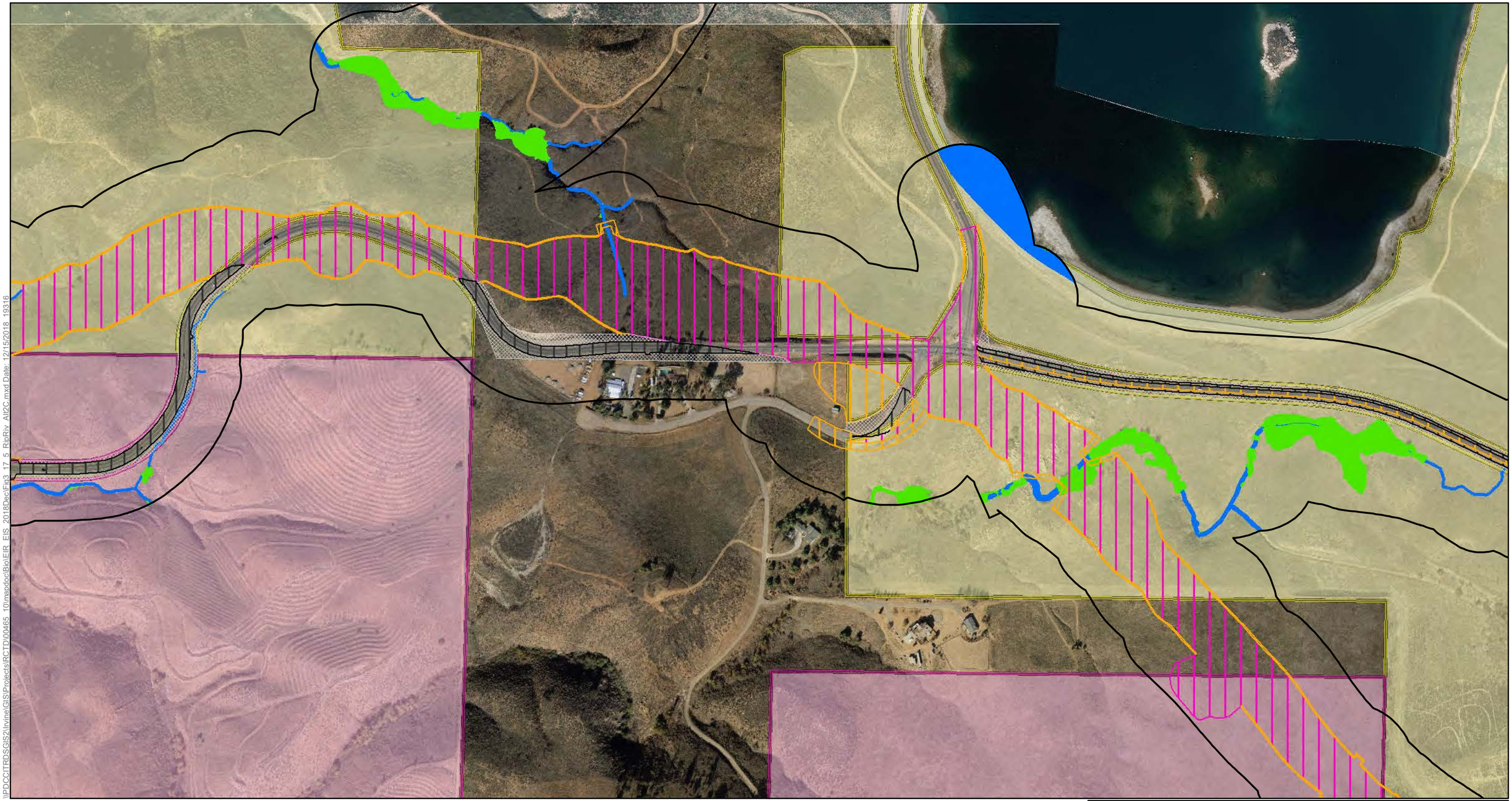

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

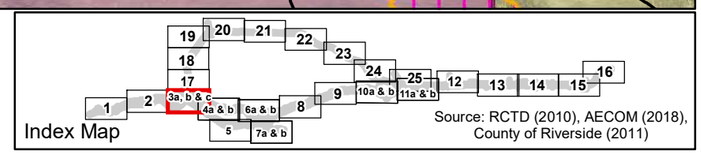
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

Index Map



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 3b
Riparian/Riverine Resources Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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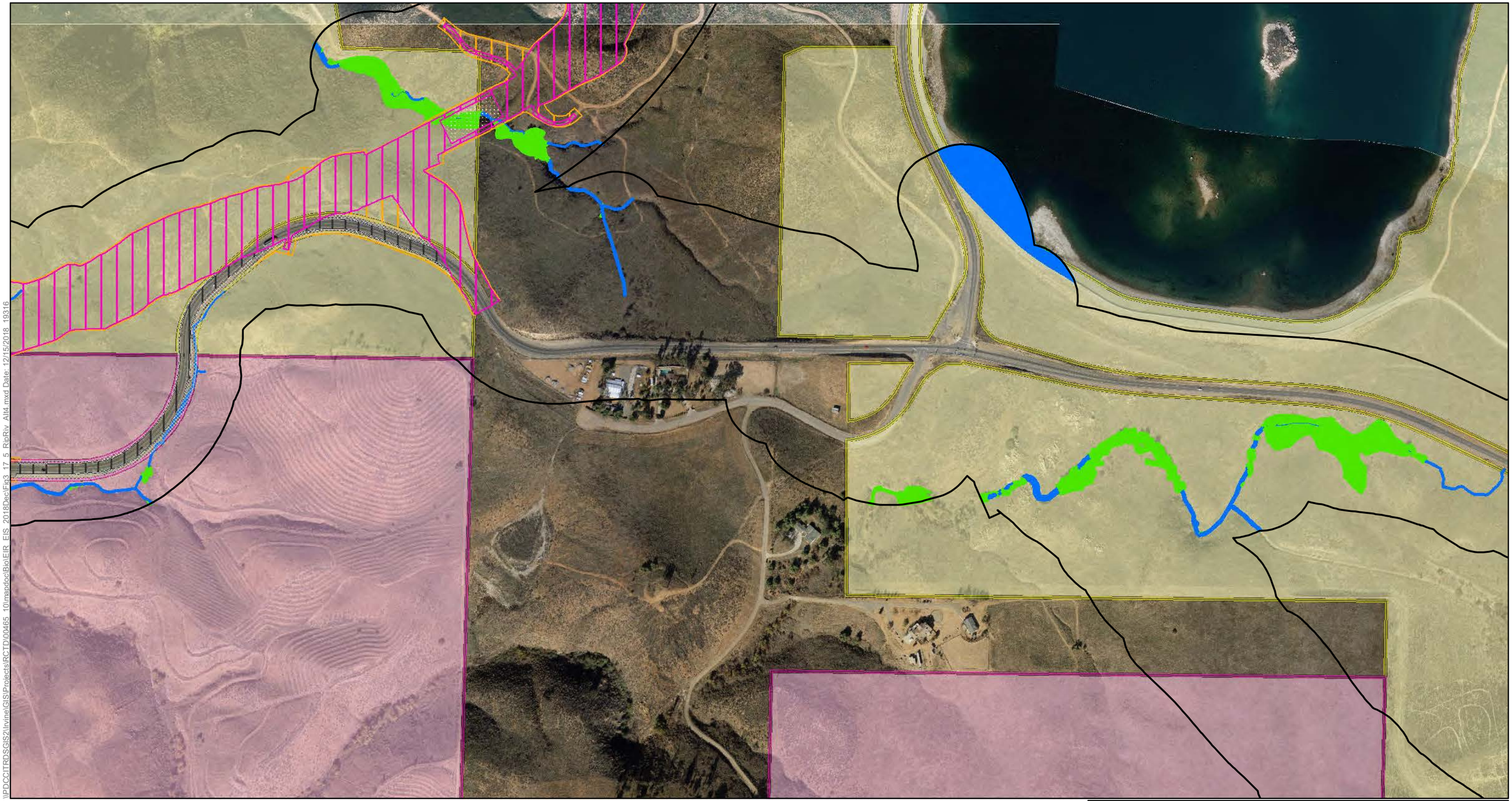

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Riparian-Riverine Study Area

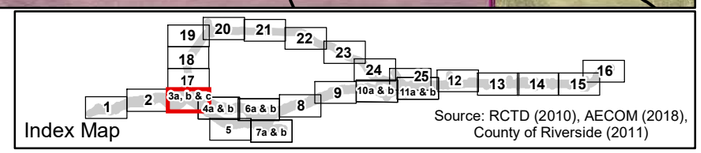
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 3c
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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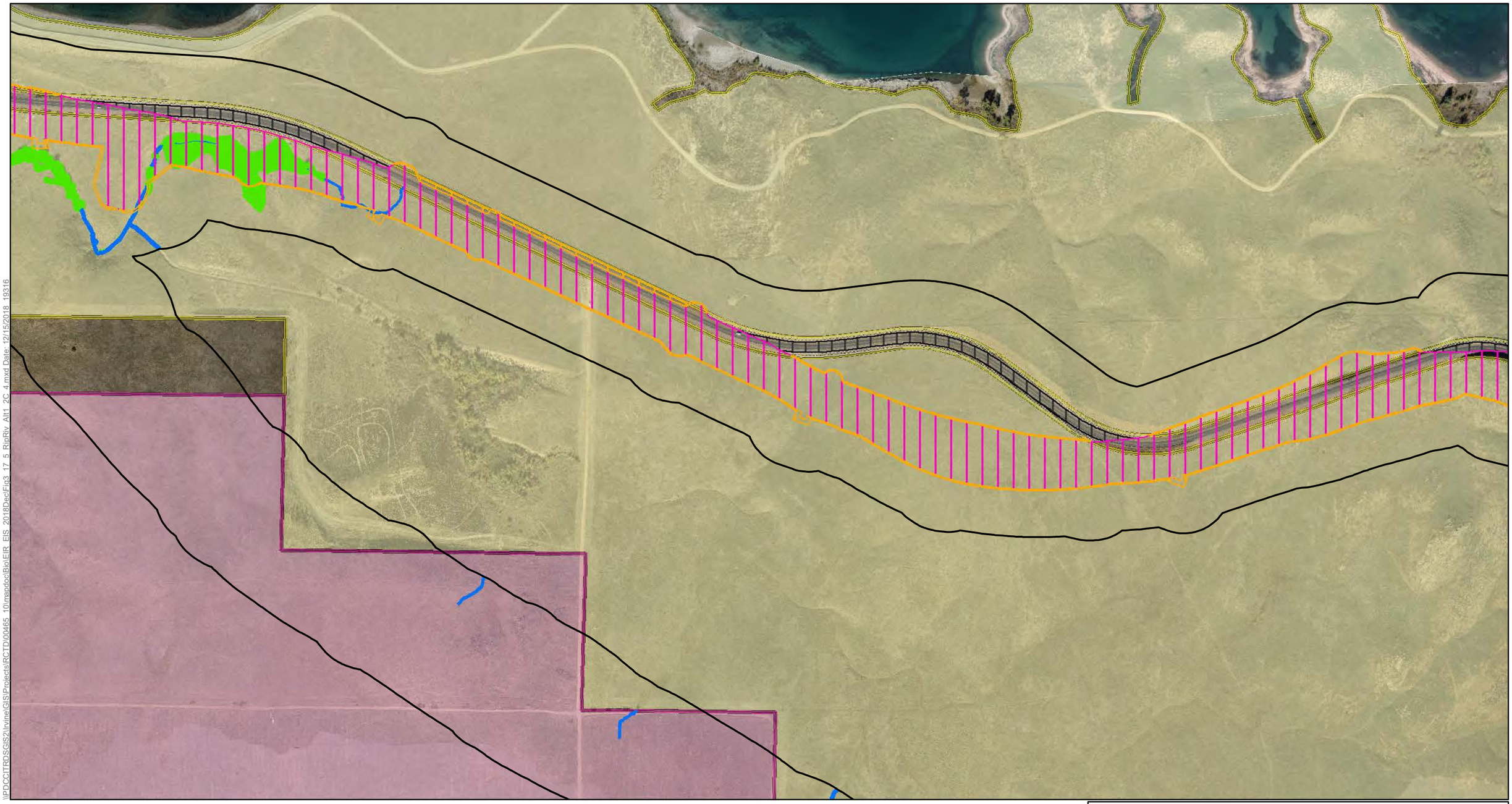

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Riparian-Riverine Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

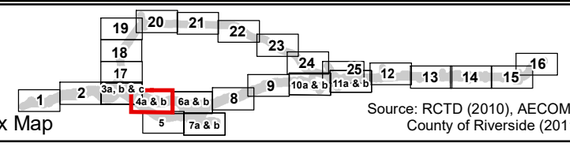
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400
Feet

Index Map



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 4a
Riparian/Riverine Resources Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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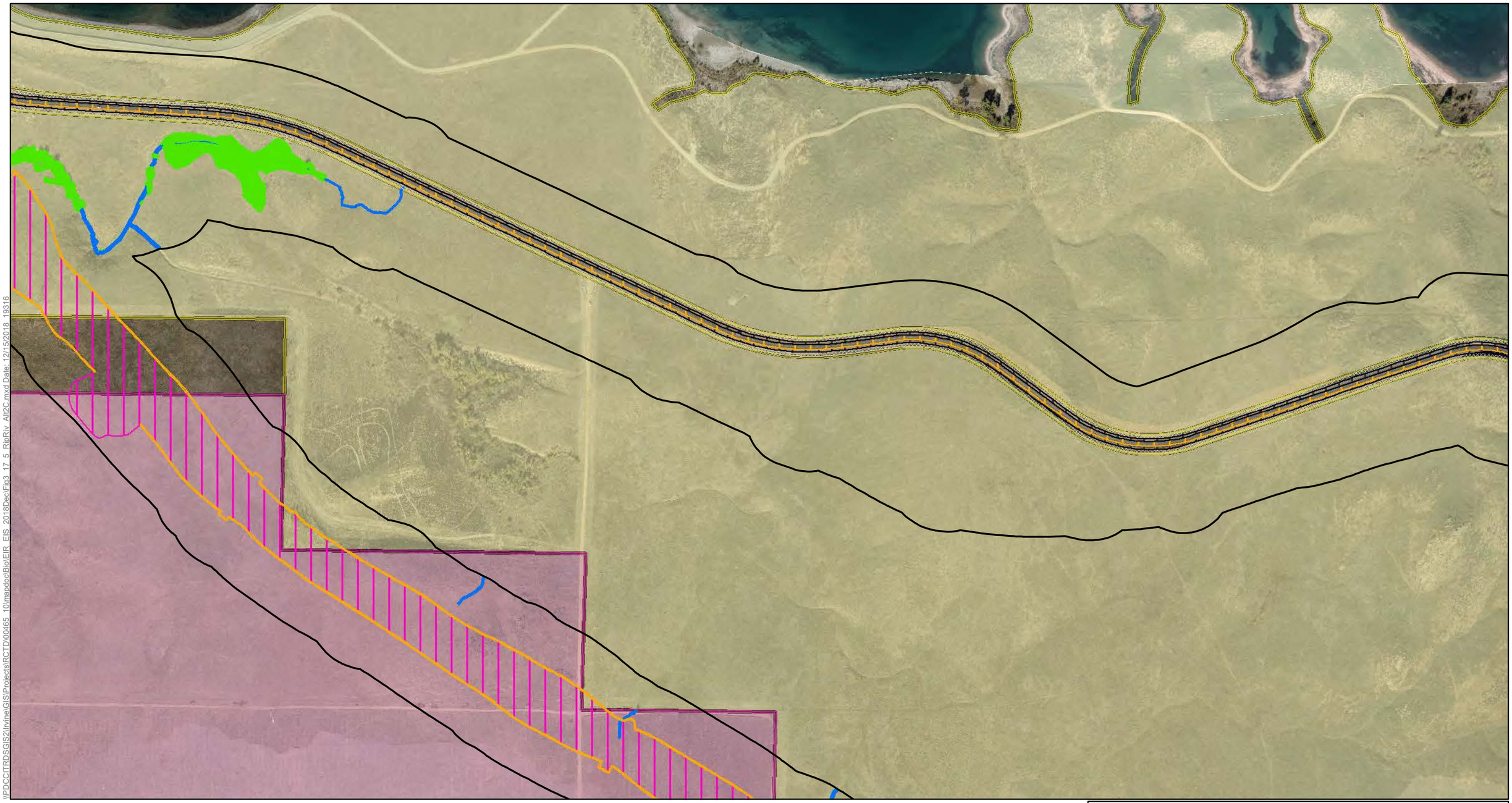

Figure 3.17-5 - Sheet 4b
Riparian/Riverine Resources Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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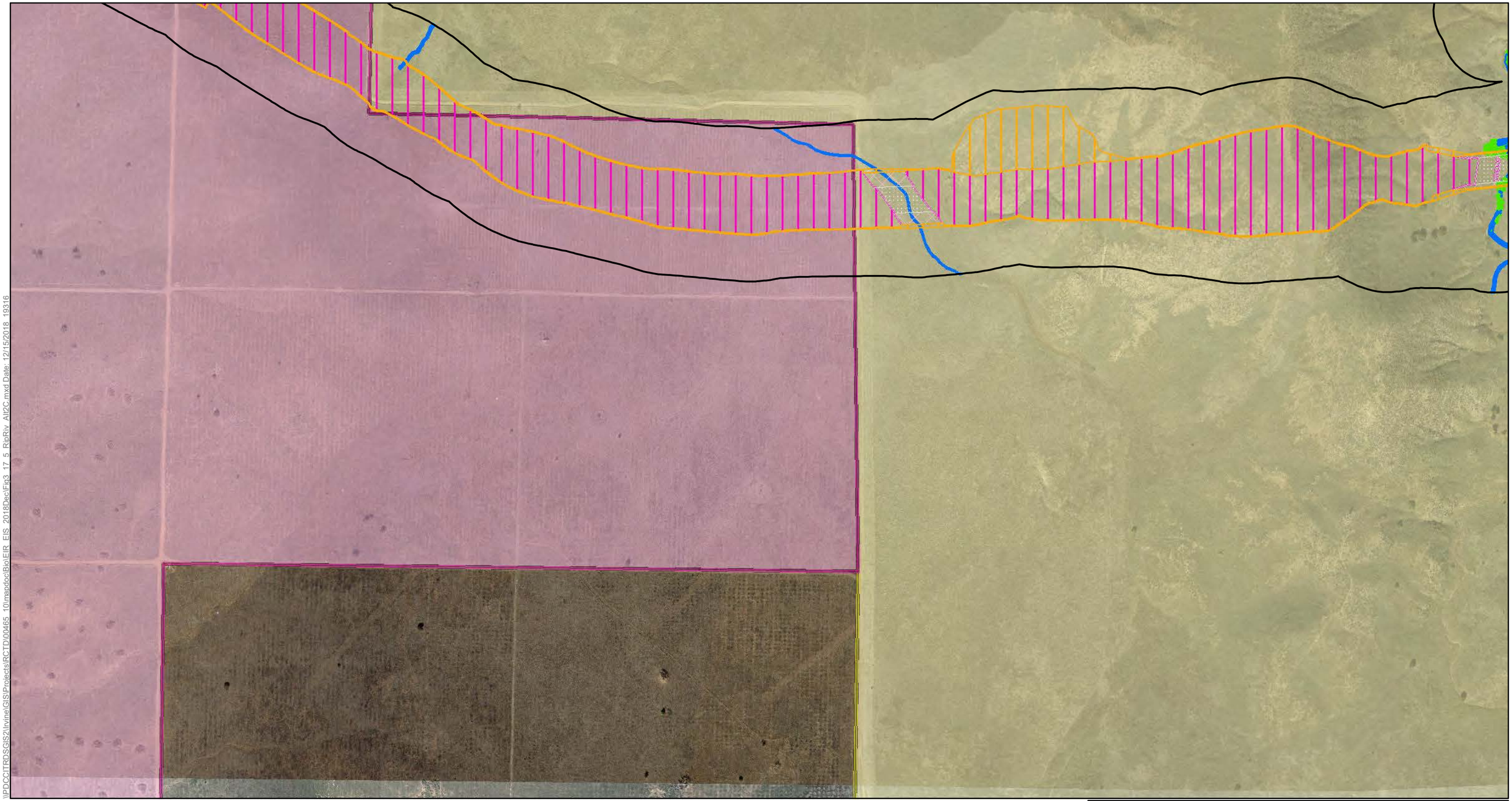

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

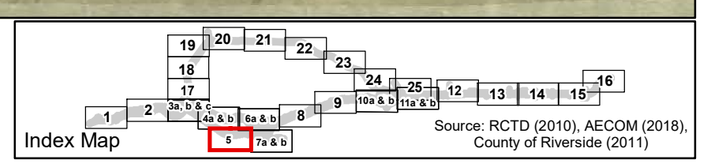

Figure 3.17-5 - Sheet 5
Riparian/Riverine Resources Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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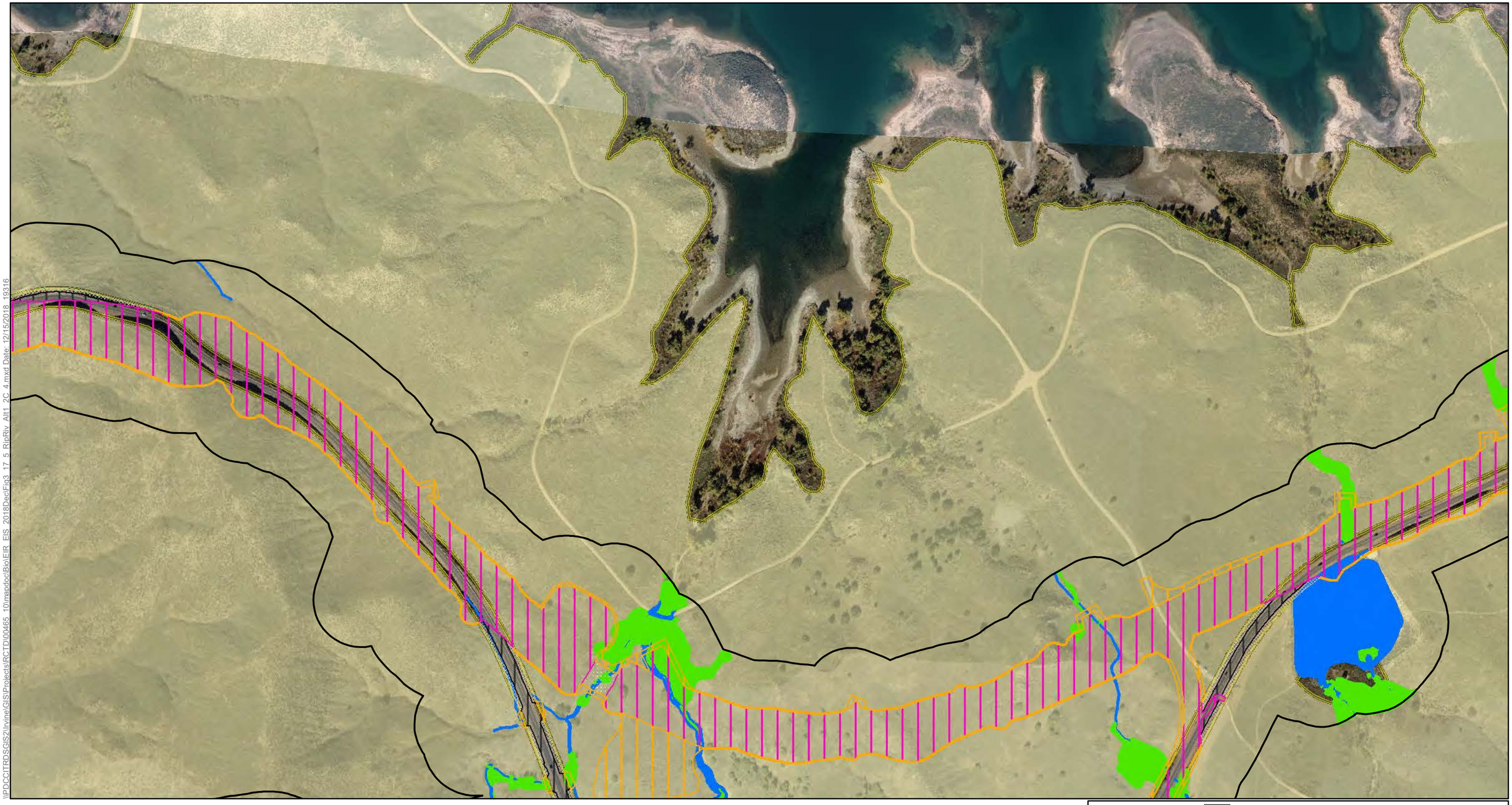

Figure 3.17-5 - Sheet 6a
Riparian/Riverine Resources Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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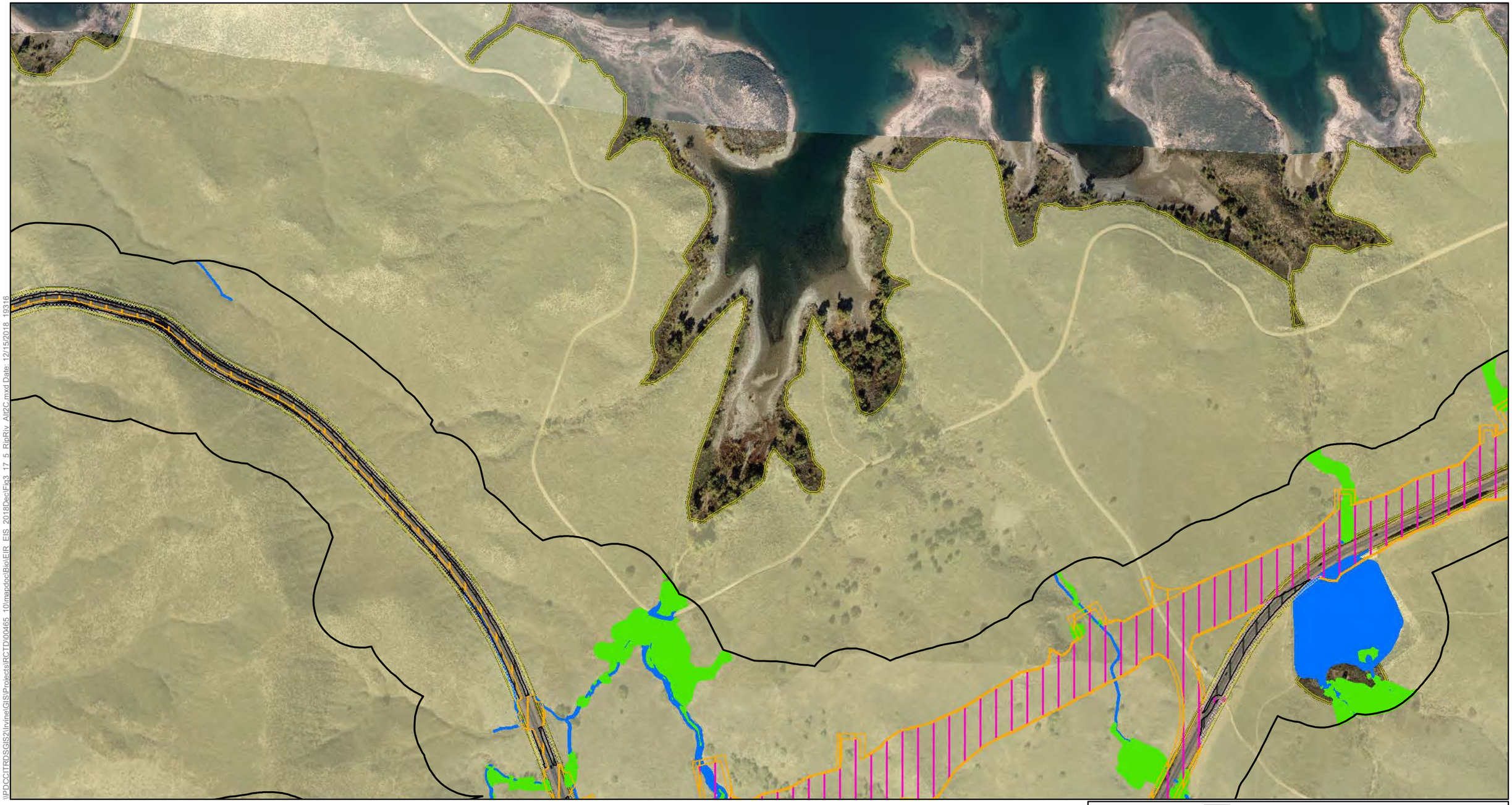

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Figure 3.17-5 - Sheet 6b
Riparian/Riverine Resources Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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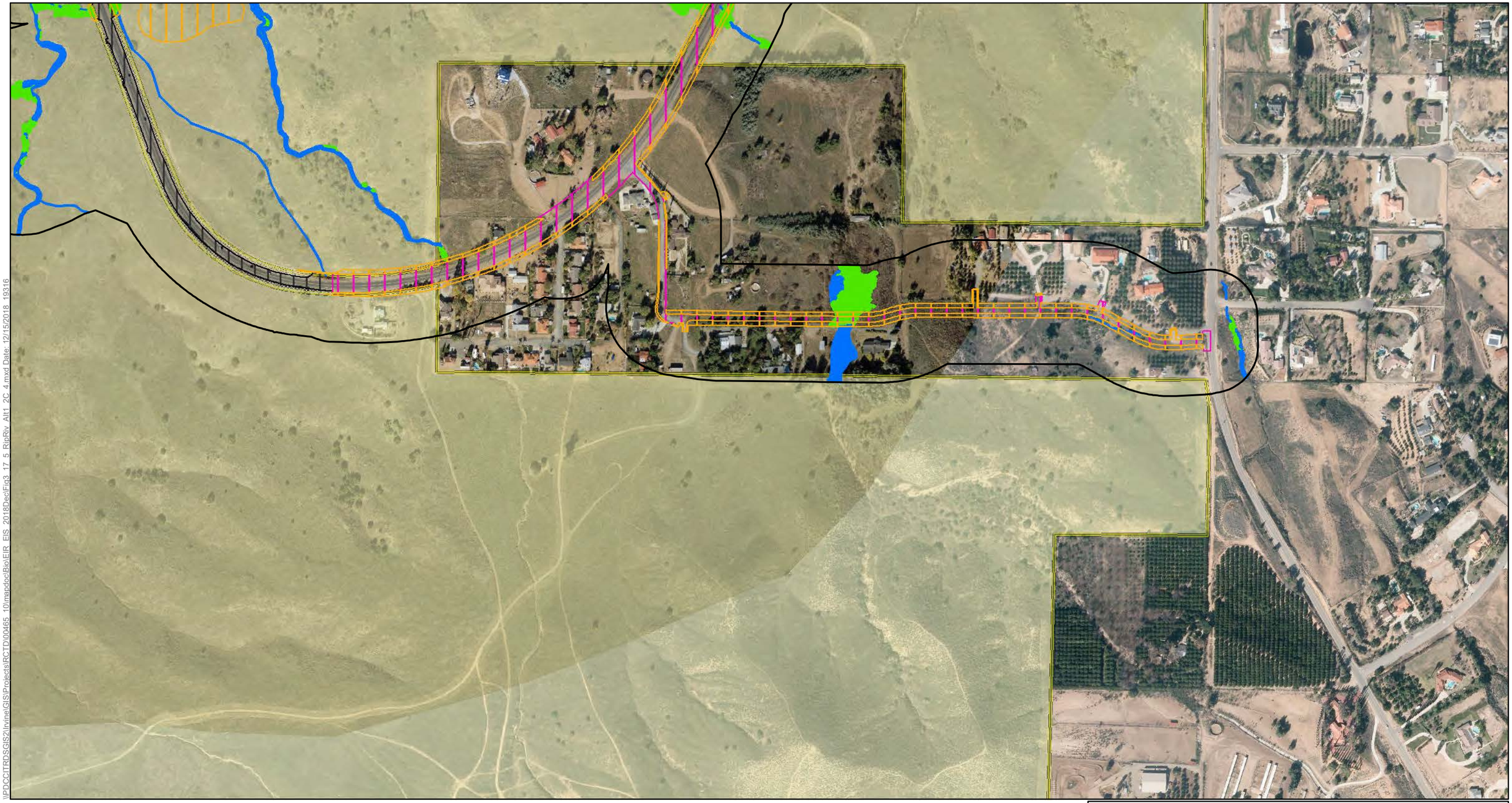

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

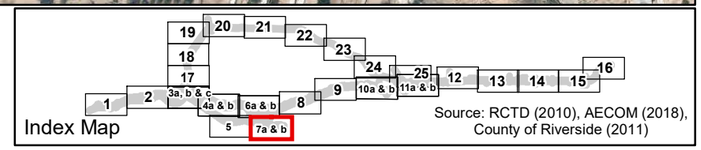

Figure 3.17-5 - Sheet 7a
Riparian/Riverine Resources Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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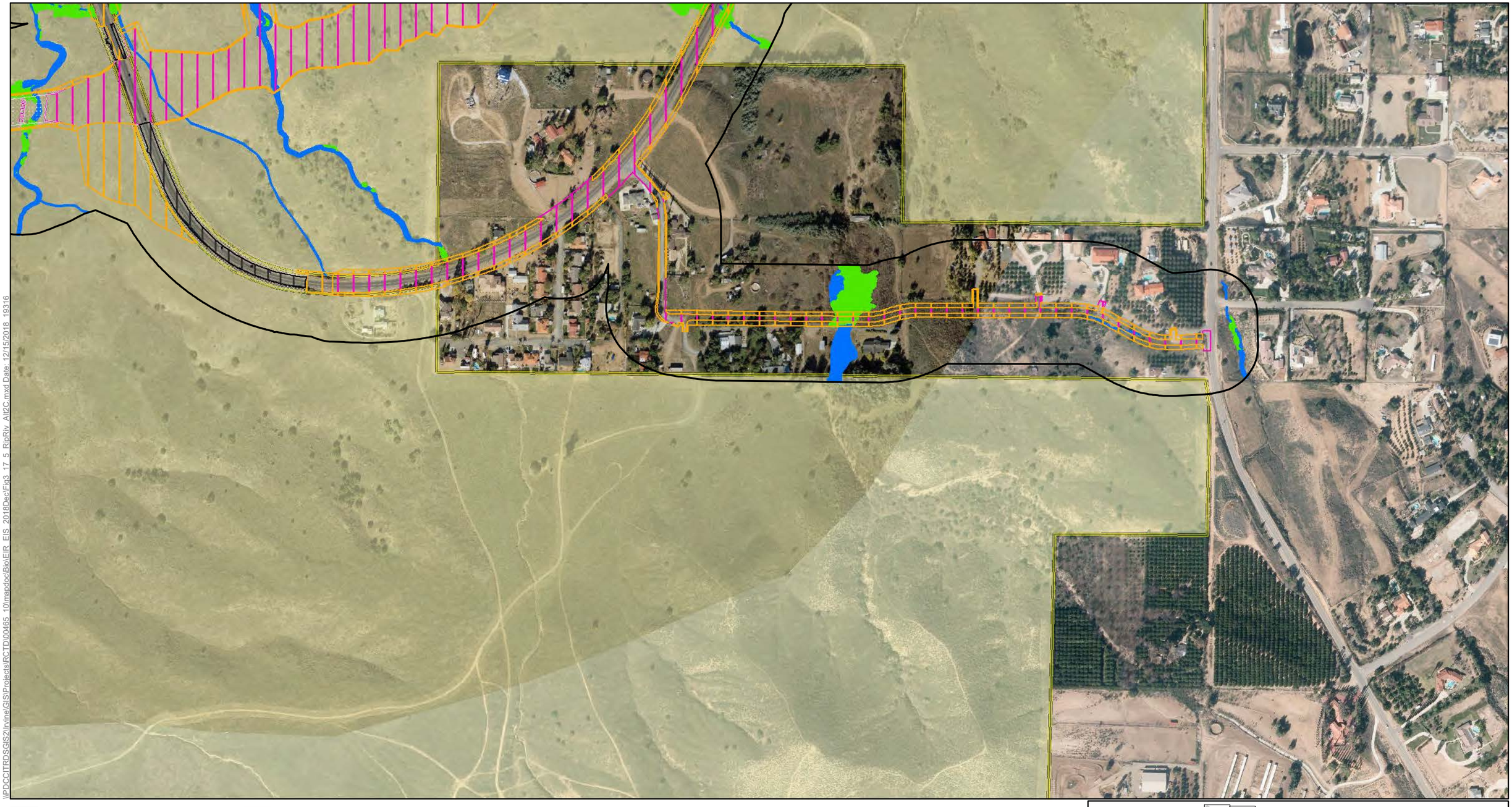

Figure 3.17-5 - Sheet 7b
Riparian/Riverine Resources Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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Riparian-Riverine Study Area

Impact Areas

Permanent Impact Area

Temporary Impact Area

Roadbed Removal (Beneficial)

Roadbed Removal ROW (Beneficial)

Temporary (Existing Shading)

Permanent (Proposed Shading)

Conserved Lands

MWD

RCHCA

RCRCD

WRCRCA

Riparian-Riverine Resources

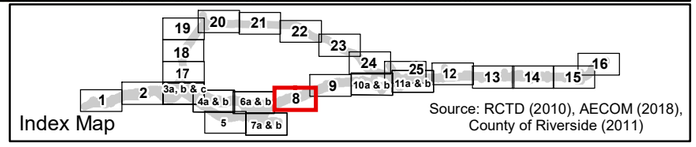
MSHCP Riparian

MSHCP Riverine

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 8
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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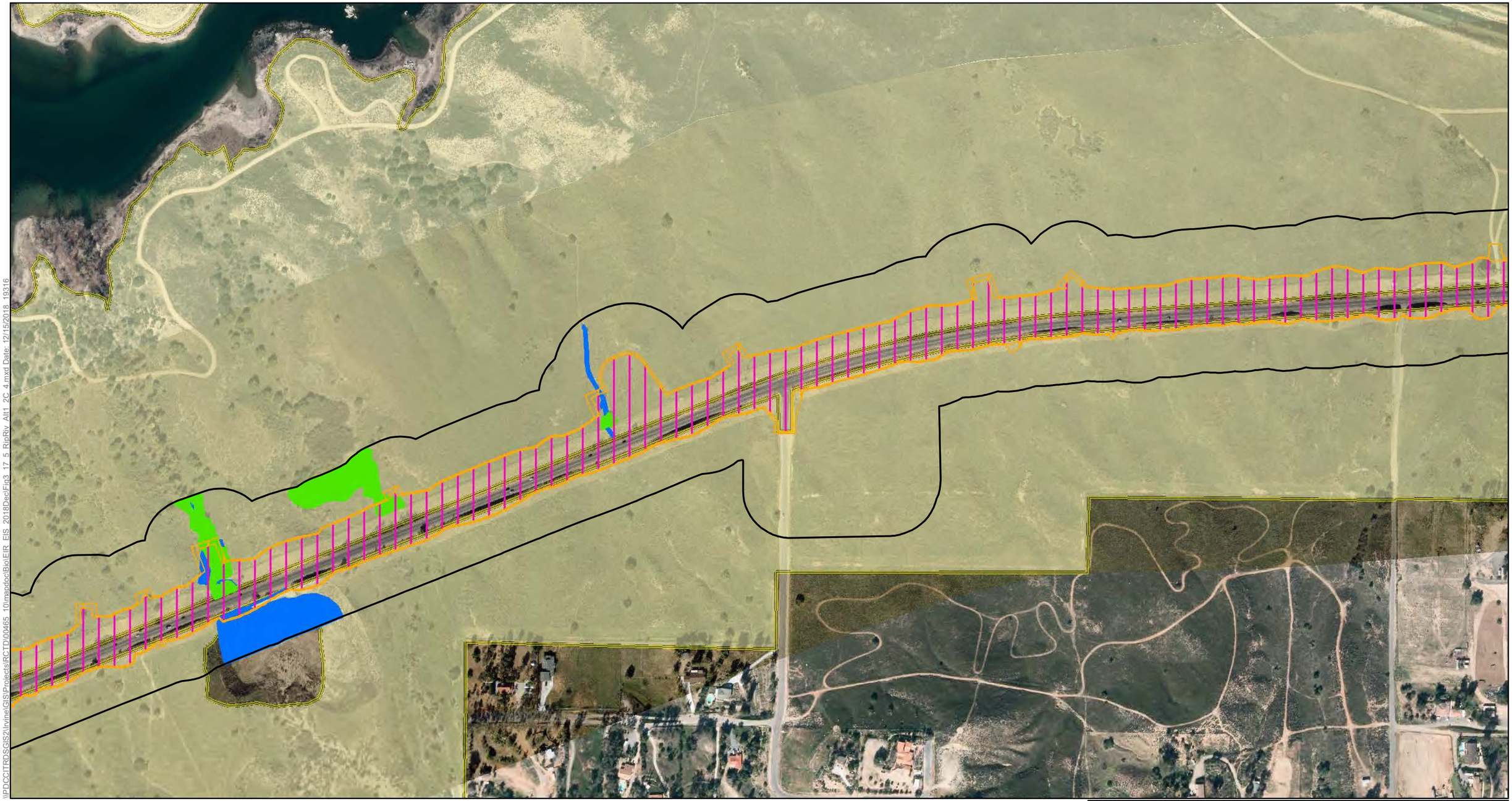

Figure 3.17-5 - Sheet 9
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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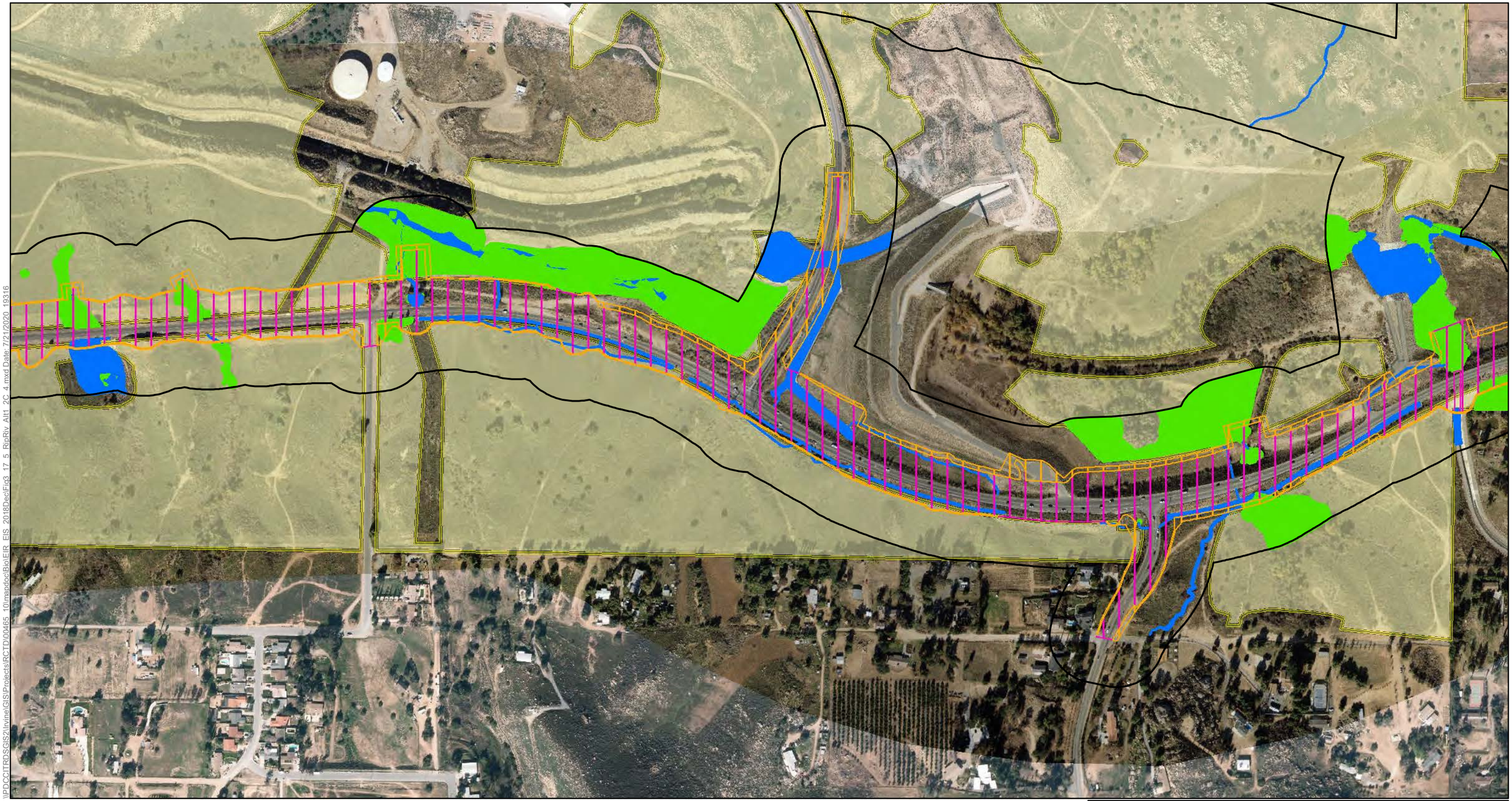

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

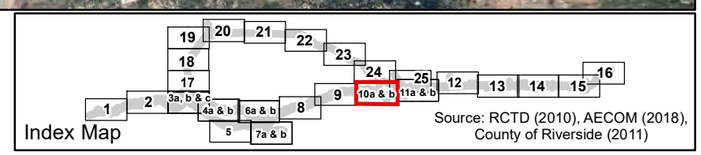

Figure 3.17-5 - Sheet 10a
Riparian/Riverine Resources Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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Riparian-Riverine Study Area

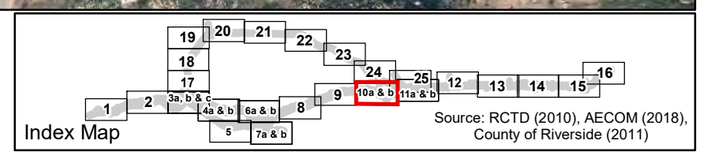
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 10b
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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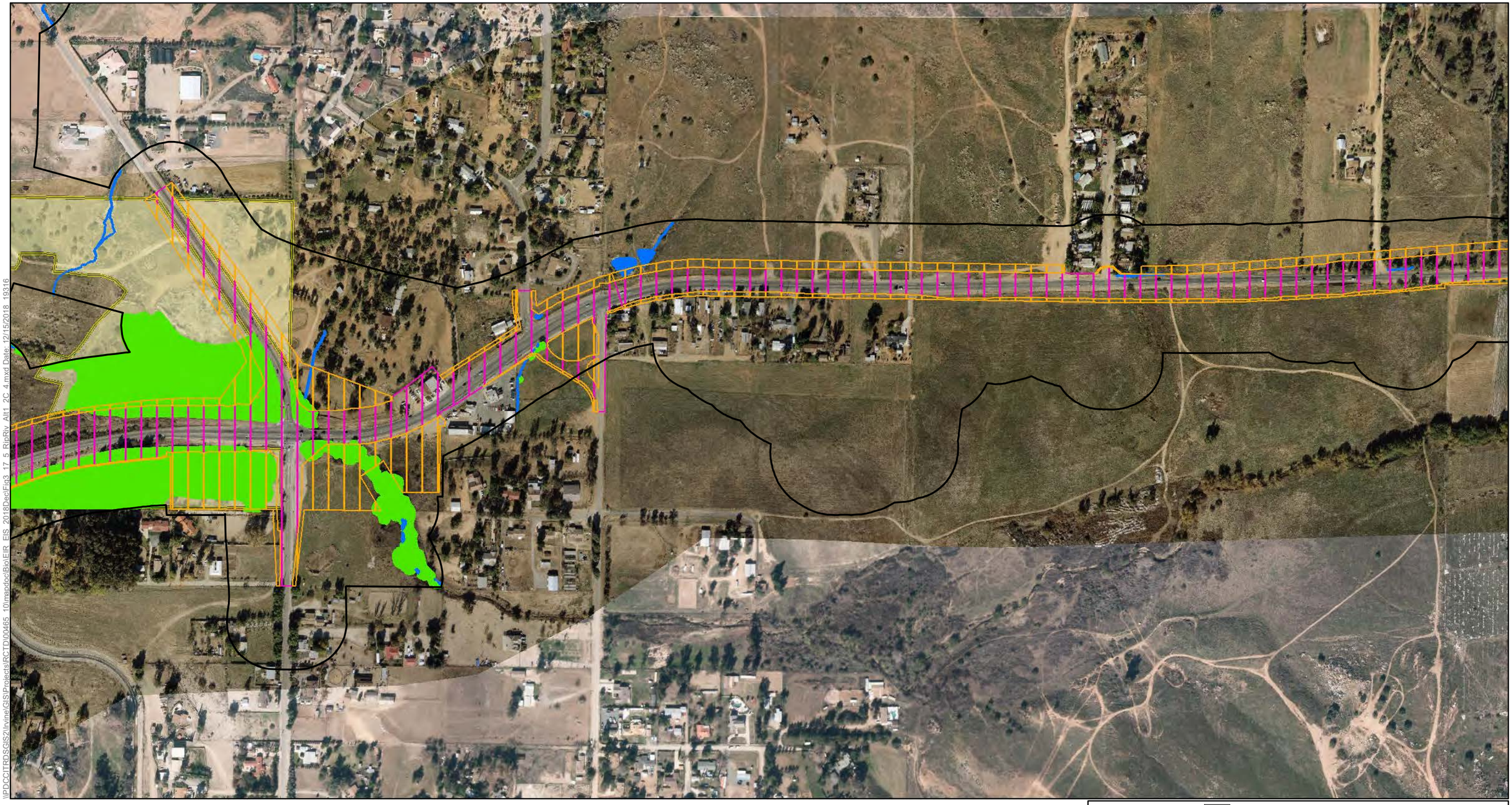

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

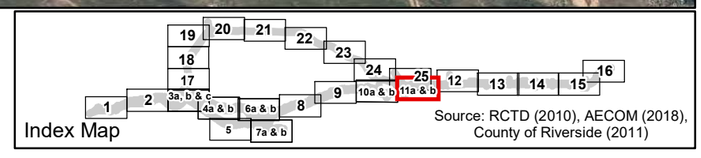

Figure 3.17-5 - Sheet 11a
Riparian/Riverine Resources Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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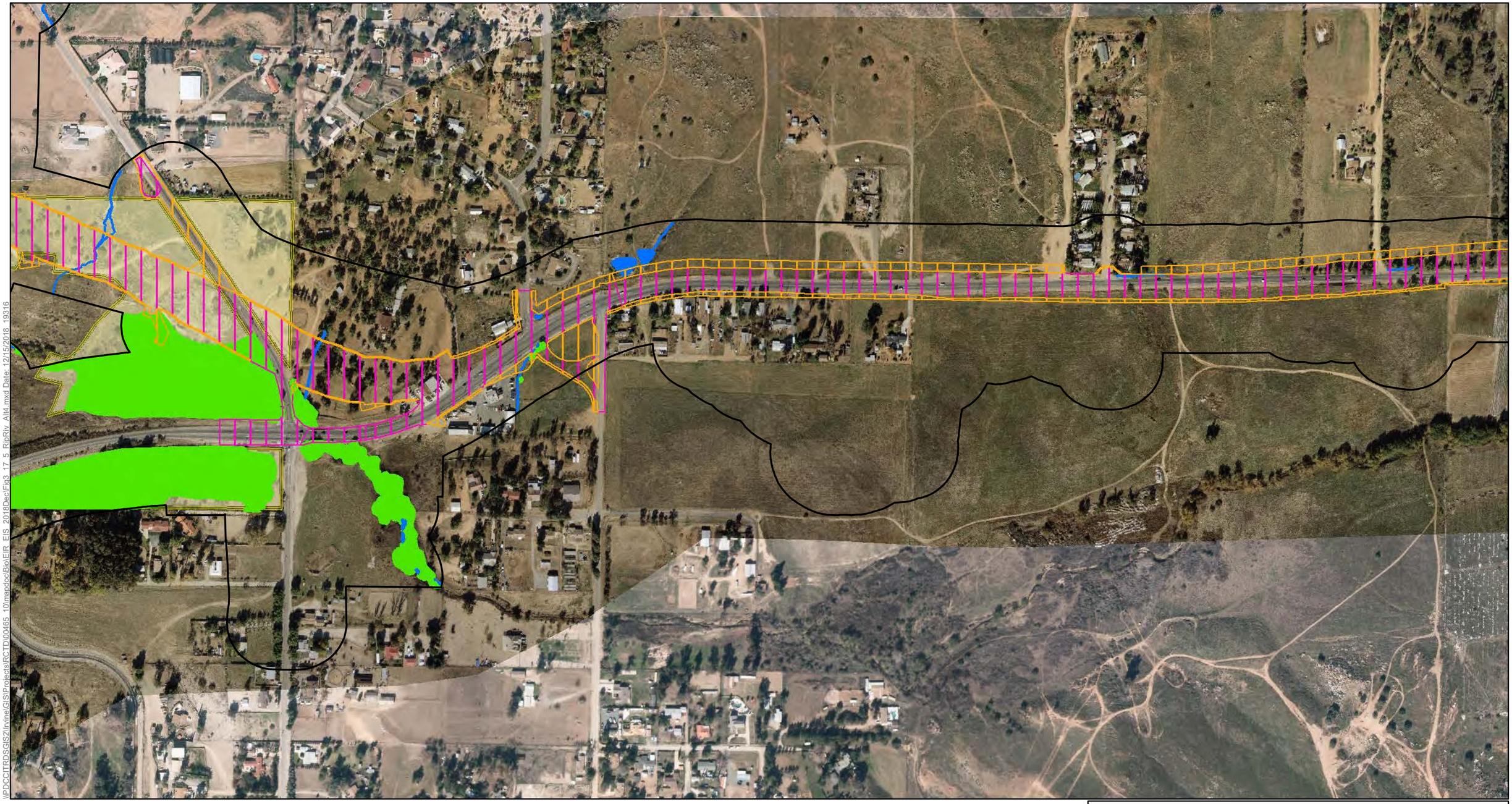

Figure 3.17-5 - Sheet 11b
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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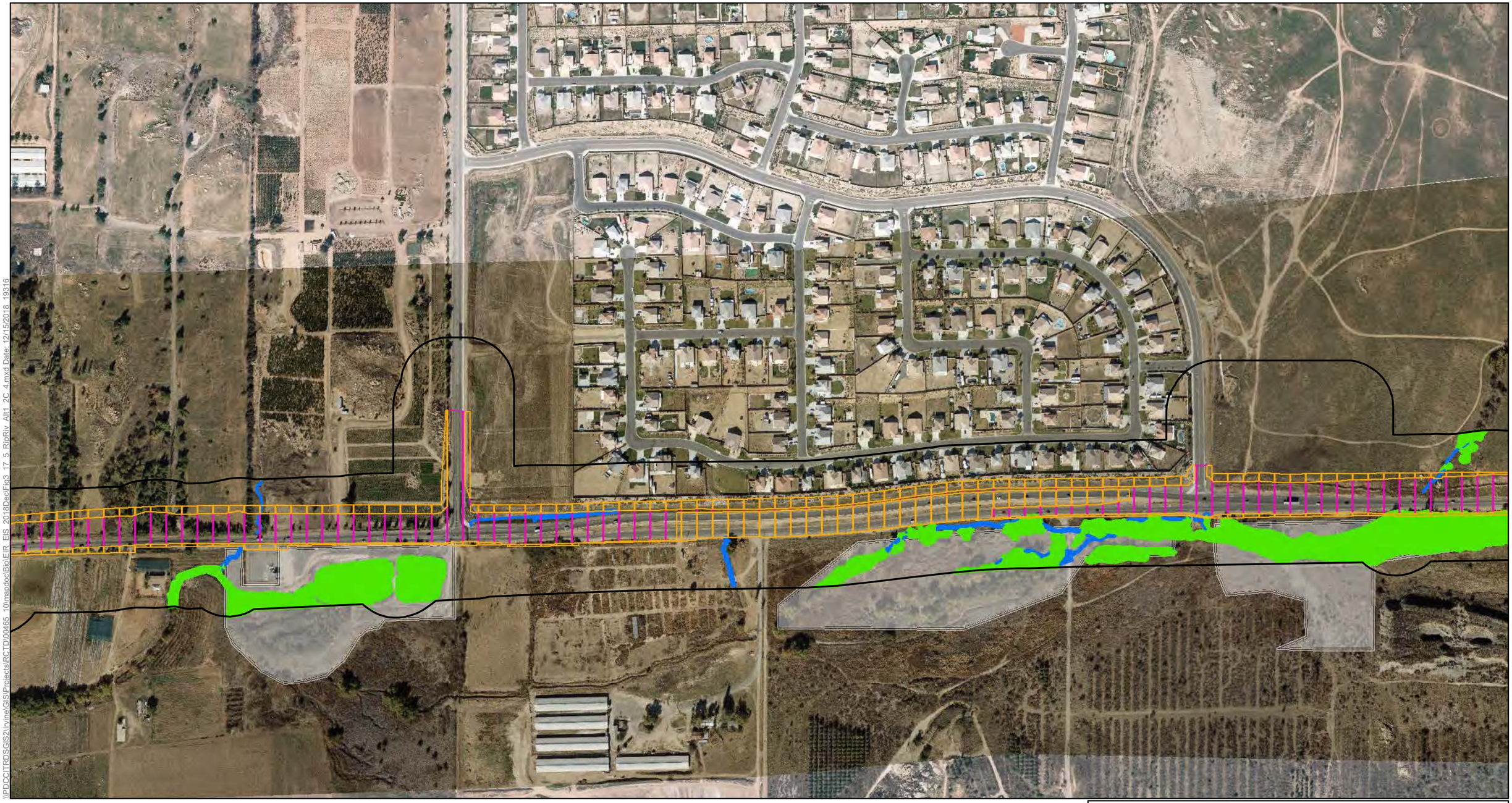

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

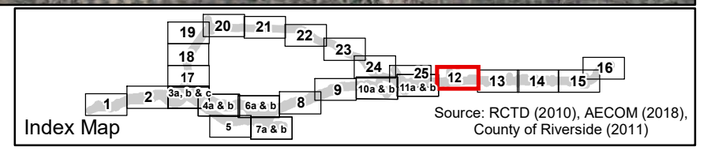
Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 12
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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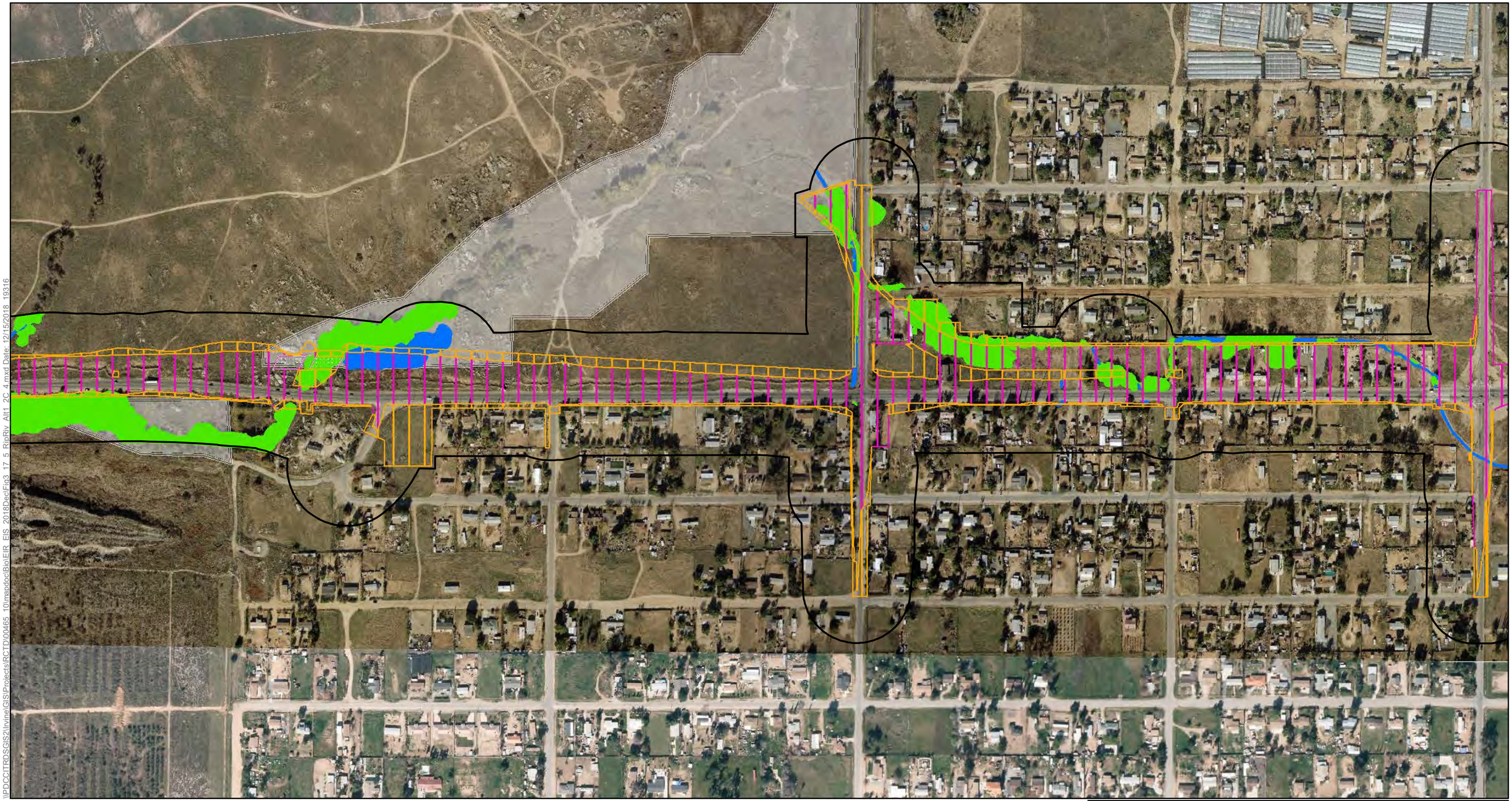

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

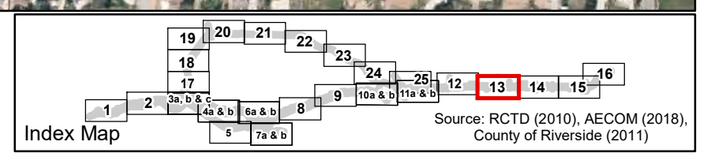

Figure 3.17-5 - Sheet 13
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

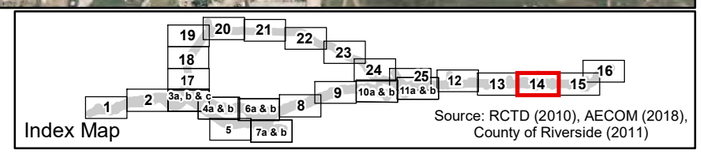
Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet



Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 14
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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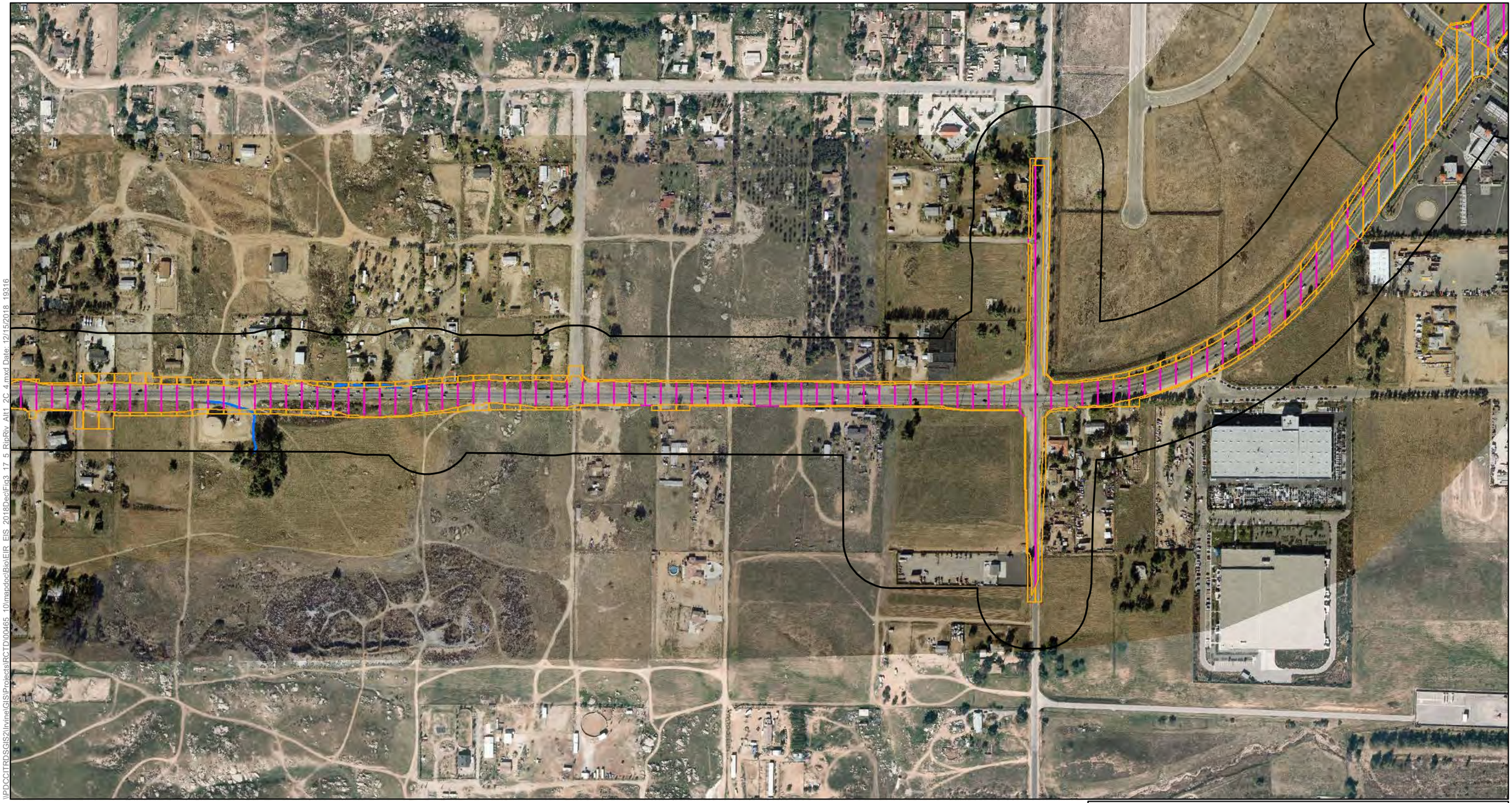

Figure 3.17-5 - Sheet 15
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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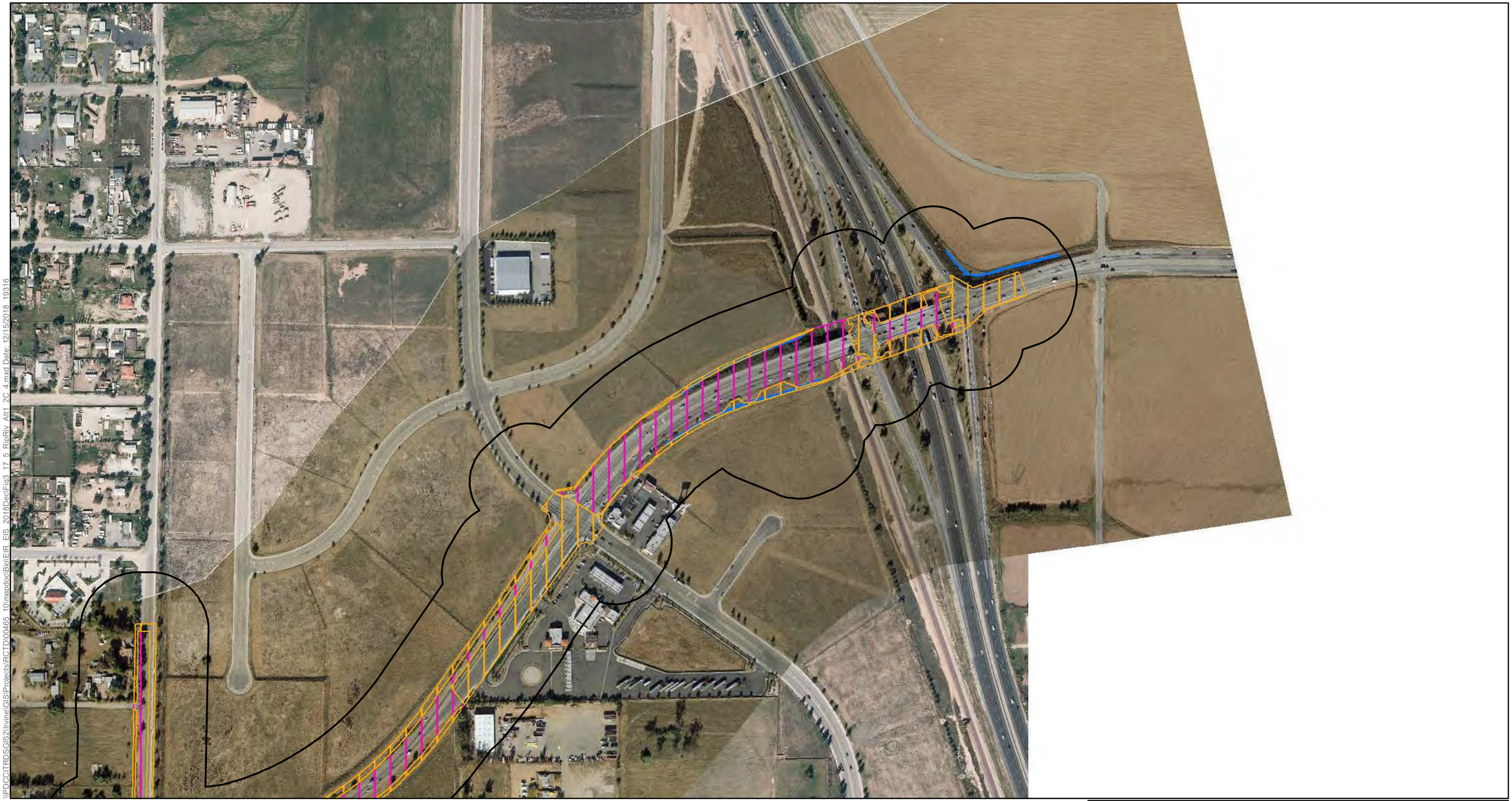

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400
Feet

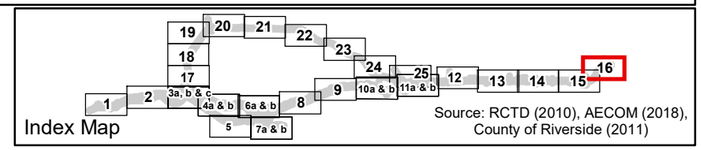

Figure 3.17-5 - Sheet 16
Riparian/Riverine Resources Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

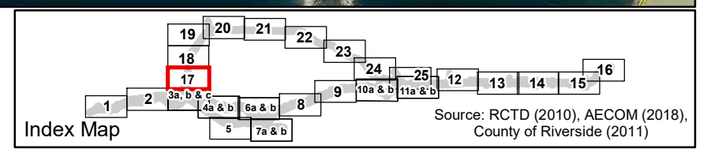
Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 17
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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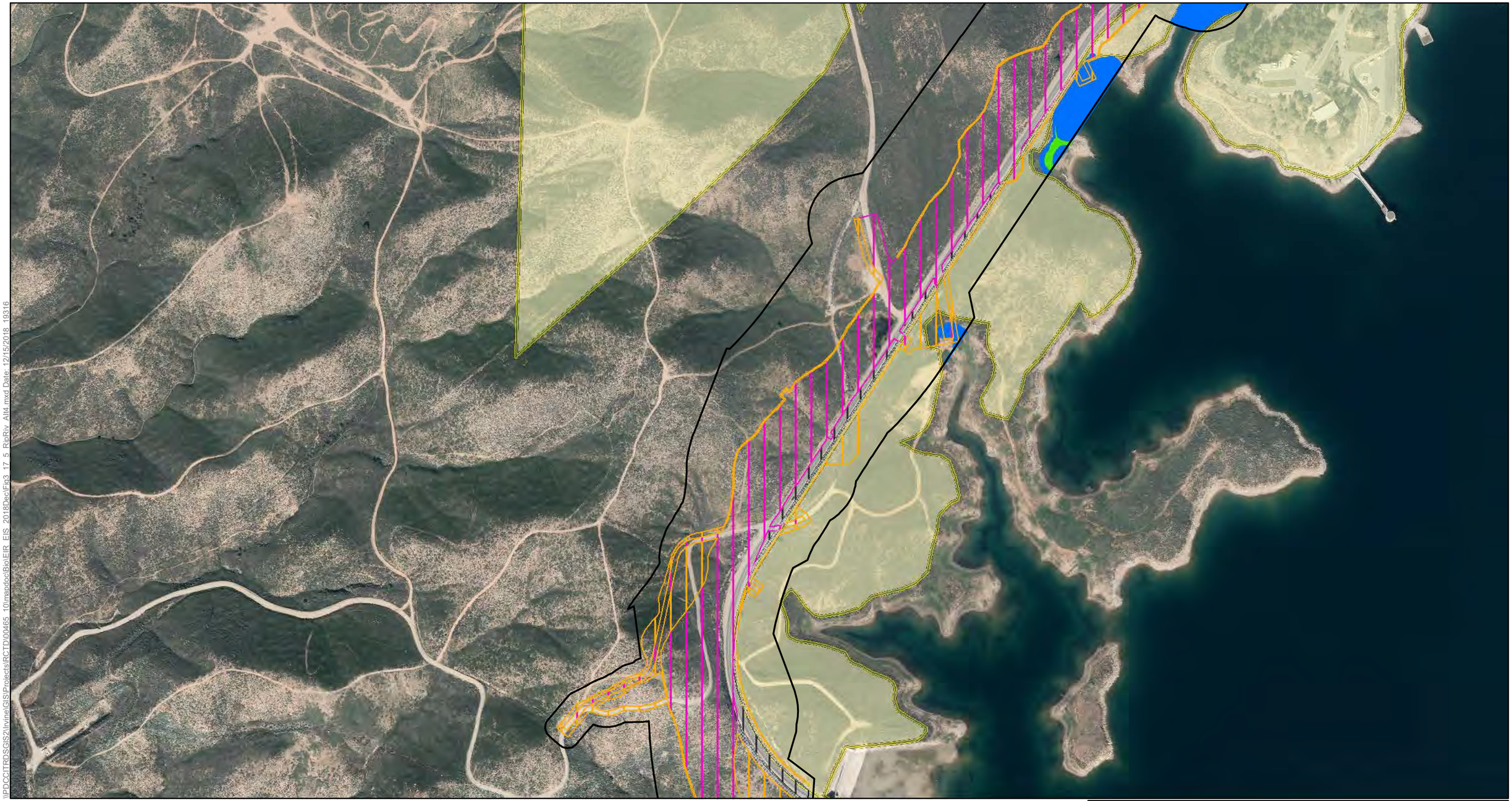

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

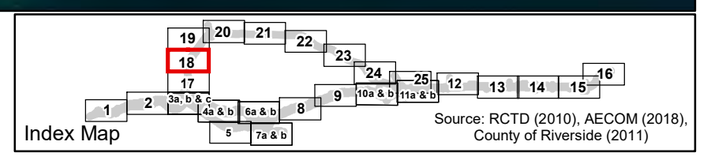

Figure 3.17-5 - Sheet 18
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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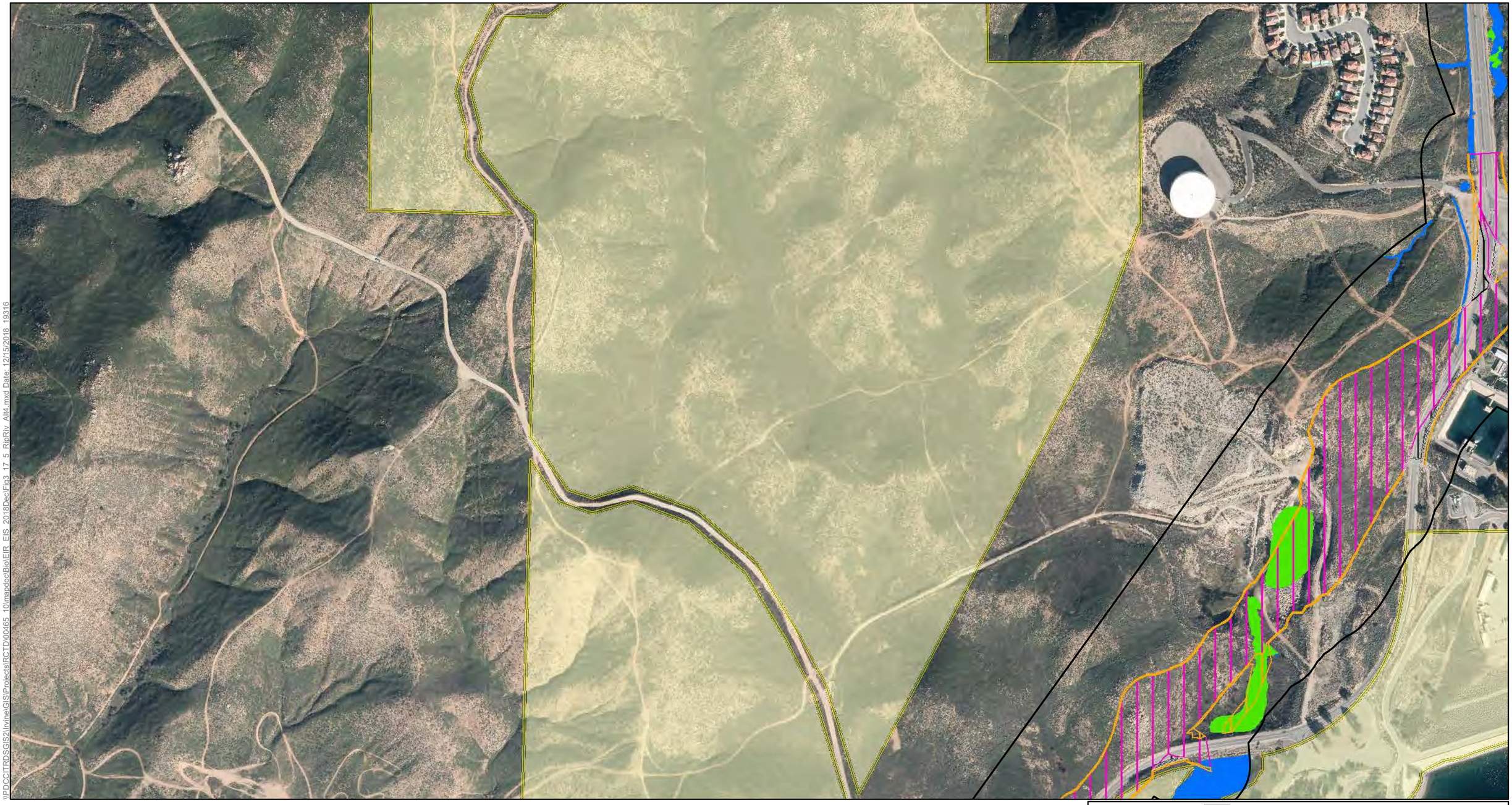

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Riparian-Riverine Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Riparian-Riverine Resources

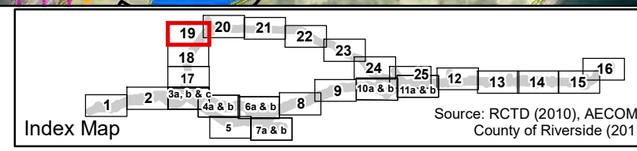
- MSHCP Riparian
- MSHCP Riverine

N

0 100 200 400

Feet

Index Map



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 19
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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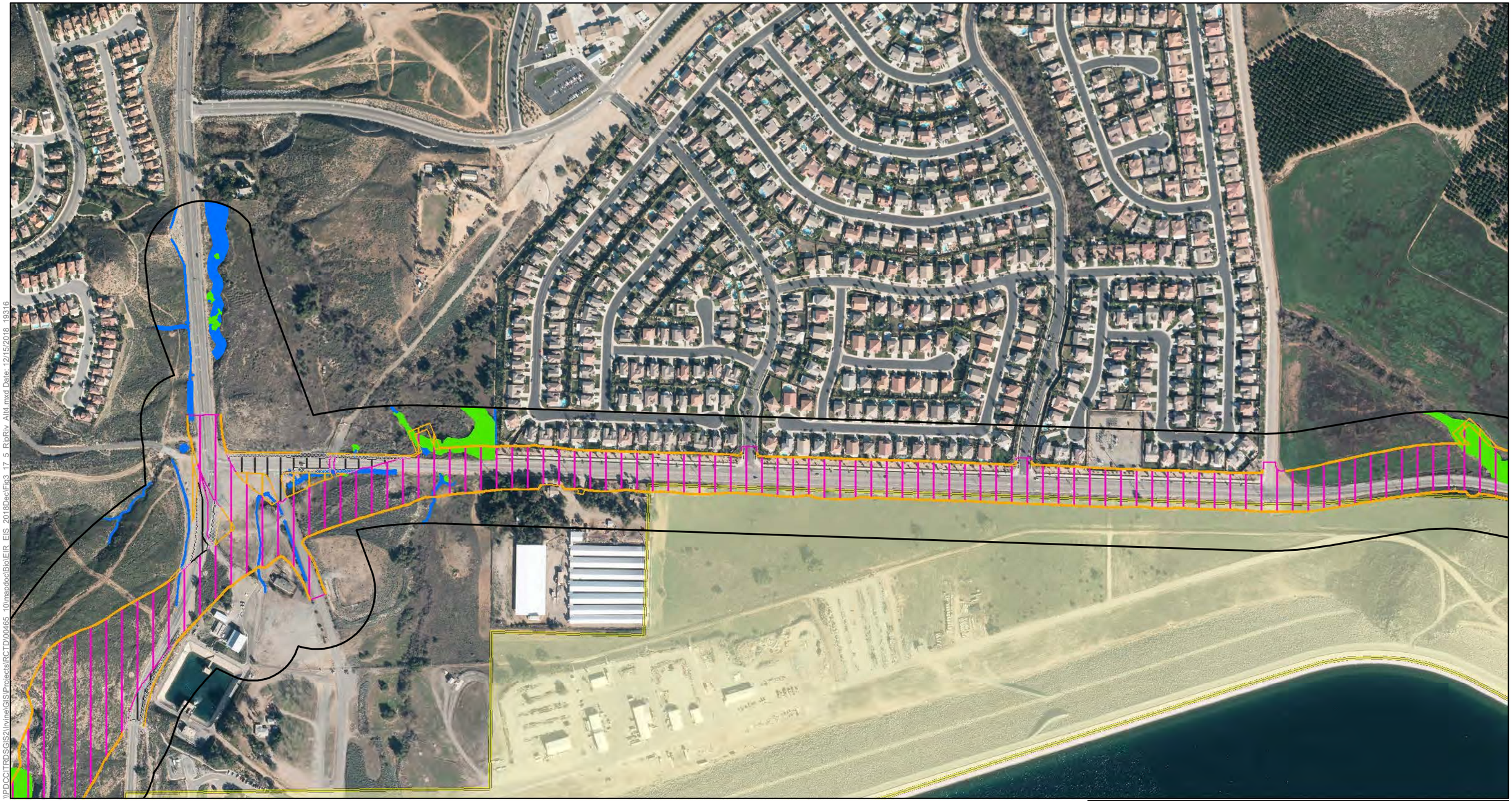

Riparian-Riverine Study Area

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Feet

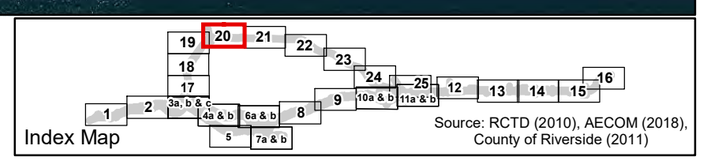

Figure 3.17-5 - Sheet 20
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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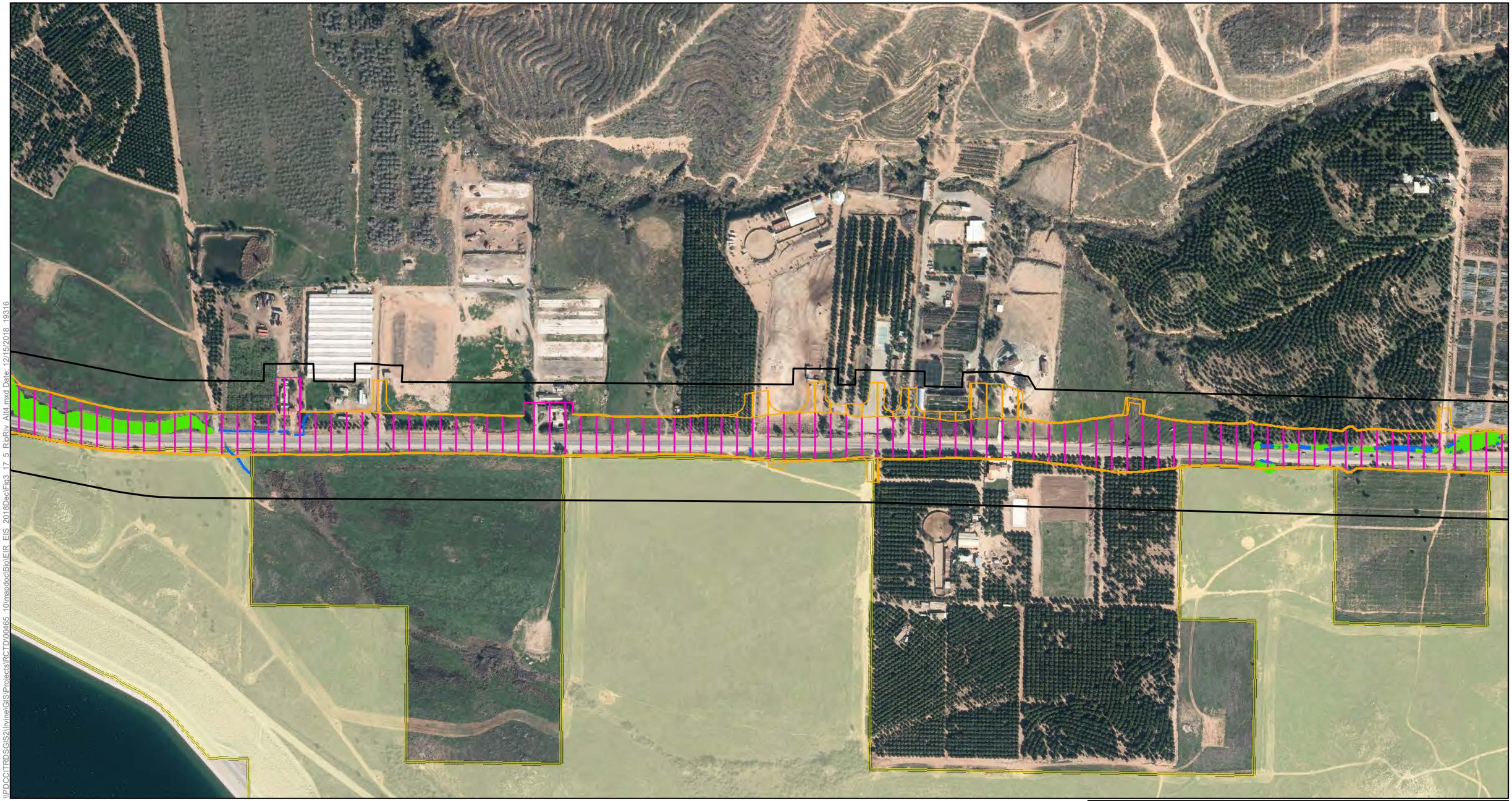

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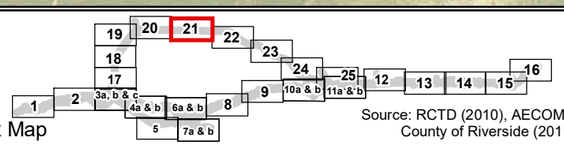

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 21
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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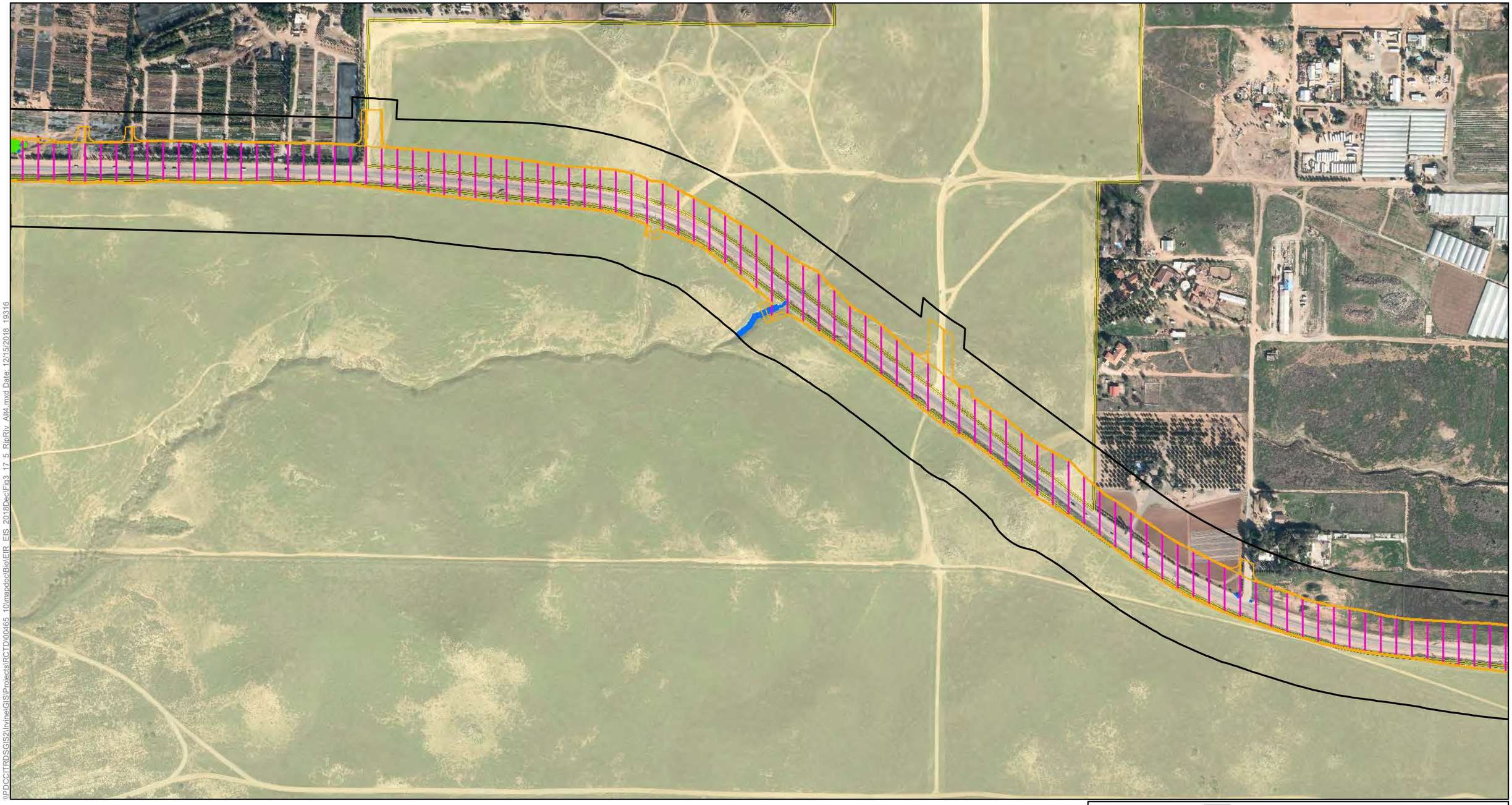

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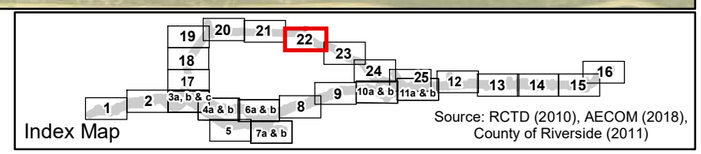

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 22
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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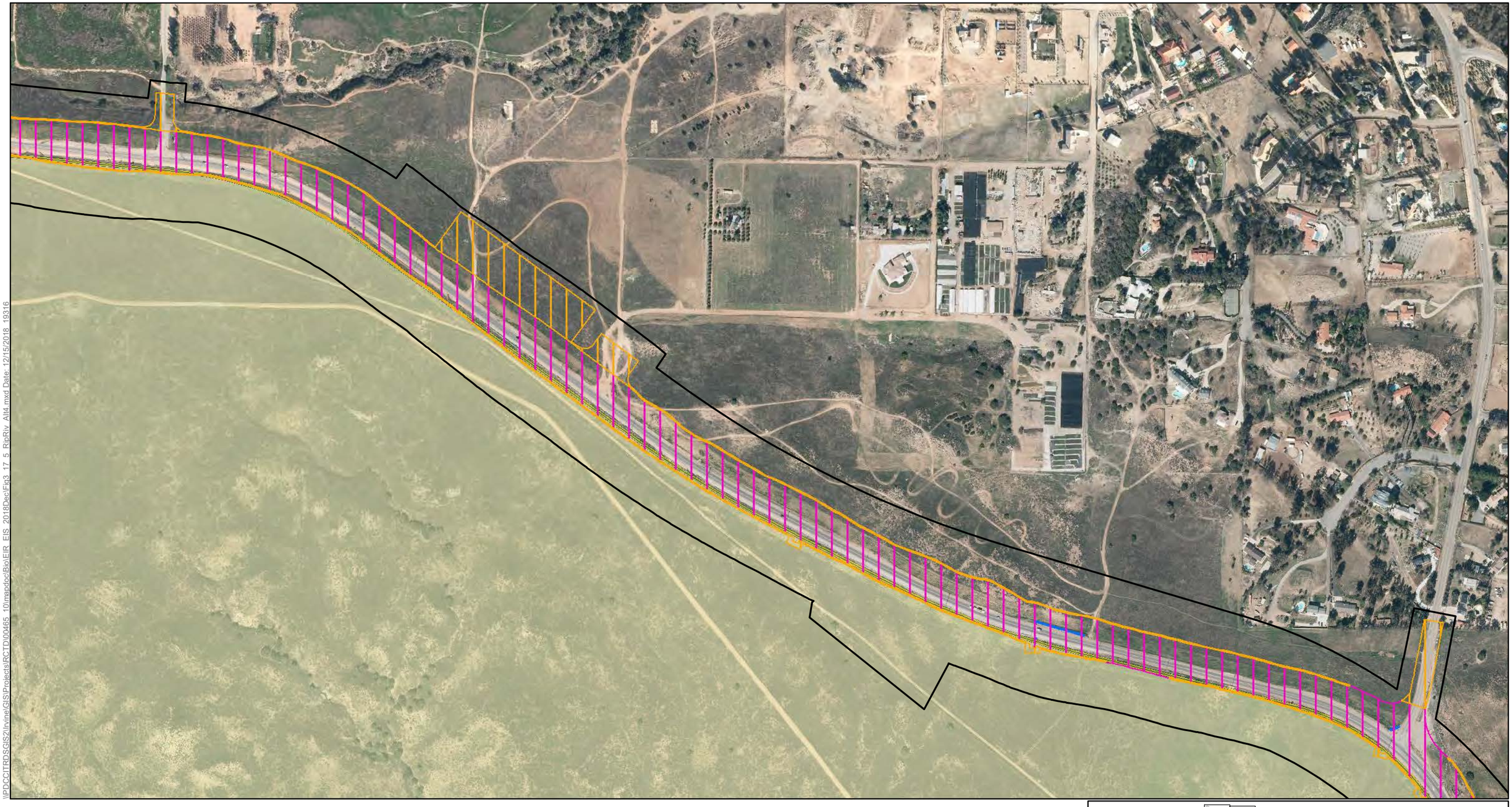

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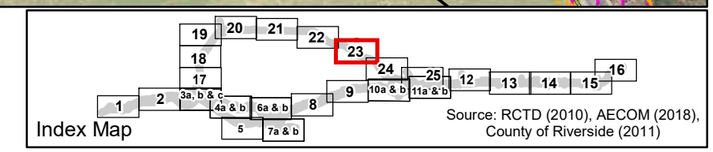

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 23
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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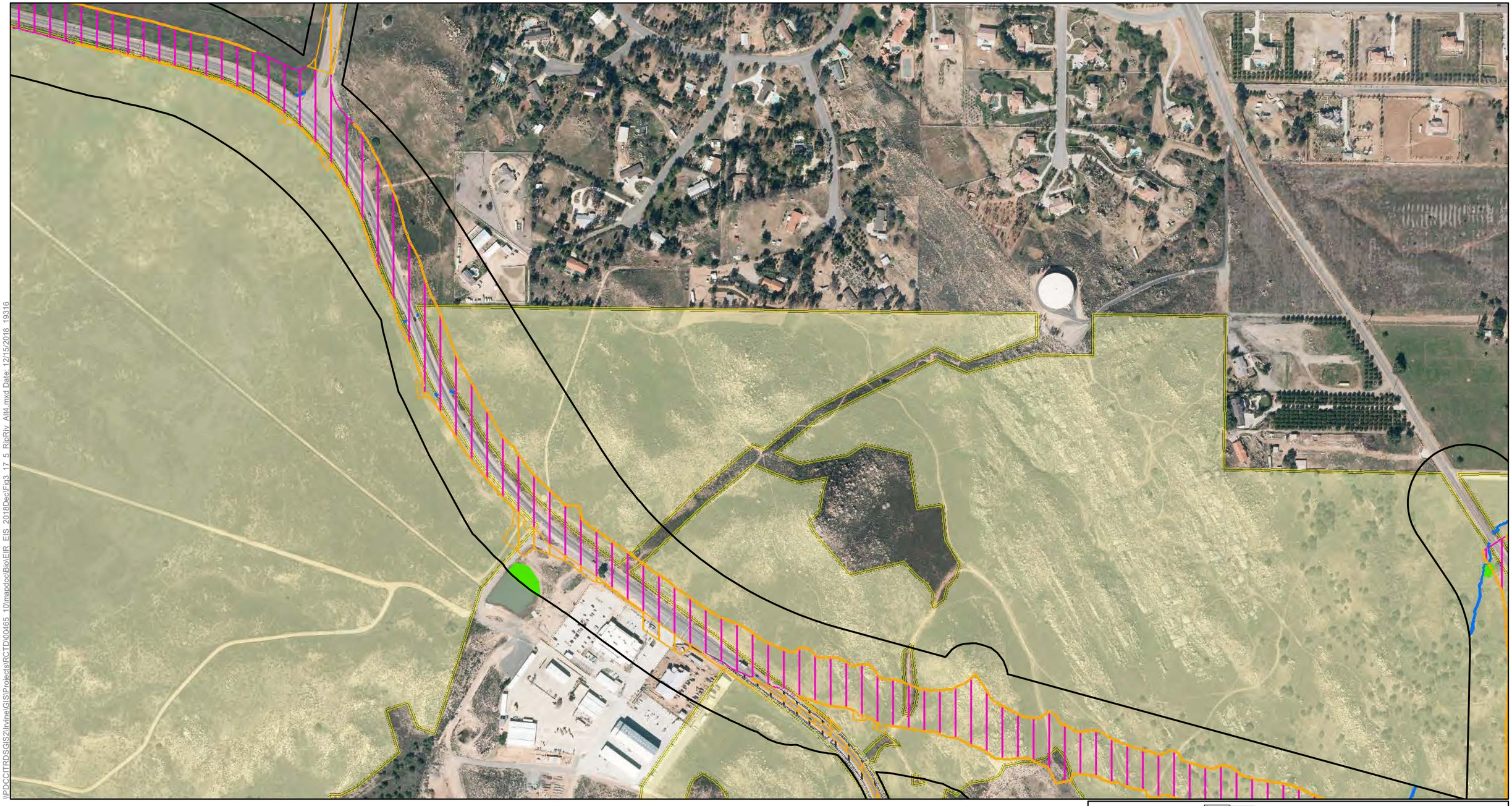

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Feet

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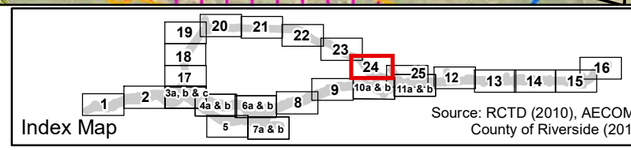

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 24
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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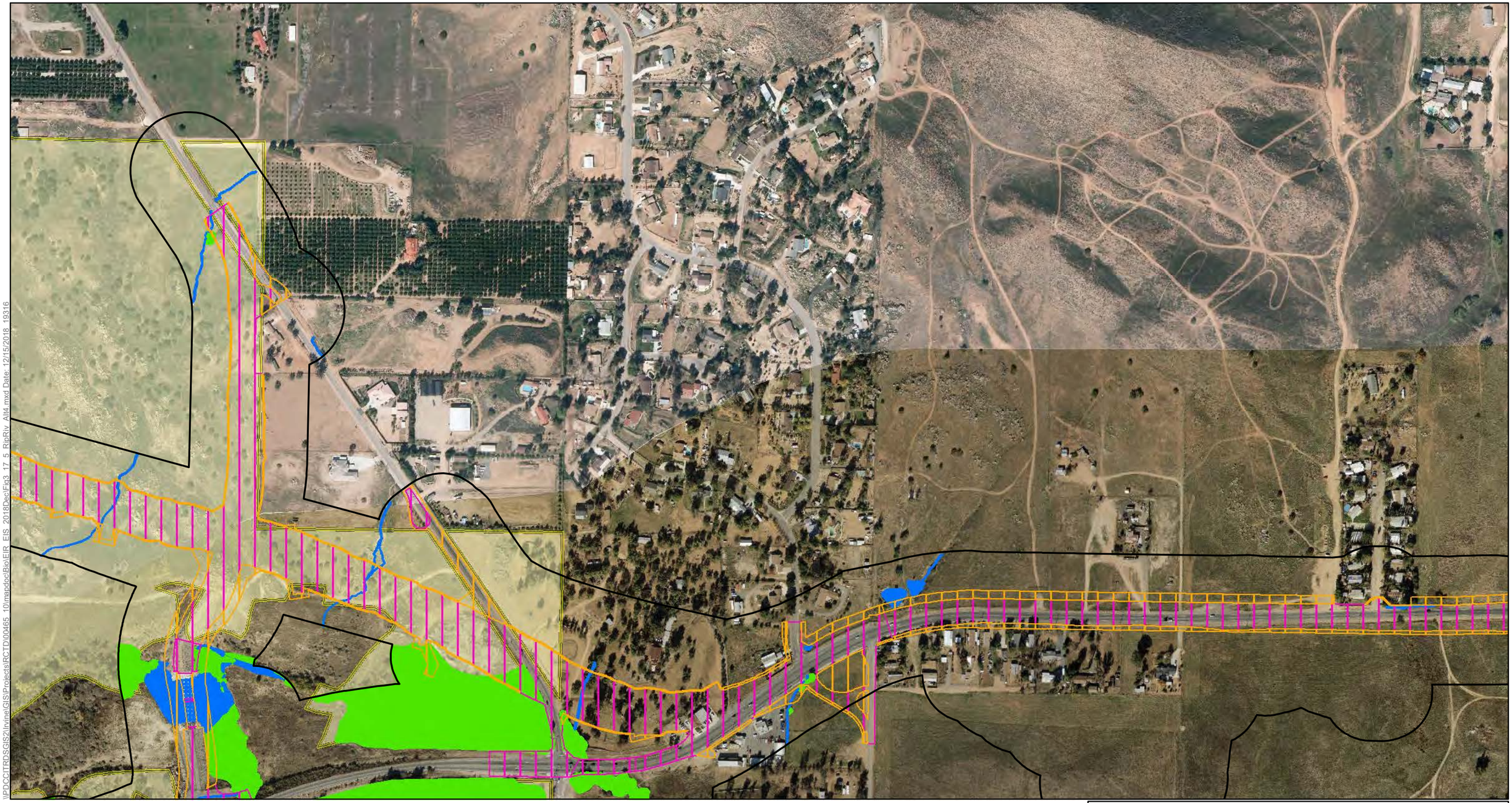

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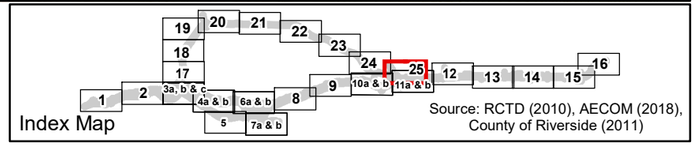

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.17-5 - Sheet 25
Riparian/Riverine Resources Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Once the selected build alternative is constructed and the project is operational, there are additional long-term effects that would occur and include maintenance (e.g., mowing along the shoulder for fire/weed abatement), more vehicles traveling on the facility, increases in noise and lighting, and other activities or changes associated with operating the new facility. Many of these operational effects would reduce the functions and values of adjacent riparian-riverine habitats due to degradation of habitat quality and edge effects, but would be similar to the existing conditions under the No-Build Alternative.

Indirect impacts on lands adjacent to the build alternatives include degradation of habitat through increased risk of fire, air pollution, litter, and noise, among other risks. Although riparian resources have high value to wildlife movement and provide "live-in" habitat, animals would still maintain safe movement patterns within riparian areas through the placement of wildlife crossings (refer to Section 3.17.3.3 below). The loss of canopy connectivity and habitat can also reduce the function and value for movement and other species uses.

Under the WRC MSHCP policy, impacts on riparian-riverine resources require the preparation of a DBESP (Measure **NC-14 [NES BIO-13]** in Section 3.17.4) report, which analyzes the functions and values of riparian-riverine resources before and after construction, including riparian-riverine associated species (i.e., least Bell's vireo), and provides the avoidance/minimization, mitigation, and compensatory measures for the loss of WRC MSHCP riparian-riverine resources. The loss of WRC MSHCP riparian-riverine resources would require mitigation; replacement at a no less than 3:1 ratio for permanent impacts, no less than 2:1 ratio for shading effects, and no less than 1:1 ratio for temporary effects is currently proposed (Measure **NC-15 [NES BIO-14]** in Section 3.17.4). A minimum 2:1 mitigation ratio is proposed for impacts on riparian-riverine resources restored from roadbed removal. Mitigation for riparian-riverine habitats associated with Temescal Wash and Cajalco Creek may require higher compensatory mitigation and will be addressed further in the DBESP report and CWA (Section 401 and 404) and Lake and Streambed Alteration Program permits (refer to Section 3.18, *Wetlands and Other Waters*). Approval of the DBESP by RCA, USFWS, and CDFW, and adequate compensatory mitigation for riparian-riverine resources, will ensure consistency with the WRC MSHCP.

Lake Mathews MSHCP

Construction of the proposed project would permanently remove WRC MSHCP riparian-riverine resources from the LMR under Build Alternatives 1, 2C, and 4. Temporary impacts would also occur on riparian-riverine resources under Build Alternatives 1, 2C, and 4. In addition, shading effects from new bridges over riparian habitat would result in permanent, indirect effects on riparian resources, potentially affecting density of the habitat or eliminating the habitat completely. All roadbed removal would occur within the existing County right of way; therefore, no roadbed removal within the LMR would occur. The impacts on WRC MSHCP riparian-riverine resources within the LM MSHCP area and LMR are shown in Figure 3.17-5.

Table 3.17-15 summarizes the direct impacts on riparian-riverine resources by each of the build alternatives within the LMR.

Table 3.17-15. Riparian-Riverine Resource Impacts: Lake Mathews Reserve

Impact Type	Build Alternative 1 (acres)	Build Alternative 2C (acres)	Build Alternative 4 (acres)
Riparian			
Permanent	5.44	3.62	0.30
Temporary	3.52	3.39	0.18
Shading[1]	0.05	0.03	0.17
Riverine			
Permanent	1.15	1.26	0.09
Temporary	0.22	0.21	0.01
Shading[1]	0.01	0.05	0.01
[1] Shading effects = permanent indirect impacts from bridge extensions and new bridges.			

Riparian vegetation within the LMR that would be affected by the build alternatives includes southern willow scrub, riparian scrub, riparian ruderal, Mexican elderberry scrub, California juniper riparian, mulefat scrub, willow/mulefat scrub, mulefat/Mexican elderberry scrub, tamarisk scrub, and riparian herbaceous. Within the LMR, upland communities classified as riverine resources when associated with drainages include RSS, disturbed RSS, RAFSS, brittlebush scrub, California juniper woodland, California juniper/NNG, concrete channel/spillway/V-ditch/riprap, eucalyptus/tamarisk, exotic tree(s)/woodland, fallow agriculture, NNG, open water/reservoir/pond, RSS/NNG, ruderal, saltbush scrub, unvegetated, and developed/disturbed land. The riparian habitat within the LMR provides valuable habitat for LM MSHCP target species, such as least Bell's vireo. In addition, riparian-riverine features within the LMR can be used for wildlife movement across the LMR and adjacent open lands. The loss of riparian-riverine resources could have a biologically considerable effect on the LM MSHCP area because this community is uncommon within the LMR.

Future Six-Lane (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road, under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road, or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that no additional impacts would occur on WRC MSHCP riparian-riverine resources because all development would occur in a previously graded median. In addition, operation of the proposed future six-lane facility is not expected to affect these resources.

No-Build Alternative

Under the No-Build Alternative, there would be no permanent or temporary impacts on WRC MSHCP riparian-riverine resources beyond those that would be expected to occur from the existing facility.

3.17.3.3 Corridors and Linkages

Build Alternatives 1, 2C, and 4

As described in Section 3.17.2.5, there are currently no dedicated wildlife crossings within the BSA; however, there are several bridges and culverts that wildlife could opportunistically use to move through the area. There are also no existing barriers or fencing within the roadway median restricting wildlife movement across roadway surfaces. However, existing roadways could also serve as a potential deterrent or barrier for some species that avoid crossing roadways. Although the roadways currently provide some level of opportunity for connectivity, there is also an increased risk of wildlife collisions with vehicles.

The build alternatives would widen the existing roadways from two to four lanes, with medians and paved shoulders to improve traffic mobility and increase traffic capacity. Where bridges and culverts exist, road widening would result in longer bridge and culvert structures, some culverts with decreased structure openness:length ratios. Dedicated wildlife crossings (functioning as wildlife underpasses and modified culverts) have been incorporated into the project design of the build alternatives to facilitate wildlife movement per Section 7.5.2 of the WRC MSHCP, Guidelines for Construction of Wildlife Crossings. Modifications to the guidelines were further added as needed to accommodate species requirements and design specifications. Such modifications include all small and medium crossings having crossing widths that are twice the measurement as the WRC MSHCP required height (width = 2 x height) to increase openness and better facilitate small animal movement. In addition, the sizing of large and extra-large crossings, which are not specified in the WRC MSHCP, were designed to accommodate large animals and mule deer movement.

Some additional design elements have been implemented based on agency guidance and updated best management practices in road ecology. The WRC MSHCP requires small and medium crossings to be placed every 984 feet and large crossings to be placed every mile along improved roadway within criteria cells, cores, linkages, and/or PQP lands. The WRC MSHCP design guidelines are provided in Appendix J. The proposed project would include crossing structures that would meet or exceed the placement and size criteria outlined in the WRC MSHCP guidelines and would facilitate movement for a wide variety of terrestrial and aquatic species of various sizes. A summary of the crossing sizes, number of crossings under each build alternative, crossing dimensions, and the target wildlife that would be facilitated through each crossing is provided in Table 3.17-16 on the following page. Individual wildlife crossings proposed under each build alternative, and their locations, are provided in Appendix J; Table J-1 lists each proposed wildlife crossing and Figure J-1, *Proposed Wildlife Crossings – Build Alternatives 1, 2C and 4,* indicates the location of each crossing.

Table 3.17-16. Proposed Wildlife Crossings: Build Alternatives 1, 2C, and 4

Wildlife Crossing Size	Build Alternative 1 Crossings (Wet Crossings)*	Build Alternative 2C Crossings (Wet Crossings)*	Build Alternative 4 Crossings (Wet Crossings)*	Minimum Height/Width[1]	Species Facilitated
Extra Large – Bridge	3 (2)	5 (2)	6 (4)	Height 15 ft. Width 30 ft.	Large animals (e.g., mule deer, mountain lion), medium animals (e.g., coyote, raccoon), and small animals (e.g. voles, lizards)
Extra Large	4 (2)	4 (2)	2 (1)		
Large – Bridge	1(1)	1(1)	1(1)	Diameter and/or height/width 5.1–14.9 ft. (minimum 10 ft. targeted)	Large animals, medium animals, and small animals
Large	20 (15)	21 (15)	6 (4)		
Medium	35 (20)	32 (15)	22 (14)	Height 3–5 ft. Width 6–10 ft.	Medium and small animals
Small	10 (7)	8 (6)	14 (10)	Height 1.5–3 ft. Width 3–6 ft.	Small animals
Total	**73 (47)**	**71 (41)**	**51 (34)**		

* Numbers in parentheses are a subset of the total and represent the number of wet crossings such as modified culverts and bridges.
[1] Dimensions are derived from WRC MSHCP minimum size requirements and agency coordination meetings. WRC MSHCP specifies minimum sizes for small, medium, and mule deer crossings. Large crossing sizes were determined as the minimum size required to facilitate mountain lion and elements such as a dry shelf. All small and medium crossing widths will be double the crossing height.

Under all three build alternatives, the widening of the existing Temescal Creek Bridge would result in shading impacts, which would result in habitat loss and possible decreased movement function for some species. Although Temescal Creek Bridge is being widened, the bridge openness is not expected to be affected due to the bridge span being lengthened; therefore, function and value for wildlife movement from bridge openness is not expected to change at Temescal Creek Bridge. Other existing culvert structures would also be lengthened to accommodate the widened roadway, potentially decreasing their openness, which may result in reduced function and value for wildlife movement. Wildlife vehicle collisions are generally expected to decrease with the installation of wildlife fencing and escape opportunities throughout the conservation area.

Build Alternative 2C includes the same improvements to wildlife crossing as Build Alternative 1, with the exception of a new four-lane segment of Cajalco Road that would be constructed from La Sierra Avenue to just west of Lake Mathews Drive in a currently undeveloped area south of Lake Mathews. Due to the differences in terrain, land use in this area, and proposed project design of this new four-lane segment, proposed wildlife crossings in this area include an additional bridge structure. This bridge underpass would be included within the newly constructed segment of Cajalco Road west of Hollis Lane. The underpass would be designed with a minimum 15-foot clearance height for mule deer passage, with a 50-foot width on each side of the bridge footings for sheep and wildlife passage through the area. Sheep are used for land and resource conservation management in the adjacent lands. Ensuring they have ability to pass under the roadway will be important under Alternative 2C for facilitating ongoing management and conservation activities. The width of the bridge is also advantageous for wildlife movement because it provides an expansive openness for wildlife under the crossing structure.

As part of Linkage 3 improvements under Build Alternatives 1 and 2, existing culverts in Linkage 3 would be replaced with larger and longer modified culverts, which are designed to facilitate wildlife movement. The existing culverts are composed of one set of triple-barrel 48-inch pipes across Harley John Road and one set of double-barrel 5-foot-tall by 9-foot-wide box culverts across Cajalco Road. These would be replaced with a four-barrel, 80-foot-wide, 10-foot-tall, 245-foot-long box culvert, crossing diagonally through the intersection of Harley John Road and Cajalco Road. Although the loss of these lands would result in decreased live-in habitat and movement habitat for wildlife, these impacts have already been accounted for and addressed in the WRC MSHCP. Linkage 3 improvements would not occur under Build Alternative 4.

During construction, wildlife movement and habitat connectivity through the WRC MSHCP cores and linkages would be temporarily affected due to vegetation removal and increased human presence, as well as indirectly affected from increased noise, dust, light, reduced water quality, edge effects, and vibrations associated with construction activities, deterring wildlife from passing through the construction area. Wildlife avoidance of the area could result in temporary population fragmentation, habitat avoidance, increased potential for avoidance of existing crossing areas, and increased incidence of vehicular/wildlife collisions. Implementation of avoidance and minimization measures (Measures **NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]** in Section 3.17.4) would reduce these potential effects.

Compensatory mitigation for impacts on WRC MSHCP cores and linkages under Build Alternatives 1, 2C, and 4 would require the replacement of habitat of equivalent or higher value (Measure **NC-20 [NES BIO-21]** in Section 3.17.4). Table 3.17-17 summarizes the direct effects on WRC MSHCP cores and linkages under each of the build alternatives.

Table 3.17-17. Direct Impacts on WRC MSHCP Cores and Linkages

Build Alternative	Impact Type	WRC Cores and Linkages (acres)[1]		
		Core C	Extension of Existing Core 2	Linkage 3
Build Alternative 1	Permanent	210.04	52.60	2.95
	Temporary	27.33	8.37	3.54
	Shading Effects	0.30	0.27	--
Build Alternative 2C	Permanent	215.39	55.65	2.95
	Temporary	35.05	8.63	3.54
	Shading Effects[2]	0.88	0.27	--
Build Alternative 4	Permanent	82.32	93.51	0.98
	Temporary	12.99	16.68	--
	Shading Effects	1.87	2.79	--

[1] All totals are rounded to the nearest 100th.
[2] Shading impacts = indirect impacts from bridge extensions and new bridges.

The addition of vehicle lanes could increase potential mortality from vehicle strikes because the wider roadway would be more difficult to safely cross. However, the 73 dedicated wildlife crossings under Build Alternative 1, 71 dedicated wildlife crossings under Build Alternative 2C, and 51 dedicated wildlife crossings under Build Alternative 4 and associated fencing that has been incorporated into the project design would minimize the potential risk from vehicle strikes.

Temporary impacts on wildlife movement and habitat connectivity through the project area during construction activities for Build Alternative 2C are anticipated to be similar to those

detailed for Build Alternative 1, including direct habitat and vegetation removal, and increased human presence and construction traffic as well as indirect impacts such as noise, dust, light, reduced water quality, edge impacts, and vibration associated with construction. In addition, wildlife would likely avoid the construction area during work activities, resulting in temporary population fragmentation, avoidance of existing crossing areas, and increased incidence of wildlife/vehicular collisions.

In addition to the direct and indirect effects identified above for the build alternatives, roadbed removal under Build Alternative 2C east of La Sierra Avenue and west of Hollis Lane would retain an approximately 20-foot-wide dirt, gravel, or partially paved road that would be used for access by MWD through the LM MSHCP area. The remaining portions of the roadbed removal areas would be vegetated with native plants. Because Build Alternative 2C proposes a portion of newly built roadway through existing undeveloped lands, this alternative would result in additional impacts on habitat, vegetation communities, and existing wildlife movement through such areas. In addition, portions of existing Cajalco Road would be removed and replaced with an approximately 20-foot-wide dirt, gravel, or partially paved road for MWD access and would be fenced along the northern edge, which may interfere with wildlife movement. During project operation, wildlife vehicle collisions are expected to decrease with the installation of wildlife fencing and escape opportunities. A Wildlife Fencing Plan (Measure **NC-16** in Section 3.17.4) will be prepared for the selected build alternative to facilitate wildlife movement through the dedicated wildlife crossings.

Lake Mathews MSHCP

Wildlife crossings through the LMR are identified on Figure J-1 in Appendix J. A number of the wildlife crossings identified for the build alternatives would occur within the LMR. During construction, potential wildlife movement occurring across the LMR would be temporarily affected during vegetation removal and increased human presence, as well as indirectly affected from increased noise, dust, light, reduced water quality, edge effects and vibrations associated with construction activities, deterring wildlife from passing through the construction area. Wildlife avoidance of the area could result in temporary population fragmentation, habitat avoidance, increased potential for avoidance of existing crossing areas, and increased incidence of vehicular/wildlife collisions. Implementation of avoidance and minimization measures (Measures **NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]** in Section 3.17.4) would reduce these potential effects. The compensatory mitigation identified for PQP lands under the build alternatives (Measure **NC-20 [NES BIO-21]** in Section 3.17.4) would address the direct effects on WRC MSHCP cores and linkages through the LMR. Table 3.17-18 summarizes the direct effects on WRC MSHCP cores and linkages under each of the build alternatives within the LMR.

Table 3.17-18. Cores and Linkages Direct Impacts: Lake Mathews Reserve

Build Alternative	Impact Type	WRC Cores and Linkages (acres)[1]		
		Core C	Extension of Existing Core 2	Linkage 3[3]
Build Alternative 1	Permanent	121.09	0.12	0.00
	Temporary	21.59	0.00	0.00
	Shading Effects	0.30	0.00	0.00
Build Alternative 2C	Permanent	112.20	0.12	0.00
	Temporary	23.21	0.00	0.00
	Shading Effects[2]	0.88	0.00	0.00
Build Alternative 4	Permanent	55.13	0.63	0.00
	Temporary	7.32	1.45	0.00
	Shading Effects	0.39	0.00	0.00

[1] All totals are rounded to the nearest 100th.
[2] Shading impacts = indirect impacts from bridge extensions and new bridges.
[3] Linkage 3 does not occur within the LM MSHCP area; therefore, no impacts to this linkage would occur.

Future Six-Lane (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road, under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road, or Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that no additional impacts would occur on wildlife corridors or linkages because all development would occur in a previously graded median. In addition, operation of the proposed future six-lane facility is not expected to affect these resources.

No-Build Alternative

Under the No-Build Alternative, there would be no permanent or temporary impacts on WRC MSHCP corridors and linkages beyond those that would be expected to occur from the existing facility. In addition, there would be no improvements to wildlife movement.

3.17.3.4 Western Riverside County MSHCP Amendment

Build Alternatives 1, 2C, and 4 have incorporated all the WRC MSHCP requirements for the proposed project including Volume I, Sections 3.2.3, 6.1.2, 6.1.3, 6.1.4, 6.3.2, 7.3.5, 7.5.1, 7.5.2, and 7.5.3, and Appendix C of the WRC MSHCP document.

Build Alternatives 1 and 2C – Cajalco Alignment and Modified Cajalco Alignment

Build Alternatives 1 and 2C are WRC MSHCP Covered Activities that overlap with both the Criteria Area and PQP lands. The maximum area of impact allowable within the Criteria Area for Build Alternatives 1 and 2C was determined through coordination with RCA and Figure 7-1 in WRC MSHCP Volume I. Figure 7-1 identifies County General Plan Circulation Element roadway designations at the time the WRC MSHCP was developed. The proposed roadway right of way for Cajalco Road through the Criteria Area is 128 feet; however, due to the rugged and steep terrain of the proposed project through the Criteria Area, project impacts associated with

slope easements and appurtenant facilities are anticipated to extend beyond the roadway right of way in limited areas. For this reason, Build Alternatives 1 and 2C would require a minor amendment of the WRC MSHCP document as described in Volume I, Section 6.10.2 (F). The County will submit a request for a minor amendment to the RCA prior to the submittal of the Joint Project Review application for MSHCP consistency. The minor amendment analysis will review the effects of grading/slopes outside of the covered roadway on the Rough Step status of vegetation communities, future Reserve assembly, and Reserve connectivity. The approved minor amendment will be provided in the Final EIR/EIS. In addition, the County may coordinate with the RCA to adjust the right of way of another County facility to accommodate the additional right of way of Build Alternatives 1 or 2C. Any adjustments to the right of way of another County road facility would be negotiated with the RCA during the minor amendment process.

Build Alternative 4 – El Sobrante Alignment

Build Alternative 4 is a WRC MSHCP Covered Activity that overlaps with both the Criteria Area and PQP lands. The maximum area of impact allowable within the Criteria Area was determined through coordination with RCA and the designated roadway facility right of way identified in Figure 7-1 of the WRC MSHCP Volume I. As described above, this WRC MSHCP figure identified the County General Plan Circulation Element roadway designations established at the time the WRC MSHCP was developed. The proposed roadway right of way of Build Alternative 4 through the Criteria Area would not exceed the 196-foot right of way identified in the General Plan for El Sobrante Road; however, due to the rugged and steep terrain of the proposed project through the Criteria Area, project impacts may exceed 196 feet in limited areas to accommodate slope easements and appurtenant facilities. Therefore, a minor amendment of the WRC MSHCP document as described in Volume I, Section 6.10.2 (F), may be required under Build Alternative 4 to accommodate the slope easements and appurtenant facilities. The County will submit a request for a minor amendment to the RCA prior to the submittal of the Joint Project Review application. The minor amendment analysis will review the effects of grading/slopes outside of the covered roadway on the Rough Step status of vegetation communities, future Reserve assembly, and Reserve connectivity. The approved minor amendment will be provided in the Final EIR/EIS. In addition, the County may coordinate with the RCA to adjust the right of way of another County road facility accommodate the additional right of way and slope easements/appurtenant facilities necessary for Build Alternative 4. Any adjustments to the right of way of another County road facility would be negotiated with the RCA during the minor amendment process.

3.17.3.5 Lake Mathews MSHCP

Under Build Alternatives 1 and 2C, Cajalco Road would be expanded and realigned, and Build Alternative 4 would expand and realign portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road, within the LM MSHCP and LMR; appurtenant facilities including drainage basins, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. All three build alternatives would also encroach into the LM MSHCP and remove habitat for LM MSHCP target

species, which is not currently permissible under the LM MSHCP. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project and may include a new LM MSHCP amendment along with the development of procedures for the amendment. Modification of the LM MSHCP and associated agreements, easements, and permits, including the identification of proposed mitigation, requires approvals to be coordinated between the County and LM MSHCP responsible parties, and is subject to NEPA where such agreements, easements, and permits apply, and to CEQA.

Table 3.17-19 summarizes the direct impacts on all natural vegetation communities within the LMR.

Table 3.17-19. Direct Impacts on All Natural Vegetation Communities in the Lake Mathews Reserve

Build Alternative	Impact Type (acres)		
	Permanent Impact[1]	Temporary Impact	Roadbed Removal[2]
Build Alternative 1	120.31	20.79	0.14
Build Alternative 2C	111.21	22.44	0.16
Build Alternative 4	56.52	8.76	0.70

[1] Replacement and restoration acreages are only for natural lands suitable for LM MSHCP target species. These lands have been generally categorized as NNG, RSS, and riparian. No developed areas or exotic/invasive vegetated areas would require compensatory mitigation.
[2] Roadbed removal would restore native vegetation and has already been removed from the total compensatory mitigation requirements.

Under the build alternatives, proposed wildlife fencing would direct wildlife to crossing locations to facilitate wildlife access to habitat on the north and south sides of the roadway. Existing MWD security fencing within the LM MSHCP area and other fencing may impede wildlife movement through the LMR in areas that are close to proposed wildlife crossing structures and proposed wildlife fencing. However, with the implementation of a fencing design plan (Measure **NC-16** in Section 3.17.4), the proposed wildlife crossings, and WRC MSHCP Guidelines for Construction of Wildlife Crossings (Volume I, Section 7.5.2), it is expected that wildlife connectivity through the LM MSHCP area would improve for the LM MSHCP target species.

Mitigation measures for the loss of habitat include: acquisition and/or restoration of new lands contiguous with the existing LMR; improvements to security fencing that still allow for wildlife passage through wildlife crossings; installation of cameras to monitor wildlife usage at crossings and deter human trespass; and establishment of an endowment fund to be used for LMR enhancement, management, and monitoring (Measures **NC-17** and **NC-18** in Section 3.17.4). In addition, temporary impacts are proposed to be addressed through on-site restoration (Measure **NC-19** in Section 3.17.4).

3.17.4 Avoidance, Minimization, and/or Mitigation Measures

NC-1 (NES BIO-1): Clearing of natural vegetation (including sage scrub) will be performed outside of the active breeding season for birds, as defined in the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) (March 1 through June 30) (WRC MSHCP Volume I, Section 7.5.3), except for Riversidian sage scrub habitat judged to be potentially suitable and/or occupied by coastal California gnatcatcher and located within WRC MSHCP Criteria Areas and Public/Quasi-Public (PQP) lands. For these areas, the habitat

removal restriction is extended from June 30 to August 15. In addition, for riparian-riverine vegetation occupied by least Bell's vireo, vegetation removal restrictions occur through September 15. Table 3.17-20 summarizes the clearing restrictions of sensitive vegetation communities.

Table 3.17-20. Natural, Sage Scrub, and Riparian Vegetation Clearing Restrictions

Clearing Restriction	Natural Vegetation With Clearing Restriction
March 1–June 30	All natural vegetation communities
March 1–August 15	Riversidian sage scrub (including disturbed and remnant) where it occurs within Criteria Cells 2026, 2120, 2121, 2214, 2308, 2309, 2310, 2311, 2323, 2324, 2402, 2403, 2404, 2405, 2407, and 2408 and PQP lands (Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area and Riverside County Habitat Conservation Authority Stephens' Kangaroo Rat Core Reserve).
April 1–September 15	Southern willow scrub (including disturbed), eucalyptus/tamarisk scrub, mulefat scrub, riparian forest, riparian scrub, sandbar willow scrub, southern cottonwood-willow riparian forest, tamarisk scrub, and willow/mulefat scrub

If clearing of vegetation needs to occur within these timeframes due to construction schedule, a preconstruction nesting bird survey will need to be performed prior to any vegetation removal activities (refer to Measure **AS-5** in Section 3.20.4 for the nesting bird survey requirements).

NC-2 (NES BIO-2): Active construction areas will be watered regularly to control dust and thus minimize impacts on adjacent vegetation (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3).

NC-3 (NES BIO-3): When work is conducted during the fire season (as identified by the Riverside County Fire Department) adjacent to any natural vegetation communities, appropriate firefighting equipment (e.g., extinguishers, shovels, water tankers) will be available on the project site during all phases of project construction to help minimize the chance of human-caused wildfires. Shields, protective mats, and/or other fire preventative methods will be used during grinding, welding, and other spark-inducing activities. Personnel trained in fire hazards, preventative actions, and responses to fires will advise contractors regarding fire risk from all construction-related activities (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3).

NC-4 (NES BIO-4): A qualified biologist will prepare and present an environmental training program for project and construction personnel (Western Riverside County Multiple Species Habitat Conservation Plan [WRC MSHCP] Volume I, Section 7.5.3) prior to grading or staging. As new personnel are added to the project, they will be required to participate in the training. The training will include a description of the species of concern and their habitats, the general provisions of the federal Endangered Species Act and California Endangered Species Act and the WRC MSHCP, the need to adhere to the provisions of the acts and the WRC MSHCP, the penalties associated with violating the provisions of the acts, the general measures that are being implemented to conserve the species of concern as they relate to the proposed project, and the access routes to and project site boundaries within which the project activities must be accomplished (WRC MSHCP Volume I, Appendix C). All sensitive areas will be fenced as presented in Measure **NC-6 (NES BIO-6)**, below.

NC-5 (NES BIO-5): The qualified project biologist will monitor construction activities to ensure that practicable measures are being employed and avoid incidental disturbance of habitat and

species of concern outside the project footprint (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3). Special attention will be provided to ensure that the environmentally sensitive area fencing required in Measure **NC-6 (NES BIO-6)** is maintained. Additionally, ongoing monitoring and reporting will occur for the duration of the construction activity to ensure implementation of best management practices. This will be done in concert with Measure **NC-6**, below, which includes the fencing of sensitive areas (e.g., riparian-riverine resources and jurisdictional waters and wetlands adjacent to the limits of disturbance and conserved lands).

NC-6 (NES BIO-6): Construction personnel will strictly limit their activities, vehicles, equipment, and construction materials to the proposed project footprint and designated staging areas and routes of travel. The construction area(s) will be the minimal area necessary to complete the proposed project and will be specified in the construction plans. Construction limits adjacent to sensitive resource areas will be demarcated using environmentally sensitive area (ESA) fencing (e.g., orange snow fencing, silt fencing). The ESA fencing will be reviewed at a frequency deemed necessary by the biological monitor (as indicated in Measure **NC-5 [NES BIO-5]**) until the completion of all construction activities. For the ESA fencing installed within Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) Core Reserve (Riverside County Habitat Conservation Authority Stephens' Kangaroo Rat Reserve and Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area), the fencing must exclude reptiles and amphibians (to greatest extent feasible) from entering the limits of disturbance. Employees will be instructed that their activities are restricted to the construction areas (WRC MSHCP Volume I, Appendix C). Access to sites will be from pre-existing access routes to the greatest extent possible (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).

NC-7 (NES BIO-7): Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Section 7.5.3). Vegetation removed from the project site will be covered while being carried on trucks, and vegetation materials removed from the site will be disposed of in accordance with applicable laws and regulations.

NC-8 (NES BIO-8): Construction equipment will be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds before mobilizing to the site and before leaving the site during the course of construction. The cleaning of equipment will occur at least 300 feet from environmentally sensitive area fencing to prohibit the spread of invasive species.

NC-9 (NES BIO-24): To avoid attracting predators of special-status species, the project site will be kept as clean of debris as possible. All food-related trash items will be enclosed in sealed containers and regularly removed from the site(s) (Western Riverside County Multiple Species Habitat Conservation Plan Volume I, Appendix C).

NC-10 (NES BIO-10): Plans for water pollution and erosion control (i.e., Storm Water Pollution Prevention Plan [SWPPP]) will be prepared in accordance with project aquatics permits (refer to Section 3.10, *Water Quality*, for additional details for the SWPPP). The plans will describe sediment and hazardous materials control, dewatering or diversion structures, fueling and equipment management practices, and use of plant material for erosion control. Plans will be reviewed and approved by the County of Riverside prior to construction (Western Riverside

County Multiple Species Habitat Conservation Plan [WRC MSHCP] Volume I, Section 7.5.3). The following measures will be incorporated into the plans, as applicable, to ensure consistency with the WRC MSHCP:

- Water pollution and erosion control plans will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements (WRC MSHCP Volume I, Appendix C) and will ensure that no fluids or sediment from construction will enter into the environmentally sensitive area (ESA) fenced areas.
- Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized (WRC MSHCP Volume I, Section 7.5.3).
- No erodible materials will be deposited into watercourses or areas demarcated with ESA fencing. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).
- Projects that cannot be conducted without placing equipment or personnel in riparian vegetation areas should be timed to avoid the breeding season of riparian-associated species identified in WRC MSHCP Global Species Objective No. 7 (WRC MSHCP Volume I, Appendix C). Breeding season as defined by the WRC MSHCP is March 1 through June 30.
- If stream flows must be diverted, the diversions will be conducted using sandbags or other methods requiring minimal instream impacts. Silt fencing or other sediment trapping materials will be installed at the downstream end of construction activity to minimize the transport of sediments off site. Settling ponds where sediment is collected will be cleaned out in a manner that prevents the sediment from reentering the stream. Care will be exercised when removing silt fences, as feasible, to prevent debris or sediment from returning to the stream (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). Short-term diversions will consider impacts on wildlife (WRC MSHCP Volume I, Section 7.5.3).
- Equipment storage, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into riparian areas or other sensitive habitats (WRC MSHCP Volume I, Section 7.5.3 and Appendix C). These designated areas will be located in such a manner as to prevent any runoff from entering sensitive habitat. Necessary precautions will be taken to prevent the release of cement or other toxic substances into surface waters. Project-related spills of hazardous materials will be reported to appropriate entities, including, but not limited to, the applicable jurisdictional city, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas (WRC MSHCP Volume I, Appendix C).
- All equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other toxic substances will occur only in designated areas within the proposed grading limits of the project site. These designated areas will be clearly marked and located in such a manner as to contain runoff (WRC MSHCP Volume I, Section 7.5.3).

NC-11 (NES BIO-11): The limits of disturbance (LOD), including the upstream, downstream, and lateral extents on either side of any stream adjacent to the project impact footprint, will be clearly defined and marked in the field. Monitoring personnel (biology) will review the LOD prior to initiation of construction activities (Western Riverside County Multiple Species Habitat

Conservation Plan Volume I, Section 7.5.3 and Appendix C). This will ensure avoidance of jurisdictional areas and riparian habitat.

NC-12 (NES BIO-12): During construction, the placement of equipment within a stream or on adjacent banks or adjacent upland habitats occupied by Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) covered species that are outside of the project footprint will be avoided (WRC MSHCP Volume I, Section 7.5.3 and Appendix C).

NC-13 (NES BIO-9): Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory.

NC-14 (NES BIO-13) (Mitigation): A Determination of Biologically Equivalent or Superior Preservation (DBESP) report that provides analysis of direct and indirect impacts, avoidance, minimization, and compensatory mitigation, if necessary, along with the functions and values of the resources being affected as related to Section 6.1.2 of the Western Riverside County Multiple Species Habitat Conservation Plan Volume I will be prepared and submitted to the Western Riverside County Regional Conservation Authority, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife for review and approval prior to finalization of the environmental document. The DBESP will incorporate **NC-15 (NES BIO-14)**, **NC-19 (NES BIO-15)**, **TE-1 (NES BIO-18)**, and **TE-2 (NES BIO-23)** (in Section 3.21.4), and any other additional measures required based on coordination with the resource agencies. This measure includes implementation of measures identified in the DBESP.

NC-15 (NES BIO-14) (Mitigation): Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of riparian-riverine resources. Compensation can also occur through the purchase of mitigation bank credits through the Riverside-Corona Resource Conservation District In-lieu Fee Program (ILFP), Santa Ana Watershed Association ILFP, a permittee responsible mitigation bank, and/or other approved mitigation provider and/or creation of riparian-riverine resources, including federal and state jurisdictional water resources. For riparian resources a mitigation ratio of no less than 3:1 is proposed, and for riverine resources no less than a 1:1 ratio is currently proposed. A mitigation ratio of no less than 2:1 is proposed for permanent shading of riparian vegetation and wetlands[2] to address temporal loss of these habitats. Mitigation for all aquatic resources will be biologically superior or equivalent to resources occurring on site. The temporary impacts on riparian-riverine resources may be replaced through restoration of the temporarily affected area to pre-project conditions at a ratio of no less than 1:1, or through the purchase of mitigation bank credits, a permittee responsible mitigation bank, or other approved mitigation program. Details of the compensation for riparian-riverine resources will be provided in the Determination of Biologically Equivalent or Superior Preservation (Measure **NC-14 [NES BIO-13]**). Because the federally and state-listed as endangered least Bell's vireo occupies the riparian-riverine areas at Temescal Creek, Cajalco

[2] Mitigation ratios may differ based on the location of riparian/riverine resources within the limits of disturbance. For example, riparian habitat within Temescal Wash may be mitigated at a higher ratio due to the quality of functions and values for wildlife movement, "live-in" habitat for sensitive species (i.e., least Bell's vireo), and water quality functions.

Creek, and other unnamed drainages proposed for impact, the compensation for both Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine and least Bell's vireo should also be integrated. Compensatory mitigation will be coordinated with U.S. Army Corps of Engineers (USACE) Clean Water Act (CWA) 404 authorization, Regional Water Quality Control Board (RWQCB) CWA 401 Certification, California Department of Fish and Wildlife (CDFW) Fish and Game Code 1602 Streambed Alteration Agreement acquisition (measure **WET-1** in Section 3.18), and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine requirements to ensure efficiencies with the mitigation effort. Final mitigation ratios will be determined after consultation with the USACE, RWQCB, U.S. Fish and Wildlife Service, and CDFW.

NC-16 (NES BIO-19): A Wildlife Fencing Plan will be developed and implemented for the preferred build alternative. Prior to finalizing the wildlife fencing design, the impacts of and interaction between wildlife fencing and other fencing (e.g., Lake Mathews and other local fencing) in the project area of the preferred build alternative shall be fully assessed and analyzed. If it is determined that fencing in the project area (i.e., either project-related fencing or other fencing) will hinder or interfere with wildlife movement or the function and value of wildlife crossings, the wildlife fencing plan (and project design) shall include design considerations that will lessen these impacts.

Final Wildlife Fencing Plans will include the following considerations at a minimum:

- guidelines on fencing design;
- access gates design;
- construction requirements for fence ends; and
- facilitation of escape opportunities.

The plan will be prepared by a qualified biologist and use current resources based on the best available science and any requirements from the Western Riverside County Multiple Species Habitat Conservation Plan. The Wildlife Fencing Plan will be approved by the Western Riverside County Regional Conservation Authority, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife, and Lake Mathews Reserve Management Committee (within the Lake Mathew Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area only).

NC-17 (NES BIO-17) (Mitigation): Compensation for permanent loss of habitat on the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area will be accomplished through the acquisition of replacement lands; a ratio no less than 1:1 is currently proposed. The County will purchase lands which will provide equivalent or greater habitat value and be located adjacent to the existing LM MSHCP area to ensure the reserve remains whole. The replacement lands will be managed by the Lake Mathews Reserve Management Committee (LMRMC) and the Metropolitan Water District of Southern California (MWD) in perpetuity as part of the larger Lake Mathews Reserve. If adequate replacement lands are not available at the time of land acquisition, the remainder of the necessary lands will be purchased from a mitigation bank (if available), and supplemental actions identified in Measure **NC-18** (**NES BIO-31**) implemented in coordination with LMRMC and MWD.

NC-18 (NES BIO-31) (Mitigation): To compensate for the loss of natural lands on the Lake Mathew Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area, the County of Riverside will coordinate with Lake Mathews Reserve Management Committee (LMRMC) to develop a suite of mitigation measures that demonstrate biological equivalency to offset the loss, including the acquisition of adequate replacement and restoration of lands (Measures **NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]**), fencing to aid in management of the Lake Mathews Multiple Species Reserve (LMR) (Measure **NC-16 [NES BIO-19]**), and funding to be used toward LMR management. The County of Riverside will develop the funding mechanism with input from the LMRMC that will be used to support management of new reserve lands acquired for the LM MSHCP area and any existing reserve lands, along with shared maintenance and security costs for the LM MSHCP area.

NC-19 (NES BIO-15) (Mitigation): Restoration of temporary impact areas on the Lake Mathew Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan area will be accomplished through on-site restoration of those temporarily affected areas. A Habitat Mitigation and Monitoring Plan will be developed in consultation with Lake Mathews Reserve Management Committee, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife.

NC-20 (NES BIO-21) (Mitigation): Public/Quasi-Public (PQP) lands in Existing Core C and Proposed Extension of Existing Core 2 and Proposed Linkage 3 that will be permanently removed are proposed to be replaced at a minimum 1:1 ratio. This will be coordinated with riparian-riverine compensation (**BIO-14**) and jurisdictional resources permitting (Measure **WET-1** in Section 3.18), as feasible. An evaluation of existing functions and value of PQP conserved lands within the project area will be performed as part of the Project Equivalency Determination, to provide accurate estimate of potential impacts (direct and indirect) and ensure the proposed replacement lands are equivalent or superior to those lands proposed for impact. Prior to land acquisition, an equivalency report will be provided that analyzes the existing biological resources being permanently removed compared to the biological resources supported by the lands proposed for acquisition. The resource mitigation values will need to be equivalent or superior to what is being removed. The Lake Mathews Reserve Management Committee (LMRMC) will be consulted regarding mitigation lands proposed within Lake Mathews Multiple Species Reserve PQP conserved lands, and provided opportunity for input on the selection of lands. Execution of this mitigation measure will include compensatory mitigation needed for least Bell's vireo (refer to Measure **TE-2 [NES BIO-23]** in Section 3.21.4) and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine resources (Measures **NC-14 [NES BIO-13]**, **NC-15 [NES BIO-14]**, **NC-17 [NES BIO-17]**, and **NC-19 [NES BIO-15]**) as feasible. The Equivalency Determination will be reviewed by the Western Riverside County Regional Conservation Authority (RCA), U.S. Fish and Wildlife Service (USFWS), California Department of Fish and Wildlife (CDFW), and LMRMC, and approved by RCA, USFWS, and CDFW.

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3.18 Wetlands and Other Waters

3.18.1 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 Part 230), and whether permit approval is in the public interest. The Section 404 (b)(1) Guidelines (Guidelines) were developed by the U.S. EPA in conjunction with the USACE, and allow the discharge of dredged or fill material into the aquatic system (waters of the U.S.) only if there is no practicable alternative which would have less adverse effects. The Guidelines state that the USACE may not issue a permit if there is a "least environmentally damaging 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.[1] 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 refer to Section 3.10, *Water Quality and Stormwater Runoff*, for more details.

The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) also has a policy regarding riparian-riverine resources.

3.18.2 Affected Environment

Unless otherwise noted, the information from this section was based upon the December 2018 Natural Environment Study (NES) prepared for the project (Caltrans 2018a, 2021), the preliminary Jurisdictional Delineation (JD) prepared for the project (Caltrans 2018b), and the jurisdictional delineation impacts memorandum (Appendix L of the NES). References used in the NES and JD are not carried over into this section.

The study area for the jurisdictional delineation was composed of the combined limits of disturbance (LOD) of Build Alternatives 1, 2C, and 4, and up to a 200-foot buffer, which defined the Jurisdictional Study Area (JSA) (refer to Figure 3.17-1 in Section 3.17, *Natural Communities*). The JSA consists of the existing County right of way, private property, Metropolitan Water District of Southern California (MWD) lands, Riverside-Corona Resource Conservation District lands, Western Riverside County Resource Conservation Authority lands, and Riverside County Habitat Conservation Agency lands, where they overlap each project alternative. Land uses in the vicinity of the JSA include undeveloped lands, conservation areas, mining operations, water treatment operations at MWD facilities, agriculture, schools, and residential, commercial, and other industrial uses. The JSA is within the boundaries of the WRC

[1] SWRCB Procedures went into effect on May 28, 2020 and details the level of alternatives analysis required to determine the LEDPA.

MSHCP, Stephens' Kangaroo Rat Habitat Conservation Plan, and Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP).

The topography of the JSA ranges from flat or gently sloping at the eastern extent to rolling and rugged hills throughout the western extent. Average precipitation in Corona, near the western end of the JSA, is approximately 12.01 inches per year. Average precipitation in Perris, near the eastern project limit, is approximately 8.07 inches per year.

The JSA is within both the Santa Ana River and San Jacinto Valley watersheds. The Santa Ana River Watershed encompasses the majority of the JSA from Temescal Canyon Road east toward Day Street. From around Day Street east to Interstate 215, the JSA overlaps with the San Jacinto Watershed. The Santa Ana River Watershed drains via the Santa Ana River into the Pacific Ocean and the San Jacinto Watershed drains into Lake Elsinore. Major water features in the JSA include Temescal Creek, Cajalco Creek, and Lake Mathews, in addition to other smaller unnamed earthen and concrete lined drainages.

Soils in the JSA are mostly loam ranging from fine sandy loam to rocky sandy loam to cobbly loam. Other soils include clay and gravelly loamy sand. Soil series mapped within the JSA include Arbuckle, Arlington, Bonsall, Bosanko, Buchenau, Buren, Cajalco, Cieneba, Cortina, Escondido, Exeter, Fallbrook, Friant, Garretson, Gaviota, Gorgonio, Grangeville, Greenfield, Hanford, Honcut, Las Posas, Lodo, Monserate, Pachappa, Placentia, Porterville, Ramona, San Emigdio, San Timoteo, Soper, Temescal, Vallecitos, Vista, Yokohl, and Ysidora. None of the soils are mapped as hydric soils with the exception of the Placentia series and the Yokohl soils (only when they occur in depressional areas).

3.18.2.1 Lake Mathews MSHCP

Within the LM MSHCP planning area, the landscape is composed of varying terrain and rolling hills. Cajalco Creek is the primary drainage that conveys flows from east to west into Lake Mathews. Tributaries located south of existing Cajalco Road drain from south to north toward the lake and tributaries from El Sobrante Road drain south toward the lake. From Lake Mathews, flows that are released from the dam under La Sierra Avenue are conveyed west outside of the LM MSHCP area. The LM MSHCP occurs within the Santa Ana River Watershed. Soils within the LM MSHCP area consist of Arlington, Bosanko, Buchenau, Buren, Cajalco, Cieneba, Fallbrook, Gorgonio, Hanford, Las Posas, Monserate, Pachappa, Porterville, Temescal, and Vista series. None of these soils are considered hydric soils.

3.18.2.2 Jurisdictional Delineation Methodology

Prior to field visits, aerial photographs of the site in various scales were obtained and compared to U.S. Geological Survey 7.5-minute Corona South, Lake Mathews, Steele Peak, and Perris topographic quadrangles to identify drainage features within the JSA as indicated by vegetation types, topographic changes, or visible drainage patterns. The National Wetlands Inventory and National Hydrography Dataset data for the JSA were referenced to identify any mapped features, such as streams and wetlands. In addition, the 100-year (1-percent annual chance) floodplain designated by the Federal Emergency Management Agency was examined. The JSA was then carefully reviewed in Google Earth in various scales and various image dates ranging from 1995 to 2017, and potentially jurisdictional features were marked on field maps. In addition, the U.S.

Department of Agriculture, Natural Resources Conservation Service's Web Soil Survey was reviewed to identify the soil series that occur in the JSA.

The entire JSA was walked and visually examined for the presence of drainage features, even when such features were not identified using the remote detection methods described above. Fieldwork was performed from April 2012 through January 2018.

Potential waters of the U.S. (WoUS) and wetlands were delineated using methods established in the Wetland Delineation Manual, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b), and 2007 and 2008 Rapanos Guidance, and were reviewed in November of 2013 for consistency with *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE and U.S. EPA 2011).[2] Non-wetland waters were delineated based on the presence of OHWM indicators. At each evaluation area, several parameters were considered to determine whether the sample point was within a wetland. Three criteria normally must be fulfilled in order to classify an area as a jurisdictional USACE wetland: (1) a predominance of hydrophytic vegetation; (2) the presence of hydric soils; and (3) the presence of wetland hydrology. Where possible, a soil pit was dug at each sample point to examine soil color and texture. If access restrictions prevented use of a soil pit, hydric soils were assumed based on the vegetation community and hydrology present. In addition, the JSA was evaluated for resources potentially regulated under the Porter-Cologne Act (i.e., excluded features) and WoUS.[3]

Areas subject to Section 1600 of the California Fish and Game Code (FGC) were considered as features that exhibited a discernable bed and bank. Areas that exhibited evidence of concentrated surface flows, but were not associated with a definable bed and bank were also considered as subject to Section 1600 of the FGC. These included areas with concentrated deposition and/or sorting or racking of sediment, concentrated drift deposits, and/or concentrated destruction of terrestrial vegetation, all resulting from a fluvial mechanism. These areas were delineated by measuring the outer width and length boundaries, consisting of the greater of either the top of bank measurement, outer extent of evidence of concentrated surface flows, or the outer extent of associated riparian or wetland vegetation. Portions of features were mapped as either riparian vegetation or unvegetated streambed. Areas were mapped as riparian vegetation based on the presence of hydrophytic emergent, annual, or perennial plant species. Areas were mapped as unvegetated streambed when vegetation consisted of xeric upland species, or was absent entirely. Width measurements were taken at approximately 50-foot intervals, or more frequently when a substantial variation in width was detected.

3.18.2.3 Agency Coordination

Coordination with multiple resource agencies regarding the proposed project, including USACE, RWQCB, and CDFW, has occurred since 2011 and is ongoing. Agency coordination meetings are summarized in Chapter 5, *Comments and Coordination*, and agency correspondence,

[2] The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.
[3] On April 2, 2019, SWRCB adopted a wetland definition and procedures that govern permitting of dredge and fill into WoS.

including comment letters, are provided in Appendix H, *Environmental Review Coordination and Scoping*. Meetings held with resource agencies throughout the preliminary design and technical study phase included discussions concerning project design and wetland, and other resource, details. Agency questions and comments were addressed and incorporated into the project design after each meeting.

The JD Report was distributed to U.S. EPA, USACE, CDFW, and RWQCB on June 29, 2017, as part of the Efficient Environmental Review (23 USC 139) process. The comment period was extended per agency request and closed on April 3, 2018. The draft NES was also distributed to the U.S. Fish and Wildlife Service, CDFW, USACE, U.S. EPA, RWQCB, Riverside-Corona Resource Conservation District, and MWD for review and to obtain initial feedback as part of the Efficient Environmental Review (23 USC 139) process. Agency comments were reviewed by the County and addressed directly with the resource agencies, and were incorporated into the Final NES and JD (Caltrans 2018a, 2018b, 2021). Refer to Chapter 5, *Comments and Coordination*, and Appendix H, *Environmental Review Coordination and Scoping*.

It is anticipated that each build alternative would qualify for the use of the CWA Section 404 Nationwide Permit Program from USACE and a CWA Section 401 water quality certification from RWQCB. Acquisition of multiple Nationwide Permits and a CWA Section 401 water quality certification would ensure compliance with EO 11990. Permit applications will be submitted prior to the start of construction. In addition, each build alternative would require a Lake and Streambed Alteration Agreement from CDFW. A Section 1602 Notification will be submitted and agreement obtained prior to the start of construction.

3.18.2.4 Jurisdictional Delineation Results

CWA jurisdictional resources within the JSA totaled approximately 27.58 acres (102,451 linear feet) of non-wetland WoUS/WoS and 7.13 acres of wetland WoUS/WoS.[4] Approximately 33.10 acres (104,038 linear feet) of unvegetated streambed, subject to CDFW jurisdiction, and 50.96 acres of CDFW jurisdictional riparian vegetation were observed within the JSA. Additionally, approximately 0.01 acre (158 linear feet) of non-wetland WoS may be subject to regulation by the RWQCB under the Porter-Cologne Act. The location of all USACE/RWQCB and CDFW jurisdictional water resources are shown on Figure 3.18-1 and Figure 3.18-2, respectively.

Table 3.18-1 summarizes the total acreage under each regulatory jurisdiction.

[4] Aquatic resources within the project area were delineated according to the 1987 *Corps of Engineers Wetland Delineation Manual; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region;* and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 1987, 2008a, 2008b). The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting. On April 2, 2019, SWRCB adopted a wetland definition that required the same methods of delineation as the USACE.

Table 3.18-1. Jurisdictional Aquatic Resources within the JSA

Jurisdictional Agency	Jurisdictional Type	Total Acreage	Total Linear Feet
USACE/RWQCB[1]	Non-wetland WoUS/WoS	27.58	102,451
	Wetland WoUS/WoS	7.13	n/a
RWQCB (only)	Non-wetland WoS	0.01	158
CDFW	Unvegetated Streambed	33.10	104,038
	Associated Riparian	50.96	n/a

[1] Aquatic resources within the project area were delineated according to the 1987 *Corps of Engineers Wetland Delineation Manual; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region;* and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 1987, 2008a, 2008b). The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.

All features observed within the JSA were delineated with the understanding that a request for a Preliminary Jurisdictional Determination would be submitted for the project. As such, all non-wetland water features exhibiting an OHWM and wetlands meeting the three wetland parameters (hydrophytic vegetation, hydric soils, and hydrology) were analyzed as potentially jurisdictional WoUS, which are subject to regulation by USACE under Section 404 of the CWA and the RWQCB under Section 401 of the CWA. Based on this, 141 features observed within the JSA are assumed to be potentially jurisdictional WoUS. A request for a Preliminary Jurisdictional Determination will be submitted for all features observed within the JSA and would be conducted concurrent with project permitting. All of the areas satisfying USACE jurisdiction for WoUS, including adjacent wetlands, plus any additional streambed and associated riparian habitat are also subject to CDFW jurisdiction pursuant to FGC Section 1602.

Within the LM MSHCP, the JSA contains approximately 18.88 acres of non-wetland WoUS/WoS and 0.56 acre of wetland WoUS/WoS, 18.93 acres CDFW unvegetated streambed, 4.60 acres CDFW lakebed, and 16.20 acres of CDFW-associated riparian.

Feature types observed within the total JSA are summarized following Figures 3.18-1 and 3.18-2.

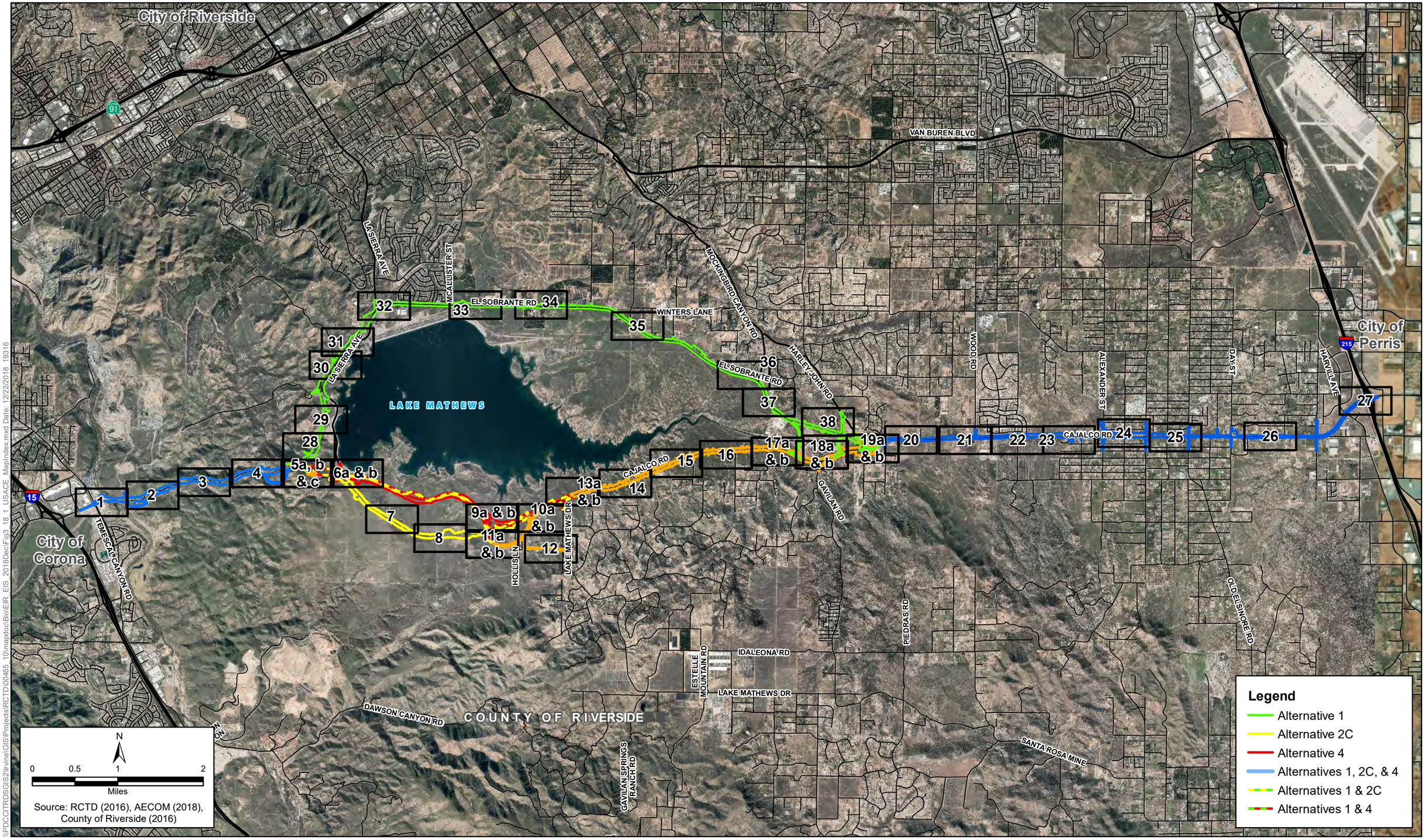

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Figure 3.18-1 - Map Index
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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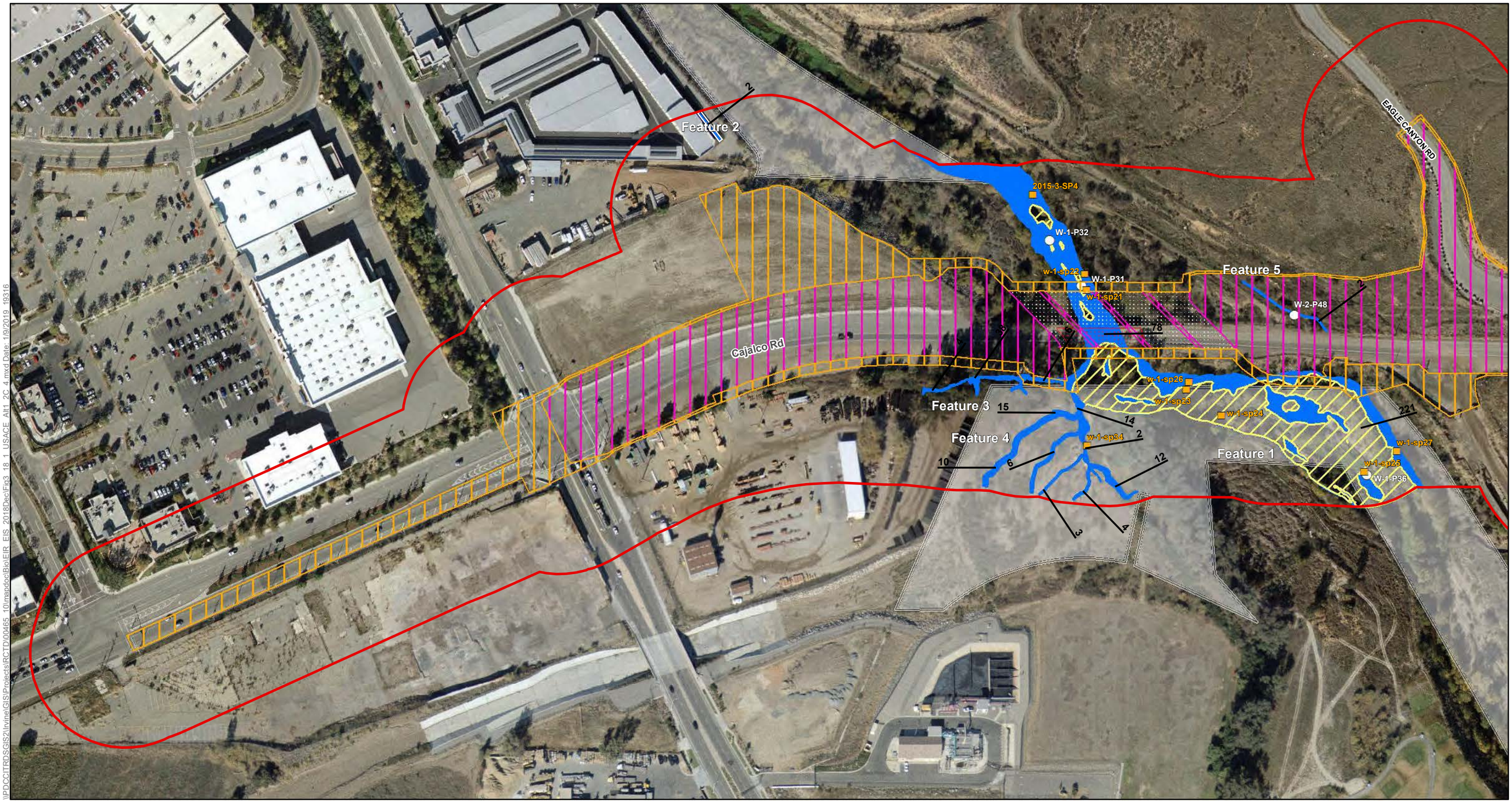

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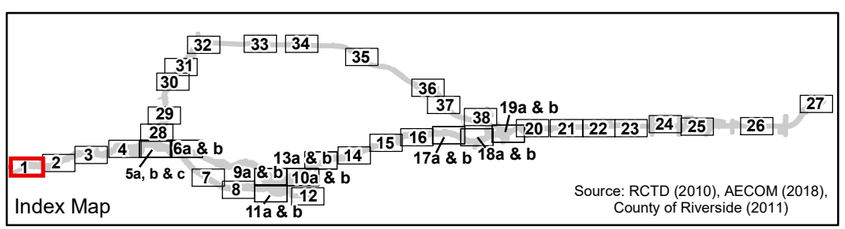

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 1
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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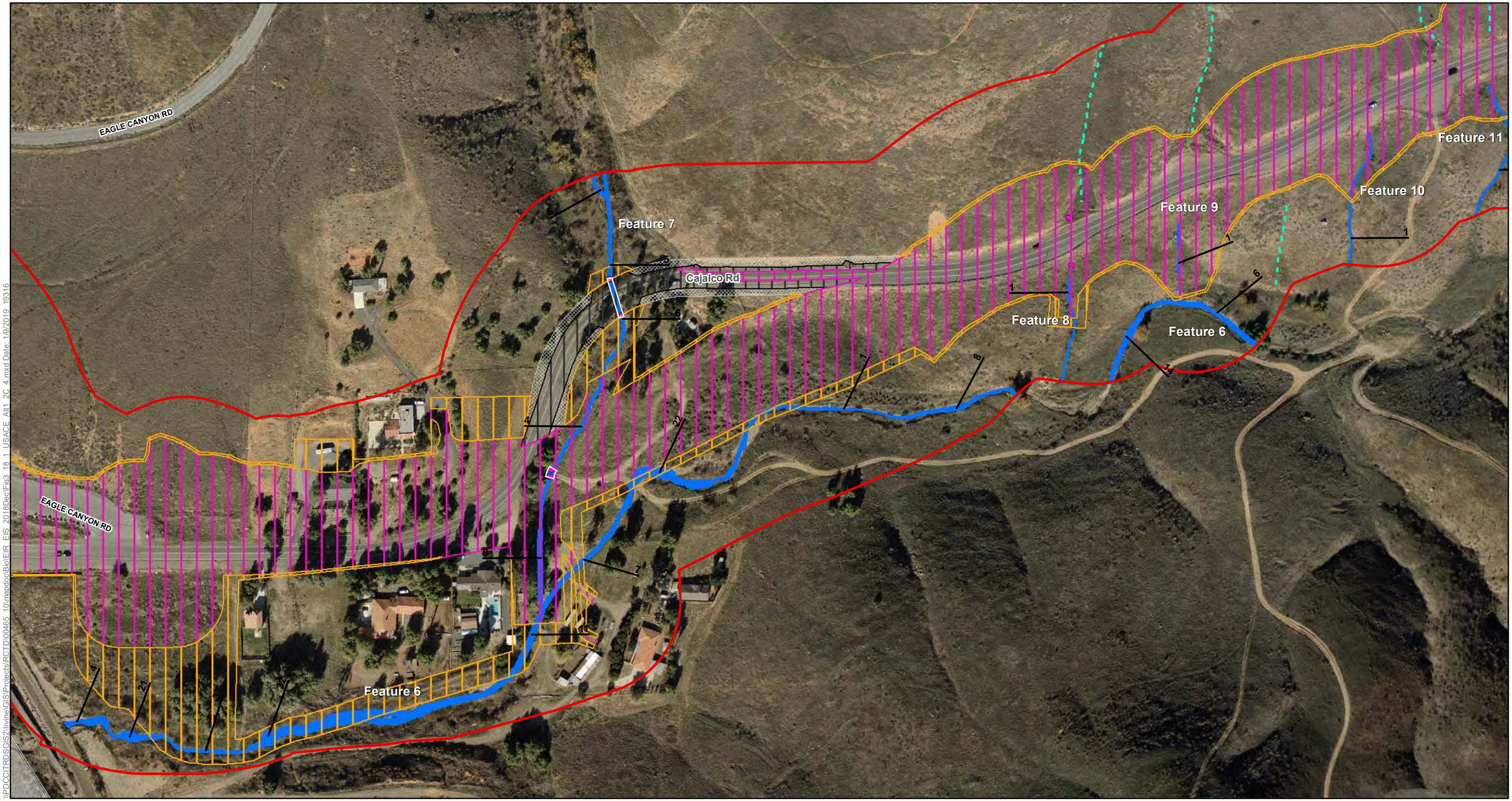

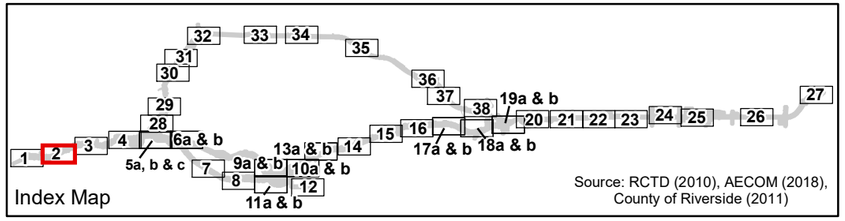

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 2
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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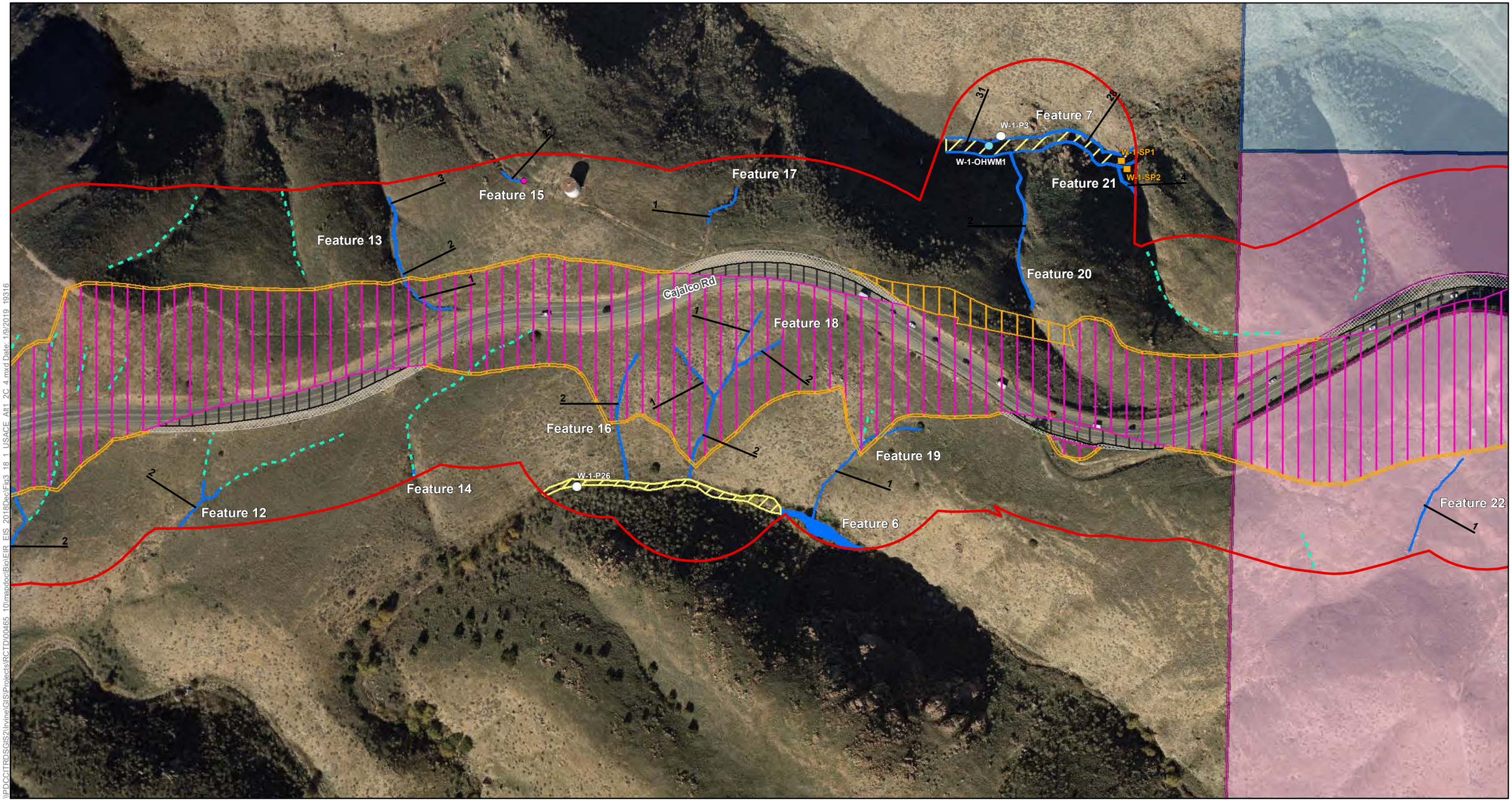

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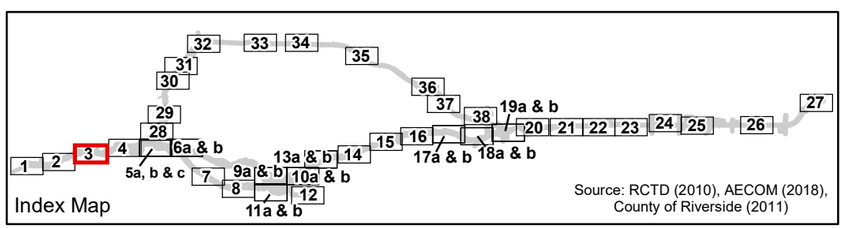

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 3
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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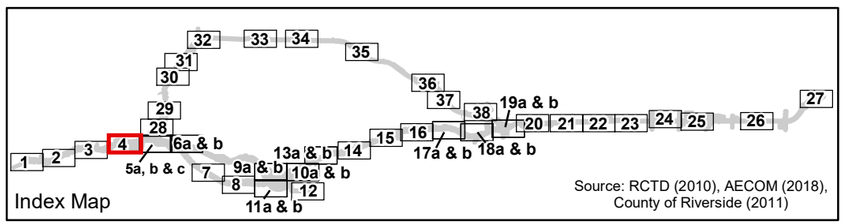
W-2-SP8
W-2-OHWM3
W-2-SP9
W-2-SP10
W-2-SP11
W-2-SP13
W-2-SP12
W-2-SP14
Feature 7
Feature 26
Cajalco Rd
Feature 30
Feature 31
Feature 25
Feature 24
Feature 6
Feature 23
W-1-P7
Feature 28
Feature 29
2015-2-P10
Feature 6
Feature 32
Feature 6
2015-2-P9



Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400
Feet
N

Figure 3.18-1 - Sheet 4
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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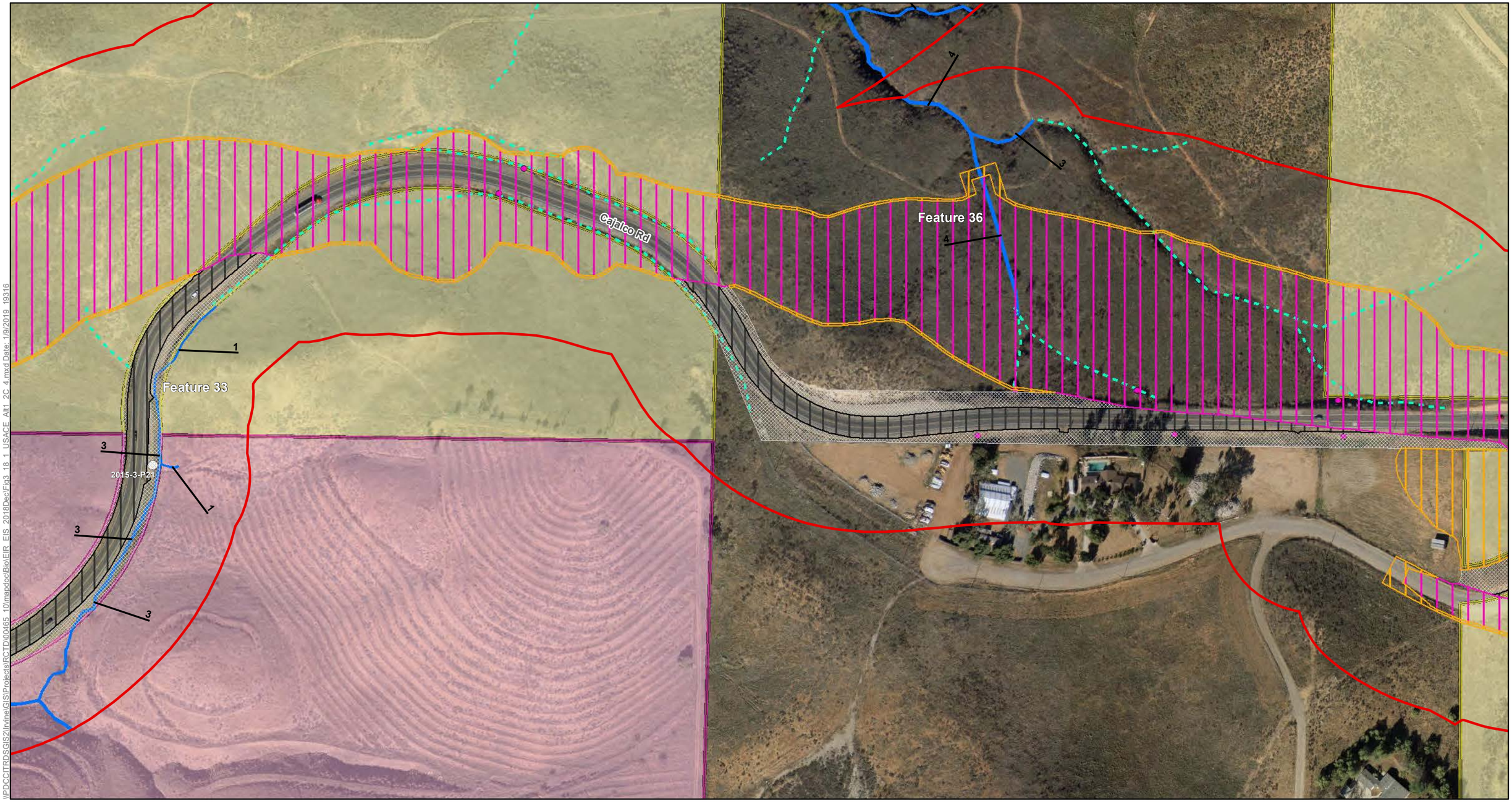

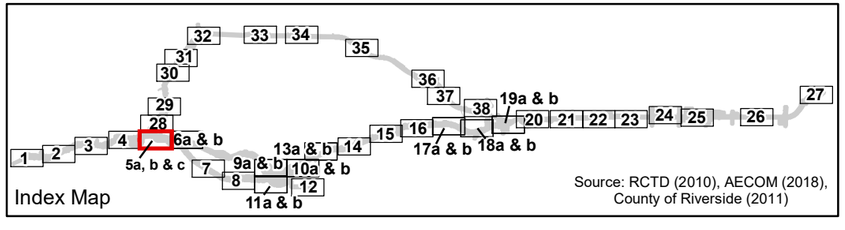

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 5a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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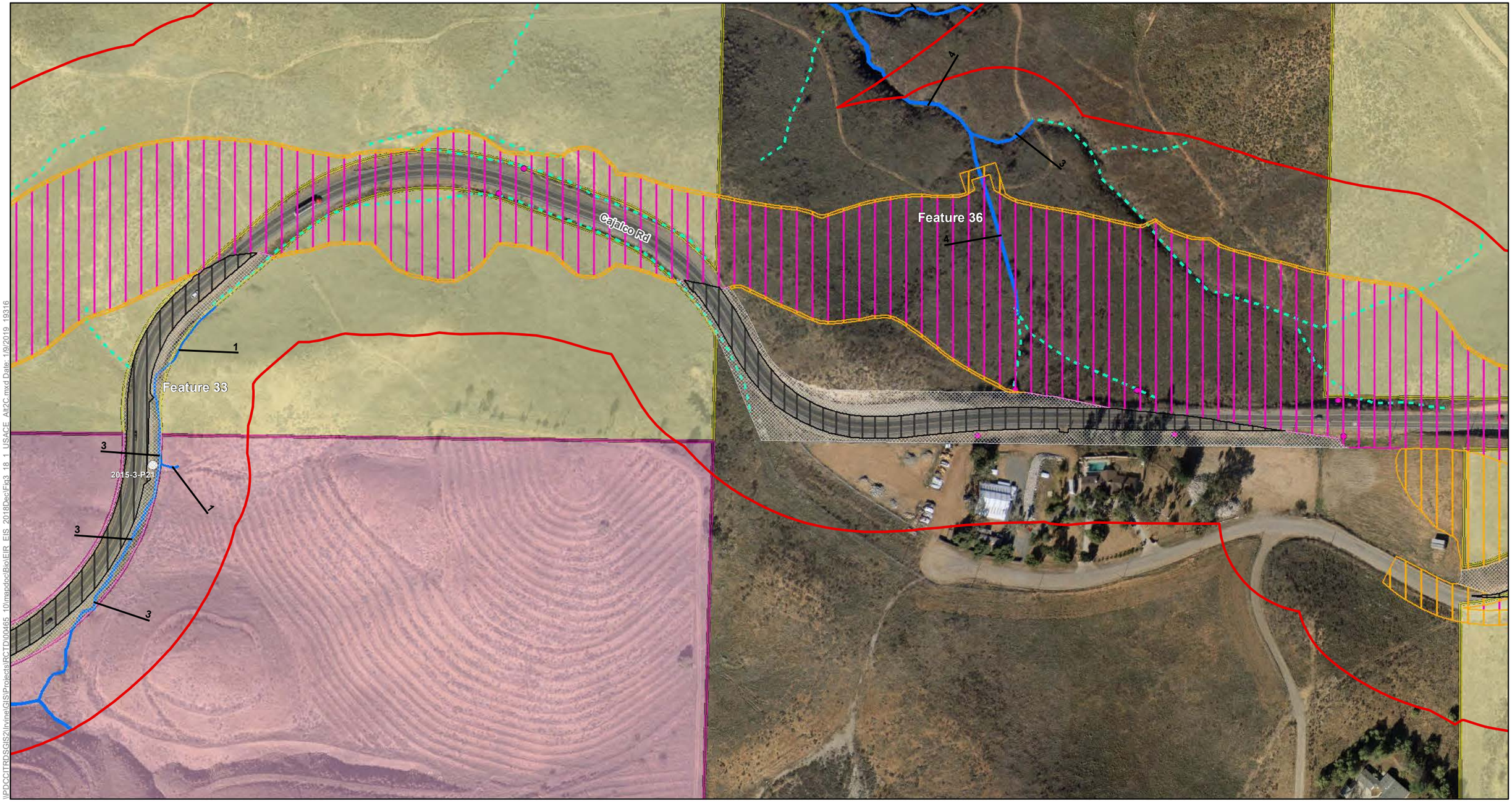

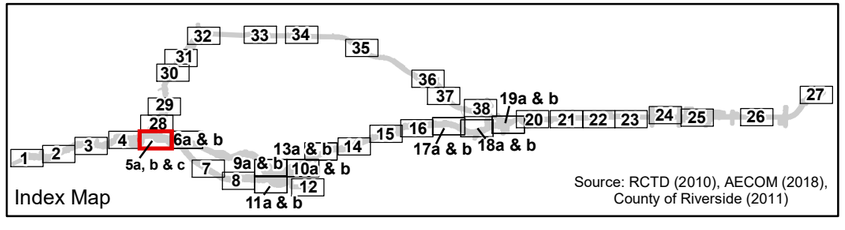

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 5b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465.10\mxd\doc\Bio\EIR_EIS_2018Dec\Fig3.18.1_USACE_Alt2C.mxd Date: 1/9/2019 19316

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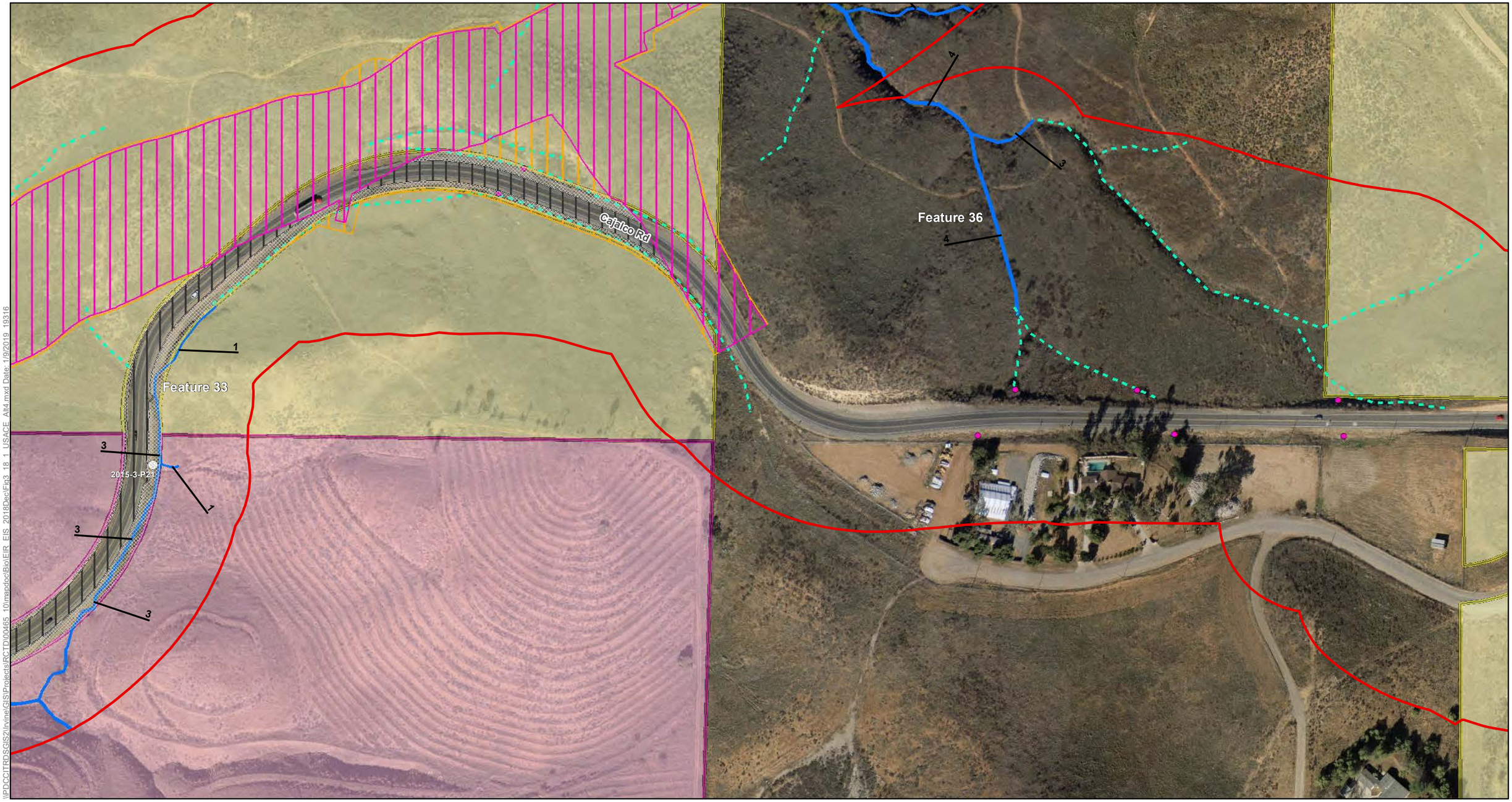

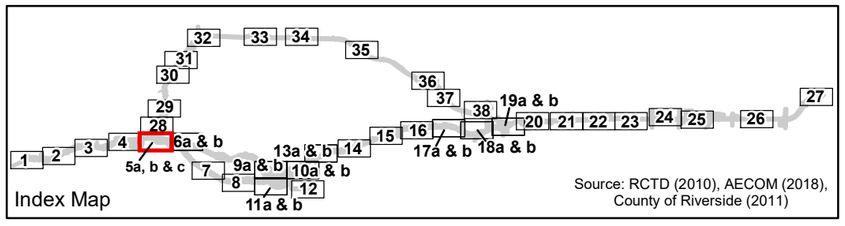

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 5c
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt4.mxd Date: 1/9/2019 19316

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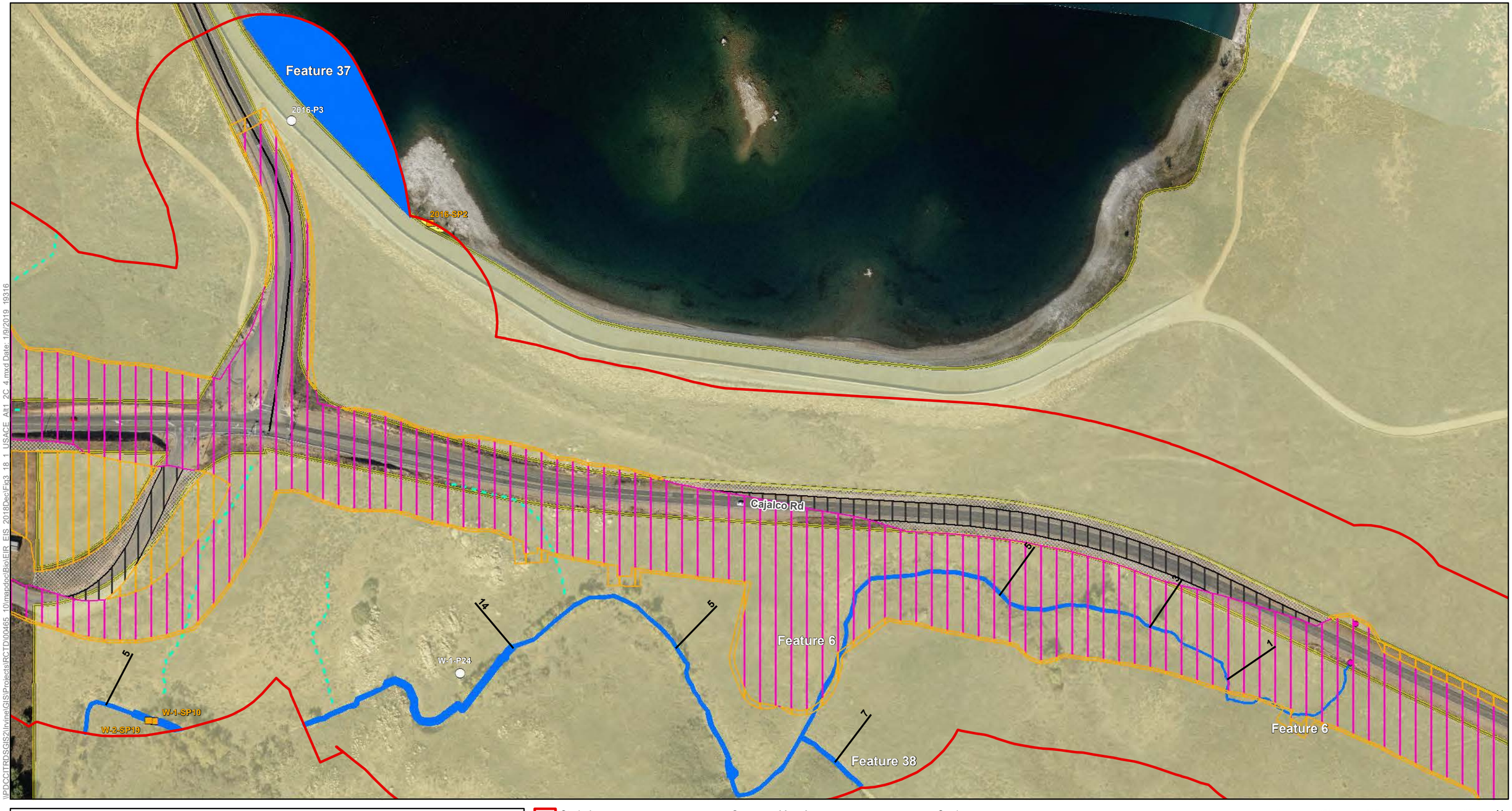

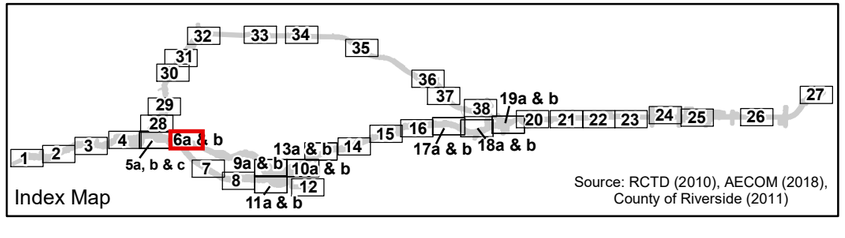

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 6a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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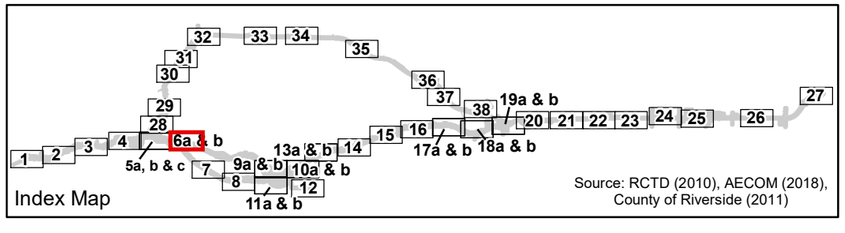

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Permanent Impact Area (Conserved Land)
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 6b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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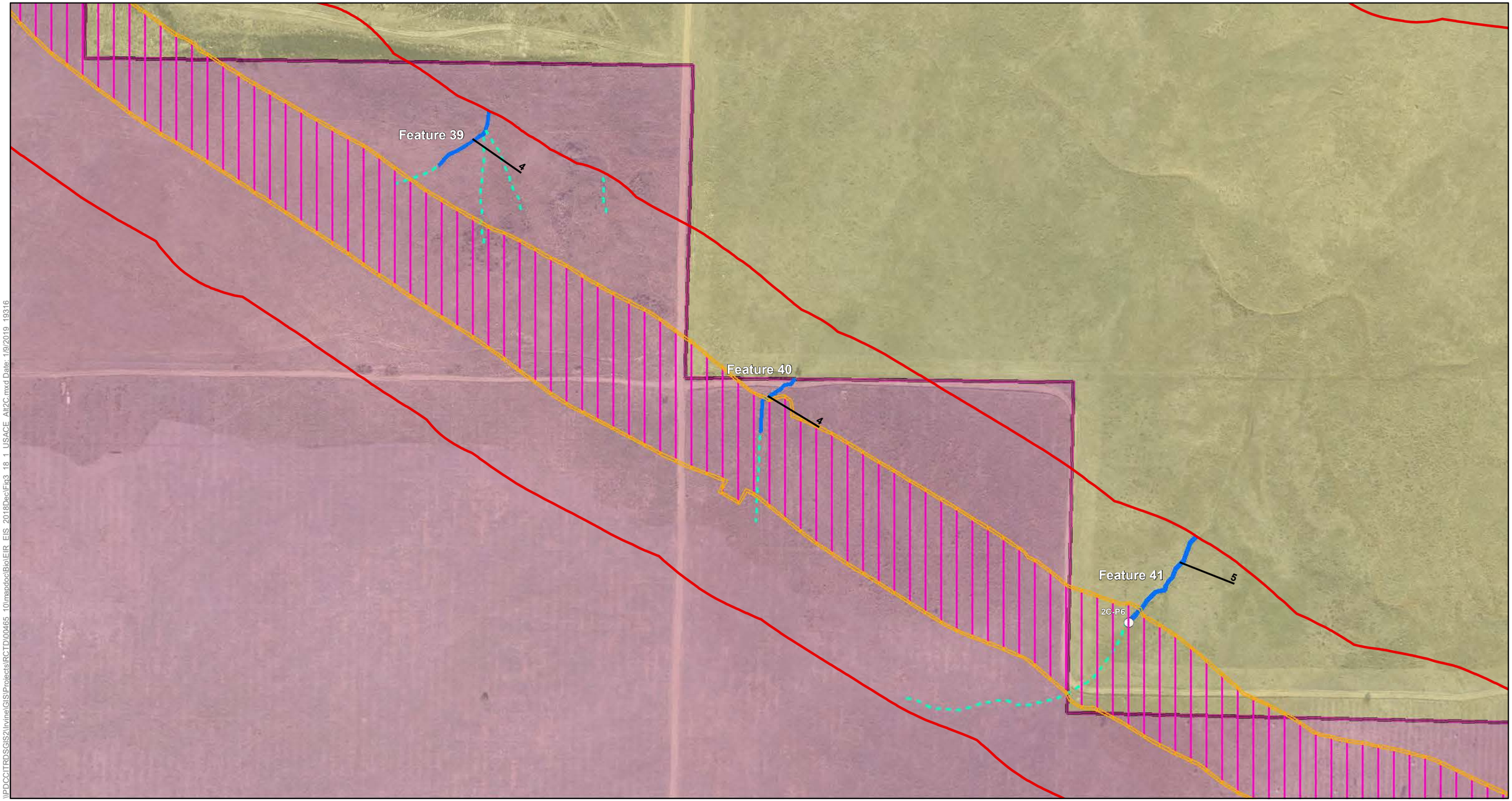

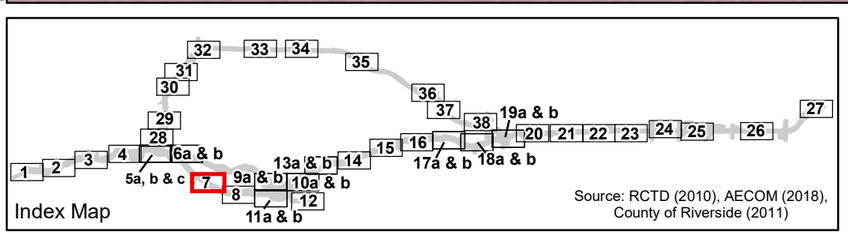

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Permanent Impact Area (Conserved Land)
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 7
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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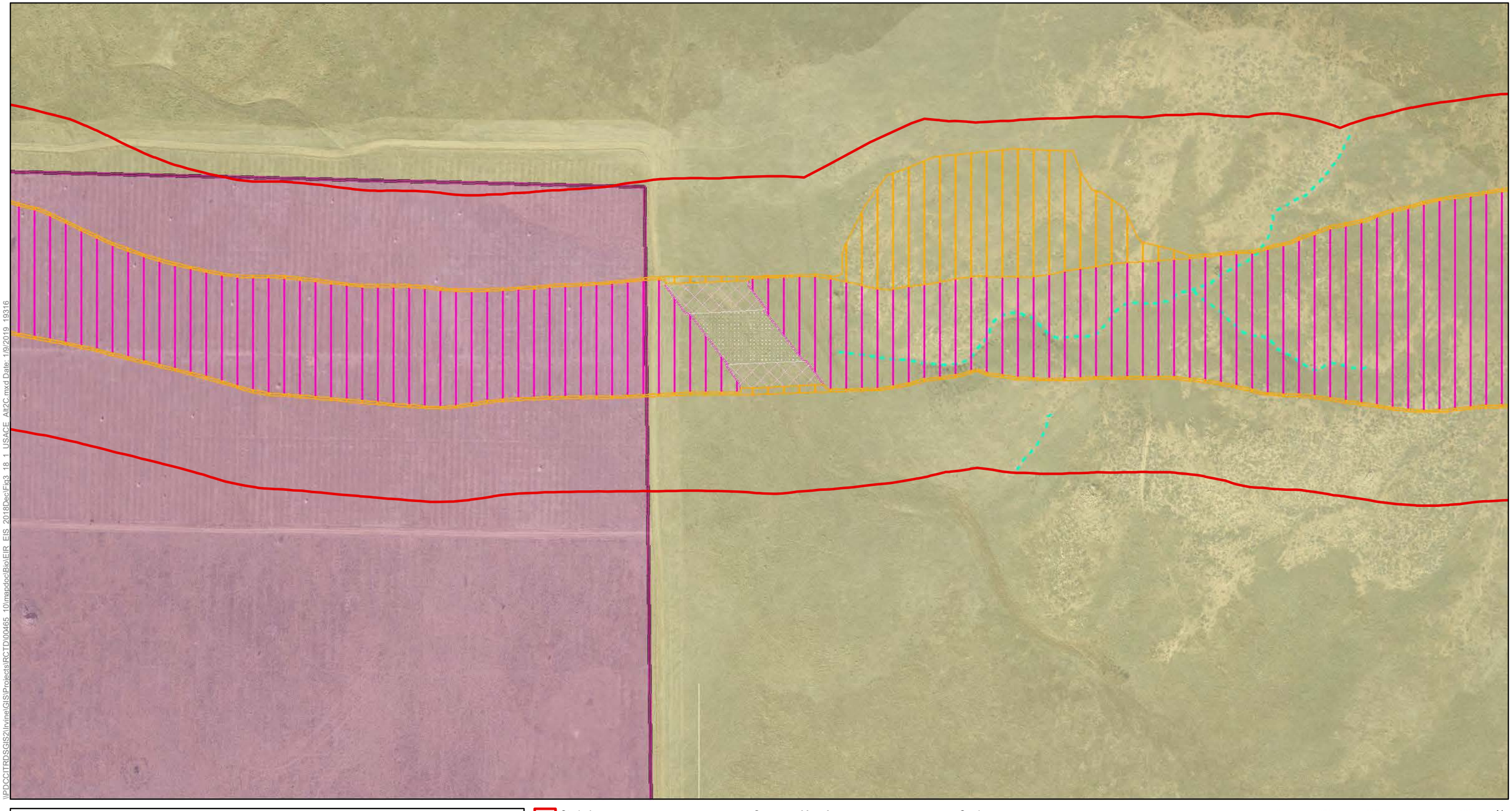

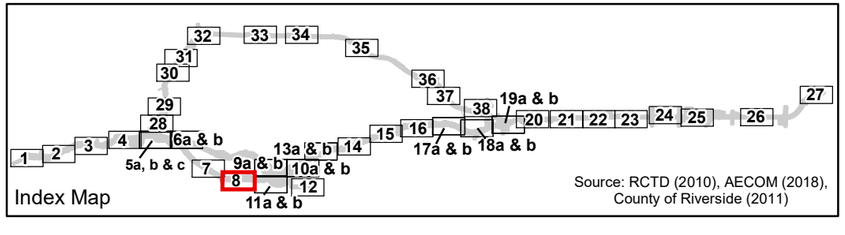

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 8
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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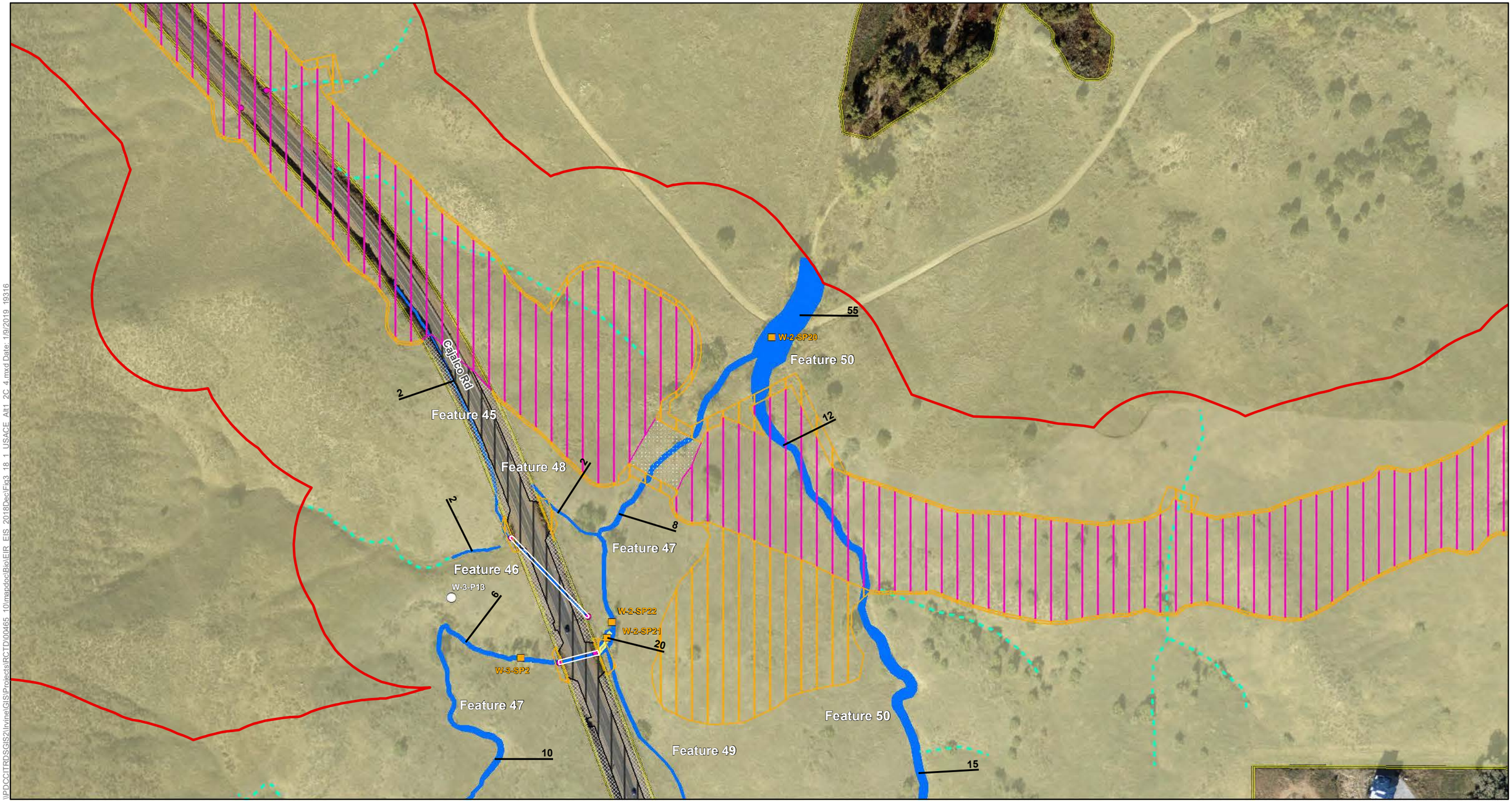

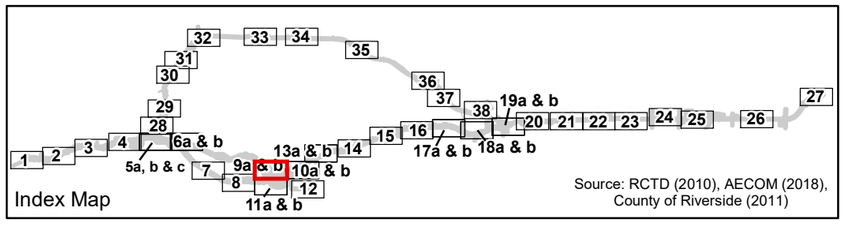

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 9a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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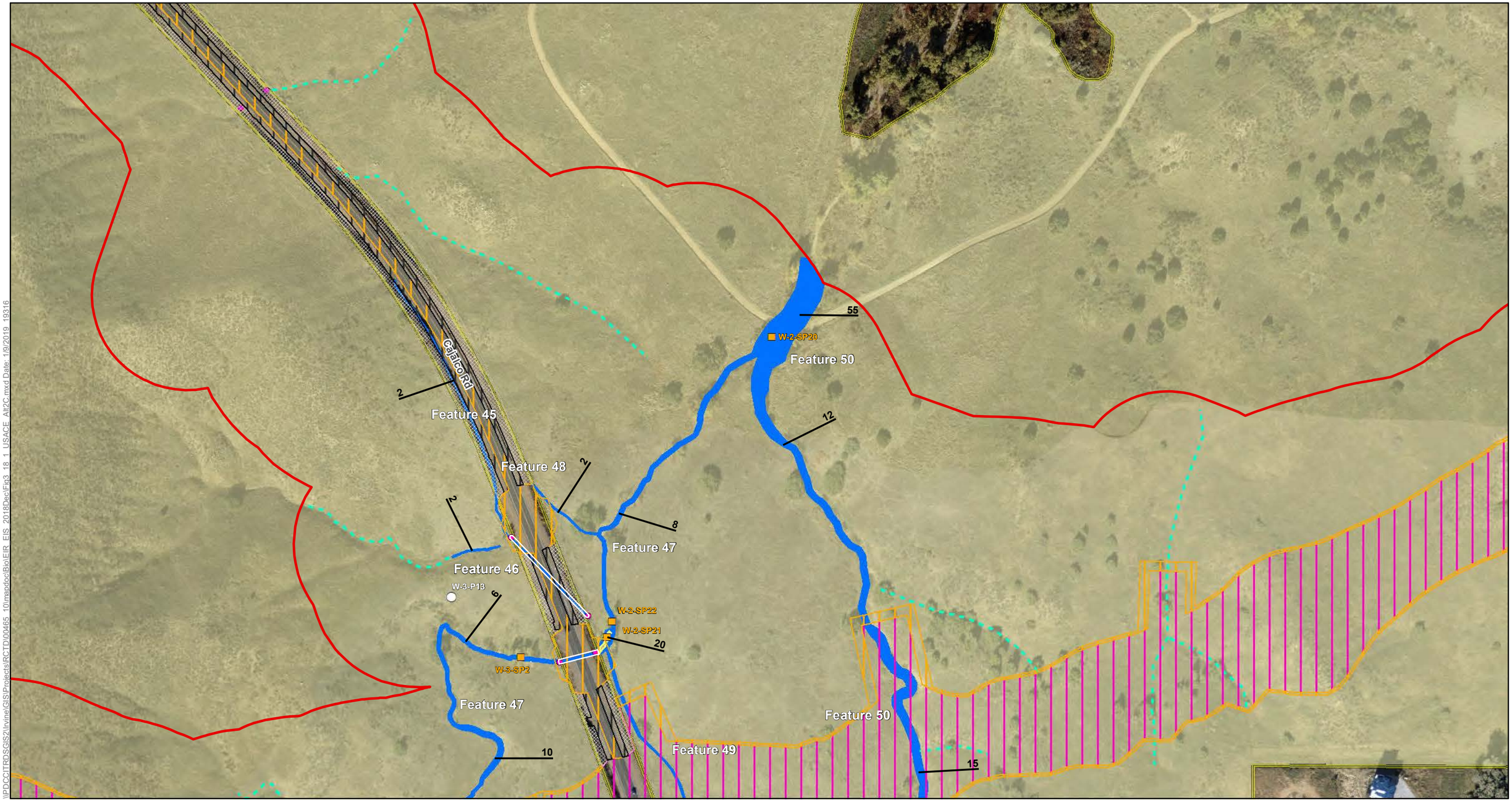

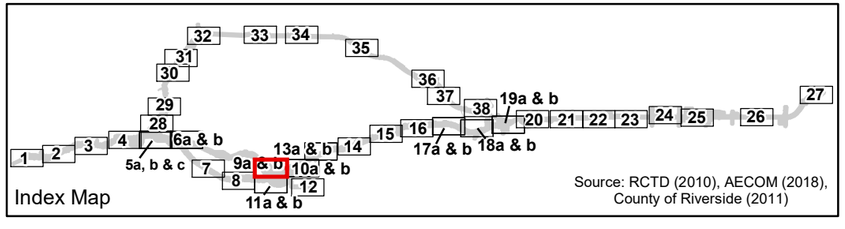

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Permanent Impact Area (Conserved Land)
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 9b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt2C.mxd Date: 1/9/2019 19316

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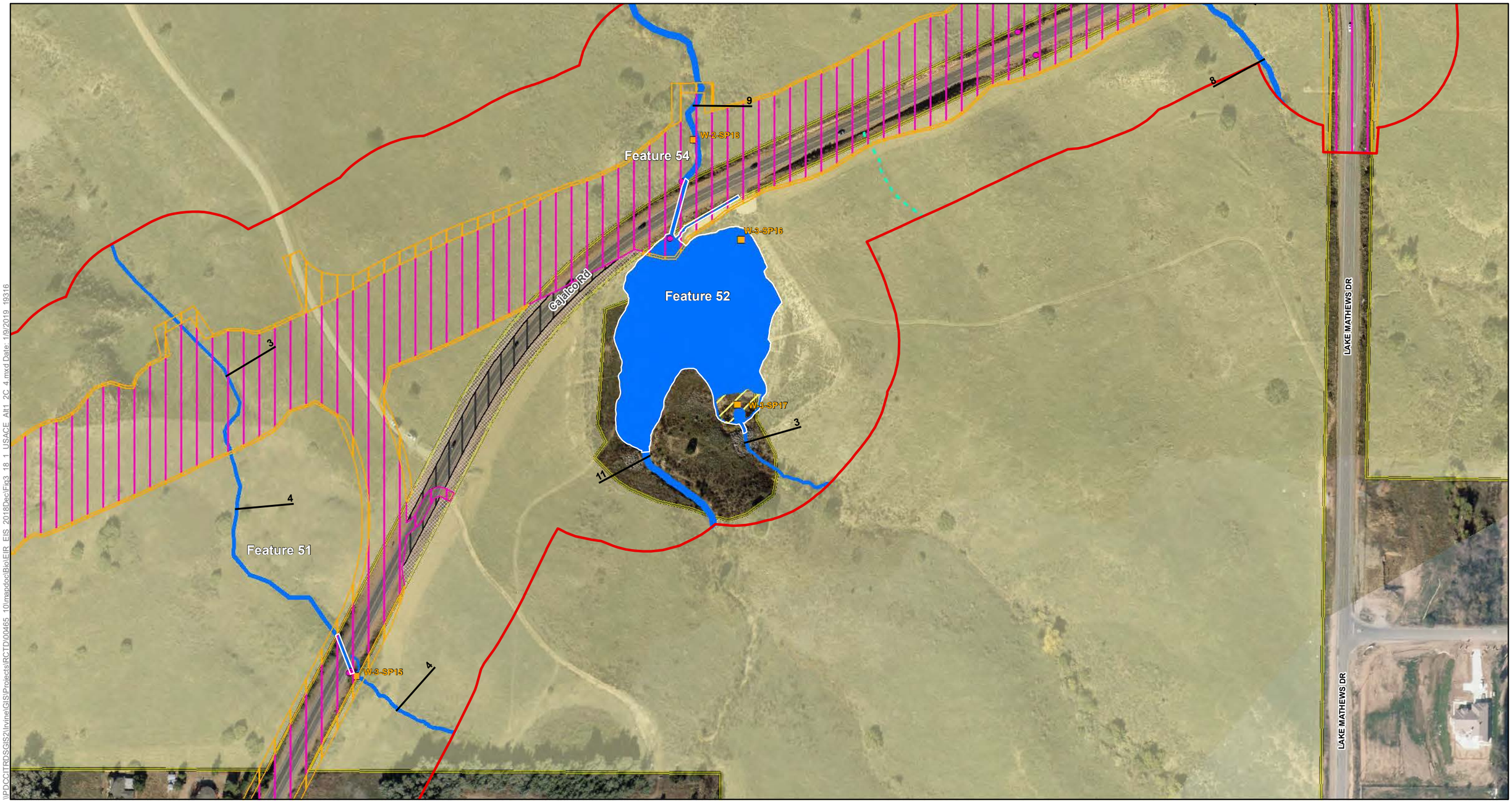

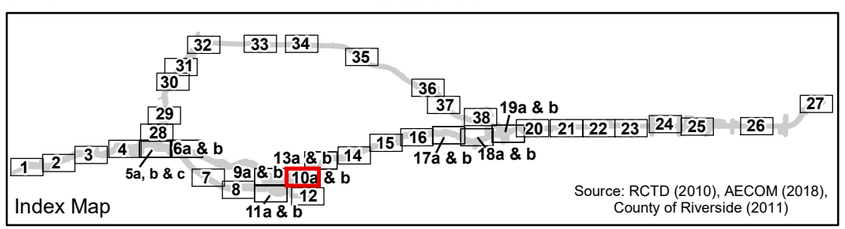

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 10a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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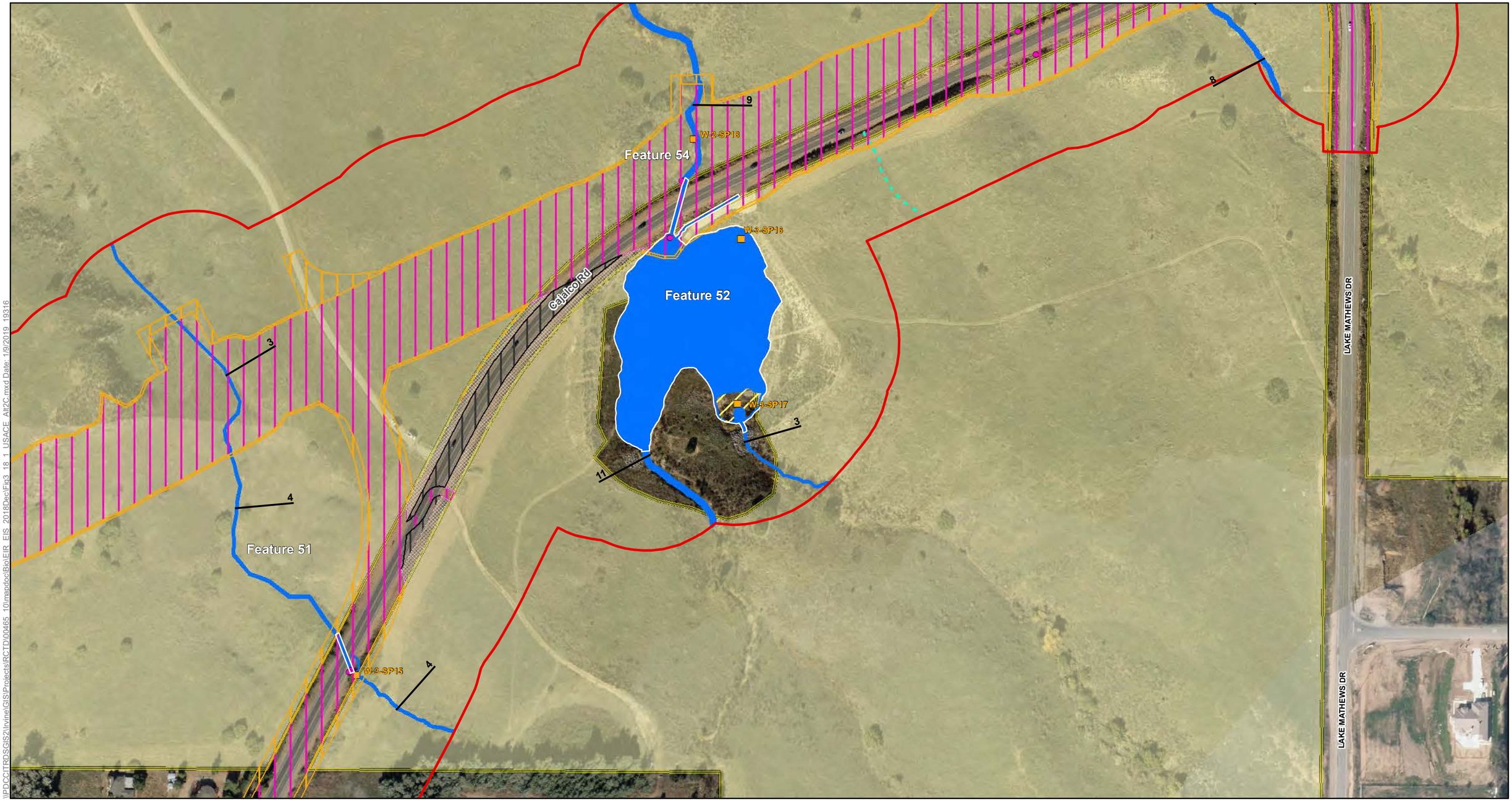

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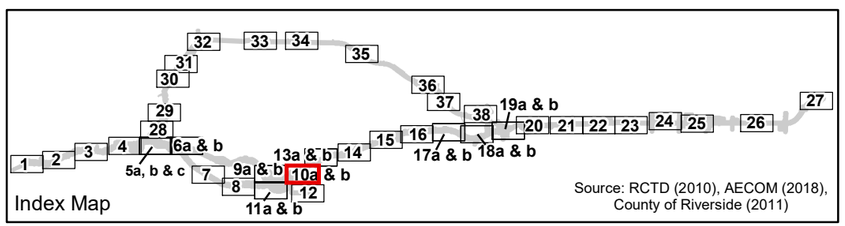

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 10b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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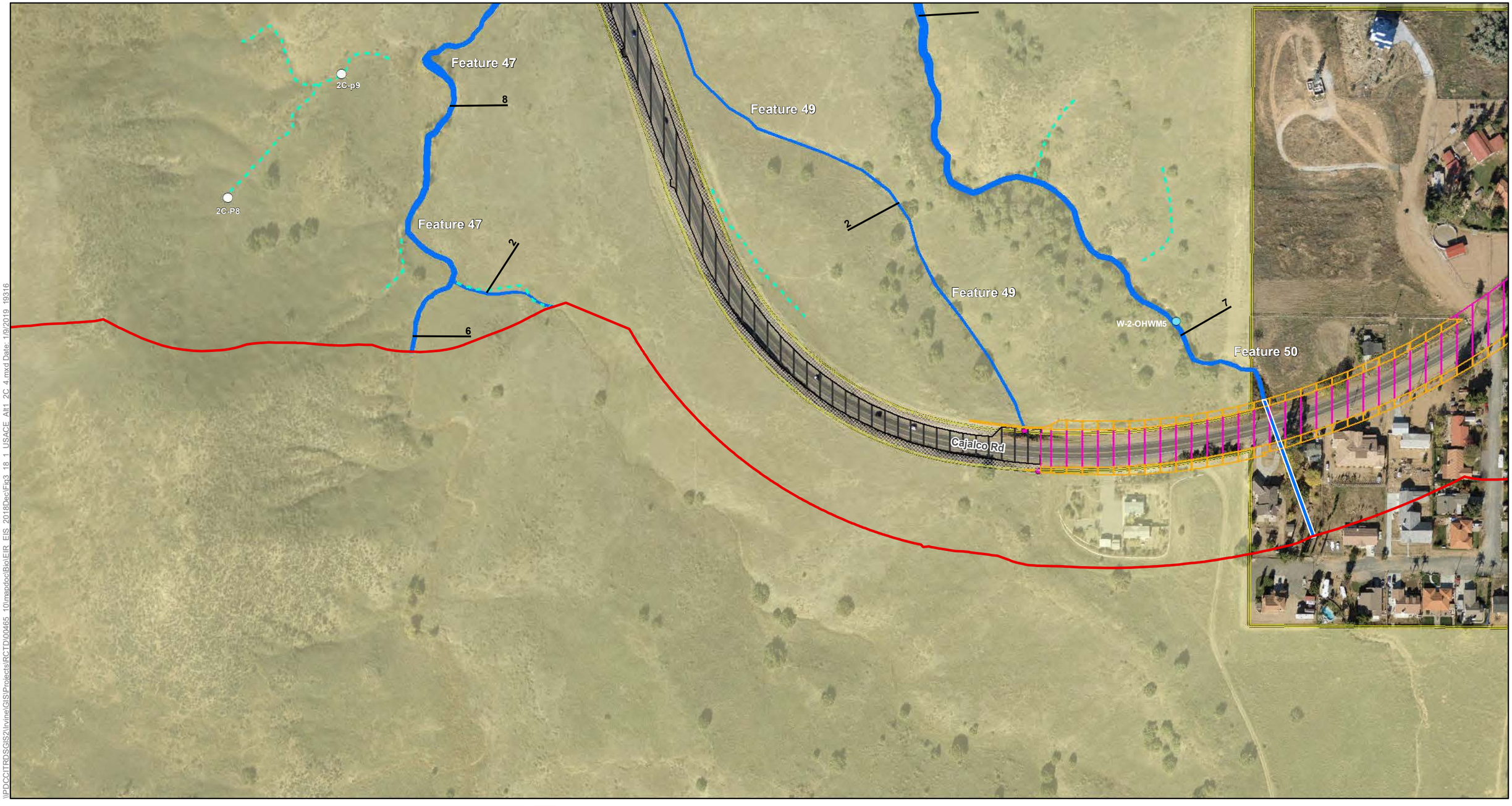

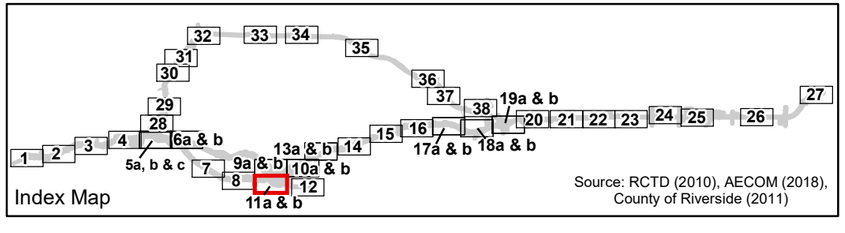

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 11a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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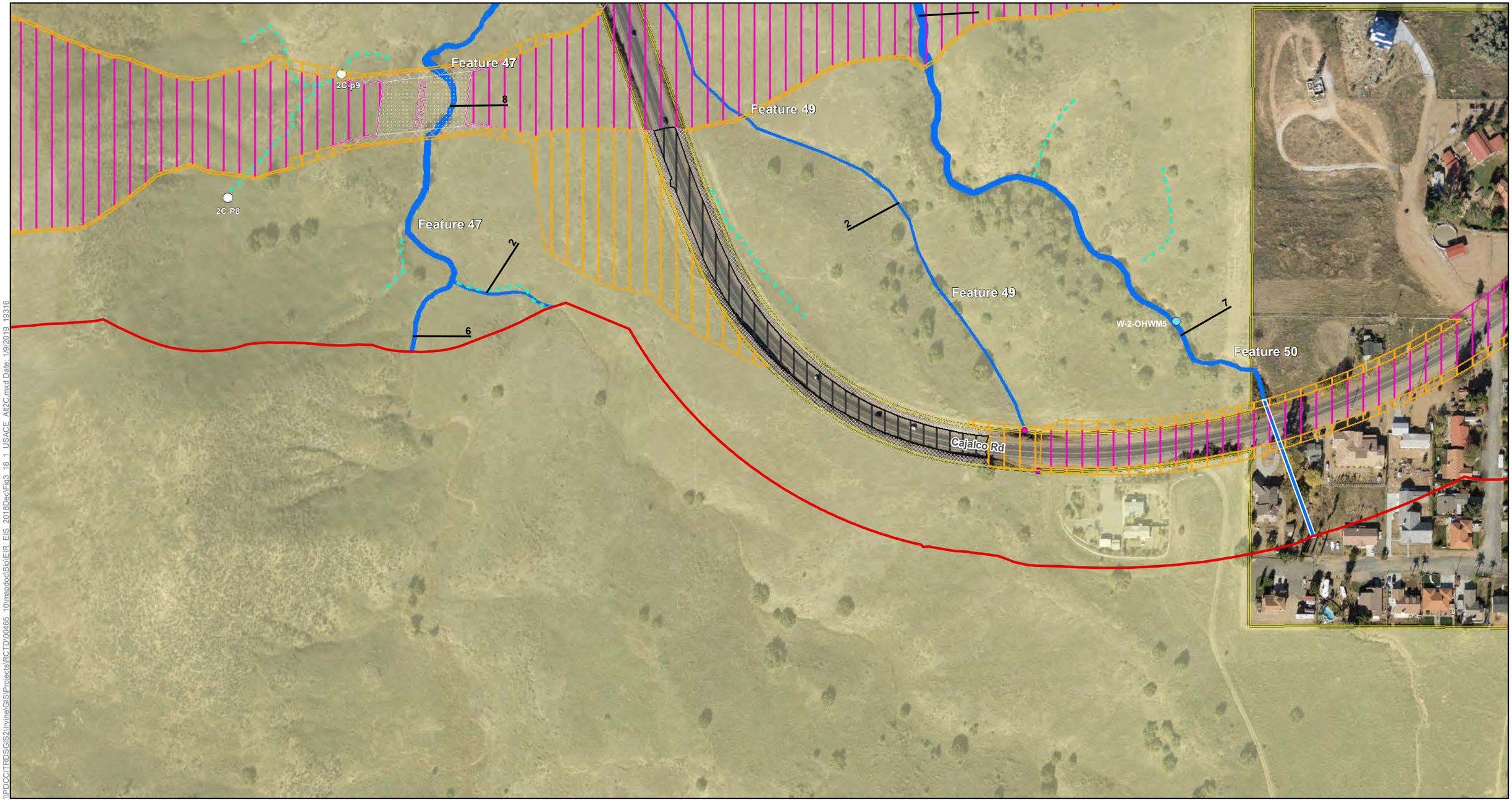

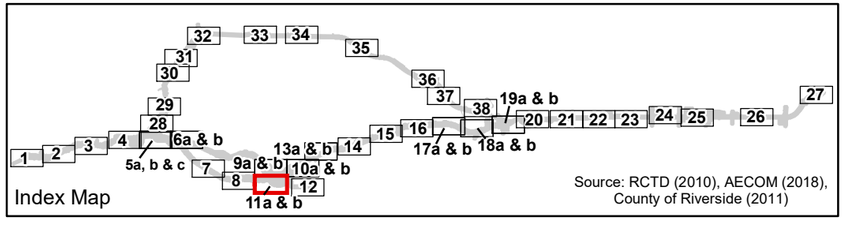

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 11b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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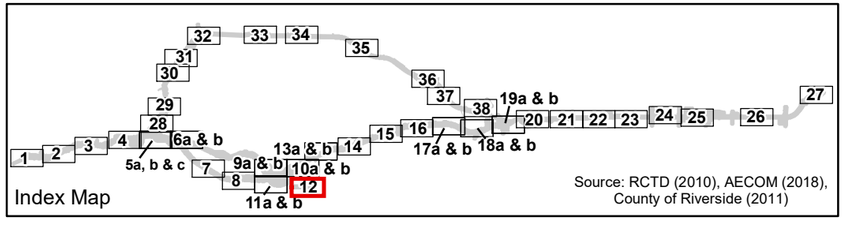

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 12
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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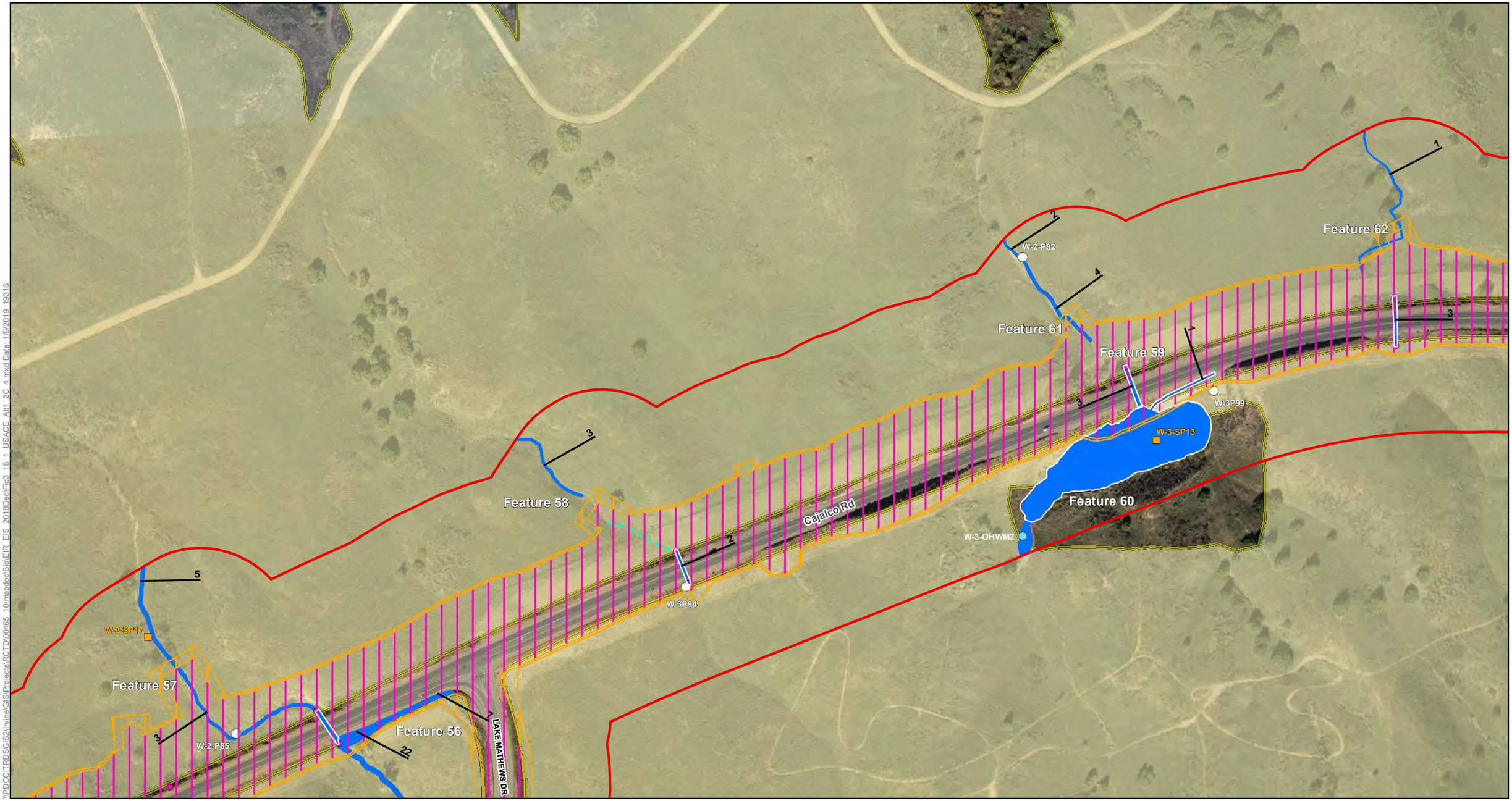

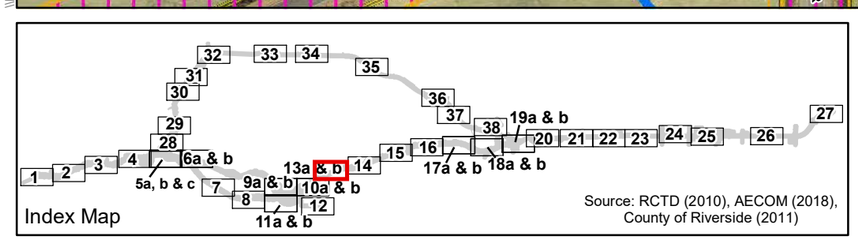

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 13a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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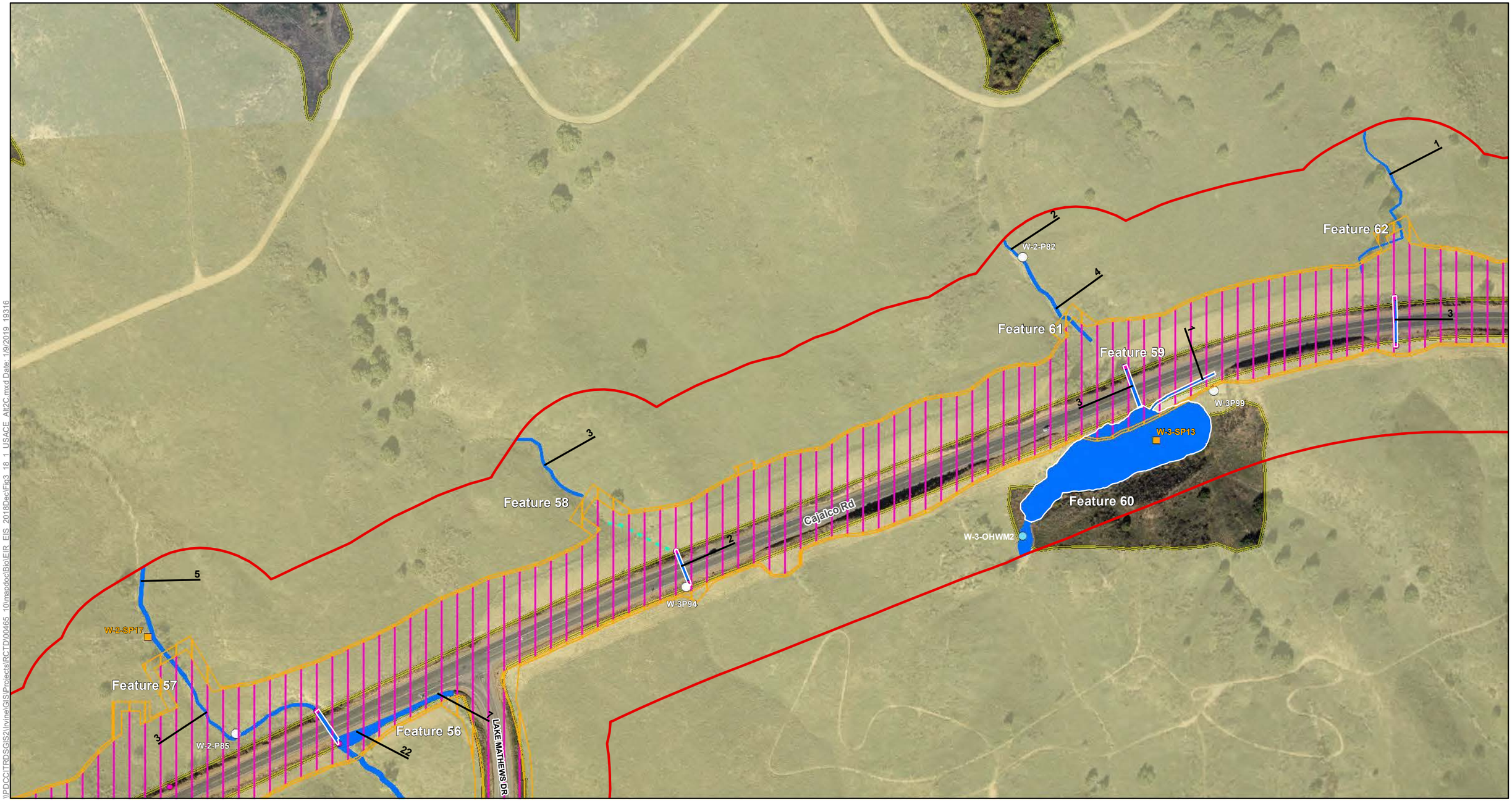

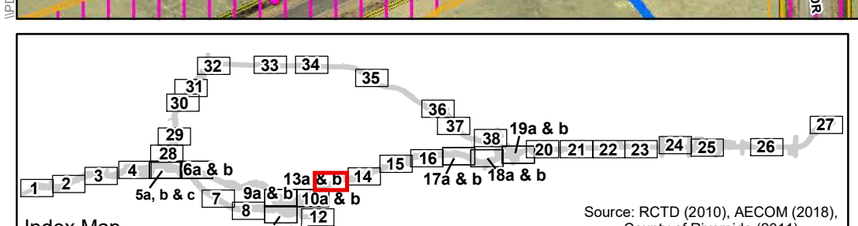

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Permanent Impact Area (Conserved Land)
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400
Feet
N

Figure 3.18-1 - Sheet 13b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt2C.mxd Date: 1/9/2019 19316

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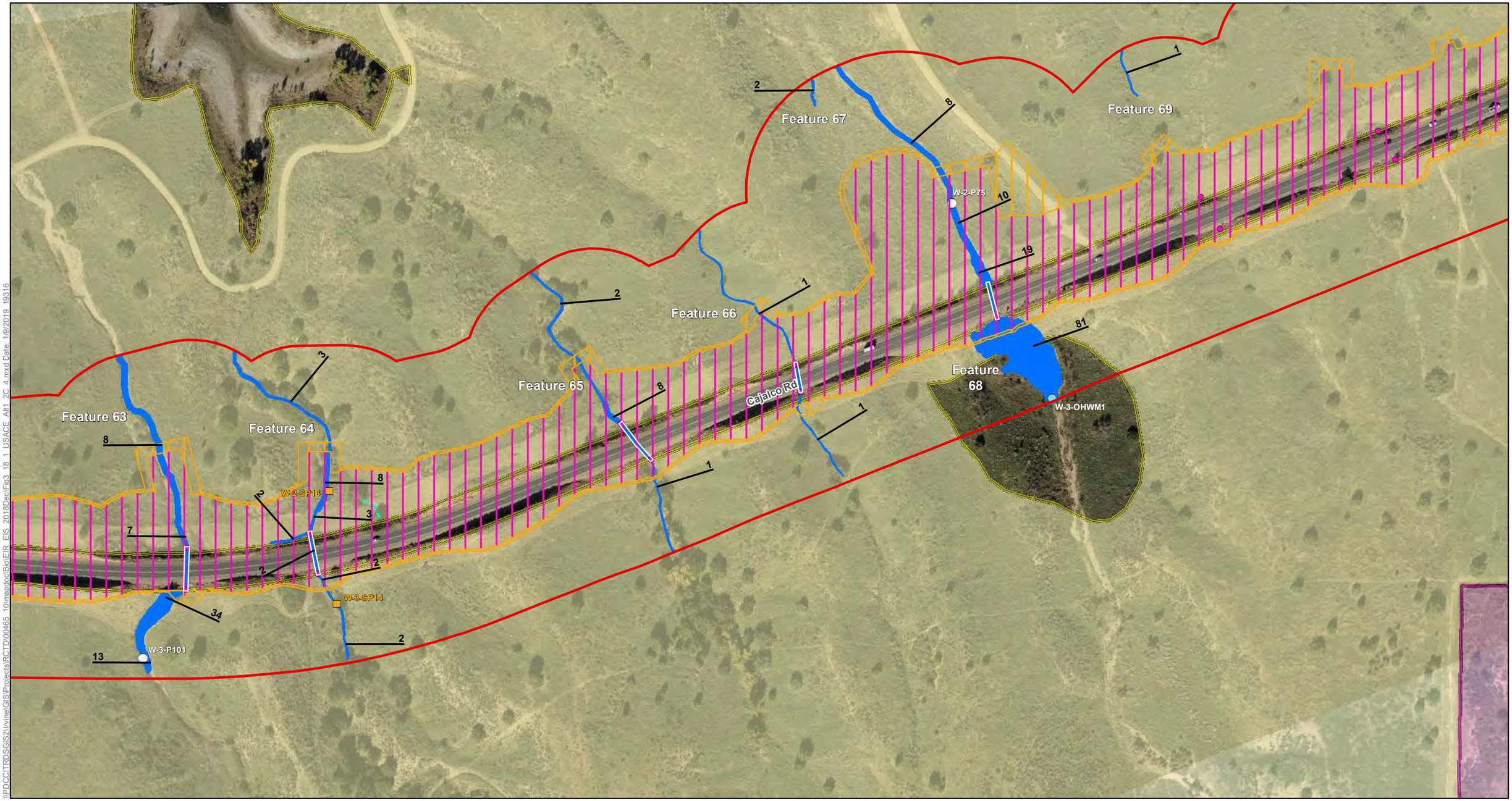

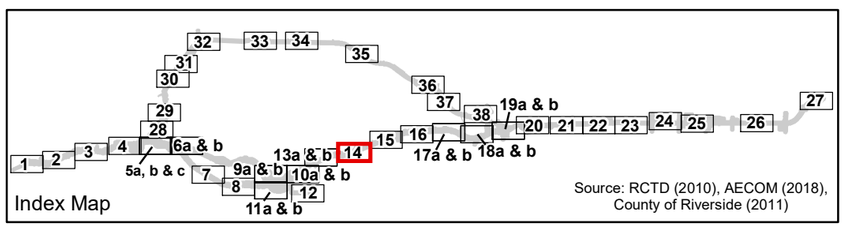

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 14
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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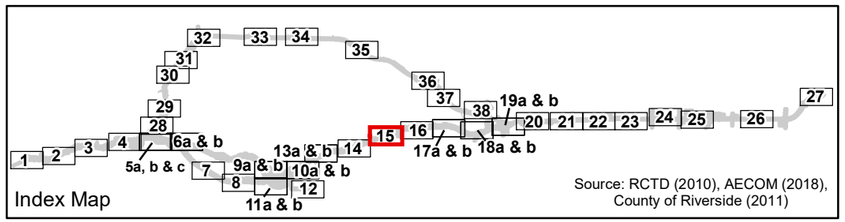

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 15
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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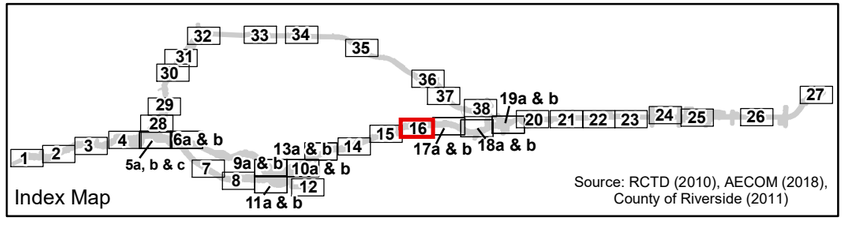

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 16
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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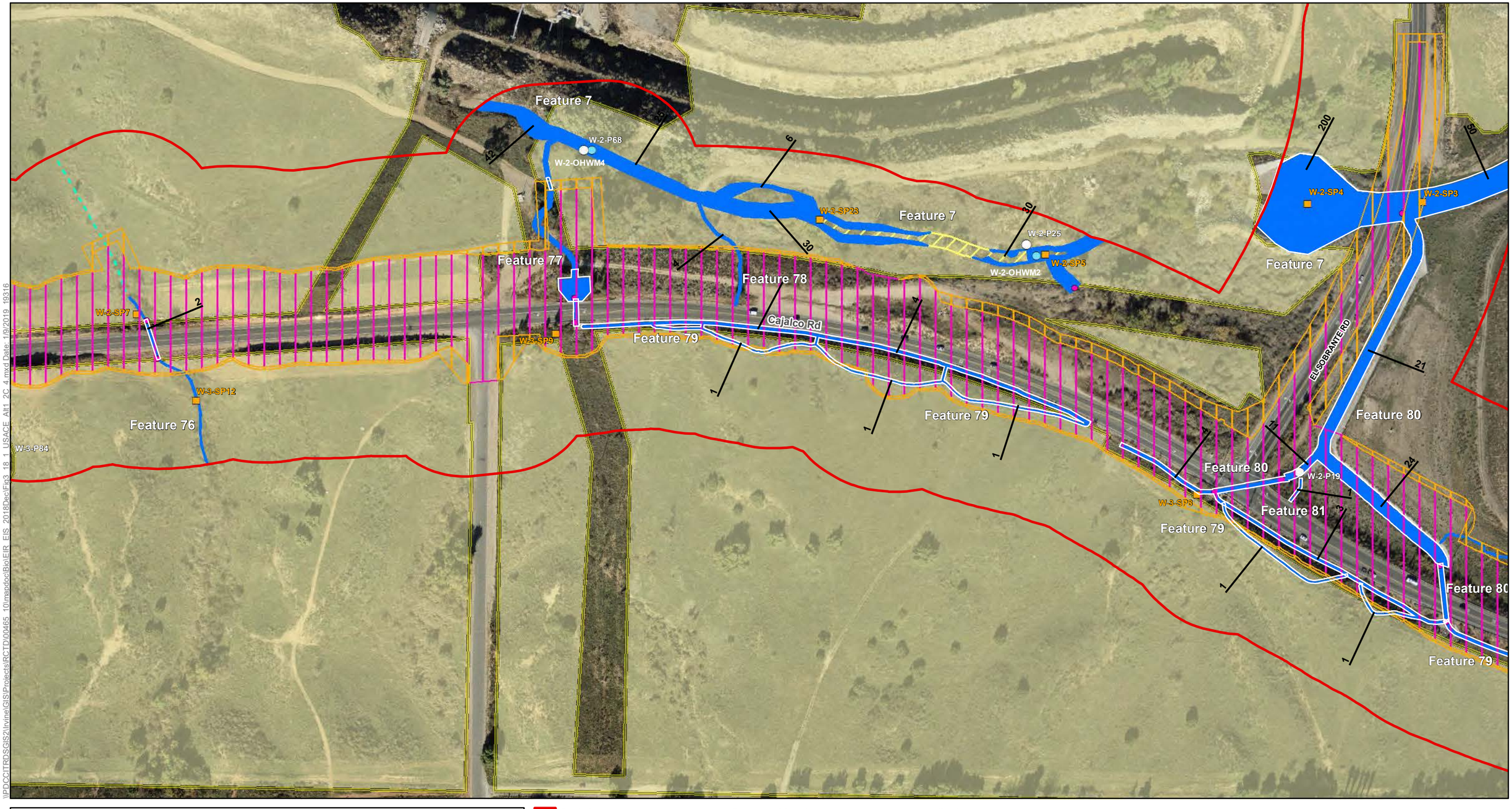

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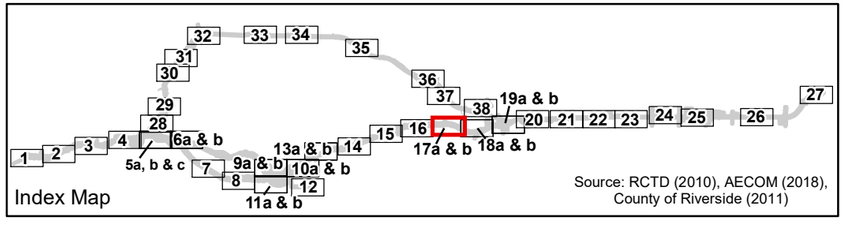

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 17a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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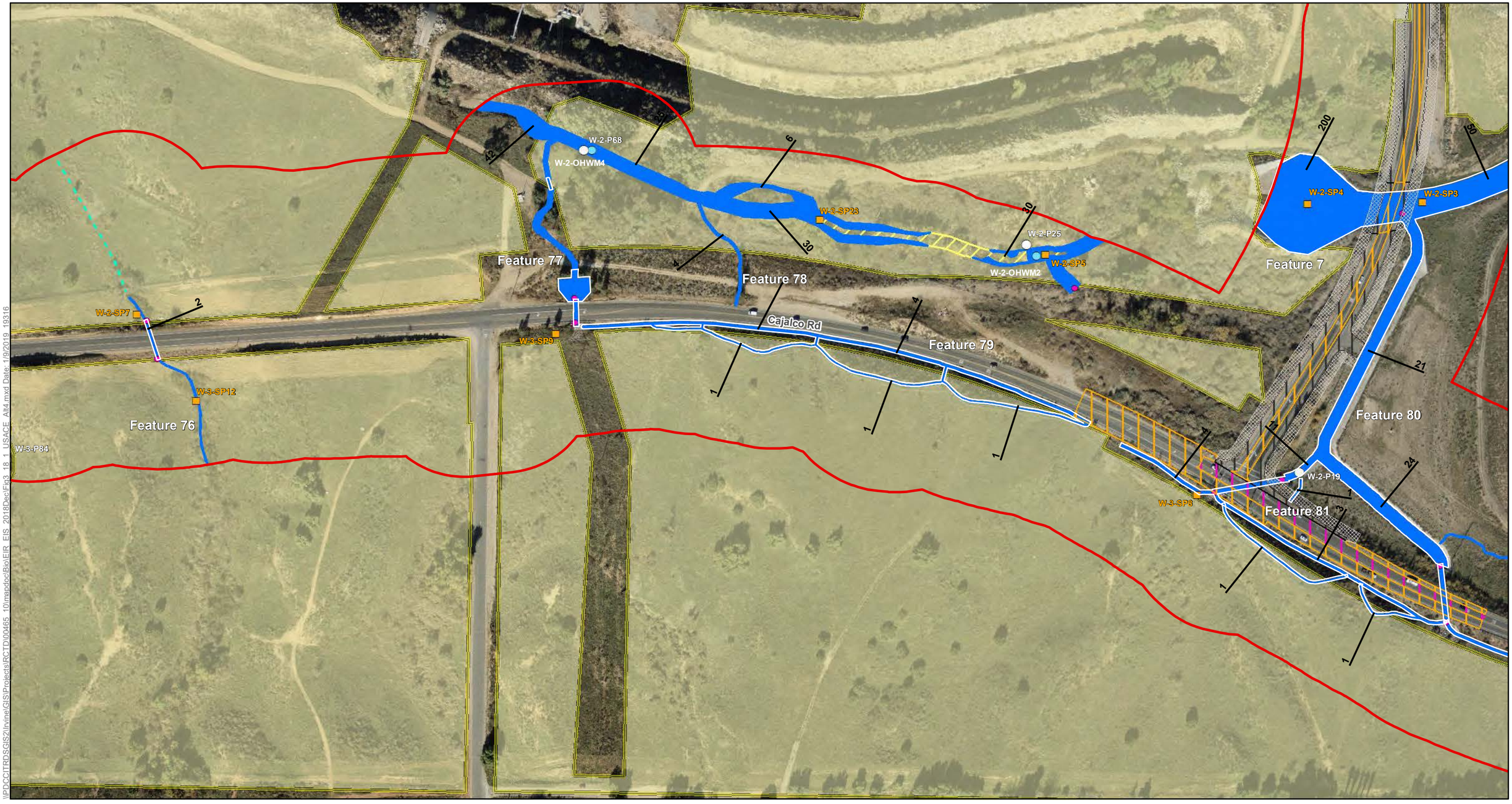

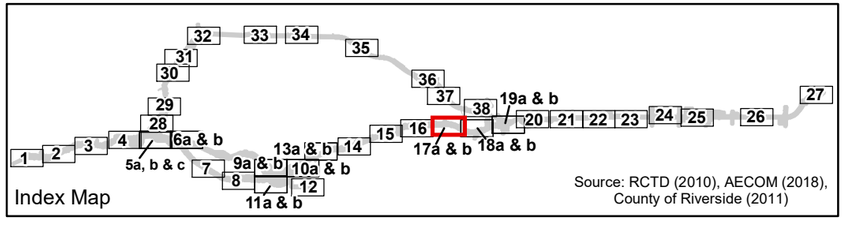

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400
Feet
N

Figure 3.18-1 - Sheet 17b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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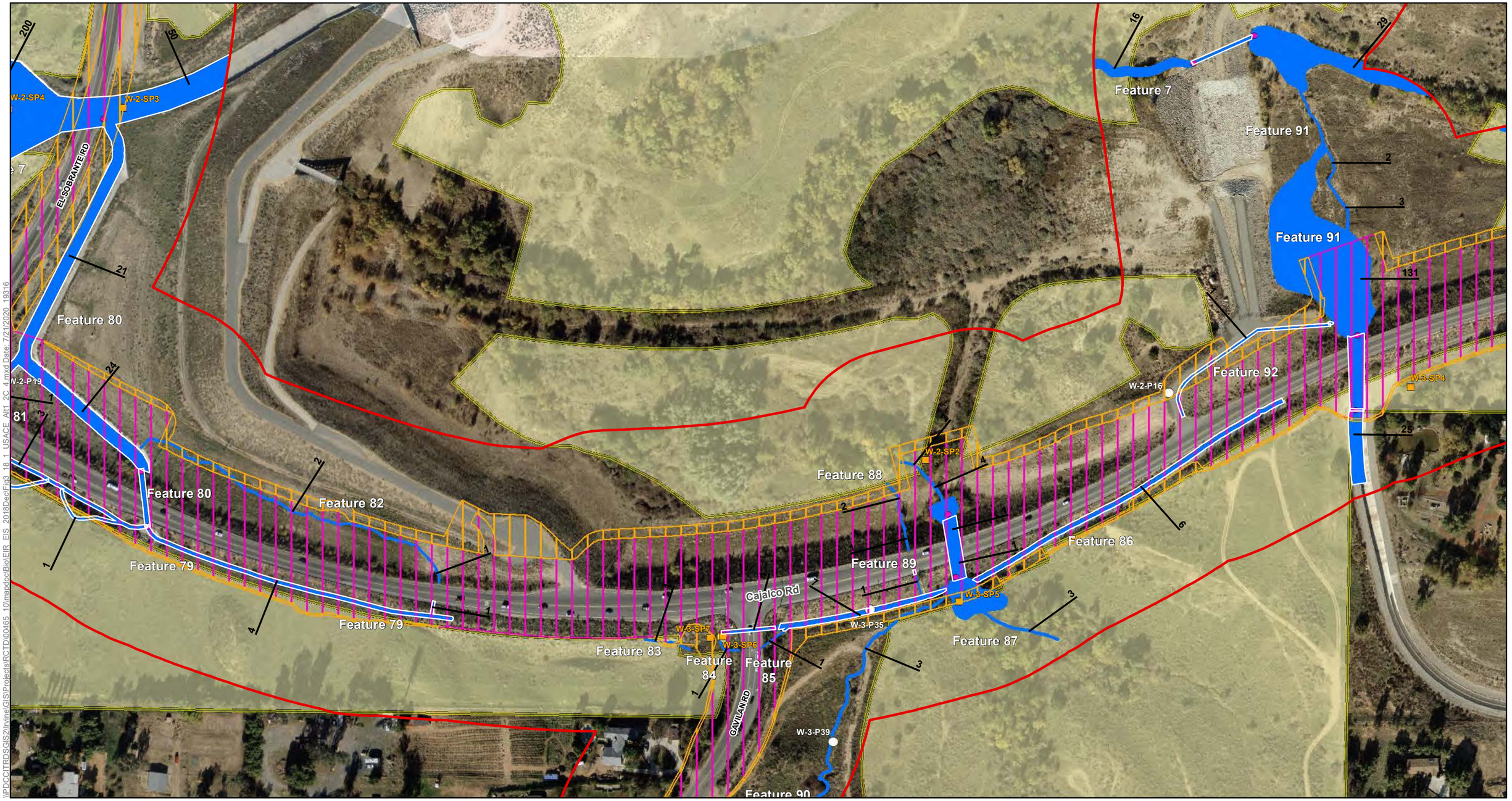

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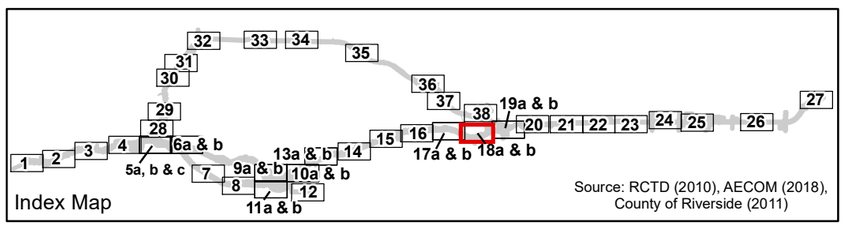

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 18a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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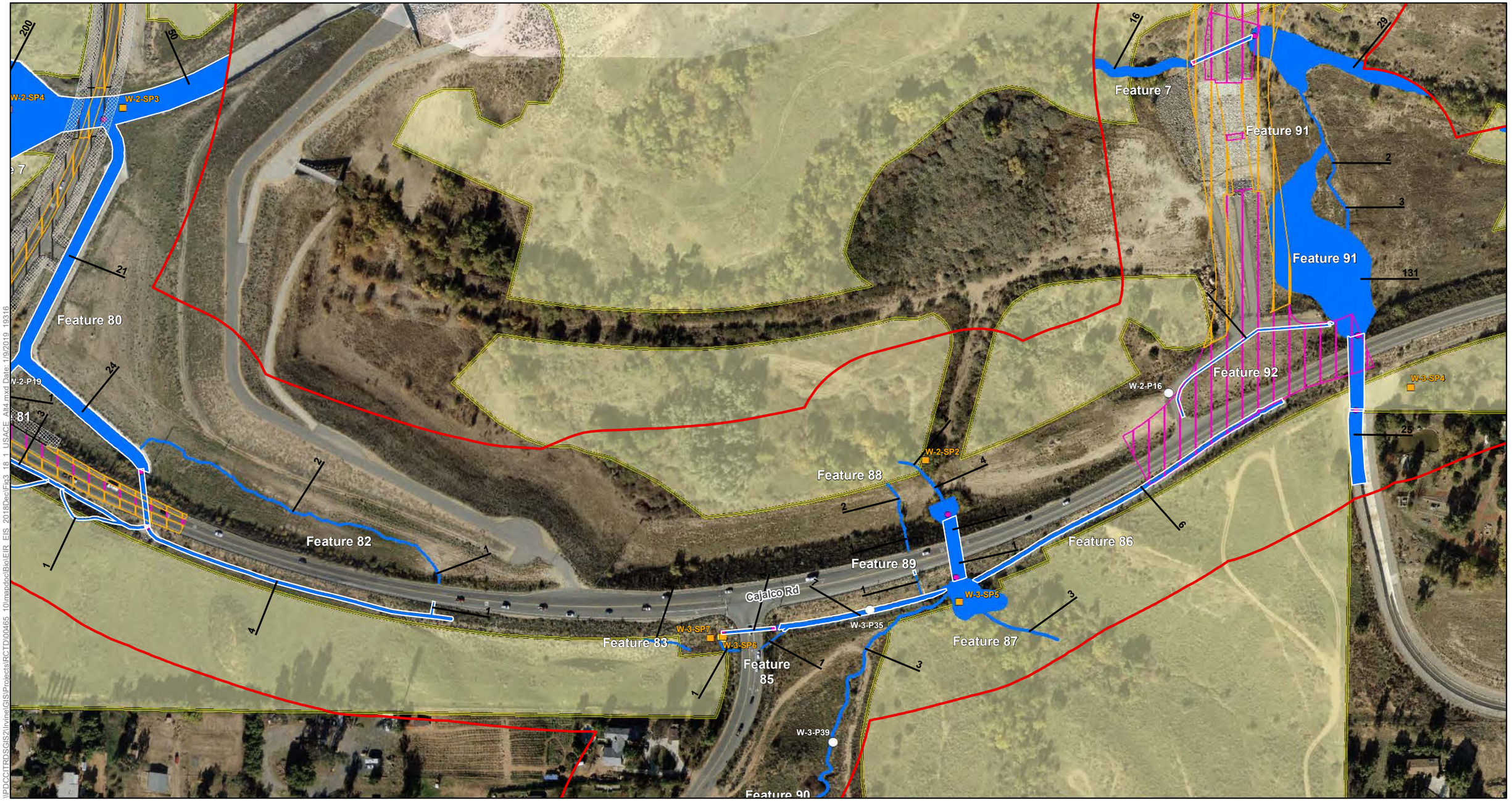

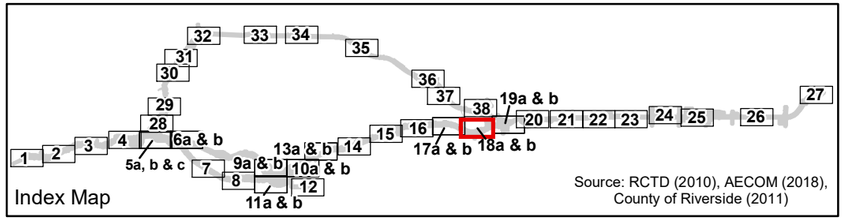

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 18b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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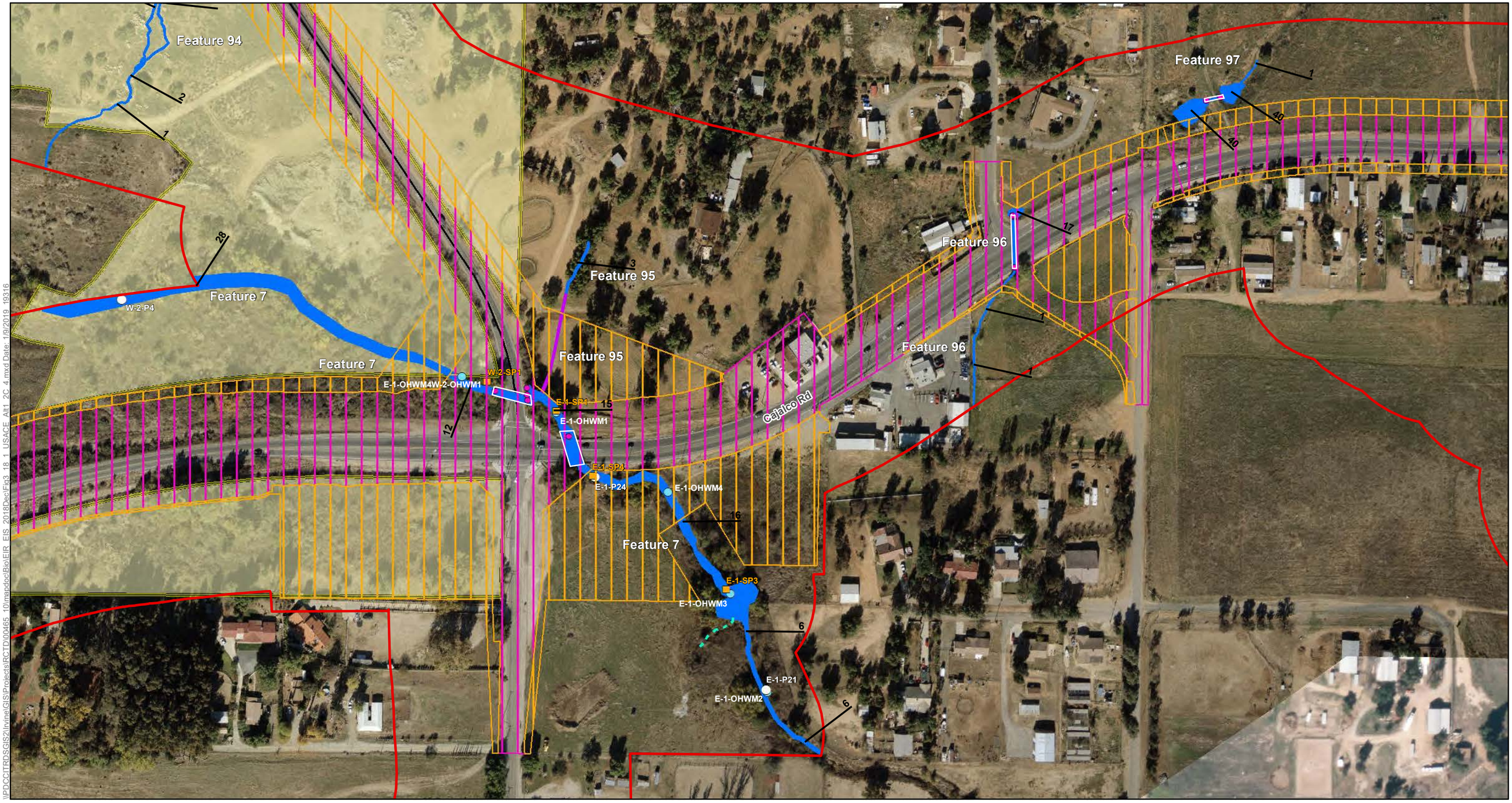

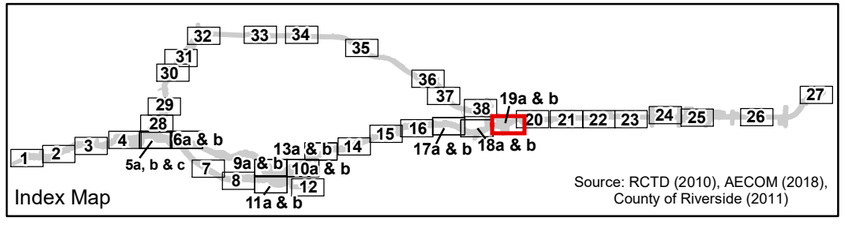

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 19a
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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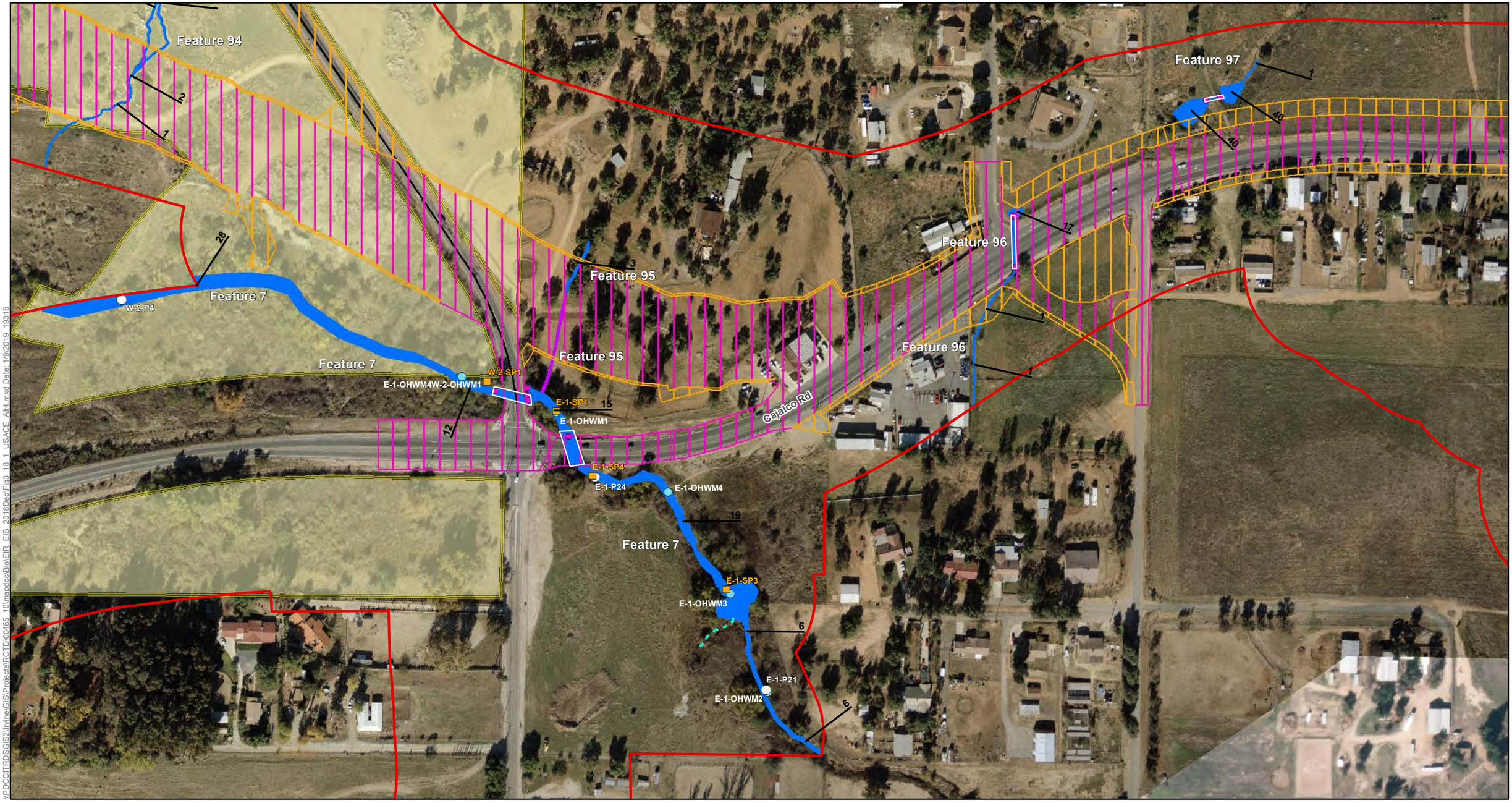

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Figure 3.18-1 - Sheet 19b
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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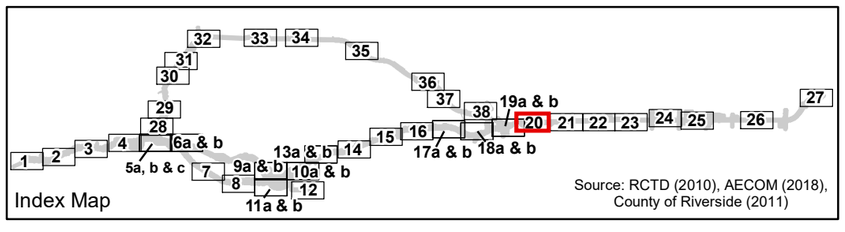

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 20
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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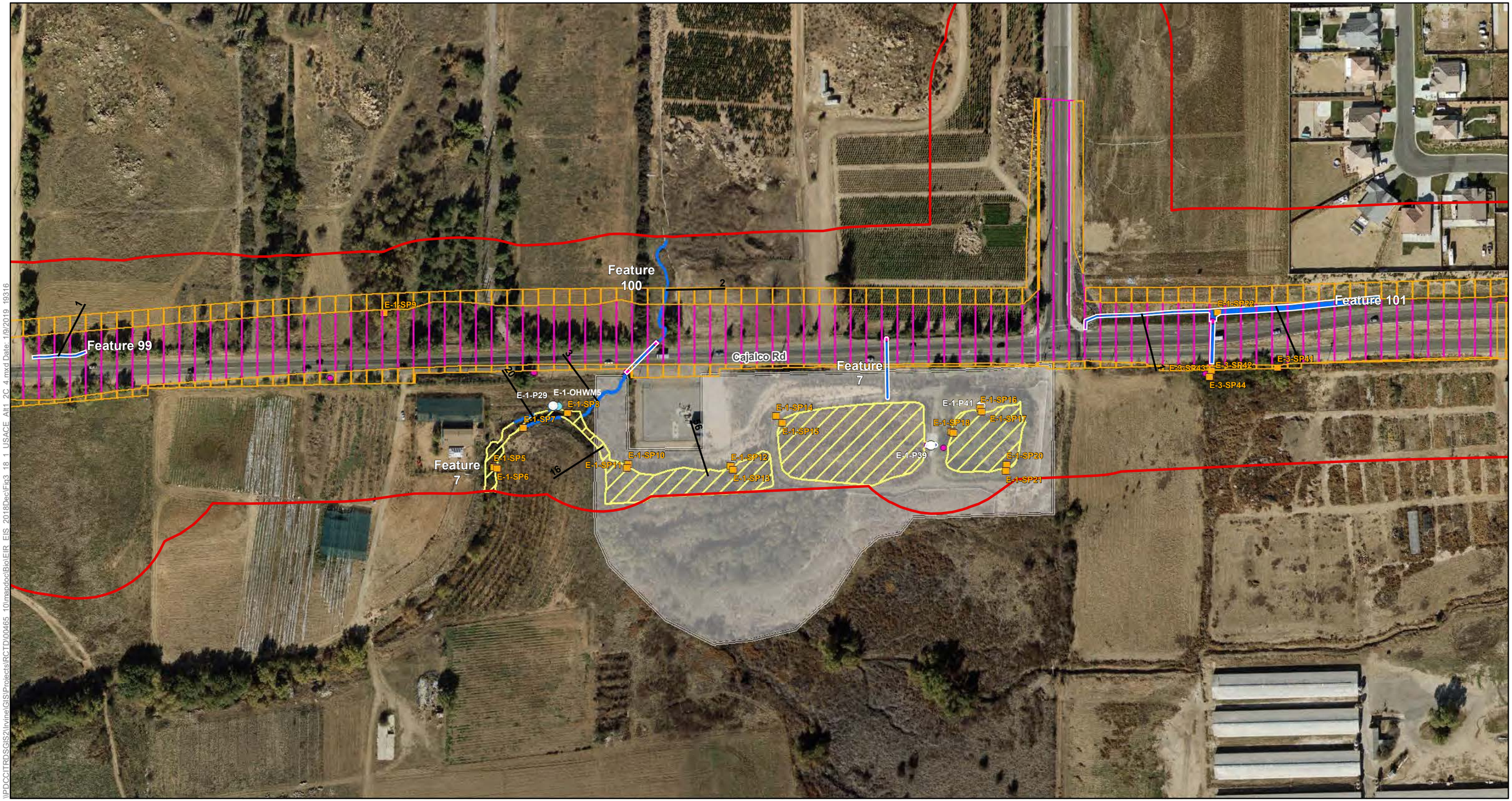

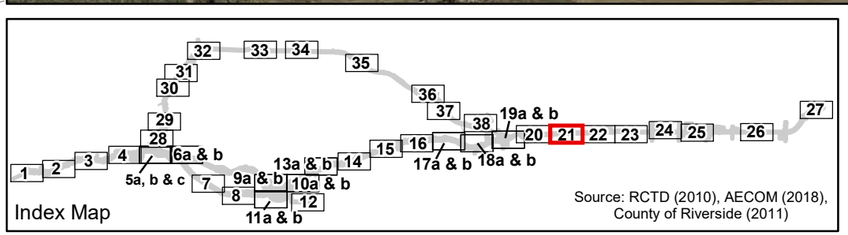

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 21
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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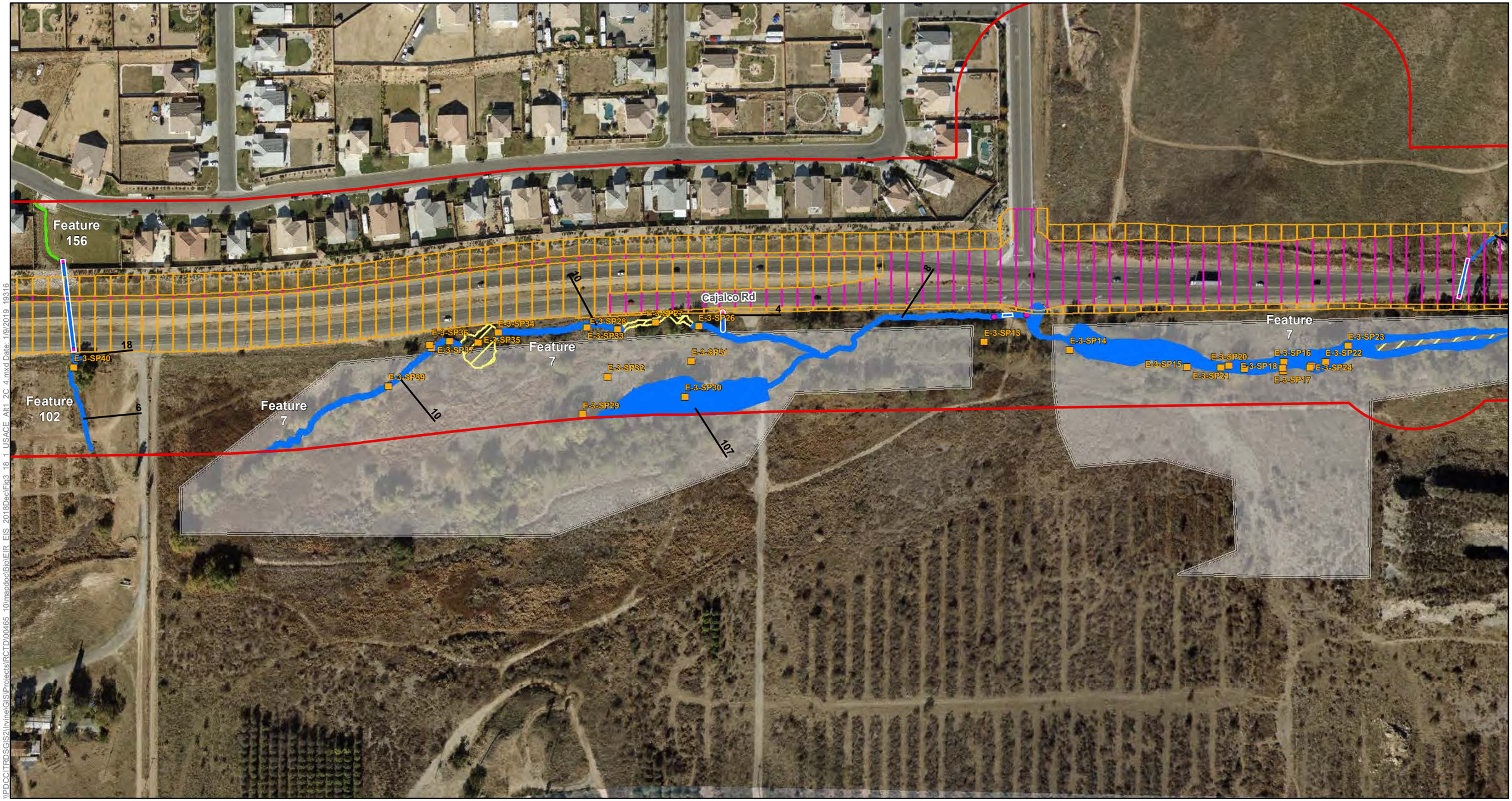

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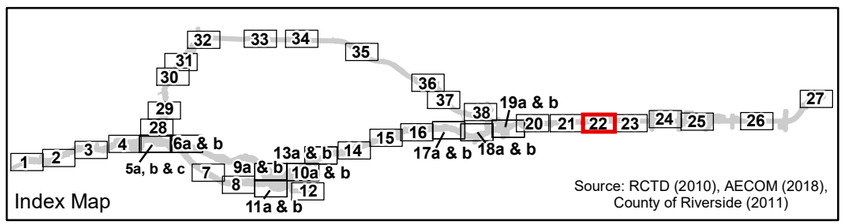

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 22
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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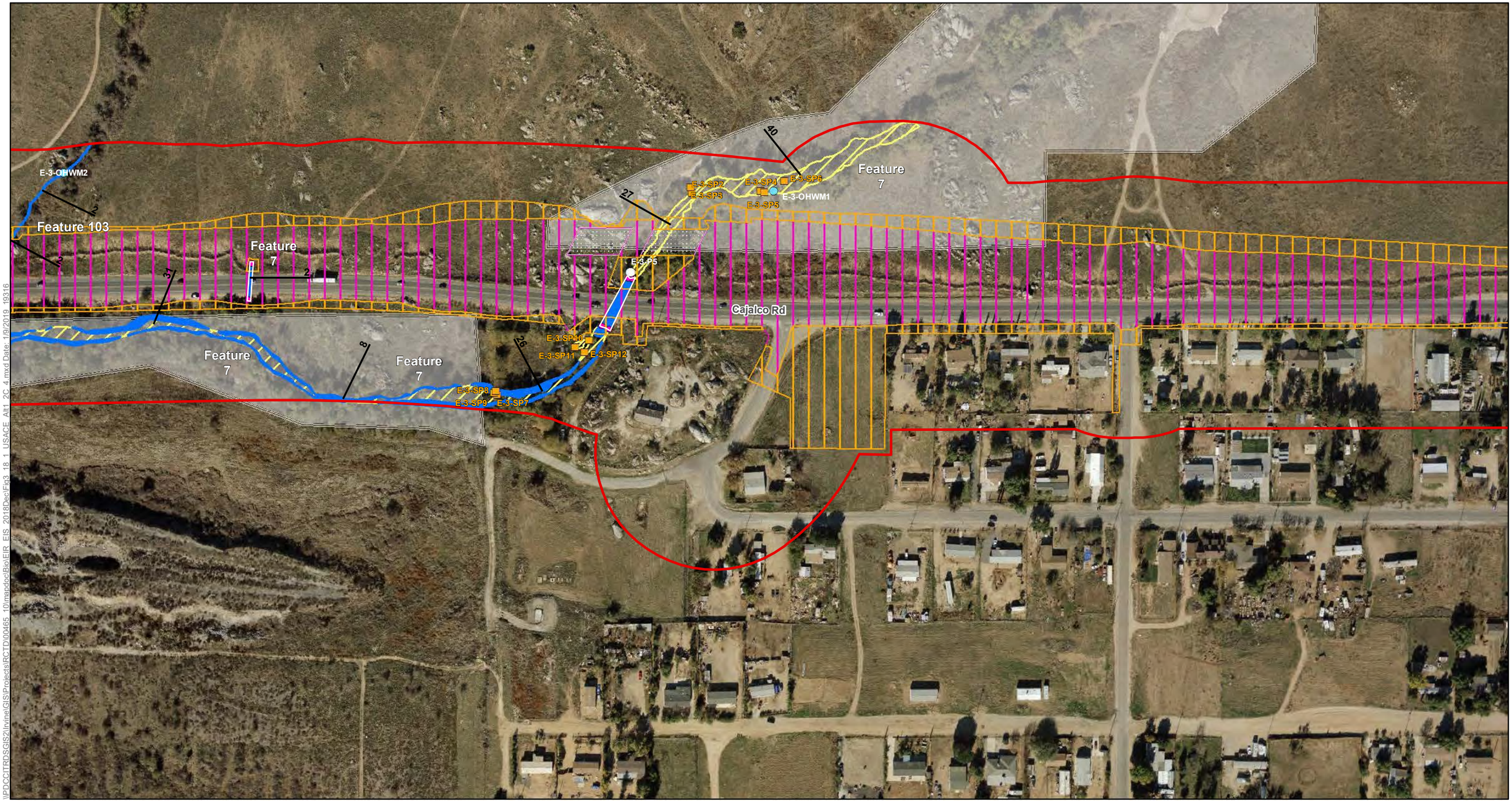

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Figure 3.18-1 - Sheet 23
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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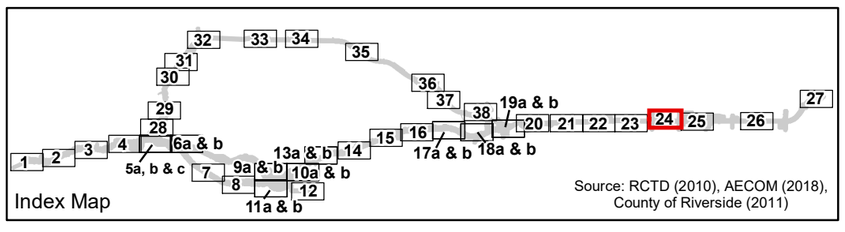

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 24
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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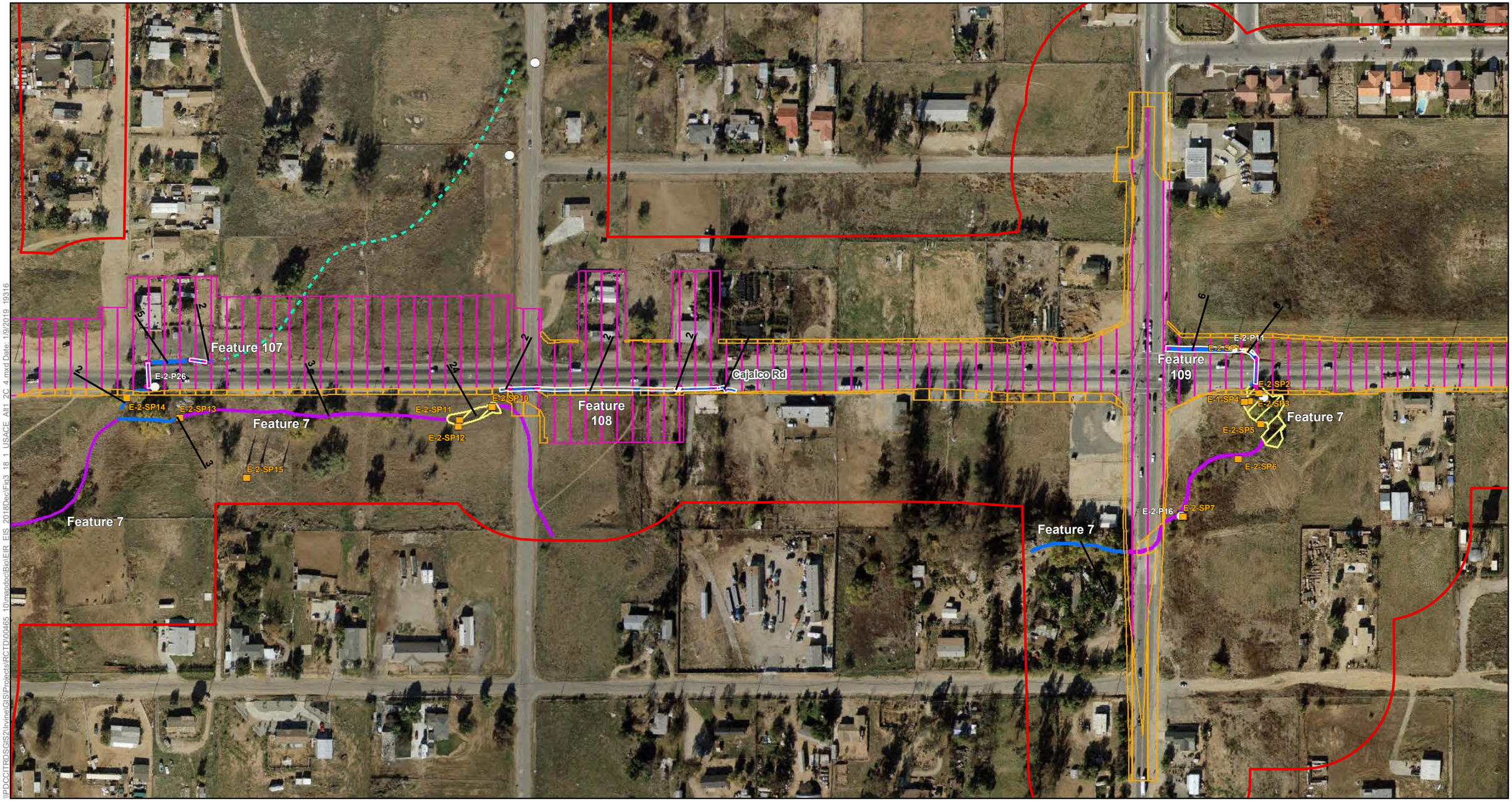

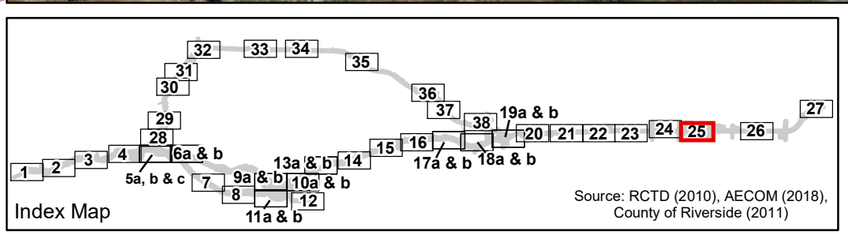

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 25
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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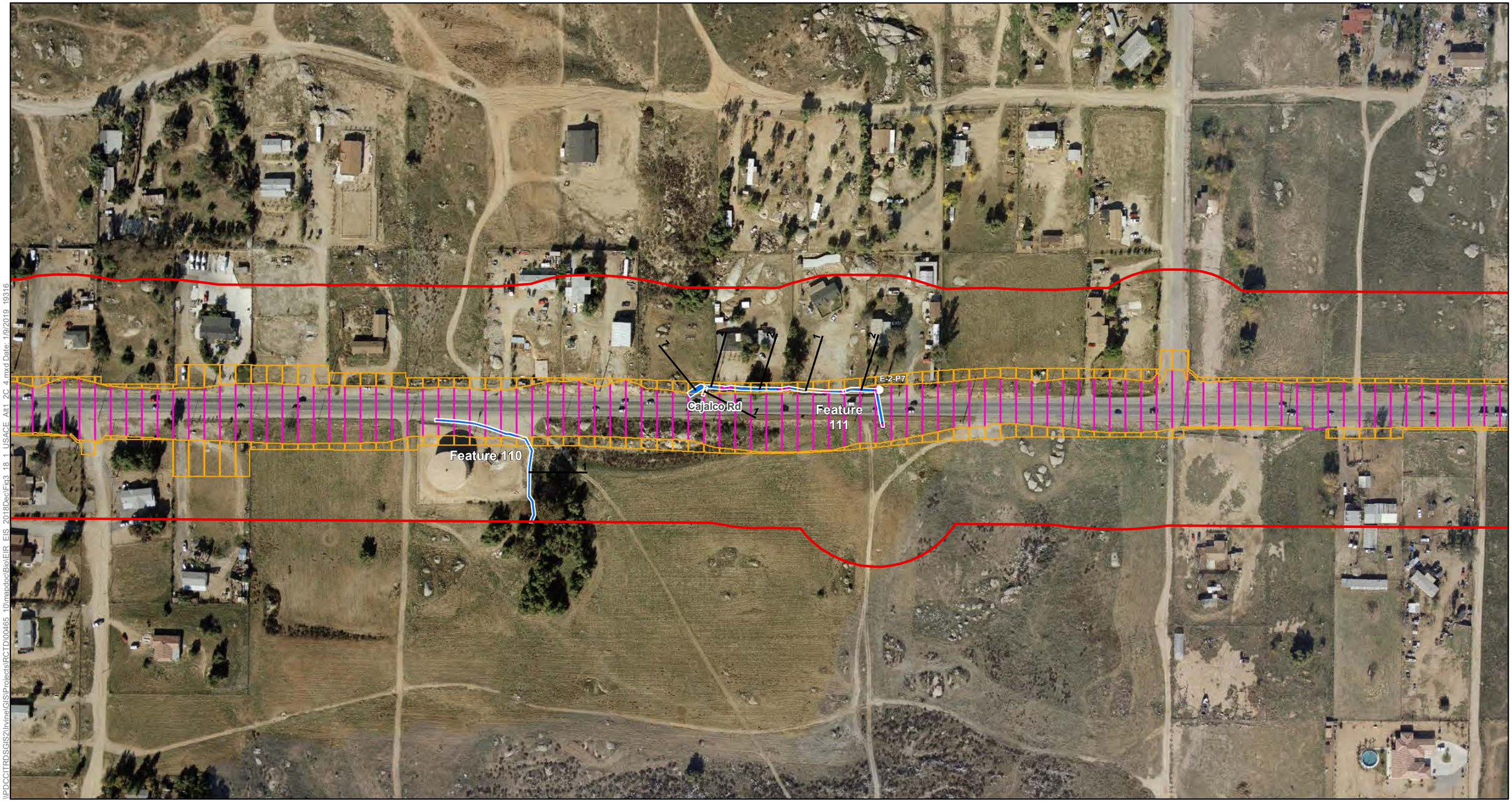

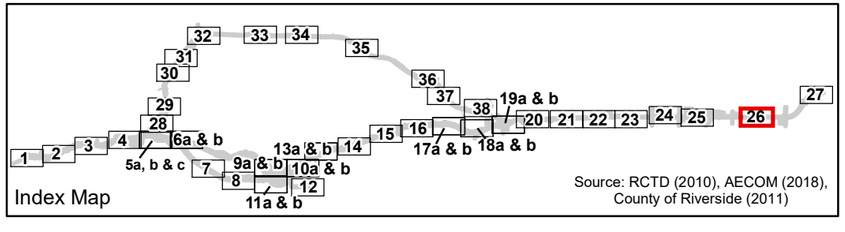

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 26
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mxd\doc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt1_2C_4.mxd Date: 1/9/2019 19316

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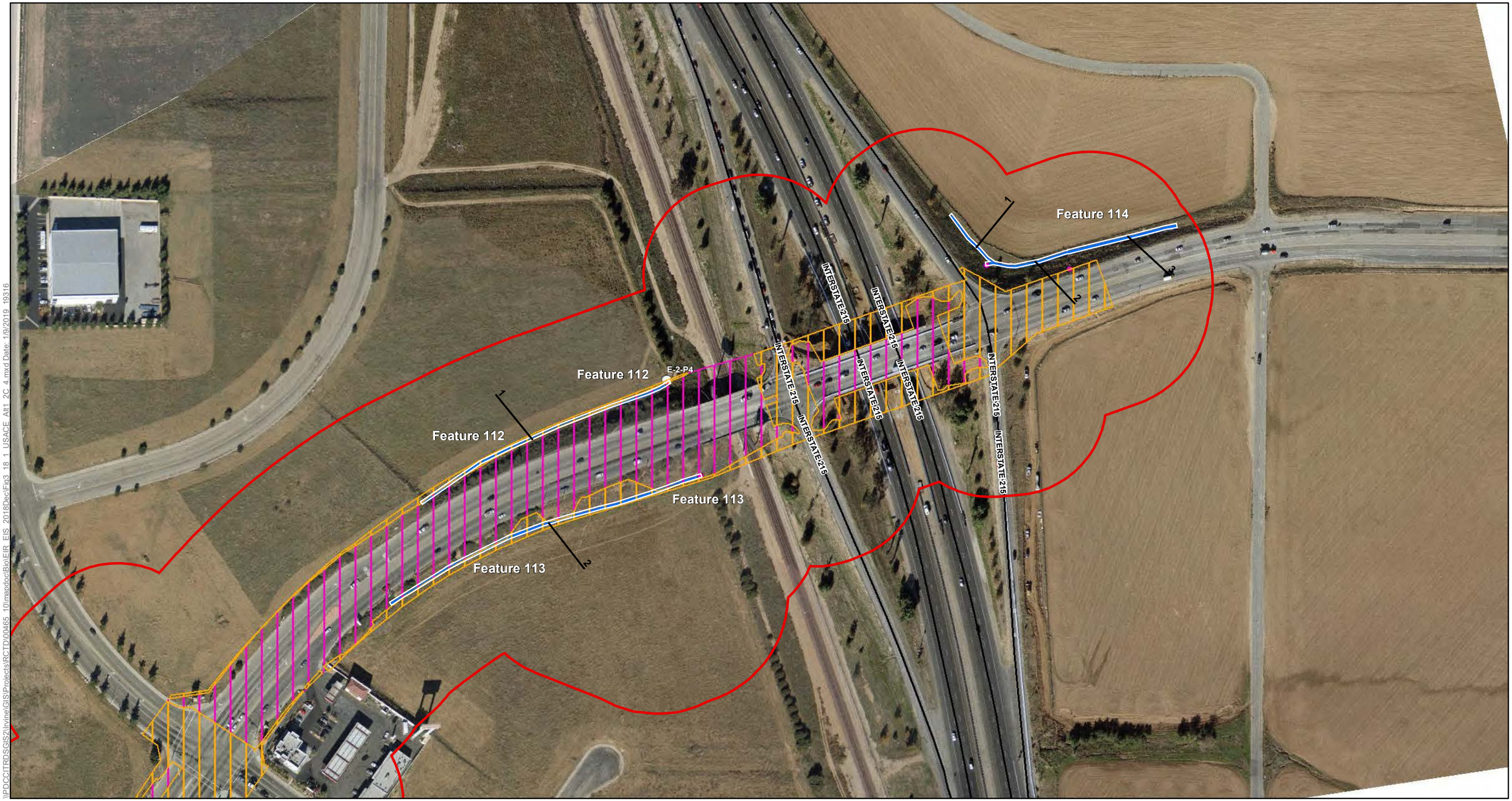

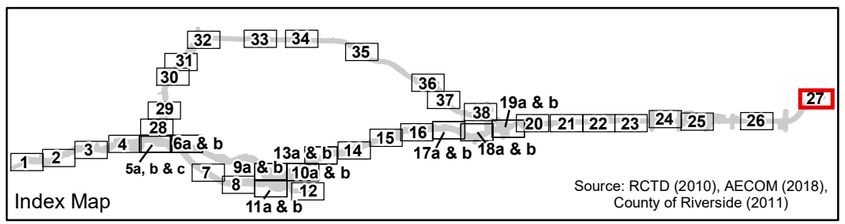

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 27
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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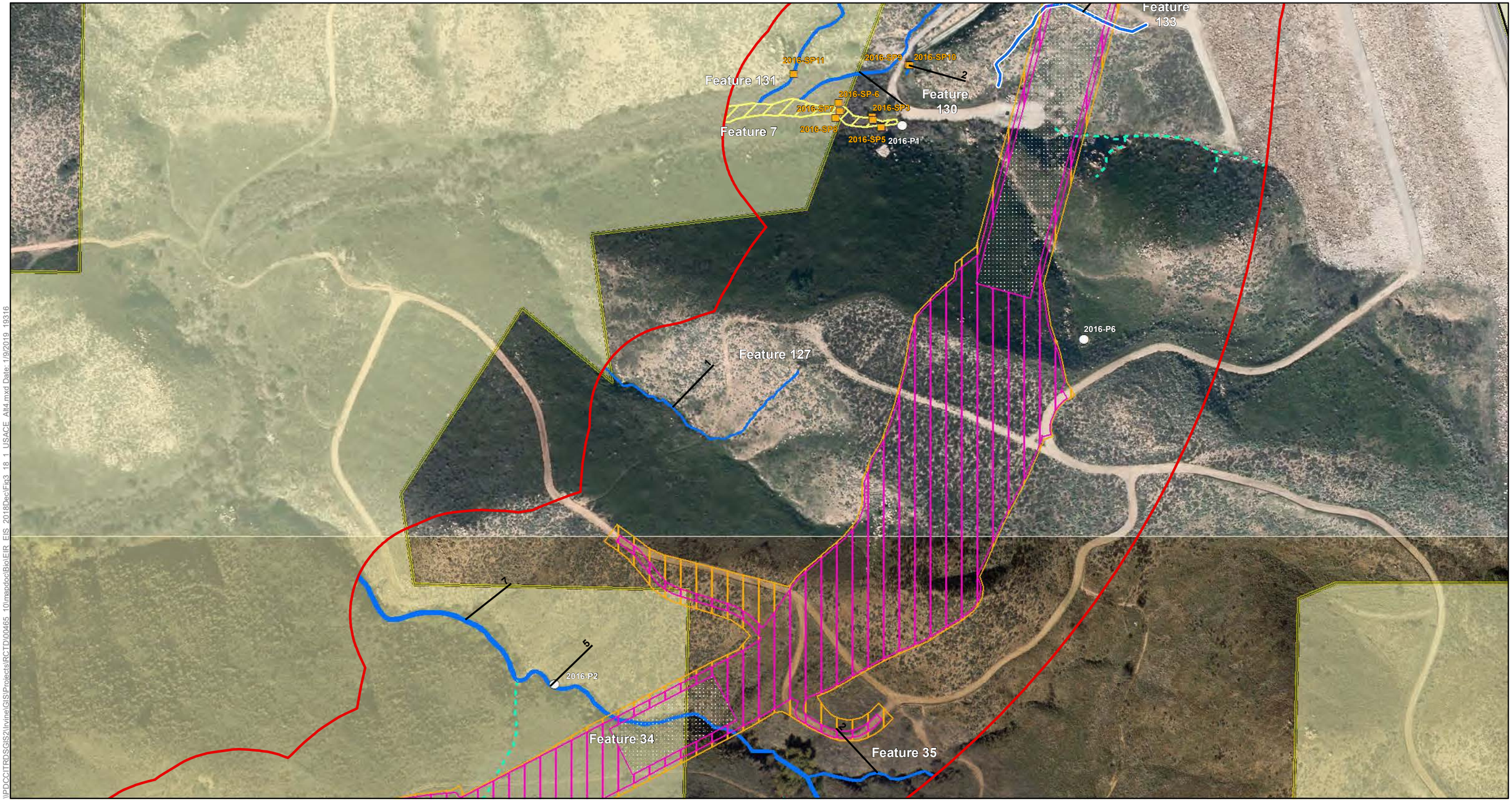

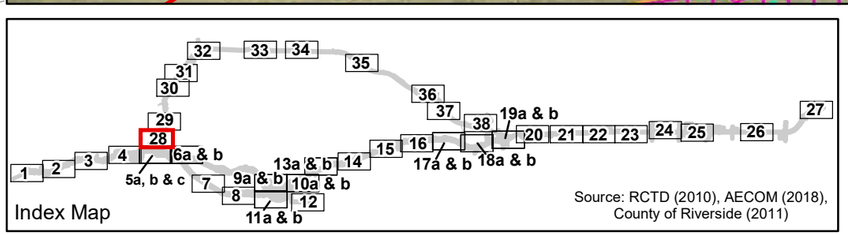

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet
N

Figure 3.18-1 - Sheet 28
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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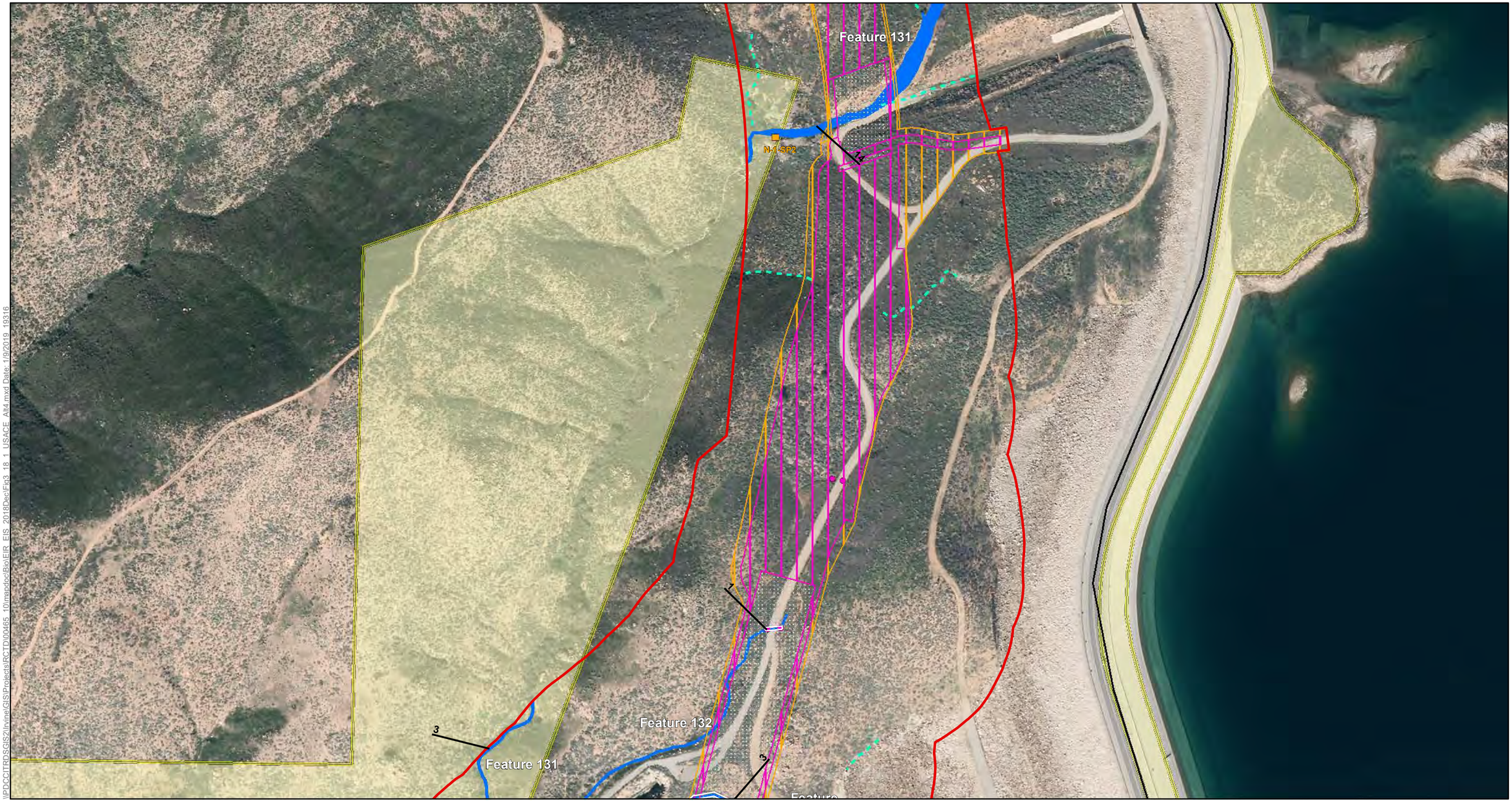

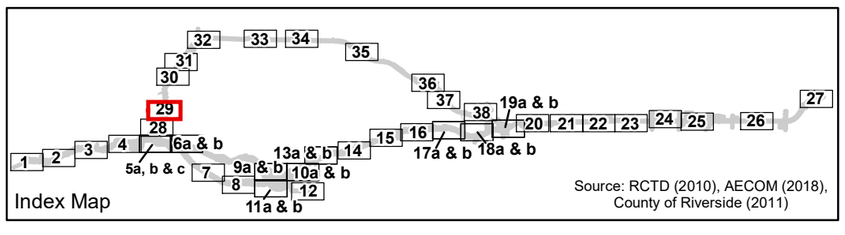

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 29
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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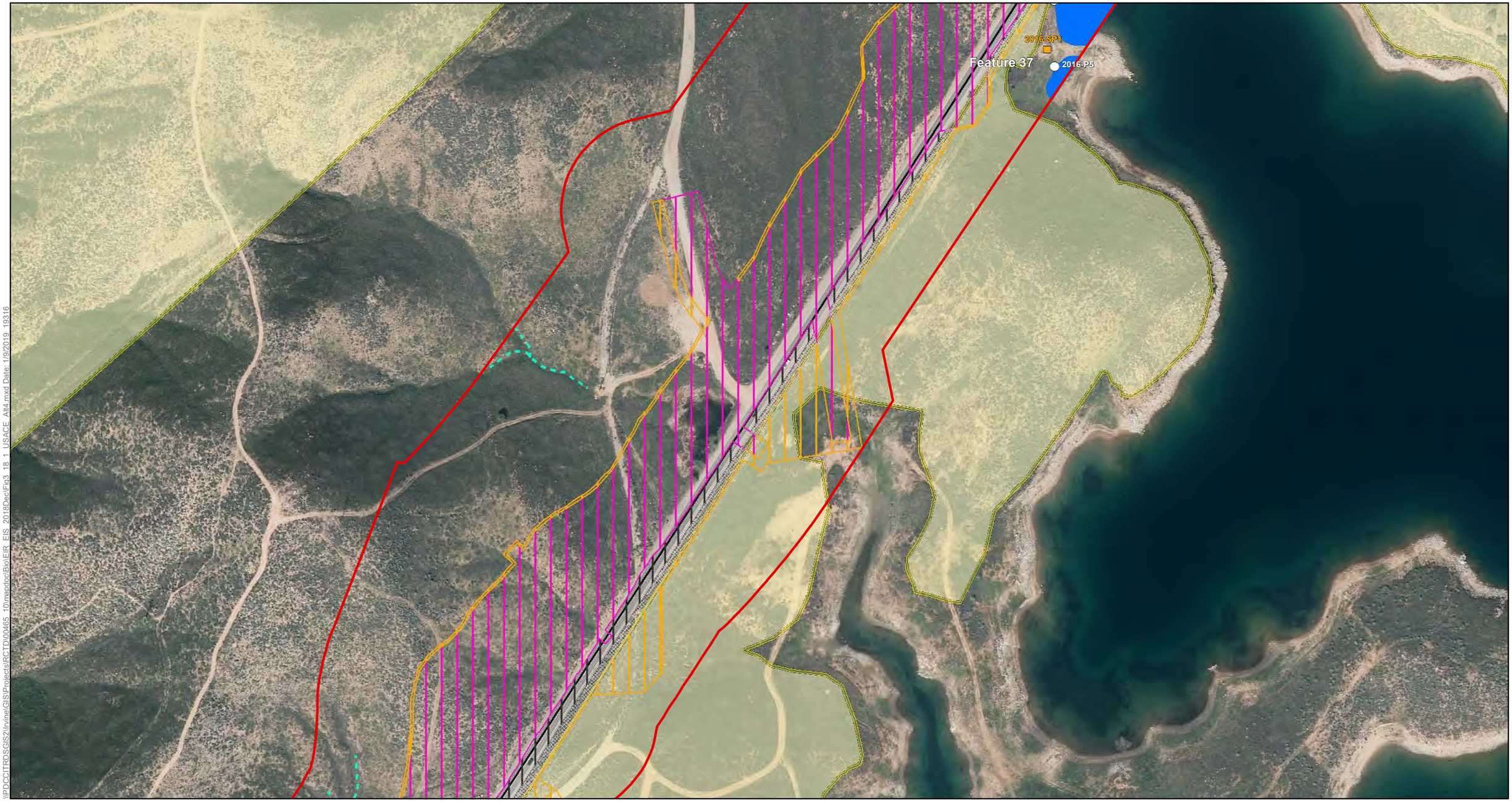

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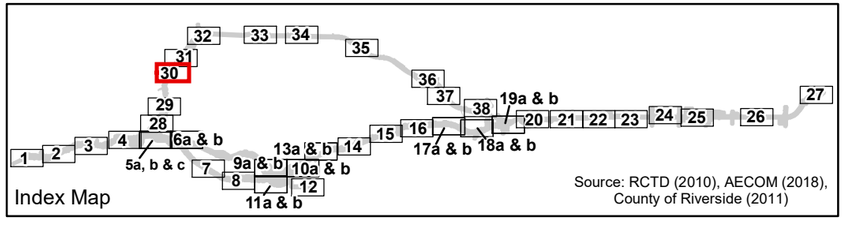

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 30
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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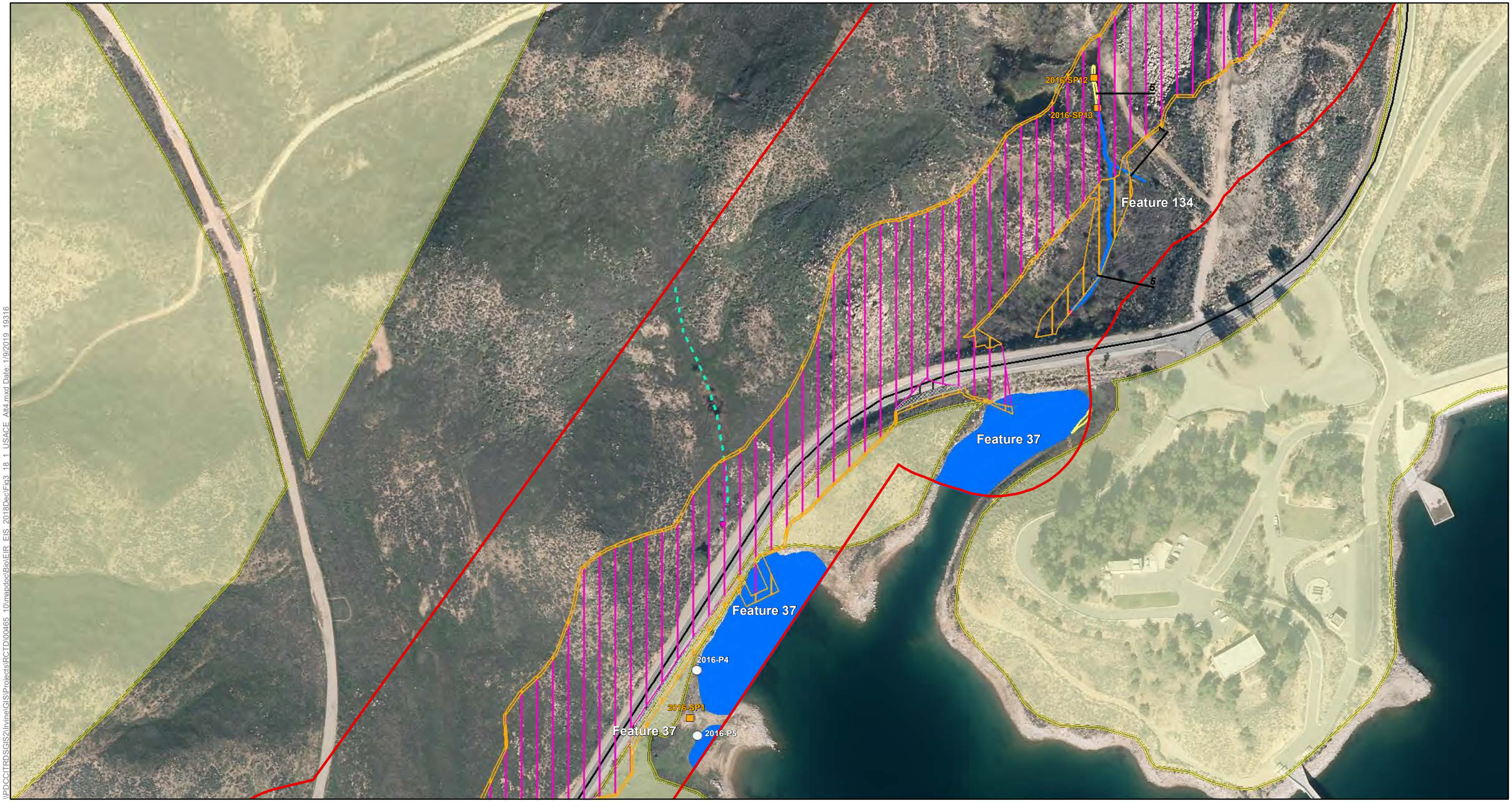

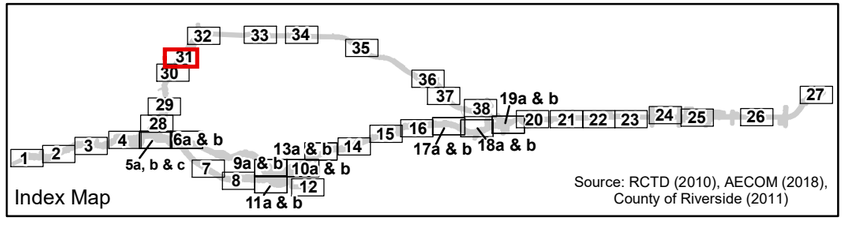

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 31
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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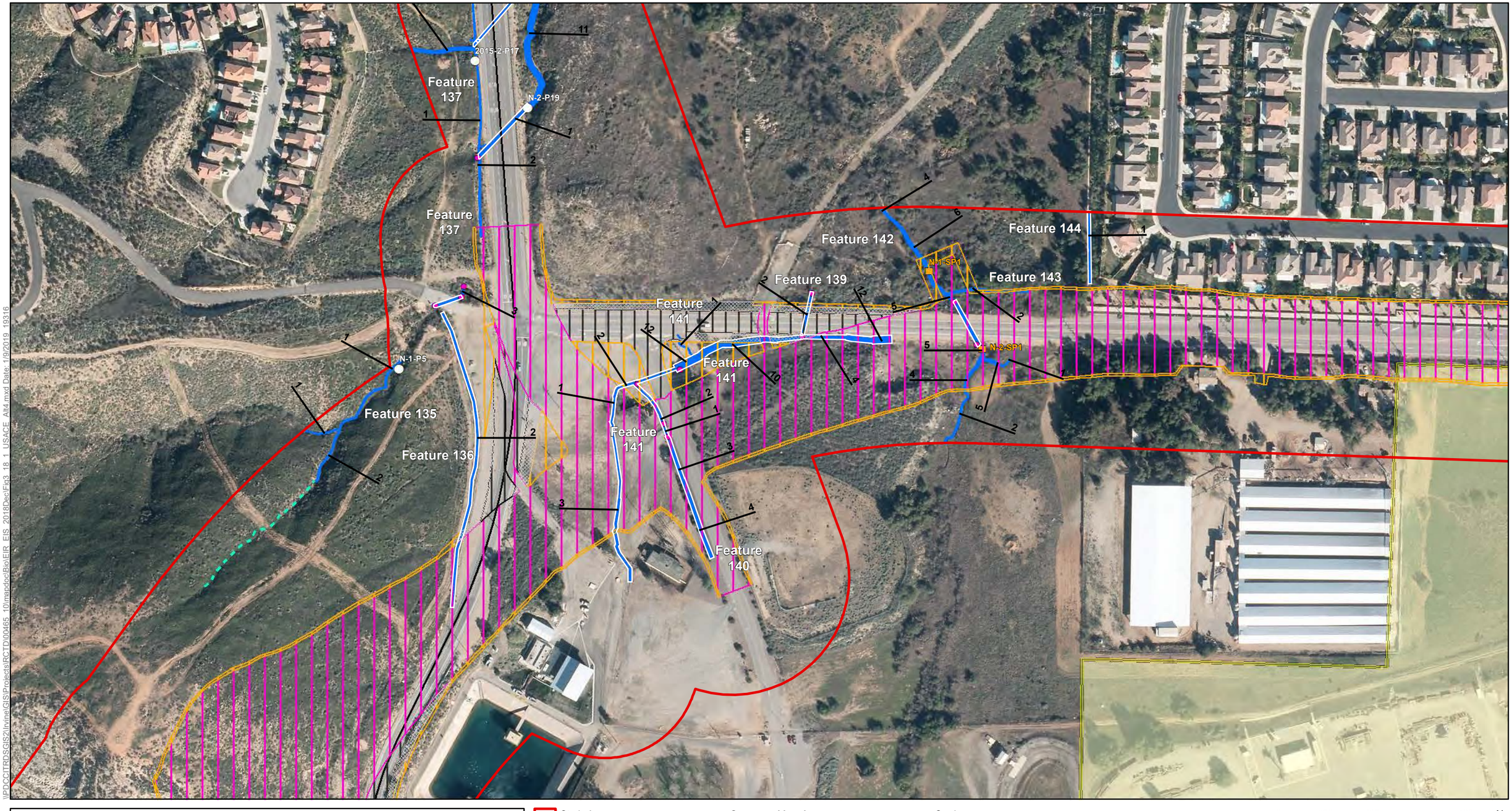

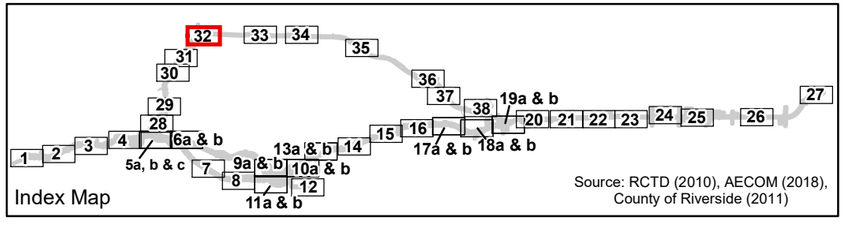

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-wetland WoUS/WoS
Non-wetland WoUS/WoS Inferred
Non-wetland WoS Only
Wetland WoUS/WoS

Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert
Sample Point Location
OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 32
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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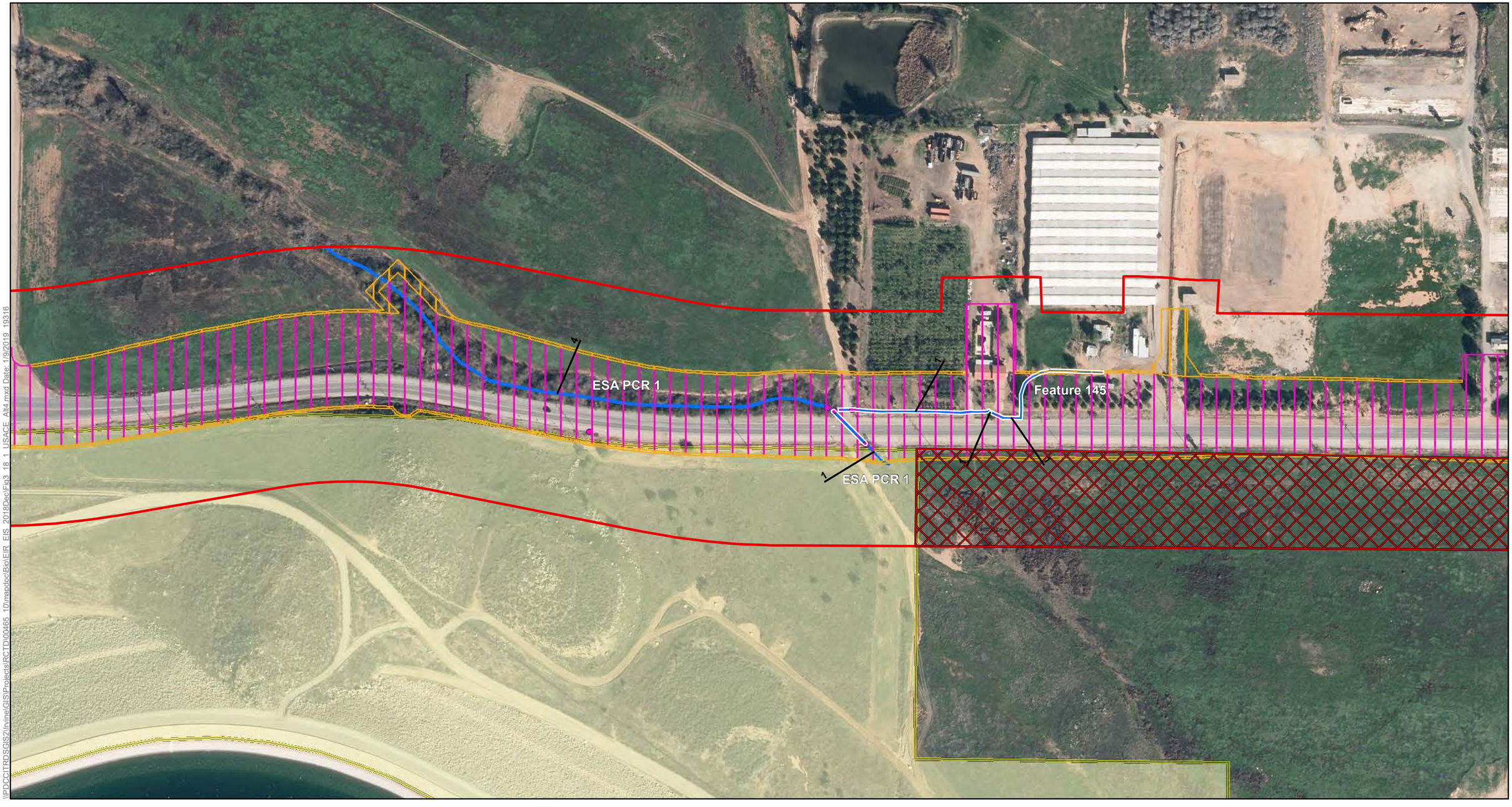

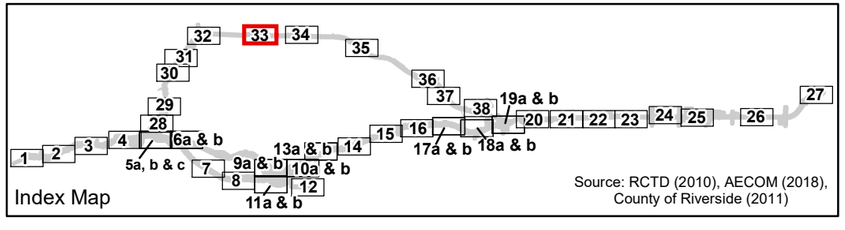

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 33
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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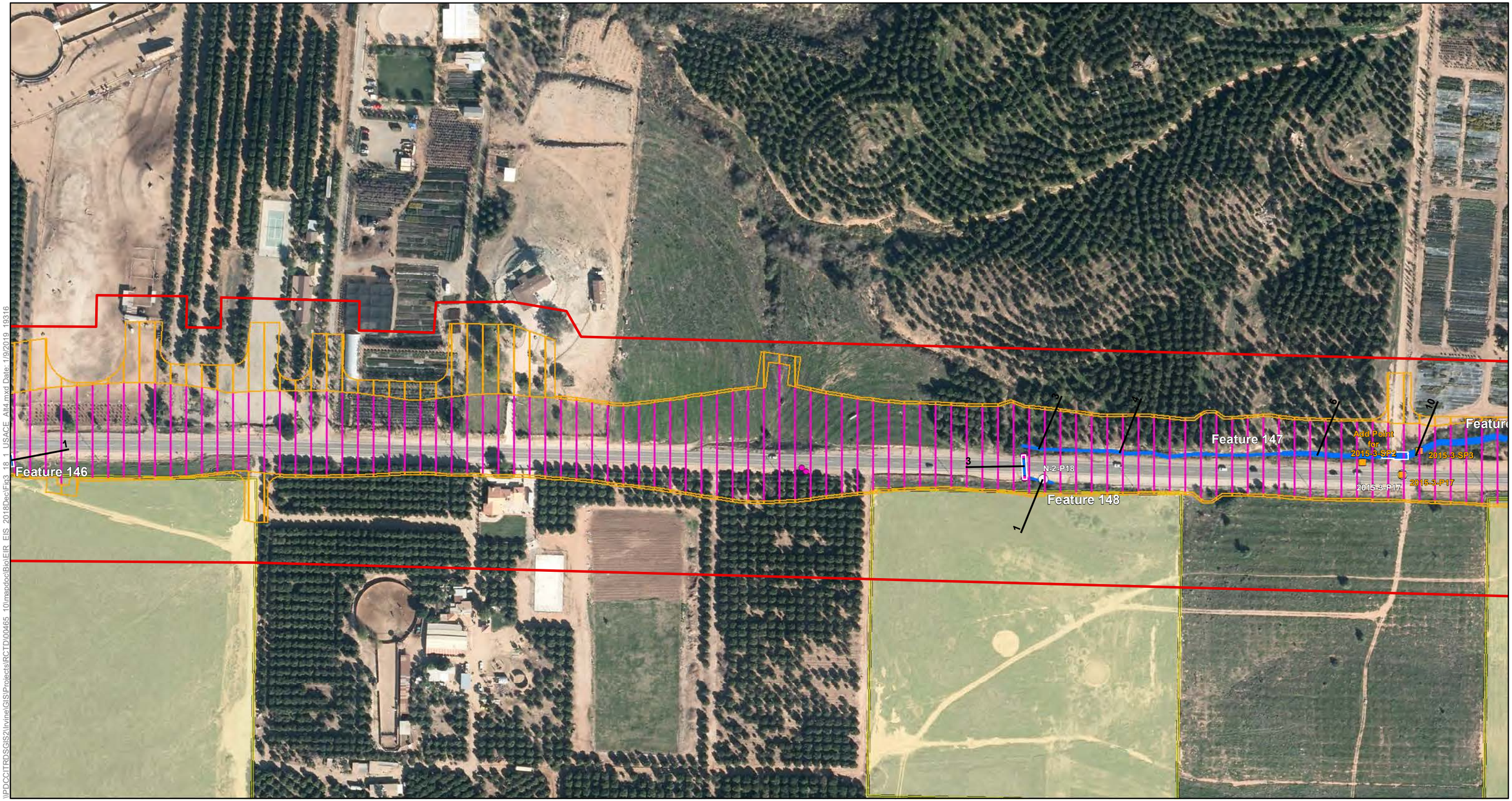

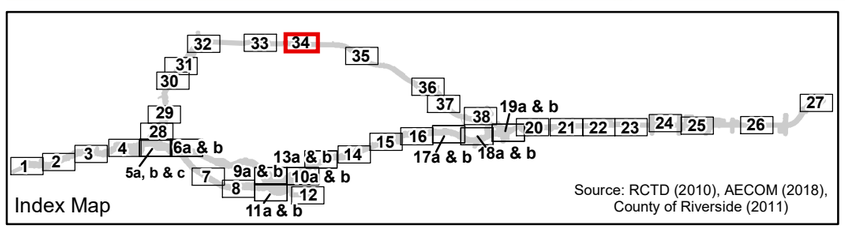

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 34
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt4.mxd Date: 1/9/2019 19316

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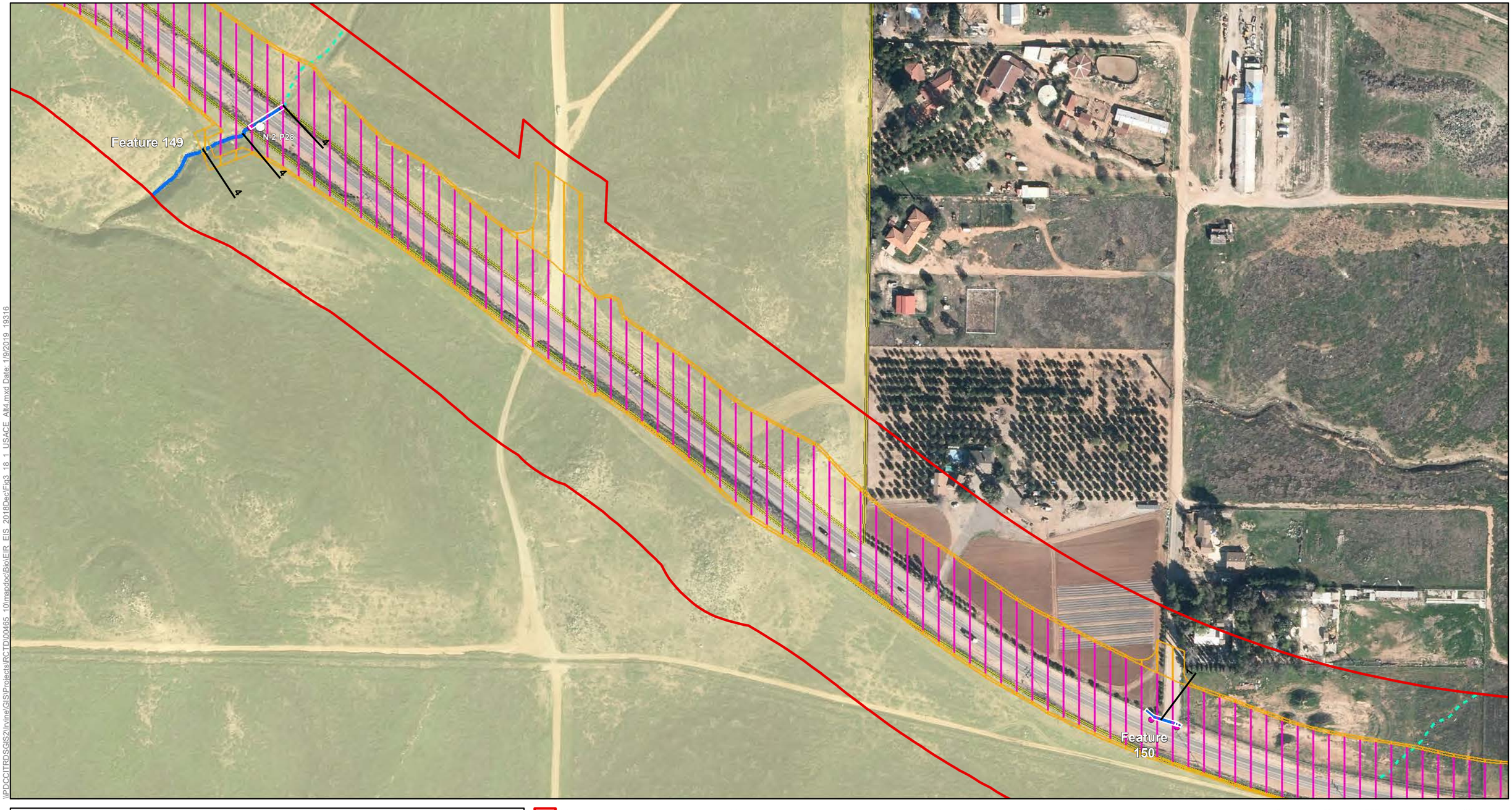

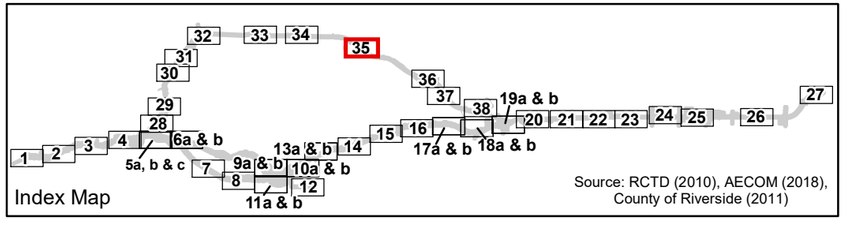

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 35
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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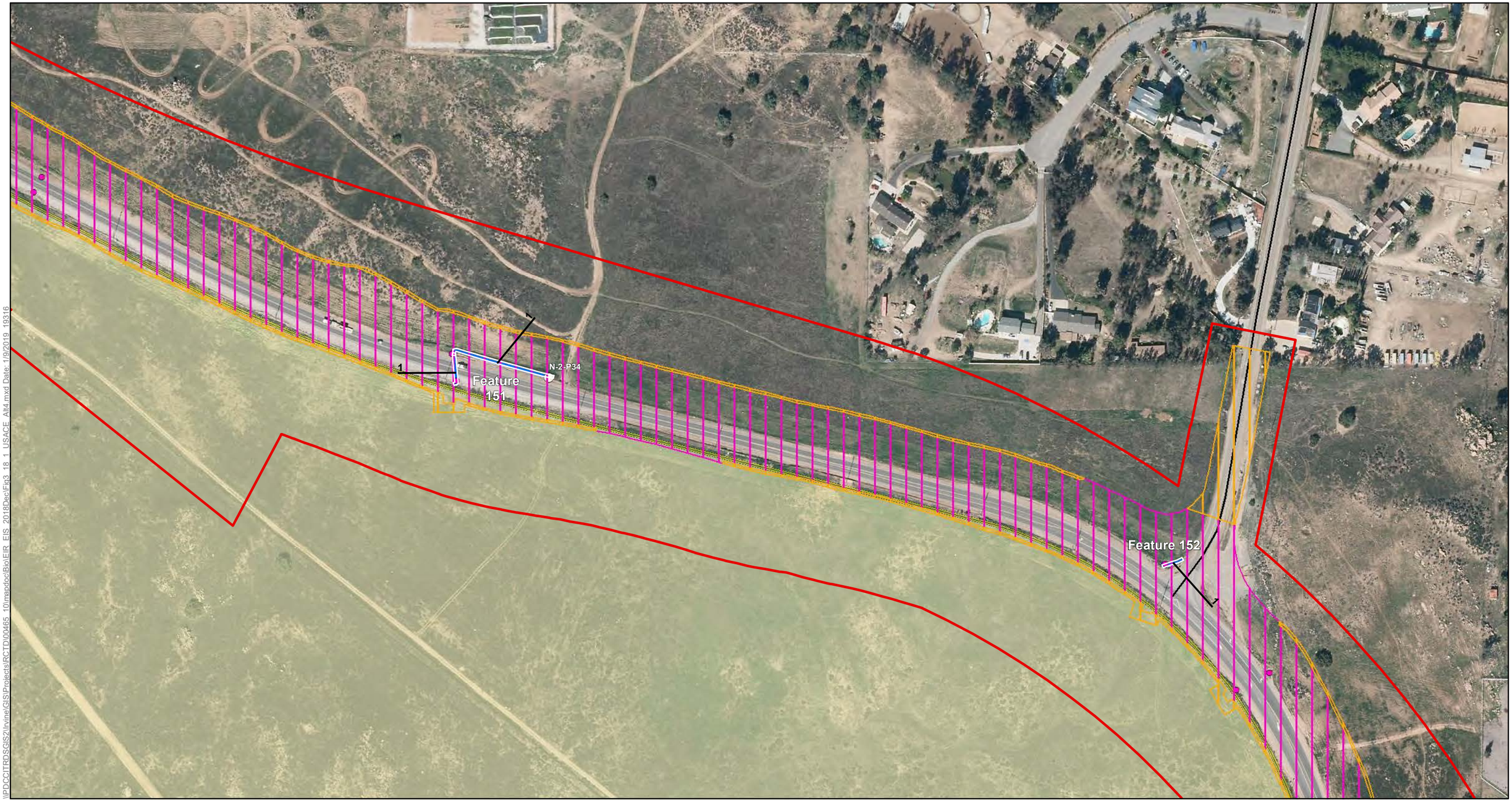

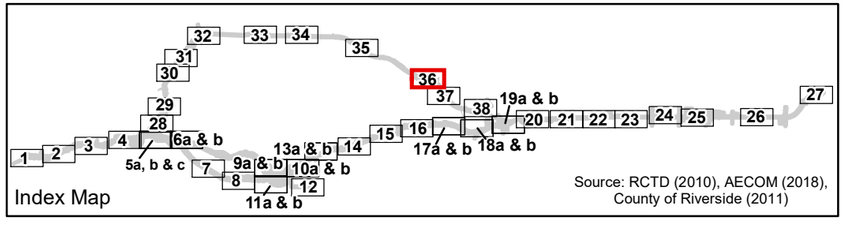

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 36
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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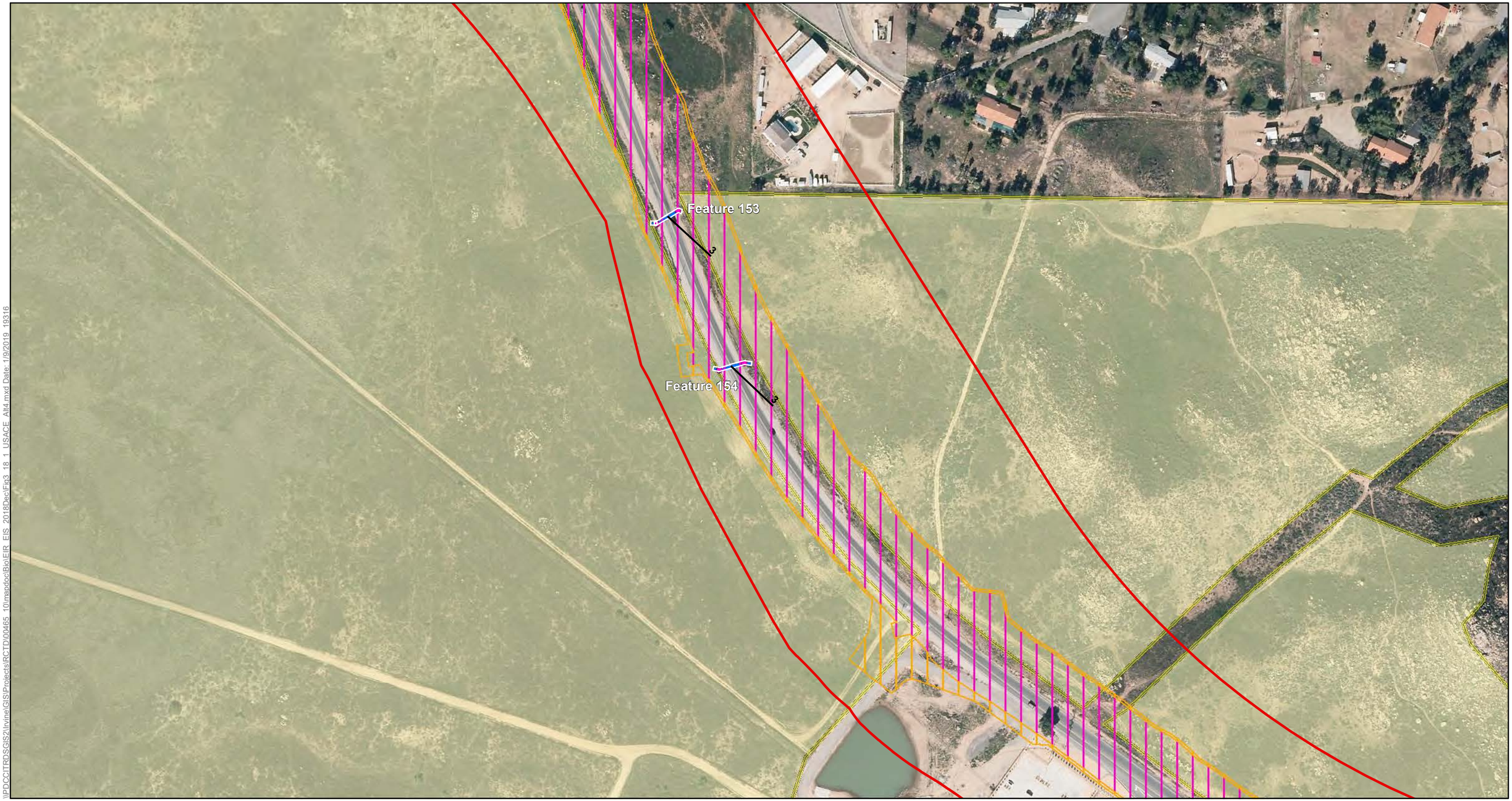

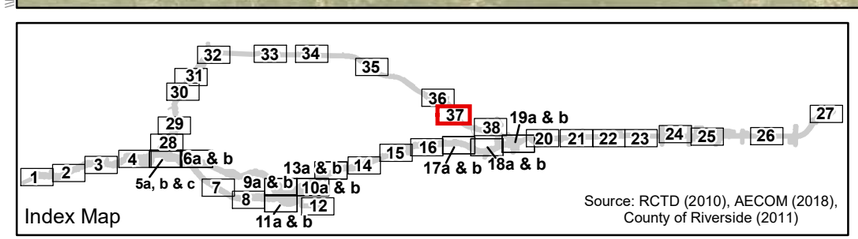

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 37
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_1_USACE_Alt4.mxd Date: 1/9/2019_19316

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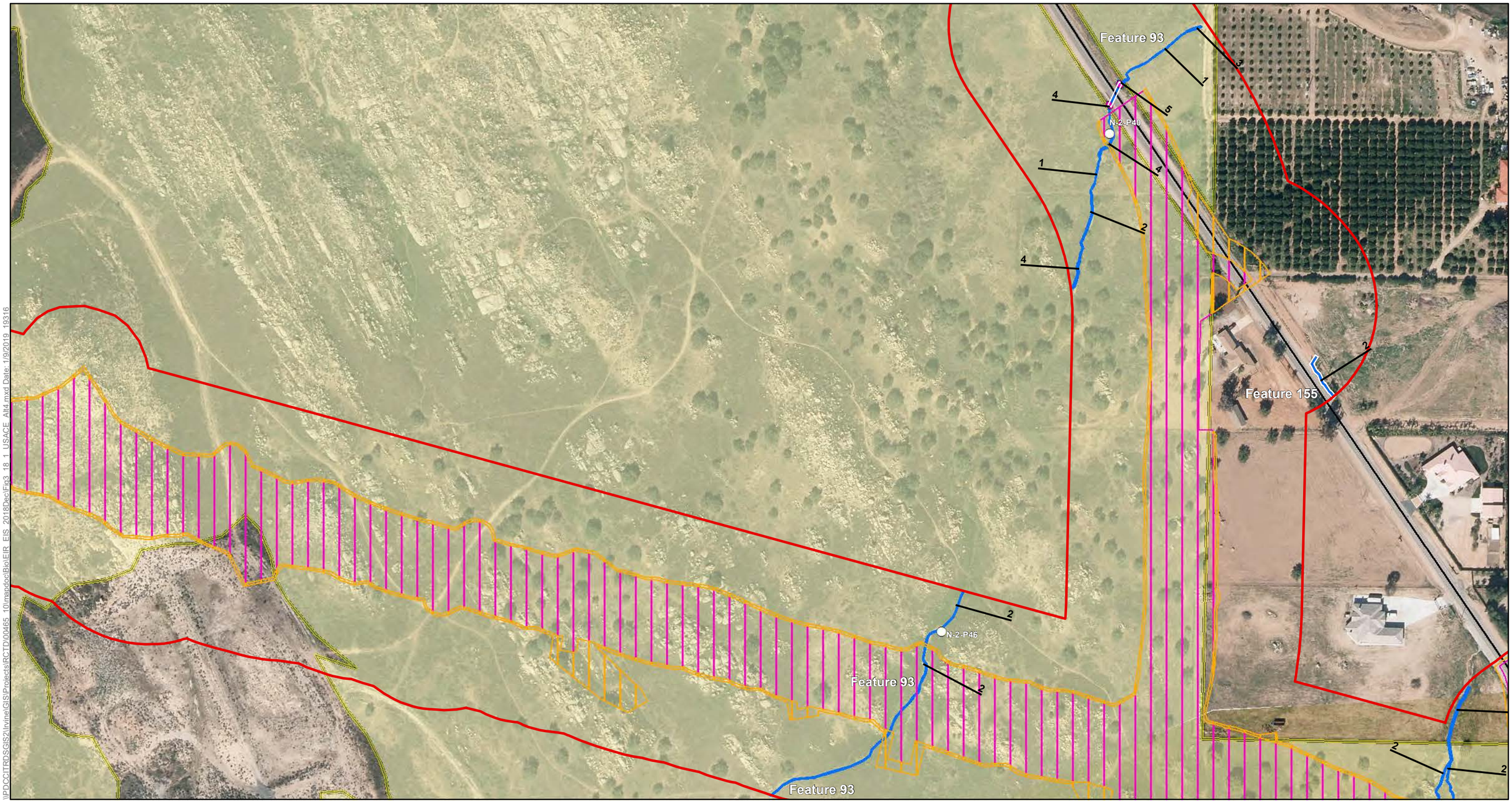

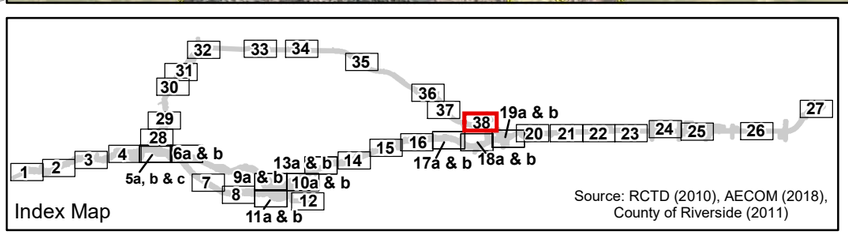

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-wetland WoUS/WoS
- Non-wetland WoUS/WoS Inferred
- Non-wetland WoS Only
- Wetland WoUS/WoS

- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert
- Sample Point Location
- OHWM Datasheet Location

0 100 200 400 Feet

N

Figure 3.18-1 - Sheet 38
USACE/RWQCB Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GISProjects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018DecFig3_18_1_USACE_Alt4.mxd Date: 1/9/2019_19316

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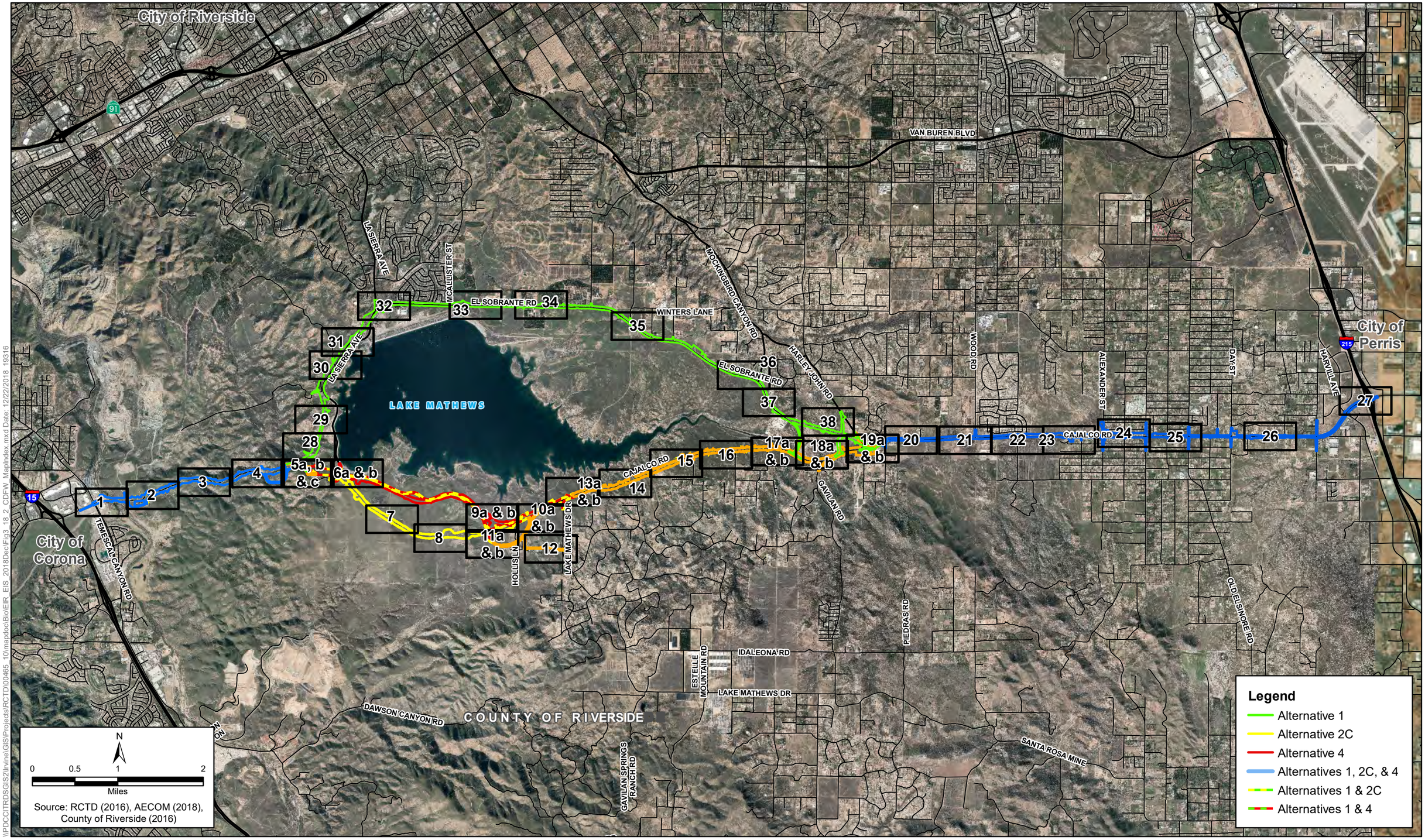

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Figure 3.18-2 - Map Index
CDFW Jurisdictional Resources Impacts
Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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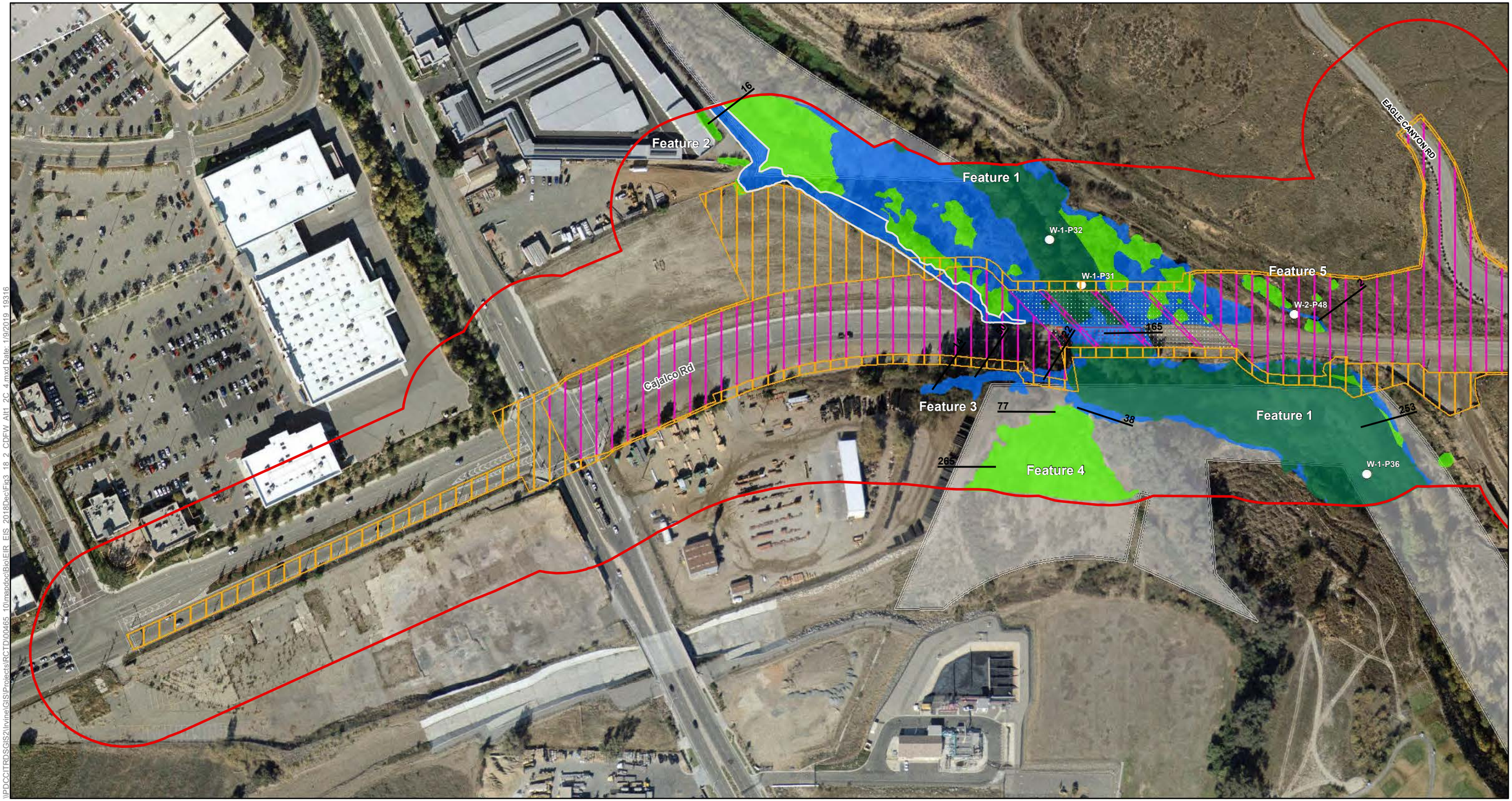

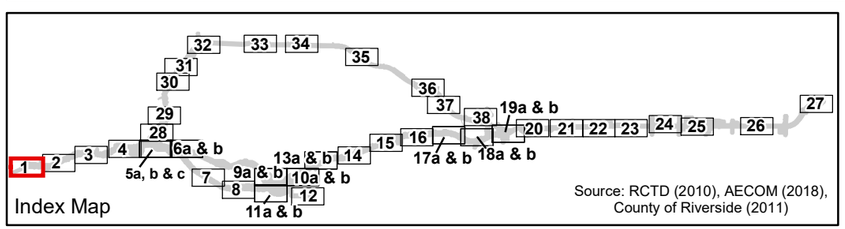

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 1
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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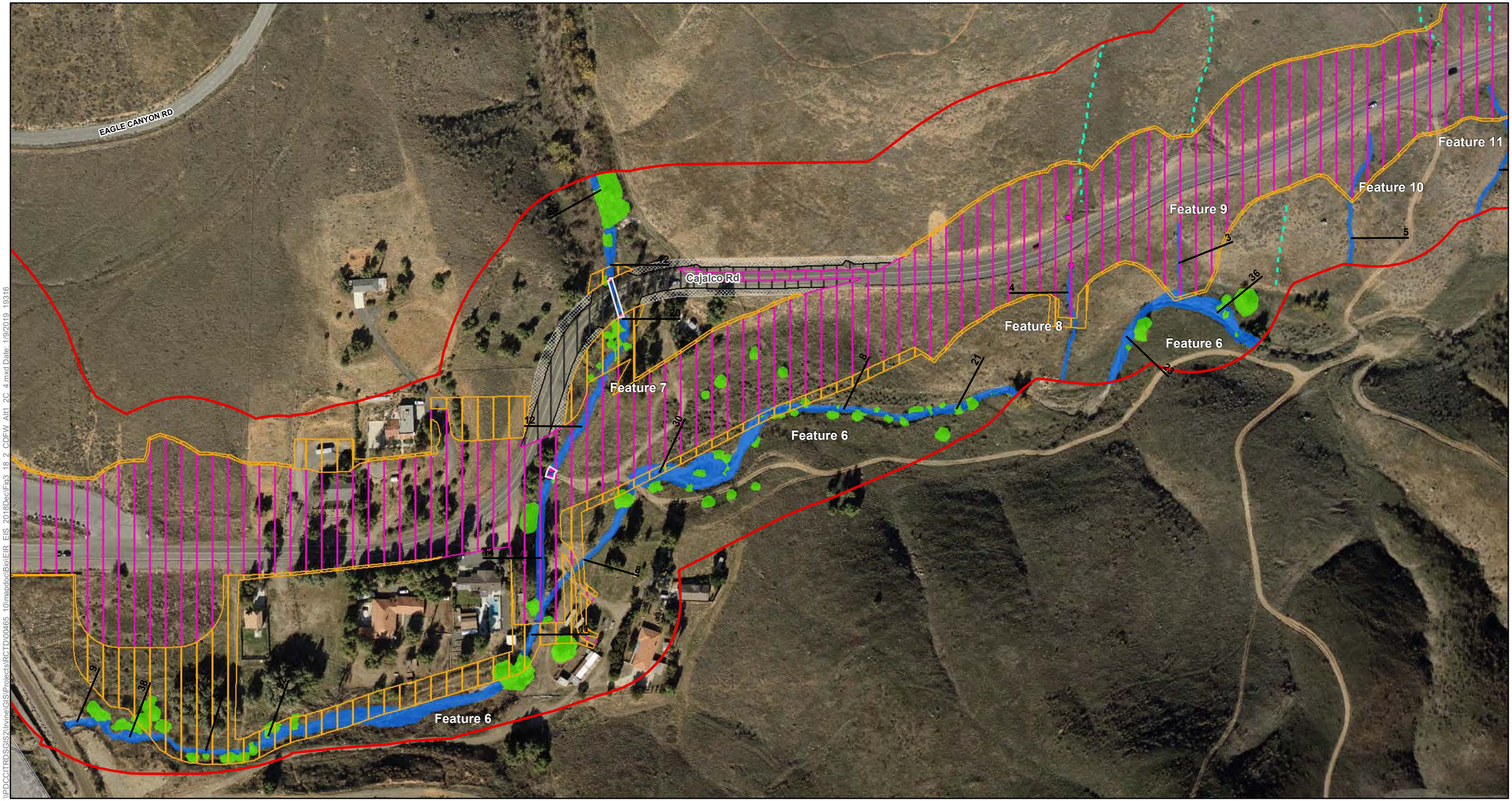

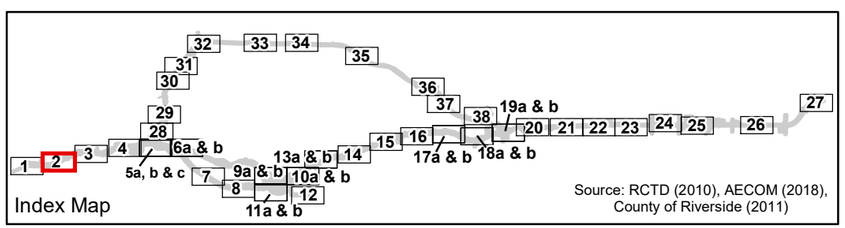

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 2
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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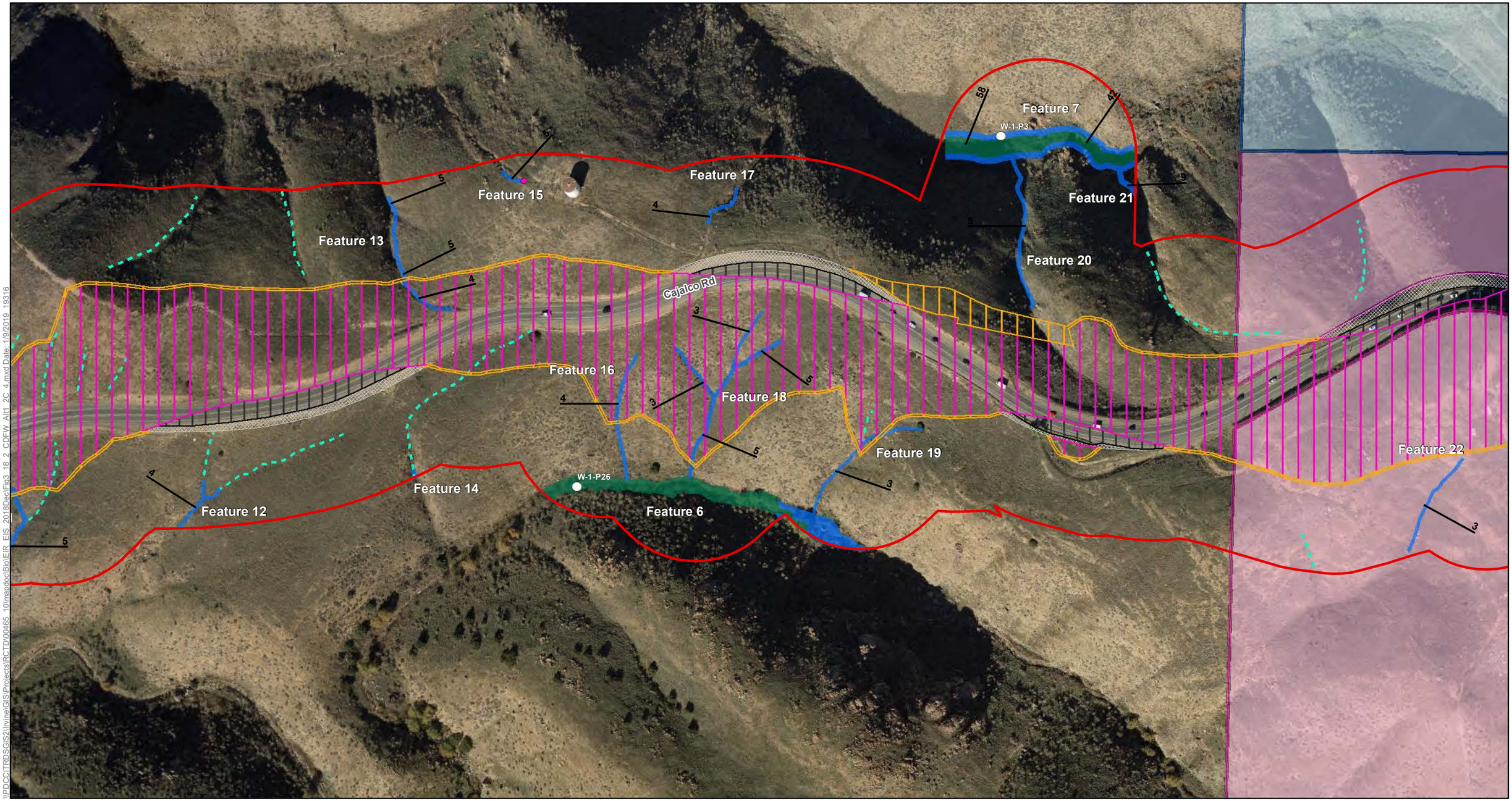

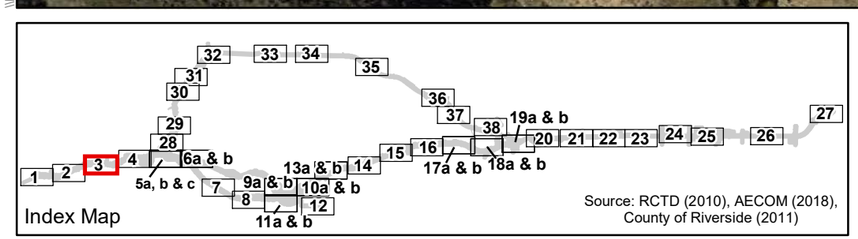

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 3
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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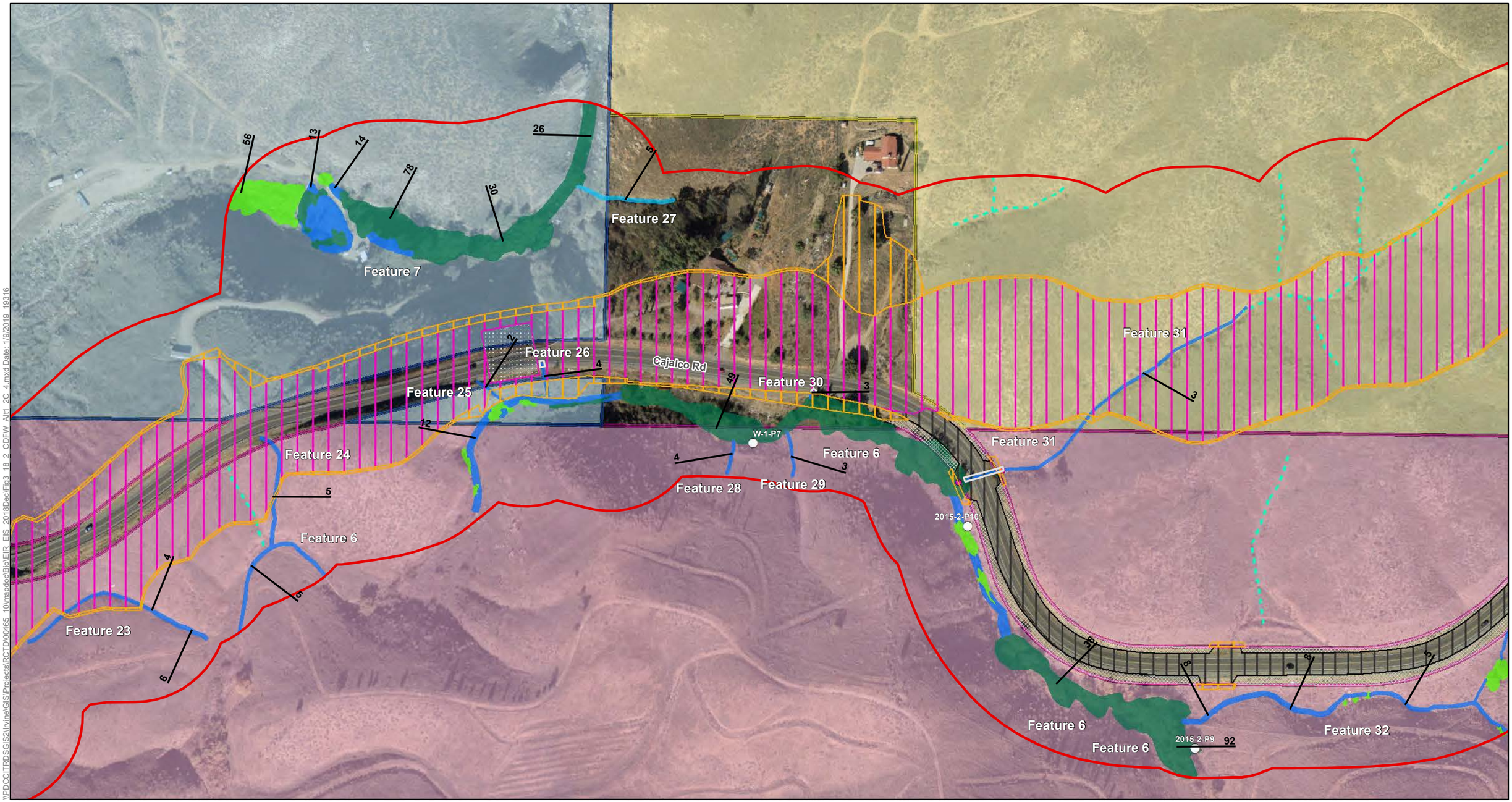

Figure 3.18-2 - Sheet 4
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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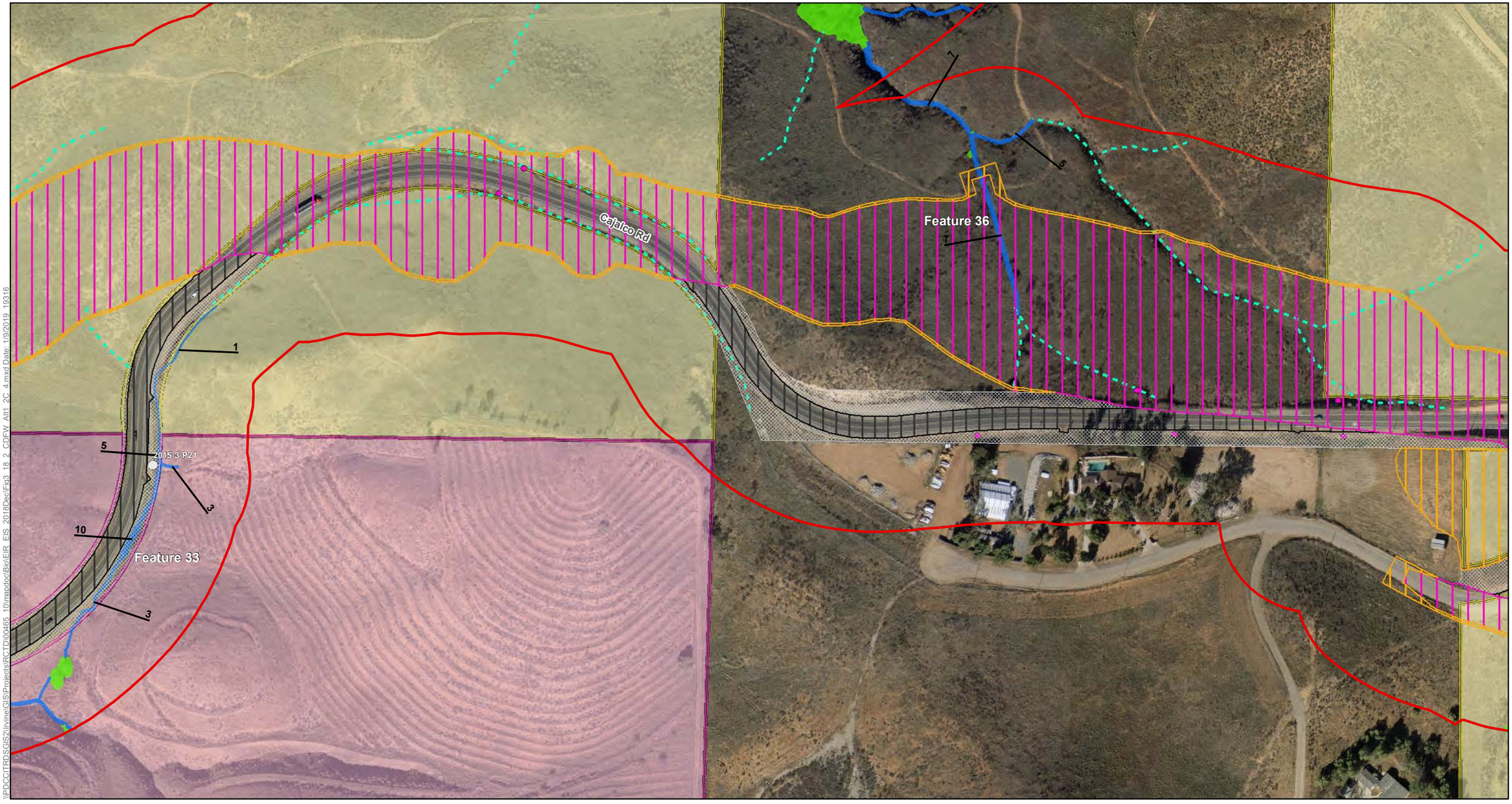

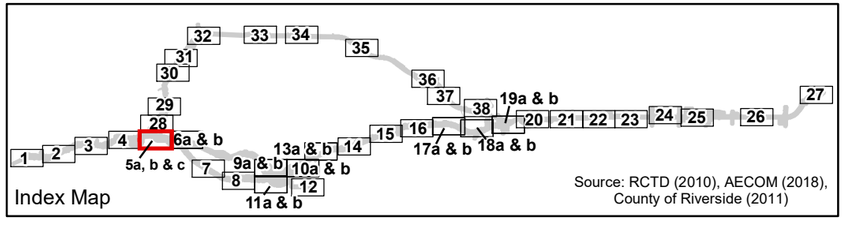

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 5a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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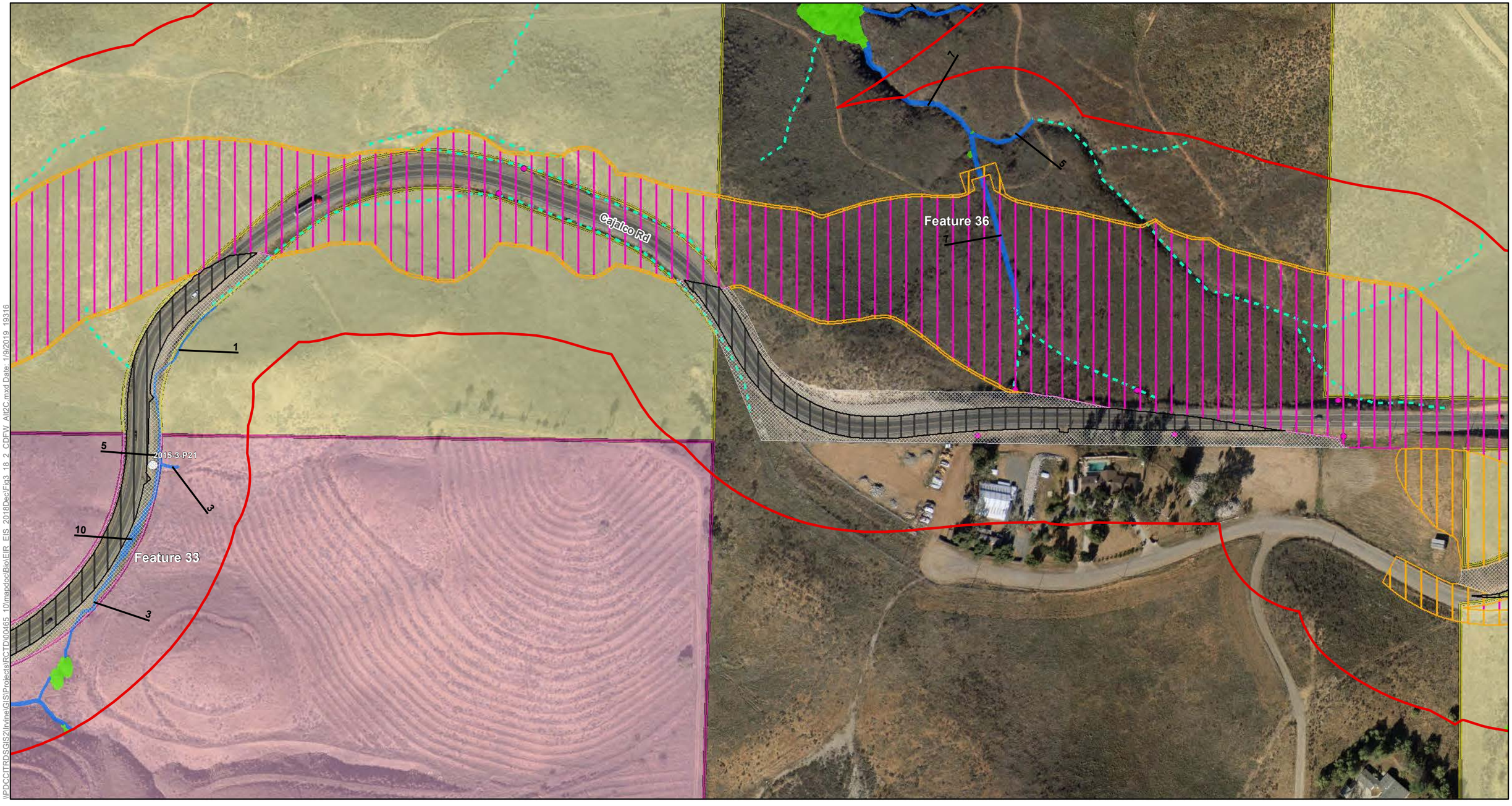

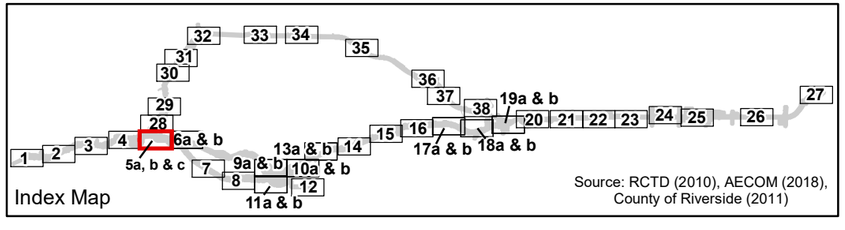

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 5b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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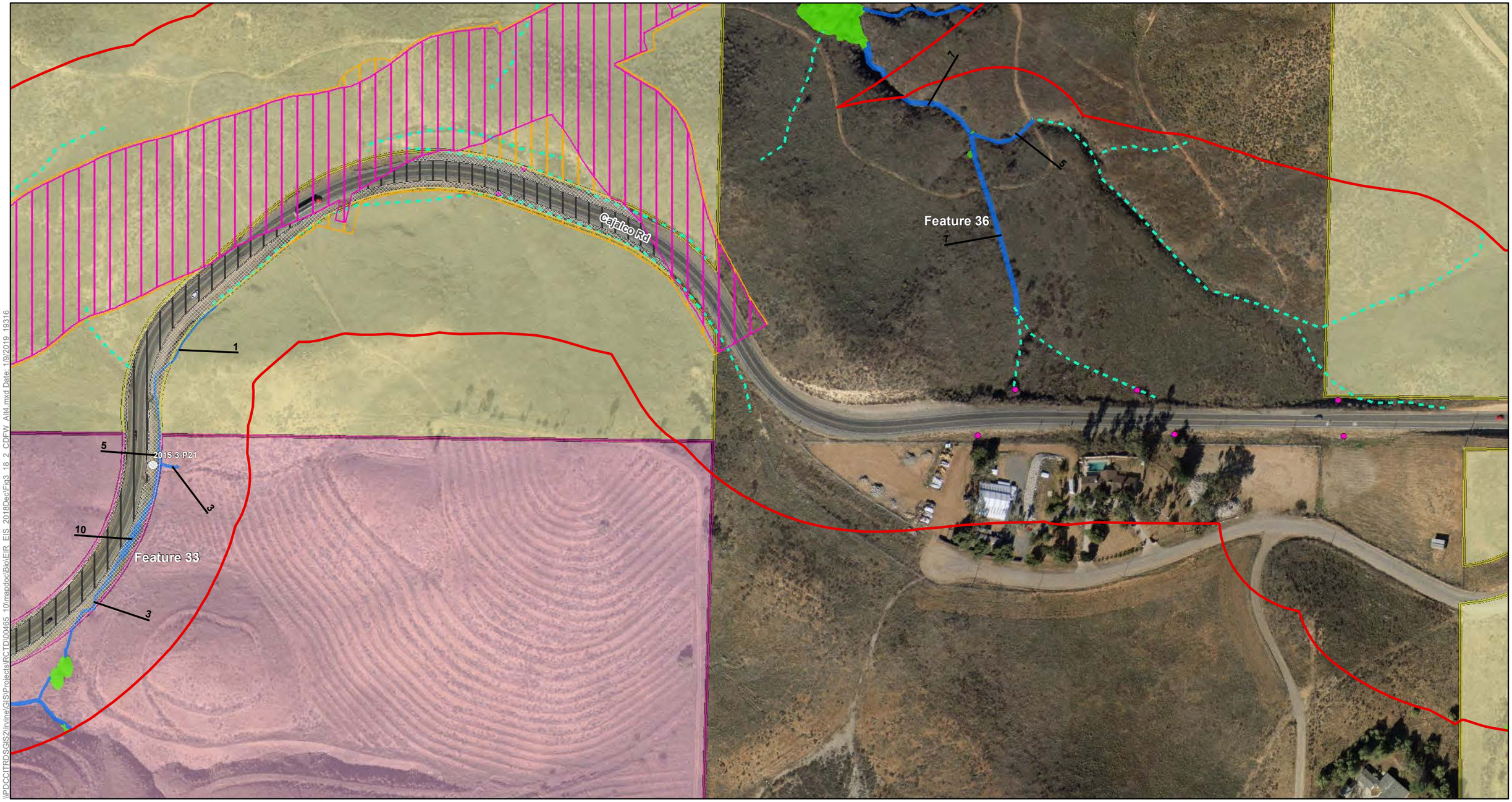

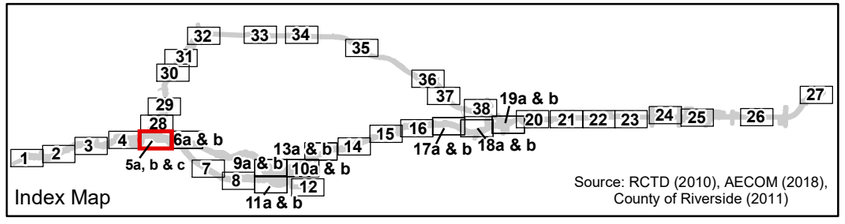

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 5c
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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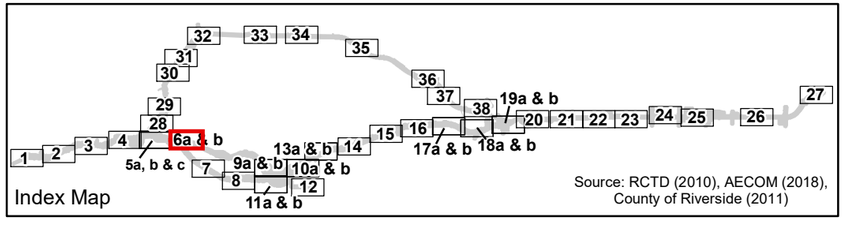

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 6a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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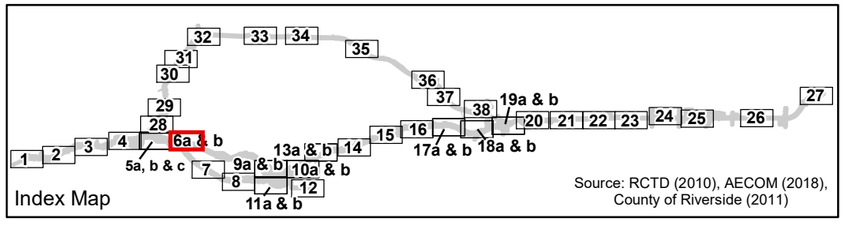

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 6b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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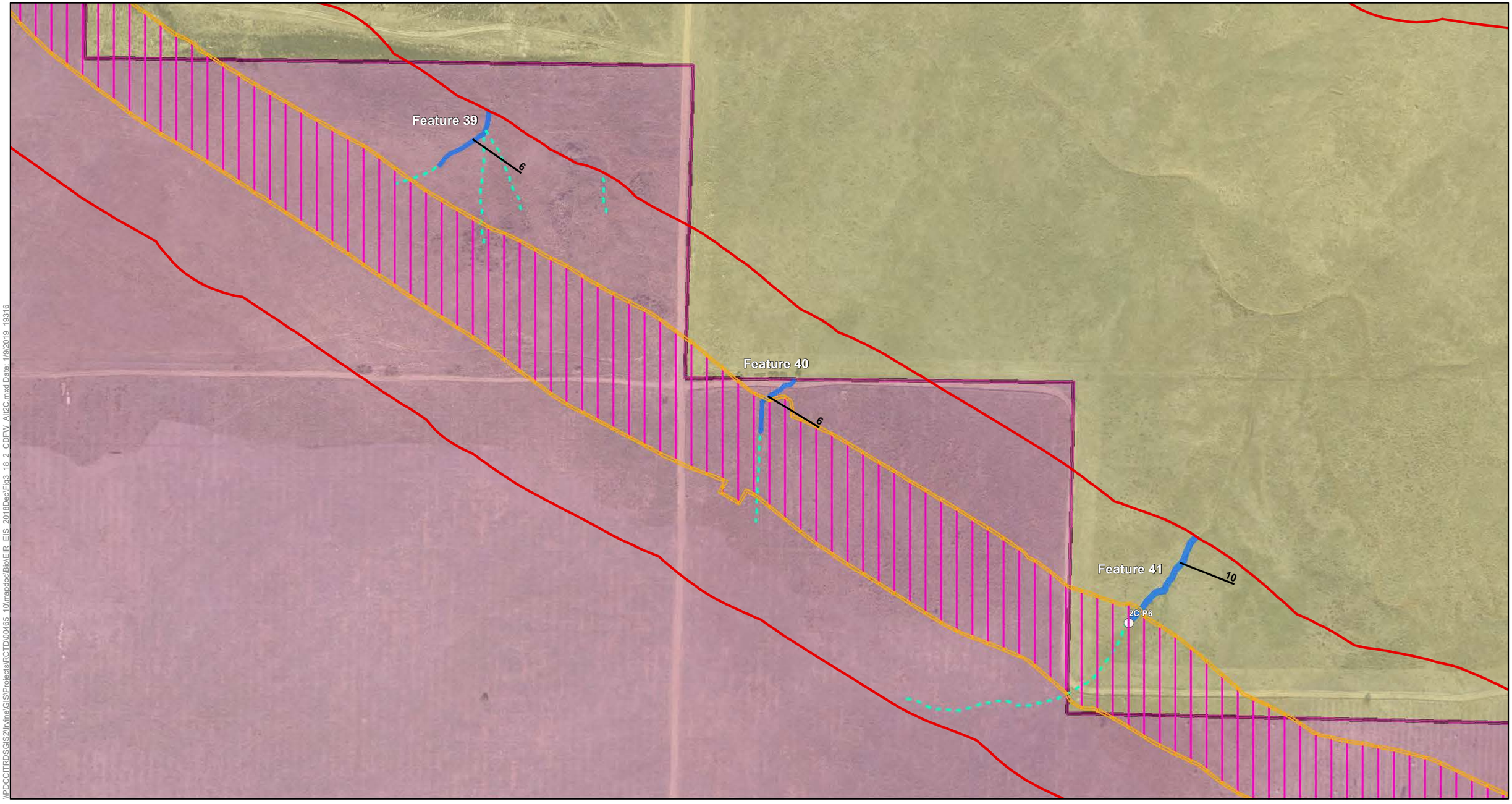

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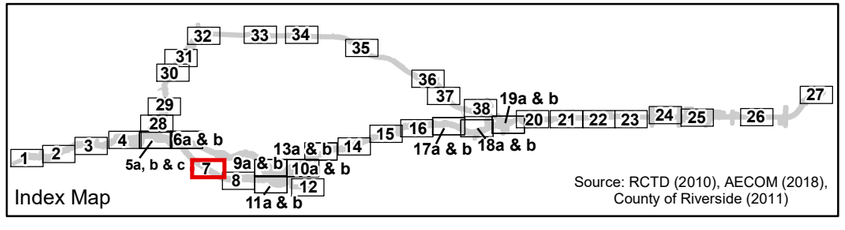

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 7
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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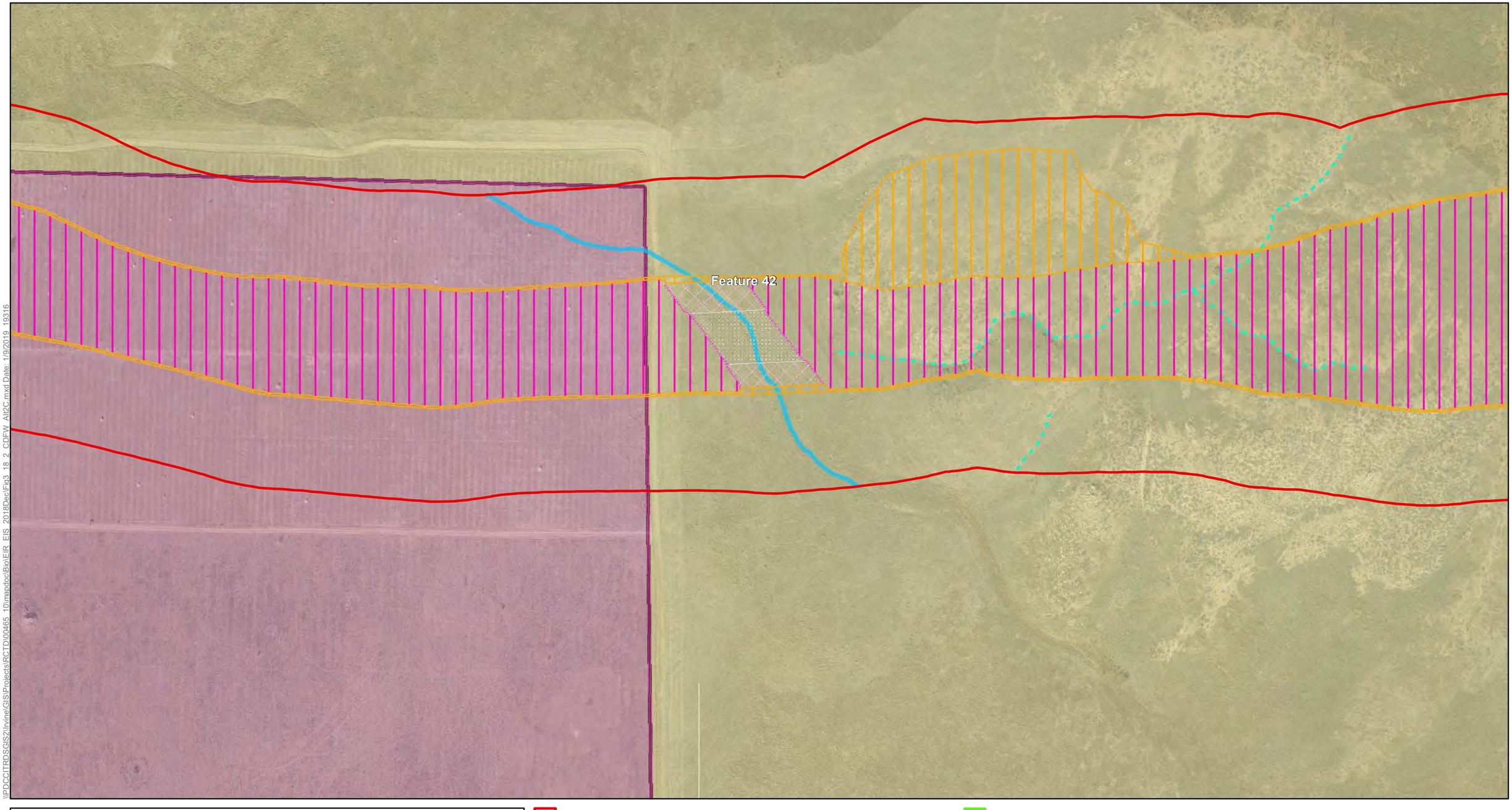

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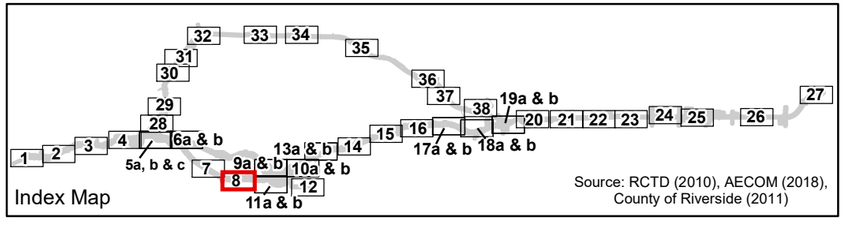

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 8
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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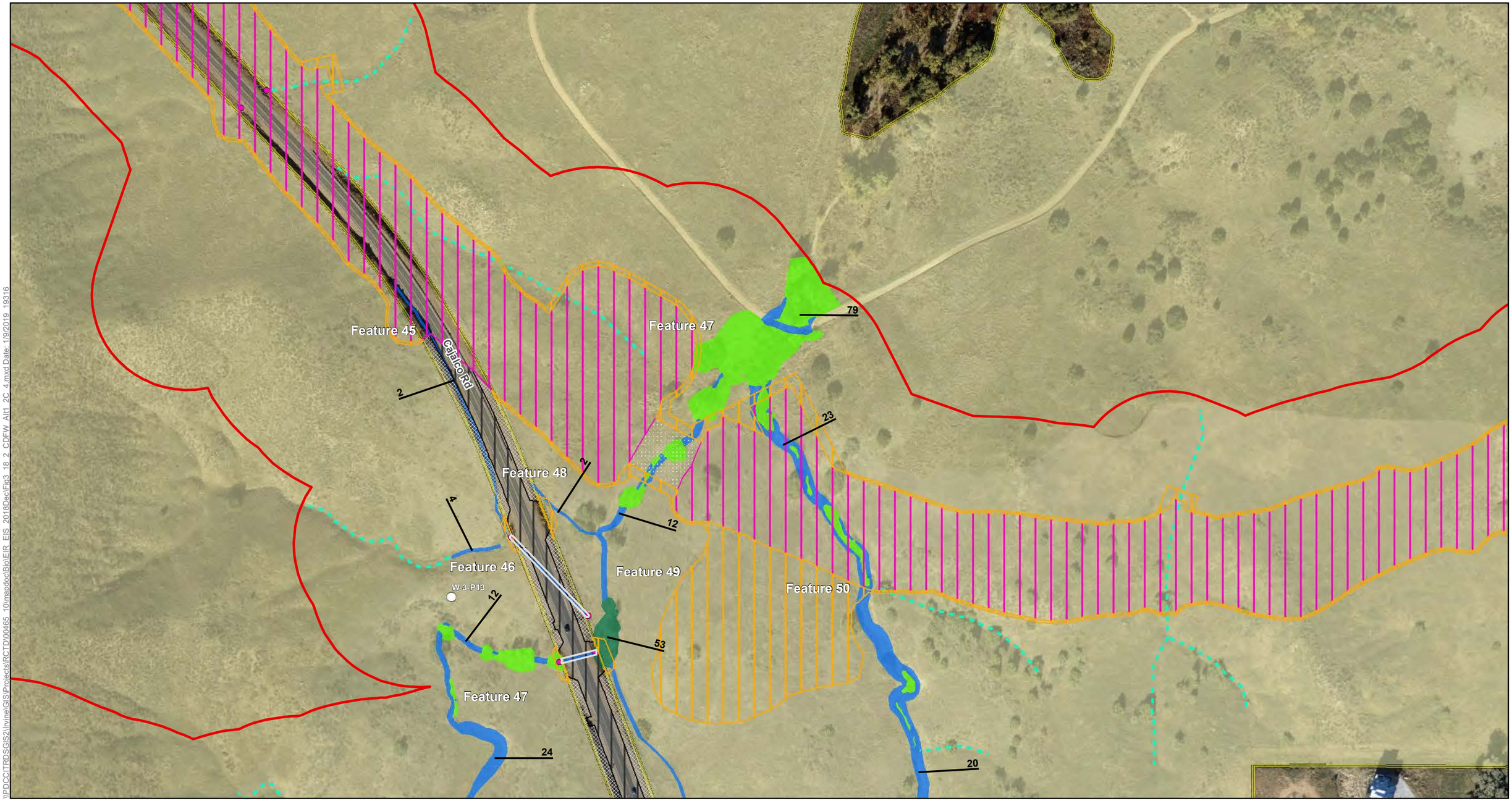

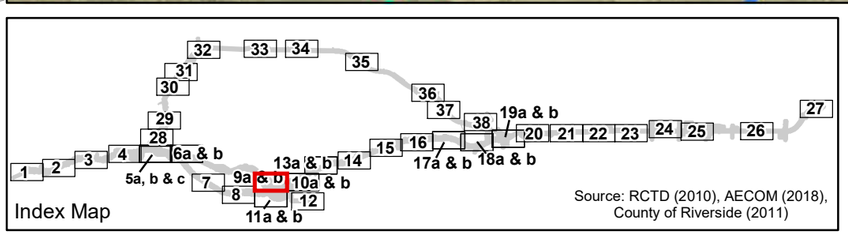

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 9a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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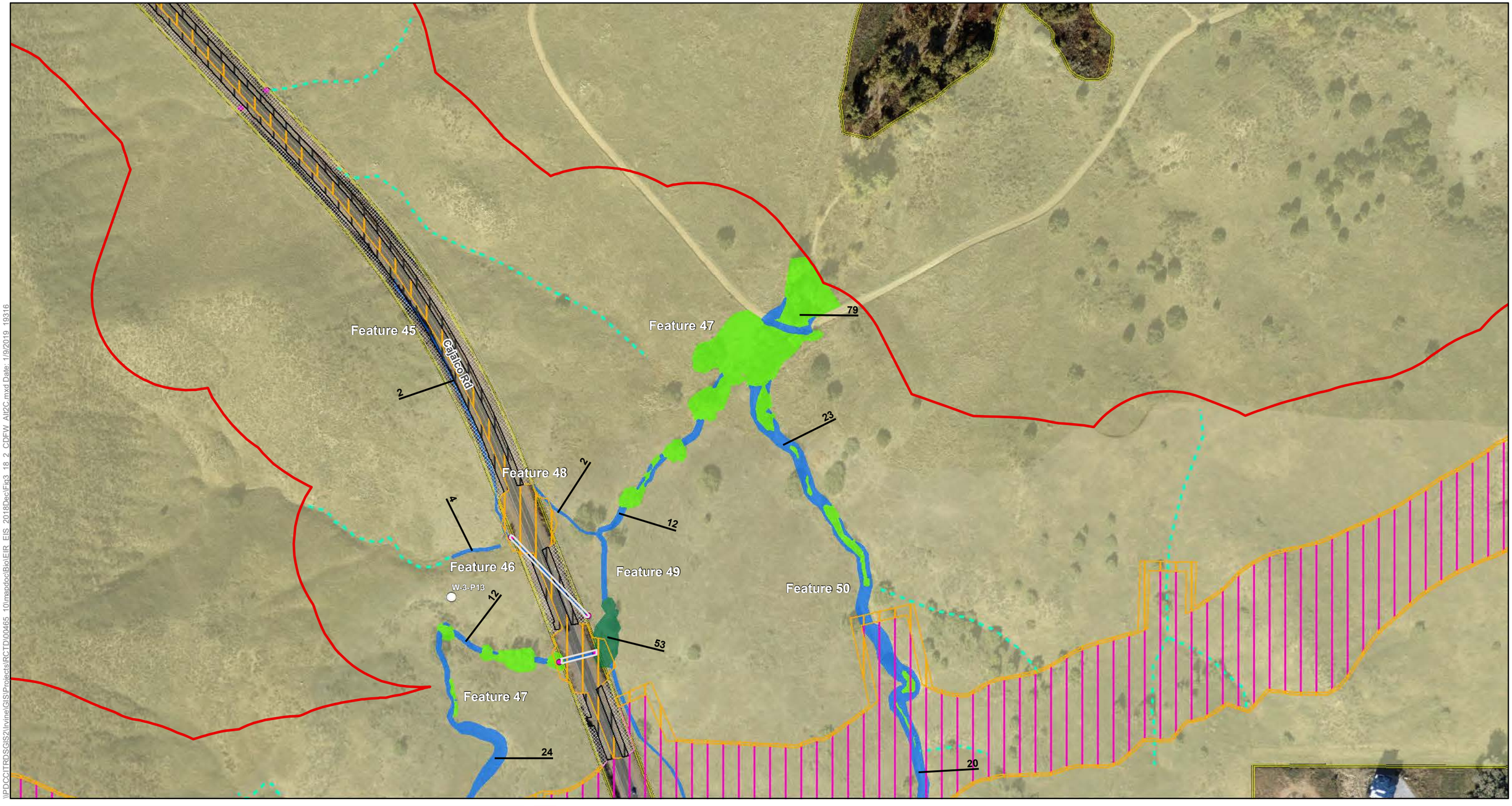

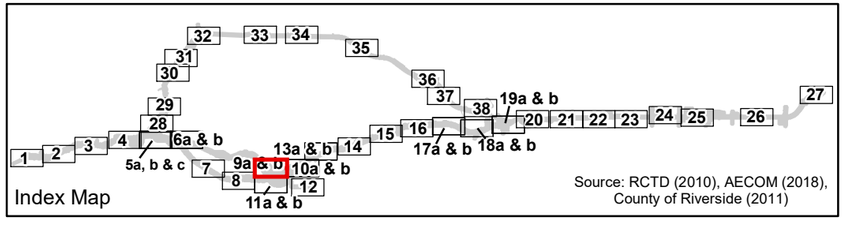

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 9b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018\Dec\Fig3_18_2_CDFW_Alt2C.mxd Date: 1/9/2019 19316

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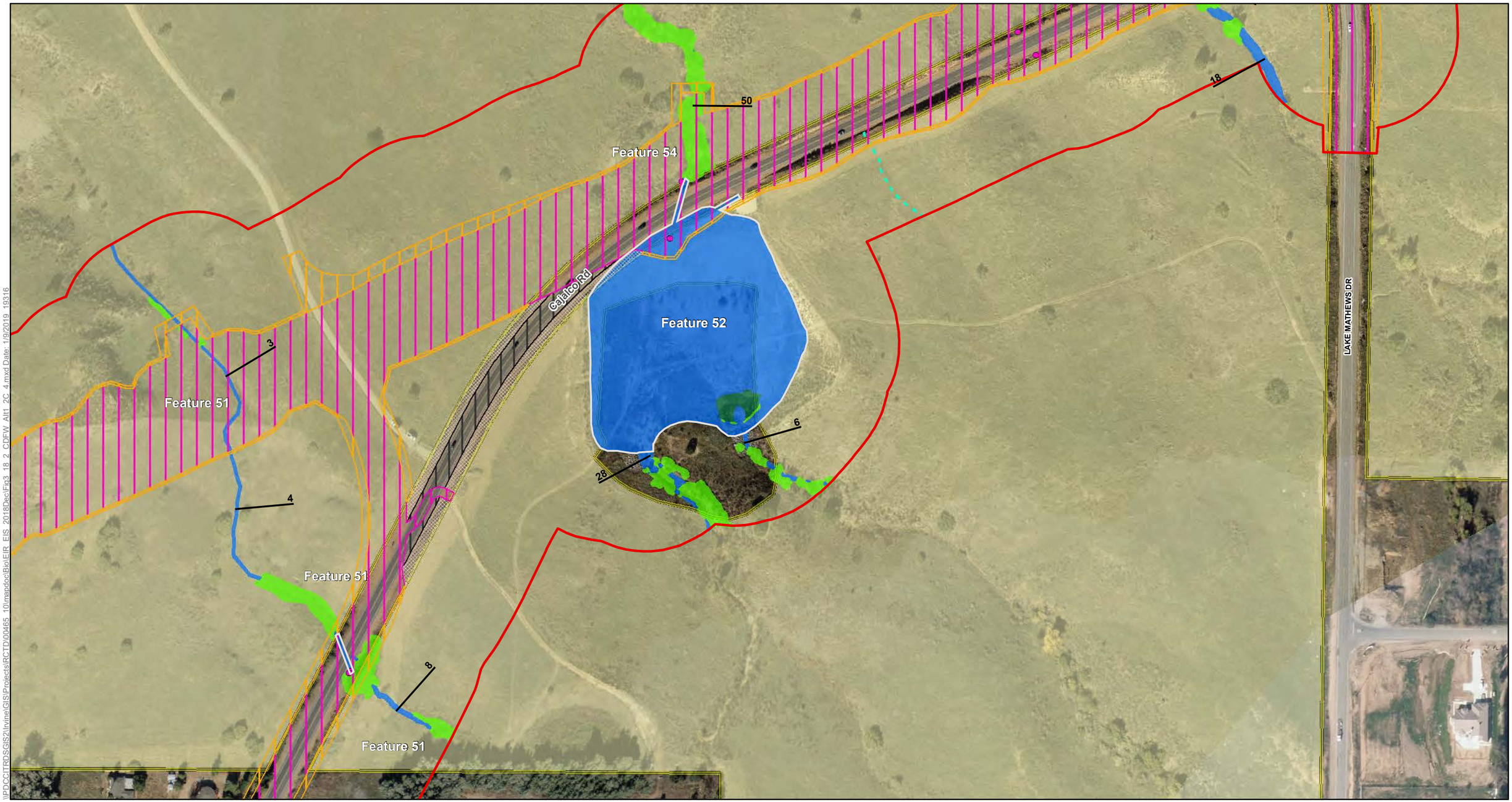

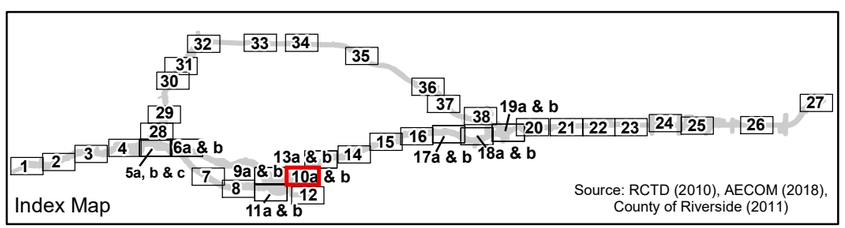

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 10a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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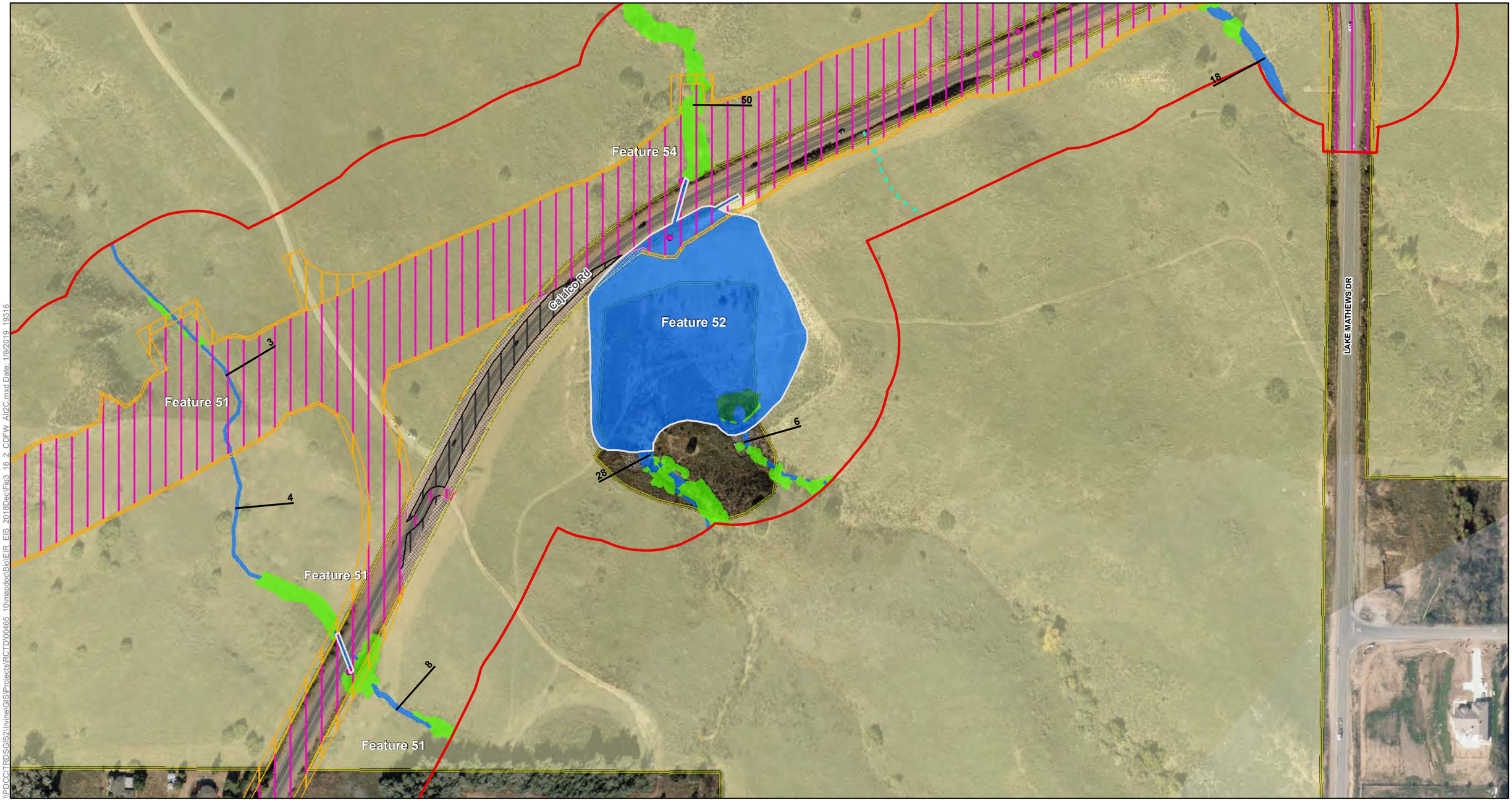

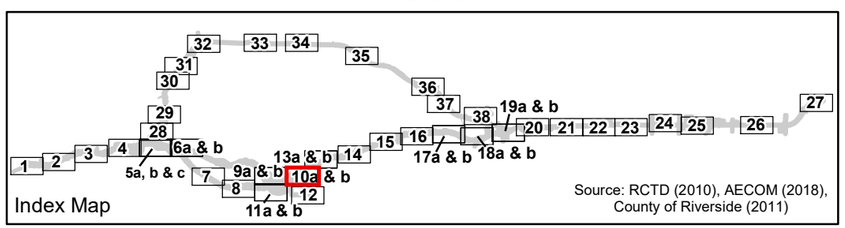

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 10b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_2_CDFW_Alt2C.mxd Date: 1/9/2019_19316

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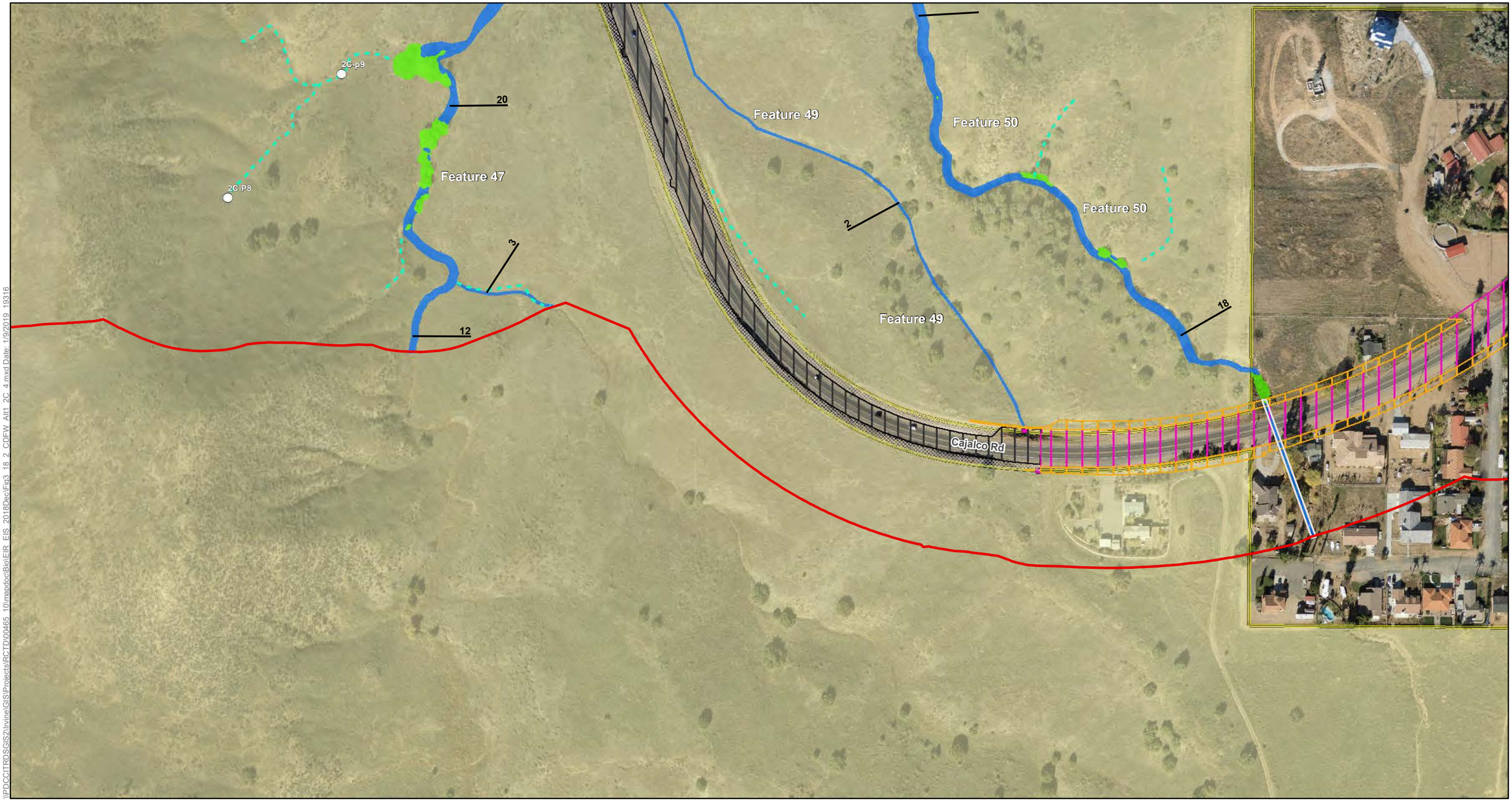

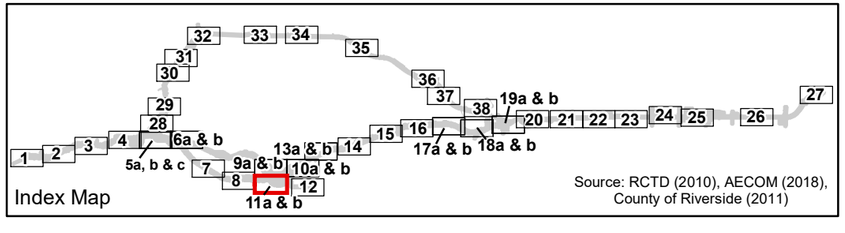

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 11a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

\\PDCC\TRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_2_CDFW_Alt1_2C_4.mxd Date: 1/9/2019 19316

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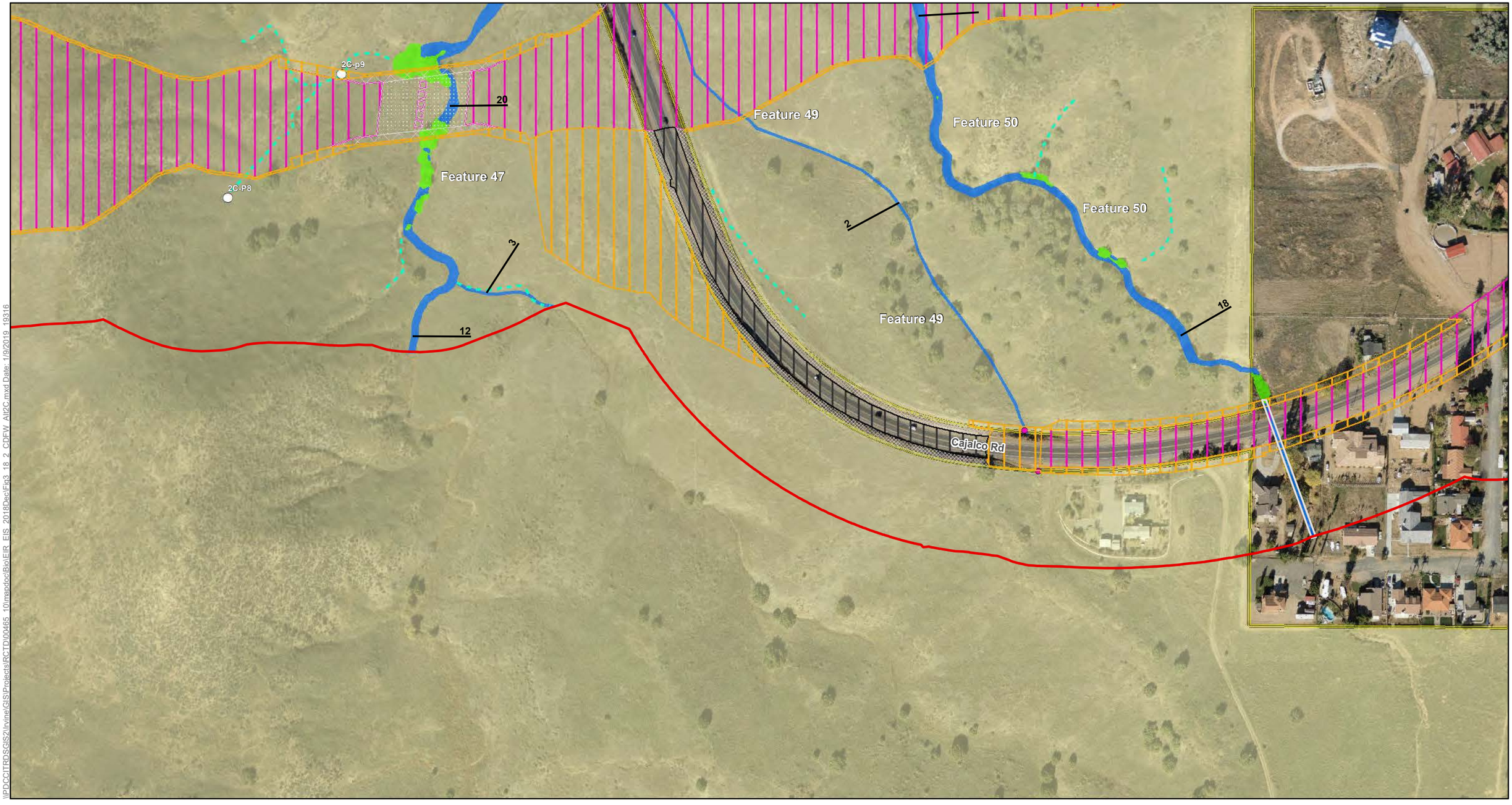

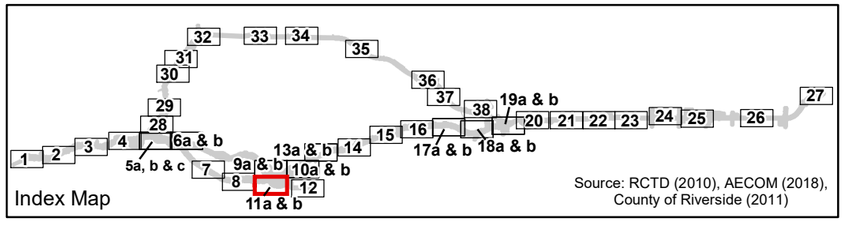

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 11b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCC\TRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_2_CDFW_Alt2C.mxd Date: 1/9/2019 19316

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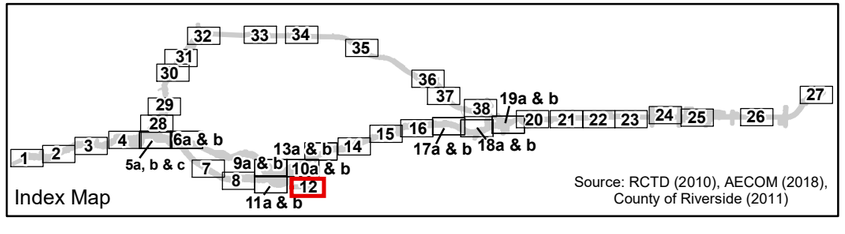

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 12
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mxddoc\Bio\EIR_EIS_2018DecIFig3_18_2_CDFW_Alt1_2C_4.mxd Date: 1/9/2019, 19316

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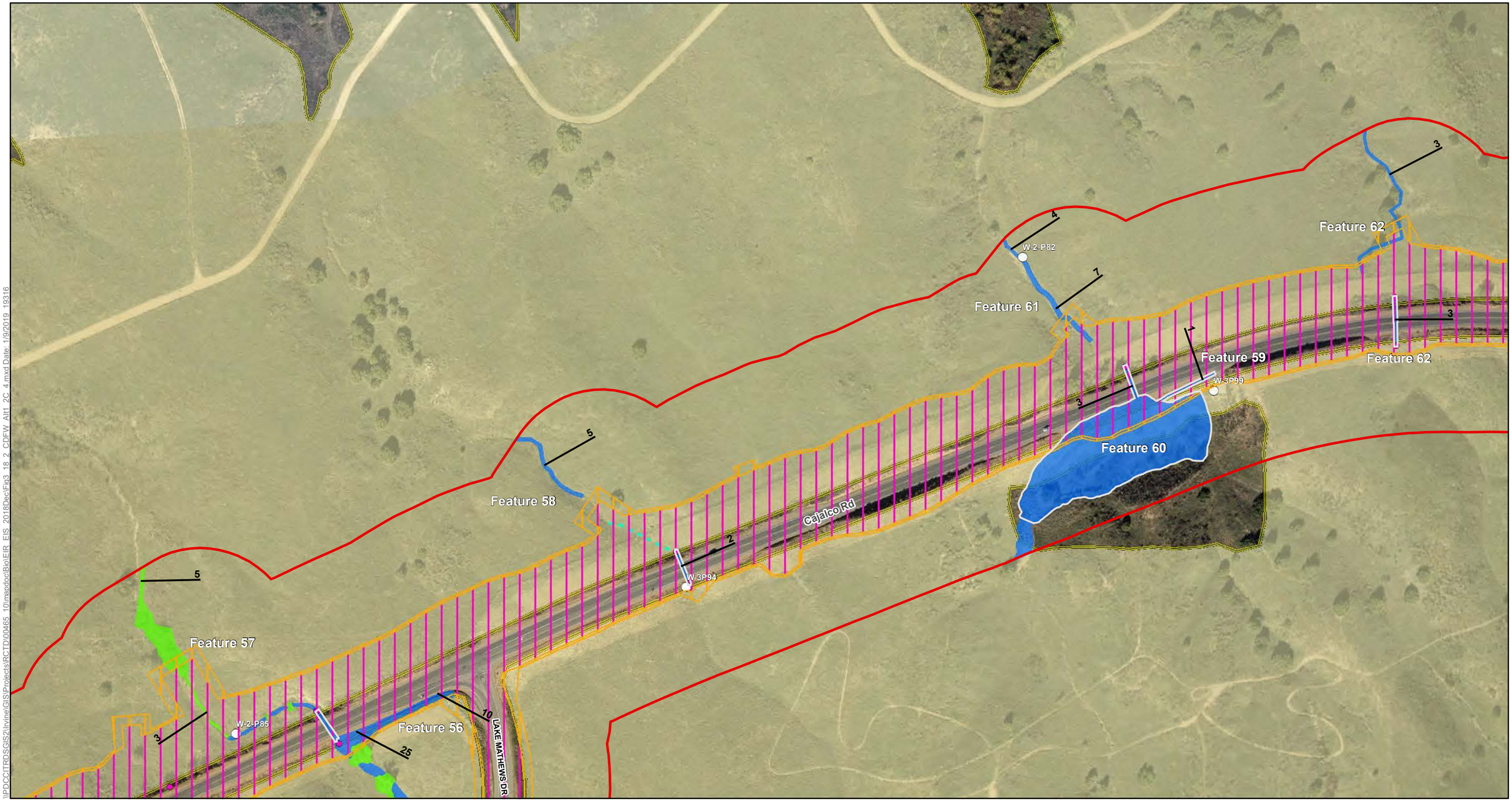

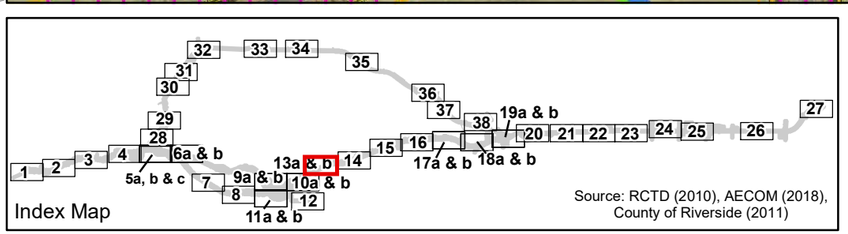

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 13a
CDFW Jurisdictional Resources Impacts
Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_2_CDFW_Alt1_2C_4.mxd Date: 1/9/2019 19316

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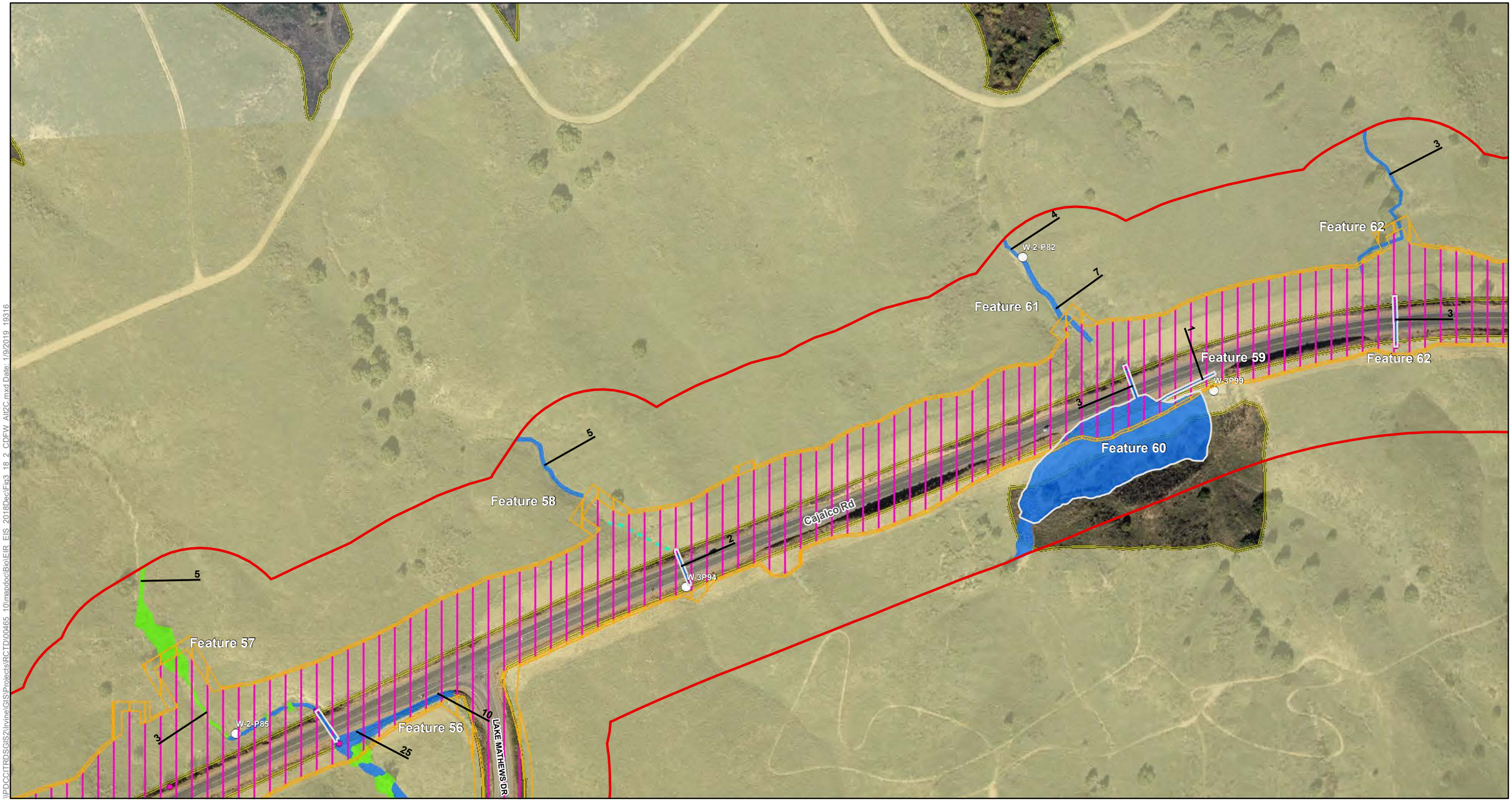

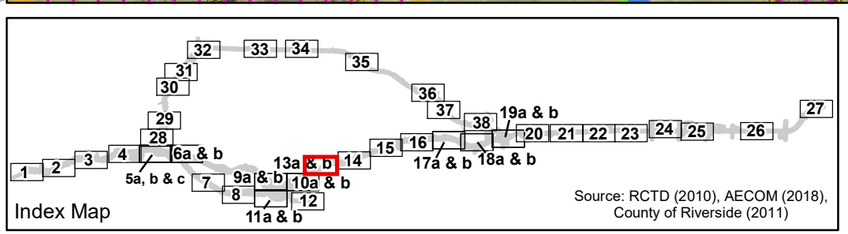

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 13b
CDFW Jurisdictional Resources Impacts
Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018DecFig3_18_2_CDFW_Alt2C.mxd Date: 1/9/2019 19316

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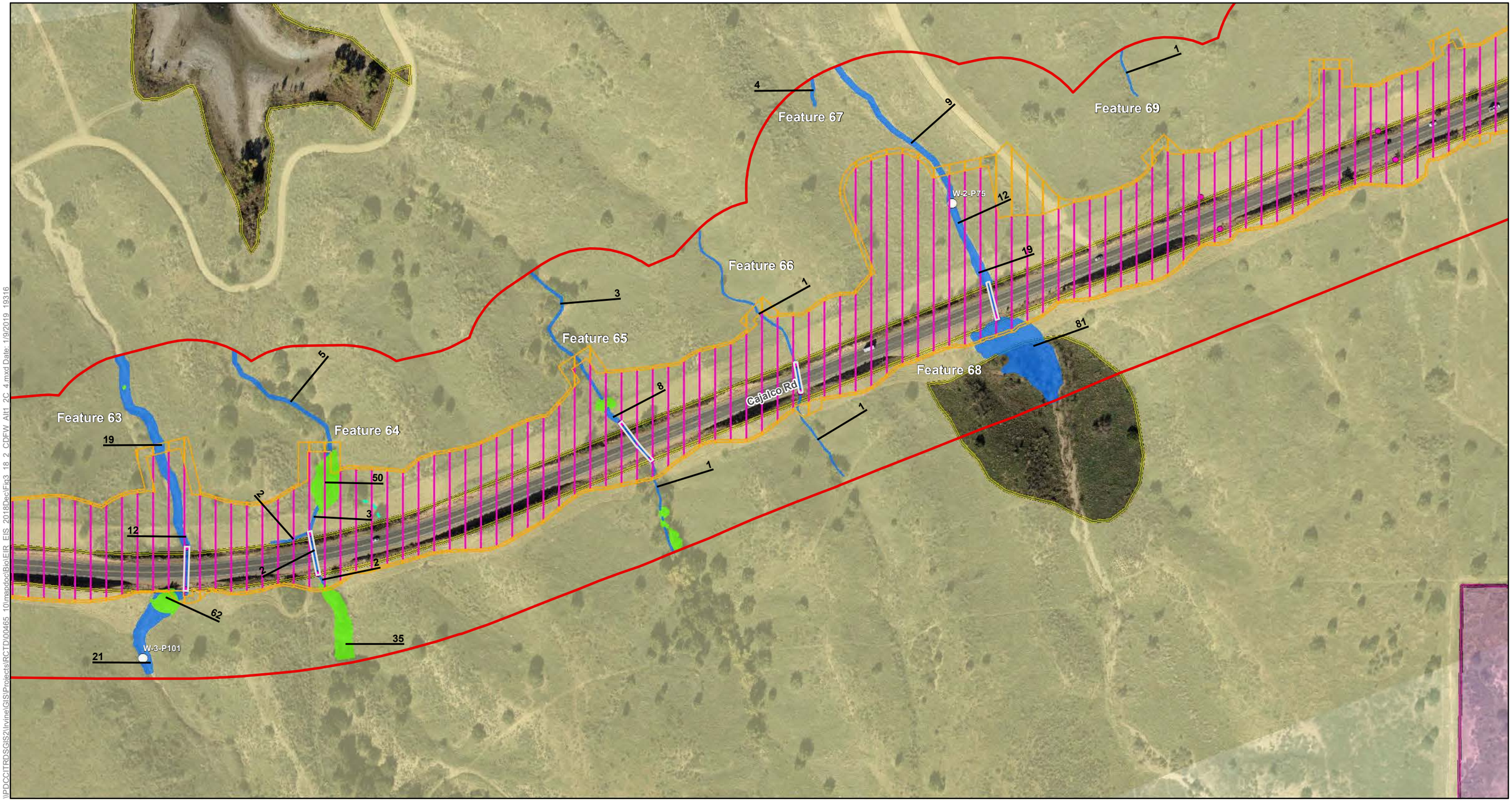

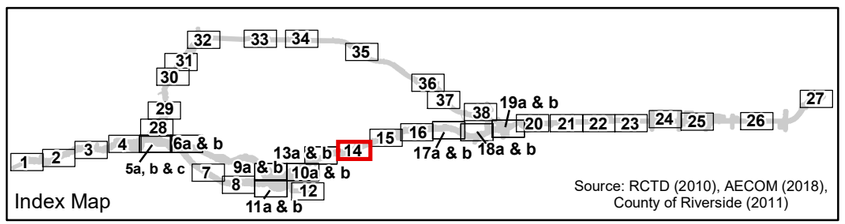

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)

Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400
Feet
N

Figure 3.18-2 - Sheet 14
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018Dec\Fig3_18_2_CDFW_Alt1_2C_4.mxd Date: 1/9/2019 19316

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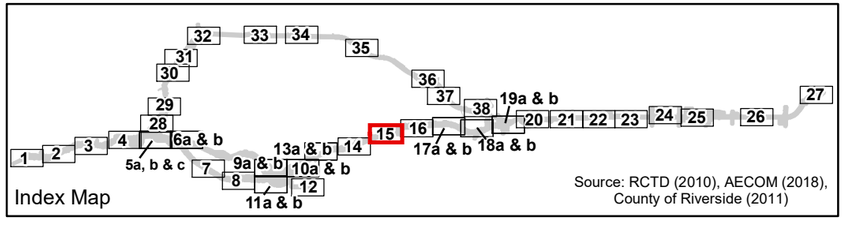

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 15
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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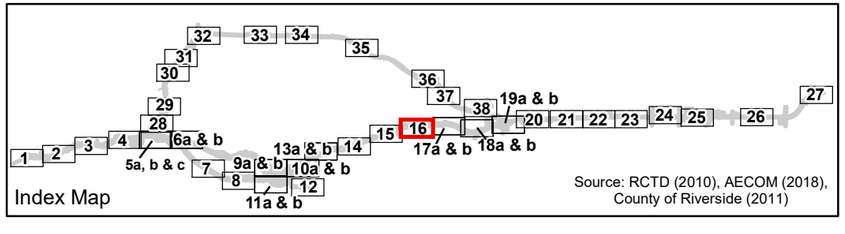

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 16
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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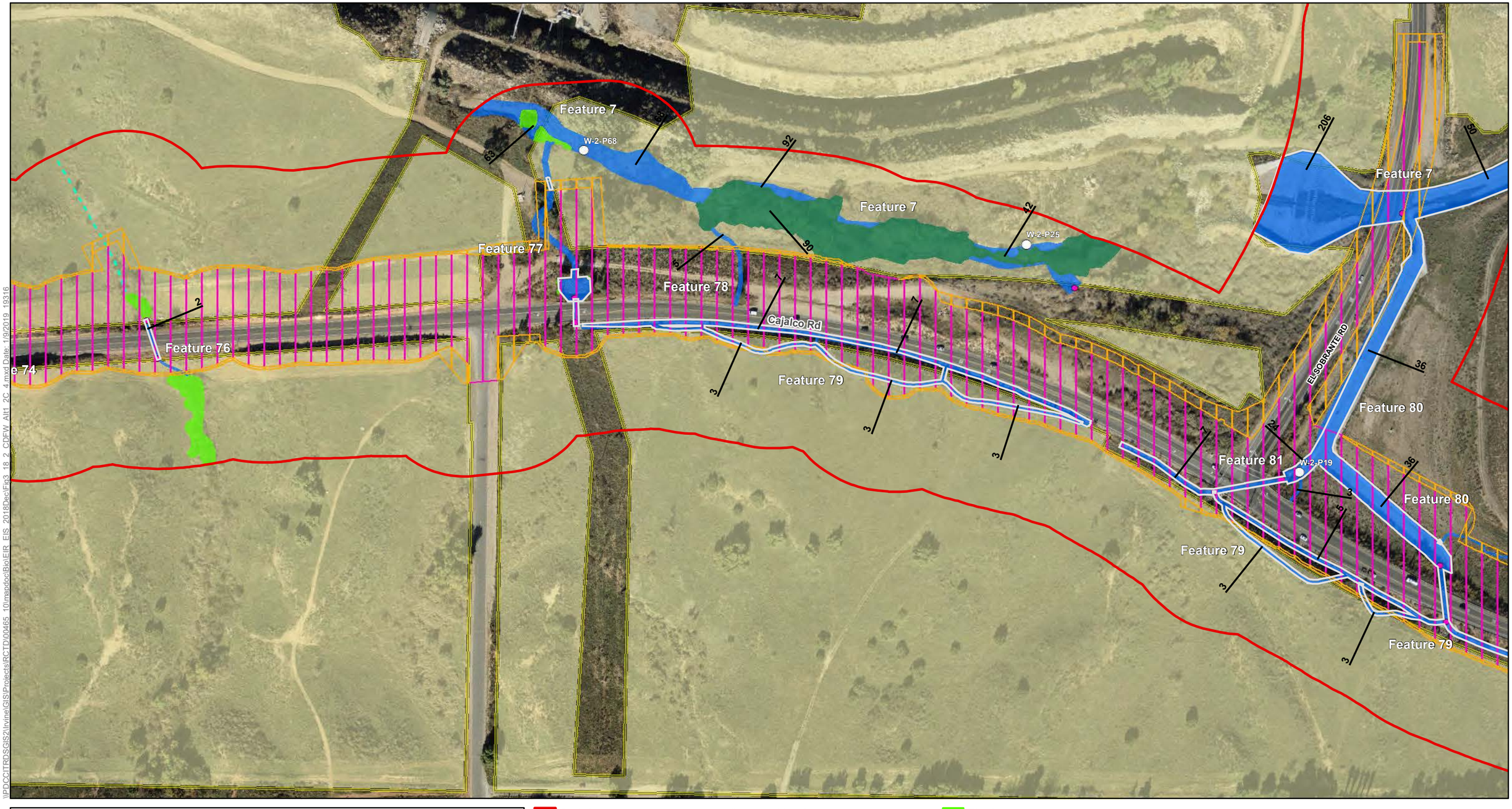

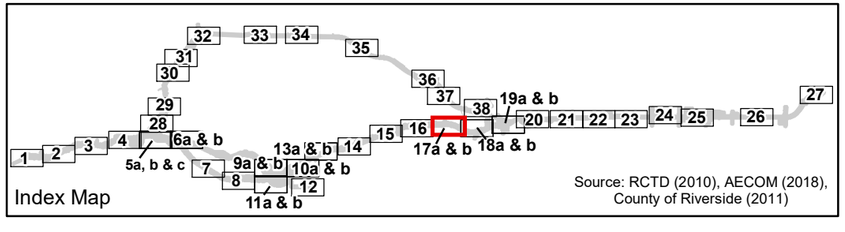

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 17a
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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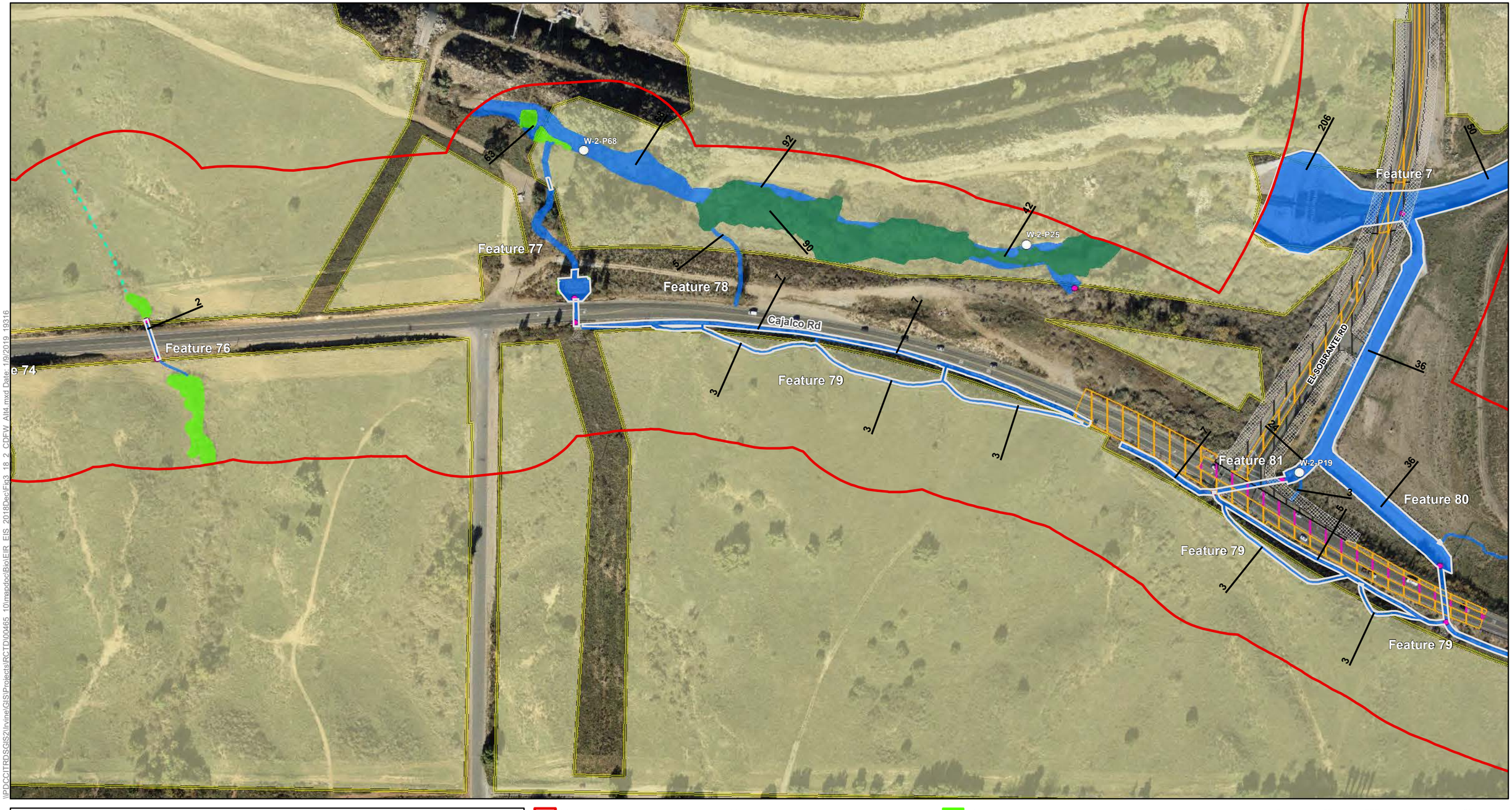

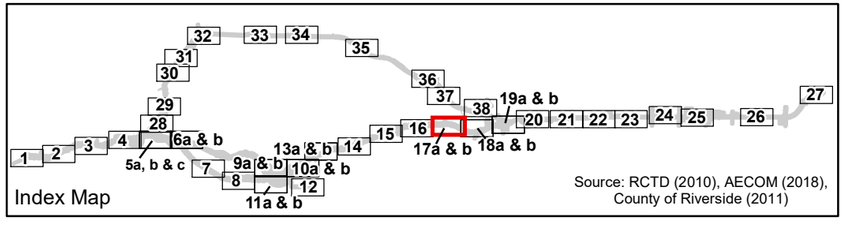

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 17b
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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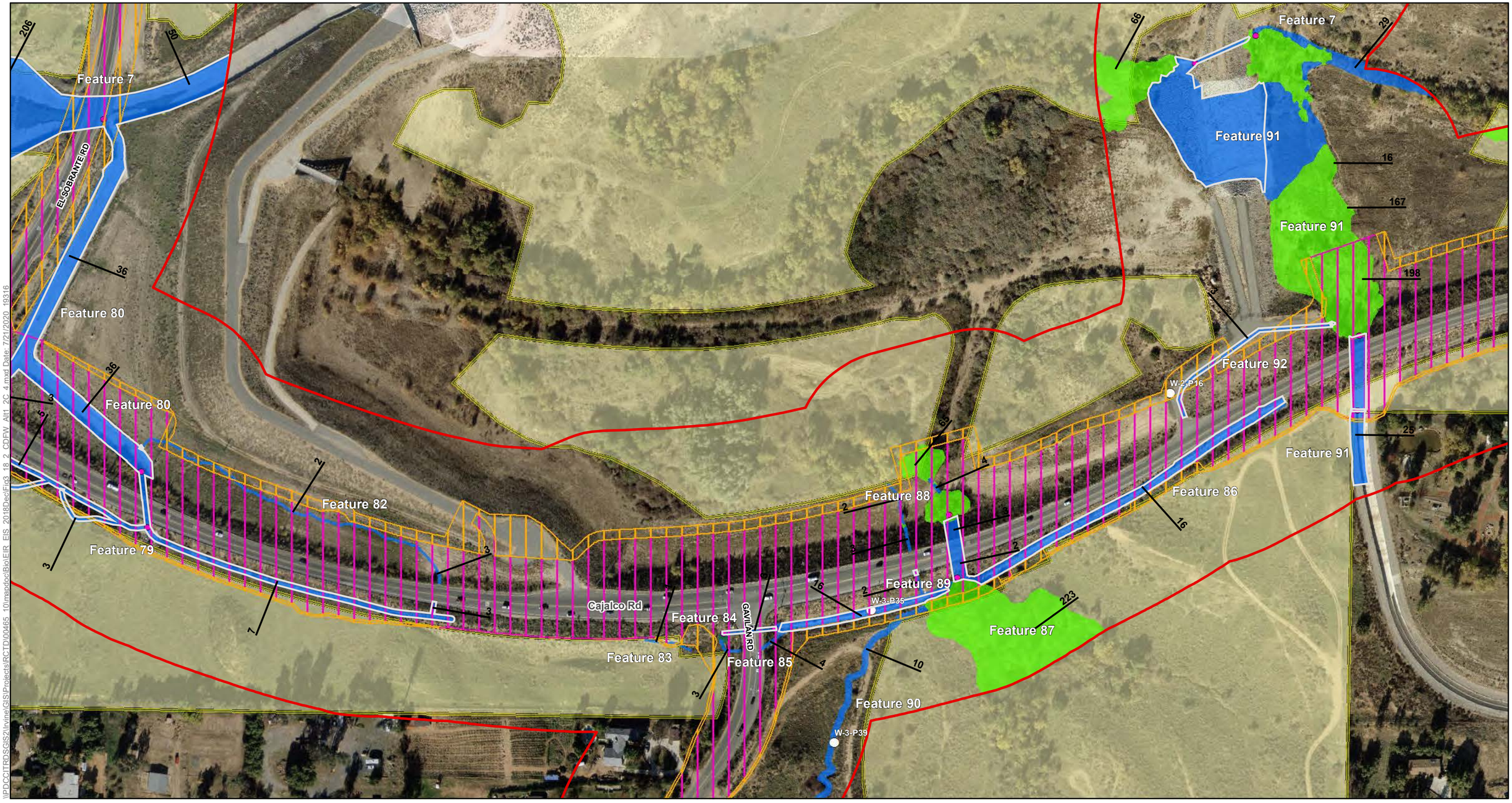

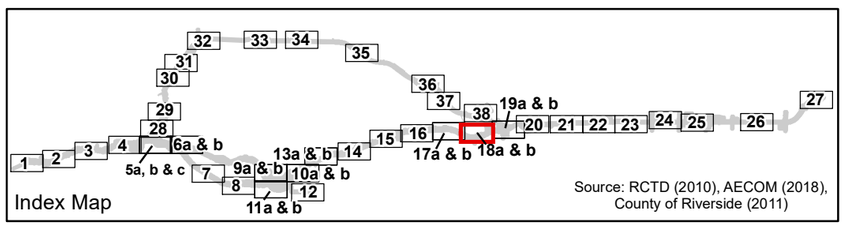

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 18a
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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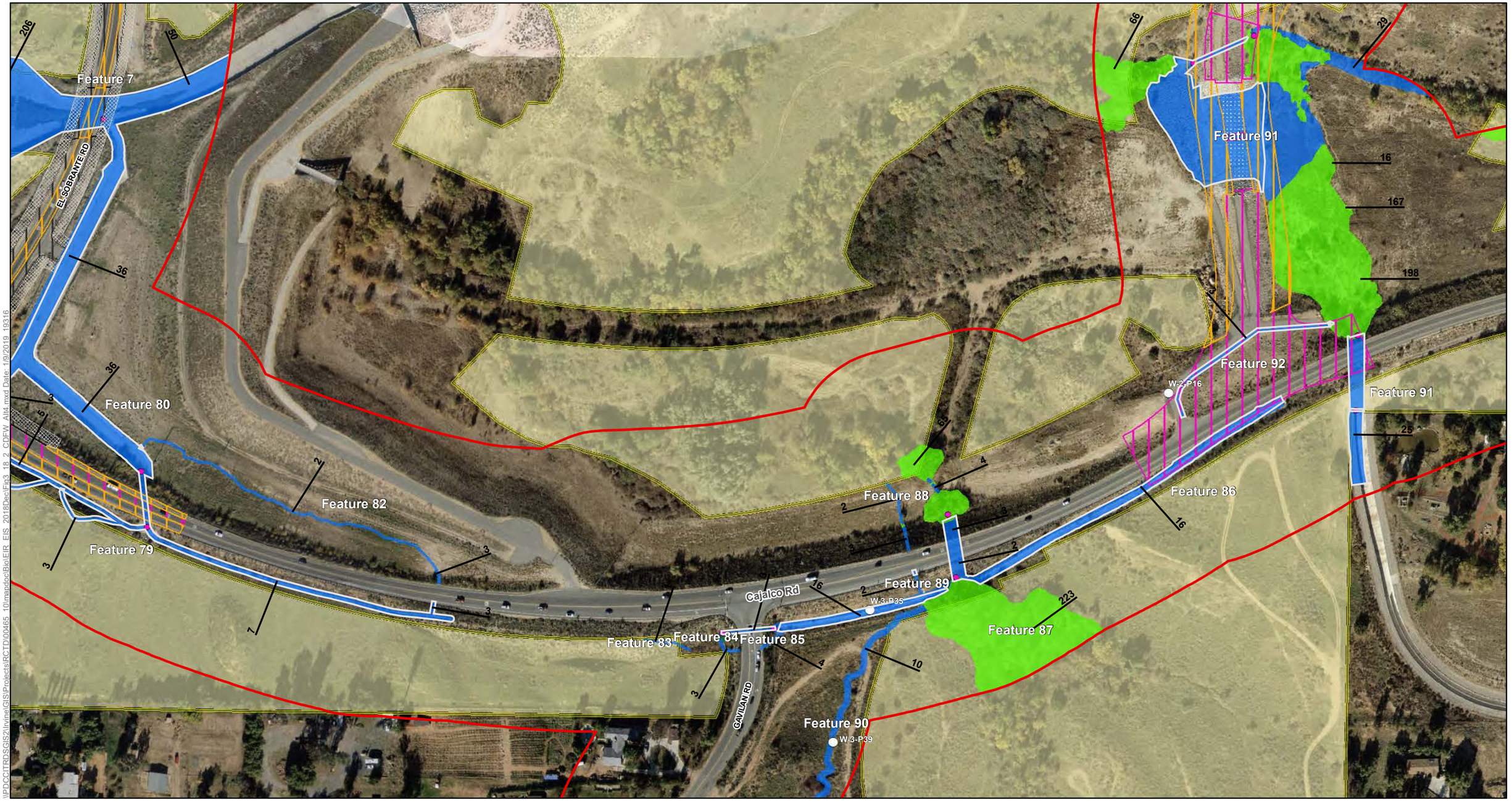

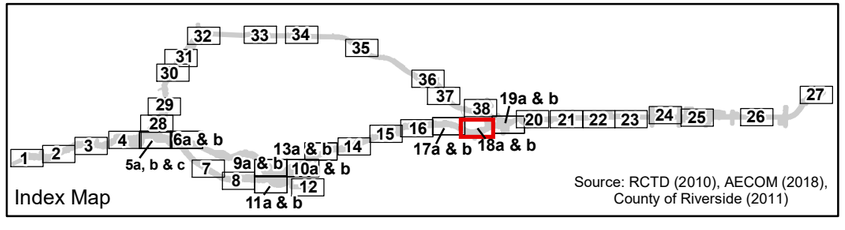

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 18b
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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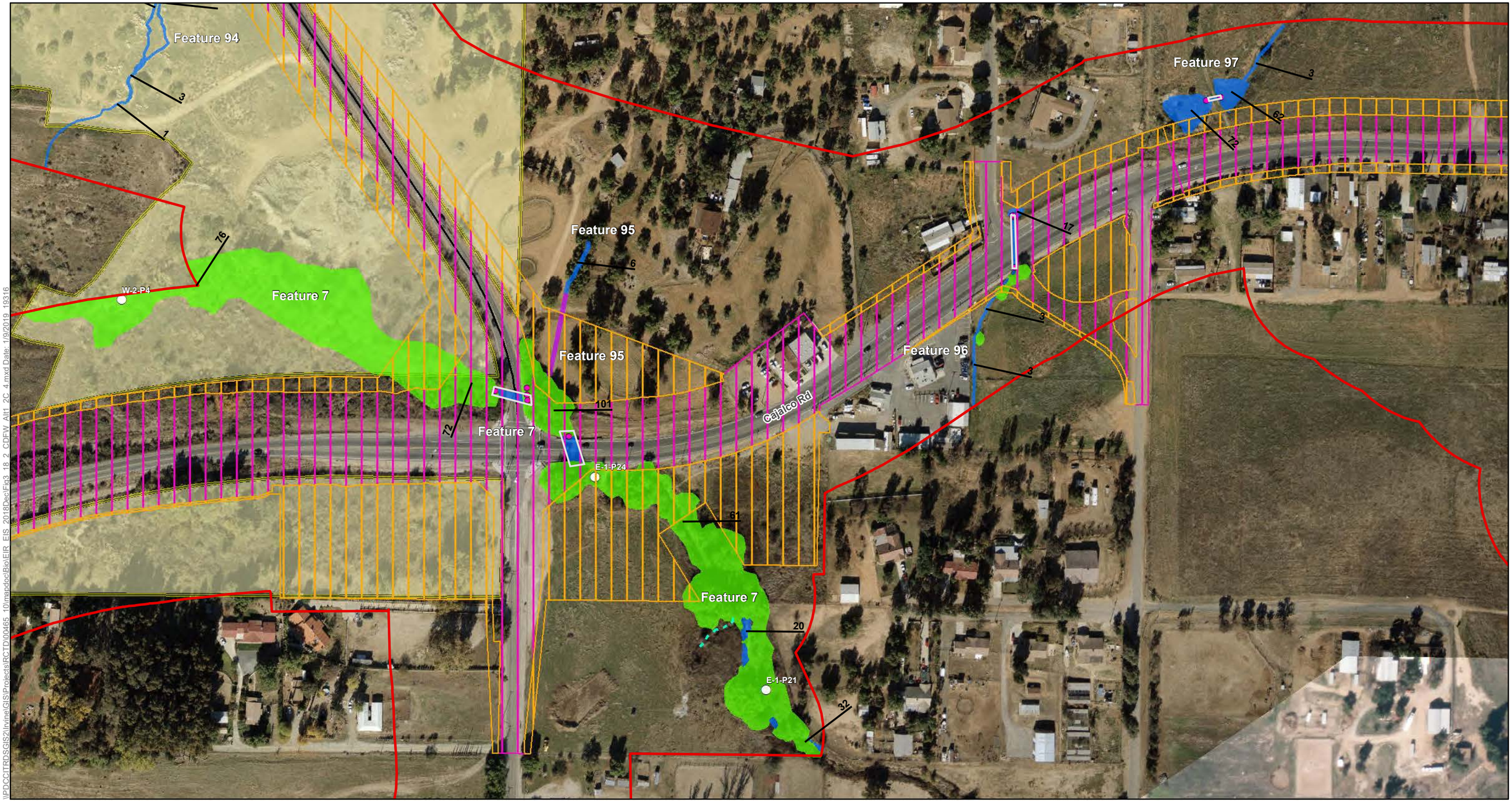

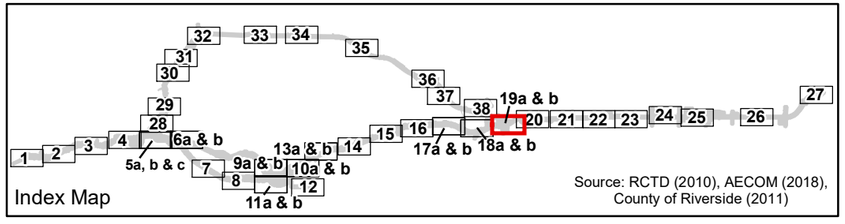

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 19a
CDFW Jurisdictional Resources Impacts
Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

\\PDCCITRDSGIS2\Irvine\GIS\Projects\RCTD\00465_10\mapdoc\Bio\EIR_EIS_2018DecFig3_18_2_CDFW_Alt1_2C_4.mxd Date: 1/9/2019_19316

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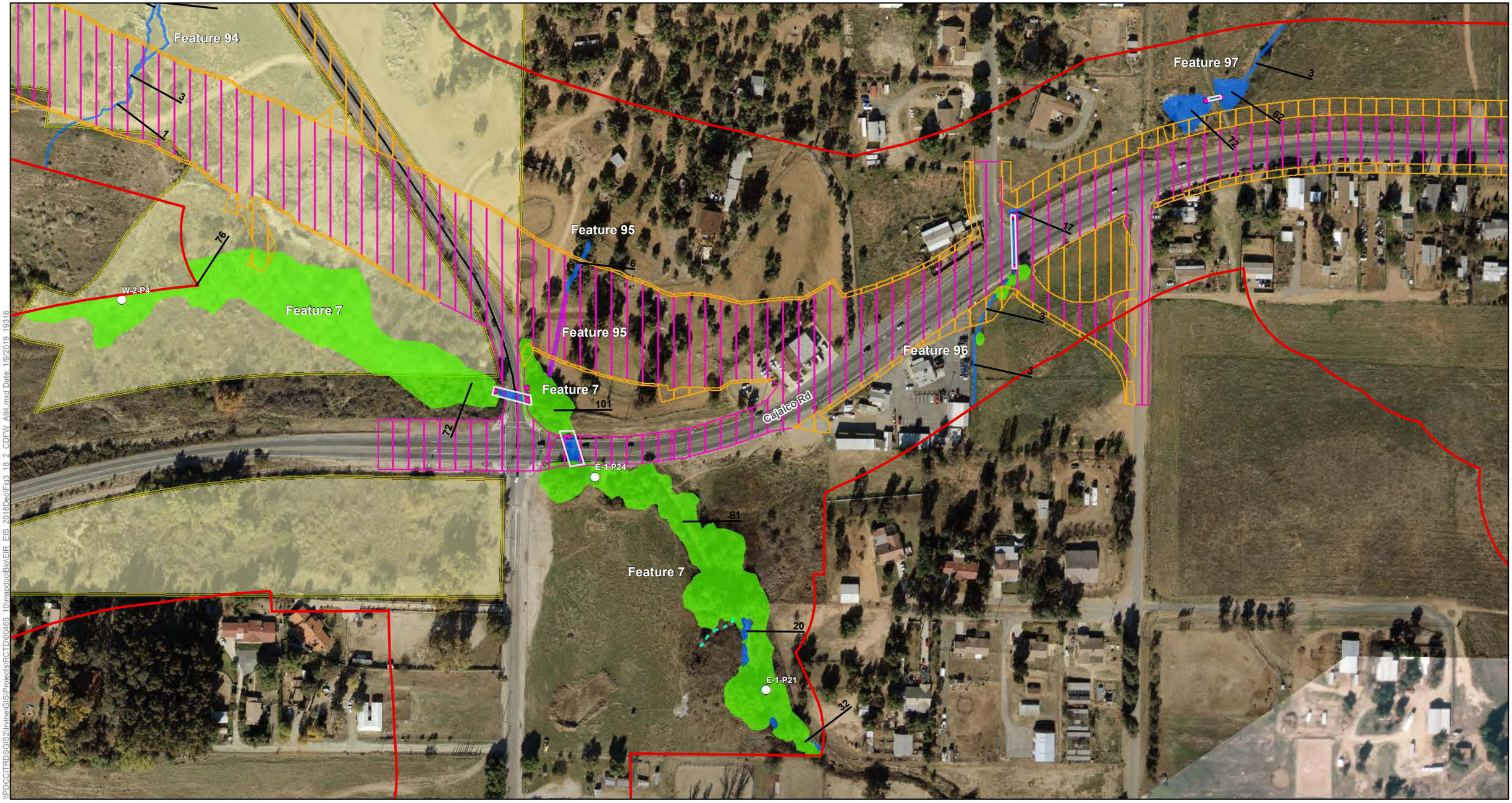

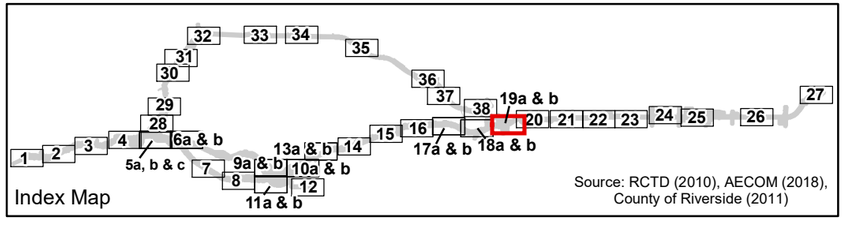

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 19b
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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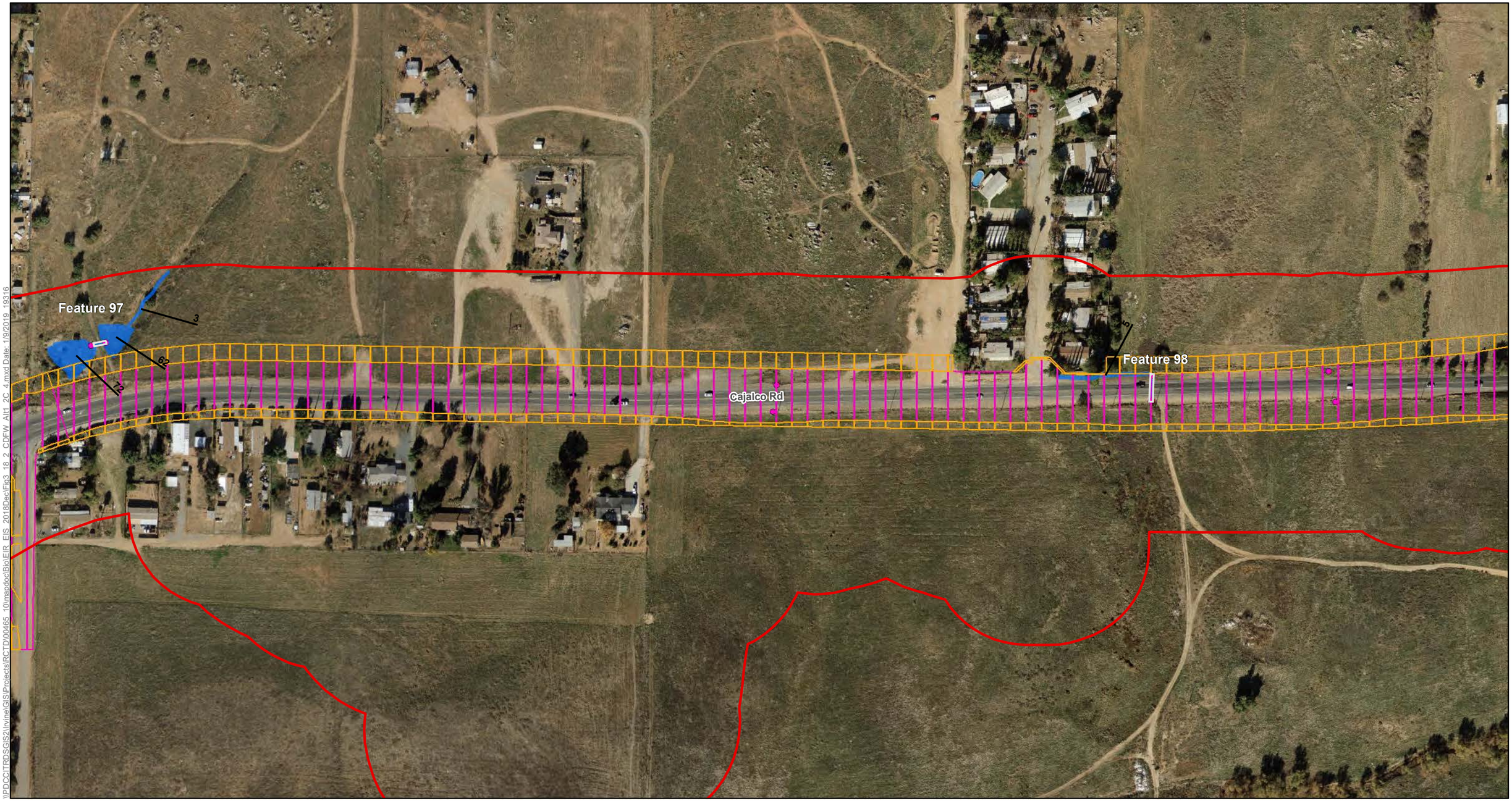

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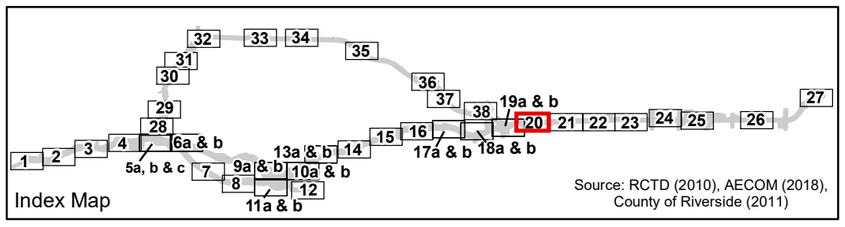

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 20
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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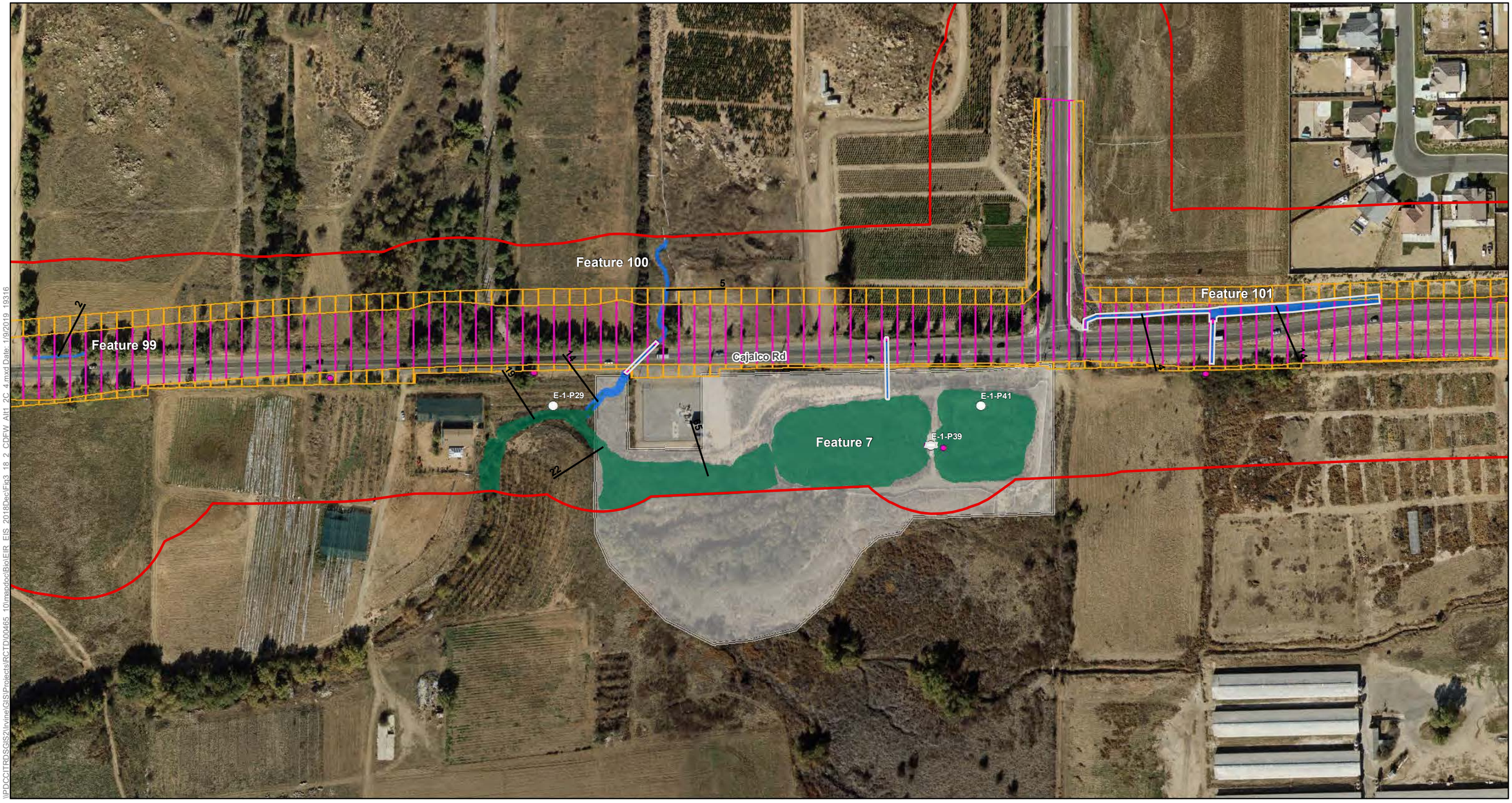

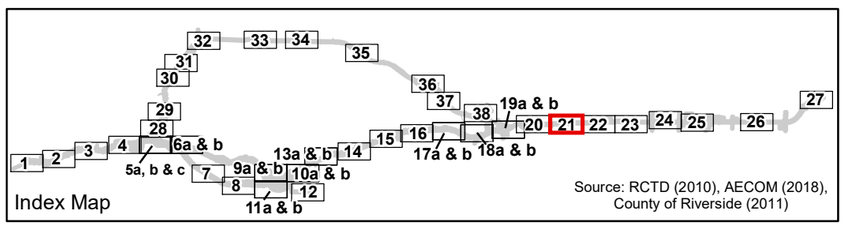

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 21
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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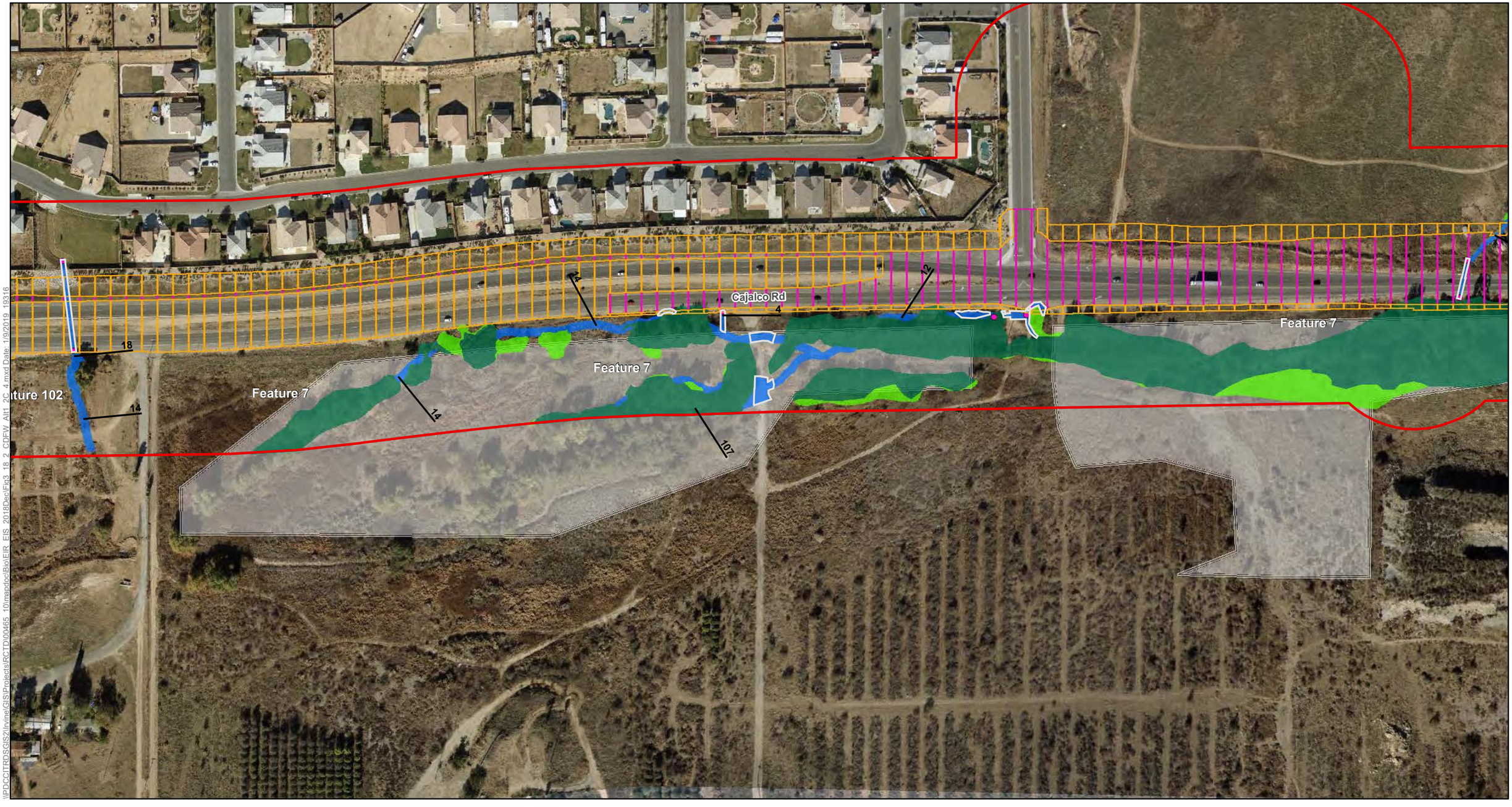

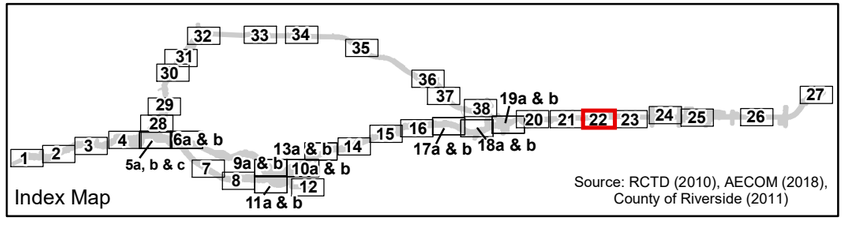

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 22
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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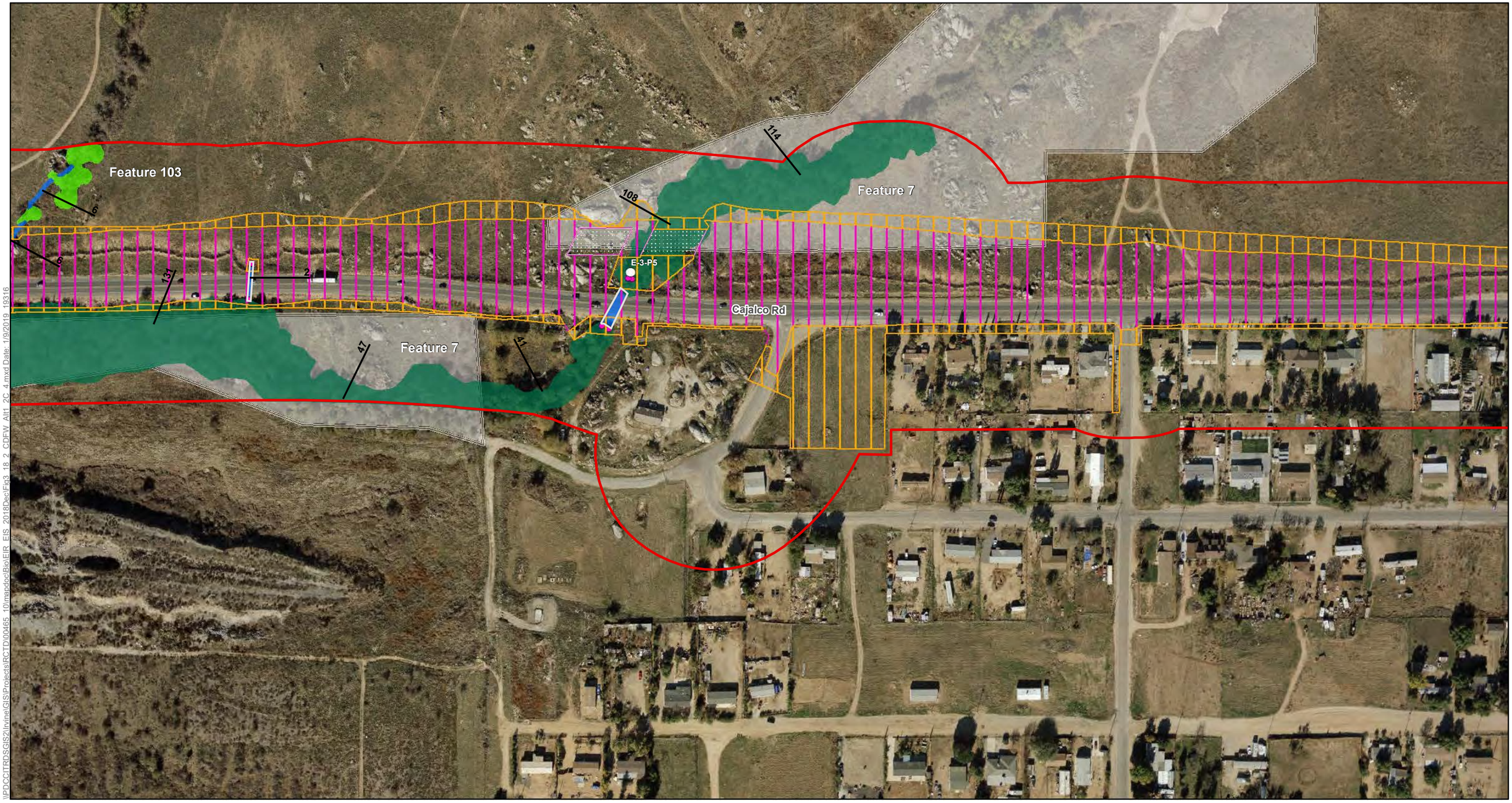

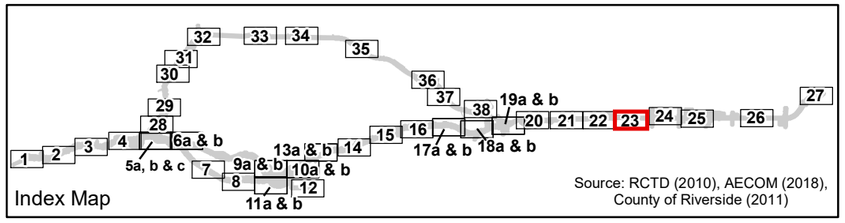

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources
- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 23
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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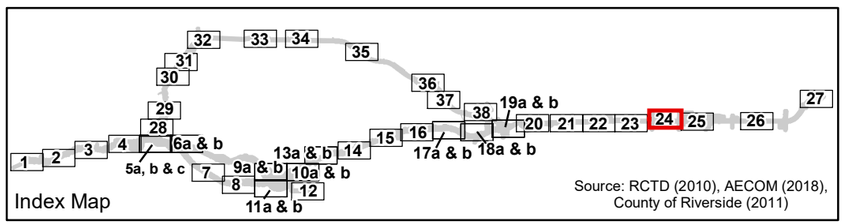

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 24
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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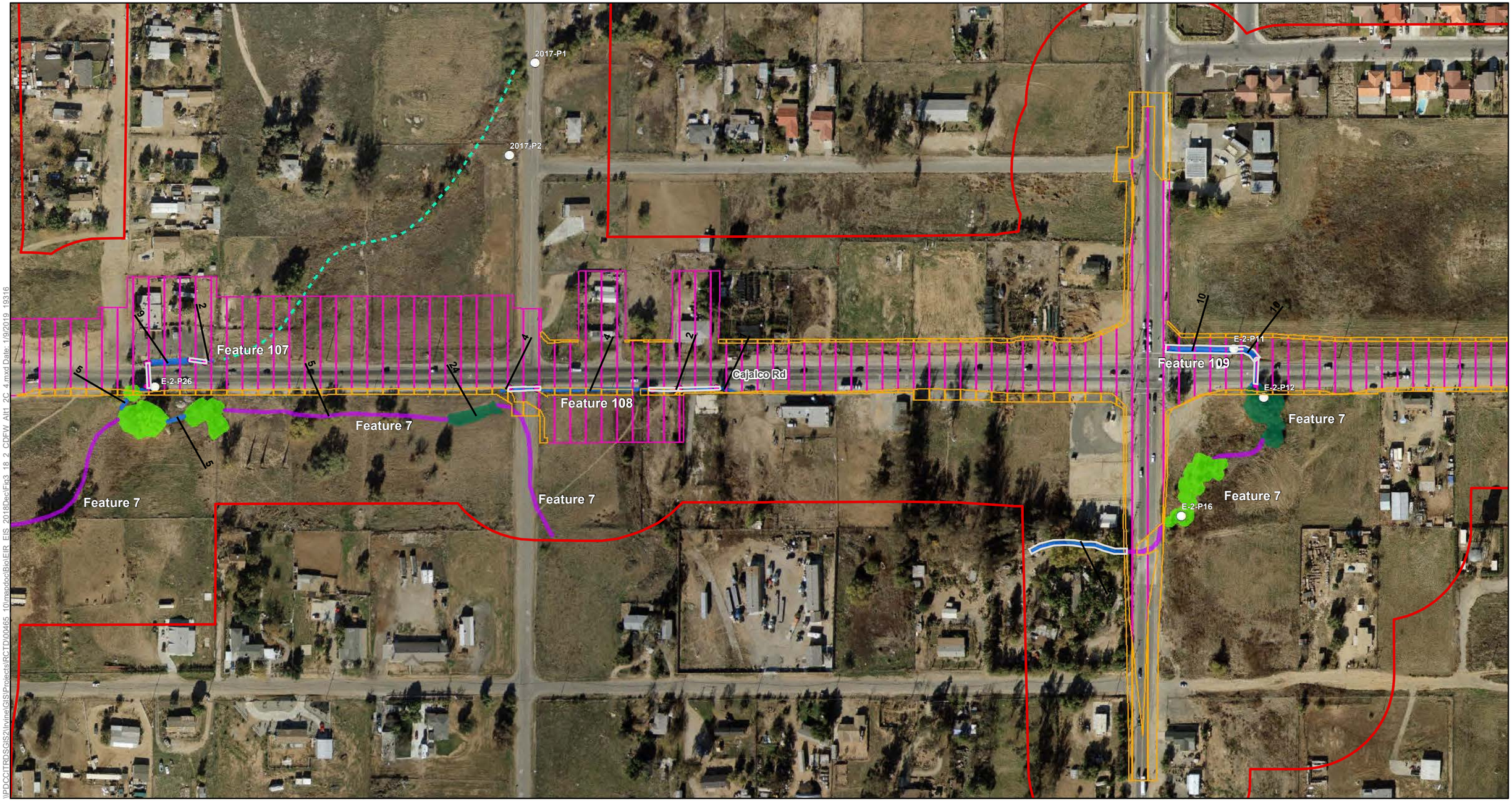

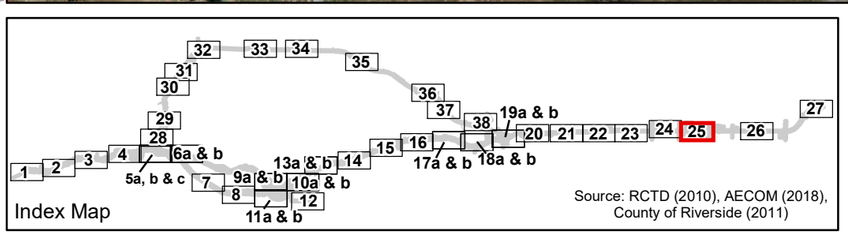

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 25
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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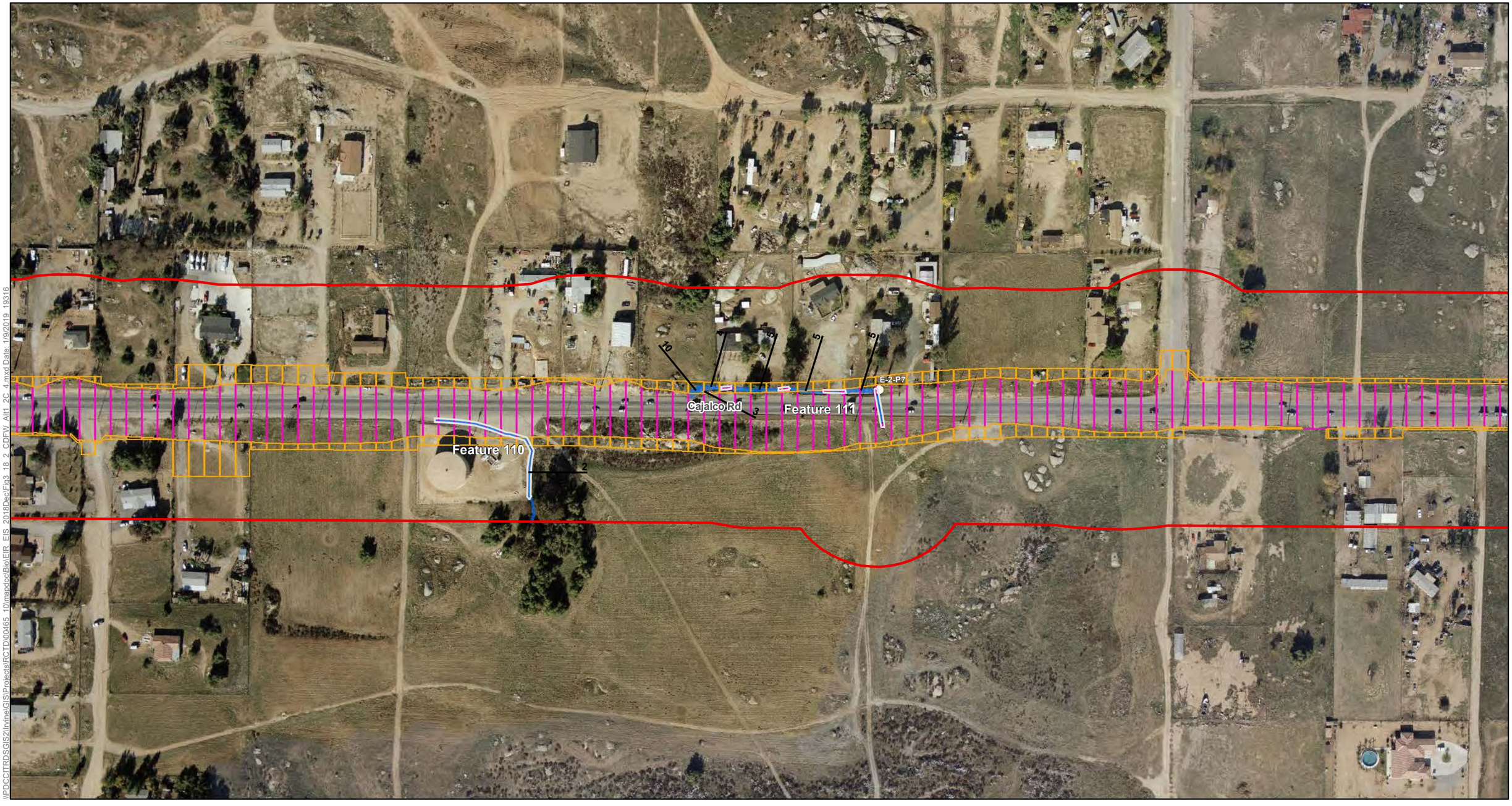

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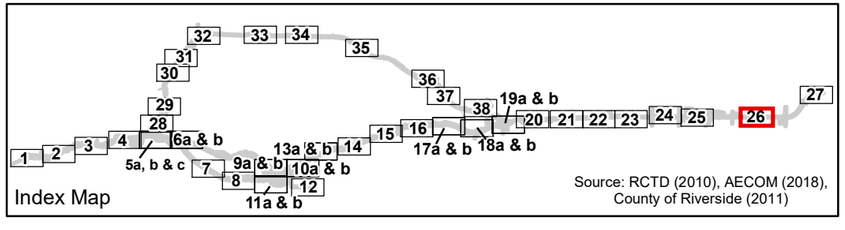

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 26
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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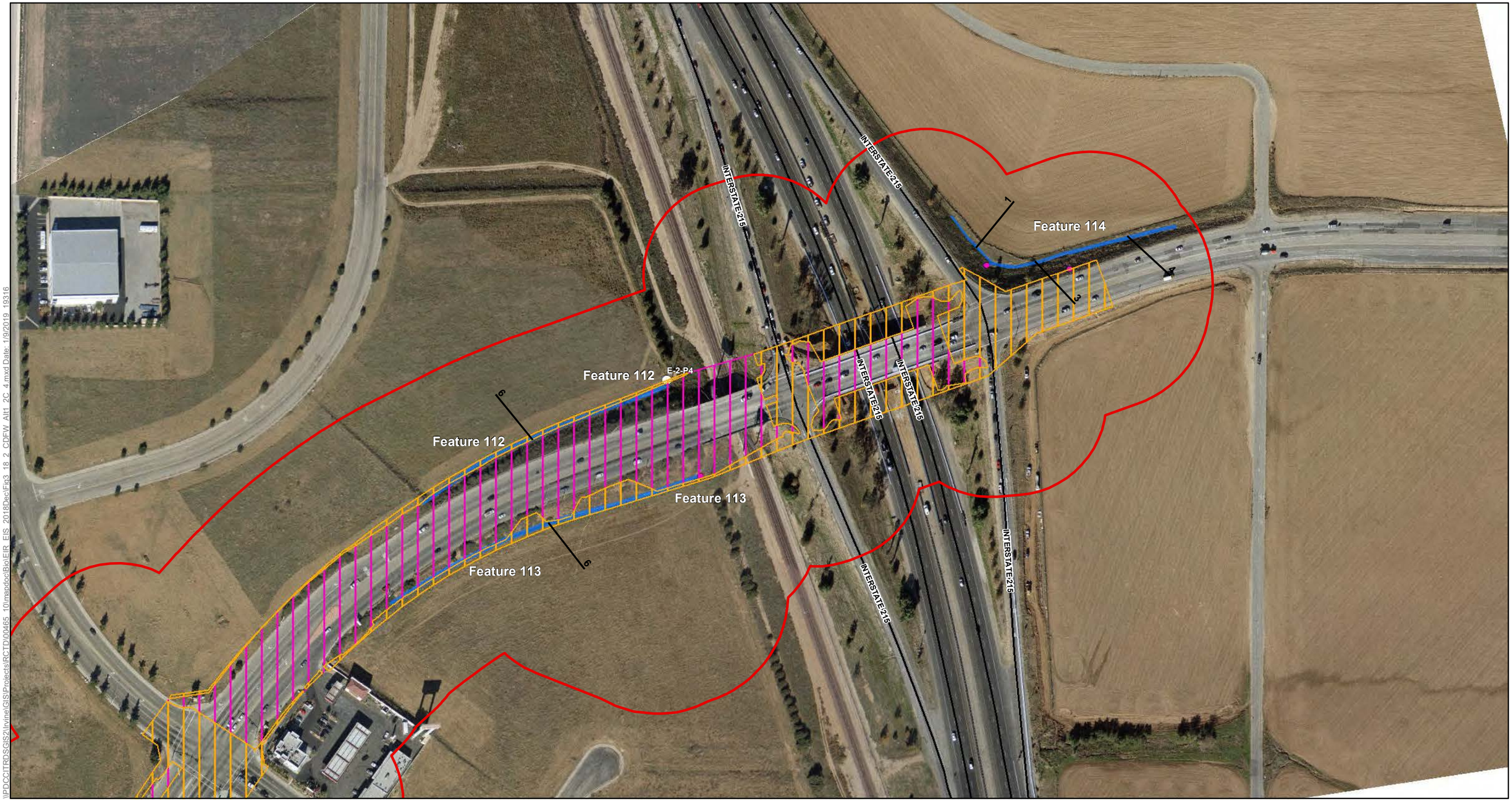

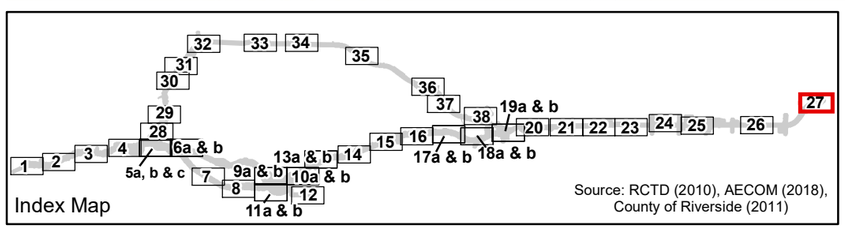

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 27
CDFW Jurisdictional Resources Impacts
Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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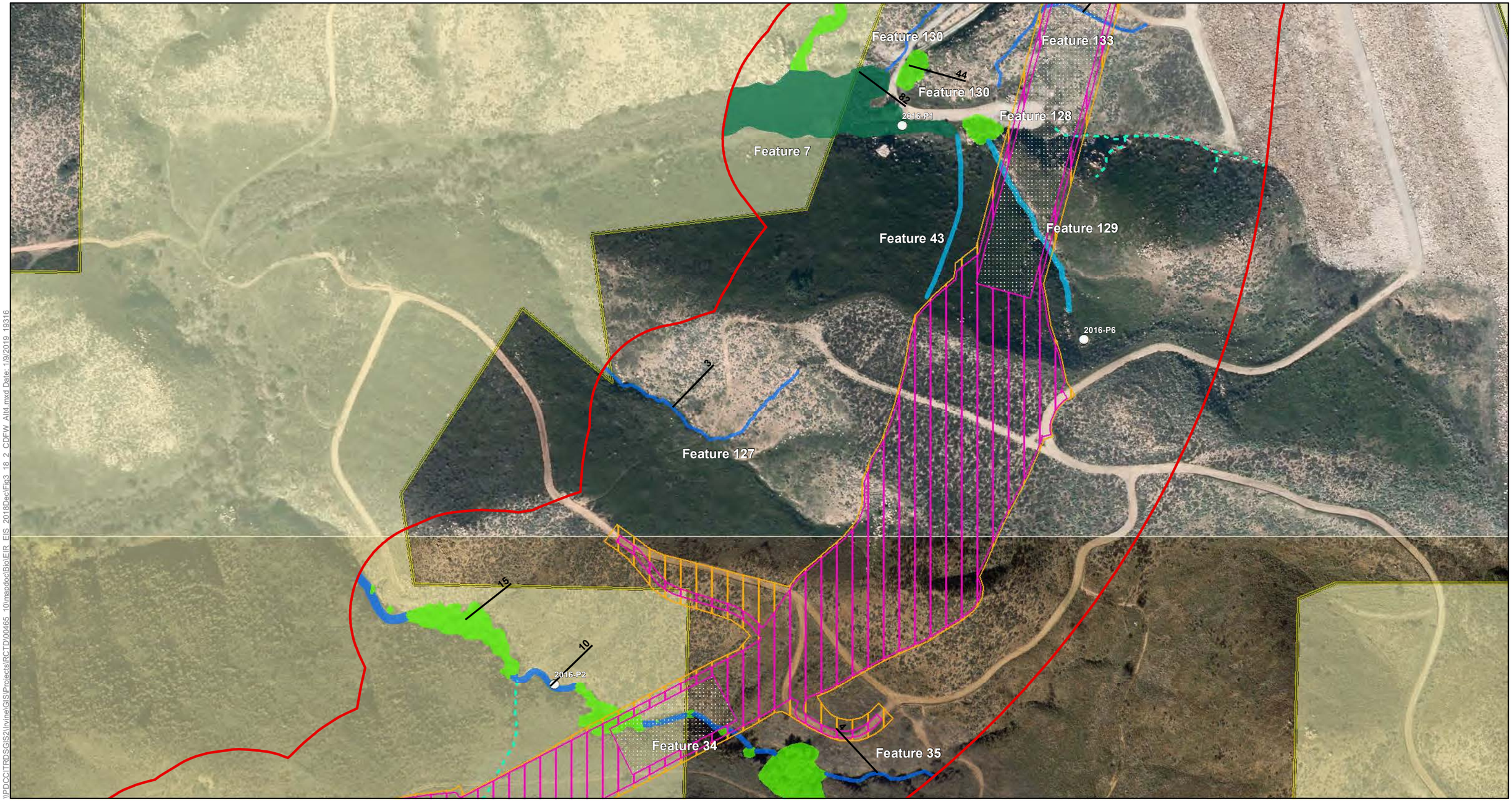

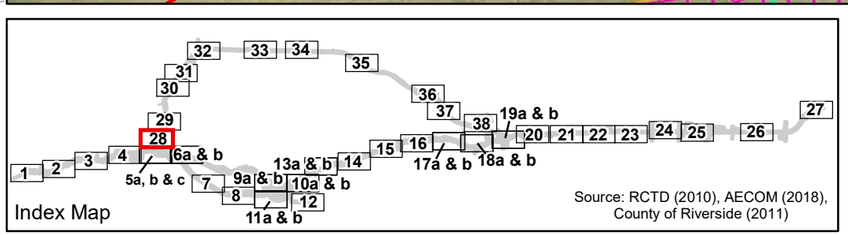

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 28
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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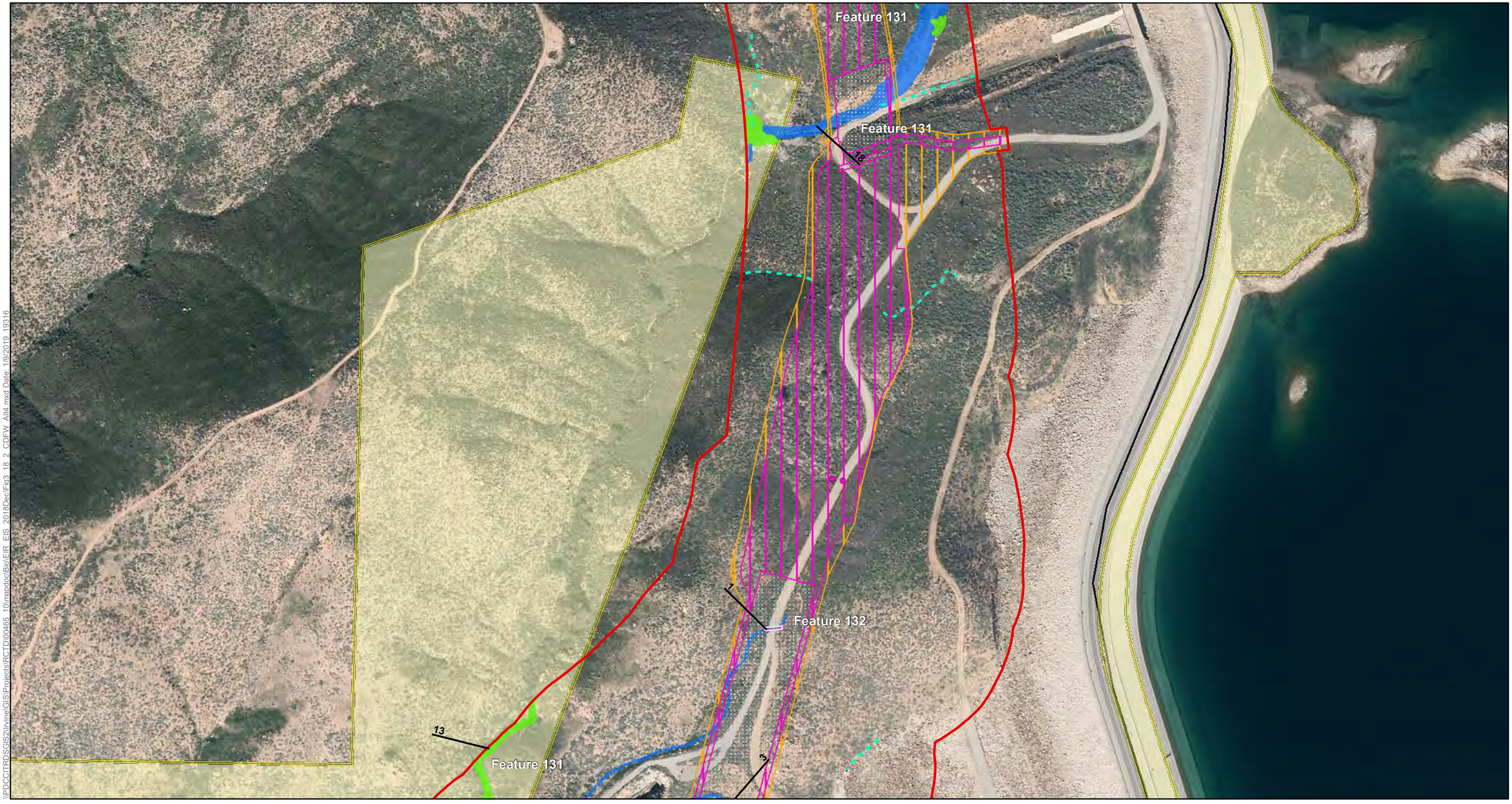

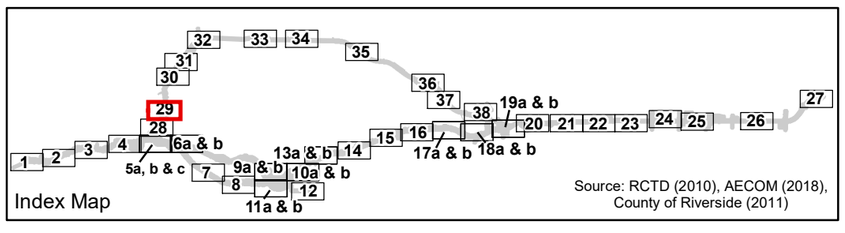

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 29
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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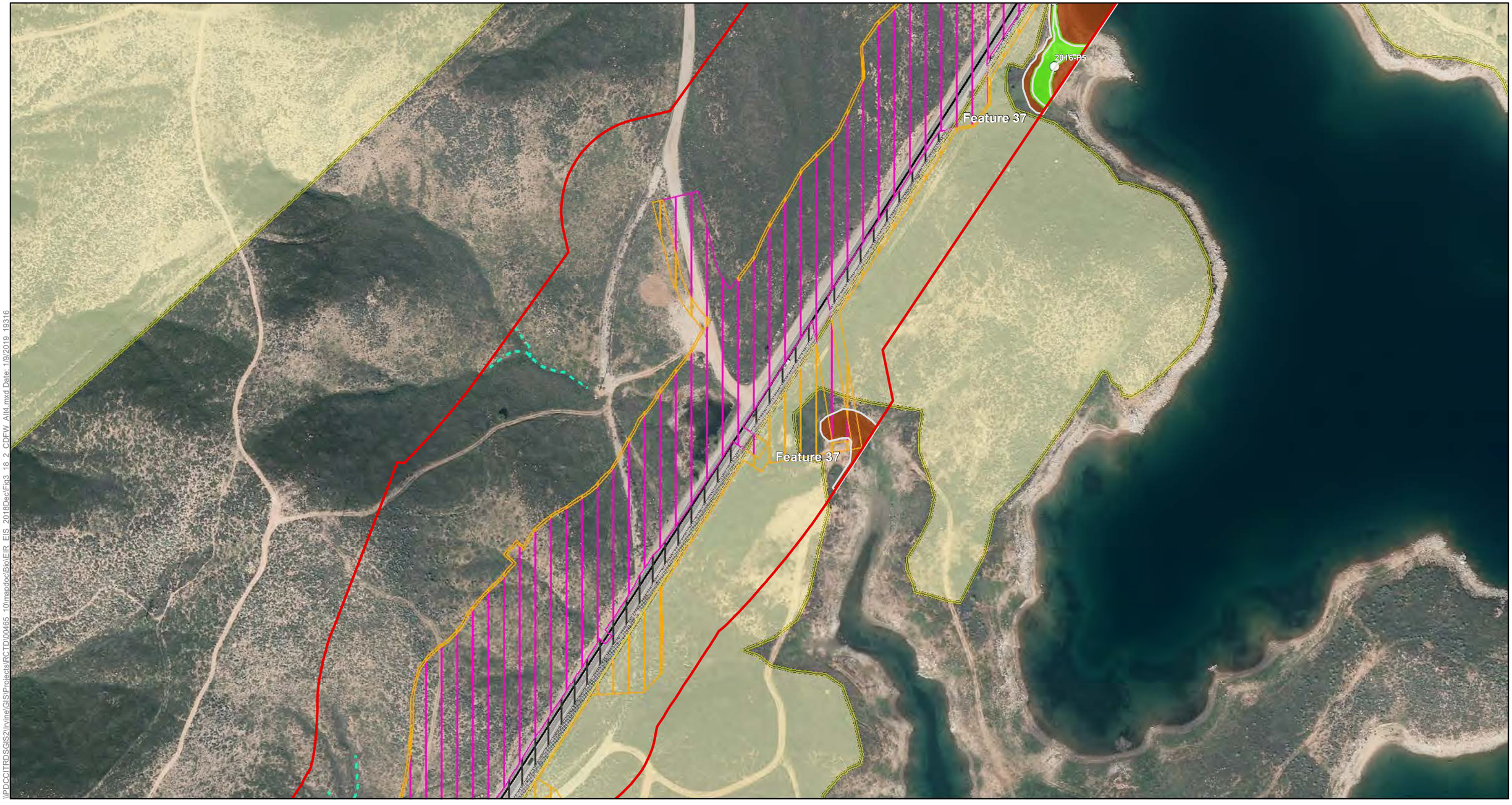

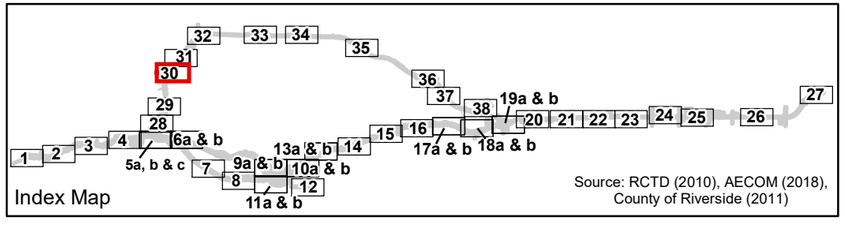

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Jurisdictional Resources

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- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 30
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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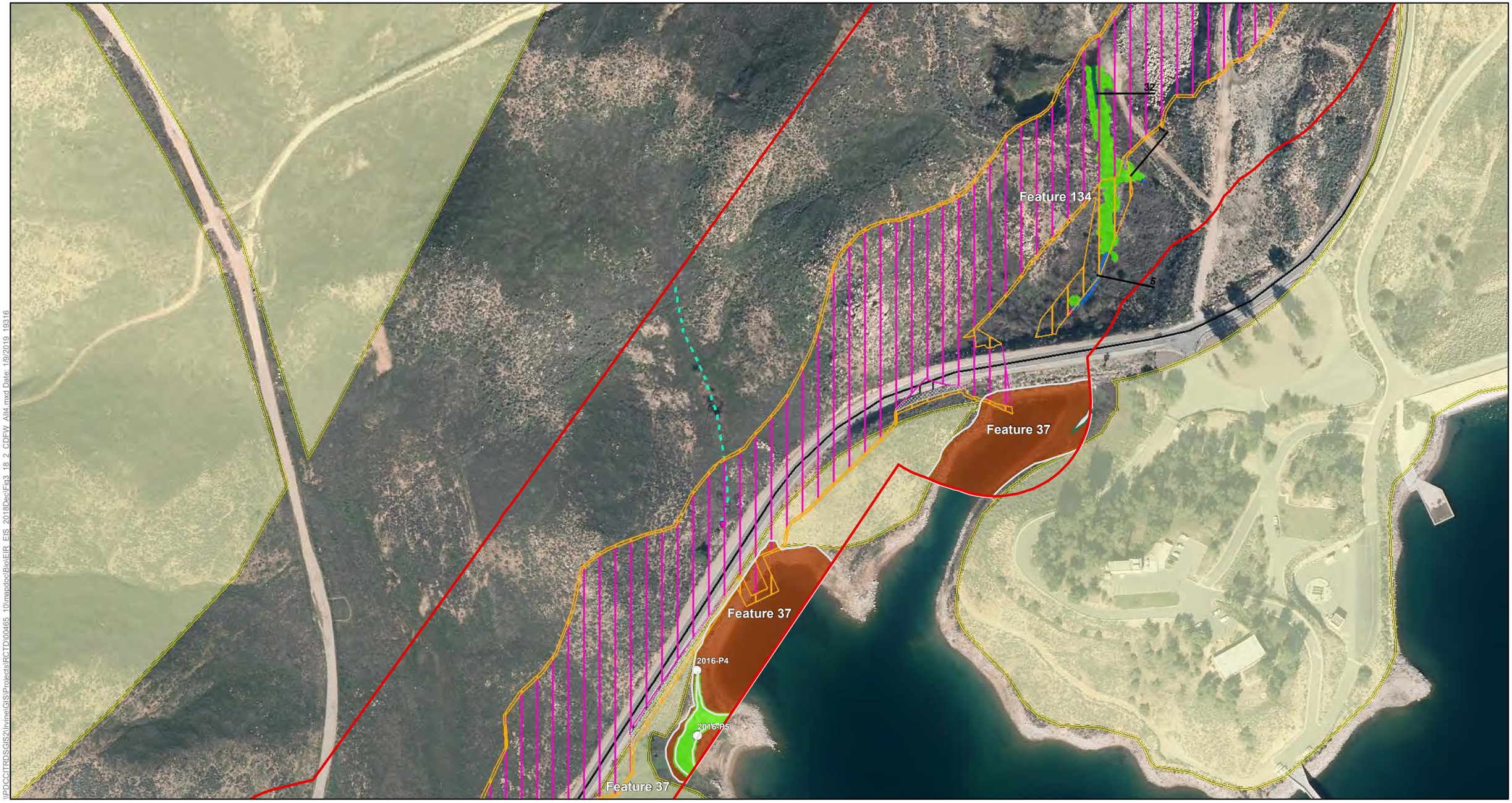

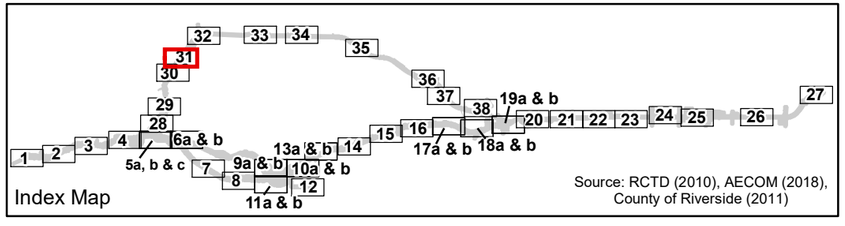

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
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Conserved Lands

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Jurisdictional Resources

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- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 31
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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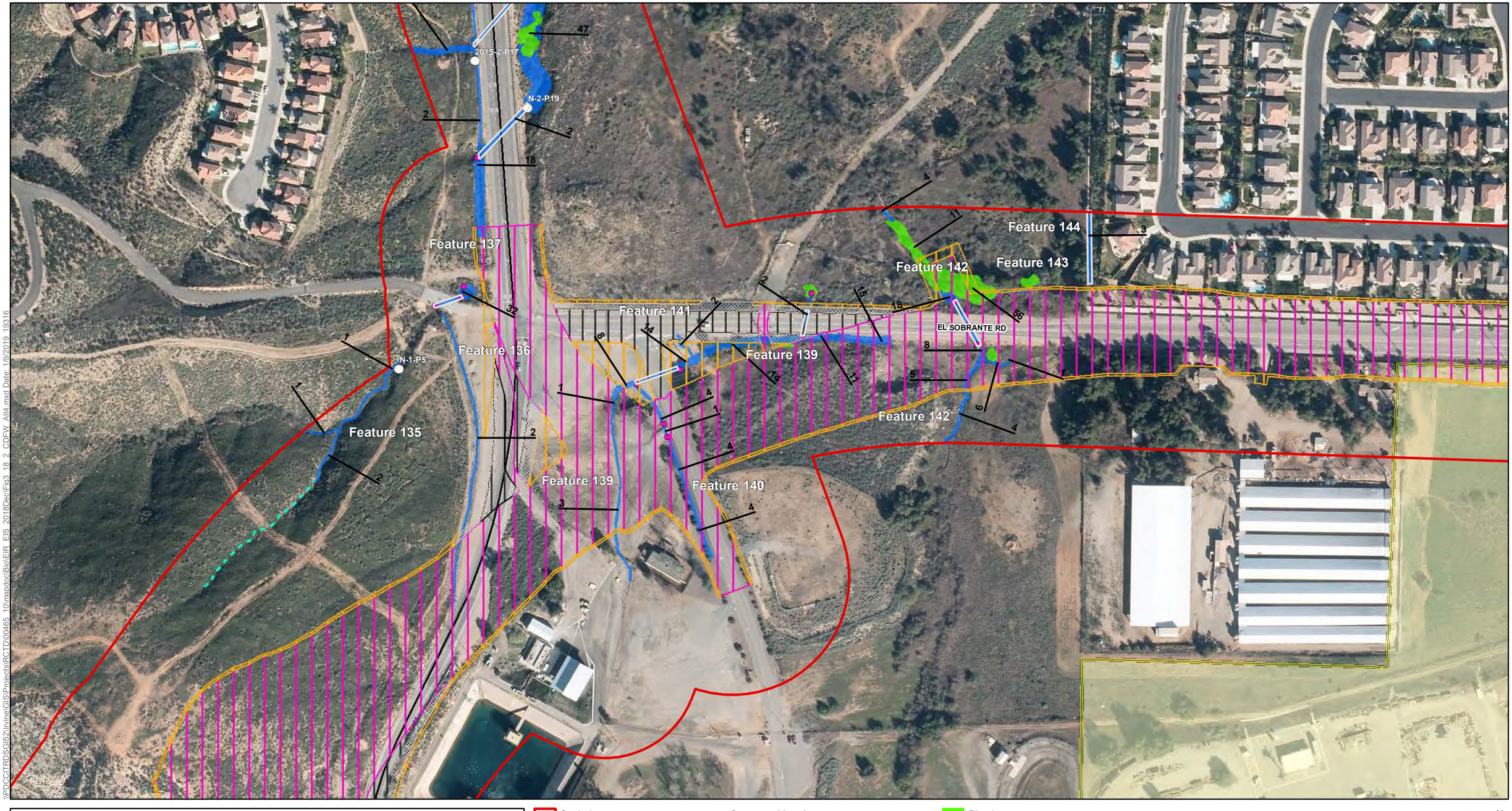

Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
Permanent (Proposed Shading)

Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 32
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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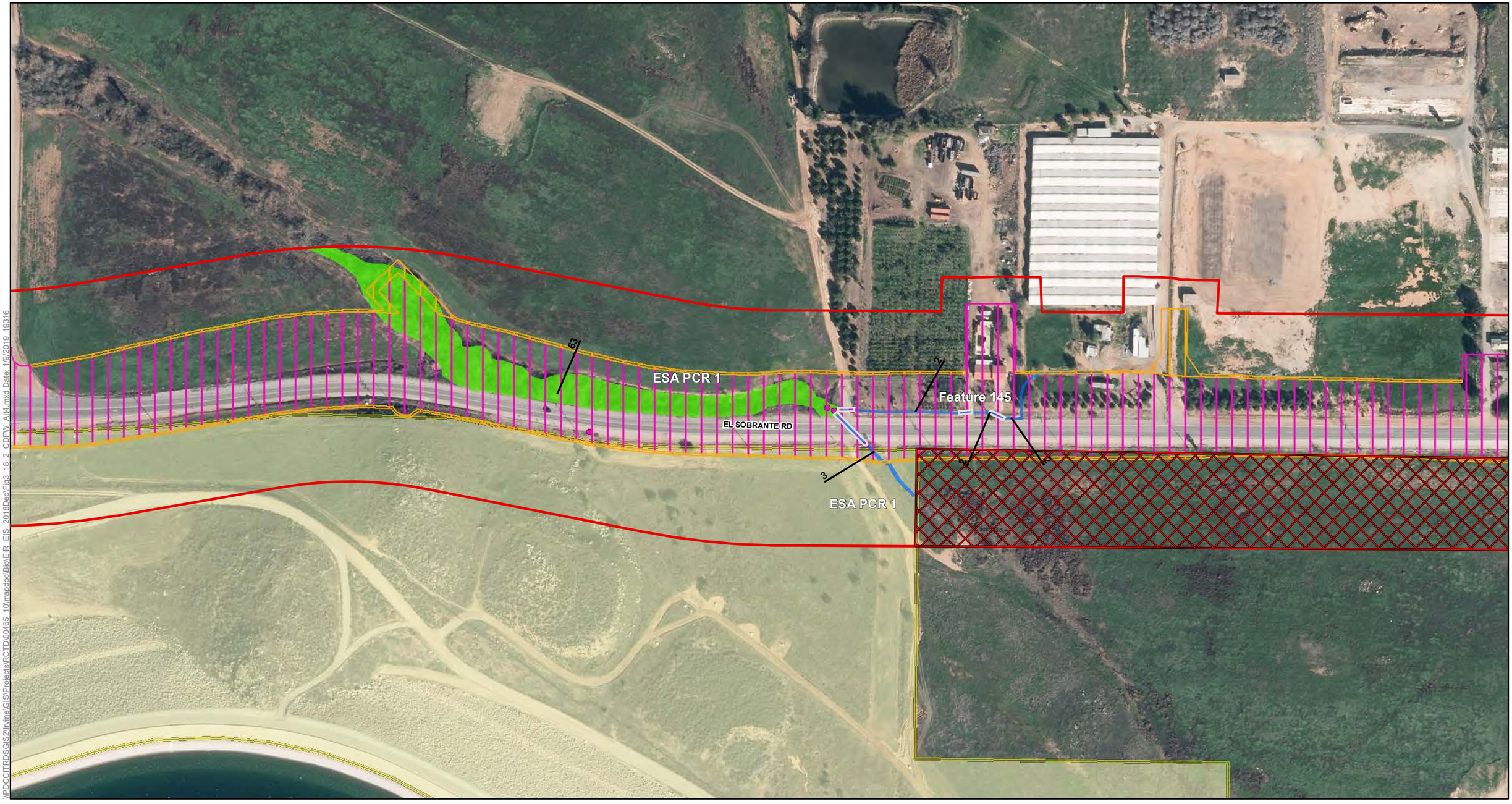

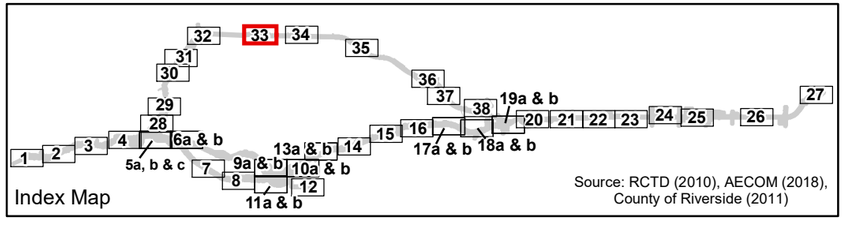

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
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Jurisdictional Resources

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- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 33
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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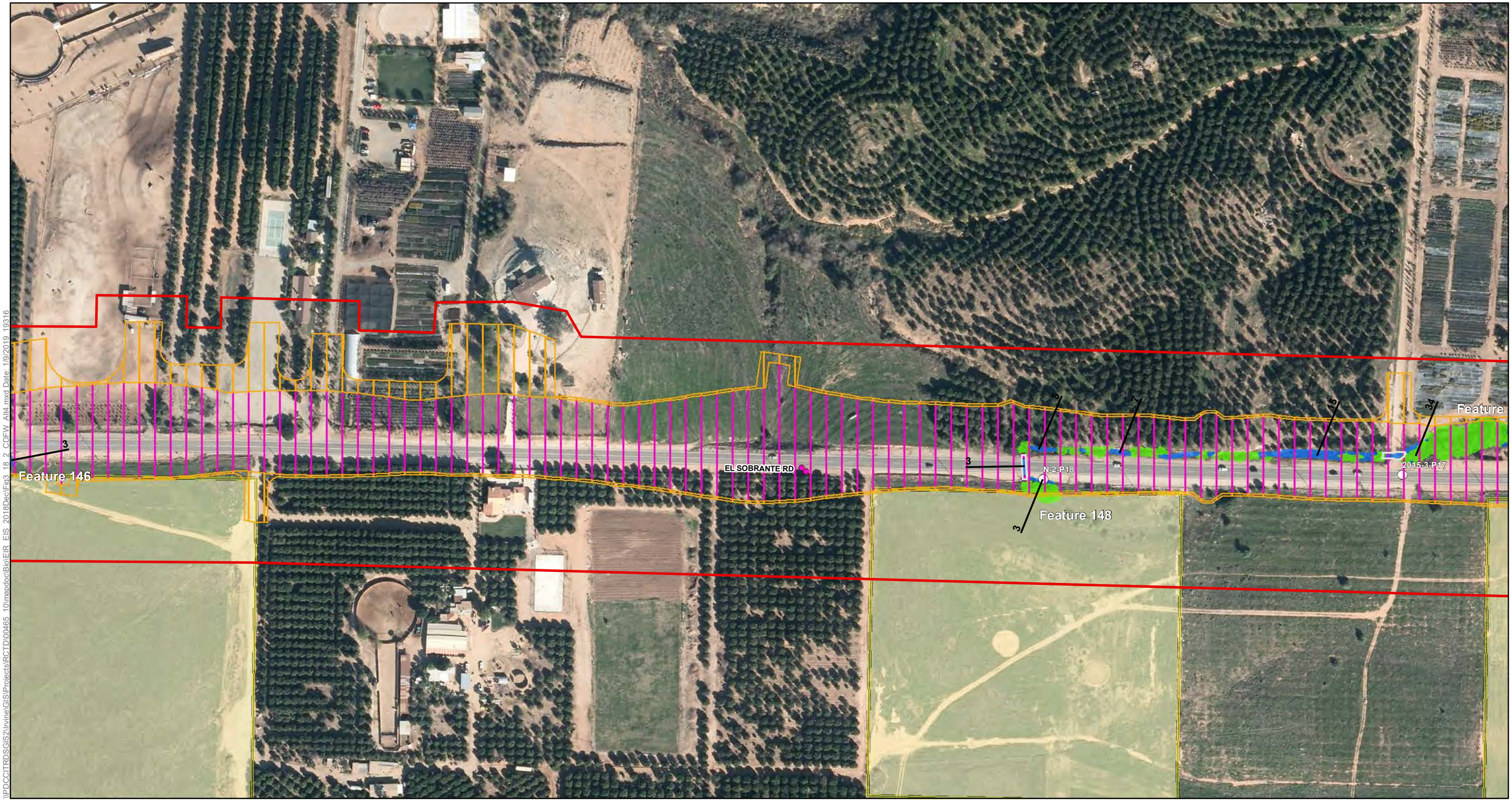

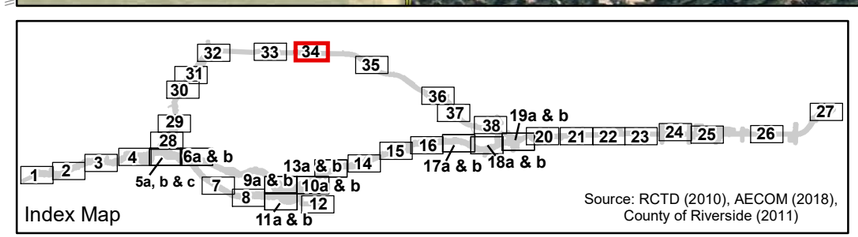

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

- Study Area
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Impact Areas
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- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 34
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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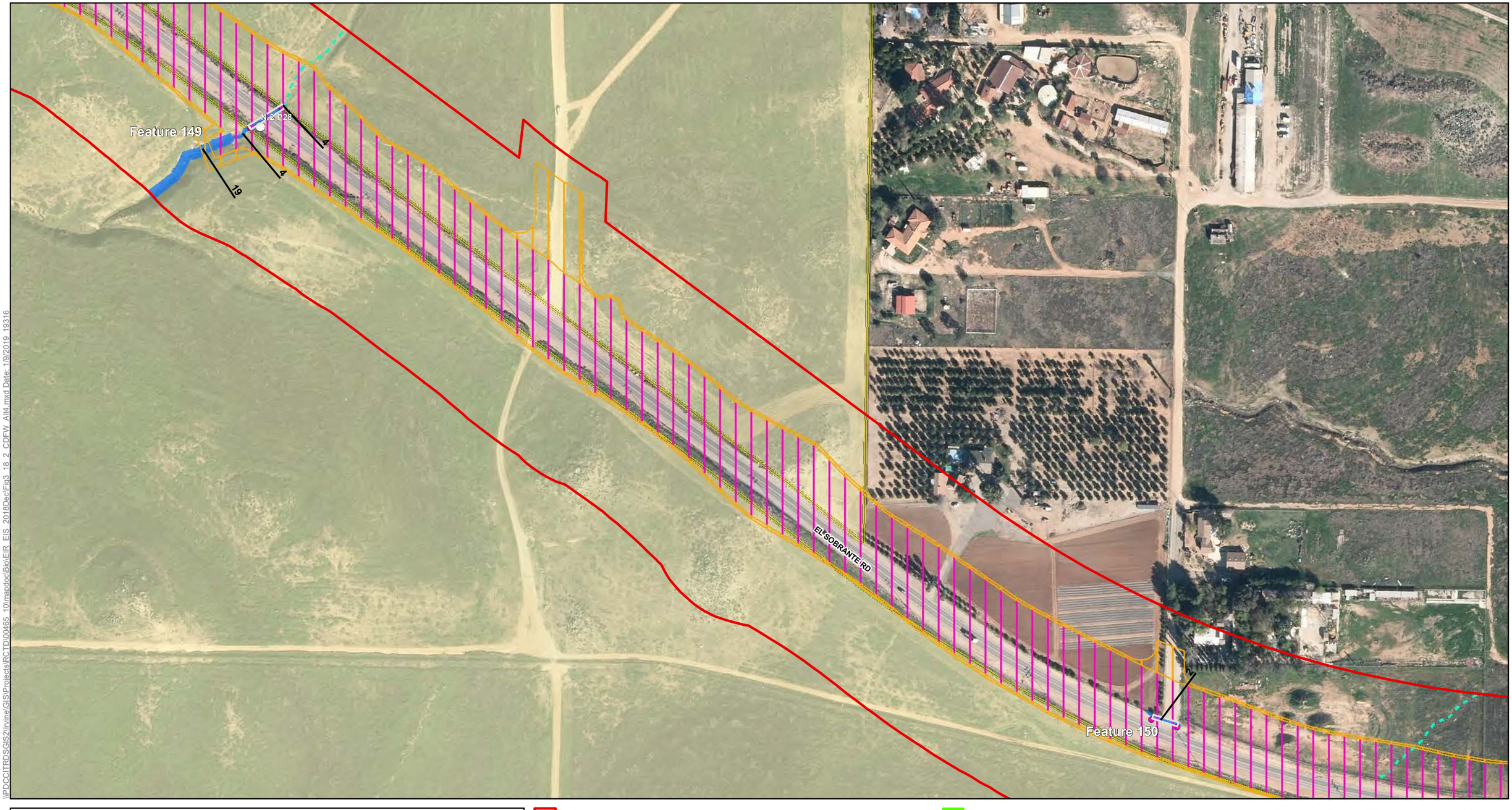

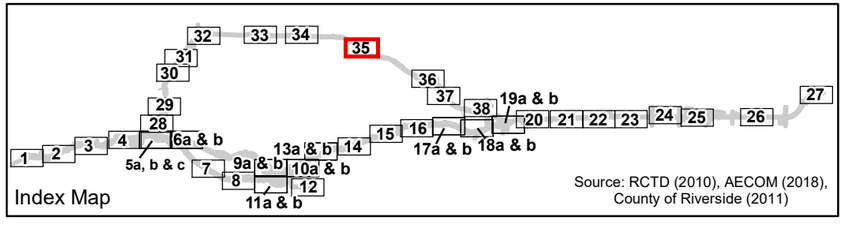

- Study Area
- No Access Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
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Jurisdictional Resources

- Non-Riparian Streambed
- Unvegetated Streambed Inferred
- Unvegetated Streambed (Paleo Channel)
- Riparian
- Wetland
- Lakebed
- Swale
- Width of Feature in Feet
- Built Feature (All Others Are Natural)
- Photo Location
- Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 35
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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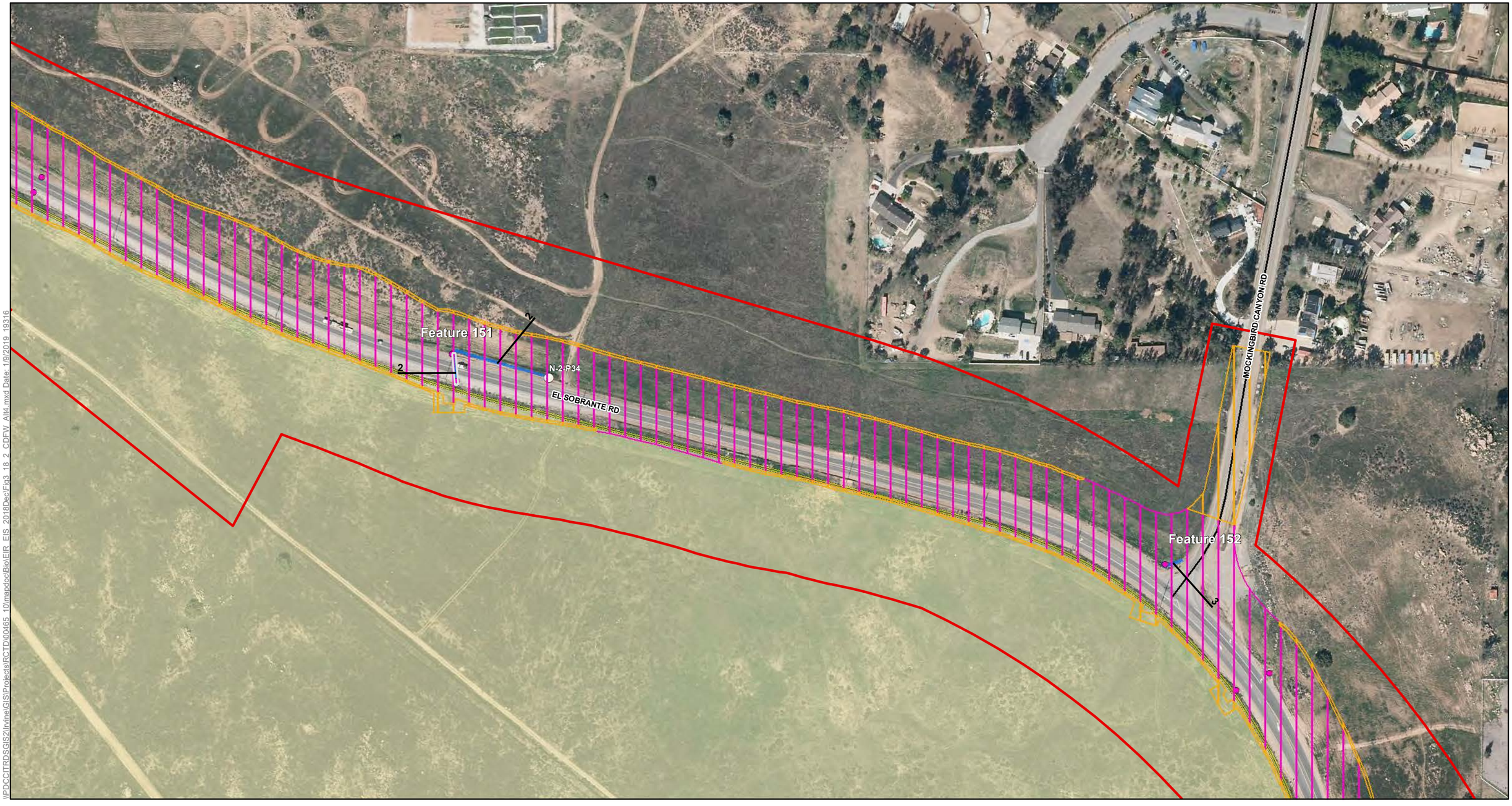

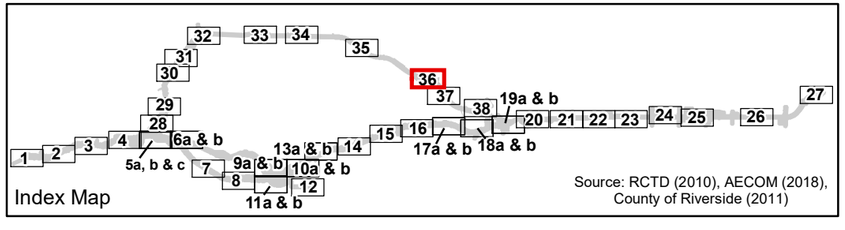

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
Roadbed Removal ROW (Beneficial)
Temporary (Existing Shading)
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Conserved Lands
MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
Non-Riparian Streambed
Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 Feet

N

Figure 3.18-2 - Sheet 36
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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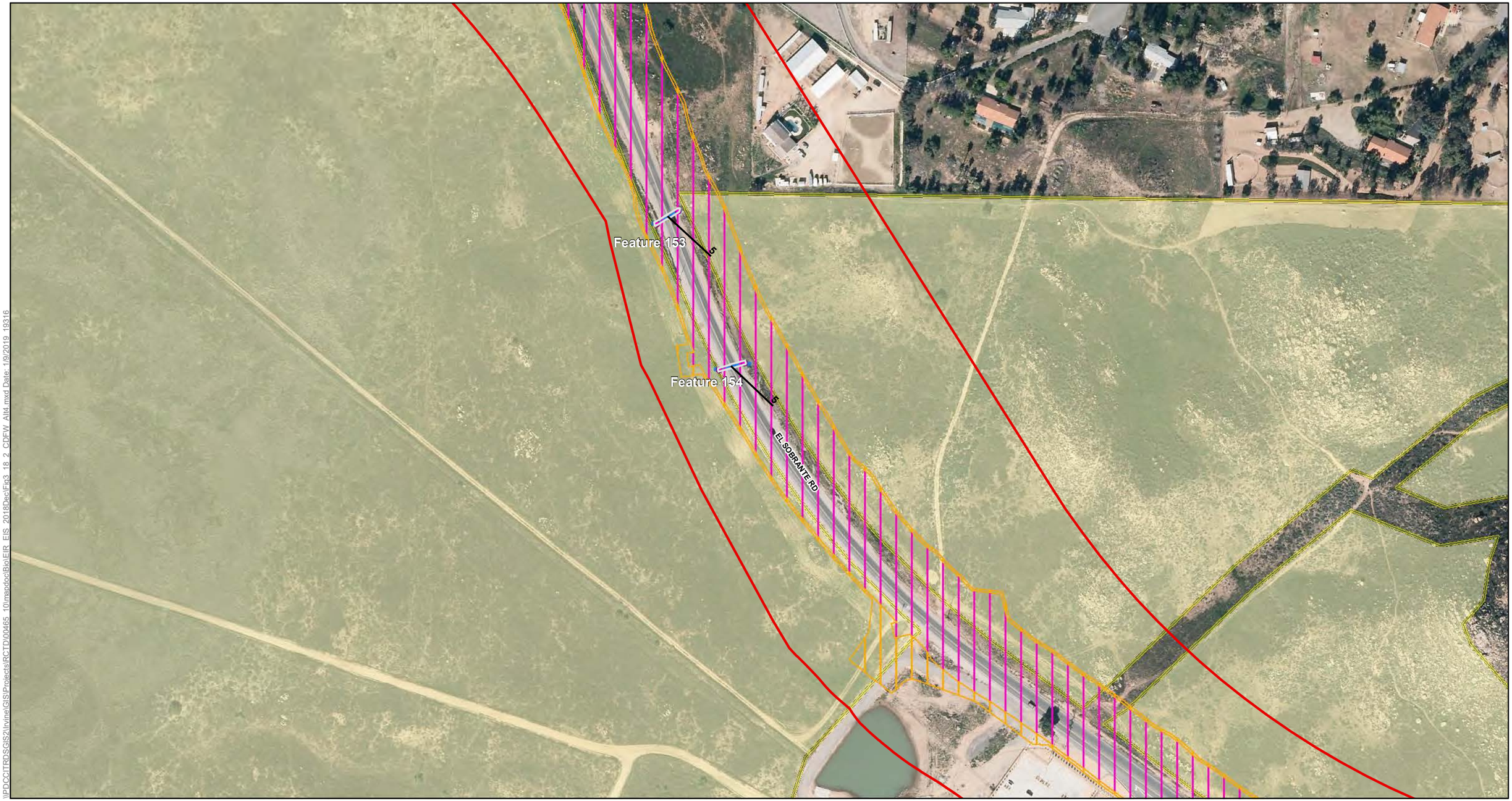

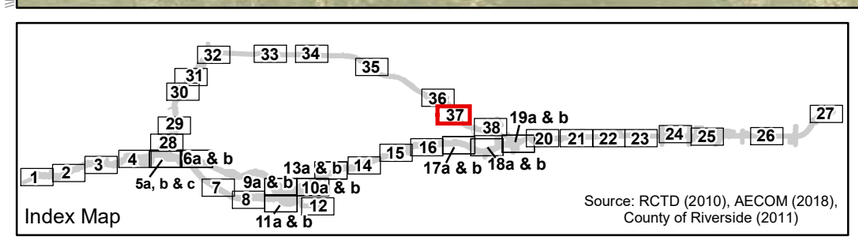

Study Area
No Access Area

Impact Areas
Permanent Impact Area
Temporary Impact Area
Roadbed Removal (Beneficial)
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Temporary (Existing Shading)
Permanent (Proposed Shading)

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MWD
RCHCA
RCRCD
WRCRCA

Jurisdictional Resources
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Unvegetated Streambed Inferred
Unvegetated Streambed (Paleo Channel)
Riparian
Wetland
Lakebed
Swale
Width of Feature in Feet
Built Feature (All Others Are Natural)
Photo Location
Culvert

0 100 200 400 N
Feet

Figure 3.18-2 - Sheet 37
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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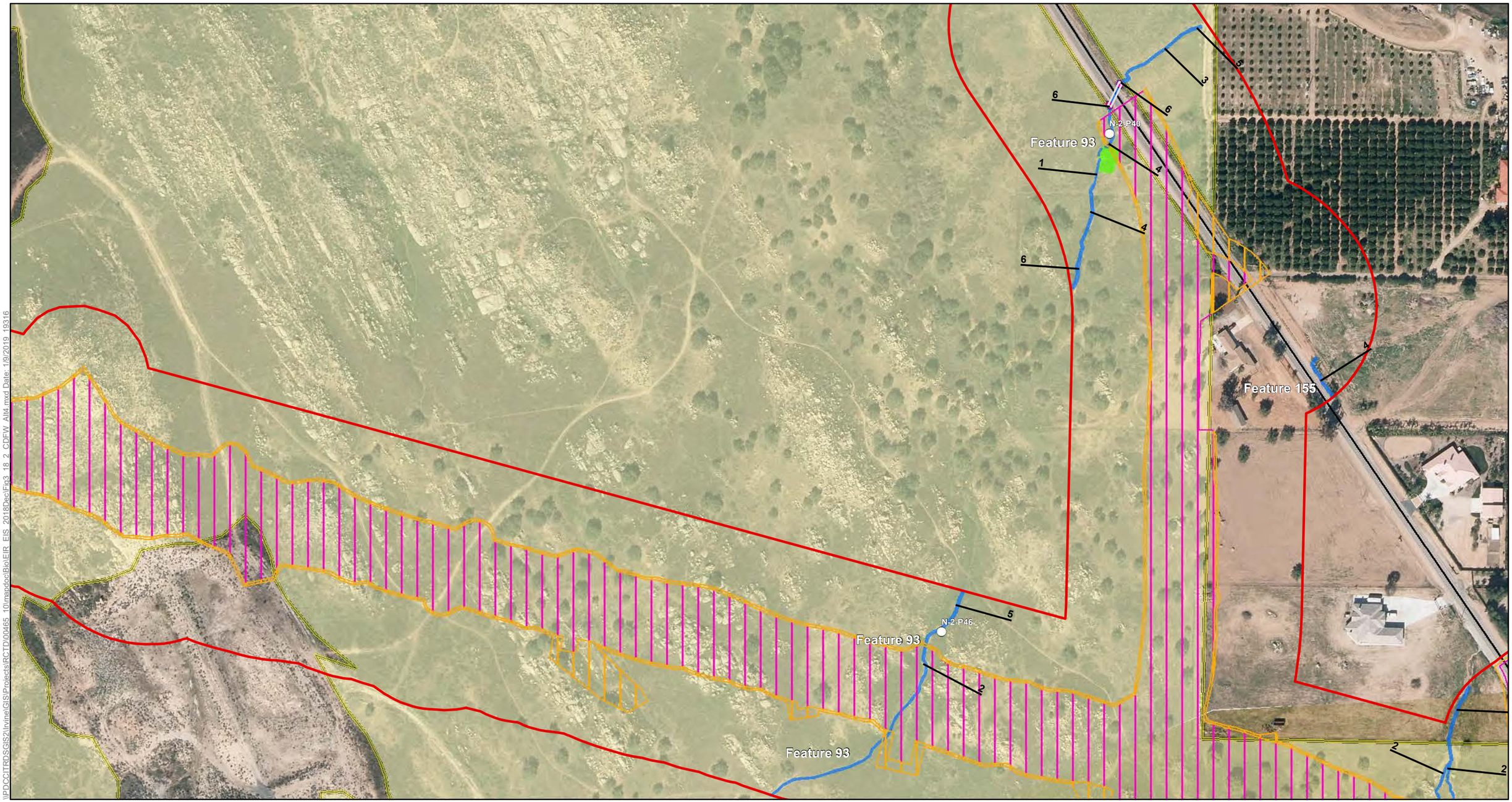

Figure 3.18-2 - Sheet 38
CDFW Jurisdictional Resources Impacts
Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Ephemeral Channels

The large majority of features in the JSA are earthen drainages and ditches that convey precipitation and, in some cases, urban runoff. Water was observed in a small number of these features during the delineation. The majority are ephemeral and were dry during survey efforts. Blue-line earthen features include:

- Feature 1 (Temescal Creek), Feature 4 (Bedford Wash), Feature 6, Feature 7 (Cajalco Creek), Feature 42, Feature 50, Feature 61, Feature 68, Feature 72, Feature 75, Feature 91, Feature 102, Feature 107, Feature 113, Feature 131, Feature 142, and Feature ESA PCR 1.

OHWM indicators observed commonly included a break in bank slope, sediment deposition, sediment sorting, the destruction of terrestrial vegetation, an abrupt change in a plant community, flow patterns, a natural line impressed on the bank, drift deposits, and water staining. The CDFW width was measured at the top of bank or to the outer drip line of associated riparian vegetation. In addition to earthen drainages and ditches, the JSA included earthen manufactured basins.

Wetland Waters

Wetlands within the JSA can be perennial or seasonal, and maintain inundation for a period long enough to develop anaerobic conditions (typically 15 days of continuous saturation or inundation during the growing season). There are a total of 11 features within the JSA that meet, or are assumed to meet, the definition of a federally jurisdictional wetland. Wetlands were found within the following features:

- Feature 1 (Temescal Creek), Feature, Feature 7 (Cajalco Creek), Feature 37 (Lake Mathews), Feature 47, Feature 52, Feature 84, Feature 104, Feature 109, Feature 134, Feature 138.

Concrete Channels

A small number of features mapped within the JSA are maintained concrete-lined channels and ditches that convey precipitation and urban runoff. Most of these features were dry during the delineation. Many OHWM indicators associated with these features were obscured because of engineering and/or maintenance. As such, the OHWM determination was most commonly based on the presence of water staining and sediment deposition along the bottom of the bank slope or channel invert. The CDFW width was determined to be at the top of bank.

The JSA includes several types of concrete channels: v-ditches, which are relatively smaller in width (approximately 1–3 feet) than other concrete features; trapezoidal channels, which are designed to convey larger flows than v-ditches and have larger widths (approximately 4–36 feet); and box channels, which have vertical walls and are the largest concrete-lined features within the JSA. A number of asphalt concrete–lined overside drainages are also present within the JSA, originating at the edge of pavement of existing roads, and typically draining into earthen drainage features.

Swales

A large number of swales were observed within the JSA. Swales are locations where natural or human-altered topography has created low points in the landscape, such as where two or more

hills come together, but these areas do not support flows of a return interval or surface concentration that impress evidence upon the landscape.

One swale in particular was noted west of Haines (Sheet 25 of Figure 3.18-1 and 3.18-2) and is mapped on the National Hydrography Dataset maps. On close investigation of this swale feature, there was no discernible OHWM or top-of-bank observed through the entire feature. The swale is a topographical low point within a routinely disced agricultural field and it conveys local and road runoff from Haines Road southwest to where an OHWM for Feature 107 picks up at Cajalco Road. There were a few mature willows (*Salix* sp.) along the swale feature which typically occur within wetter conditions, but vegetation was mostly composed of upland-associated species including common sunflower (*Helianthus annuus*), five-horn smotherweed (*Bassia hyssopifolia*), and salt grass (*Distichlis spicata*). No culverts were present along this feature and there were no other features noted east of Haines Street.

Paleo Channels

Paleo channels are locations where flows have been concentrated in a manner that impressed evidence upon the landscape in the distant past, but evidence of contemporary flows is not present. These features may still exhibit a bed and/or bank feature but do not exhibit current indicators of an OHWM. As such, these features meet the definition of a stream under the jurisdiction of CDFW as a result of the presence of bed and/or bank, but are not classified as jurisdictional WoUS/WoS under the CWA or Porter-Cologne. Features 27, 42, 43, and 129 have been classified as paleo channels within the JSA.

Water Quality Treatment Best Management Practice Facilities

A single feature, Feature 156, that appears to have been constructed in uplands as a post-construction water quality Best Management Practice (BMP) facility was observed in association with the residential development northeast of the intersection of the existing Cajalco Road/Wood Road intersection. This feature collects runoff from the associated residential development, and appears to treat this runoff via a vegetated swale prior to discharging to Feature 102 via a culvert located beneath the existing Cajalco Road. As defined in 40 Code of Federal Regulations 423.11(m), waste treatment systems are not WoUS. In addition, this feature was determined not to be defined as a stream or lakebed, as it was apparently constructed in uplands solely for the purpose of treating waste prior to its discharge to the natural hydrologic system; therefore, this feature was determined to be subject only to jurisdiction as WoS under Porter-Cologne.

3.18.3 Environmental Consequences

Project design details by build alternative are provided in Figures 2.2-2 through 2.2-5. Field investigations were performed within all portions of the JSA established for each proposed build alternative, including areas for alternatives that are no longer under consideration (refer to Chapter 2). Project engineers and biologists reviewed all of the build alternatives to determine whether construction activities for new and widened bridges could avoid jurisdictional areas or minimize impacts on these areas. For many locations, impact areas were reduced where feasible, including decreasing project construction areas, replacing large culverts with bridges thereby reducing the work area needed for the construction of bridges, designing and placing bridge piers to reduce impacts on the greatest extent feasible, and creating full-span bridges over streams and

riparian vegetation. Full avoidance of jurisdictional WoUS/WoS, state streambeds, and riparian habitat for each build alternative discussed above, however, was not feasible.

A key component of the development of the project's avoidance and minimization of impacts on jurisdictional waters was frequent coordination with the Western Riverside County Regional Conservation Authority, U.S. Fish and Wildlife Service, CDFW, RWQCB, Riverside County Habitat Conservation Agency, and USACE since 2011. Coordination is still ongoing for the proposed project. During coordination meetings, the proposed project design alternatives were reviewed in detail throughout the preliminary design and technical study phase. Agency questions and comments were addressed and incorporated into the project design after each meeting, including discussions of mitigation expectations. Chapter 5 provides a detailed discussion of coordination and copies of correspondence with the agencies. A coordination summary is also available in Section 5.4 of the NES.

The build alternatives (1, 2C, and 4) would require acquisition of multiple CWA Section 404 Nationwide Permits for separate crossings from USACE and a CWA Section 401 Water Quality Certification from RWQCB. These permits would ensure compliance with EO 11990. A Lake and Streambed Alteration Agreement from CDFW would also be required under each build alternative.

3.18.3.1 Build Alternatives 1, 2C, and 4

Permanent impacts on jurisdictional waters within the LOD would result from proposed improvements (structures and roadway components, including bridge piers and footings, new pavement, and new or enlarged culverts), grading activities, proposed cut and fill, proposed drainage/BMPs, permanent access roads, and proposed wildlife crossings. The permanent impacts within Temescal Creek and Cajalco Creek would occur from placement of piers and supporting structures from new and replacement bridges, and bridge extensions over aquatic features.

Temporary impacts would occur within the LOD outside of the permanent impact area (Figures 3.18-1 and 3.18-2) and is the area needed to construct the project including access and staging areas, temporary construction easements, and temporary access roads. Any jurisdictional resource proposed for impact within the temporary impact area would be restored to pre-project conditions or better at its original location. For proposed culvert improvements, any portion of an existing concrete culvert proposed for replacement was classified as a temporary impact, whereas the portion of any new culvert was classified as a permanent impact. The impact footprint associated with the Temescal Creek Bridge as well as all other new bridges under each build alternative have been reduced to the greatest extent feasible.

Although the construction-related impacts under new and replacement bridges and bridge extension areas, are initially classified as temporary, once construction is completed, the area under bridges is considered a permanent indirect impact from shading. For example, an approximately 0.010-acre area under the widened Temescal Creek Bridge (refer to STA #20 to 25 in Figures 3.18-1 and 3.18-2) would be newly shaded and would result in a type conversion from wetland to non-wetland WoUS. In this scenario, the temporary impact on WoUS from bridge construction associated with bridge shading has been classified as a permanent shading effect and not a temporary effect.

The bridge deck expansion at Temescal Creek and new bridge over Cajalco Creek would cause permanent shading of USACE-regulated wetland WoUS and CDFW-regulated riparian streambeds under each build alternative. When evaluating the potential effects from bridge shading, the following parameters were considered: bridge orientation, bridge height and width, and sunlight requirements of existing riparian vegetation. Shading can eliminate or appreciably reduce the direct sunlight available to plants and permanently reduce relative cover of wetland hydrophytic vegetation. For this impact analysis, bridge shading is expected to result in a conversion of wetland WoUS to non-wetland WoUS, and CDFW riparian streambed to unvegetated streambed. The conversion from wetland to non-wetland and CDFW riparian streambed to unvegetated streambed permanently alters the functions and values of these resources but is not considered a direct loss of waters (i.e., no placement of fill). Because shading of non-wetland WoUS or CDFW unvegetated streambed would not result in a conversion of waters, there would be no shading effect on these resources.

In addition to the temporary impacts described above, under any of the three build alternatives, areas of existing roadbed and underlying culverts would be removed and returned to natural drainage conditions (i.e., rehabilitation) consistent with the conditions directly adjacent to the existing structure. These areas proposed for such rehabilitation only occur west of Harley John Road along the existing Cajalco Road under Build Alternatives 1 and 2C, and a portion of El Sobrante under Build Alternative 4. Such rehabilitation would occur at Features 7 and 31 under all build alternatives, Feature 45, and Feature 47 under Build Alternative 1. Refer to Figure 3.18-1 and Sheet 2, 4, and 9a of Figure 3.18-2 for these locations. At the rehabilitation locations, although the initial disturbance is classified as a temporary impact, this effect is being categorized as a permanent beneficial effect (rather than a permanent direct effect) through rehabilitation of a jurisdictional bed and bank at the location of the removed culvert and/or roadbed. Rehabilitation areas could potentially serve as on-site mitigation with approval from USACE, RWQCB, and CDFW.

Additional beneficial effects on jurisdictional waters would occur at Temescal Creek (Feature 7). Presently, there is a hydrological constriction at the Temescal Creek Bridge crossing and the new proposed bridge would be lengthened, potentially widening the creekbed, which would in turn improve hydrological connectivity and flows resulting in the formation of additional federal and state jurisdictional waters. As a result, the functions and values at Temescal Creek are expected to improve under Build Alternatives 1, 2C, and 4.

During construction, there is increased risk for indirect temporary impacts, such as changes in hydrology, to the adjacent jurisdictional waters and state streambeds. Indirect impacts on federal and state jurisdictional waters adjacent to the build alternatives may include degradation of habitat through increased risk of fire, water pollution, litter, decreased water quality, and increased exposure to invasive plant species, among other risks. The avoidance and minimization measures identified in Section 3.17.4 (**NC-4 [NES BIO-4]** through **NC-6 [NES BIO-6]** and **NC-10 [NES BIO-10]** through **NC-13 [NES BIO-9]**) will ensure these potential indirect effects are reduced so the effects would not be substantial under the National Environmental Policy Act.

Once the selected build alternative is constructed and the project is operational, there are additional long-term effects that would occur; these include maintenance (e.g., mowing along the shoulder for fire/weed abatement), additional vehicles traveling on the facility potentially spreading toxics or invasive species, and other activities or changes associated with roadway

operations. Many of these operational effects may reduce the functions and values of adjacent WoUS, WoS, and state streambeds due to degradation of habitat quality and edge effects, but would be similar to the existing conditions under the No-Build Alternative.

USACE/RWQCB Jurisdiction[5]

The proposed impacts on USACE jurisdictional WoUS are summarized in Table 3.18-2 and shown on Figure 3.18-1. The RWQCB impacts on WoS are the same as those identified for the USACE wetland and non-wetland WoUS.

Table 3.18-2. USACE and RWQCB Jurisdictional Wetland and Non-Wetland Waters of the U.S. Impacts

USACE/RWQCB Jurisdictional Type[1]	Permanent Impact (acres)[1]	Temporary Impact (acres)[1]	Shading Effects (Indirect)[2] (acres)	Roadbed Removal (Rehabilitation) (acres)
BUILD ALTERNATIVE 1				
Culvert	0.171	0.351	--	0.031
Non-wetland	3.358	1.491	--	0.047
Wetland	0.076	0.236	0.042	--
Build Alternative 1 Total	**3.605**	**2.078**	**0.042**	**0.078**
BUILD ALTERNATIVE 2C				
Culvert	0.475	0.058	--	0.020
Non-wetland	3.387	1.488	--	0.051
Wetland	0.076	0.236	0.042	--
Build Alternative 2C Total	**3.938**	**1.782**	**0.042**	**0.071**
BUILD ALTERNATIVE 4				
Culvert	0.151	0.125	--	0.028
Non-wetland	1.203	1.203	--	0.053
Wetland	0.082	0.233	0.042	--
Build Alternative 4 Total	**1.436**	**1.561**	**0.042**	**0.081**

[1] Aquatic resources within the project area were delineated according to the 1987 *Corps of Engineers Wetland Delineation Manual; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region;* and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 1987, 2008a, 2008b). The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.
[2] The bridge expansion area at Temescal Creek and Cajalco Creek will indirectly cause wetlands to be permanently shaded once construction is complete. Shading of USACE/RWQCB wetland areas would result in a type conversion to non-wetland and is therefore considered a permanent indirect effect.

[5] Aquatic resources within the project area were delineated according to the 1987 *Corps of Engineers Wetland Delineation Manual; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region;* and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 1987, 2008a, 2008b). The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting. On April 2, 2019, SWRCB adopted a wetland definition and procedures that govern permitting of dredge and fill into WoS.

Build Alternative 2C would result in the greatest amount of permanent impacts (3.938 acres) on aquatic resources compared to Build Alternative 1 (totaling 3.605 acres) and Build Alternative 4 (totaling 1.436 acre). However, Build Alternative 1 would have the greatest temporary impact (2.163 acres) compared to Build Alternative 2C (1.782 acre) and Build Alternative 4 (1.561 acre). The amount of wetlands proposed for permanent and temporary impact by Build Alternative 1 (0.076 acre and 0.236 acre, respectively) is the same as that proposed by Build Alternative 2C. Build Alternative 4, however, would result in slightly higher permanent and temporary impact on wetlands WoUS (0.082 acre and 0.233 acre, respectively). Permanent and temporary impacts within Temescal Creek and Cajalco Creek under any of the build alternatives would occur from the placement of piers and supporting structures into, or new and replacement bridges and bridge extensions over, wetland features. It is not possible to widen the facility and not affect federal wetlands. The loss of wetland WoUS will require compensatory mitigation as described in Section 3.18-4 (refer to Measure **WET-1**).

Proposed shading under Build Alternatives 1, 2C, and 4, is equivalent where shading would result in indirect impacts and the permanent conversion of 0.042 acre of wetland WoUS to non-wetland WoUS, as the mitigation ratios for this effect would occur at 2:1 rather than 3:1. Rehabilitation associated with Build Alternative 4 would restore the greatest quantity (0.081 acre) of USACE/RWQCB jurisdictional non-wetland WoUS and culverts to natural conditions compared to Build Alternative 1 (0.78 acre) and Build Alternative 2C (0.071 acre). As described in *Summary of Impacts*, above, the acreage of rehabilitation has not been included under permanent effects and could potentially be self-mitigating with approval from USACE, RWQCB, and CDFW.

CDFW Jurisdiction

Proposed impacts on CDFW streambed and associated riparian habitat are summarized in Table 3.18-3 and shown on Figure 3.18-2.

Table 3.18-3. CDFW Streambed and Associated Riparian Habitat Impacts

CDFW Jurisdictional Type	Permanent Impact (acres)	Temporary Impact (acres)	Shading Effects (Indirect)[1] (acres)	Roadbed Removal (Rehabilitation) (acres)
BUILD ALTERNATIVE 1				
Culvert	0.132	0.373	--	0.029
Lakebed	--	--	--	--
Streams (no riparian)	4.138	1.655	--	0.092
Streams (w/riparian)	4.649	1.973	0.047	0.004
Riparian (wetland)	1.283	1.671	0.136	0.065
Build Alternative 1 Total[1]	**10.203**	**5.672**	**0.183**	**0.190**
BUILD ALTERNATIVE 2C				
Culvert	0.267	0.247	--	0.019
Lakebed	--	--	--	--
Streams (no riparian)	4.246	1.682	--	0.099
Streams (w/riparian)	4.241	1.973	0.031	0.002
Riparian (wetland)	1.283	1.685	0.136	0.053
Build Alternative 2C Total[1]	**10.037**	**5.587**	**0.167**	**0.173**

CDFW Jurisdictional Type	Permanent Impact (acres)	Temporary Impact (acres)	Shading Effects (Indirect)[1] (acres)	Roadbed Removal (Rehabilitation) (acres)
BUILD ALTERNATIVE 4				
Culvert	0.152	0.111	--	0.026
Lakebed	0.127	0.141	--	--
Streams (no riparian)	1.734	2.098	--	0.10
Streams (w/riparian)	3.463	1.263	0.037	0.003
Riparian (wetland)	1.607	2.187	0.136	0.05
Build Alternative 4 Total[1]	**7.083**	**5.800**	**0.173**	**0.179**

[1] The bridge expansion area at Temescal Creek, Cajalco Creek, and several other smaller bridges will indirectly cause riparian areas and CDFW-regulated wetlands to be permanently shaded once construction is complete. Shading of riparian vegetated and CDFW-regulated wetland areas would result in a type conversion to non-riparian streambed and is therefore considered an additional permanent impact.

Build Alternative 2C would have the greatest permanent and temporary impact on CDFW jurisdictional areas (10.037 acres, and 5.587 acres, respectively), followed closely by Build Alternative 1 (10.203 acres and 5.672 acres, respectively). Build Alternative 4 would result in the least amount of permanent and temporary impacts on CDFW aquatic resources compared to Build Alternatives 1 and 2C. Build Alternative 1, however, would have the greatest permanent impact on CDFW riparian (4.649 acres) but would have the same amount of temporary effect as Build Alternative 2C (1.973 acres). Build Alternative 4 provides the greatest amount of rehabilitation acreage to CDFW streambeds and associated riparian habitat. As stated above in the *Summary of Impacts*, rehabilitation areas may be self-mitigating with agency approval.

Future Six-Lane Facility (Build Alternative 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future as a separate project, it is anticipated that no additional direct impacts would occur on jurisdictional water resources because the two additional lanes would be constructed in the median portion of the road, where impacts have already been considered as part of this analysis and where the area would already have been cleared during construction. There is a potential that jurisdictional water resources adjacent to the right of way would be temporarily affected depending on the location of staging areas or any additional work area needed for construction within the median. However, avoidance and minimization measures would be integrated into the future project to reduce these potential effects. In addition, the project would acquire the regulatory permits necessary for any additional potential effects adjacent to the right of way.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

As mentioned in Section 3.17, *Natural Communities*, the proposed build alternatives would remove lands (including jurisdictional aquatic WoUS, WoS, state streambeds and associated riparian) from the existing LM MSHCP area. Roadbed removal areas may potentially restore some of the natural drainage topography adjacent to the Lake Mathews Multiple Species Reserve (LMR), and thus be available to be added to the LMR and be preserved. There is also a potential for additional restoration of these areas in the future.

Lake Mathews MSHCP (USACE/RWQCB Impacts)

Within the LMR, the proposed build alternatives would permanently and temporarily affect USACE and RWQCB non-wetland jurisdictional waters. Table 3.18-4 summarizes the direct effects on federal WoUS and state WoS. No shading effects from new bridges would occur within the LMR. Although permanent impacts on wetlands would not occur within the LMR under the build alternatives, approximately 0.003 acre of wetland WoUS/WoS would be temporarily affected under Build Alternatives 1 and 2C; no wetlands would be affected under Build Alternative 4. All roadbed removal is associated with the existing County right of way; therefore, no roadbed removal of the LMR would occur. Compensatory mitigation (**WET-1**) would ensure full replacement of WoUS and WoS, including the resources functions and values.

Table 3.18-4. USACE and RWQCB Jurisdictional Waters and Wetlands Impacts: Lake Mathews Reserve

USACE/RWQCB Jurisdictional Type[1]	Permanent Impact (acres)[1]	Temporary Impact (acres)[1]	Shading Effects (Indirect)[2] (acres)	Roadbed Removal (Rehabilitation) (acres)
BUILD ALTERNATIVE 1				
Culvert	--	0.041	--	--
Non-Wetland	1.156	0.296	--	--
Wetland	--	0.003	--	--
Build Alternative 1 Total	**1.156**	**0.340**	**--**	**--**
BUILD ALTERNATIVE 2C				
Culvert	--	0.041	--	--
Non-Wetland	1.183	0.293	--	--
Wetland	--	0.003	--	--
Build Alternative 2C Total	**1.183**	**0.337**	**-**	**--**
BUILD ALTERNATIVE 4				
Culvert	--	--	--	--
Non-Wetland	0.057	0.018	--	--
Wetland	--	--	--	--
Build Alternative 4 Total	**0.057**	**0.018**	**--**	**--**

[1] Aquatic resources within the project area were delineated according to the 1987 *Corps of Engineers Wetland Delineation Manual; Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region;* and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (USACE 1987, 2008a, 2008b). The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.
[2] No shading from bridges would occur on USACE/RWQCB jurisdictional waters or roadbed removal would occur within the LM MSHCP.

Lake Mathews MSHCP (CDFW Impacts)

Within the LMR, the proposed build alternatives would permanently and temporarily affect CDFW jurisdictional streambeds and associated riparian habitat. Shading effects from new bridges would occur within the LMR and affect riparian habitat under each of the build alternatives. Similar to impacts on CDFW jurisdictional areas throughout the project area, Build Alternatives 1 and 2C would have the most effect on CDFW resources compared to Build Alternative 4. Compensatory mitigation (**WET-1**) would ensure full replacement of state

streambeds and associated riparian habitat, including the functions and values of the resources. Table 3.18-5 summarizes the direct effects on state streambeds and associated riparian habitat.

Table 3.18-5. CDFW Jurisdictional Streambeds, Riparian, and Wetlands Impacts: Lake Mathews Reserve

CDFW Type	Permanent Impact (acres)	Temporary Impact (acres)	Shading Effects[1] (acres)	Roadbed Removal[2] (Rehabilitation) (acres)
BUILD ALTERNATIVE 1				
Culvert	--	0.041	--	--
Streams (no riparian)	1.153	0.233	--	--
Streams (riparian)	1.792	0.467	0.047	--
Wetland	<0.001	0.036	--	--
Build Alternative 1 Total	**2.945**	**0.777**	**0.047**	**--**
Build ALTERNATIVE 2C				
Culvert	--	0.040	**--**	**--**
Streams (no riparian)	1.258	0.259	--	--
Streams (riparian)	1.383	0.466	0.031	--
Wetland	<0.001	0.037	--	--
Build Alternative 2C Total	**2.641**	**0.802**	**0.031**	**--**
BUILD ALTERNATIVE 4				
Culvert	--	--	--	--
Lakebed	0.007	0.002	--	--
Streams (no riparian)	0.085	0.027	--	
Streams (riparian)	0.047	0.061	0.032	
Wetland	--	--	--	--
Build Alternative 4 Total	**0.139**	**0.09**	**0.032**	**--**

[1] New bridges would permanently shade riparian vegetation within Feature 47 (Sheet 9a and 11b of Figure 3.18-2), and Feature 34 (Sheet 28 of Figure 3.18-2) within the LM MSHCP area. Shading of riparian vegetated areas would result in a type conversion to non-riparian streambed and is therefore considered an additional permanent impact.
[2] No roadbed removal would occur within the LM MSHCP.

The jurisdictional aquatic resources within the reserve area that are affected by the selected build alternative will be fully mitigated through compensatory Mitigation Measure **WET-1**. In addition, acquisition of lands for the LMR and funding (Measures **NC-17** through **NC-19** in Section 3.17, *Natural Communities*) would also potentially preserve jurisdictional waters.

3.18.3.2 No-Build Alternative

Under the No-Build Alternative, no impacts on USACE/RWQCB wetland and non-wetland WoUS and CDFW streambed and associated riparian habitat would occur.

3.18.4 Avoidance, Minimization, and/or Mitigation Measures

The following measures are being proposed to avoid and minimize impacts on USACE/RWQCB wetland and non-wetland WoUS and CDFW streambed and associated riparian habitat: **NC-4** through **NC-6 (NES BIO-6)**, and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in

Section 3.17, *Natural Communities*. Additional measures related to water quality and stormwater runoff are provided in Section 3.10, *Water Quality and Stormwater Runoff*.

WET-1 (Mitigation): Compensation for direct permanent impacts on U.S. Army Corps of Engineers (USACE) and Regional Water Quality Control Board (RWQCB) wetland and non-wetland waters of the U.S. (WoUS)/waters of the State (WoS) and California Department of Fish and Wildlife (CDFW) streambed and associated riparian habitat will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS. Compensation can occur through the purchase of mitigation bank credits through the Riverside-Corona Resources Conservation District In-lieu Fee Program (ILFP), Santa Ana Watershed Association, a permittee responsible mitigation bank, and/or other agency-approved mitigation provider. No less than a 3:1 mitigation ratio is proposed for USACE/RWQCB wetlands and CDFW riparian vegetation and wetlands. A ratio of not less than 1:1 for USACE/RWQCB non-wetland WoUS/WoS and CDFW streambed is currently proposed. A mitigation ratio of no less than 2:1 is proposed for permanent shading of USACE wetlands and CDFW riparian vegetation (including CDFW-regulated wetlands)[6] to address temporal loss. Mitigation for all jurisdictional resources will be biologically superior or equivalent to resources occurring on site.

Temporary impacts on USACE/RWQCB wetland and non-wetland WoUS/WoS and CDFW streambed, and associated riparian habitat, may be replaced through restoration of the temporarily affected area to pre-project conditions at a ratio no less than 1:1 or through the purchase of ILFP or mitigation bank credits, a permittee responsible mitigation bank, or other approved mitigation program. Compensatory mitigation will be coordinated with USACE Clean Water Act (CWA) 404 authorization, Regional Water Quality Control Board (RWQCB) CWA 401 Certification, CDFW Fish and Game Code 1602 Streambed Alteration Agreement acquisition, and Western Riverside County Multiple Species Habitat Conservation Plan riparian-riverine requirements to ensure efficiencies with the mitigation effort. Final mitigation ratios will be determined after consultation with USACE, RWQCB, U.S. Fish and Wildlife Service, and CDFW.

[6] Mitigation ratios may differ based on the location of riparian/riverine resources within the limits of disturbance. For example, riparian habitat within Temescal Wash may be mitigated at a higher ratio due to the quality of functions and values for wildlife movement, "live-in" habitat for sensitive species (i.e., least Bell's vireo), and water quality functions.

3.19 Plant Species

3.19.1 Regulatory Setting

3.19.1.1 Federal and State Regulations

The U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) have regulatory responsibility for the protection of special-status plant species. "Special-status" species are selected for protection because they are rare and/or subject to population and habitat declines. Special-status is a general term for species that are provided varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see the Threatened and Endangered Species Section 3.21 in this document for detailed information about these species.

This section of the document discusses all the other special-status plant species, including CDFW species of special concern, USFWS candidate species, and California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA can be found at 16 United States Code (USC), Section 1531, et seq. See also 50 Code of Federal Regulations (CFR) Part 402. The regulatory requirements for CESA can be found at California Fish and Game Code, Section 2050, et seq. Department projects are also subject to the Native Plant Protection Act, found at California Fish and Game Code, Section 1900-1913, and the California Environmental Quality Act (CEQA), found at California Public Resources Code, Sections 2100-21177.

3.19.1.2 Local and Regional Requirements

Western Riverside County Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), a comprehensive regional habitat conservation plan (HCP), is discussed in Section 3.17. Portions of the proposed project occur in the following WRC MSHCP survey areas:

- Narrow Endemic Plant Species Survey Areas 1 and 7 (Figure 3.19-1)
- Criteria Area Species Survey Area 1 (Figure 3.19-2)

Within these survey areas, the WRC MSHCP requires, at a minimum, onsite habitat evaluations for those survey area species that have been determined to have suitable habitat within the entire survey area. If potentially suitable habitat is present, then focused surveys must be conducted. Only those species that are non-listed special-status species are included in the list below.

WRC MSHCP Narrow Endemic Survey Areas 1 and 7:

- San Miguel savory (*Clinopodium chandleri*)
- many-stemmed dudleya (*Dudleya multicaulis*)

- Brand's phacelia (*Phacelia stellaris*)
- Hammitt's clay-cress (*Sibaropsis hammittii*)
- Wright's trichocoronis (*Trichocoronis wrightii* var. *wrightii*)

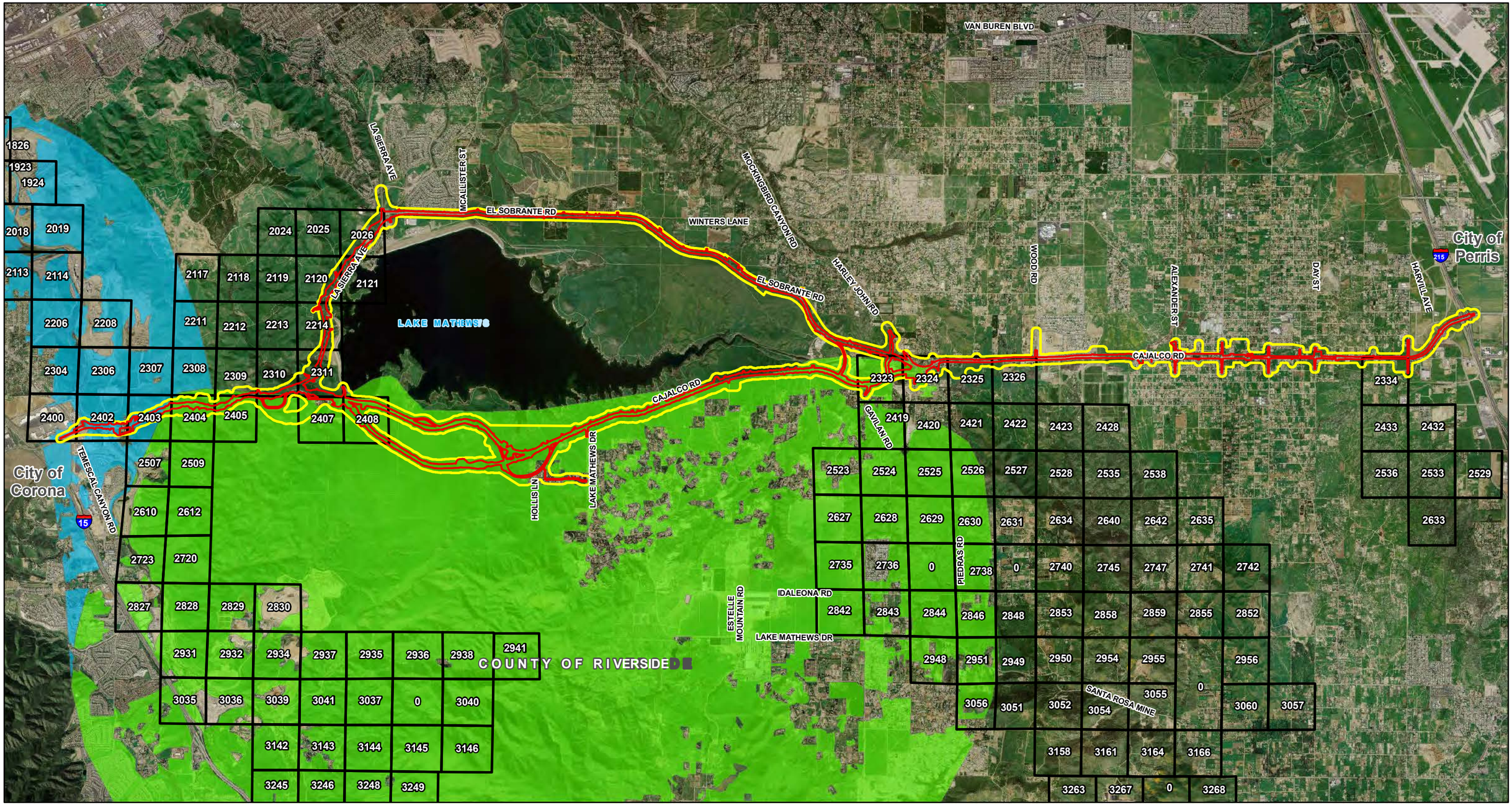
WRC MSHCP Criteria Area Survey Area 1:

- Parish's brittlescale (*Atriplex parishii*)
- Davidson's saltscale (*Atriplex serenana* var. *davidsonii*)
- smooth tarplant (Centromadia pungens ssp. laevis)
- round-leaved filaree (*California macrophylla*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*)
- little mousetail (*Myosurus minimus* ssp. *apus*)

The WRC MSHCP plant survey area maps are presented in Volume I of the WRC MSHCP (Figures 6-1 and 6-2) and also as Figures 13.9-1 and 13.9-2 in this EIR/EIS. The WRC MSHCP requires the proposed project to fulfill the requirements presented in WRC MSHCP Volume I, 6.1.3, 6.3.2, and 7.5.3, and implement the best management practices (BMPs) in Volume I, Appendix C of the WRC MSHCP.

Lake Mathews Multiple Species Habitat Conservation Plan

The project also overlaps with the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area. The LM MSHCP is a joint conservation effort initiated by the Metropolitan Water District of Southern California (MWD) and the Riverside County Habitat Conservation Agency (RCHCA) in cooperation with the USFWS and CDFW that spans 5,993.5 acres of open land around Lake Mathews, and includes the 5,110.4-acre Lake Mathews Multiple Species Reserve (LMR). The LM MSHCP and LMR are discussed in detail in Section 3.17. The non-listed target plant species under the LM MSHCP are small-flowered morning-glory (*Convolvulus simulans*; 4.2), Great Valley phacelia (*Phacelia ciliata*; no regulatory status), Palmer's grappling hook (*Harpagonella palmeri*; 4.2), Parry's spineflower (*Chorizanthe parryi* var. *parryi*; 1B.1), small-flowered microseris (*Microseris douglasii* ssp. *platycarpha*; 4.2), and Coulter's matilija poppy (*Romneya coulteri*; 4.2). Proposed project impacts within the LM MSHCP area beyond the existing right of way are not an allowable use or activity under this plan, and the LM MSHCP does not include a prescribed process to allow changes to the plan in response to public safety and/or access needs. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project.



Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Limits of Disturbance

Study Area

Criteria Cells

Narrow Endemic Plant Species Survey Area 1

Narrow Endemic Plant Species Survey Area 7

N

0 0.5 1 2

Miles

Figure 3.19-1
WRC MSHCP Narrow Endemic Plant Species Survey Area
Cajalco Road Widening and Safety Enhancement Project

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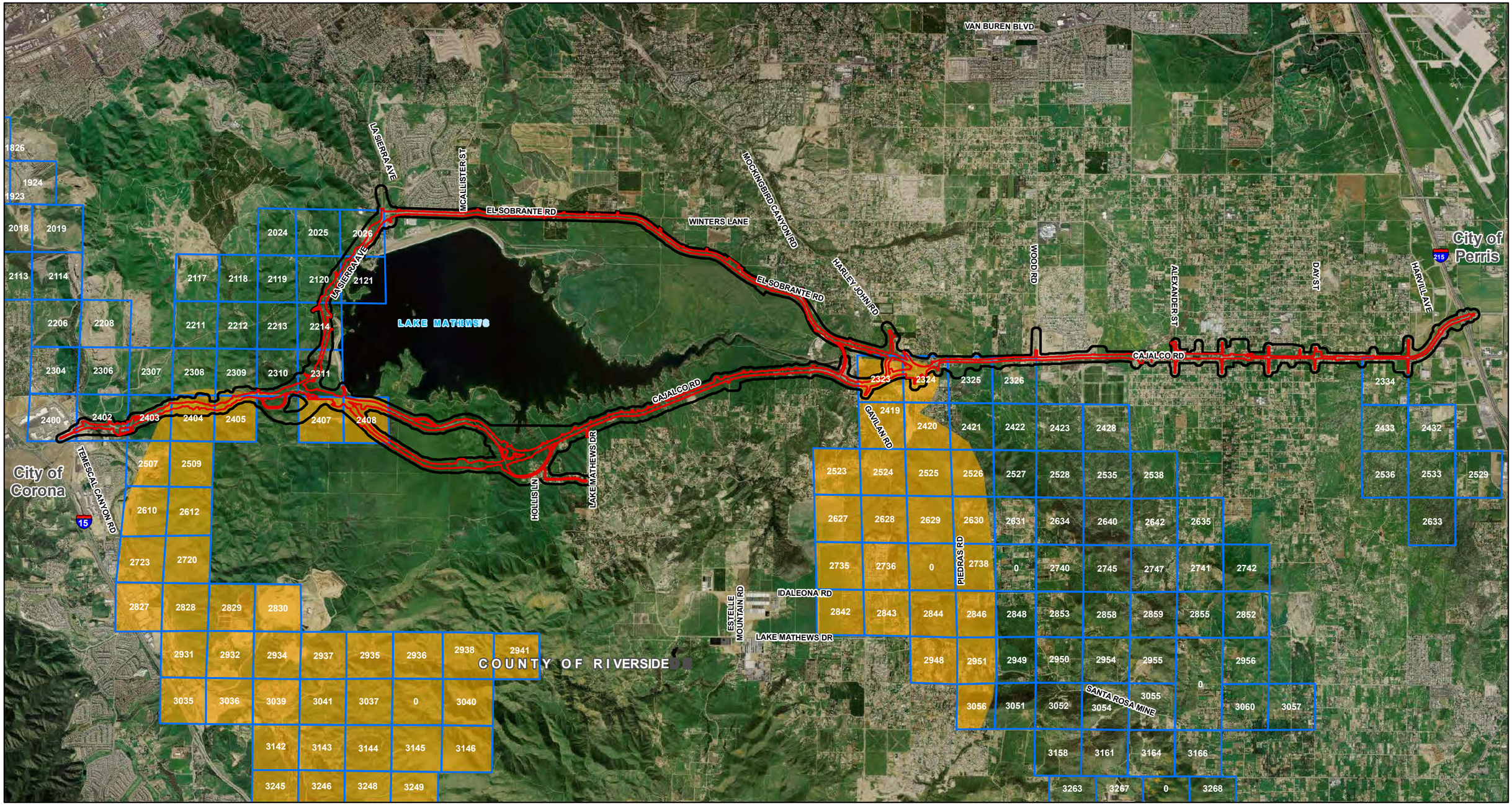

Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

- Study Area
- Limits of Disturbance
- Criteria Cells
- Criteria Area Species Survey Area 1

N

0 0.5 1 2

Miles

Figure 3.19-2
WRC MSHCP Criteria Area Species Survey Area with Criteria Cells
Cajalco Road Widening and Safety Enhancement Project

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3.19.2 Affected Environment

Unless otherwise noted, the information from this section was based upon the December 2018 Natural Environmental Study (NES) prepared for the project (Caltrans 2018, 2021). References used in the NES are not carried over into this section. Plant species in California that have special regulatory or management status were evaluated for potential to occur within the study area. In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and documented.

A list of potential species within the project region was developed based on information compiled by the USFWS, the California Natural Diversity Database (CNDDB), the California Native Plant Society's (CNPS) Rare Plant Inventory (which lists the California Rare Plant Rank [CRPR] for all species), and the WRC MSHCP and LM MSHCP. Specifically, database searches were conducted for areas on the United States Geological Survey (USGS) 7.5-minute quadrangle maps that include the Biological Study Area (BSA) and the directly adjacent quadrangle maps (Alberhill, Corona North, Corona South, Lake Elsinore, Lake Mathews, Perris, Riverside East, Riverside West, Romoland, Santiago Peak, Steele Peak, and Sunnymead). The entire BSA was assessed for the potential presence of sensitive biological and natural resources, including habitat types, potential wetlands, special-status plants, and site disturbances.

Special-status plant surveys were conducted from 2010 to 2012, 2014 to 2016, and in 2018. No focused surveys were conducted in 2013 because of very dry and drought conditions. No focused surveys were performed in 2017 because no new study areas were identified. In 2018, special-status plant surveys were conducted in an area that was added to the Build Alternative 4 study area. All areas within a 200-foot buffer of the potential disturbance areas were surveyed and are herein referred to as the Rare Plant Study Area (RPSA).

The methods used for the surveys were consistent with the Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed, and Candidate Plants (USFWS 2000); Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities and CNPS Botanical Survey Guidelines. Linear transects were walked within all suitable habitat and spaced to ensure 100 percent visual coverage of the ground surface. In addition, reference sites were visited to verify the target species were in bloom during the focused survey. The only species recorded and mapped were Narrow Endemic Plant Species Survey Area species, Criteria Area Species Survey Area species, and non-MSHCP rare plants. Generally, the locations of fully covered WRC MSHCP special-status plant species were not mapped. However, during focused studies within the LM MSHCP area, biologists also recorded the locations of the LM MSHCP target plant species (even if the species are fully covered under the WRC MSHCP).

As described more thoroughly in Section 3.17, *Natural Communities*, the 4,994-acre BSA supports 43 distinct vegetation communities or land cover types. A little over a quarter of the total area within the BSA is developed/disturbed land (1,273 acres). The most common vegetation communities that could potentially support special-status plant species include: nonnative grasslands (1,526 acres), Riversidian sage scrub (753 acres), and disturbed Riversidian sage scrub (110 acres). A full description of the natural vegetation communities within the BSA and within the LM MSHCP is provided in Section 3.17.

3.19.2.1 Special-Status Plant Species Observed

This section discusses only non-listed special-status plant species. Listed special-status plants are discussed in Section 3.21, *Threatened and Endangered Species*. Five special-status plant species were documented in the RPSA during focused surveys conducted for the project: round-leaved filaree, long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*), small-flowered morning-glory, paniculate tarplant (*Deinandra paniculata*), and Coulter's Matilija poppy (Figure 3.19-3). In addition, a population of smooth tarplant was observed northwest of Alexander Street and Cajalco Road; however, this population was not specifically mapped because the species is fully covered under the WRC MSHCP.

Four special-status plant species, including smooth tarplant, Palmer's grapplinghook, Parry's spineflower, and small-flowered microseris, were historically documented in the LM MSHCP area, although they were not observed during the focused surveys conducted for the project and are thus considered absent from RPSA within the LM MSHCP area. Historical records of non-listed special-status species from the CNDDB and the LM MSHCP are shown on Figure 3.19-3.

Suitable habitat is present for an additional 30 species within the RPSA, but these species were not observed during any special-status plant surveys and are therefore considered absent. These species are presented in Table 3.19-1, along with all other special-status plants that were analyzed for their potential to occur within the BSA.

Four of the six species that were observed during focused special-status plant surveys are covered under the WRC MSHCP and are also LM MSHCP target species: Coulter's matilija poppy, long-spined spineflower, round-leaved filaree, and small-flowered morning-glory. Paniculate tarplant is not covered under the WRC MSHCP or the LM MSHCP. One species, Great Valley phacelia, is only covered in the LM MSHCP, but not the WRC MSHCP, and has no other special-regulatory status.

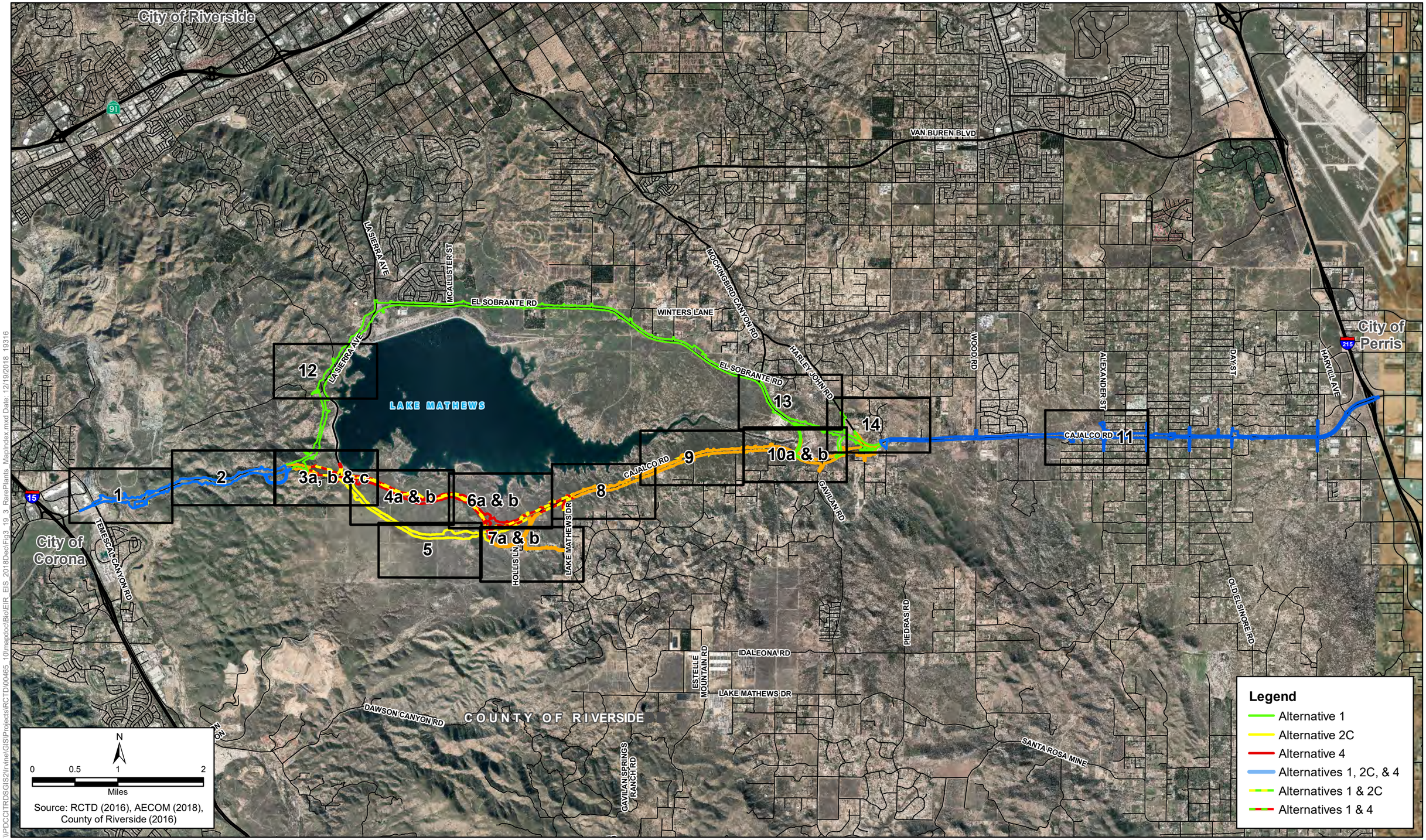

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Figure 3.19-3 - Map Index
Special-Status Plant Species Occurrences Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

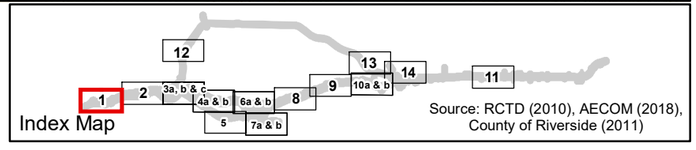

Figure 3.19-3 - Sheet 1
Special-Status Plant Species Occurrences Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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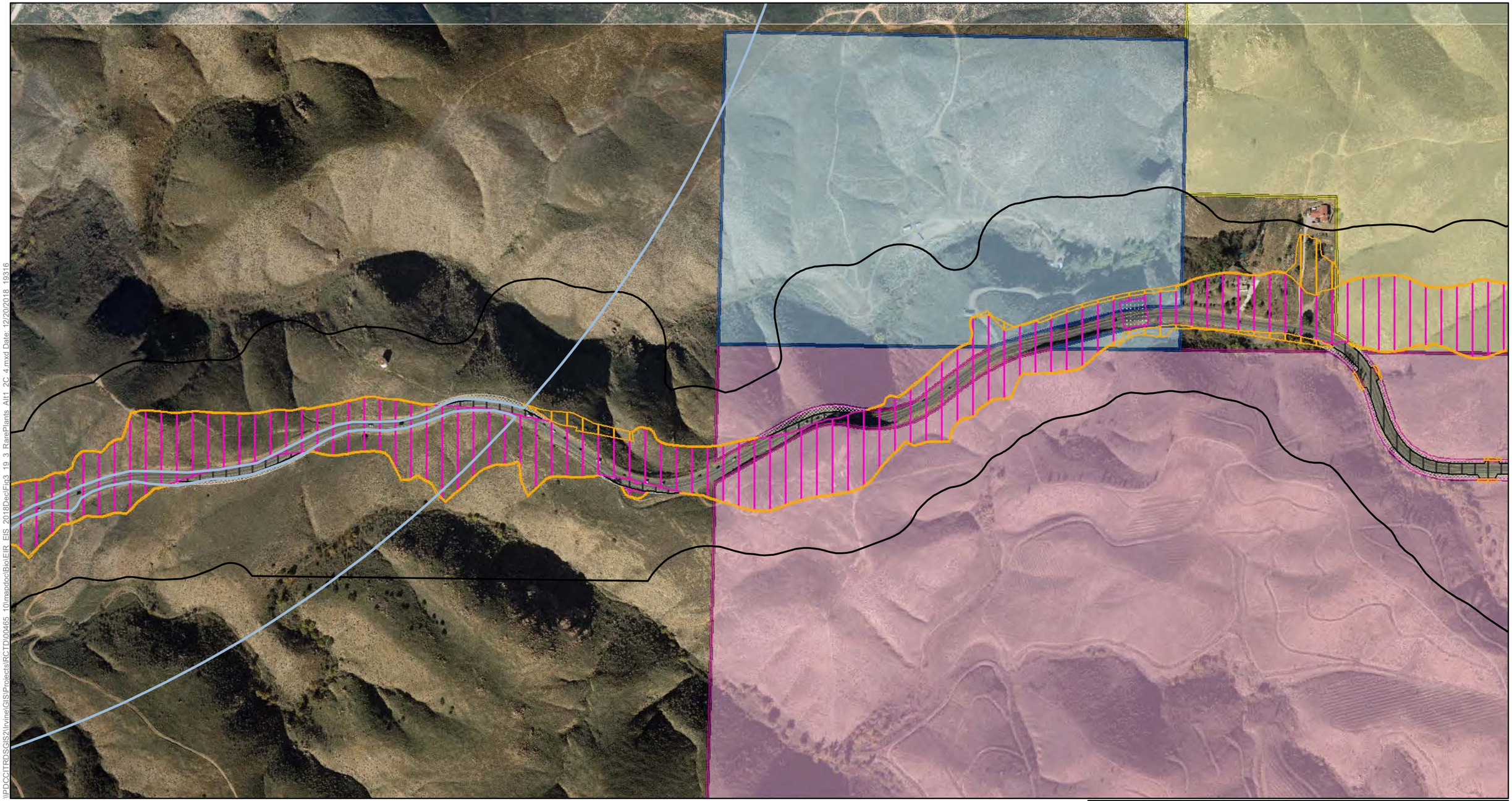

Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
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- Small-flowered Morning Glory
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- Great Valley Phacelia

CNDDB
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- Round-leaved Filaree
- Smooth Tarplant
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- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

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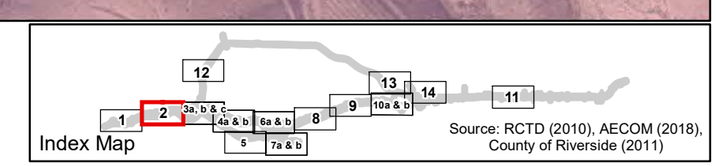

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 2
Special-Status Plant Species Occurrences Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
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- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
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- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

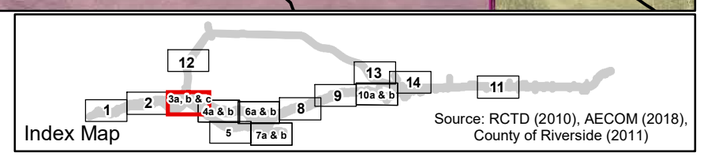

Figure 3.19-3 - Sheet 3a
Special-Status Plant Species Occurrences Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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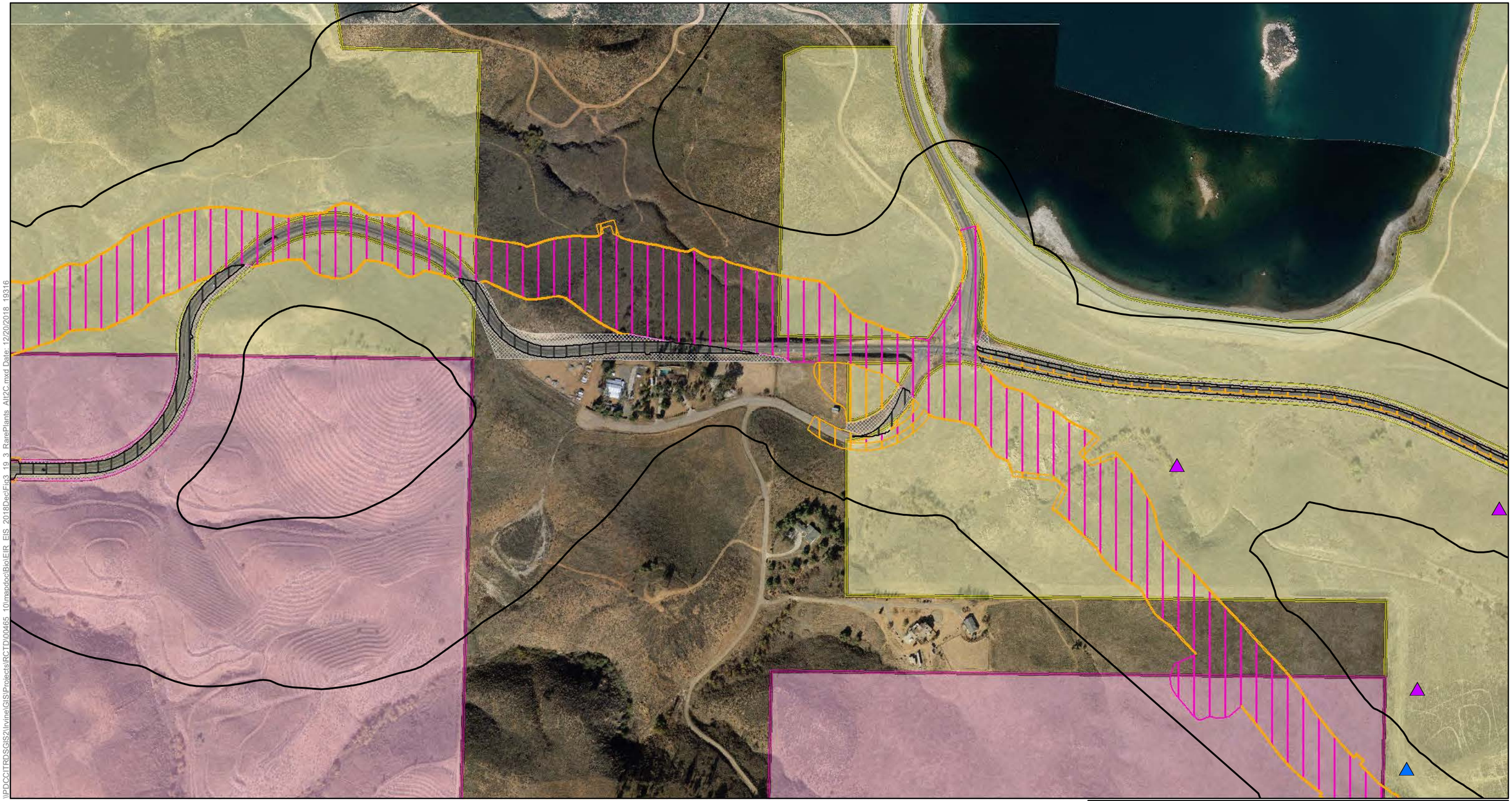

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

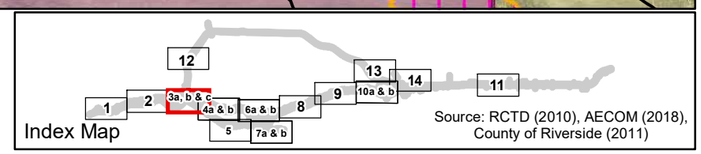

Figure 3.19-3 - Sheet 3b
Special-Status Plant Species Occurrences Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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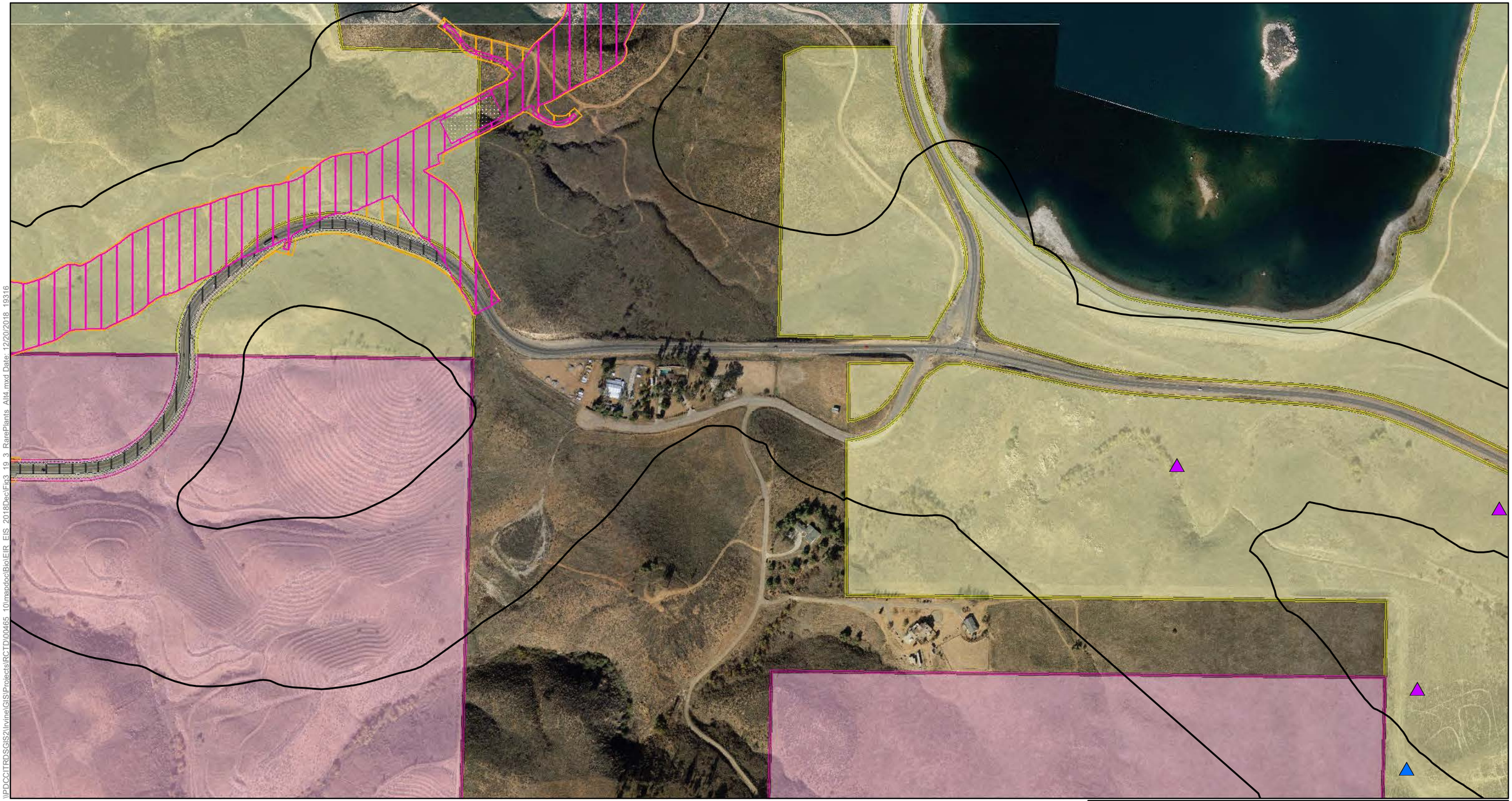

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

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Feet

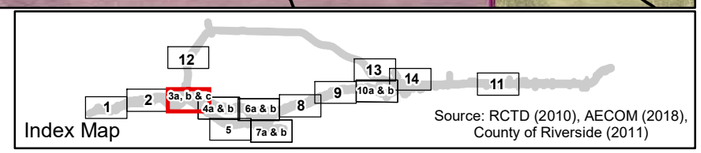

Figure 3.19-3 - Sheet 3c
Special-Status Plant Species Occurrences Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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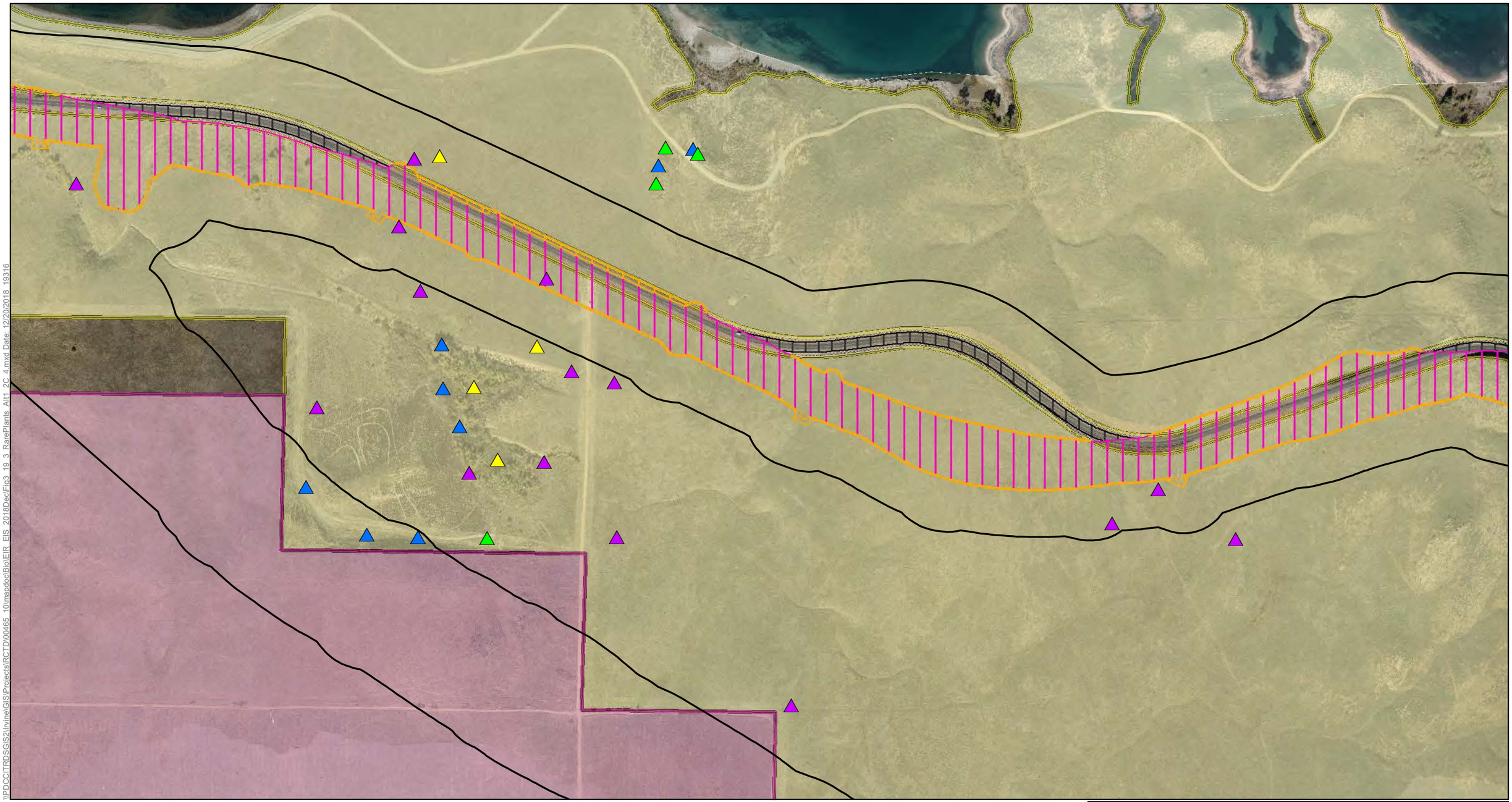

Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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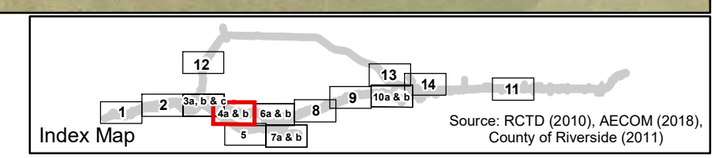

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 4a
Special-Status Plant Species Occurrences Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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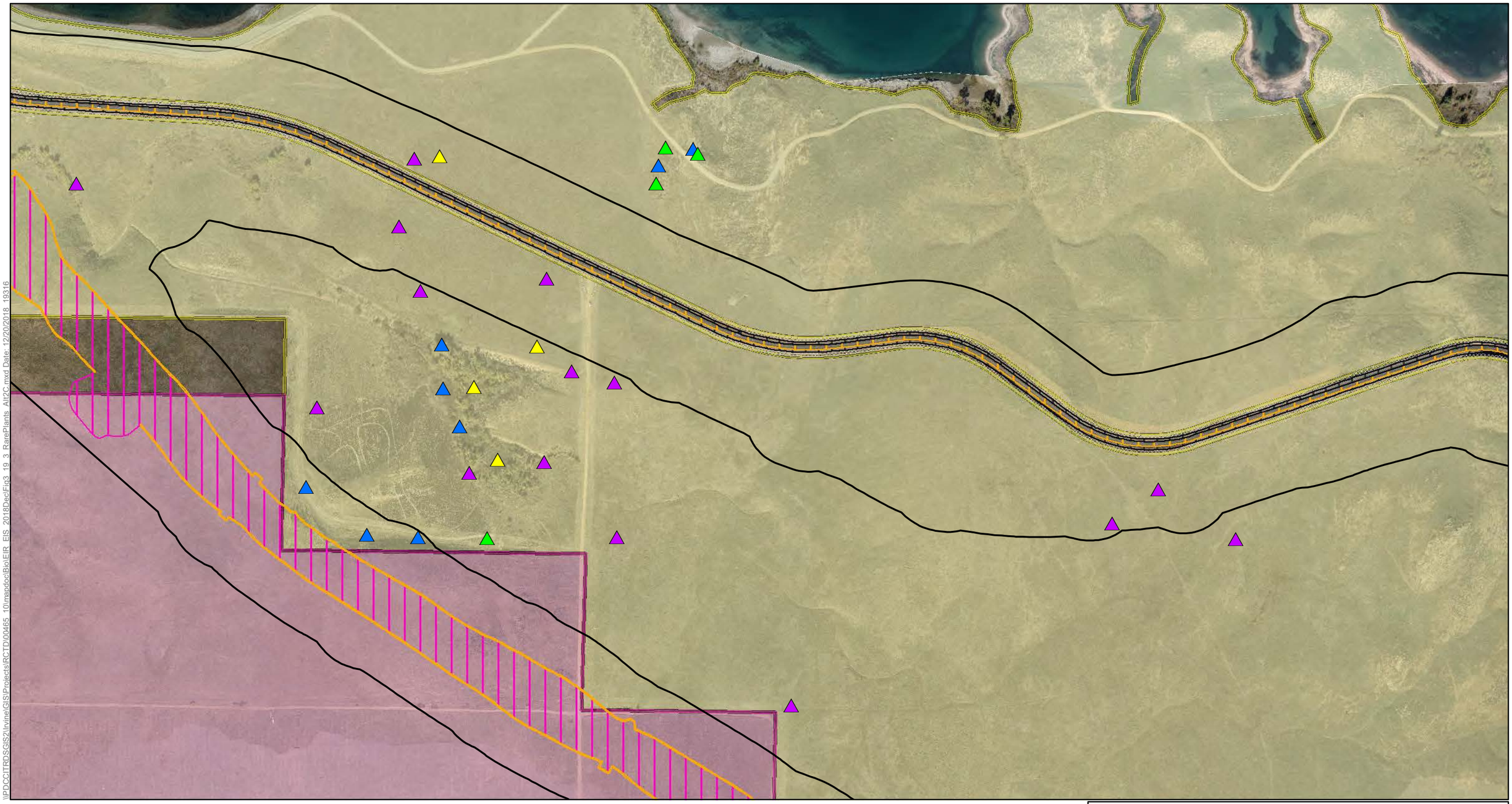

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

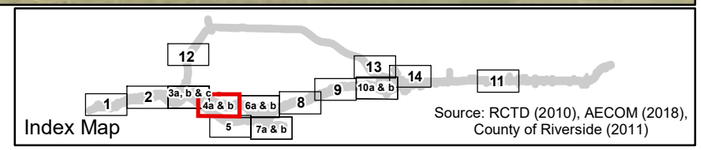

Figure 3.19-3 - Sheet 4b
Special-Status Plant Species Occurrences Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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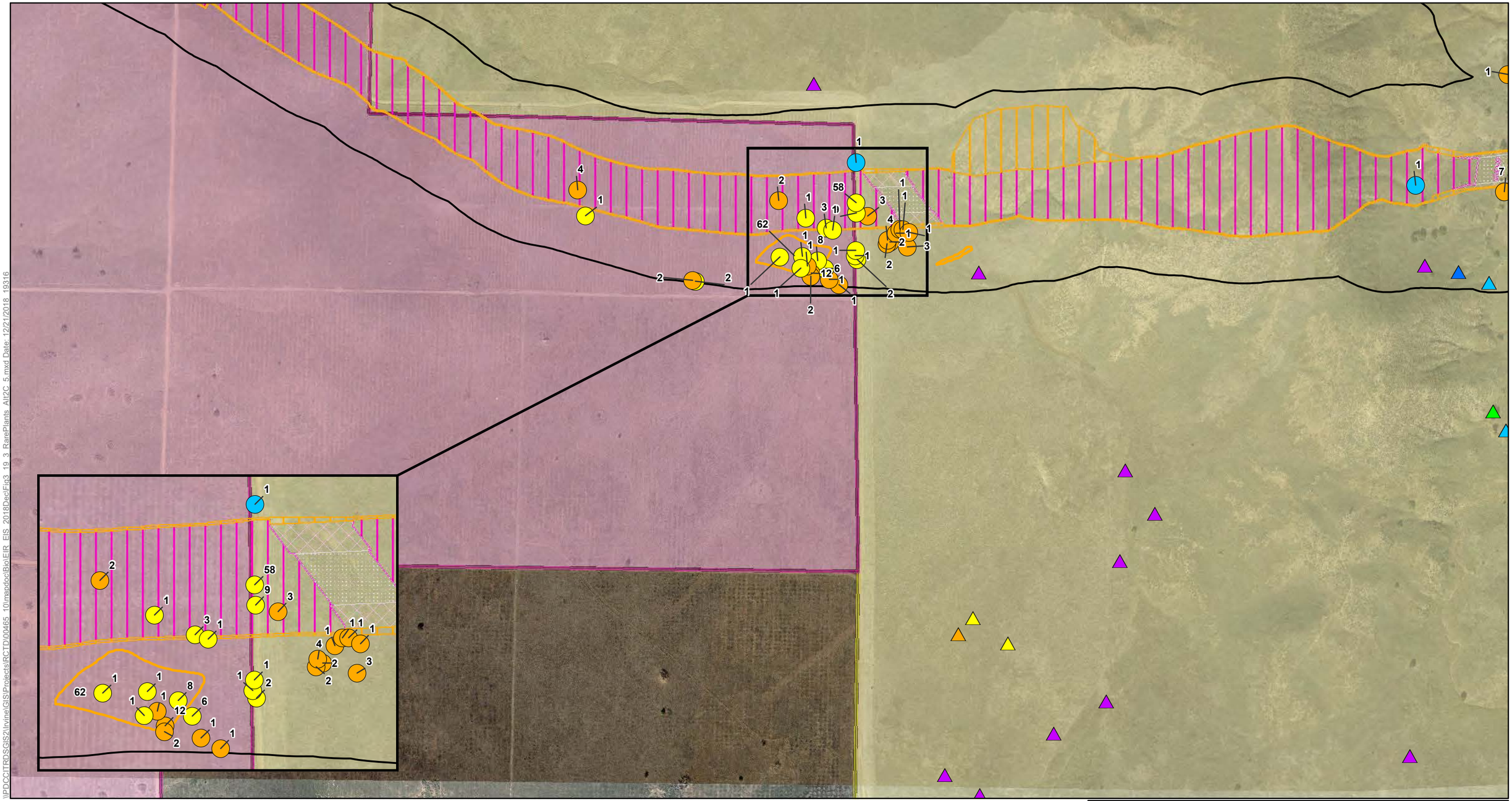

Figure 3.19-3 - Sheet 5
Special-Status Plant Species Occurrences Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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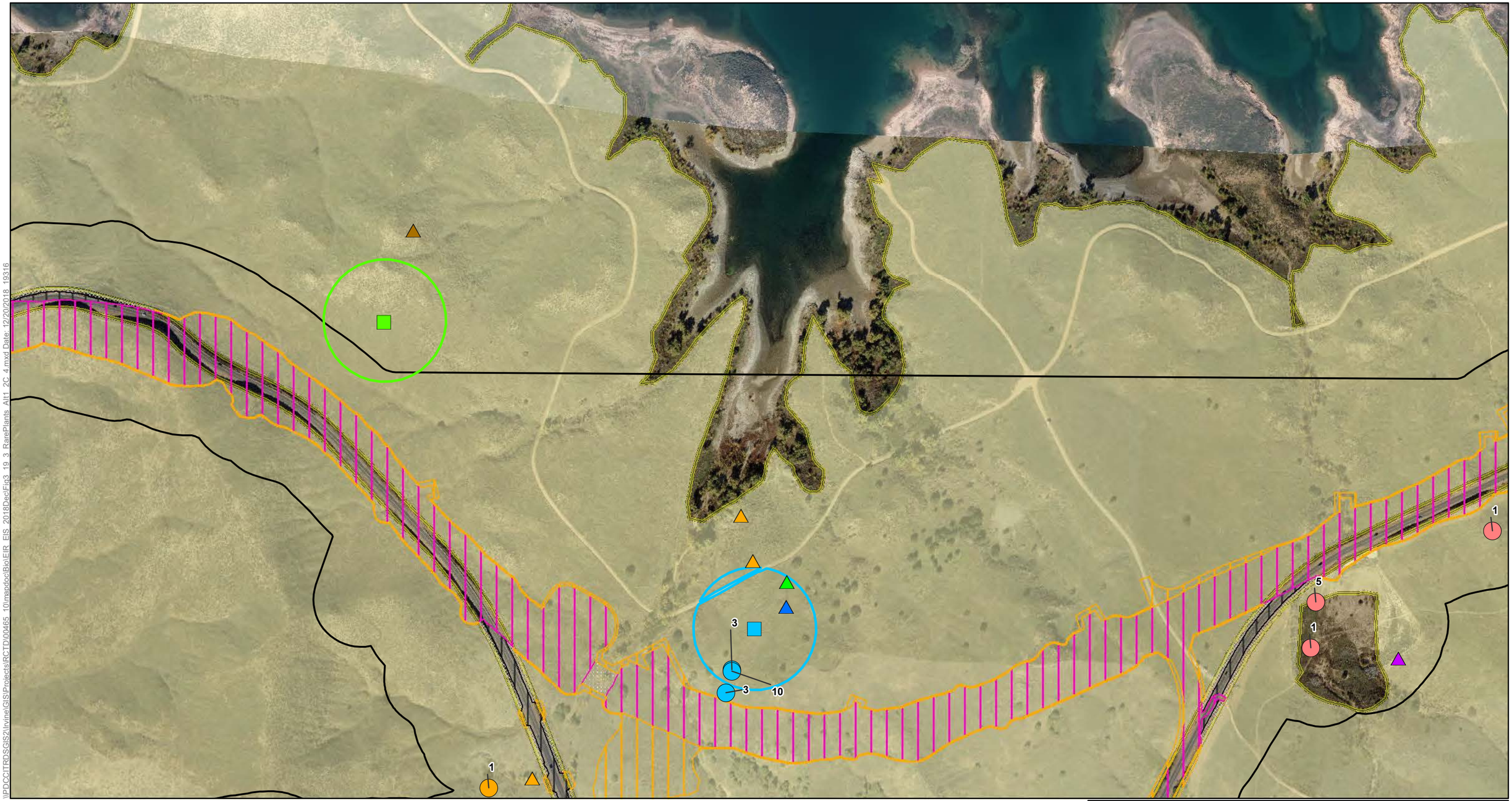

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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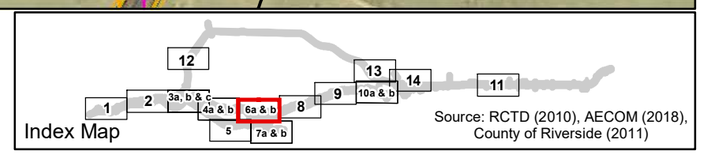
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 6a
Special-Status Plant Species Occurrences Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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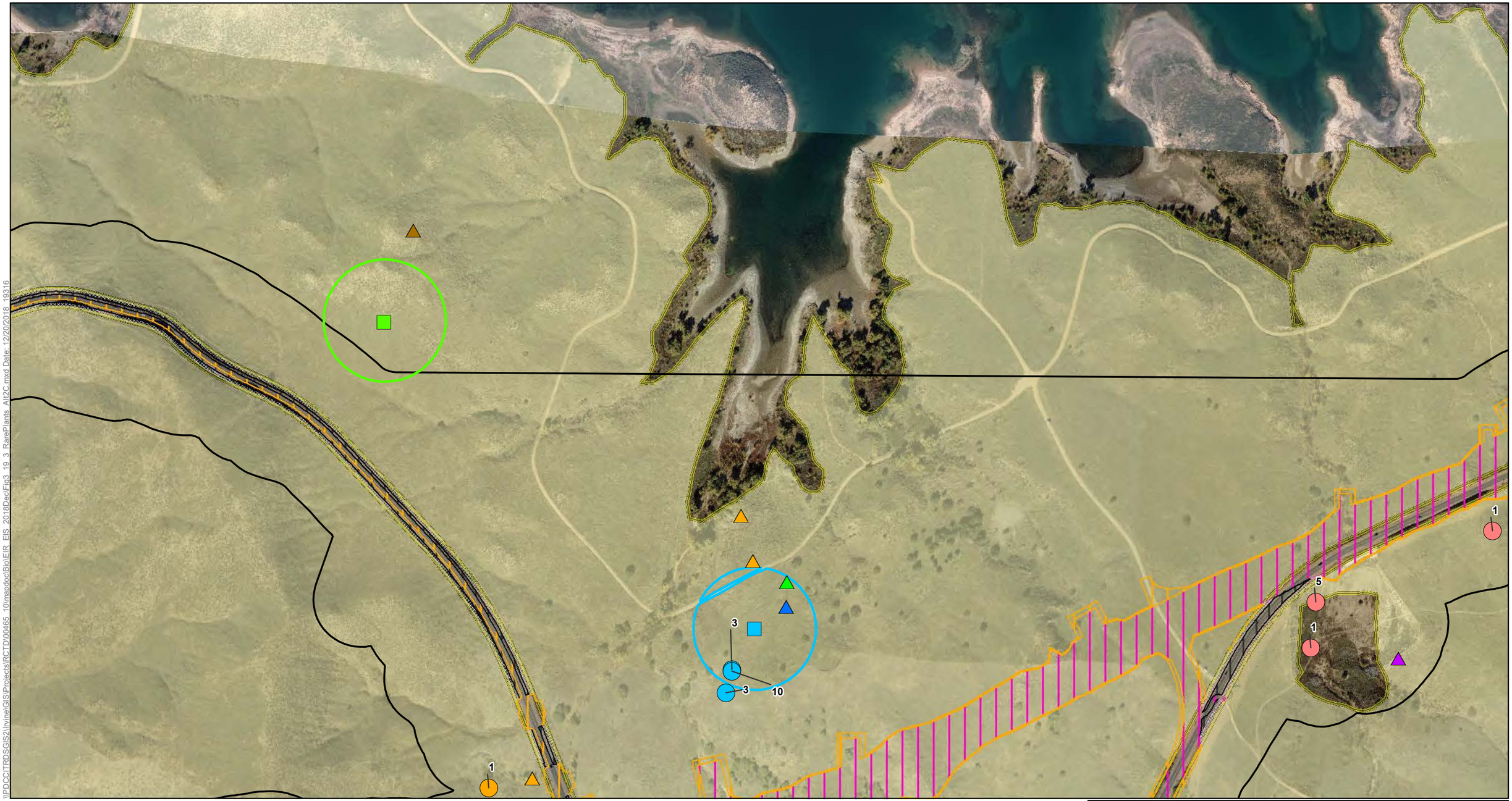

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
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CNDDB
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- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
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- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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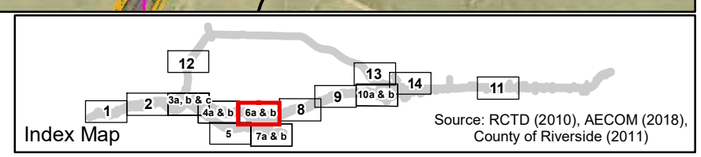
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 6b
Special-Status Plant Species Occurrences Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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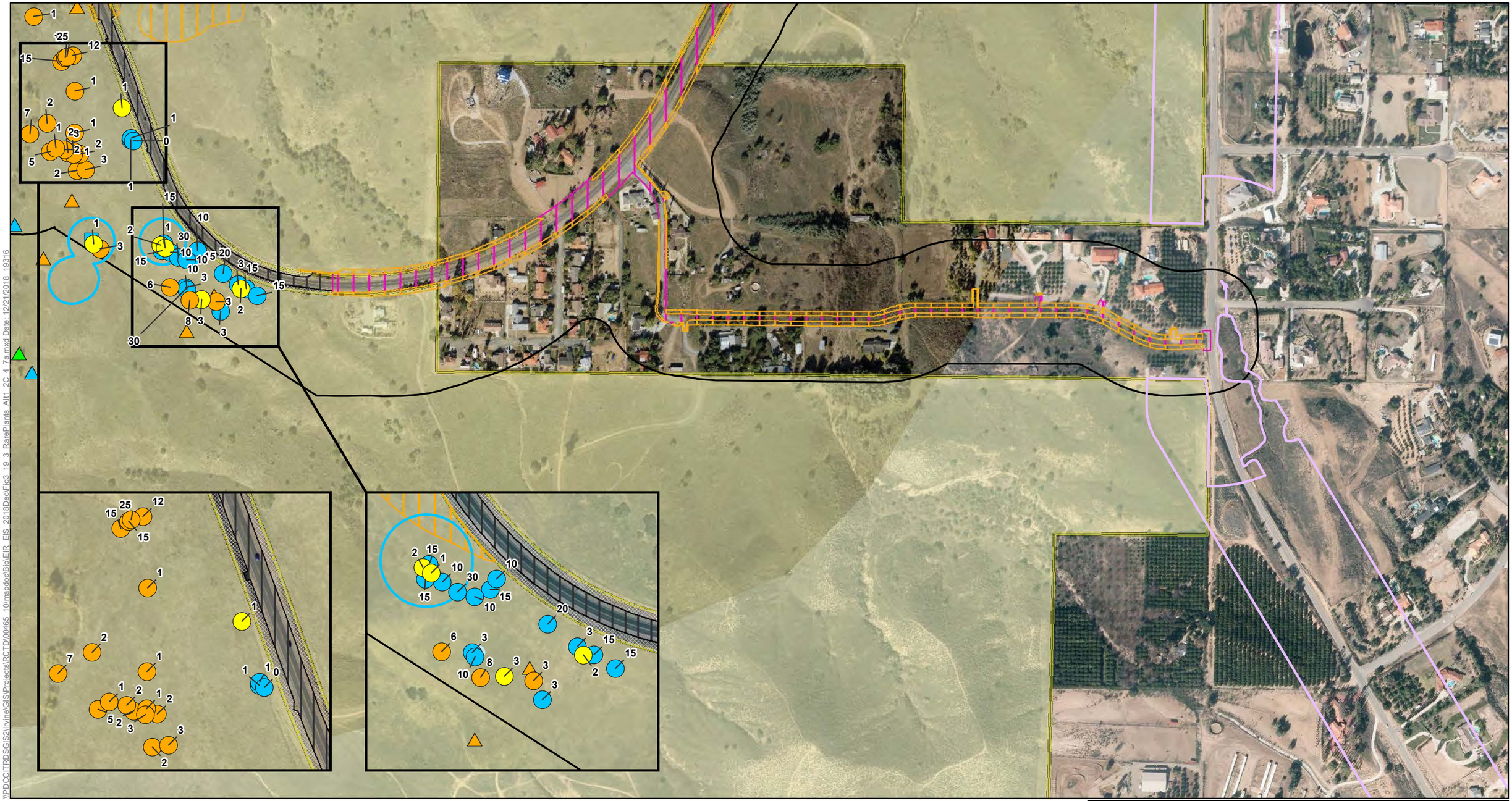

Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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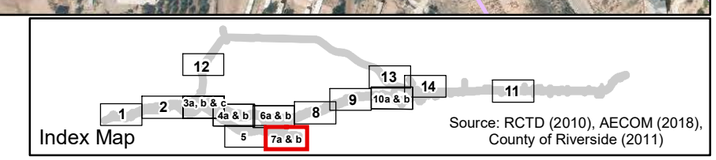
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 7a
Special-Status Plant Species Occurrences Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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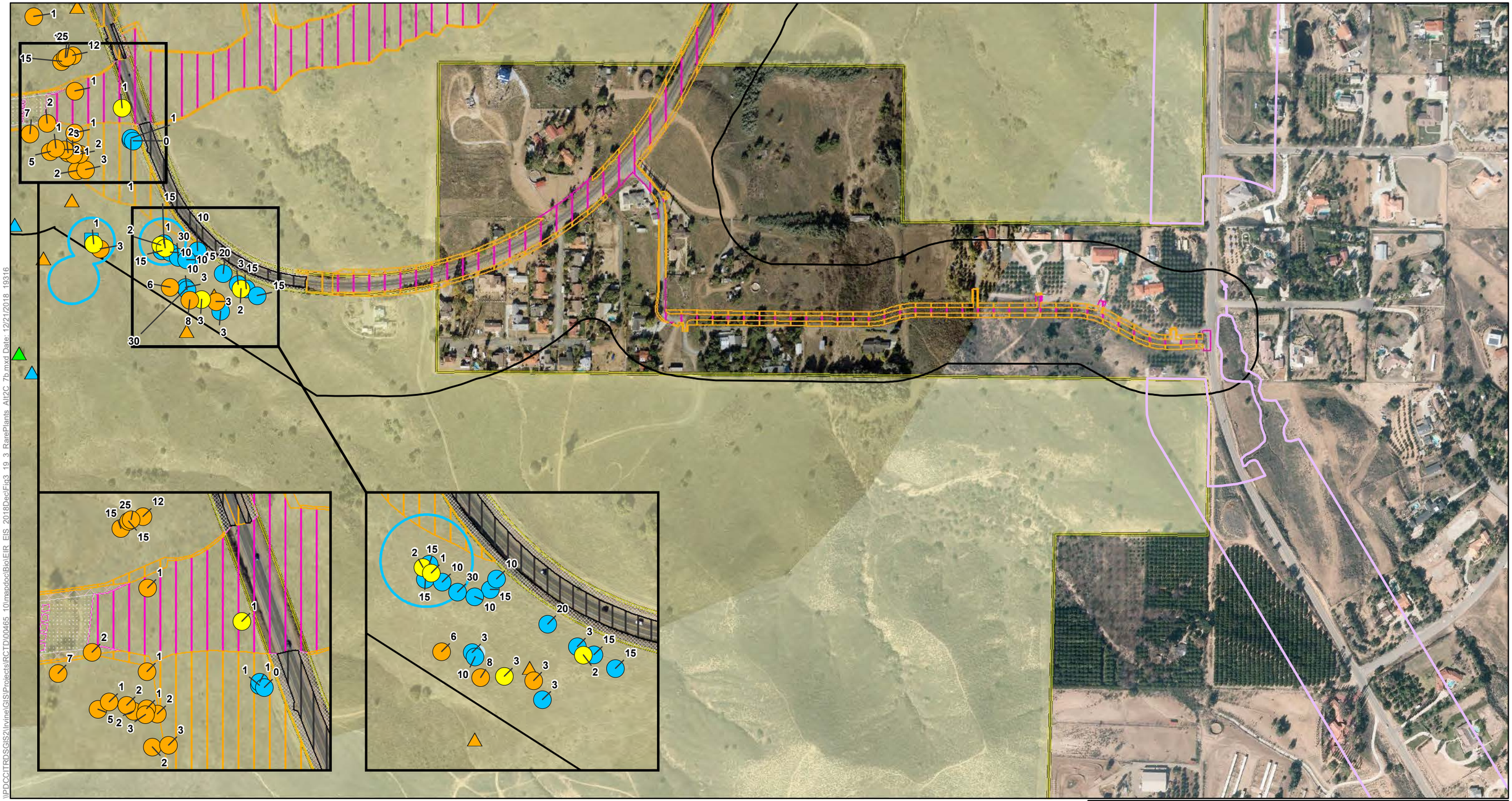

Figure 3.19-3 - Sheet 7b
Special-Status Plant Species Occurrences Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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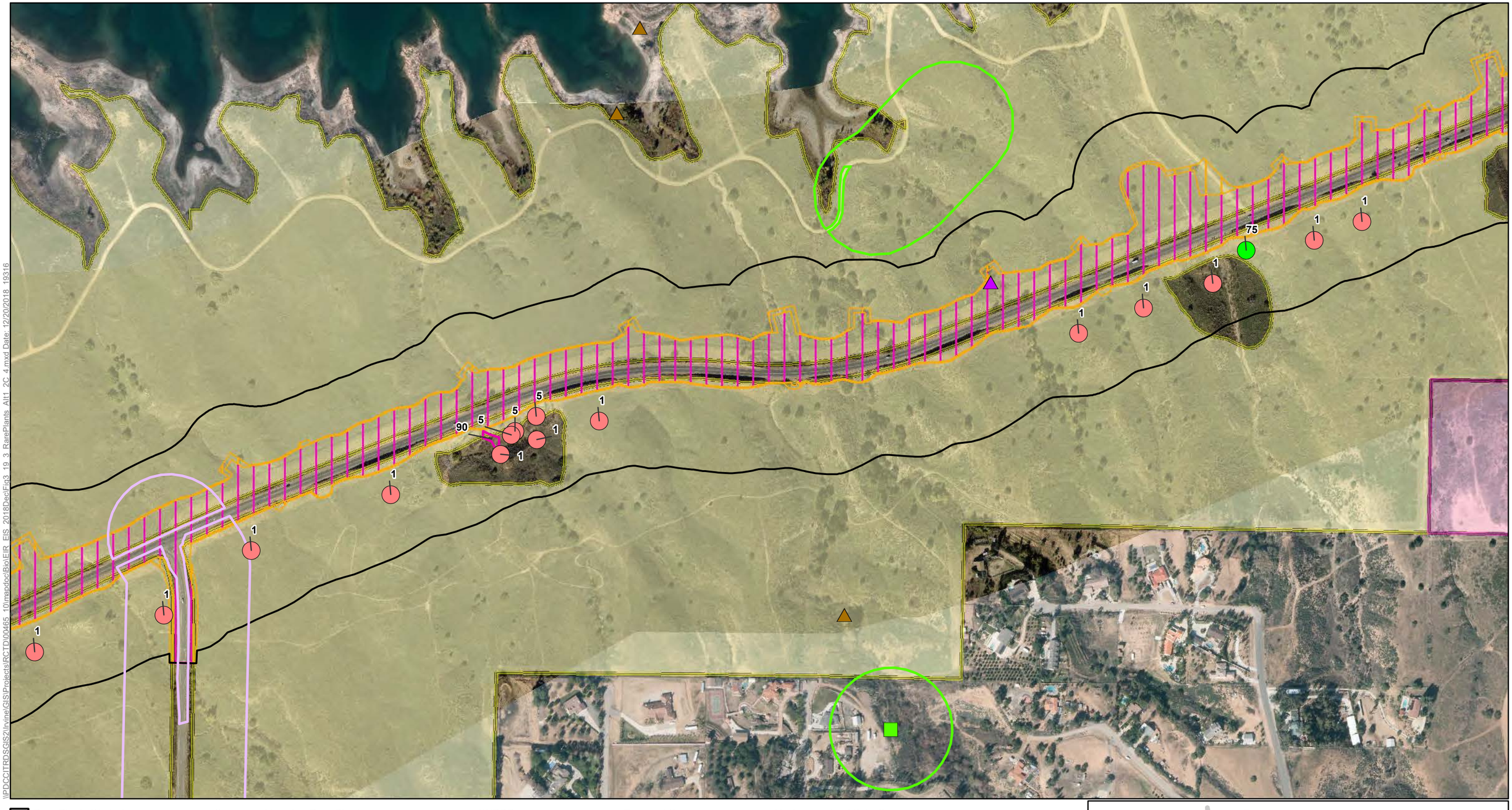

Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

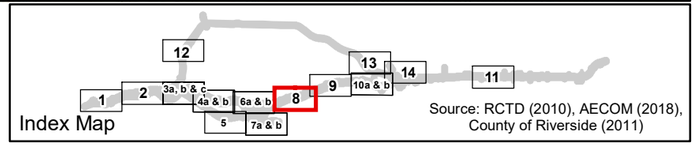

Figure 3.19-3 - Sheet 8
Special-Status Plant Species Occurrences Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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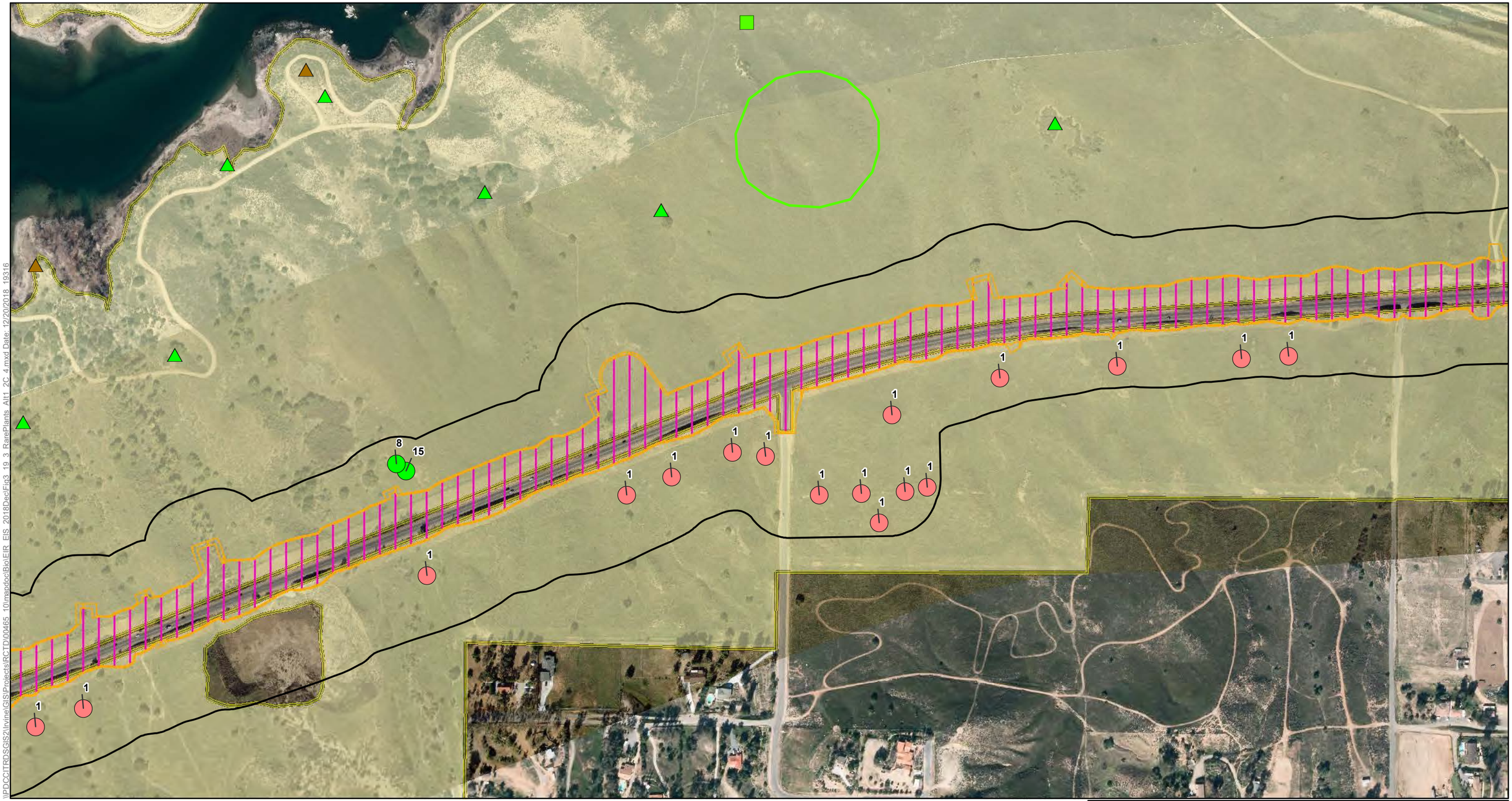
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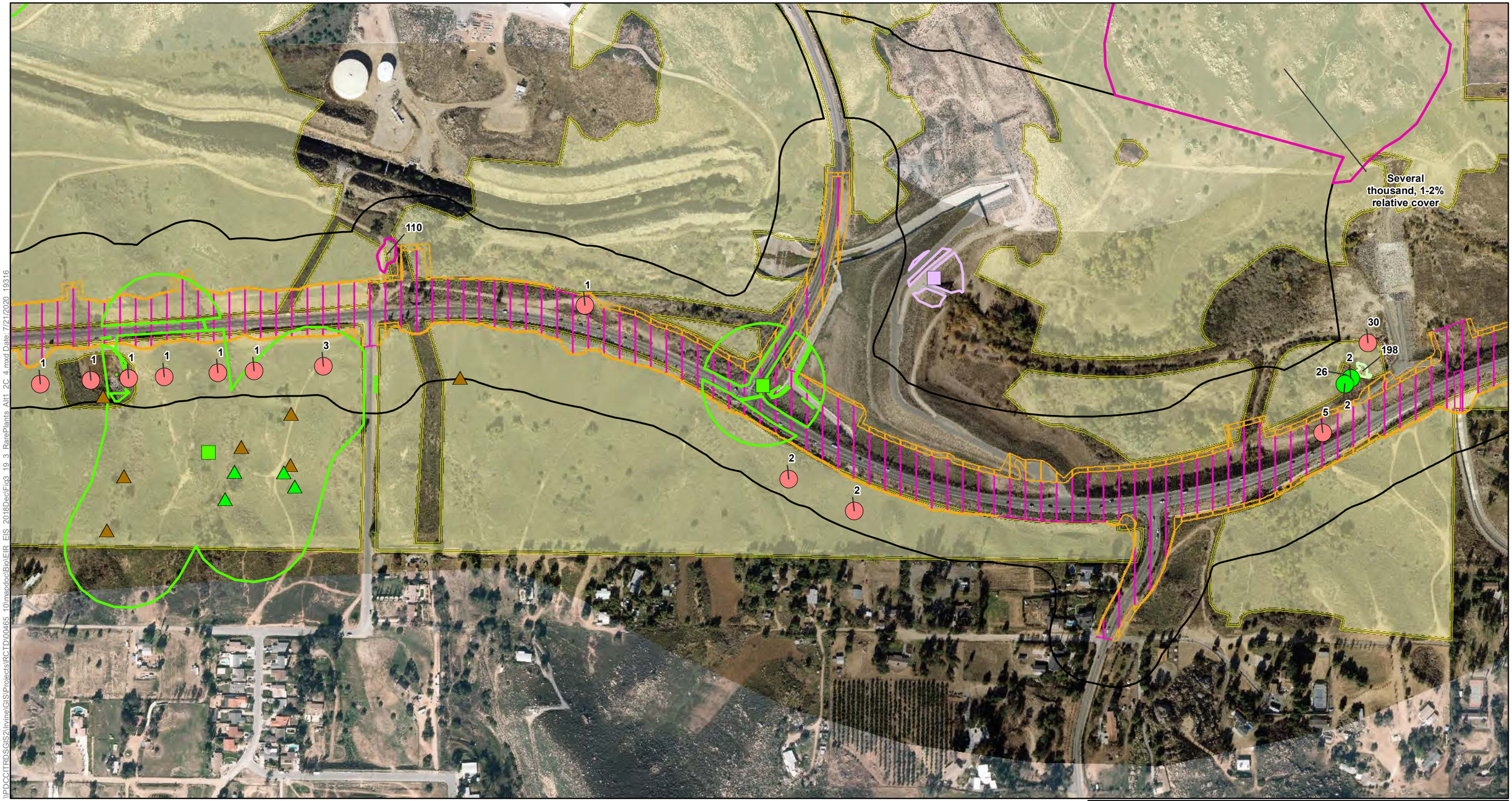

Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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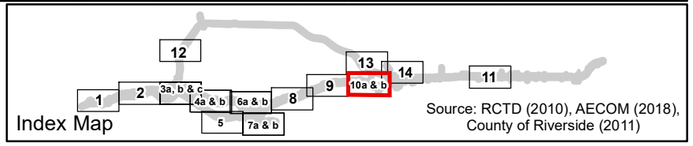
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 10a
Special-Status Plant Species Occurrences Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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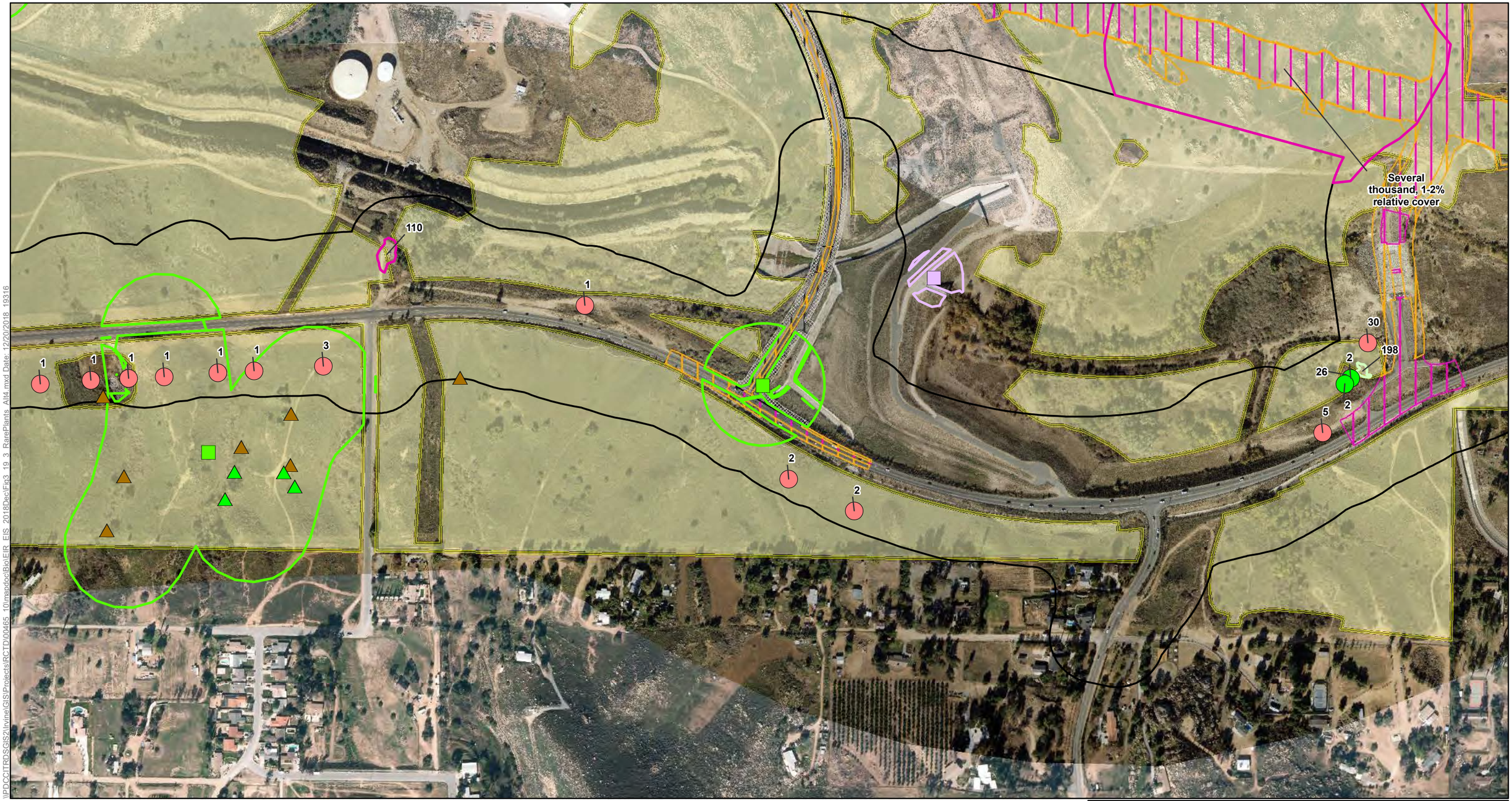

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

0 100 200 400
Feet

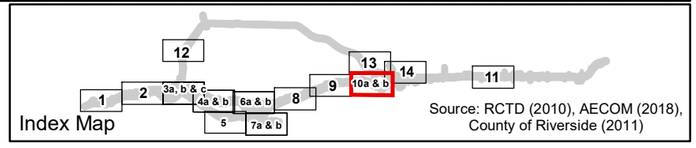

Figure 3.19-3 - Sheet 10b
Special-Status Plant Species Occurrences Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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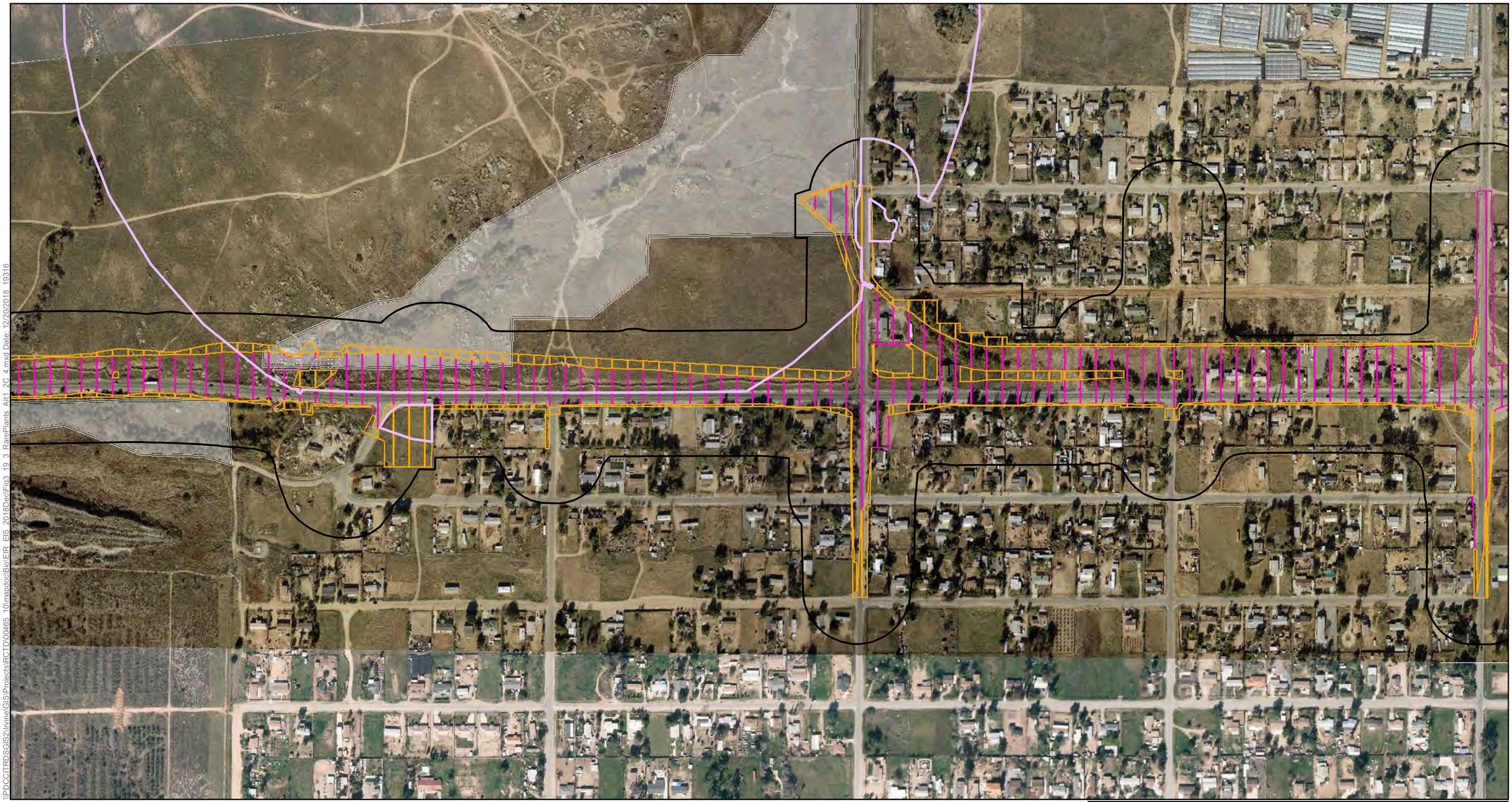

Figure 3.19-3 - Sheet 11
Special-Status Plant Species Occurrences Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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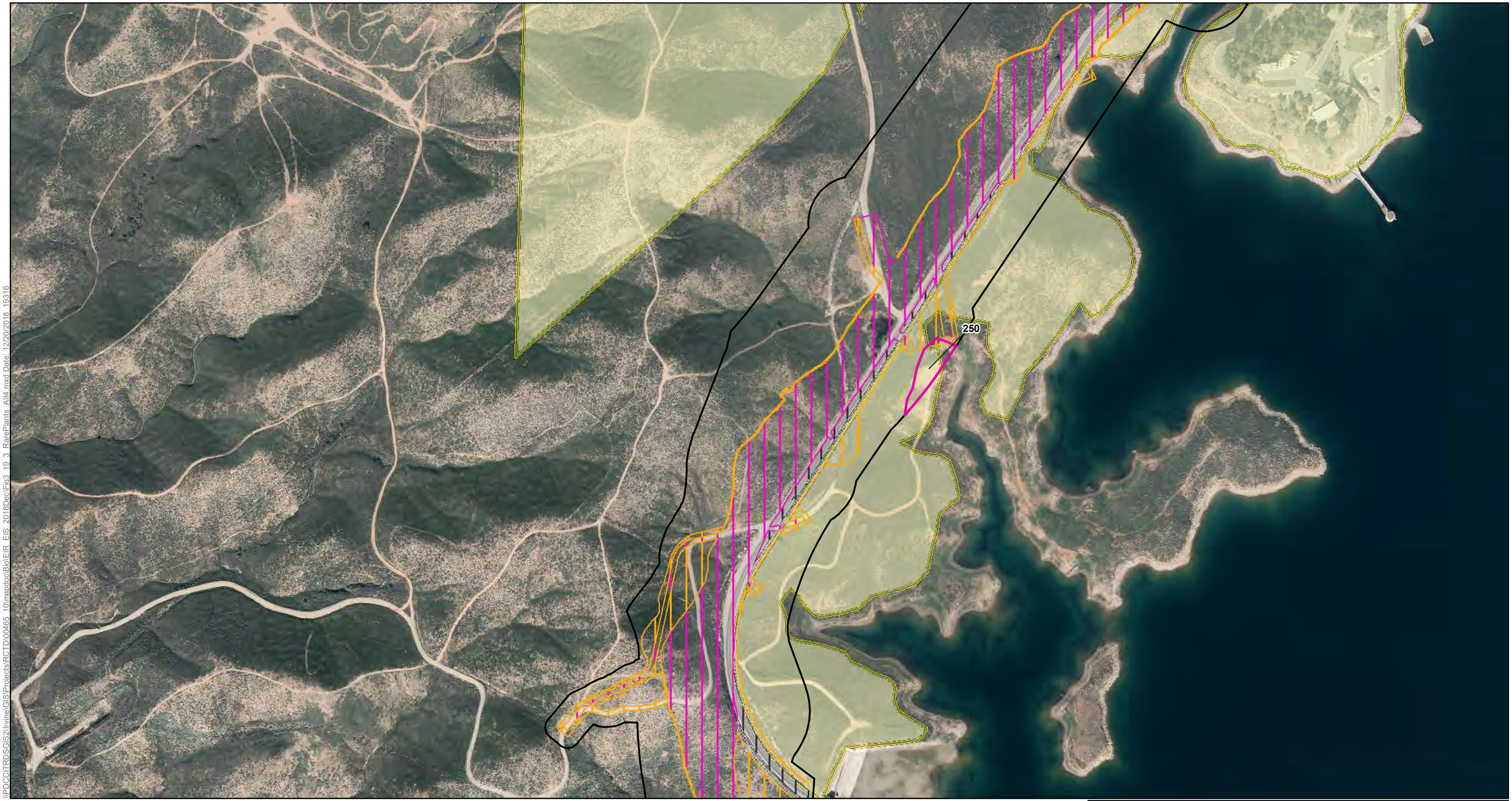

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

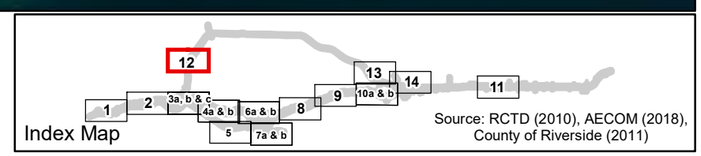
CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 12
Special-Status Plant Species Occurrences Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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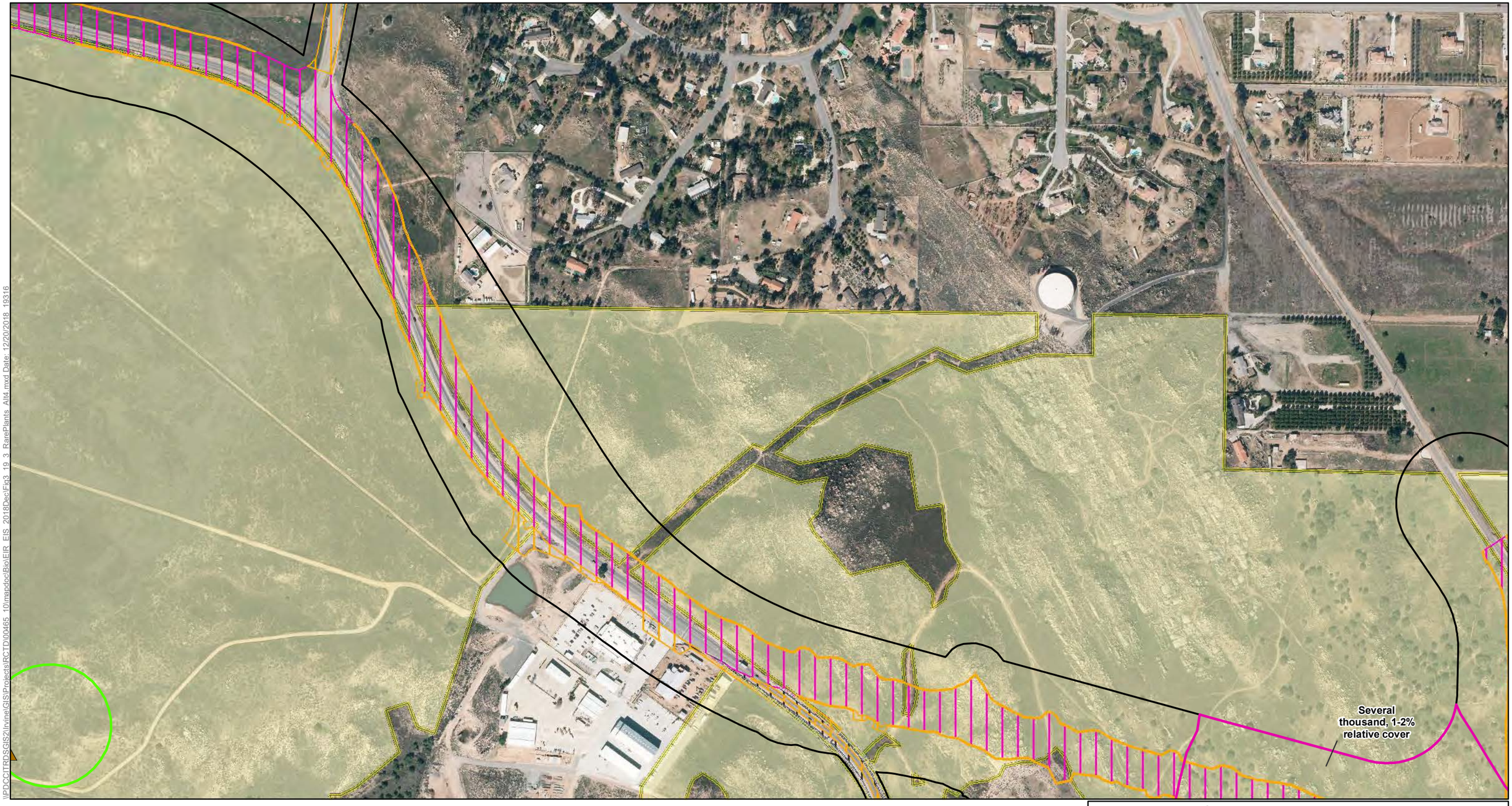


Rare Plants Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species

- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
- Palmer's Grappling Hook
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB

- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

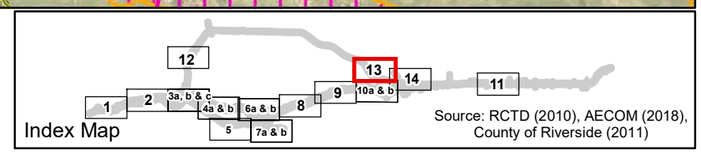
Focused Survey

- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy
- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.19-3 - Sheet 13
Special-Status Plant Species Occurrences Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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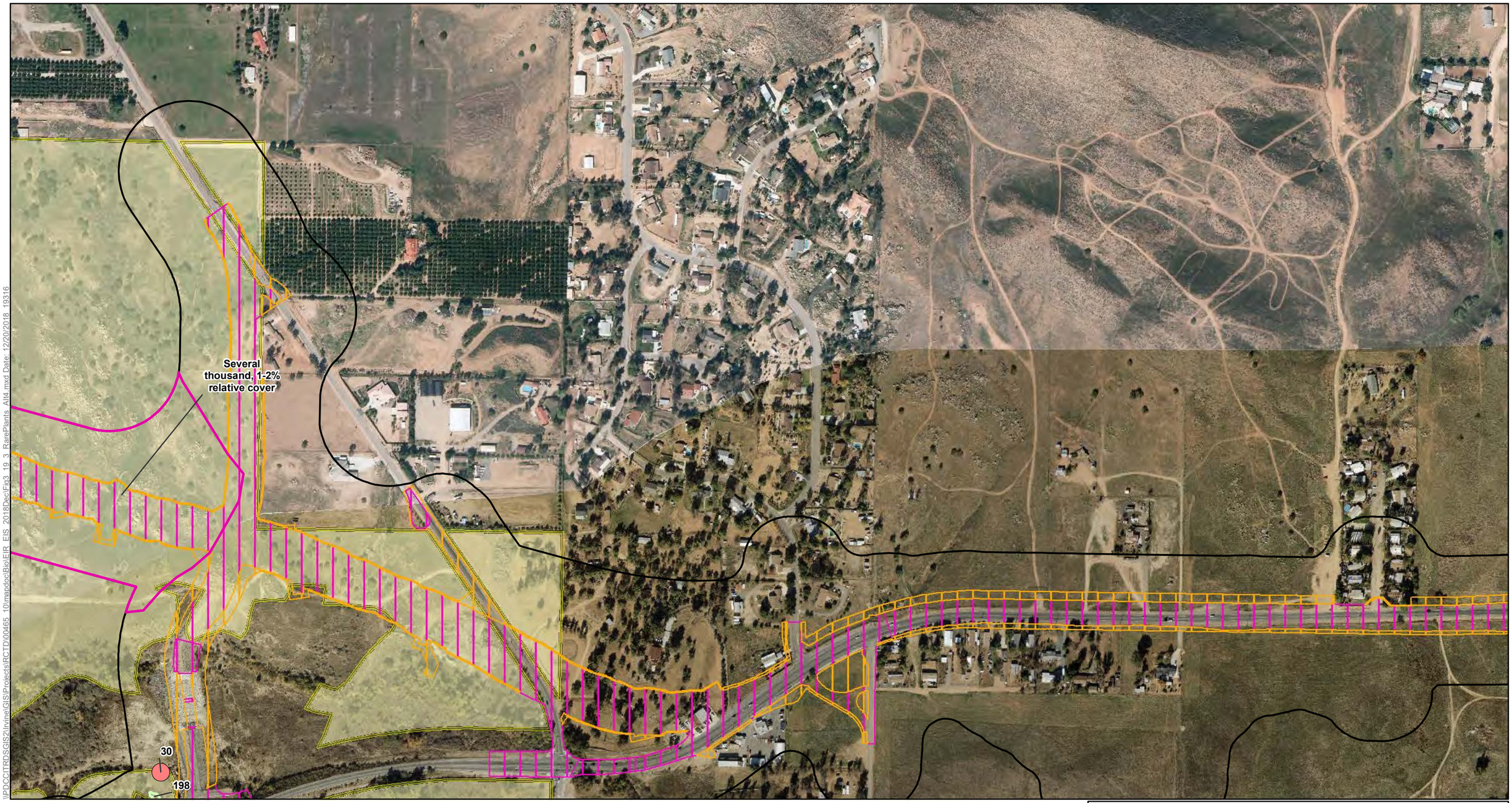

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Rare Plants Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Rare Plants

Lake Mathews Reserve Species
- Parry's Spineflower
- Long-spined Spineflower
- Small-flowered Microseris
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- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia

CNDDB
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant
- Many-stemmed Dudleya
- Long-spined Spineflower
- Round-leaved Filaree
- Smooth Tarplant

Focused Survey
- Long-spined Spineflower
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant
- Coulter's Matilija Poppy

- Long-spined Spineflower
- Small-flowered Morning Glory
- Round-leaved Filaree
- Great Valley Phacelia
- Paniculate Tarplant

N

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Feet

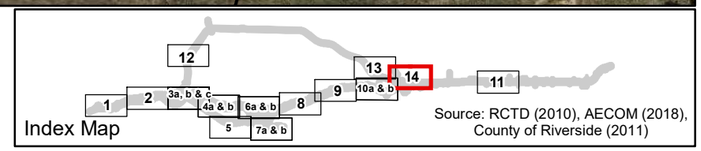

Figure 3.19-3 - Sheet 14
Special-Status Plant Species Occurrences Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Table 3.19-1. Non-Listed Special-Status Plants with Potential to Occur in the Rare Plant Study Area

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Allen's Pentachaeta (*Pentachaeta aurea* ssp. *allenii*)	1B.1/-/-	Found in coastal scrub openings and valley and foothill grassland habitat. Elevation range is from 246 to 1,706 feet above mean sea level (amsl). Presumed extant population recorded in Santiago Peak USGS quad.	**A**	Suitable habitat is present within coastal sage scrub and nonnative grassland within the BSA. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Brand's Star Phacelia (*Phacelia stellaris*)	1B.1/WRC MSHCP(b) /-	Found in coastal dunes and coastal scrub habitats. Elevation range is from 3 to 1,312 feet amsl. Presumed extant population recorded in Riverside West USGS quad.	**A**	Suitable habitat within the BSA is present in sage scrub habitat. It was not detected during the rare plant focused survey in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Buxbaum's Sedge (*Carex buxbaumii*)	4.2/-/-	A perennial herb. Occurs in bogs and fens, meadows and seeps (mesic), marshes and swamps. Inflorescences present from March to August. Found at elevations from sea level to 10,827 feet.	**HP**	Suitable habitat is present within marsh habitat in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
California Screw Moss (*Tortula californica*)	1B.2/-/-	This moss occurs in sandy soil in chenopod scrub and valley and foothill grassland. Elevation range of 33 to 4,790 feet amsl.	**A**	Although grassland habitat within the BSA may be suitable for this species, the nearest location for this species is in Lower Decker Canyon in Lake Elsinore. This species has a low potential to occur. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Catalina Mariposa Lily (*Calochortus catalinae*)	4.2/-/-	A perennial bulbiferous herb found in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. It occurs from 49 to 2,297 feet in elevation. This species blooms from February to June, and it is threatened by development.	**A**	Suitable habitat for this species is present within coastal sage scrub and grassland habitat in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Chaparral Nolina (*Nolina cismontana*)	1B.2/-/-	Found in sandstone and gabbro substrates within chaparral and coastal scrub habitats. Elevation range is from 495 to 459 feet. Presumed extant population recorded in Corona South USGS quad.	**A**	The BSA contains suitable coastal scrub habitat for this species. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Chaparral Ragwort (*Senecio aphanactis*)	2B.2/-/-	Found in sometimes alkaline substrates within chaparral, cismontane woodland, and coastal scrub habitats. Elevation range is from 49 to 2625 feet amsl. Presumed extant population recorded in Riverside West USGS quad.	**A**	There is a low potential for this species to occur within coastal sage scrub habitats based on limited alkaline substrates. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Chaparral Rein Orchid (*Piperia cooperi*)	4.2/-/-	Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Elevation range is from 49 to 5,200 feet amsl. Presumed extant population recorded in Santiago Peak USGS quad.	**A**	Suitable habitat is present in non-native grasslands. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Chaparral Sand-Verbena (*Abronia villosa* var. *aurita)*	1B.1/-/-	Found in sandy soil within coastal scrub and mostly broad alluvial fans and benches. Known to occur in northern Orange County, western Riverside County, San Diego County, and southern Imperial County. It blooms from January to August at elevations from 262 to 5,248 feet amsl.	**A**	Potential habitat for this species is limited to the sandy ephemeral washes in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Cleveland's Bush Monkeyflower (*Mimulus clevelandii)*	4.2/WRC MSHCP(f)/-	Found in gabbroic, often disturbed, openings, and rocky substrate within chaparral, cismontane woodland, and lower montane coniferous forest. Presumed extant population recorded in Alberhill USGS quad.	**HA**	The BSA lacks chaparral, cismontane woodland, and lower montane coniferous forest habitats. This species is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Coulter's Goldfields (*Lasthenia glabrata* ssp. *coulteri*)	1B.1/ WRC MSHCP(d)/-	Wide-ranging herb in southern California, with known occurrences including Los Angeles, Orange, Riverside, San Bernardino, San Diego, and other counties. This is an annual herb, blooming from February through June in saline places such as coastal saltmarsh, inland playas, and vernal pools below about 4,002 feet in elevation.	**A**	No suitable vernal pool resources are present in the BSA. Species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Coulter's Matilija Poppy (*Romneya coulteri*)	4.2/WRC MSHCP(e)/ LM MSHCP	Species is a perennial rhizomatous herb often found in burns within chaparral and sage scrub. Blooming period is March through July. Locally common along eastern margins of the Santa Ana mountains.	**P**	This species is present along the west end of the alignment near Temescal Creek and was detected during rare plant focused surveys.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
		This species will be considered adequately conserved per the WRC MSHCP when the species-specific conservation objectives have been met. These include the confirmation of at least 10 localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the Western Riverside County Regional Conservation Authority (RCA) MSHCP Annual Report 2014, this objective has been met, and this species can now be considered adequately conserved.		
Davidson's Saltscale (*Atriplex serenana* var. *davidsonii*)	1B.2/ WRC MSHCP(d) /-	Found in alkaline soils in coastal bluff scrub and coastal sage scrub from 10 to 820 feet amsl. Within Riverside county, uncommon on alkaline flats along the San Jacinto River, and west of Hemet (Roberts et al. 2004).	HA	There are a few locations where soils are mapped as alkaline within the BSA associated with coastal scrub habitat. However, this species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Engelmann Oak (*Quercus engelmannii*)	4.2/WRC MSHCP/-	Found in chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland.	A	Suitable habitat for this species is present, but the species would have been identifiable during focused studies between 2010 and 2016, if present. Therefore, it is considered absent.
Felt-Leaved Monardella (*Monardella hypoleuca* ssp. *lanata)*	1B.2/-/-	Found in chaparral and cismontane woodland habitats. Elevation range is from 984 to 5,467 feet. Presumed extant population recorded in Alberhill USGS quad.	HA	The BSA lacks chaparral, cismontane woodland, and lower montane coniferous forest habitats. It is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Fish's Milkwort (*Polygala cornuta* var. *fishiae*)	-/-/4.3/WRC MSHCP (e)/-	This deciduous shrub blooms from May to August in oak woodland, chaparral, cismontane woodland, and riparian woodland habitats from about 328 to 3,608 feet amsl. It is known from occurrences in Los Angeles, Orange, Riverside, Santa Barbara, San Diego, and Ventura Counties and from Baja California, Mexico.	HP	Suitable habitat is present within coast live oak woodland and riparian woodland areas. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
		This species will be considered adequately conserved per the WRC MSHCP when the species-specific conservation objectives have been met. These include the confirmation of at least 10 localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 50 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the RCA MSHCP Annual Report 2014, this objective has been met and this species can now be considered adequately conserved.		
Gander's Pitcher Sage (*Lepechinia ganderi*)	1B.3/-/-	Closed-cone coniferous forest, chaparral, coastal sage scrub, valley and foothill grassland. Occurring on gabbroic or metavolcanic soils.	HA	The BSA occurs well outside of this species range, with most occurrences in southern San Diego County. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Great Valley Phacelia (*Phacelia ciliata*)	-/-/LM MSHCP	Species occurs within valley and foothill grasslands, oak woodland, and coastal sage scrub habitats. Within the Lake Mathews-Estelle Mountain Reserve, the species is associated with clay soils within annual grasslands. Associated with clay soils.	P	This species is present within existing conserved lands north and south of Cajalco Road. This species has also been historically documented on the Lake Mathews-Estelle Mountain Reserve.
Hall's Monardella (*Monardella macrantha* ssp. *hallii)*	-/-/1B.3/WRC MSHCP/-	Found in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and valley and foothill grassland. Elevation range is from 2,395 to 7,201 feet. Presumed extant population recorded in Alberhill USGS quad.	HA	The BSA lacks chaparral, cismontane woodland, and lower montane coniferous forest habitats. It is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Heart-Leaved Pitcher Sage (*Lepechinia cardiophylla*)	1B.2/ WRC MSHCP(d)/-	Species is a perennial shrub and occurs in closed- cone coniferous forest, chaparral, and cismontane woodland. Species occurs at elevations ranging from 1,280 to 4,199 feet and blooms from April to July.	HA	Generally, the BSA lacks suitable habitat for this species. In addition, the species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Intermediate Mariposa Lily (*Calochortus weedii* var. *intermedius*)	1B.2/WRC MSHCP/-	The typical blooming period extends from May to July, and the plant is a perennial. This species is known to occur in dry chaparral, valley grassland, and coastal sage scrub. It is often on sandstone outcrops in areas from 590 to 2,805 feet. Soil affinities include sandy or clay soils.	HP	Suitable habitat for this species is present within coastal sage scrub and grassland habitat in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Intermediate Monardella (*Monardella hypoleuca* ssp. *intermedia*)	1B.3/-/-	This perennial herb can be found within the understory of chaparral, cismontane woodland, and less frequently in lower montane coniferous forests. It occurs at elevations ranging from 984 to 3,510 feet. The species is in bloom from June to August.	HA	The BSA lacks chaparral, cismontane woodland, and montane coniferous forest for this species. It is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Little Mousetail (*Myosurus minimus* ssp. *apus*)	3.1/MSHCP(d) /LM MSHCP	Occurs in association with vernal pools and within the alkali vernal pools and alkali annual grassland components of alkali vernal plains. Little mousetail is found in areas that have semiregular inundation. Within Riverside County species is locally common in the alkaline vernal pools near Hemet; otherwise scarce and local in Perris Basin and Santa Rosa Plateau (Roberts et al. 2004).	HA	Proposed project within Criteria Area Plant Species (CAPS) survey areas for this species. No suitable vernal pool habitat is present within the BSA. It is presented here because it is a covered species with potential to occur under the LM MSHCP.
Long-Spined Spineflower (*Chorizanthe polygonoides* var. *longispina*)	1B.2/WRC MSHCP/LM MSHCP	Associated primarily with heavy, often rocky, clay soils in southern needlegrass grassland, and openings in coastal sage scrub and chaparral. The species has been described as occurring on sandy and gravelly soil, but this appears to be infrequently the case.	P	This species was detected within the BSA southwest of Lake Mathews within the BSA during 2011 rare plant surveys. This species is also known to occur in the Lake Mathews-Estelle Mountain Reserve.
Many-Stemmed Dudleya (*Dudleya multicaulis*)	1B.2/WRC MSHCP(b)/ LM MSHCP	Found on the coastal slopes of southern California from Los Angeles and San Bernardino Counties south, from about 50 to 2,600 feet in elevation. It usually grows on poor soils, often on clay or at the margins of gabbroic rock outcrops in coastal sage scrub and grassland communities. This species primarily occurs on the western edge of Riverside County (Roberts et al. 2004).	A	Proposed project within the Narrow Endemic Plant Species Survey Areas for this species. Suitable habitat occurs within coastal sage scrub and nonnative grassland communities, particularly where clay soils and rocky outcrops are present. This species was not found during the 2011, 2012, 2014, 2015, 2016, or 2018 rare plant focused studies. It is presented here because it is a covered species with potential to occur under the LM MSHCP.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Mesa Horkelia (*Horkelia cuneata* ssp. *puberula*)	1B.1/-/-	This perennial herb blooms from February until September. It grows in sandy and gravelly soils in chaparral, cismontane woodland, or coastal scrub at elevations from 230 to 2,657 feet.	A	Suitable habitat is present within the coastal sage scrub. Species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Narrow-Petaled Rein Orchid (*Piperia leptopetala*)	4.3/-/-	Found in cismontane woodland, lower montane coniferous forest, and upper montane coniferous forest habitats. Elevation range is from 1,247 to 7,300 feet amsl. Presumed extant population recorded in Santiago Peak USGS quad.	HA	No suitable habitat is present in the BSA. The nearest record occurs in the Santa Ana Mountains. Thus, this species is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum)*	-/-/4.2/WRC MSHCP(f)/-	Found in openings within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats. Elevation range is from 98 to 5,906 feet. Presumed extant population recorded in Alberhill USGS quad.	HP	Suitable habitat occurs within the BSA, which is within the elevation range for the species. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018. Additional MSHCP species-specific conservation objectives for this species have been met (RCA 2016).
Palmer's Grapplinghook (*Harpagonella palmeri*)	-/-/4.2/ WRC MSHCP/ LM MSHCP	Found within chaparral, coastal scrub, and valley and foothill grasslands. Often associated with clay soils. Occurs at elevations of 65 to just over 3,130 feet. Blooming period begins in March and ends in May.	A	This species was documented during the rare plant focused studies. It has been known to occur within the LM MSHCP area, however it was not documented during rare plant focused surveys conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Palomar Monkeyflower (*Erythranthe diffusa*)	4.3/WRC MSHCP/-	Known to occur in chaparral and lower montane coniferous forests, in sandy or gravelly soils. Within Riverside County, only known from the Santa Ana and Agua Tibia Mountains.	HA	No suitable habitat is present in the BSA, and this species is not expected to occur. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Paniculate Tarplant (*Deinandra paniculata*)	4.2/-/-	This annual herb has a limited distribution, with the species known from Orange, western Riverside, southwestern San Bernardino, and southwestern San Diego Counties. It regularly grows in mesic conditions within sage scrub, valley and foothill grassland, and vernal pools but can also occur in dry nonnative grasslands. Blooming period is April through November.	P	The species was found throughout the project alignment in large populations especially along La Sierra Avenue and along Cajalco Road west of Harley John Road.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Parish's Brittlescale (*Atriplex parishii*)	1B.1/ WRC MSHCP(d) /-	Habitats where species is found include chenopod scrub, alkaline vernal pools, and playas. Blooms from June to October and ranges from 82 to 6,232 feet amsl in elevation.	HA	No suitable vernal alkaline habitat is present in the BSA, and this species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Parry's Spineflower (*Chorizanthe parryi* var. *parryi*)	1B.1/WRC MSHCP(e)/ LM MSHCP	Annual herb. Found in sandy or rocky soils in openings in chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. The blooming period is from April to June. This species is threatened by altered flood regime, development, mining, nonnative plants, and vehicles. This species will be considered adequately conserved per the WRC MSHCP when the species-specific conservation objectives have been met. These include the confirmation of at least 10 localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the RCA MSHCP Annual Report 2014, this objective has been met, and this species can now be considered adequately conserved.	HP	Suitable habitat is present within coastal sage scrub, grassland and woodland habitats that occur in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018. This species was historically documented in the RPSA within the Lake Mathews MSHCP area.
Payson's Jewelflower (*Caulanthus simulans*)	4.2/WRC MSHCP/-	Occurs within chaparral and coastal sage scrub in sandy/granitic rock. Fairly tolerant of lands disturbed by fire. Blooms between February and June and has been recorded at elevations between 300 to 7,225 feet.	HP	Suitable habitat is present within sage scrub habitat within the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Peninsular Spineflower (*Chorizanthe leptotheca*)	4.2/WRC MSHCP(e)/-	This annual herb occurs in chaparral, coastal scrub, and lower montane coniferous forest associated with alluvial fans and granitic soils. Found at elevations from 984 to 6,234 feet. This species will be considered adequately conserved per the WRC MSHCP when the species-specific conservation objectives have been met. These include the confirmation of at	HP	Suitable habitat is present within the alluvial fan sage scrub habitat. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
		least 10 localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the RCA MSHCP Annual Report 2014, this objective has been met, and this species can now be considered adequately conserved.		
Plummer's Mariposa Lily (*Calochortus plummerae*)	4.2/WRC MSHCP(e)/-	Found on rocky and sandy areas with granitic or alluvial material in coastal sage scrub, chaparral, and valley and foothill grasslands from 295 to 5,280 feet. This species will be considered adequately conserved per the WRC MSHCP when the species specific conservation objectives have been met. These include the confirmation of at least six localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 500 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the RCA MSHCP Annual Report 2014, this objective has been met, and this species can now be considered adequately conserved.	HP	Suitable habitat for this species is present within coastal sage scrub and grassland habitat in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Robinson's Pepper-Grass (*Lepidium virginicum* var. *robinsonii*)	4.3/-/-	An annual herb found in dry, exposed soils in chaparral and coastal sage scrub up to 3,100 feet in elevation. Blooming period occurs from January to July. This species is threatened by development and possibly nonnative plants.	A	Suitable habitat is present in the BSA within coastal sage scrub. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Round-Leaved Filaree (*California macrophylla*)	/-/ WRC MSHCP(d)/ LM MSHCP	Restricted to open cismontane woodland and valley and foothill grassland habitats on very friable deep clay soils between about 50 and 6,560 feet. Within western Riverside County, two of the mapped localities occur on Bosanko clay soils. Records reviewed for this species indicate that this species tends to be associated primarily with wild oats (Avena fatua).	P	Multiple populations of this species were detected during 2011 and 2015 rare plant focused surveys.

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Salt Spring Checkerbloom (*Sidalcea neomexicana*)	2B.2/-/-	Mesic, alkaline soils in chaparral, coastal sage scrub, lower montane coniferous forest, Mojavean desert scrub, and playas.	A	Suitable habitat is present within coastal sage scrub. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
San Bernardino Aster (*Symphyotrichum defoliatum*)	1B.2/-/-	Found in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and valley and foothill grassland. Also near ditches and stream springs. Blooms from July to November at elevations from 6 to 6,700 feet amsl.	A	Suitable habitat is present near drainage areas within riparian, grassland, and sage scrub communities. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
San Diego County Viguiera (*Viguiera lacinata*)	4.3/-/-	Perennial shrub in chaparral and sage scrub from central San Diego County south to Baja California and Sonora, Mexico; used heavily in restoration and as an ornamental in native range and northward, with nonnatives recorded north to Santa Clara County. Elevation is range about 200 to 2,460 feet amsl.	A	Suitable habitat is present within coastal sage scrub; however, the BSA occurs outside of the species natural range. In addition, the species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
San Diego Sagewort (*Artemisia palmeri*)	4.2/-/-	Found in sandy and mesic substrate. Vegetation communities include chaparral, coastal scrub, riparian forest, riparian scrub, and riparian woodland. Elevation range is 49 to 3,002 feet amsl. Population documented in Sunnymead USGS quad.	A	Potential habitat for this species is limited to the sandy ephemeral washes in the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
San Miguel Savory (*Clinopodium chandleri*)	1B.2/ WRC MSHCP (b)/ -	Perennial shrub. Associated with rocky, gabbroic and metavolcanic substrates in coastal sage scrub, chaparral, cismontane woodland, riparian woodland, and valley and foothill grassland. The blooming period is from March to July. This species is threatened by residential development, foot traffic, agriculture, and recreational activities.	A	Suitable habitat is present within the BSA within woodland, sage scrub, and grassland communities. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
Santiago Peak Phacelia (*Phacelia keckii*)	1B.3/-/-	Found in closed-cone coniferous forest and chaparral habitats. Elevation range is from 1,788 to 5,249 feet amsl. Presumed extant population recorded in Corona South USGS quad.	HA	No suitable habitat for this species is present. The nearest record occurs in the Santa Ana Mountains. Thus, this species is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Small-Flowered Microseris (*Microseris douglasii* ssp. *platycarpha*)	/4.2/WRC MSHCP (e)/ LM MSHCP	Annual herb found in heavy clay soils in cismontane woodland, coastal scrub, valley and foothill grassland, and vernal pools. The blooming period is from March to May. This species is severely declining due to urban developments and is threatened by nonnative plants. (Roberts et al. 2004) This species will be considered adequately conserved per the WRC MSHCP when the species specific conservation objectives have been met. These include the confirmation of at least 10 localities within the MSHCP Conservation Area (locality not less than one-quarter section) with at least 1,000 individuals each (unless a smaller population has been demonstrated to be self-sustaining). Per the RCA MSHCP Annual Report 2014, this objective has been met, and this species can now be considered adequately conserved.	HP	The BSA contains Bosanko Porterville clay soils that provide suitable habitat for this species. In addition, this species has been documented on the Lake Mathews-Estelle Mountain Reserve. The species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018. This species was historically documented in the RPSA in the LM MSHCP area.
Small-Flowered Morning-Glory (*Convolvulus simulans*)	4.2-/WRC MSHCP/ LMMSHCP	Annual herb on open, friable to crumbling clay soils and serpentine seeps in openings within chaparral, sage scrub, and grasslands from Baja California, Mexico, north to central California. Vulnerable to competition from nonnative plants. Not associated with alkaline or saline conditions. Found at elevations from 100 to 2,300 feet.	P	This species was detected in in areas of clay soils west of Lynette Lane/Hollis Lane during 2016 rare plant focused surveys. This species is also known to occur in the Lake Mathews-Estelle Mountain Reserve.
Smooth Tarplant (*Centromadia pungens* ssp. *laevis*)	1B.1/WRC MSHCP(d)/ LM MSHCP	Found in fine or alkaline soils of seasonally wet chenopod scrub, meadows and seeps, playas, riparian woodland, fallow fields, drainage ditches, and moist situations within valley and foothill grasslands below about 1,575 feet. Tolerant of rural and agricultural land use. Found primarily in southwestern Riverside County, but also a few sites in the interior valleys of San Bernardino, Los Angeles, and San Diego Counties.	P	Proposed project within the Criteria Area Species Survey Area (CASSA) for this species. Suitable habitat is present within grassland habitat. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018 within the CASSA. However, a population was detected outside of the CASSA just west of Alexander Street,

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Snake Cholla (*Cylindropuntia californica* var. *parryi*)	1B.1/-/-	Perennial stem succulent found in chaparral and coastal scrub habitats. Elevation range is from 98 to 492 feet. The blooming period is from April to May. Presumed extant population recorded in Riverside East USGS quad. This species is threatened by development and vehicles.	A	Suitable habitat occurs within the BSA. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
South Coast Saltscale (*Atriplex pacifica*)	1B.2/-/-	An annual herb that occurs on coastal bluff scrub, coastal dunes, coastal scrub, and playas. It is found at elevations ranging from 0 to 459 feet amsl and blooms from March to October. Records of this species within Riverside County were misidentified and are actually Atriplex davidsonii (Roberts et al. 2004).	HA	No suitable habitat for this species is present in the BSA. This species is not expected to occur.
Southern California Black Walnut *(Juglans californica*)	4.2/WRC MSHCP/-	This deciduous tree blooms from March to May in alluvial soils of cismontane woodland, chaparral, coastal scrub, riparian scrub, and walnut-oak woodland from about 164 to 2,952 feet.	A	Suitable habitat is present within coastal sage scrub, riparian scrub and woodland habitats. Species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Southern Tarplant (*Centromadia parryi* ssp. *australis*)	1B.1/WRC MSHCP/ LM MSHCP	This annual herb most characteristically occurs along the edges of marshes and swamps, in vernal pools, and vernally mesic grasslands at elevations up to 1,600 feet amsl. It can occur in degraded conditions. Blooming period is May to November.	HA	The BSA is well outside the geographic distribution of this species. Neither the CNDDB nor the CNPS have records of this species within the BSA or the 12 USGS quads the BSA occurs on or is directly adjacent to. It is presented here because it is a covered species with potential to occur under the LM MSHCP. No potential for this species to be present.
Sticky Dudleya (*Dudleya viscida*)	-/-/1B.2/ WRC MSHCP(f)/-	Coastal bluff scrub, chaparral, coastal sage scrub. Occurring on rocky soils.	HA	This species occurs at higher elevations and is associated with more coastal influence than is present in the BSA. This species was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Summer Holly (*Comarostaphylis diversifolia* ssp. *diversifolia*)	1B.2/-/-	Perennial evergreen shrub that occurs in chaparral vegetation communities. Blooming period is from April through June.	HA	No suitable habitat for this species is present and it is not expected to occur.
Tecate Cypress (*Hesperocyparis forbesii*)	1B.1/-/-	A perennial evergreen tree found in clay, gabbroic, or metavolcanic soil within closed-cone coniferous forest and chaparral. Elevation range is 427 to 4,921 feet. This species is threatened by alteration of fire regimes, mining, and by development in Orange and Riverside Counties.	HA	There is no suitable habitat within the BSA, and it would have been detectable during the rare plant survey efforts from 2010 to 2018.
Vernal Barley (*Hordeum intercedens*)	3.2/WRC MSHCP/-	Associated with mesic grasslands, vernal pools, and large saline flats or depressions. In Riverside County, found in the Domino, Willows, and Traver soils series and is associated with alkali flats and flood plains within the alkali vernal plains community. Within this community vernal barley is primarily associated with alkali annual grasslands and vernal pools and to a lesser extent alkali scrub and alkali playa.	HA	No suitable vernal pool habitat is present in the BSA. In addition, soils with which this species is associated are absent from the BSA. It is not expected to occur and was not detected during focused surveys for rare plants conducted in 2010, 2011, 2012, 2014, 2015, 2016, and 2018.
Western Spleenwort (*Asplenium vespertinum)*	4.2/-/-	Found in rocky substrate within chaparral, cismontane woodland, and coastal scrub. Population reported in Alberhill USGS quad. Elevation range is 590 to 3,280 feet.	A	Suitable habitat occurs within the BSA, which is within the elevational range for the species. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.
White Rabbit-Tobacco (*Pseudognaphalium leucocephalum*)	2B.2/-/-	Perennial herb. Associated with sandy or gravelly soils in chaparral, cismontane woodland, coastal scrub, and riparian woodland. Blooming period is from July through December.	HP	Suitable habitat is present in the BSA within coastal sage scrub and riparian woodland habitats.
White-Bracted Spineflower (*Chorizanthe xanti* var. *leucotheca*)	1B.2/-/-	Found in sandy or gravelly substrate within coastal scrub alluvial fans, Mojavean desert scrub, and pinyon and juniper woodland habitats. Elevation range is from 984 to 3937 feet. Presumed extant population recorded in Corona South USGS quad.	A	Suitable habitat occurs within the BSA in sandy alluvial areas and juniper woodlands. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.

COMMON/SCIENTIFIC NAME	STATUS[a] CNPS / WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Woven-Spored Lichen (*Texosporium sancti-jacobi*)	3/-/-	This species is restricted to occurring on biotic crusts in arid and semi-arid habitats, such as chaparral or on decaying organic matter. Occurs at elevations from 951 to 2,165 feet amsl. Intolerant of disturbed sites.	HA	The BSA is highly disturbed and does not provide conditions suitable for this species of lichen. This species is not expected to occur.
Wright's Trichocoronis (*Trichocoronis wrightii* var. *wrightii*)	2B.1/ WRC MSHCP(b) /-	In western Riverside County, found in the alkali vernal plains and associated with alkali playa, alkali annual grassland, and alkali vernal pool habitats. This species occupies the more mesic portions of these habitats.	HA	Suitable vernal alkali habitat is absent from the BSA, and alkaline soils are limited within grassland habitats. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, 2016, and 2018.

[a] ***Status Codes***

CNPS

1B = Plants rare, threatened, or endangered in California and elsewhere

2B = Plants rare, threatened, or endangered in California, but more common elsewhere

3 = Plants about which we need more information

4 = Limited distribution (Watch List)

0.1 = Seriously threatened in California

0.2 = Moderately threatened in California

0.3 = Not very threatened in California

WRC MSHCP

WRC MSHCP = No additional action necessary

WRC MSHCP(b) = Surveys may be required within the Narrow Endemic Plant Species survey area

WRC MSHCP(d) = Surveys may be required within Criteria Area

WRC MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species

WRC MSHCP(f) = Covered species when a Memorandum of Understanding is executed with the Forest Service Land

[b] ***Habitat Presence/Absence Codes:***

P= The species is present.

HP=Habitat is or may be present. The species may be present.

HA= No habitat present and no further work needed.

A= This species is absent.

3.19.2.2 Species Covered under WRC MSHCP

WRC MSHCP Narrow Endemic Plant Species

The three non-listed narrow endemic plant species analyzed for their potential to occur include many-stemmed dudleya, San Miguel savory, and Wright's trichocoronis. It was determined that the BSA supported habitat for many-stemmed dudleya and San Miguel savory, and focused surveys were conducted for these two species in suitable habitat. Although there is a CNDDB record for many-stemmed dudleya at the west end of the RPSA, there were no narrow endemic plant species observed during focused surveys conducted for the project; therefore, these species are considered absent. There are no historical records of these narrow endemic species within the LM MSHCP area of the RPSA.

WRC MSHCP Criteria Area Species

The RPSA was evaluated for six non-listed Criteria Area Species. It was determined during the habitat evaluation that the RPSA lacked suitable habitat for Parish's brittlescale, little mousetail, Davidson's saltscale, and Coulter's goldfields. Although smooth tarplant was observed in the RPSA, the observation occurred outside of the Criteria Area; therefore, this species is fully covered and is not discussed further. The only Criteria Area Species found during focused surveys was round-leaved filaree.

Round-Leaved Filaree

Round-leaved filaree, a Criteria Area Species Survey Area species, was noted within the RPSA. Round-leaved filaree was observed during surveys in 2011 (three individuals) and 2015 (217 individuals) northeast and southwest of the existing Cajalco Road within the LM MSHCP area (Sheets 5, 6a/6b, and 7a/7b of Figure 13.9-3). There are also CNDDB records from 2018 of round-leaved filaree within the RPSA. This species has also been historically documented on the LM MSHCP area within the RPSA (Sheets 7a and 7b of Figure 13.9-3).

WRC MSHCP Fully Covered Species

Coulter's Matilija Poppy

A population of 10 Coulter's matilija poppy was found in 2012 just west of Temescal Wash. The population occurs on a mitigation site managed by the RCRCD within the RPSA (Sheet 1 of Figure 13.9-3). There are no historical records of this species within the LM MSHCP area of the RPSA.

Long-Spined Spineflower

A population of 98 individual long-spined spineflower plants was found in 2011 between Archer Road and Lake Mathews Drive on the north and south sides of Cajalco Road. A second population, comprising more than 220 individuals, was observed north of Cajalco Road in 2012 approximately 0.3 mile west of Harley John Road (Sheets 6a/6b, 8, 9, and 10a/10b of Figure 13.9-3). This species has also been historically documented within the RPSA within the LM MSHCP area (Sheets 6a and 6b of Figure 3.19-3).

Small-Flowered Morning-Glory

Small-flowered morning-glory was found in 2016 (95 individuals) southwest of Cajalco Road within the LM MSHCP area and RCHCA SKR Reserve (Sheets 5 and 7a/7b of Figure 13.9.3). This species has also been historically documented on the LM MSHCP area within the RPSA. This species has also been historically documented within the RPSA within the LM MSHCP area (Sheets 3 through 6a/6b, and 8 of Figure 3.19-3).

Non-Covered Plant Species

Paniculate Tarplant

Paniculate tarplant has a CRPR of 4.2. It is not covered under the WRC MSHCP and is not a LM MSHCP target species. Paniculate tarplant was found within the RPSA in two distinct populations composed of several thousand individuals (Sheets 8, 10a/10b, and 12 through 14 of Figure 13.9.3). A small population of about 250 individuals was observed just east of El Sobrante Road near the edge of Lake Mathews. A second, larger population of over 11,500 paniculate tarplant was observed along Cajalco Road spanning the RPSA from Hollis Lane/Lynette Lane to just west of the Harley John Road.

3.19.2.3 Lake Mathews MSHCP Target Species

The following non-listed plant species are LM MSHCP target species: Coulter's matilija poppy, long-spined spineflower, Palmer's grapplinghook, round-leaved filaree, and small-flowered morning-glory. The detailed locations of these species within the LM MSHCP area are described in Section 3.19.2.2 above.

In addition to these species, Great Valley phacelia was observed in the RPSA as one population comprising about 730 individuals southwest of Cajalco Road in the LM MSHCP area and adjacent RCHCA SKR Reserve lands (Sheets 5, 6a/6b, and 7a/7b of Figure 3.19-3). Great Valley phacelia has also historically been documented northeast and southwest of Cajalco Road to the west of Hollis Lane/Lynette Lane in the LM MSHCP area.

3.19.3 Environmental Consequences

This section addresses the effects on non-listed special-status species from the build alternatives. Specific discussions have been dedicated to round-leaved filaree, Coulter's matilija poppy, long-spined spineflower, and small-flowered morning glory because these species were recorded and mapped within the RPSA. Because Great Valley phacelia has no special regulatory status, the impacts on this species and suitable habitat are only discussed as they pertains to the LM MSHCP in Section 4.2.4. Species fully covered under the WRC MSHCP that were not specifically recorded and where no additional analysis is required (smooth tarplant, Parry's spineflower, Palmer's grapplinghook, and small-flowered microseris) are discussed in Section 3.19.3.5. A full discussion of effects on these species and/or their suitable habitat as it related to the LM MSHCP area is also provided for these species.

Paniculate tarplant is not covered under the WRC MSHCP nor is it a LM MSHCP target species; therefore, no discussion as it pertains to these HCPs is provided in Section 3.19.3.7.

For each species, direct and indirect impacts that could potentially occur during construction activities are described. Direct effects are those permanent or temporary impacts that would directly cause mortality and permanent loss of habitat. Examples of permanent impacts during construction include grading activities, construction staging, cut and fill, and the road widening. Temporary effects are those impacts that would occur within the area needed to construct the project (including staging areas), and these areas would be returned to original topographic contours, decompacted to allow for plant establishment, and revegetated with native vegetation when construction is completed. Indirect effects are those impacts that may give rise to delayed, secondary effects, including potential spread of invasive plants, increased dust generation during construction, and degradation of habitat adjacent to the work area. Operation of the proposed project may contribute to long-term indirect effects on these species and may contribute to edge effects through degradation of habitat adjacent to the new right of way, spread of invasive plants from vehicles, and increased risk of fire; however, these potential edge effects would not differ from the existing conditions along the County right of way.

3.19.3.1 Round-Leaved Filaree

Build Alternatives 1 and 4 – Cajalco Alignment and El Sobrante Alignment

No direct impacts (permanent and/or temporary) would occur on round-leaved filaree during construction of Build Alternatives 1 and 4 because this species occurs outside of the limits of disturbance (LOD). There is a potential for indirect effects on individuals to occur adjacent to the build alternatives in the form of dust generated from construction activities, edge effects and habitat degradation, increased risk of fire, and introduction of invasive species. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (refer to Section 3.17, *Natural Communities*) are intended to avoid and/or minimize indirect impacts on round-leaved filaree that may occur adjacent to the LOD, as well as direct and indirect impacts on potentially suitable habitat for the species.

Lake Mathews MSHCP

Although no direct effects would occur on round-leaved filaree under Build Alternatives 1 or 4, suitable habitat within the LMR would be directly affected by these build alternatives (97.15 acres under Build Alternative 1 and 27.10 acres under Build Alternative 4). Measures identified above are intended to avoid and/or minimize indirect impacts on round-leaved filaree within the LMR that occur adjacent to the LOD. In addition, Build Alternative 1 would remove a portion of the existing Cajalco Road and restore portions of the area to natural topographic contours, decompacted to allow for plant establishment, and revegetated with native vegetation. Approximately 0.14 acre of natural habitat suitable for round-leaved filaree removed during roadbed removal will be added back into the LMR under Build Alternative 1. Project BMPs will ensure potential indirect impacts on round-leaved filaree would not occur. In addition, Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** (Section 3.17, *Natural Communities*) would ensure full replacement of potentially suitable habitat for round-leaved filaree associated with the LMR.

Build Alternative 2C – Modified Cajalco Alignment

Based on the mapped locations of round-leaved filaree, up to four individuals would be permanently removed during construction of Build Alternative 2C (Sheets 5 and 7b of Figure 3.19-3), and several individuals occur within the temporary impact area. There is also a potential for indirect impacts on the population that occurs adjacent to the LOD. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on round-leaved filaree and its suitable habitat adjacent to the LOD. In addition, once the project is completed, the existing Cajalco Road between La Sierra Avenue and just west of Hollis Lane would retain an approximately 20-foot-wide dirt, gravel, or partially paved access road that will strictly be used for MWD access of the LMR. The restricted access will reduce future degradation of the species' habitat, including reduced spread of invasive species from vehicles and reduced future potential fire risk. This will provide an overall benefit to round-leaved filaree as the habitat that is occupied outside of the LOD is expected to improve in quality.

Operation of the proposed project may contribute to long-term, indirect effects on species, such as degradation of habitat adjacent to the new right of way, spread of invasive plants from vehicles, and increased risk of fire; however, these potential edge effects would not differ from the existing conditions along the County right of way.

Lake Mathews MSHCP

Approximately 64.99 acres of suitable habitat for round-leaved filaree within the LMR would be affected under Build Alternative 2C. There is also a potential for indirect impacts on the population that occurs adjacent to the LOD. The measures identified above are intended to avoid and/or minimize such potential indirect effects on the LMR. In addition, once construction of Build Alternative 2C is completed, there would be restricted access of the existing Cajalco Road between La Sierra to just west of Lake Mathews Drive, which will reduce future degradation of the species' habitat, including reduced spread of invasive species from vehicles and reduced future potential fire risk. This will provide an overall benefit to round-leaved filaree within the LMR as the habitat that is occupied is expected to improve in quality.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts on round-leaved filaree would occur.

3.19.3.2 Coulter's Matilija Poppy

Build Alternatives 1, 2C, and 4

The build alternatives may have a temporary effect on areas currently occupied by Coulter's matilija poppy. The species-specific conservation objectives under the WRC MSHCP have been met, and this species is considered adequately conserved by the Plan. Therefore, any potential effects on Coulter's matilija poppy are fully covered under the WRC MSHCP. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and

indirect impacts on Coulter's matilija poppy and its suitable habitat adjacent to the LOD. No additional analysis is required for areas outside of the LM MSHCP.

Lake Mathews MSHCP

No direct impacts would occur on Coulter's matilija poppy within the LMR during construction of the build alternatives. However, within the LMR, potential effects would occur within potentially suitable habitat for Coulter's matilija poppy (approximately 28.99 acres under Build Alternative 1, 38.86 acres under Build Alternative 2C, and 24.14 acres under Build Alternative 4). Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** (Section 3.17, *Natural Communities*) would ensure full replacement of potentially suitable habitat for Coulter's matilija poppy associated with the LMR.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts on Coulter's matilija poppy would occur.

3.19.3.3 Long-Spined Spineflower

Build Alternatives 1, 2C, and 4

Impacts on long-spined spineflower from Build Alternatives 1, 2C, and 4 are fully covered under the WRC MSHCP. No additional analysis is required for areas outside of the LM MSHCP.

Lake Mathews MSHCP

Within the LMR, potential effects would occur within potentially suitable habitat for long-spined spineflower (100.47 acres under Build Alternative 1, 82.38 acres under Build Alternative 2C, and 33.87 acres under Build Alternative 4). However, no direct impacts are expected to occur on long-spined spineflower during construction of the build alternatives because this species was absent within the LOD on the LMR. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on long-spined spineflower and its suitable habitat adjacent to the LOD. In addition, Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement of potentially suitable habitat for long-spined spineflower associated with the LMR.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts on long-spined spineflower would occur.

3.19.3.4 Small-Flowered Morning-Glory

Build Alternatives 1 and 4 – Cajalco Alignment and El Sobrante Alignment

Impacts on small-flowered morning-glory from Build Alternatives 1 and 4 are fully covered under the WRC MSHCP. No additional analysis is required for areas outside of the LM MSHCP.

Lake Mathews MSHCP

No direct impacts would occur on small-flowered morning glory within the LMR during construction of Build Alternatives 1 and 4 because this species occurred outside of the LOD. However, suitable habitat (up to 122.23 acres under Build Alternative 1 and 51.27 acres under Build Alternative 4) for small-flowered morning glory occurs within the LM MSHCP area and would be affected under these build alternatives. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on small-flowered morning glory and its suitable habitat adjacent to the LOD. In addition, Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement of potentially suitable habitat for small-flowered morning glory associated with the LMR.

Build Alternative 2C – Modified Cajalco Alignment

Impacts on small-flowered morning-glory from Build Alternative 2C are fully covered under the WRC MSHCP. No additional analysis is required for areas outside of the LM MSHCP.

Lake Mathews MSHCP

Up to 113.96 acres of suitable habitat for small-flowered morning glory occurs within the LMR and would be affected under the Build Alternative 2C. There is a potential for direct impacts to occur on a few individuals of small-flowered morning glory within the LMR during construction of Build Alternative 2C. Because this species is fully covered under the WRC MSHCP, no replacement of individuals is proposed within the LMR. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on small-flowered morning glory and its suitable habitat adjacent to the LOD. In addition, Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement of potentially suitable habitat for small-flowered morning glory associated with the LMR.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts to small-flowered morning-glory would occur.

3.19.3.5 Other Fully Covered MSHCP Species

Build Alternatives 1, 2C, and 4

No impacts on Palmer's grapplinghook, Parry's spineflower, or small-flowered microseris would occur because these species are absent from the areas affected by Build Alternatives 1, 2C, and 4. There is a potential for impacts to occur on smooth tarplant located toward the east end of the build alternatives outside of the Criteria Area; therefore, any potential effects on this species is fully covered under the WRC MSHCP. No additional analysis is required for areas outside of the LM MSHCP area. The analysis for these species within the LM MSHCP area follows.

Lake Mathews MSHCP (Build Alternatives 1, 2C and 4)

Build Alternative 1 would remove up to 135.33 acres, Build Alternative 2C would remove up to 126.91 acres, and Build Alternative 4 would remove up to 63.03 acres of suitable habitat for smooth tarplant, Palmer's grapplinghook, Parry's spineflower, and small-flowered microseris from the LMR. However, no direct impacts would occur on the LM MSHCP target plant species (Palmer's grapplinghook, Parry's spineflower, smooth tarplant, and small-flowered microseris) during construction of the build alternatives because these species were either absent from the LOD during focused studies or have only been documented outside of the LOD. Measures **NC-17** and **NC-19** (Section 3.17, *Natural Communities*) would ensure full replacement of potentially suitable habitat for Palmer's grapplinghook, Parry's spineflower, smooth tarplant, and small-flowered microseris associated with the LMR.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts on smooth tarplant, Palmer's grapplinghook, Parry's spineflower, or small-flowered microseris would occur.

3.19.3.6 Paniculate Tarplant

Build Alternatives 1 and 2C – Cajalco Alignment and Modified Cajalco Alignment

Direct impacts are anticipated on paniculate tarplant under Build Alternatives 1 and 2C because a few individuals of this species were documented within the LOD (Sheet 10a of Figure 3.19-3). There is also potential for indirect impacts on this species during construction activities from dust, the spread of invasive species, and increased fire potential. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on paniculate tarplant and its suitable habitat.

Build Alternative 4 – El Sobrante Alignment

Direct impacts are anticipated on several thousand paniculate tarplant (dispersed on approximately 6.80 acres) for Build Alternative 4 (Sheets 10b, 12, 13, and 14 of Figure 3.19-3). This alternative would bisect the population located east of Harley John Road. In addition, there is a potential for indirect impacts on paniculate tarplant during construction activities from dust, the spread of invasive species, and increased fire potential. Paniculate tarplant seeds will be collected prior to project construction (**PL-1 [NES BIO-22]**) and disseminated following construction, which will offset the number of individuals directly removed during construction of Build Alternative 4. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) are intended to avoid and/or minimize direct and indirect impacts on paniculate tarplant and its suitable habitat.

No-Build Alternative

Under the No-Build Alternative, no permanent or temporary impacts on paniculate tarplant would occur.

3.19.3.7 Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road (Build Alternatives 1 and 2C), or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road (Build Alternative 4), for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. There is a less than reasonable potential for special-status plants to establish within the median due to the soil disturbances, grading within the median, and overall degradation of habitat within the median area; therefore, impacts on special-status plants from a future six-lane facility are not expected. During operation of the six-lane facility no additional effects on special-status plant species would be anticipated because the additional two lanes would be situated in the previously disturbed median. It would be unlikely for any special-status plant species to occur in this narrow strip of open land, which would be graded during construction of any of the build alternatives.

3.19.3.8 Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Within the LM MSHCP area and LMR, Build Alternatives 1 and 2C would expand and realign Cajalco Road, whereas Build Alternative 4 would expand and realign portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road. All three build alternatives would also encroach into the LM MSHCP area and remove suitable and/or occupied habitat for LM MSHCP target species, including small-flowered morning-glory, long-spined flower, Coulter's matilija poppy, round-leaved filaree, Great Valley phacelia, smooth tarplant, Palmer's grapplinghook, Parry's spineflower, and small-flowered microseris. Permanent and temporary impacts on the LM MSHCP area, which includes suitable habitat for LM MSHCP target plant species, is provided in Table 3.17-8 of Section 3.17, *Natural Communities*.

Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities,* are intended to avoid and/or minimize direct and indirect impacts on LM MSHCP target plant species and their suitable habitat within the LM MSHCP area. Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would replace and compensate for the loss of potentially suitable habitat for LM MSHCP target plant species.

3.19.4 Avoidance, Minimization, and/or Mitigation Measures

Avoidance and minimization measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** (Section 3.17, *Natural Communities*) would be implemented to reduce potential indirect impacts on special-status plant species under Build Alternatives 1, 2C, and 4 and to ensure consistency with the WRC MSHCP (refer to Section 3.19.2.2, *Species Covered Under WRC MSHCP*). Paniculate tarplant seeds will be collected prior to project construction and disseminated following construction (**PL-1 [NES BIO-22]**), which will offset the number of individuals directly removed during construction of Build Alternative 4.

Replacement for the loss of potentially suitable habitat for LM MSHCP target plant species will be required by MWD within the LM MSHCP area at a minimum 1:1 ratio (**NC-17 [NES BIO-17]**) (Section 3.17, *Natural Communities*) to reduce potential impacts on LM MSHCP target plant species (refer to Section 3.19.2.3, *Lake Mathews MSHCP Target Species*). Temporary impacts will be addressed through preparation of a Habitat Mitigation and Monitoring Plan and onsite restoration (**NC-19 [NES BIO-15]**).

PL-1 (NES BIO-22): Paniculate Tarplant Seed Collection – Seeds for paniculate tarplant will be collected prior to construction activities. Seeds will be stored and redistributed after construction is completed.

3.20 Animal Species

3.20.1 Regulatory Setting

3.20.1.1 Federal and State Regulations

Many state and federal laws regulate impacts to wildlife. The U.S. Fish and Wildlife Service (USFWS), the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), and the California Department of Fish and Wildlife (CDFW) are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with animals not listed or proposed for listing under the federal or state Endangered Species Act. Species listed or proposed for listing as threatened or endangered are discussed in Section 3.21, *Threatened and Endangered Species*. All other special-status animal species are discussed here, including CDFW fully protected species and species of special concern, watchlist species, and USFWS or NOAA Fisheries candidate species.

Federal laws and regulations pertaining to wildlife include the following:

- National Environmental Policy Act
- Migratory Bird Treaty Act
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act
- Sections 1600 – 1603 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

The project is also a covered activity under the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) (Volume I, Section 7.2.2, Circulation Element Roads). Participation in the WRC MSHCP by the County is intended to streamline the environmental process for future transportation projects in western Riverside County (e.g., through pre-mitigation) and save money over the long term. The WRC MSHCP would provide take coverage for certain special-status animal species impacted by the project. The consistency review would be performed by the Western Riverside County Regional Conservation Authority (RCA), USFWS, and CDFW.

In addition, the project overlaps a Stephens' kangaroo rat (SKR) Core Reserve, the Lake Mathews-Estelle Mountain Core Reserve, established under the SKR Habitat Conservation Plan. Although take authorization for SKR would occur under the WRC MSHCP, any loss of SKR Core Reserve would require the preparation and submittal of a Core Reserve Land Disturbance Report to the Riverside County Habitat Conservation Agency (RCHCA). This report would document the impacts on SKR and the compensatory mitigation.

The project also overlaps with the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area. The LM MSHCP is a joint conservation effort initiated by the Metropolitan Water District of Southern California (MWD)

and the RCHCA in cooperation with the USFWS and CDFW that spans 5,993.5 acres of open land around Lake Mathews. There are a total of 65 Planning species within the LM MSHCP area and the 5,110.4-acre Lake Mathews Multiple Species Reserve (LMR). Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements.

3.20.2 Affected Environment

Unless otherwise noted, the information from this section was based upon the December 2018 Natural Environmental Study (NES) prepared for the project (Caltrans 2018, 2021). References used in the NES are not carried over into this section. In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and documented. A list of species and habitats within the project region was developed based on information compiled by the USFWS, California Natural Diversity Database (CNDDB), and other current publications. The project site was field reviewed to identify animal species and their habitat.

A total of 144 species of wildlife were detected in the Biological Study Area (BSA) during field studies, the majority of which were birds, followed in species richness by mammals, reptiles, and amphibians (refer to Appendix K of the NES for a complete list of the wildlife detected during field studies).

Commonly detected birds include red-tailed hawk (*Buteo jamaicensis*), killdeer (*Charadrius vociferus*), rock pigeon (*Columba livia*), mourning dove (*Zenaida macroura*), Anna's hummingbird (*Calypte anna*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), European starling (*Sturnus vulgaris*), northern mockingbird (*Mimus polyglottos*), horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta*), Brewer's blackbird (*Euphagus cyanocephalus*), western kingbird (*Tyrannus verticalis*), house finch (*Haemorhous mexicanus*), and house sparrow (*Passer domesticus*). All of these species are common to the region and have adapted at least in part to human-made habitats or disturbances. The Temescal Creek portion of the BSA provides habitat for a much wider variety of birds than other portions, including some that are not common to the region, such as common ground-dove (*Columbina passerina*) and blue grosbeak (*Passerina caerulea*).

The most commonly detected mammals were desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Otospermophilus beecheyi*), Botta's pocket gopher (*Thomomys bottae*), coyote (*Canis latrans*), and domestic dog (*Canis familiaris*). These species are common in the region. In addition, larger and less common mammals such as bobcat (*Lynx rufus*), mountain lion (*Puma concolor*), and southern mule deer (*Odocoileus hemionus*) were also observed.

Amphibians and reptiles detected included western toad (*Anaxyrus boreas*), California treefrog (*Pseudacris cadaverina*), Pacific treefrog (*Pseudacris regilla*), western fence lizard (*Sceloporus occidentalis*), granite spiny lizard (*Sceloporus orcutti*), western side-blotched lizard (*Uta stansburiana elegans)*, red racer (*Coluber flagellum piceus*), California kingsnake (*Lampropeltis californiae*), gophersnake (*Pituophis catenifer*), and Southern Pacific rattlesnake (*Crotalus*

oreganus helleri). All of these species are common to the region and readily found in both natural and human-altered landscapes.

Fifteen non-listed special-status animals were detected in the BSA during field studies: coast horned lizard (*Phrynosoma blainvillii*; California species of special concern [CSC]), northern red diamond rattlesnake (*Crotalus ruber ruber*; CSC), western spadefoot (*Spea hammondii*; CSC), northern harrier (*Circus cyaneus*; CSC), golden eagle (*Aquila chrysaetos*; Bald and Golden Eagle Protection Act/California fully protected species [CFP]), burrowing owl (*Athene cunicularia*; BUOW; CSC), American peregrine falcon (*Falco peregrinus anatum*; CFP), loggerhead shrike (*Lanius ludovicianus*; CSC), yellow warbler (*Setophaga petechia*; CSC), yellow-breasted chat (*Icteria virens*; CSC), short-eared owl (*Asio flammeus*), Vaux's swift (*Chaetura vauxi*; CSC), western red bat (*Lasiurus blossevillii*; CSC), western yellow bat (*L. xanthinus*; CSC), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*; CSC). With the exception of BUOW, all of these special-status animals are WRC MSHCP fully covered species, with no survey requirements.

A literature review determined that non-listed special-status species may potentially occur within the BSA based on the regional location of the project. Table 3.20-1 identifies the non-listed special-status animals that may potentially be present and their protection status. As mentioned earlier, species listed or proposed for listing as threatened or endangered are discussed in Section 3.21, *Threatened and Endangered Species*. As displayed in Table 3.20-1, 51 non-listed special-status species have suitable habitat within the BSA: 1 fish, 2 amphibians, 10 reptiles, 27 birds, and 11 mammals. Focused studies were performed for BUOW and bats due to presence of suitable habitat within the BSA and/or survey requirement under the WRC MSHCP. No other focused studies were performed for non-listed special-status species.

Table 3.20-1. Special-Status Species Potentially Occurring or Known to Occur in the Project Area

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
FISH				
Arroyo Chub (*Gila orcuttii*)	**-**/CSC/WRC MSHCP/ LM MSHCP	Occur within warm, fluctuating streams and found within slow moving sections of stream containing sandy or muddy bottoms. Often found in intermittent streams. In Riverside County, occurs within the Santa Ana and Santa Margarita River tributaries.	HP	The BSA contains fluctuating streams with sandy or muddy bottoms and very slow to slow flows. Although the majority of the streams present within the BSA do not flow year-round, marginally suitable habitat does occur at Temescal Creek.
AMPHIBIANS				
Coast Range California Newt (*Taricha torosa*)	-/CSC/WRC MSHCP/-	Species frequent terrestrial habitats, but breed in ponds, reservoirs, and slow-moving streams. Loss of wetland habitats and introduction of nonnative predators, including crayfishes, appear to be the main causes of declines.	HP	Suitable habitat is present within Temescal Creek and Cajalco Creek. The species is fully covered under the WRC MSHCP.
Western Spadefoot (*Spea hammondii*)	-/CSC/WRC MSHCP/ LM MSHCP	Found primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Vernal pools and seasonal ponds are essential for breeding and egg laying. It is found at sea level to 4,500 feet above mean sea level (amsl).	P	This species was observed within a detention basin on MWD lands south of Cajalco Road within the BSA. It also has a low potential to occur throughout the BSA in areas of grasslands and vernal pools primarily south of Cajalco Road. Due to ongoing human-induced disturbance such as disking and maintenance of existing flood control facilities, this species has limited potential to occur within the project alignment. The species is fully covered under the WRC MSHCP.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
REPTILES				
Western Pond Turtle (*Emys marmorata*)	-/CSC/WRC MSHCP/-	Found in association with permanent or nearly permanent water in a wide variety of habitat types. It is omnivorous, taking a wide variety of plant and animal food. The pond turtle requires basking sites such as partially submerged logs, rocks, mats of floating vegetation, or open mud banks.	HP	Although suitable habitat is present within Temescal Creek and other streams in the BSA. The species is fully covered under the WRC MSHCP.
San Diego Banded Gecko (*Coleonyx variegatus abbotti*)	-/CSC/WRC MSHCP/ LM MSHCP	Prefers rocky areas in coastal sage chaparral. Found in burrows or under surface objects during daylight.	HP	Suitable habitat is present within rock outcrops that occur in the BSA.
Coast Horned Lizard (*Phrynosoma blainvillii*)	-/CSC/WRC MSHCP/ LM MSHCP	Found in arid and semi-arid climate conditions in chaparral, coastal sage scrub, primarily below 2,000 feet amsl. Critical factors are the presence of loose soils with a high sand fraction; an abundance of native ants or other insects, especially harvester ants (*Pogonomyrmex* spp.); and the availability of both sunny basking spots and dense cover for refuge.	P	Species was documented during biological surveys in the BSA. The BSA contains loose sandy soils and harvester ants have been detected during biological surveys. There is suitable foraging and basking habitat throughout the BSA. The species is fully covered under the WRC MSHCP.
Belding's Orange-throated Whiptail (*Aspidocelis hyperythra beldingi*)	-/WL/WRC MSHCP/ LM MSHCP	Most California populations occur on or adjacent to floodplains or the terraces of streams, in or by open sage scrub and chaparral communities. The presence of perennial shrubs appears to be important, with the most strongly associated species being California buckwheat (*Eriogonum fasciculatum*), chamise (*Adenostoma fasciculatum*), white sage (*Salvia apiana*), and black sage (*S. mellifera*). Termites are reported to constitute 57–95% of the diet, and foraging microsites are primarily under shrubs in leaf litter (Brattstrom 2000).	P	Species was documented during biological surveys in the BSA. The species is fully covered under the WRC MSHCP.
Coastal Western Whiptail (*Aspidoscelis tigris stejnegeri*)	-/CSC/WRC MSHCP/ LM MSHCP	Found in a variety of ecosystems, primarily hot and dry open areas with sparse foliage – chaparral, woodland, and riparian areas	P	This species was observed within the BSA during field studies.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Southern California Legless Lizard (*Anniella stebbinsi*)	-/CSC/-/-	Occupies areas with moist, cool, friable soil with plant cover. Occurs in sparsely vegetated areas of beach dunes, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine and mock heather often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs.	HP	Suitable habitat occurs within the BSA on stream terraces where leaf litter is dense (i.e., Temescal Creek and Cajalco Creek).
California Glossy Snake (*Arizona elegans occidentalis*)	-/CSC/-/-	Inhabits arid scrub, rocky washes, grasslands, and chaparral habitats.	HP	Suitable habitat is present within grassland and coastal sage scrub communities in the BSA.
Coast Western Patch-Nosed Snake (*Salvadora hexalepis virgultea*)	-/CSC/-/-	Mostly restricted to habitats with a strong but broken shrub component, especially somewhat open chaparral and black sage (*Salvia mellifera*) or relatively mature, dense coastal sage scrub and may require ground burrows for overwintering and refuge.	HP	Suitable habitat is present within coastal sage scrub within the BSA.
Two-Striped Garter Snake (*Thamnophis hammondii*)	-/CSC/-/-	Often in water and rarely found far from it, though it is also known to inhabit intermittent streams having rocky beds bordered by willow thickets or other dense vegetation. They will also inhabit large riverbeds if riparian vegetation is available, and even occur in artificial impoundments if both aquatic vegetation and suitable prey items (small amphibians and fish) are present (Jennings and Hayes 1994).	HP	Suitable habitat is present within Temescal Creek and Cajalco Creek.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Northern Red-Diamond Rattlesnake (*Crotalus ruber ruber*)	-/CSC/WRC MSHCP/ LM MSHCP	As far north as Puente Hills in Yorba Linda and southwest San Bernardino County, and occurs south to Loreto, Baja California, Mexico. Known elevation range is sea level to just under 15,000 feet amsl, but apparently rare above about 3,940 feet amsl. Greatest frequency in areas of heavy brush, such as chamise chaparral, but also in open areas at lower densities; boulders and rocky outcrops.	P	This species has been detected during biological survey efforts throughout the BSA.
BIRDS				
Least Bittern (*Ixobrychus exilis*)	-/CSC/-/-	Found in both freshwater and brackish marshland. Prefers dense emergent vegetation near water levels up to 2 feet in depth. Preys upon small fish, amphibians, larger arthropods, small snakes, and small mammals associated with marsh ecosystems.	Foraging: HP Breeding: HP	There is a small amount of suitable breeding and foraging habitat in Temescal Creek and Cajalco Creek within BSA.
White-Faced Ibis (nesting colony) (*Plegadis chihi*)	-/WL/WRC MSHCP/-	Documented breeding sites at Prado Basin and Mystic Lake/San Jacinto Wildlife Area. Forages in shallow water near edge of shore where aquatic invertebrates, moist-soil invertebrates, amphibians, and small fish are exposed.	Foraging: HP Breeding: HA	No suitable breeding habitat is present in the BSA. There is potential for foraging within the BSA; however, this is limited due to a low amount of marsh habitat within the BSA. The species is fully covered under the WRC MSHCP.
White-Tailed Kite (nesting) (*Elanus leucurus*)	-/CFP/WRC MSHCP /LM MSHCP	Species forages in open country. This is a strongly lowland species, rare in California above 2,000 feet amsl. Nests are flimsy and are located low in trees and large shrubs near foraging areas in savannahs and at edges between open habitat and woodland or forest areas. Its diet is largely restricted to small mammals such as voles and mice.	Foraging: HP Breeding: HP	There is suitable breeding and foraging habitat throughout the BSA.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Northern Harrier (nesting) (*Circus cyaneus*)	-/CSC/WRC MSHCP/ LM MSHCP	Species forages low to the ground mostly in open country and nests on the ground. Prey diversity is high, though small mammals are most commonly taken. It remains fairly common in open country with low human disturbance during migration and in winter.	Foraging: P Breeding: HA	This species was detected within the BSA during biological surveys. Suitable foraging habitat is present, and the species will migrate through the area. No suitable breeding habitat is present.
Golden Eagle (nesting and wintering) (*Aquila chrysaetos*)	-/CFP/WRC MSHCP /LM MSHCP	Forages in grassland and open savannah of many types. It tolerates considerable variation in topography and elevation. It prefers to hunt moderate-sized prey, especially California ground squirrels (*Otospermophilus beecheyi*) and rabbits, but will occasionally take larger prey, such as mule deer (*Odocoileus hemionus*) fawns. It is very sensitive to human disturbance, especially near nest sites.	Foraging: P Breeding: A	This species was detected within the BSA during biological surveys. Suitable foraging habitat is present and poor nesting habit where there is higher topographic variety.
Cooper's Hawk (nesting) (*Accipiter cooperii*)	-/WL/WRC MSHCP/ LM MSHCP	Breeds in deciduous, mixed, and evergreen forests and deciduous stands of riparian habitat. Most proximate to wooded areas of mixed maturity for foraging.	Foraging: P Breeding: P	This species has been observed within riparian habitat within the BSA.
Sharp-Shinned Hawk (nesting) (*Accipiter striatus*)	-/WL/WRC MSHCP/ LM MSHCP	Breeds in young coniferous forests with high canopy associations. Habitats that they are documented to use include ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine.	Foraging: P Breeding: HA	The species was observed within the BSA. No suitable breeding habitat is present, thus this individual was likely foraging.
Ferruginous Hawk (wintering) (*Buteo regalis*)	-/WL/WRC MSHCP/ LM MSHCP	Forages in open grassland and agricultural land where favored prey (e.g., rabbits, squirrels, other small rodents, birds, reptiles, and amphibians of opportunity) persists. Nests in elevated structures such as trees, buttes, and cut banks in central Canada and south through western and central U.S. into northern Texas.	Foraging: HP Breeding: HA	Suitable foraging habitat is present within open lands throughout the BSA. The BSA occurs outside of the species breeding range.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Osprey (nesting) (*Pandion haliaetus*)	-/WL/WRC MSHCP/-	Found near bodies of water including saltmarshes, rivers, ponds, reservoirs, estuaries, and even coral reefs. Nest in a wide variety of locations, from Alaska to New England, Montana to Mexico, and Carolina to California	Foraging: HA Breeding: HP	Suitable foraging habitat is present in the vicinity of Lake Mathews; however, no foraging habitat is present in the BSA. The species is fully covered under the WRC MSHCP.
American Peregrine Falcon (nesting role) (*Falco peregrinus anatum*)	D/D,CFP/ WRC MSHCP/-	Very mobile species that can be expected anywhere within Southern California. Forages on smaller and weaker birds and small mammals. Nests on cliff faces most frequently. Can also nest on trees, towers, tall buildings, and outcrops.	Foraging: P Breeding: HP	The species was observed foraging over the portion of Lake Mathews within the BSA. Although the BSA is not within the typical breeding range for the species, open landscapes and rocky cliffs occur within the BSA that may provide marginal nesting habitat for the species.
Prairie Falcon (nesting role/breeding) (*Falco mexicanus*)	-/WL/WRC MSHCP/-	Found in sagebrush, desert, prairie, agricultural fields, and alpine meadows up to about 11,000 feet elevation. They nest on ledges on sheer rocky cliffs. Breeding habitats include grasslands, shrubsteppe desert, areas of mixed shrubs and grasslands, and alpine tundra that supports abundant ground squirrel or pika populations.	Foraging: P Breeding: HA	The species was observed foraging over the BSA. No suitable breeding habitat is present. The species is fully covered under the WRC MSHCP.
Merlin (wintering role) (*Falco columbarius*)	-/WL/WRC MSHCP/-	Found in open conifer woodland and prairie groves. During migration, they are found in foothills, marshes, and open country. Breeds in semi-open terrain that has trees for nest sites and open areas for hunting. Habitat varies from coniferous forest in the north to isolated deciduous groves, suburban yards, and prairies. May winter in more open areas, such as grasslands and coastal marshes.	Foraging: HP Breeding: HA	No suitable breeding habitat is present in the BSA; however, there is a potential for this species to forage in the BSA and occur in the winter. The species is fully covered under the WRC MSHCP.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Double-Crested Cormorant (nesting colony) (*Phalacrocorax auritus*)	-/WL/WRC MSHCP/-	Inhabits coasts, bays, lakes, and rivers. Very adaptable, and may be found in almost any aquatic habitat, from rocky northern coasts to mangrove swamps to large reservoirs to small inland ponds.	Foraging: HP Breeding: HA	This species was observed flying over the BSA. No suitable habitat for nesting is present. The species is fully covered under the WRC MSHCP.
Burrowing Owl (*Athene cunicularia*)	-/CSC/ WRC MSHCP(c)/ LM MSHCP	Inhabits open, dry, grasslands, prairies, desert floors, and shrublands if shrub cover is below 30%. In coastal Southern California, a substantial fraction of birds are found in microhabitats highly altered by man, including flood control and irrigation basins, dikes, abandoned fields surrounded by agriculture, and road cuts and margins. Often associated with burrowing mammals, especially ground squirrels (*Otospermophilus* spp.).	Foraging: P Breeding: HP	Suitable habitat for nesting and foraging is present within the BSA. A single individual was detected in the winter of 2015 south of Cajalco Road in RCHCA lands.
Long-Eared Owl (nesting role) (*Asio otus*)	-/CSC/-/LM MSHCP	In Southern California, the species breeds and roosts in riparian and oak forests, and hunts small mammals at night in adjacent open habitats. Known to breed at several locales in San Diego and Orange Counties and probably do so in smaller numbers in other coastal Southern California counties as well. Species is relatively intolerant to human-made disturbances, in particular night lighting. Foraging lands need to be rodent rich and relatively close to roosting and/or nesting habitat.	Foraging: HP Breeding: HP	The BSA contains suitable nesting and foraging habitat for this species.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Short-Eared Owl (nesting role) (*Asio flammeus*)	-/CSC/-/-	Found in large, open areas with low vegetation, including prairie and coastal grasslands, meadows, shrubsteppe, savanna, tundra, marshes, dunes, and agricultural areas. Winter habitat is similar, but is more likely to include large open areas within woodlots, stubble fields, fresh and saltwater marshes, weedy fields, dumps, gravel pits, rock quarries, and shrub thickets. Nests on the ground amid grasses and low plants. They usually choose dry sites often on small knolls, ridges, or hummocks with enough vegetation to conceal the incubating female.	Foraging: P Breeding: HA	This species was observed roosting in the BSA, where there are suitable conditions for roosting and foraging; however, the BSA is outside the known breeding range for the species.
Vaux's Swift (nesting role) (*Chaetura vauxi*)	-/CSC/-/-	Found in open sky over forest, lakes, and rivers. Often feeds low over water, especially in morning and evening or during unsettled weather. Nests in coniferous and mixed, mainly old-growth forest, including redwood, Douglas-fir, and grand fir.	Foraging: P Breeding: HA	Species observed foraging over the BSA. No suitable breeding habitat occurs in the BSA.
Loggerhead Shrike (nesting role) (*Lanius ludovicianus*)	-/CSC/WRC MSHCP/ LM MSHCP	Found as a common resident and winter visitor throughout California in lowland and foothill habitats, where it frequents open areas with sparse shrubs and trees.	Foraging: P Breeding: HP	Species was documented during biological surveys in the BSA. Potentially suitable foraging and breeding habitat occurs within the BSA.
Clark's Marsh Wren (*Cistothorus palustris clarkae*)	-/CSC/-/-	Resident subspecies restricted to freshwater and brackish marshes.	Foraging: HP Breeding: HP	Foraging and breeding potential exists within the BSA; however, the quantity of this habitat is limited.
California Horned Lark (*Eremophila alpestris actia*)	-/WL/WRC MSHCP/ LM MSHCP	Occurs throughout Southern California. It prefers open grassland where trees are absent. Main sources of food are seeds and insects.	Foraging: P Breeding: P	The BSA supports the open grassland habitats that the species prefers.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Southern California Rufous-Crowned Sparrow (*Aimophila ruficeps canescens*)	-/WL/WRC MSHCP /LM MSHCP	Species found in semiarid grassy shrublands and open woodlands on moderate to steep grassy and rocky hillsides and canyons from sea level to approximately 9,800 feet amsl. Prefers coastal sage scrub where California sagebrush (*Artemisia californica*) dominates. Nests on the ground, in a natural depression, or in a hole in the ground. Forages on grass and forb seeds, fresh grass stems, and tender plant shoots.	Foraging: P Breeding: P	This species was observed within the BSA during the biological surveys.
Grasshopper Sparrow (nesting role) (*Ammodramus savannarum*)	-/CSC/ WRC MSHCP(e)/LM MSHCP	Found in grassland, hayfields, and prairies. Breeds in dry fields and prairies, especially those with fairly tall grass and weeds with low shrub cover. During migration and winter, they're found in many types of open fields. This species will be considered adequately conserved per the WRC MSHCP when the species-specific conservation objectives have been met. These objectives include occupancy requirements in three large core areas and three to four smaller core areas; the inclusion of at least 8,000 acres of habitat in seven core areas (one of which may be the Lake Mathews-Estelle Mountain Core), which contain contiguous grassland or grassland-dominated habitat. Per the RCA MSHCP Annual Report 2014 (RCA 2016), this objective has not yet been met, and this species cannot yet be considered adequately conserved.	Foraging: HP Breeding: HP	Suitable habitat for breeding and foraging is present within grasslands and agricultural lands in the BSA.
Bell's Sage Sparrow (*Artemisiospiza belli belli*)	-/WL/WRC MSHCP/ LM MSHCP	Occurs in dry chaparral and coastal sage scrub habitat throughout Southern California. Forages on the ground by gleaning insects and fruits during the breeding season and seeds during the winter.	Foraging: P Breeding: P	This species was observed within the BSA during the biological surveys.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Oregon Vesper Sparrow (wintering) (*Pooecetes gramineus affinis*)	-/CSC/-/-	Present as a non-breeding migrant during spring and fall, and overwinters in mainly open ground with little vegetation or lands with short growth grasses and forbs.	Foraging: P Breeding: HA	An unidentified subspecies of vesper sparrow was observed in the BSA during spring field work. Foraging habitat is scattered throughout the BSA.
Yellow Warbler (nesting role) (*Setophaga petechia*)	-/CSC/WRC MSHCP/ LM MSHCP	Forages in the upper canopy of deciduous trees and shrubs by gleaning insects and berries. Breeds in willows, alders, and cottonwoods.	Foraging: P Breeding: P	This species was observed within the BSA during the biological surveys and breeds in the BSA including Temescal Creek and portions of Cajalco Creek.
Yellow-Breasted Chat (nesting role) (*Icteria virens*)	-/CSC/WRC MSHCP/ LM MSHCP	Found in riparian vegetation. Forages on insects, spiders, and berries gleaned from branches. Nests in dense plant cover near streams, swampy ground, and bordering small ponds.	Foraging: P Breeding: HP	This species was observed within riparian habitats within the BSA during the biological surveys.
Yellow-Headed Blackbird (nesting role) (*Xanthocephalus xanthocephalus*)	-/CSC/-/-	Found in fresh marshes. Forages in fields and open country. Breeds in freshwater sloughs and marshy lake borders. Forages around marshes and also commonly in open pastures, plowed fields, cattle pens, and feedlots.	Foraging: HP Breeding: HA	BSA lacks suitable breeding habitat for this species; however, there is a potential for foraging over open lands (i.e., agricultural lands).
MAMMALS				
Western Yellow Bat (*Lasiurus xanthinus*)	-/CSC/-/-	Occurs from Southern California and western Arizona south into Mexico. Apparently non-colonial and non-hibernating. Roosts primarily in the untrimmed, dead fronds of fan palms (native and nonnative) but will also use other trees including cottonwoods. Possible for both seasonal movement and year-round residence. Foraging is associated with open water (also lawns, orchards, and riparian vegetation) in grassy and scrub landscapes. Feeds on varied insects. No specific threats known apart from cosmetic trimming of dead fronds on ornamentally planted palms.	P	Species was detected during focused bat emergence surveys. Suitable roost habitat occurs within fan palms and tall riparian vegetation. Potential for species to forage over Temescal Creek or Lake Mathews.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Western Mastiff Bat (*Eumops perotis californicus*)	-/CSC/-/LM MSHCP	Uncommon resident in Coastal Ranges from Monterey County southward through Southern California, from the coast eastward to the Colorado Desert. Found foraging in a variety of habitats, from dry desert washes, floodplains, chaparral, oak woodland, open ponderosa pine forest, grassland, montane meadows, and agricultural areas. Primarily a cliff-dwelling species for breeding. Often roosts in small colonies. Nursery roosts described as tight rock crevices at least 35 inches deep and 2 inches wide, or crevices in buildings.	Foraging: HP Roosting: A	Suitable habitat for roosting is present within rock outcrops on Lake Mathews-Estelle Mountain Reserve lands; however, this species was not detected during emergence/ acoustic surveys. Foraging habitat is present for this species in the BSA. It is presented here because it is a covered species with potential to occur under the LM MSHCP.
Pallid Bat (*Antrozous pallidus*)	-/CSC/-/LM MSHCP	Commonly occurs in open, dry habitats with rocky areas for roosting. Roosts in caves and mines, as well as in crevices in rocks, buildings, and trees. Roosts must protect bats from high temperatures. This is a colonial species that forages low over open ground, often picking up beetles and other species of prey off the ground. They have separate night and day roosts and hibernation roosts in the winter. The sexes segregate in summer.	Foraging: HP Roosting: A	Suitable habitat for roosting is present within rock outcrops on Lake Mathews-Estelle Mountain Reserve lands; however, this species was not detected during emergence/acoustic surveys. Suitable foraging habitat for this species occurs in the BSA. It is presented here because it is a covered species with potential to occur under the LM MSHCP.
Big Free-Tail Bat (*Nyctinomops macrotis*)	-/CSC/-/LM MSHCP	Inhabits rocky areas in a variety of arid areas including pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian. Needs high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	Foraging: HP Roosting: A	Potential foraging habitat is present throughout the BSA. Marginal roosting habitat occurs within the southern portion of the BSA; however, this species was not detected during emergence or acoustic surveys. It is presented here because it is a covered species with potential to occur under the LM MSHCP.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Pocketed Free-Tailed Bat (*Nyctinomops femorosaccus*)	-/CSC/-/LM MSHCP	Occurs in southeastern deserts of California, with portions of western Riverside County apparently on the periphery of their range. Found in pinyon-juniper and Joshua tree woodlands, desert scrub, desert succulent scrub, desert riparian areas, desert washes, alkali desert scrub, and palm oases. Roosts in high rock crevices in cliffs, bridges, roofs, and buildings. The species must drop from roost to gain flight speed. Forages primarily on large moths, especially over open water.	Foraging: HP Roosting: A	Marginally suitable roosting or foraging habitat is present within the BSA. This species was not detected during emergence/acoustic surveys. It is presented here because it is a covered species with potential to occur under the LM MSHCP.
San Diego Black-Tailed Jackrabbit (*Lepus californicus bennettii*)	-/CSC/WRC MSHCP /LM MSHCP	Common throughout state in herbaceous and desert shrub areas, sage scrub, grasslands, open chaparral, and woodland/forest areas.	P	This species was commonly detected during biological surveys.
Northwestern San Diego Pocket Mouse (*Chaetodipus fallax fallax*)	-/CSC/WRC MSHCP /LM MSHCP	Sandy herbaceous areas, usually in association with rocks and coarse gravel in southwest California; coastal and desert border areas in San Bernardino, Riverside, and San Diego Counties. Elevation ranges from sea level to 6,000 feet amsl. Vegetation community preferences include sage scrub, chamise-redshank chaparral, mixed chaparral, sage brush, desert wash, desert scrub, desert succulent scrub, pinyon-juniper, and annual grasslands.	HP	Suitable habitat is present within coastal sage scrub and annual grasslands within the BSA.
Los Angeles Pocket Mouse (*Perognathus longimembris brevinasus*)	-/CSC/ WRC MSHCP(c)/-	Inhabits areas of open ground, prefers fine sandy soils (for burrowing), but is also found commonly on gravel washes and on stony soils, within brush and woodland habitats. It is rarely found on sites with a high cover of rocks.	HP	The BSA does not occur within the WRC MSHCP survey area for this species; therefore, no additional action is required for this species.
San Diego Desert Woodrat (*Neotoma lepida intermedia*)	-/CSC/WRC MSHCP /LM MSHCP	Found in dry shrublands. Favors areas with cacti and abundant rocks and crevices. Does not require a source of drinking water. Sage scrub communities are frequently occupied.	P	Suitable habitat in the form of scrub habitats with patches of cholla and prickly pear and rocky outcrops are present within the BSA.

COMMON/SCIENTIFIC NAME	STATUS[a] FED/STATE/ WRC MSHCP/ LM MSHCP	GENERAL HABITAT DESCRIPTION	SPECIFIC HABITAT[b] PRESENT/ ABSENT	RATIONALE
Southern Grasshopper Mouse (*Onychomys torridus ramona*)	-/CSC/-/-	Occurs in a wide variety of dry scrub, grassland, and woodland habitats across southern California.	HP	Suitable habitat is present within scrub, grassland, and juniper woodland habitats in the BSA.
American Badger (*Taxidea taxus*)	-/CSC/-/LM MSHCP	Associated with large grassland and sparse sage scrub habitats. Occupies large burrows and forages on small mammals (e.g., ground squirrels, rabbits), snakes, birds, and insects.	HP	Suitable habitat is present within grasslands in the BSA. There is a low potential for this disturbance-sensitive species to occur due to continuous human disturbances.

[a] ***Status Codes***

Federal

D = Delisted

State

CSC = California Species of Special Concern

CFP = California Fully Protected Species

MSHCP

WRC MSHCP = No additional action necessary

LM MSHCP = No additional action necessary

WRC MSHCP(c) = Surveys may be required within locations shown on survey maps

WRC MSHCP(e) = Conservation requirements identified in species-specific conservation objectives need to be met before classified as a Covered Species

[b] ***Habitat Presence/Absence Codes***

P = The species is present.

HP = Habitat is or may be present. The species may be present.

HA = No habitat present and no further work needed.

A = This species is absent.

3.20.2.1 Burrowing Owl

The burrowing owl is a CSC that is a covered species under the WRC MSHCP and planning species under the LM MSHCP. This species inhabits open, dry, level or nearly level grassland, prairie, desert floor, and shrubland habitats when shrub cover is less than 30 percent. In Southern California, a substantial number of birds are found in microhabitats that have been highly altered by man, including flood control and irrigation basins, dikes, and banks; abandoned fields surrounded by agriculture; and road cuts and margins. There is a strong association between BUOWs and burrowing mammals, especially ground squirrels (*Otospermophilus* spp.); however, they also occupy human-made niches such as banks and ditches, piles of broken concrete, and abandoned structures.

Under the WRC MSHCP, a BUOW focused survey is required within the WRC MSHCP BUOW survey area (Figure 3.20-1) when suitable habitat is present. The BUOW study area included up to a 300-foot buffer with an additional 200-foot buffer that was visually assessed only (refer to Figure 3.17-1 in Section 3.17, *Natural Communities*). Within the BUOW study area, potentially suitable habitat occurs within approximately 2,601 acres. Suitable habitat for BUOW is shown in Figure 3.20-2. The quality of potential habitat within the BUOW study area ranges from low to high and varies in the level of human disturbance. In the BUOW study area, potential habitat for BUOW occurs within and outside of WRC MSHCP criteria cells. Suitable nesting and foraging habitat for BUOW occurs throughout the BUOW study area.

No BUOW were observed during focused surveys conducted for the proposed project. However, a single individual was incidentally observed occupying a burrow within a fallow agriculture field on December 16, 2015, during other field studies (Figure 3.20-2) within RCHCA reserve lands. This BUOW was likely a wintering resident based on the time of year that it was observed and may migrate outside of the BSA during the breeding season. A known population of BUOW occurs approximately 0.5 mile southwest of the BSA on the RCHCA conservation lands.

Within the BUOW study area, there are no CNDDB records of BUOW for the quadrangles that overlap the LMR; however, the species has been documented historically near the edge of Lake Mathews (MWD/RCHCA 1995).

3.20.2.2 Special-Status Bats

A total of five special-status bats have potential to occur in the BSA: pallid bat (*Antrozous pallidus*; CSC), mastiff bat (*Eumops perotis*; CSC), pocketed free-tailed bat (*Nyctinomops femorosaccus*; CSC), big free-tailed bat (*N. macrotis*; CSC), and western yellow bat. Detailed descriptions of habitat requirements are provided in Table 3.20-1. Suitable roosting habitat for pallid bat occurs throughout the BSA. Marginally suitable habitat for mastiff bat, pocketed free-tailed bat, and big free-tailed bat occurs within the larger rock outcrops, particularly north of Cajalco Road along Build Alternative 4 near STA #534 to STA #557 (see Figure 3.20-3). No suitable roosting habitat for western yellow bat occurs within the BSA. Western yellow bats may be sedentary or migratory depending on the individual but sedentary individuals are known from the region. All five bat species are CSC and none are covered under the WRC MSHCP.

Many other species of bats have potential to occur but have no special status. However, they would benefit from the protective measures identified in this section. CDFW has increased its

requirements for projects to ensure that direct mortality of bats does not occur regardless of whether the species has special status. Bat populations throughout the state of California have declined greatly in the past decade because of human development (habitat loss and degradation), increased predation pressures, and possibly disease.

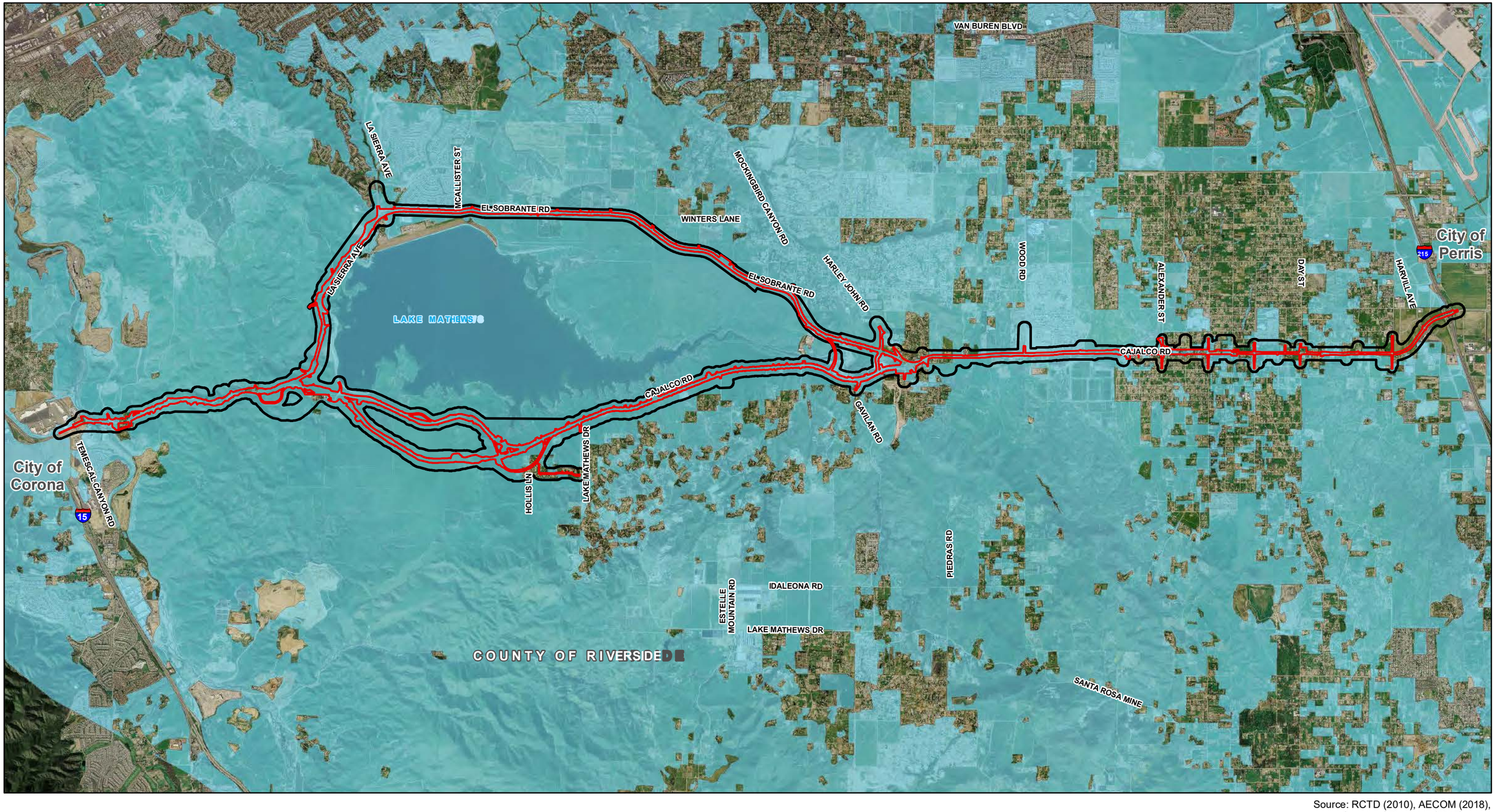
Potential foraging habitat is present throughout the bat study area, with a coarse estimate of 3,720 acres of naturally vegetated and undeveloped areas. Areas within the existing right of way are not expected to be used as foraging habitat because of artificial lighting from streetlights, vehicles, businesses, and residences and because of noise from traffic and other sources.

To determine the bat species present within the BSA, acoustic and emergence surveys for bat species were performed within a bat study area. Acoustic surveys determine the species of bats that are foraging or may be roosting in the bat study area. The emergence survey detects bat species emerging from roost sites. The bat study area included up to a 300-foot buffer (Build Alternative 4 had up to a 400-foot buffer of the alternative's centerline) (refer to Figure 3.17-1 in Section 3.17, *Natural Communities*).

A total of seven bat species were detected during biological studies, including the bat acoustic and emergence surveys: western red bat, hoary bat (*Lasiurus cinereus*), western yellow bat, canyon bat (*Parastrellus hesperus*), big brown bat (*Eptesicus fuscus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). Additionally, individuals in the genus Myotis were detected during the acoustic analysis. However, due to the poor quality of the call, the species could not be definitively determined, although it is possible they were Yuma myotis (*Myotis yumanensis*), which was positively identified elsewhere. Of the 26 areas evaluated during emergence surveys, 8 were positive for roosting bats, and 4 of these same areas were positive for roosting bats during both summer and fall emergence surveys. Based on the results of the acoustic analysis for calls recorded at or near the suitable roosting features during the time of emergence, no special-status species bats were observed roosting during the survey effort. Although western yellow bat (CSC) was detected on several occasions (Figure 3.20-3), this species is a solitary roosting species that almost exclusively uses fan palms with an abundance of dead fronds. Suitable roosting habitat for this species does not occur within the bat study area, and the individuals detected were foraging. There are also historical records of pocketed or big free-tailed bat and western mastiff bat (*Eumops perotis*) within the LMR area; however, these species were not documented during biological studies.

3.20.2.3 Non-listed Non-WRC MSHCP Covered Species

There is a remainder of 13 non-listed special-status species that are not covered under the WRC MSHCP (excluding bats which are addressed in Section 30.20.2.2). Habitat requirements for these 13 species are listed in Table 3.20-1. Of the 13 non-listed, non-WRC MSHCP covered species that could occur in the BSA, short-eared owl, Vaux's swift, and an unidentified subspecies of vesper sparrow (*Pooecetes gramineus*) (possibly Oregon vesper sparrow [*P. g. affinis*]) were detected within the BSA during biological surveys. Of these, short-eared owl and Oregon vesper sparrow are strictly winter residents in the BSA, and Vaux's swifts only migrate through the region between northern breeding grounds and southern wintering grounds. Although there is suitable habitat in the BSA for the remaining 10 species, they were not detected during surveys.



Source: RCTD (2010), AECOM (2018), County of Riverside (2017)

Study Area

Limits of Disturbance

Burrowing Owl Survey Area

N

0 0.5 1 2

Miles

Figure 3.20-1
WRC MSHCP Burrowing Owl Survey Area
Cajalco Road Widening and Safety Enhancement Project

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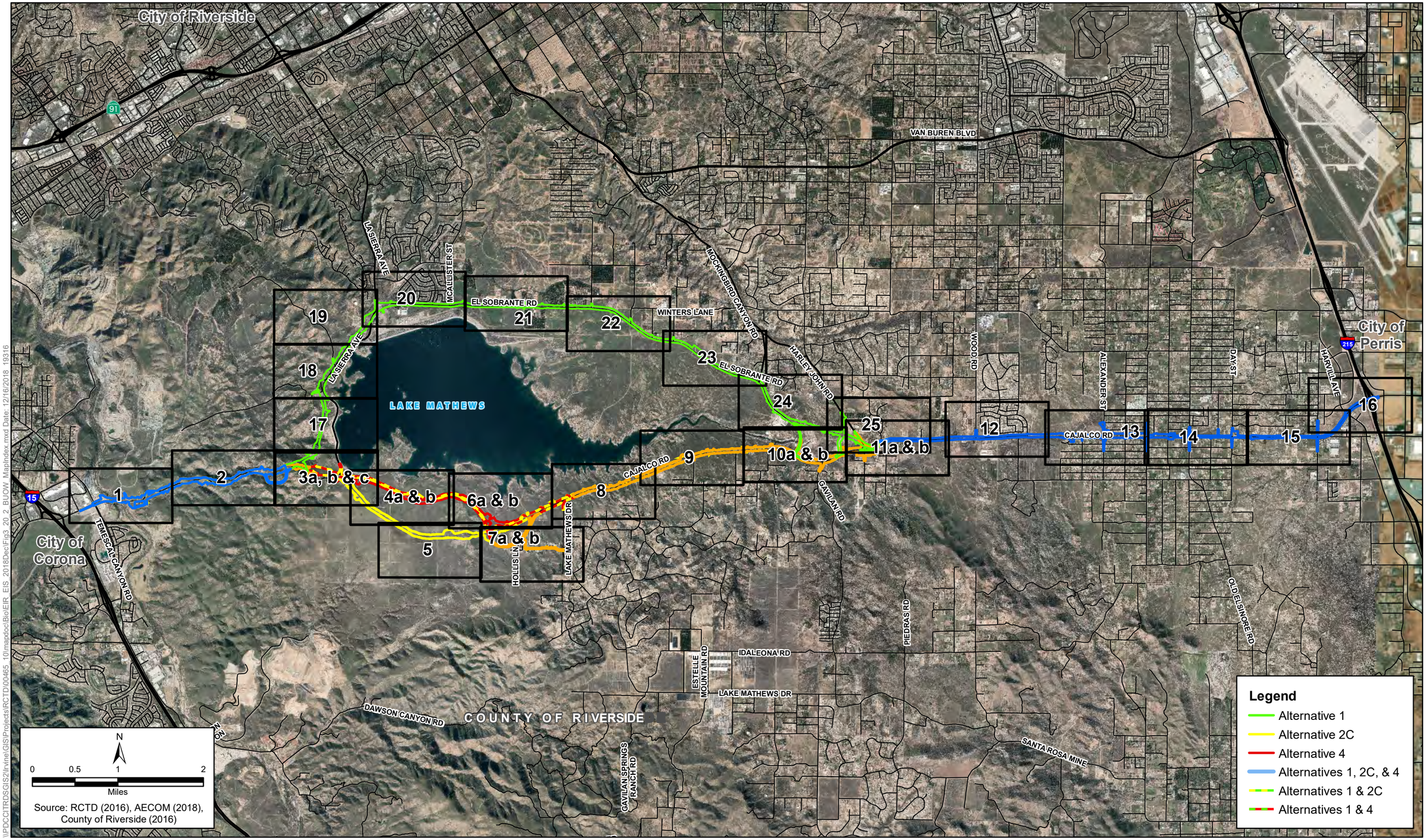

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Figure 3.20-2 - Map Index
Burrowing Owl Results Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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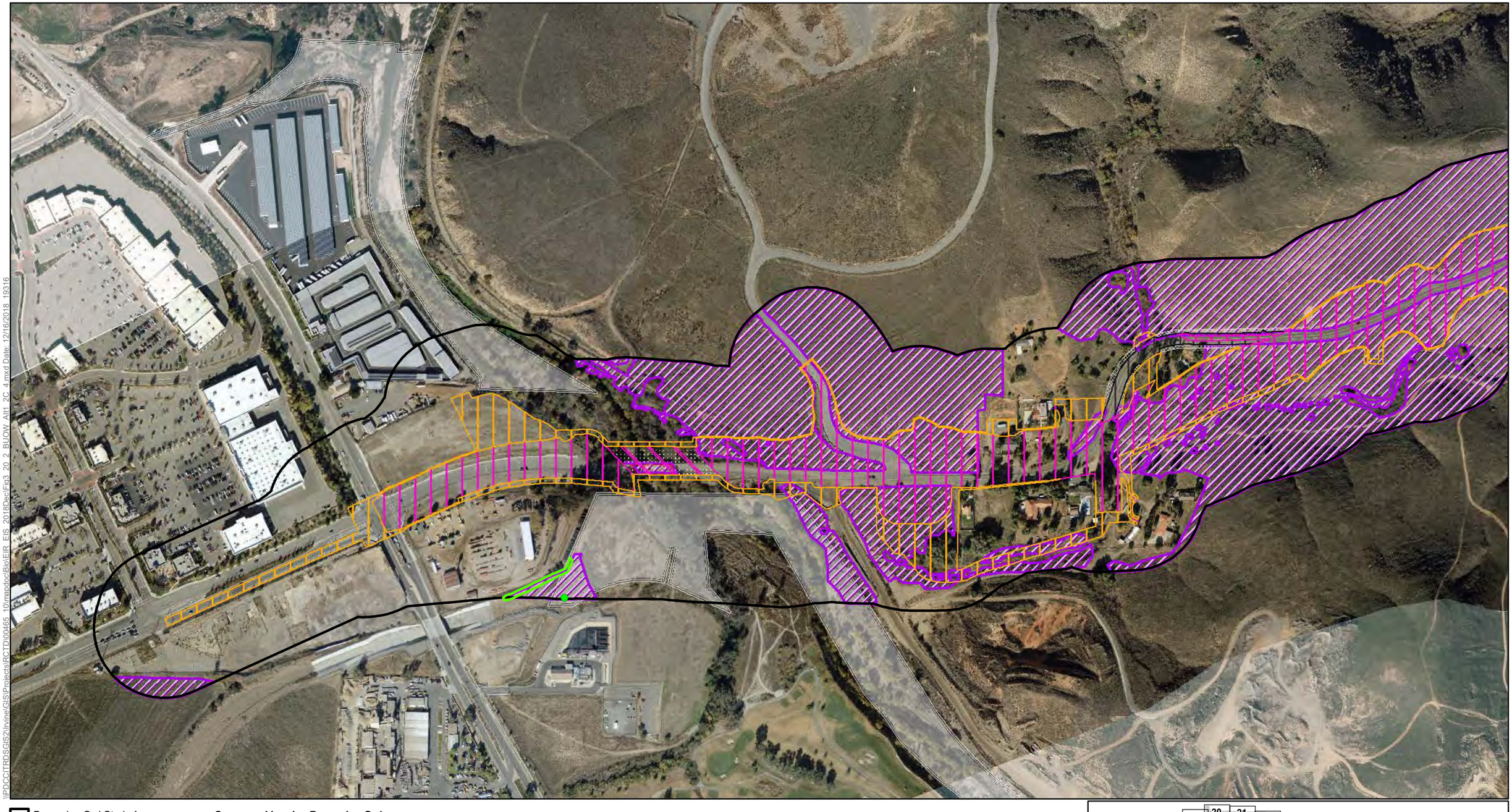

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

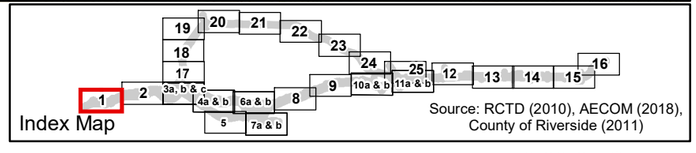

Figure 3.20-2 - Sheet 1
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

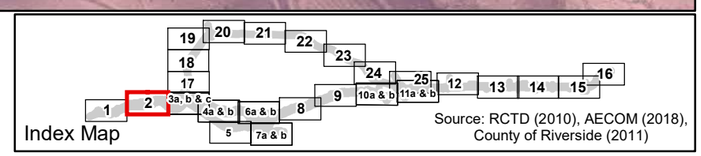

Figure 3.20-2 - Sheet 2
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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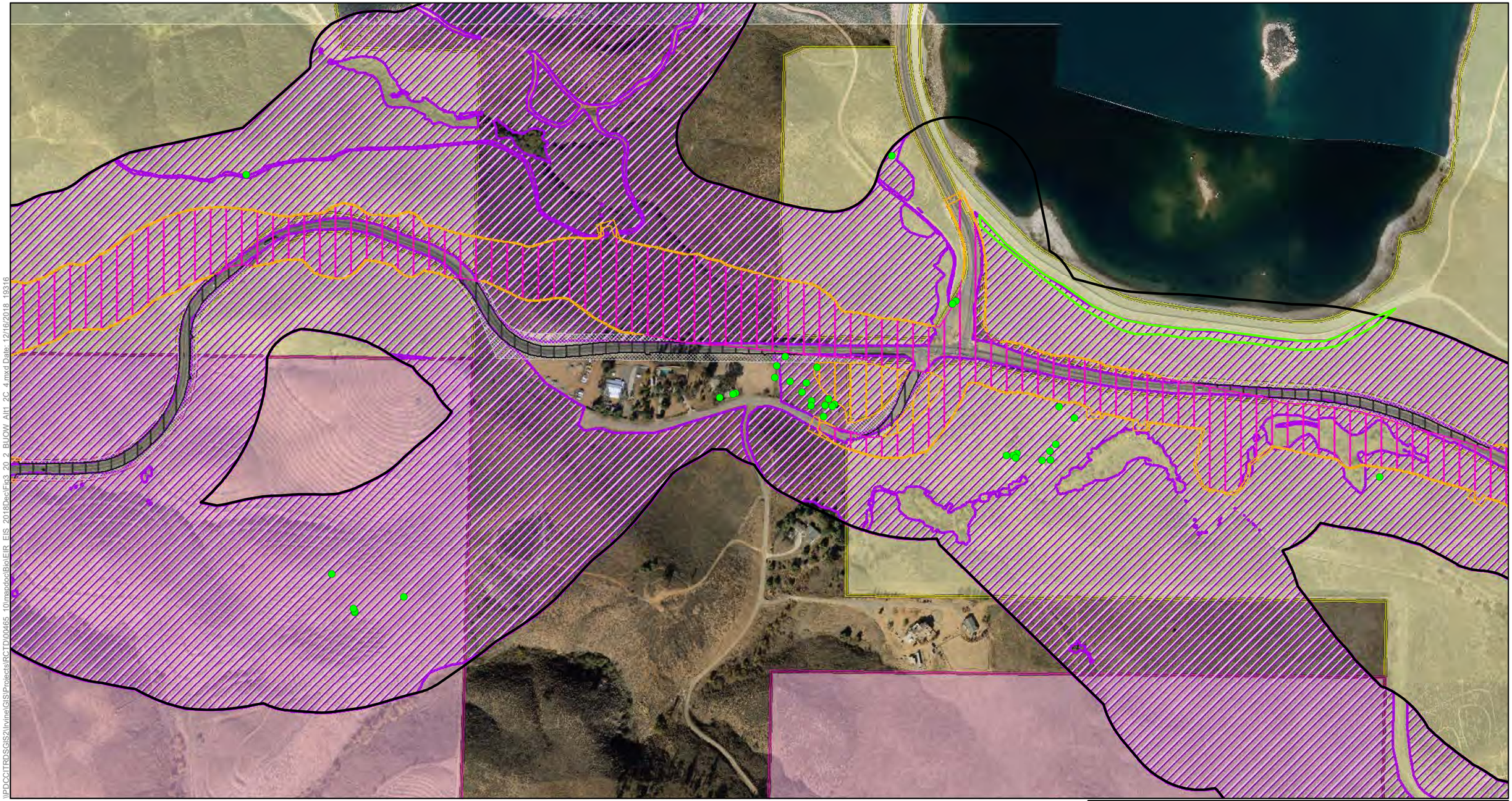

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

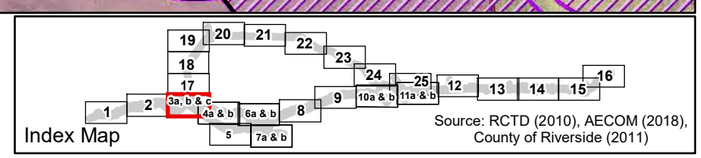

Figure 3.20-2 - Sheet 3a
Burrowing Owl Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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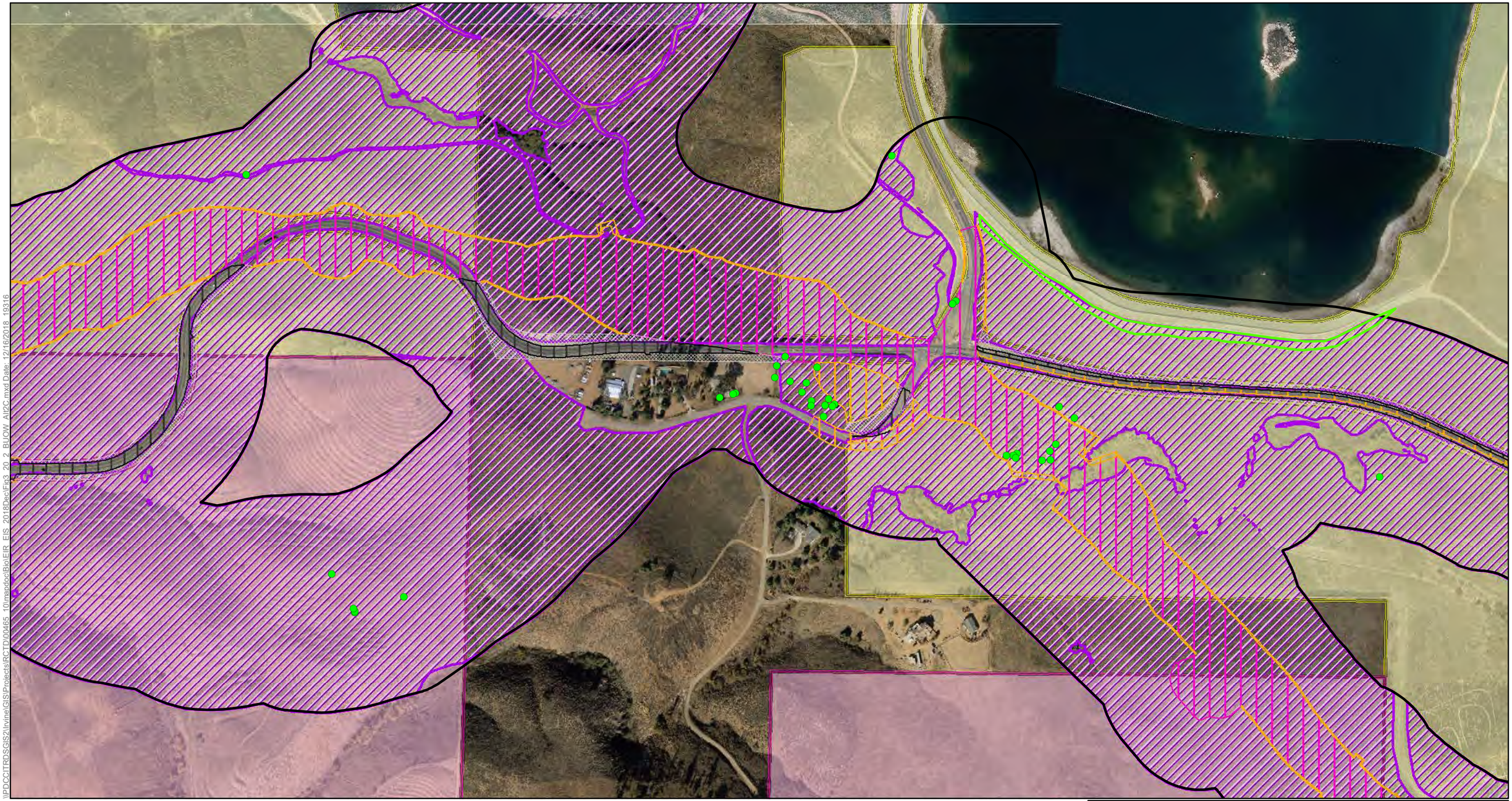

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

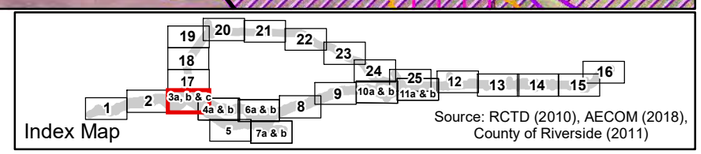

Figure 3.20-2- Sheet 3b
Burrowing Owl Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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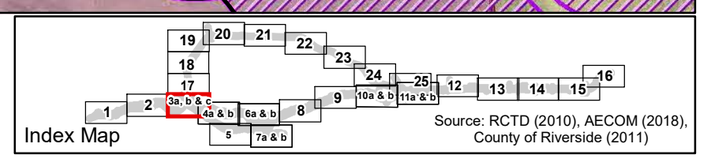
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2- Sheet 3c
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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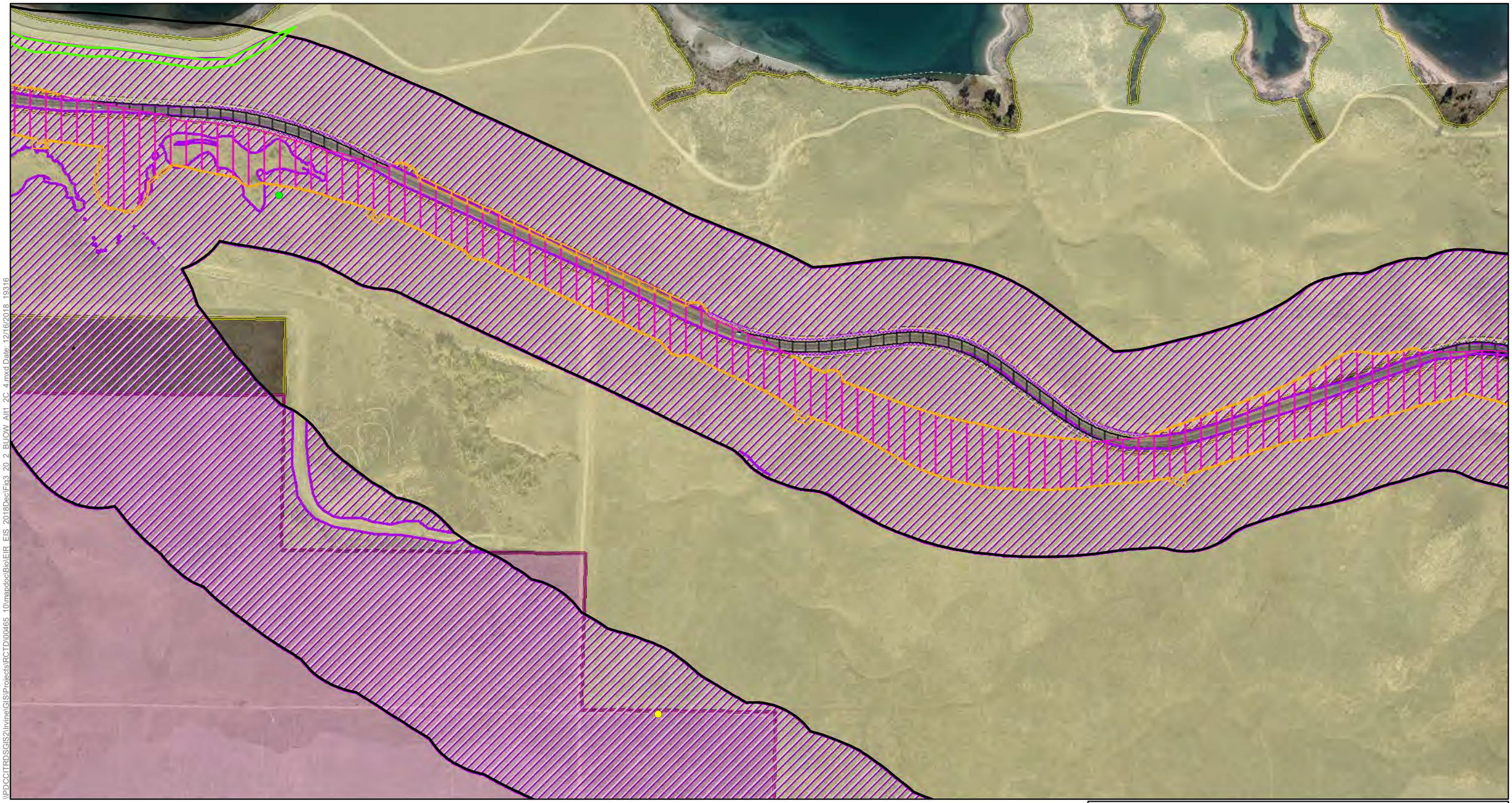

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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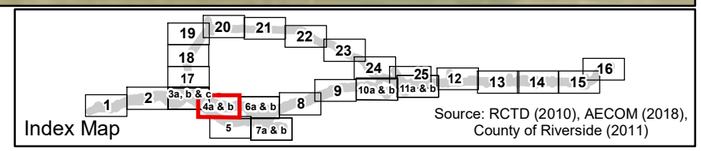
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 4a
Burrowing Owl Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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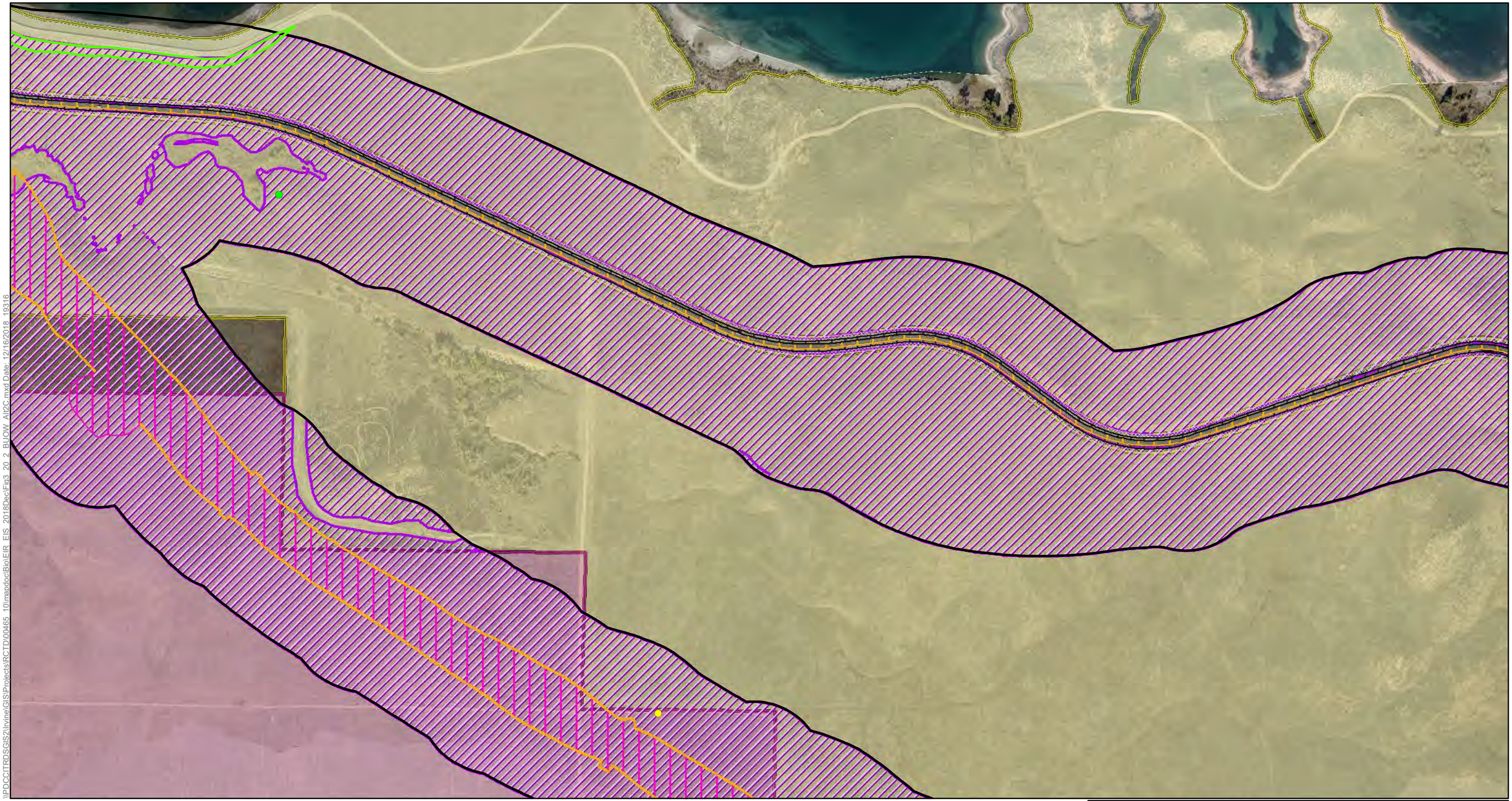

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

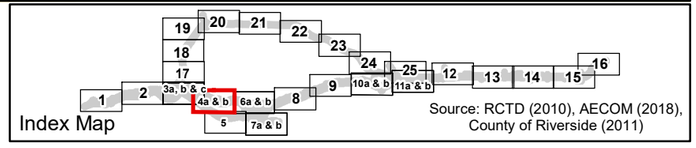

Figure 3.20-2- Sheet 4b
Burrowing Owl Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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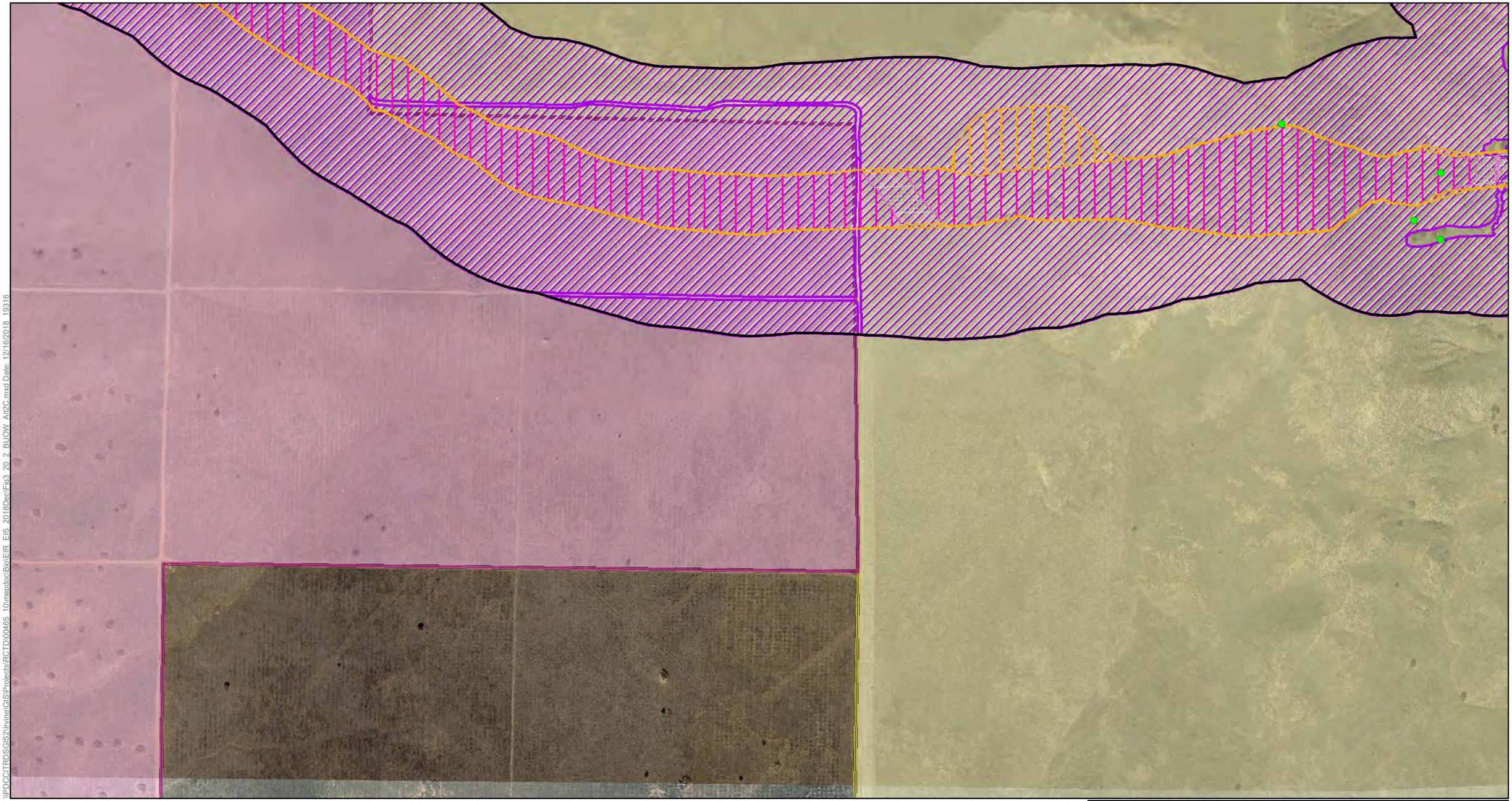

Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

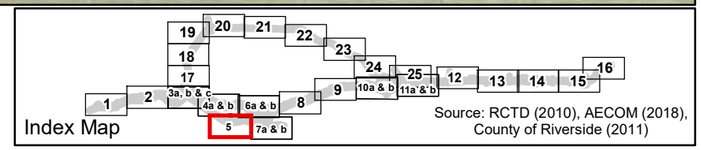

Figure 3.20-2- Sheet 5
Burrowing Owl Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

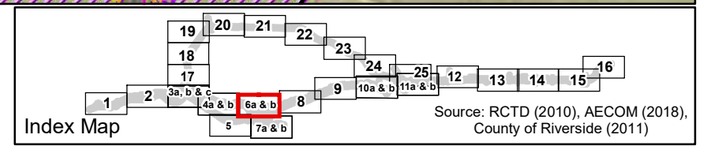
Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 6a
Burrowing Owl Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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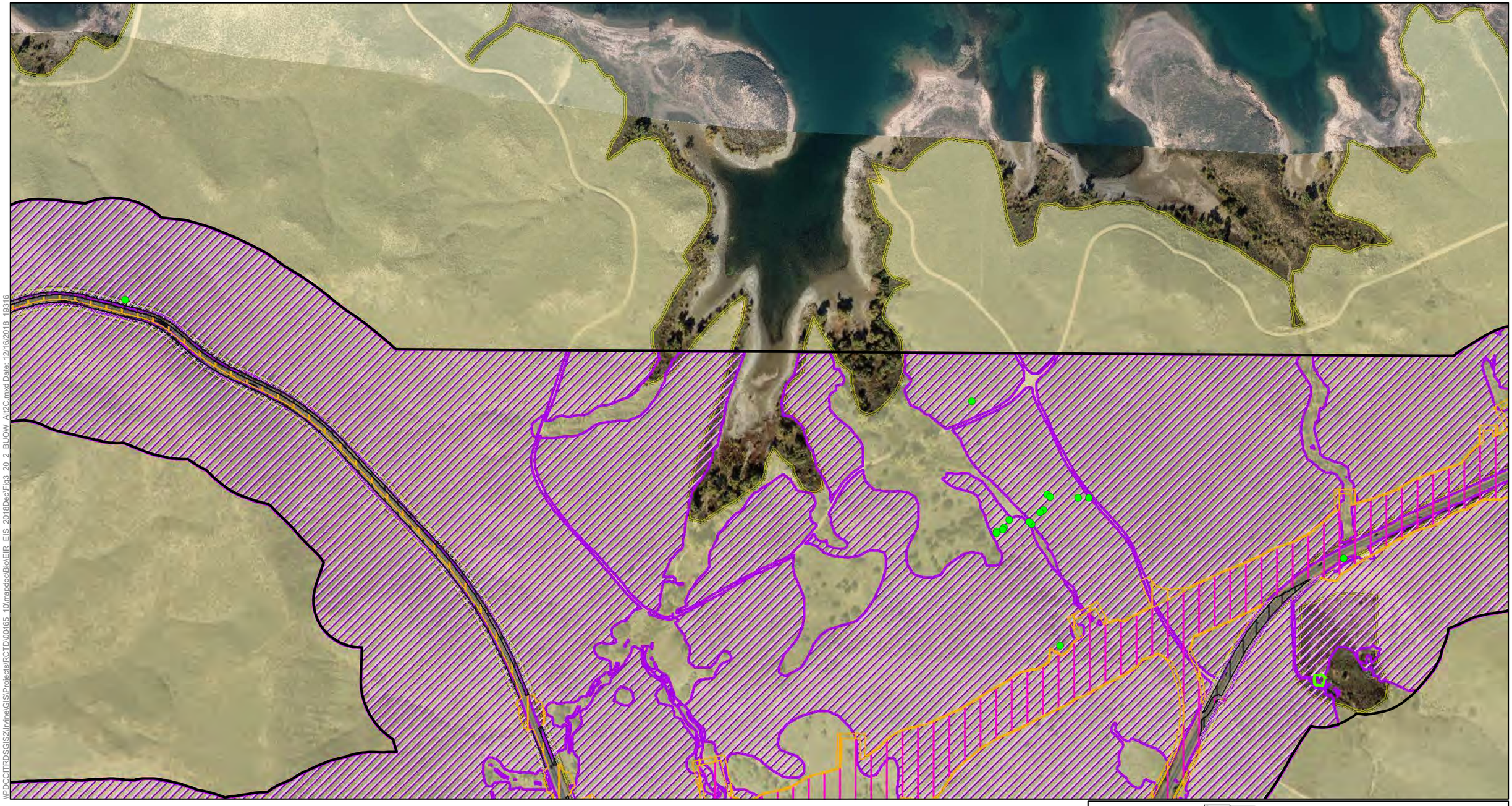

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

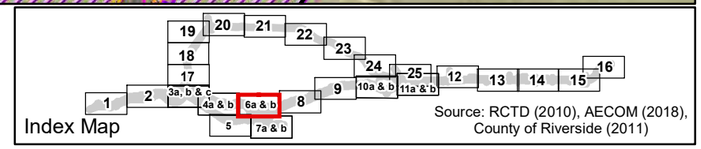

Figure 3.20-2- Sheet 6b
Burrowing Owl Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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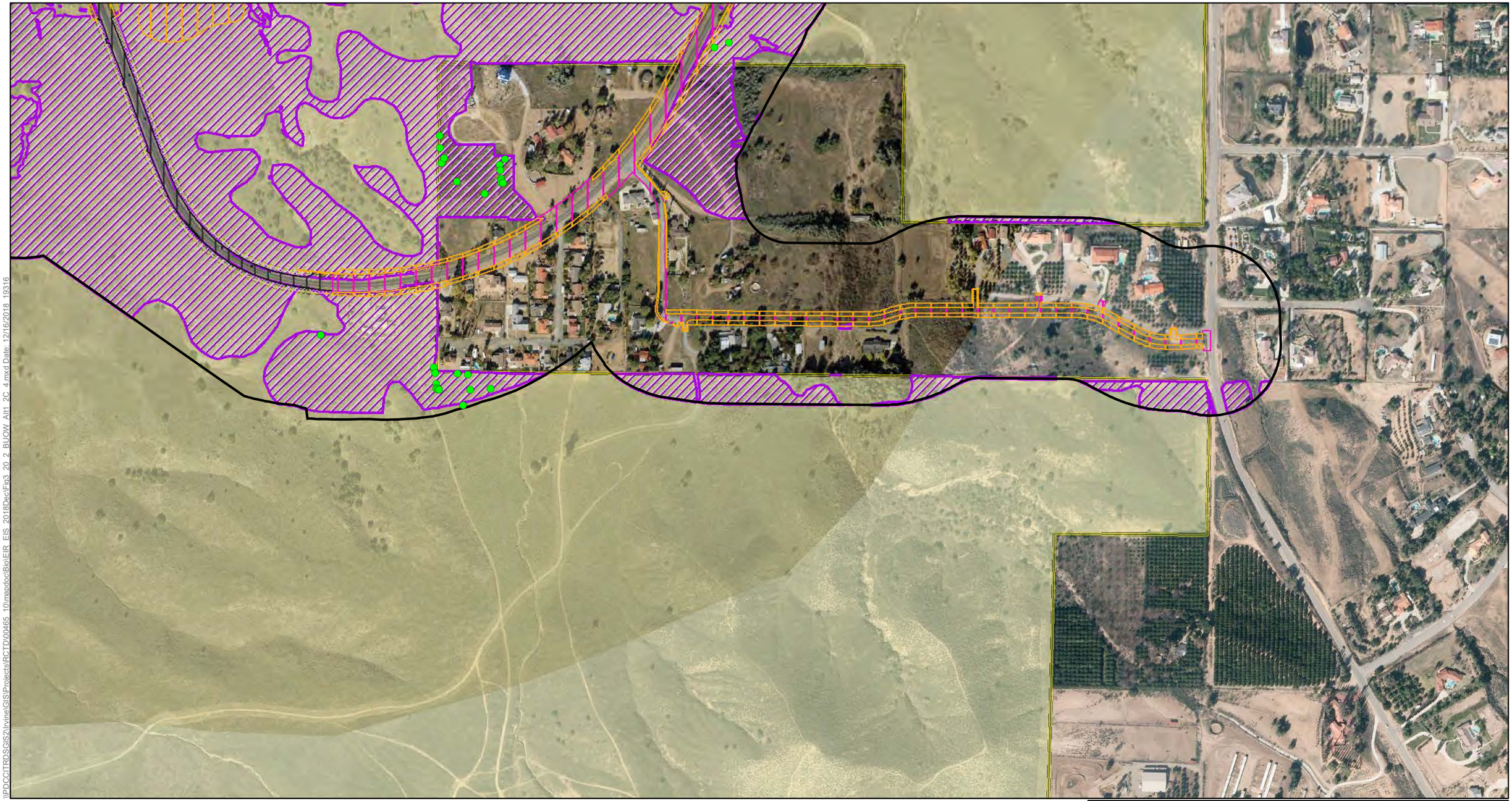

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

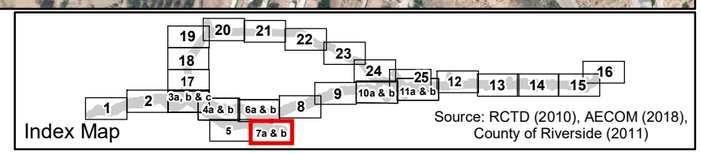

Figure 3.20-2 - Sheet 7a
Burrowing Owl Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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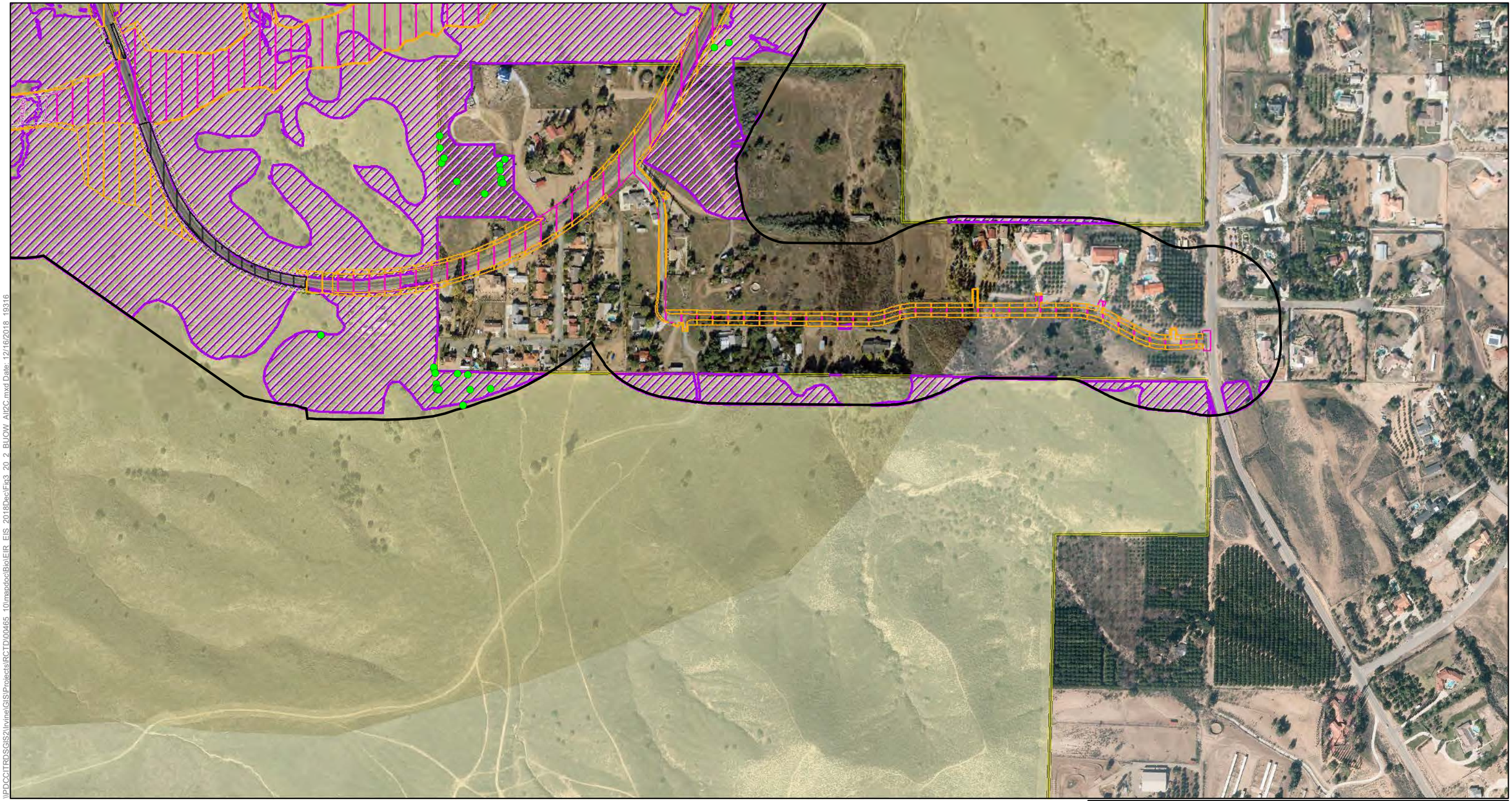

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

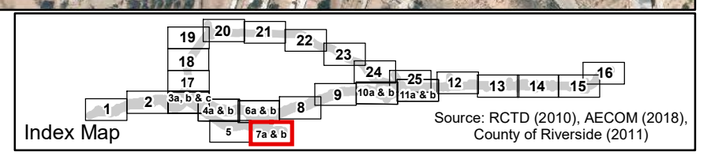

Figure 3.20-2- Sheet 7b
Burrowing Owl Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

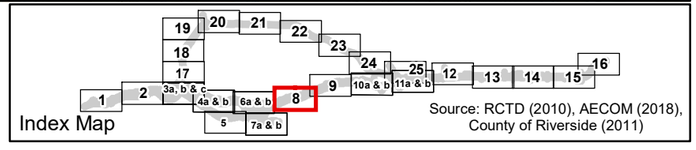

Figure 3.20-2 - Sheet 8
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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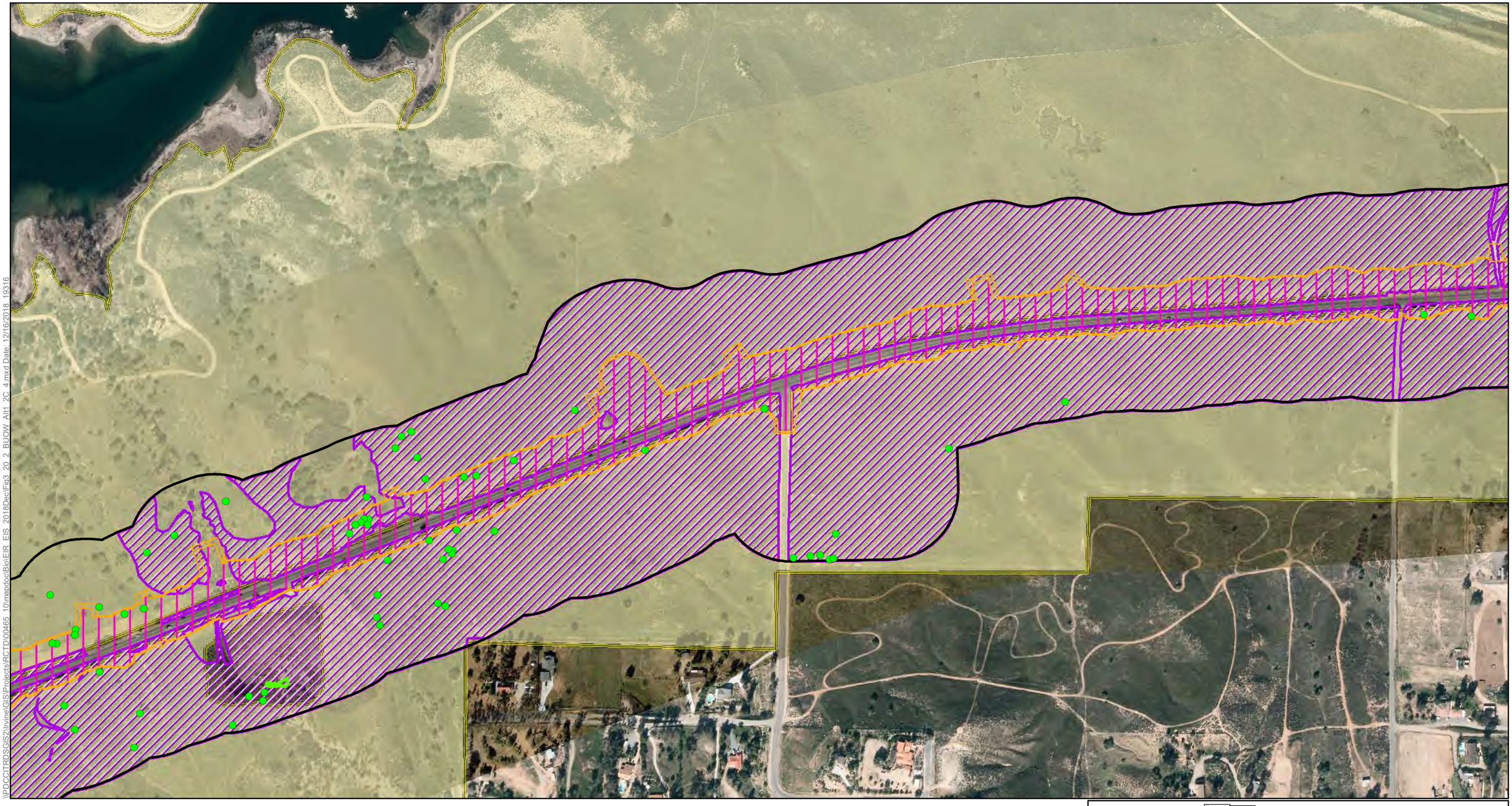

Figure 3.20-2 - Sheet 9
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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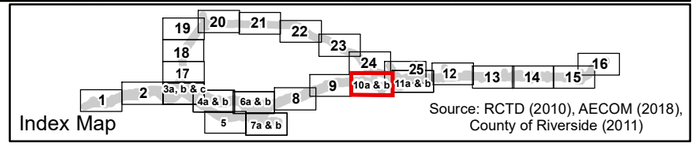

Figure 3.20-2 - Sheet 10a
Burrowing Owl Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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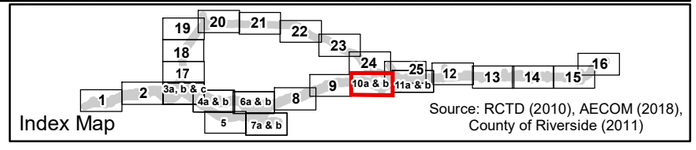

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2- Sheet 10b
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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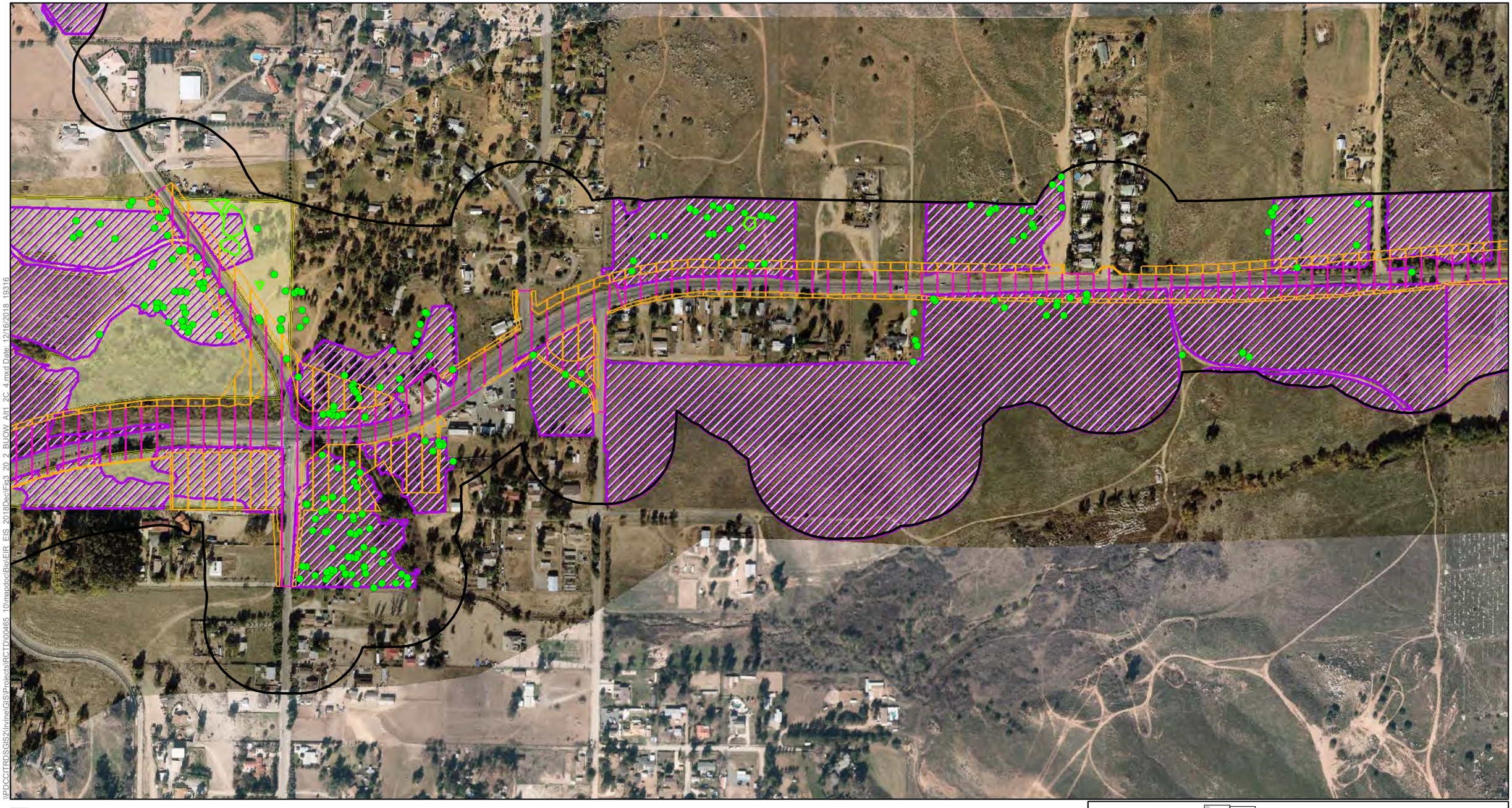

Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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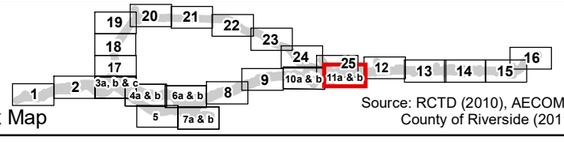
Feet

Index Map



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 11a
Burrowing Owl Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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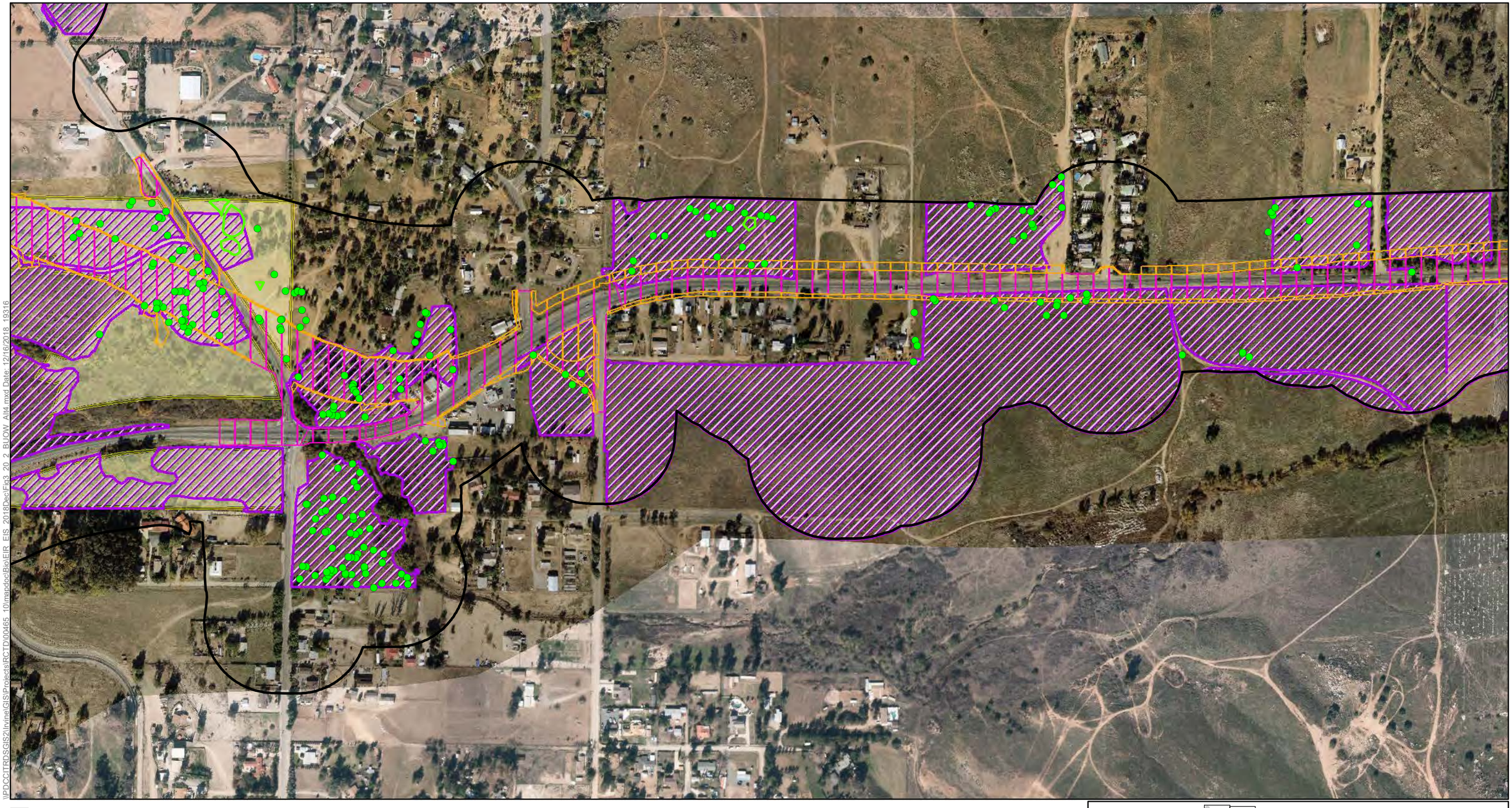

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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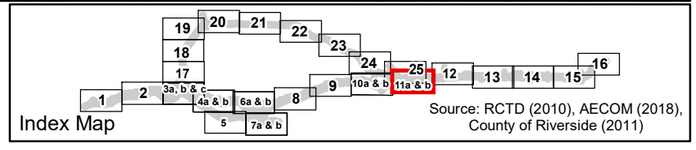

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2- Sheet 11b
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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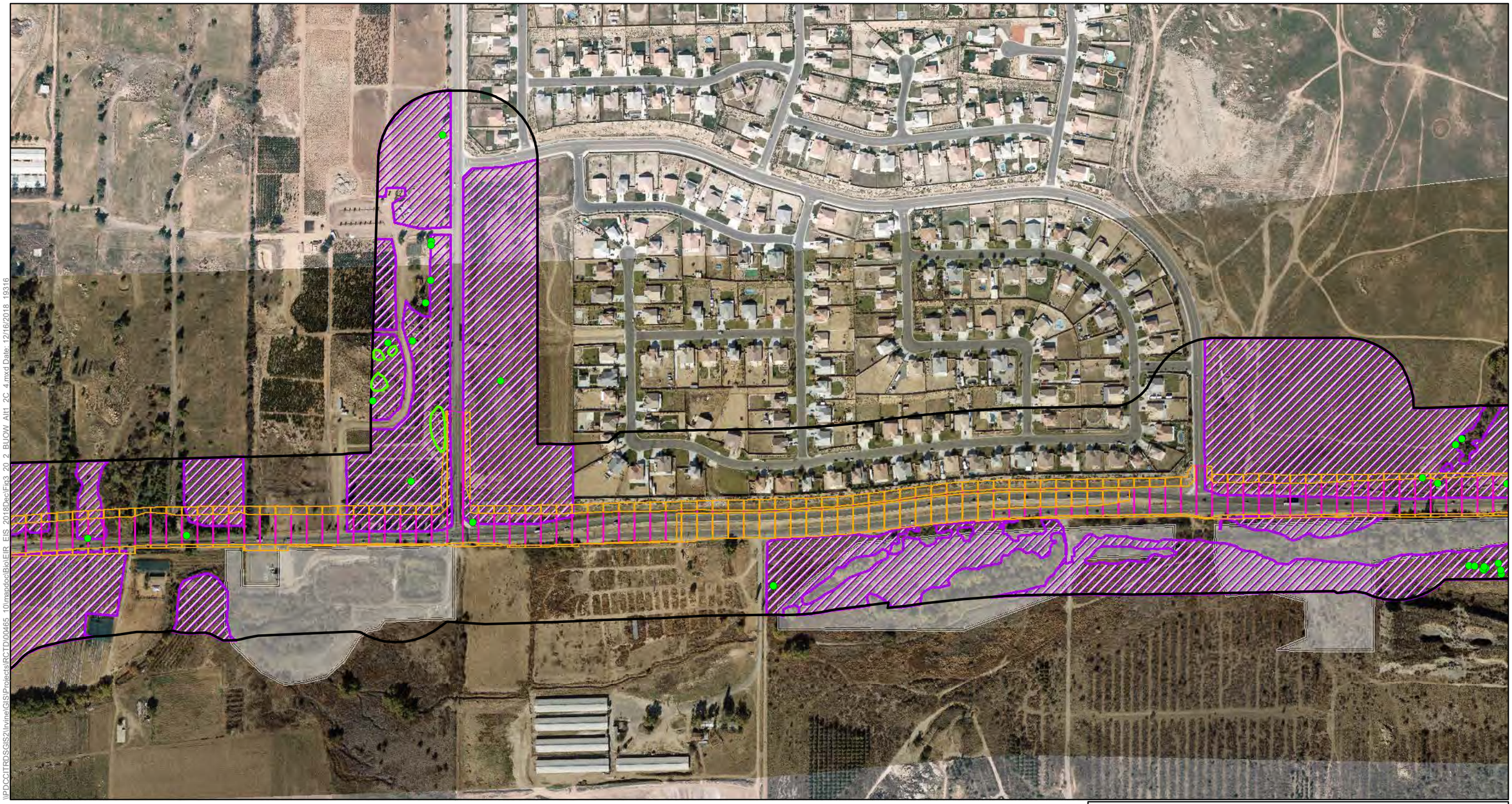

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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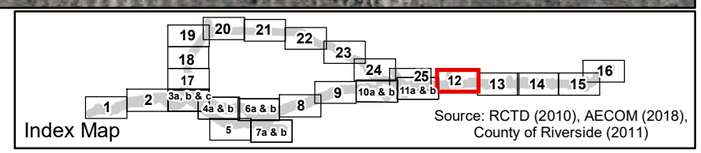

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 12
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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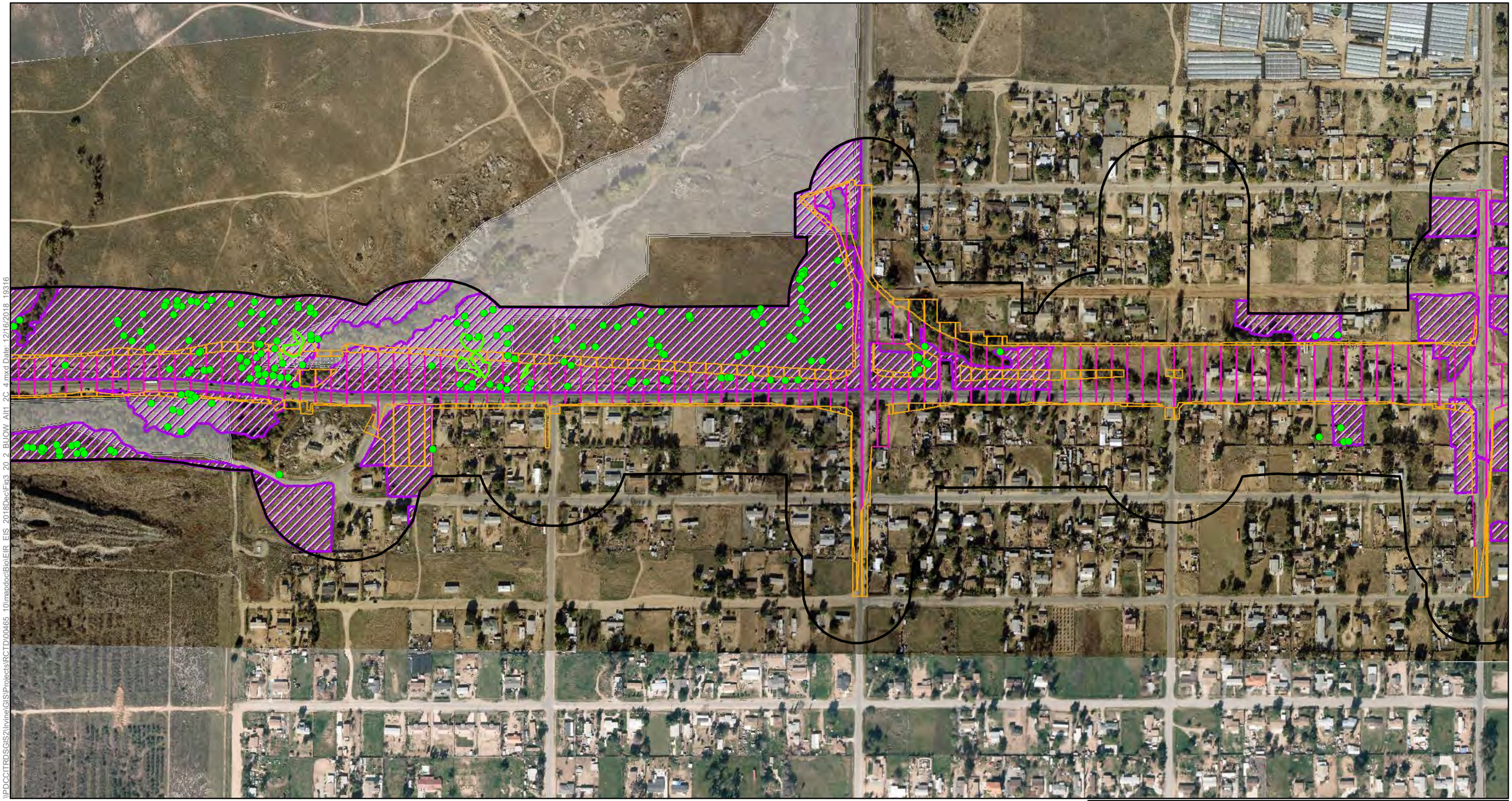

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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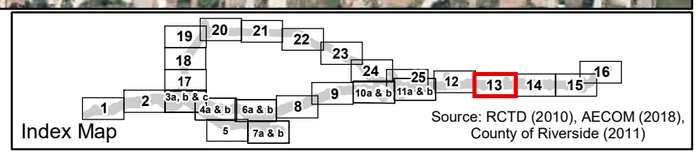

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 13
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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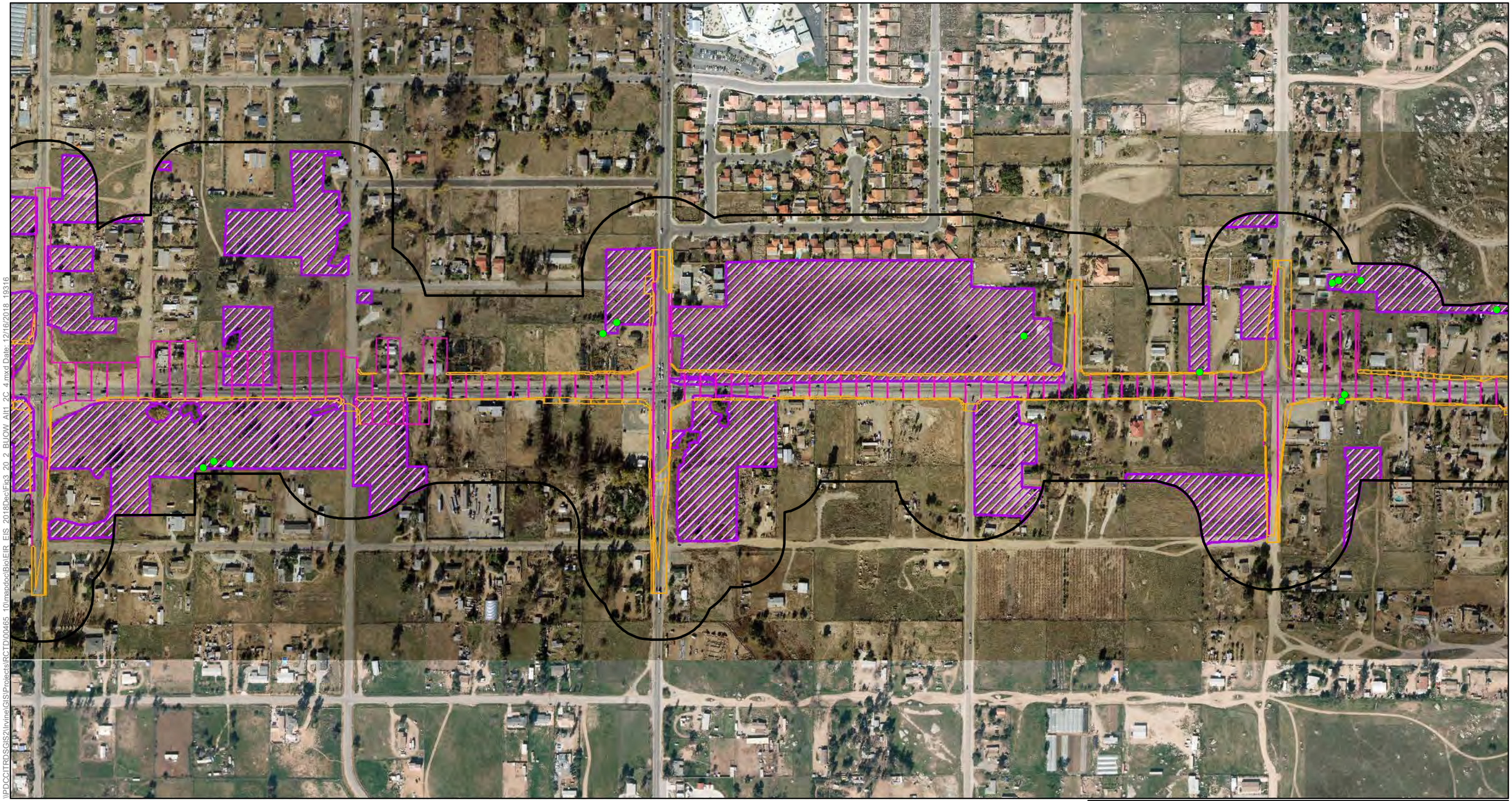

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

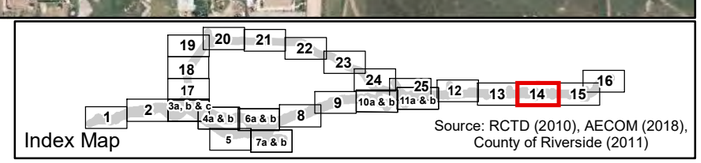

Figure 3.20-2 - Sheet 14
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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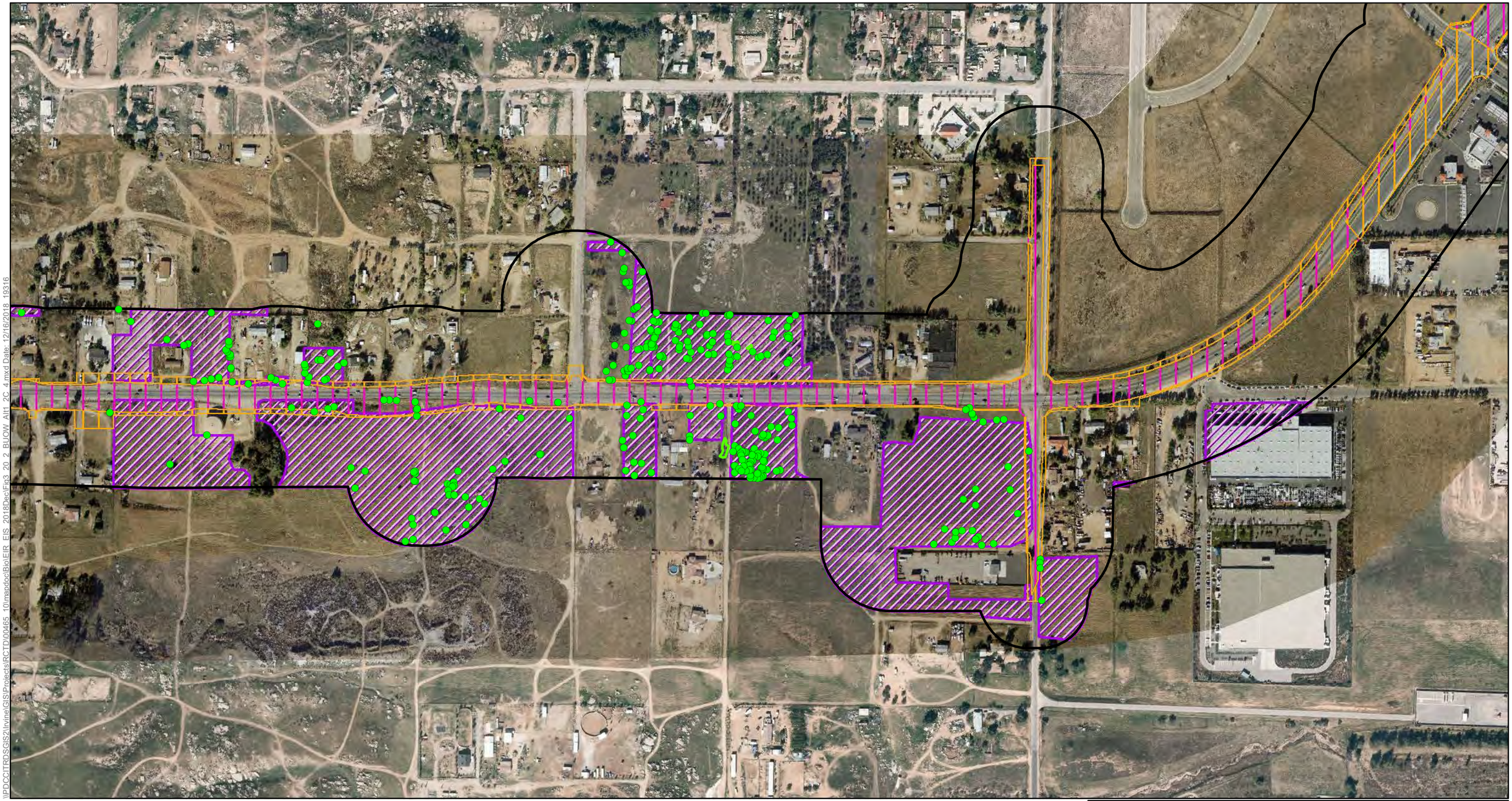

Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

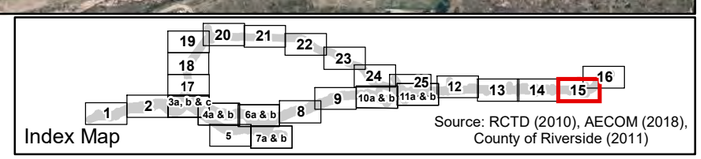

Figure 3.20-2 - Sheet 15
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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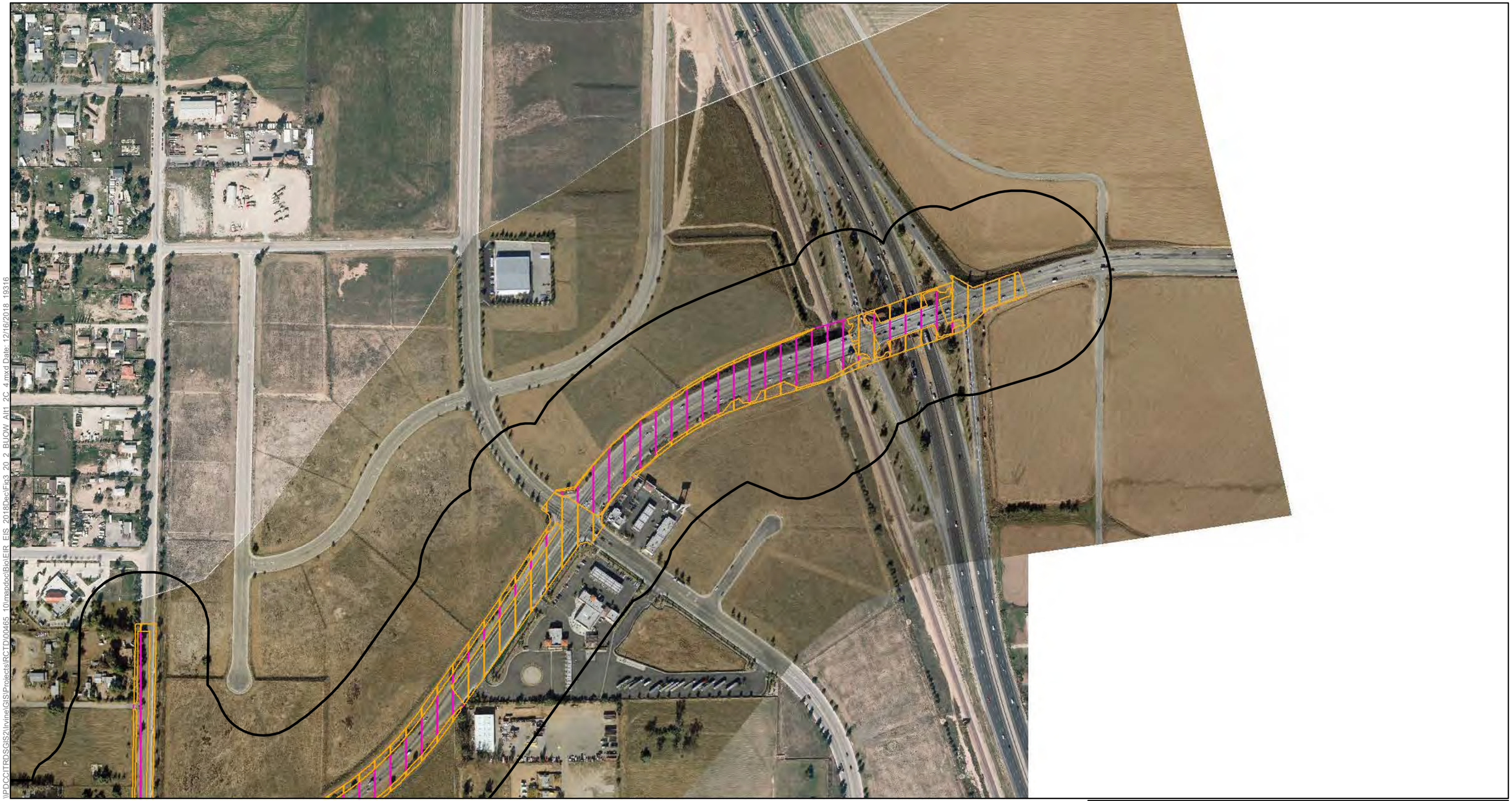


Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

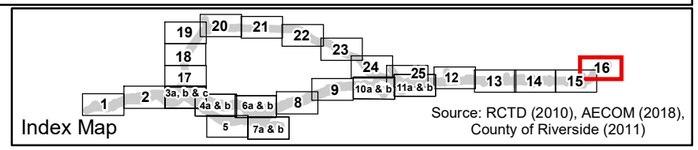
Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2 - Sheet 16
Burrowing Owl Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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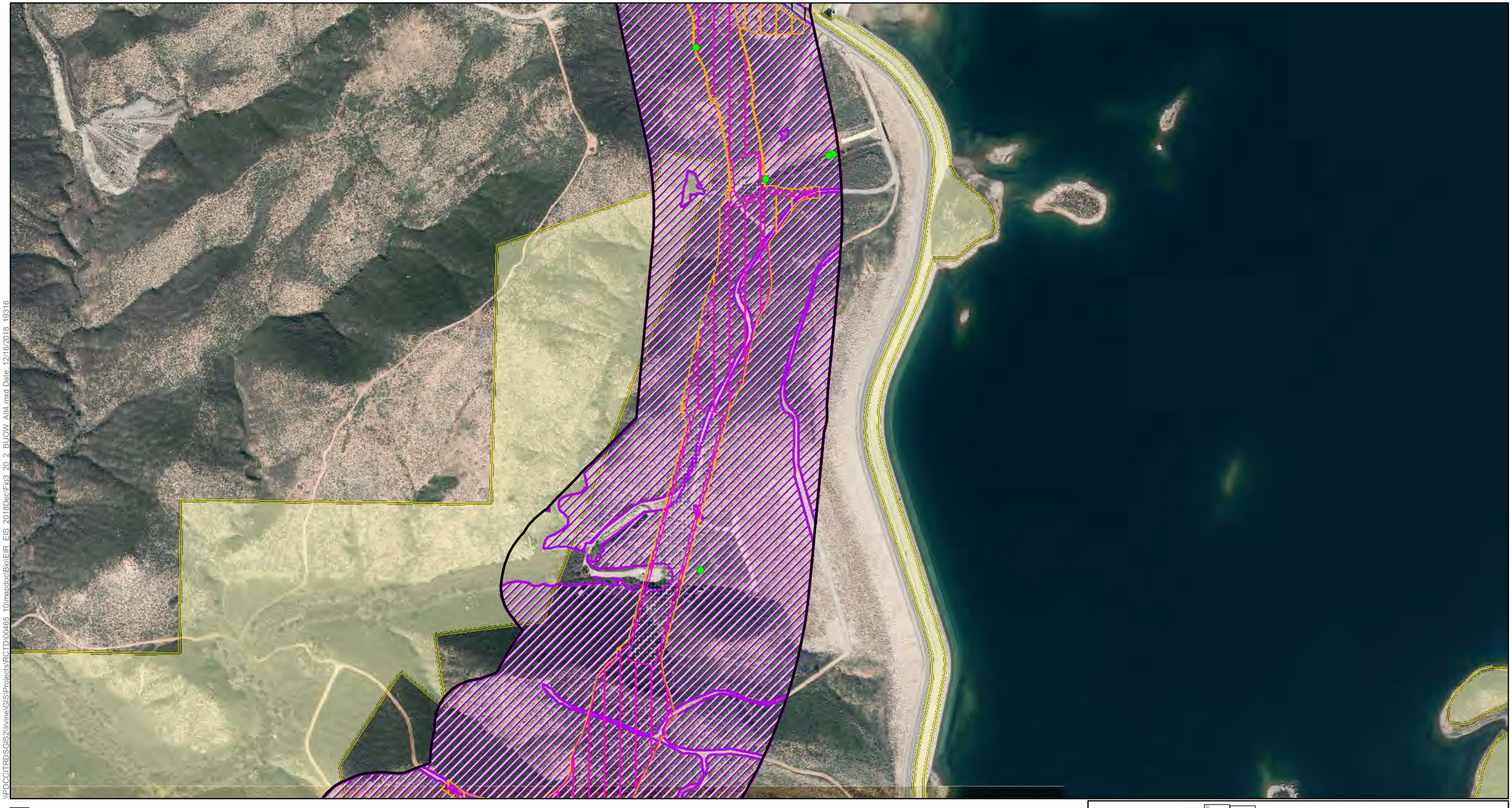

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

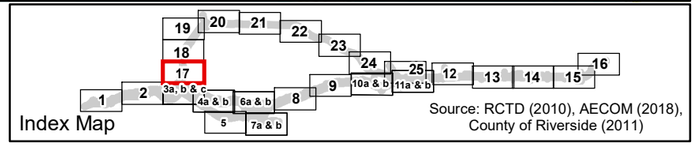

Figure 3.20-2- Sheet 17
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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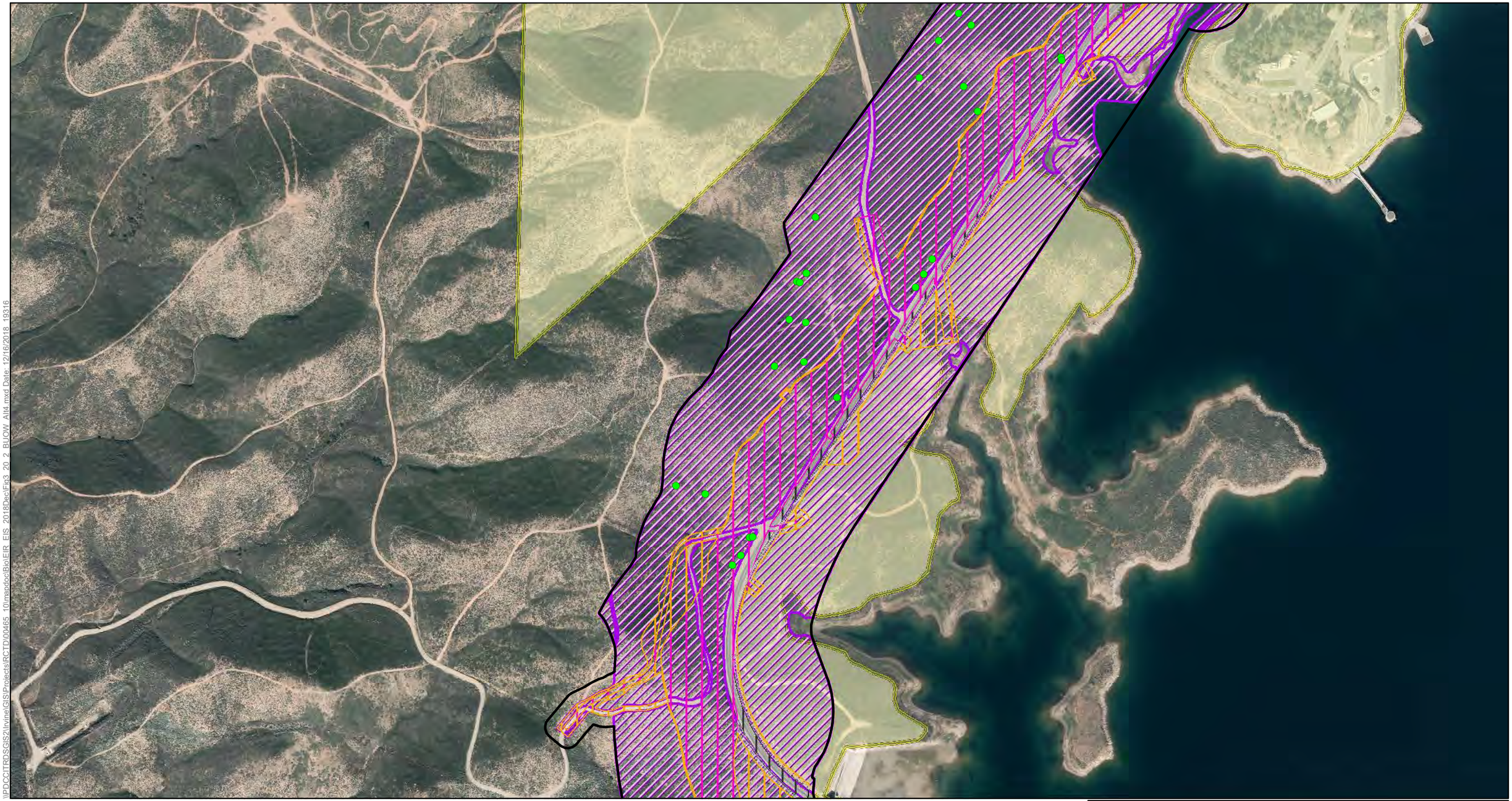

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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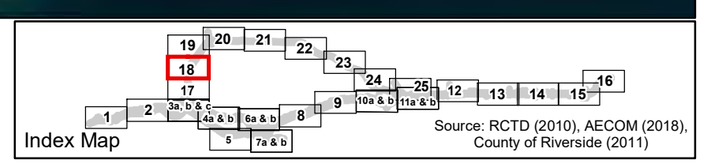
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2- Sheet 18
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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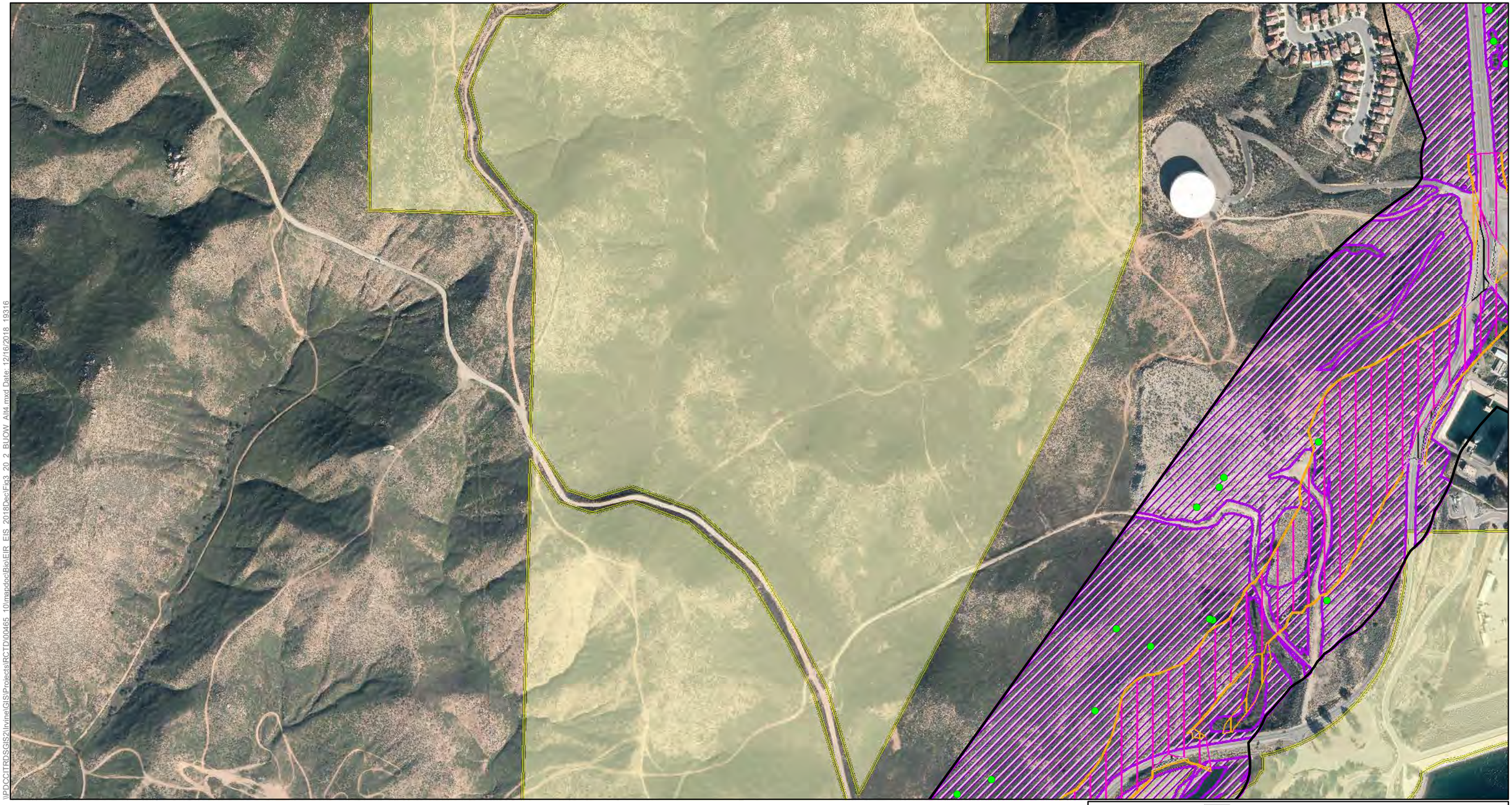

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

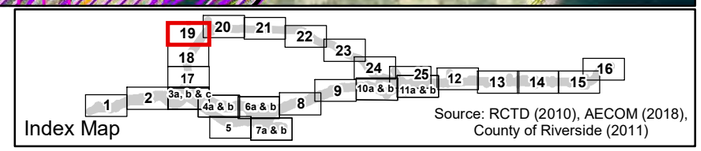

Figure 3.20-2- Sheet 19
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

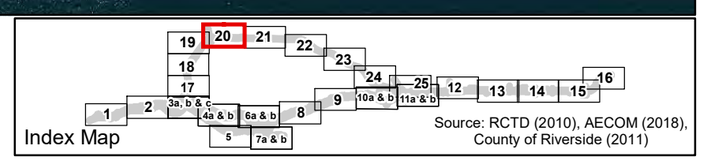

Figure 3.20-2- Sheet 20
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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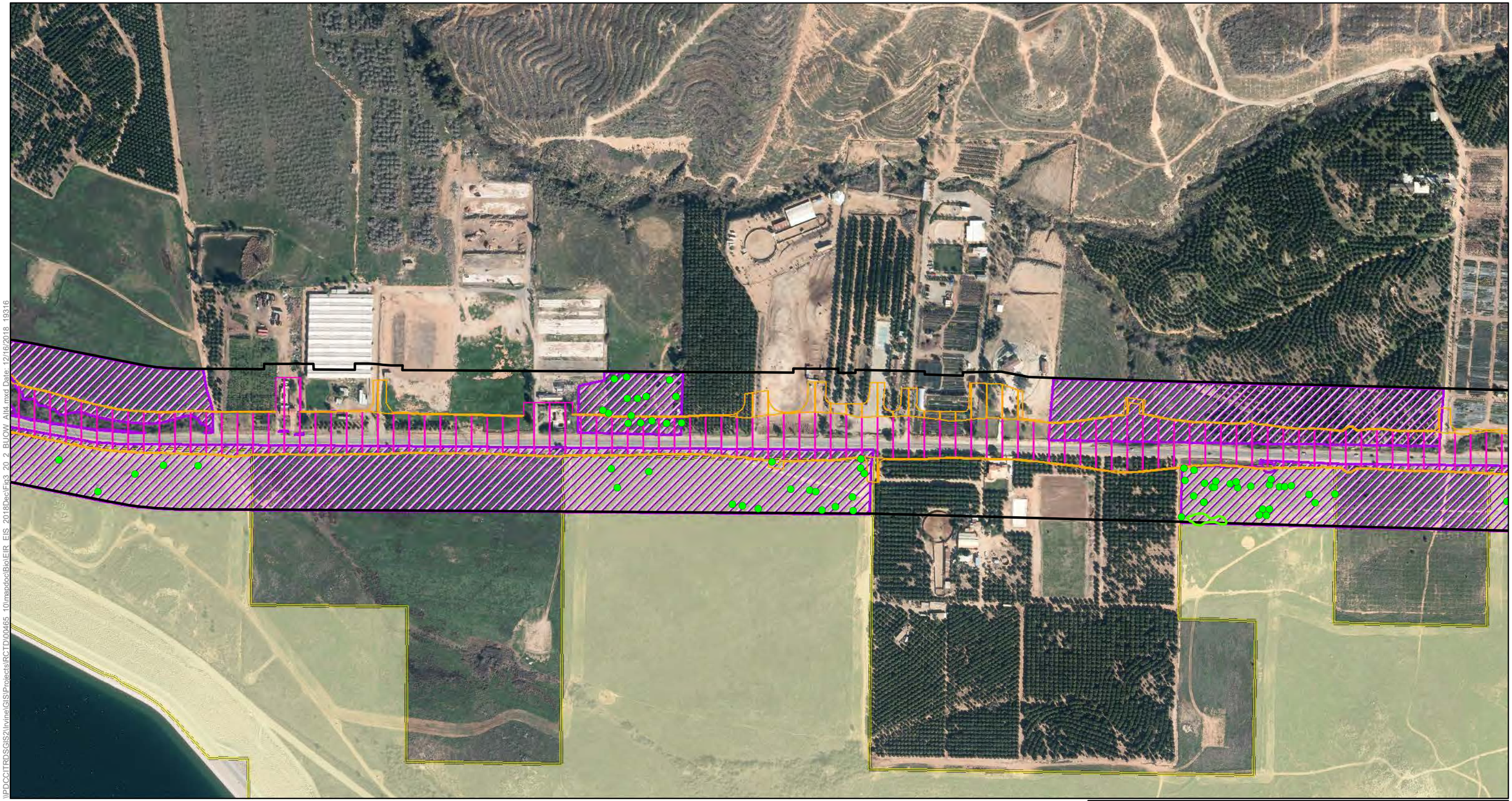

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

0 100 200 400
Feet

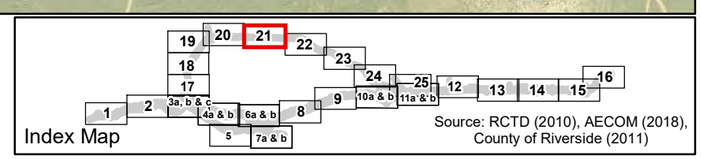

Figure 3.20-2- Sheet 21
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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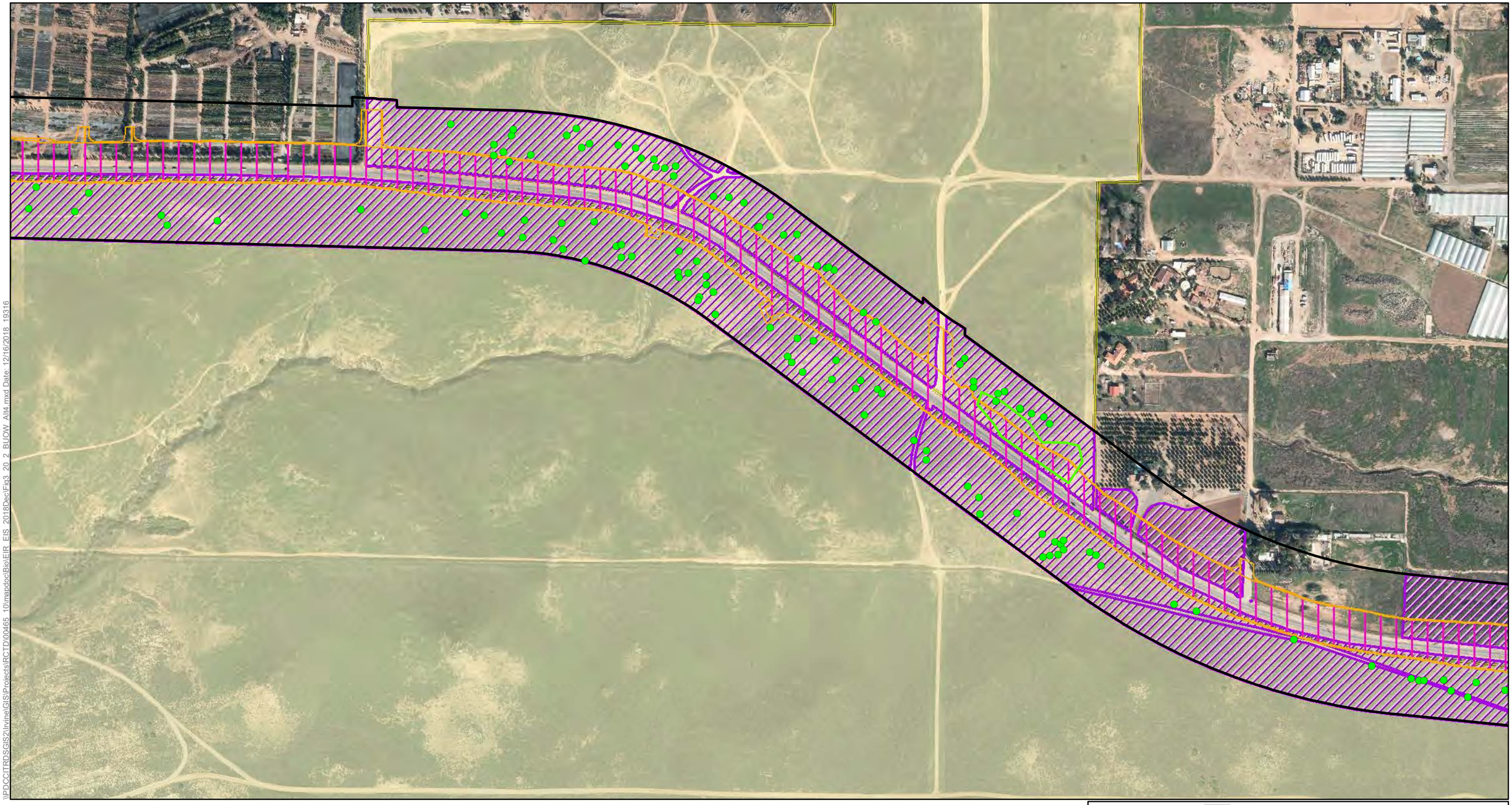

Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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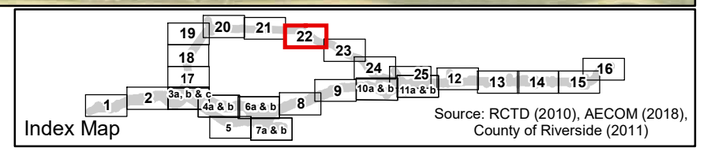

Figure 3.20-2- Sheet 22
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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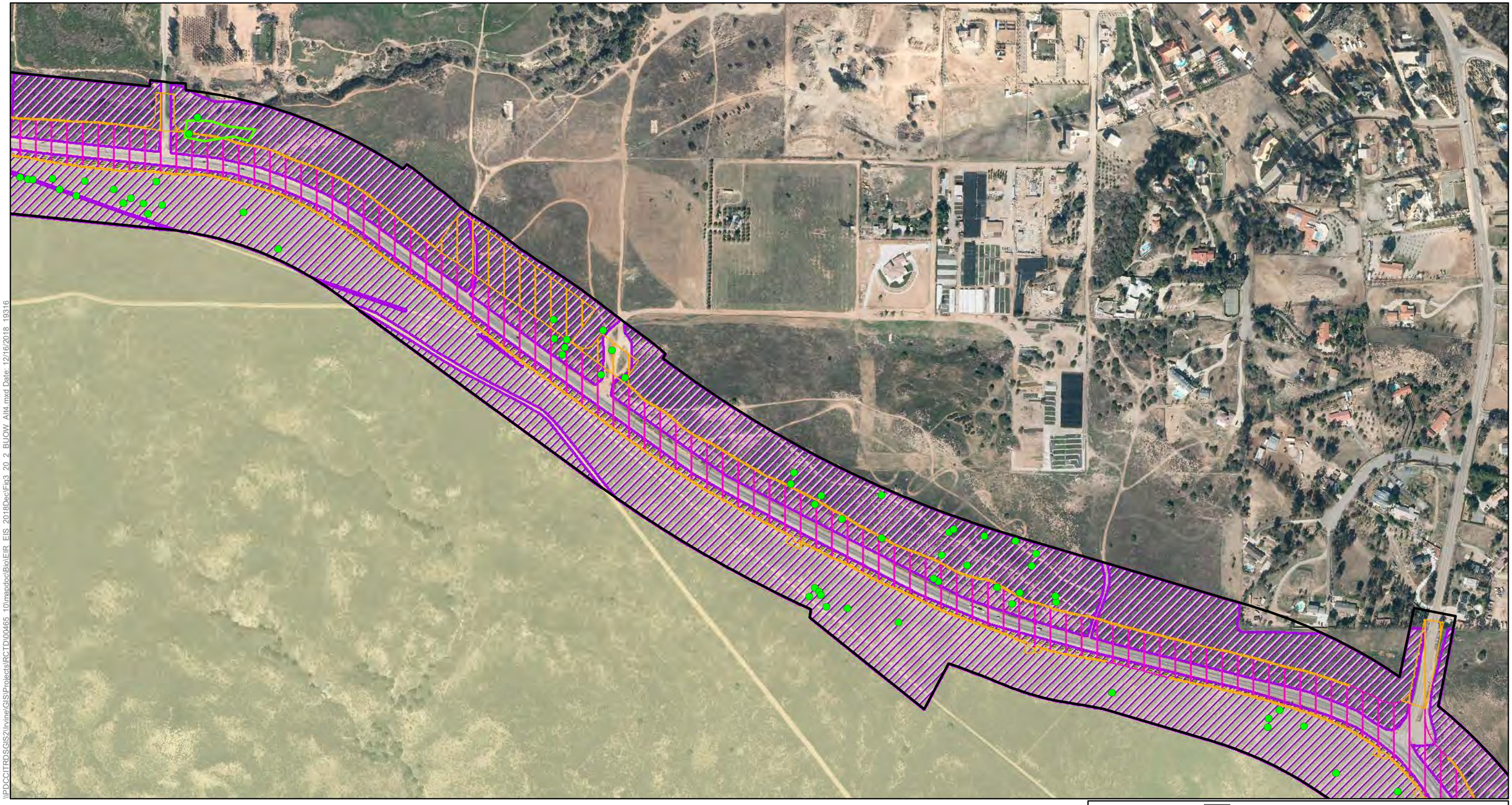

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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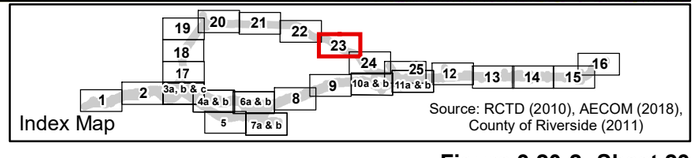

Figure 3.20-2- Sheet 23
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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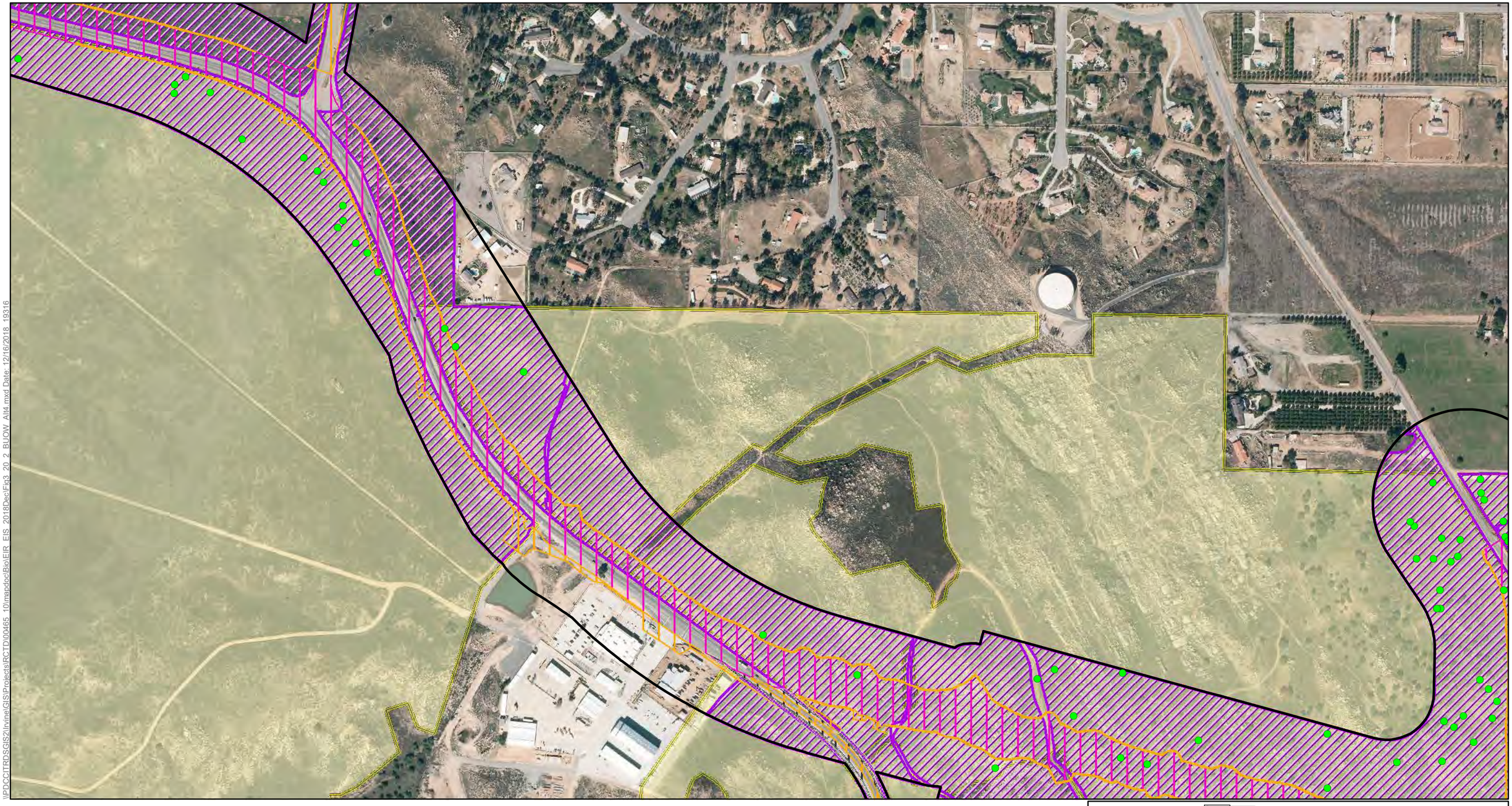

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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Feet

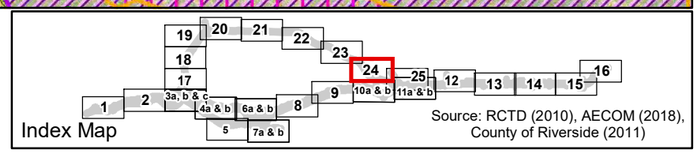

Figure 3.20-2- Sheet 24
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Burrowing Owl Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Burrowing Owl
- Suitable Habitat

Burrowing Owl Results
- Suitable Burrow Complex
- Suitable Burrow
- Observed BUOW 12/16/2015

*No CNDDB or Lake Mathews Reserve species data available for the study area.

N

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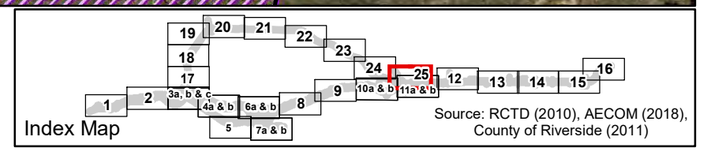
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-2- Sheet 25
Burrowing Owl Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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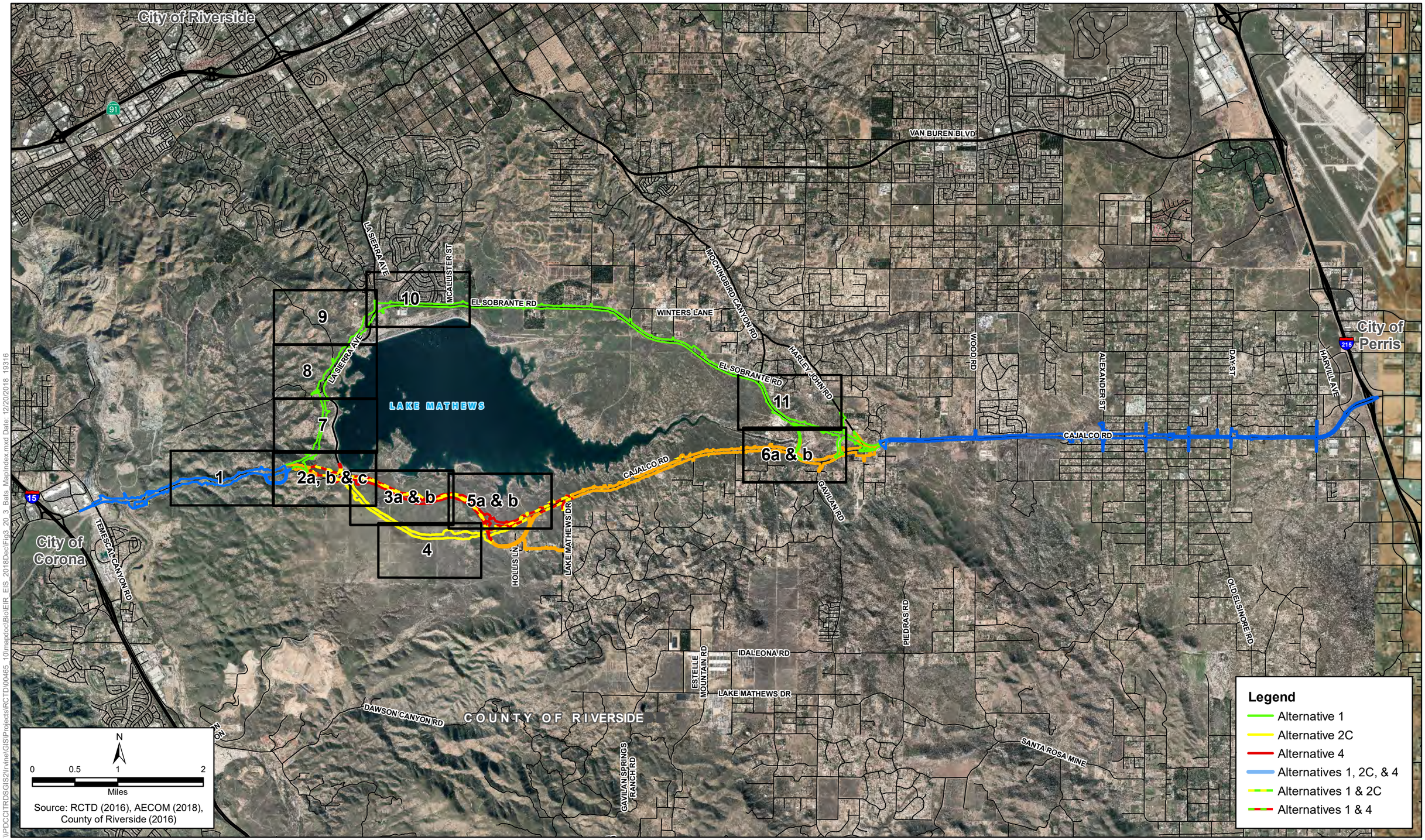

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Figure 3.20-3 - Map Index
Special-status Bats Results Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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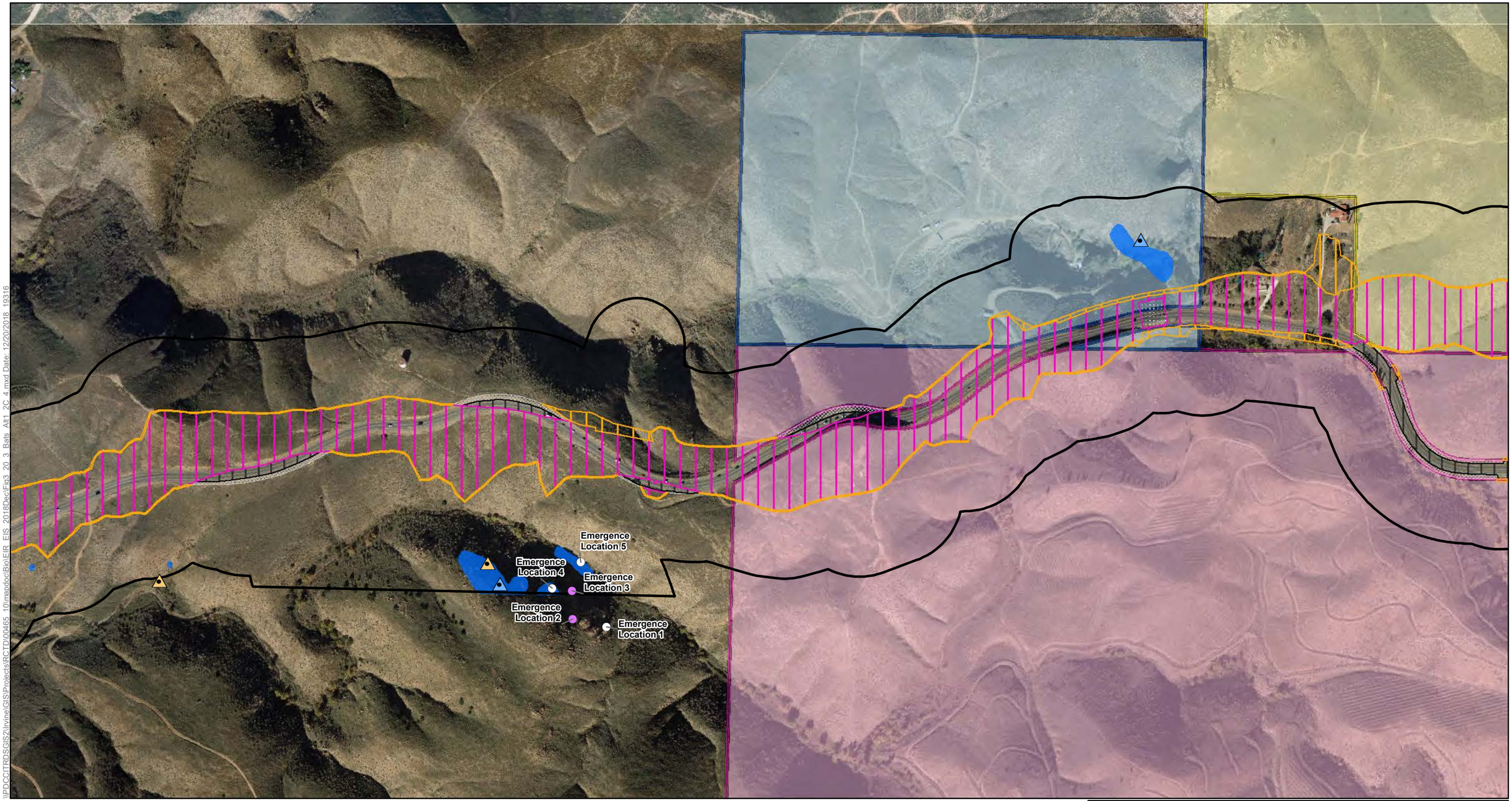

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

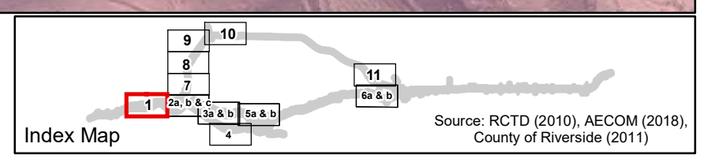
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3 - Sheet 1
Special-status Bats Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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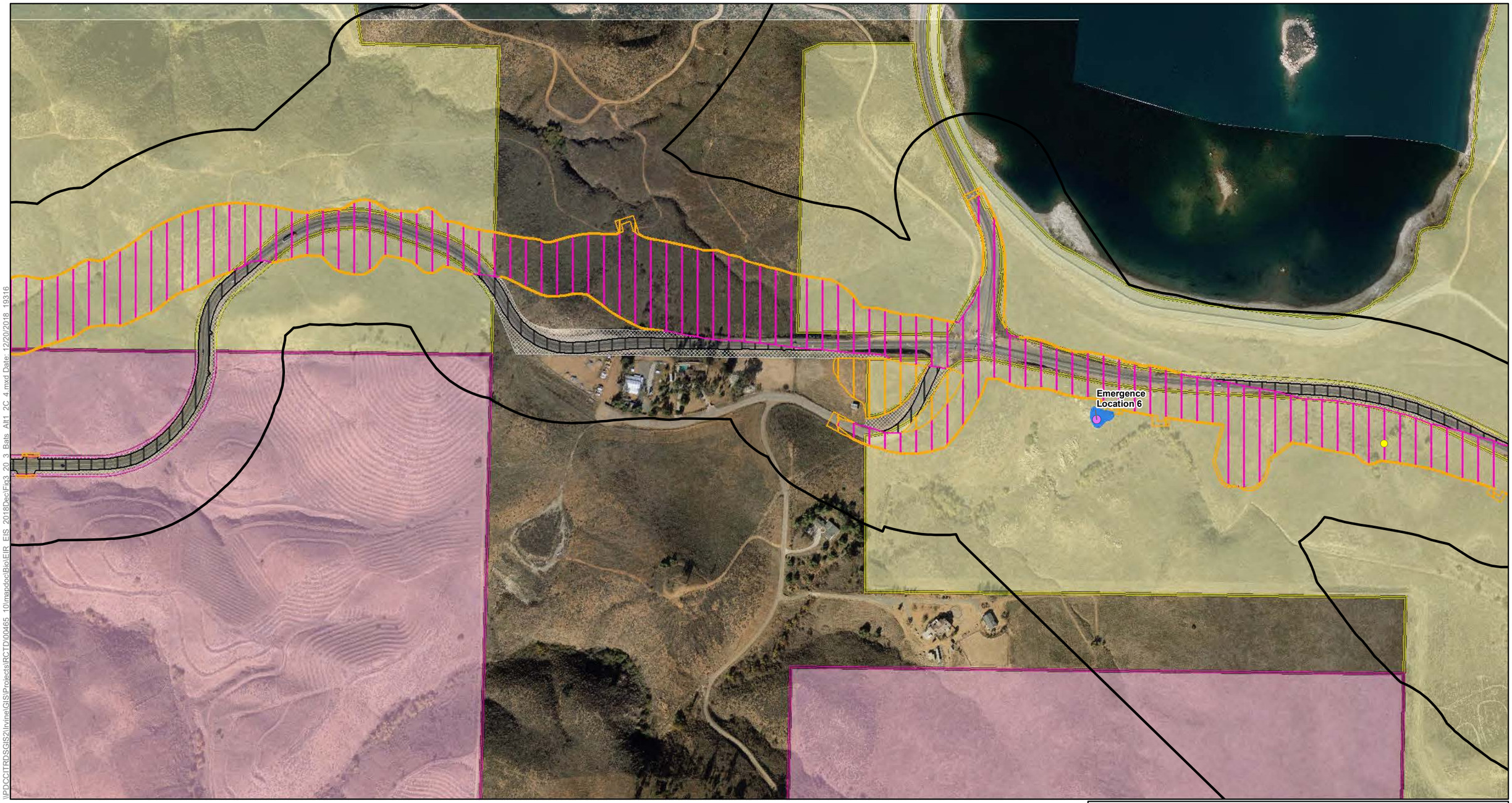

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

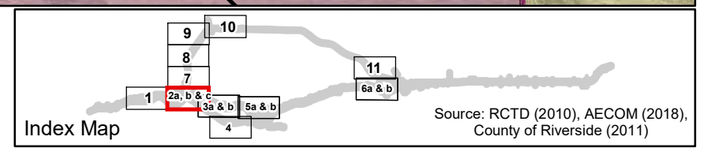
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3 - Sheet 2a
Special-status Bats Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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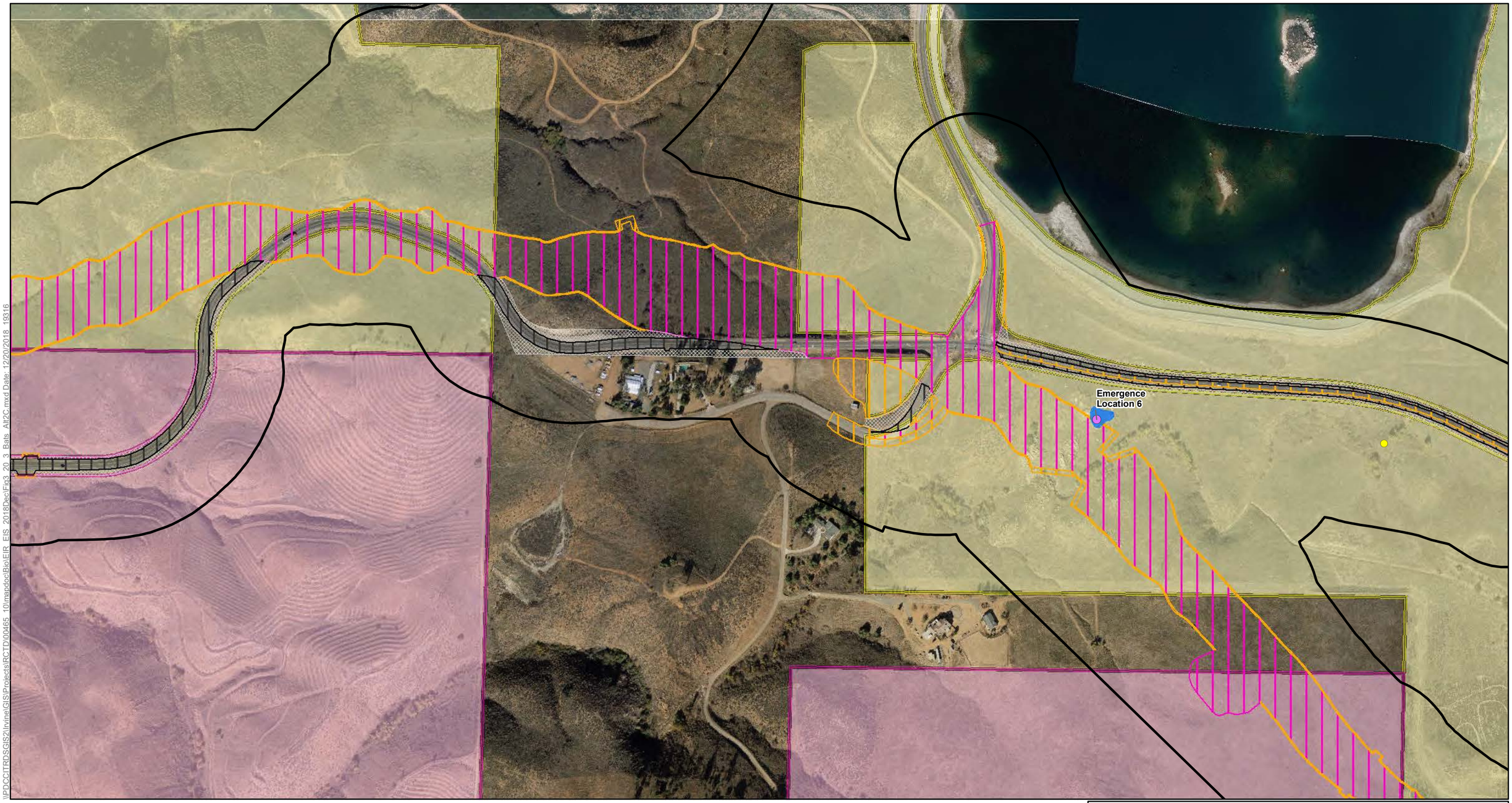

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

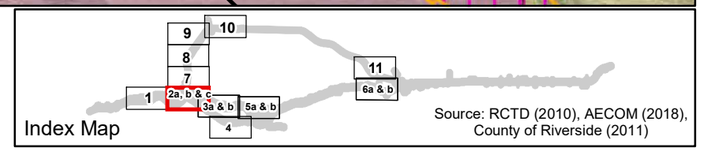
Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

*No USFWS species data available.

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 2b
Special-status Bats Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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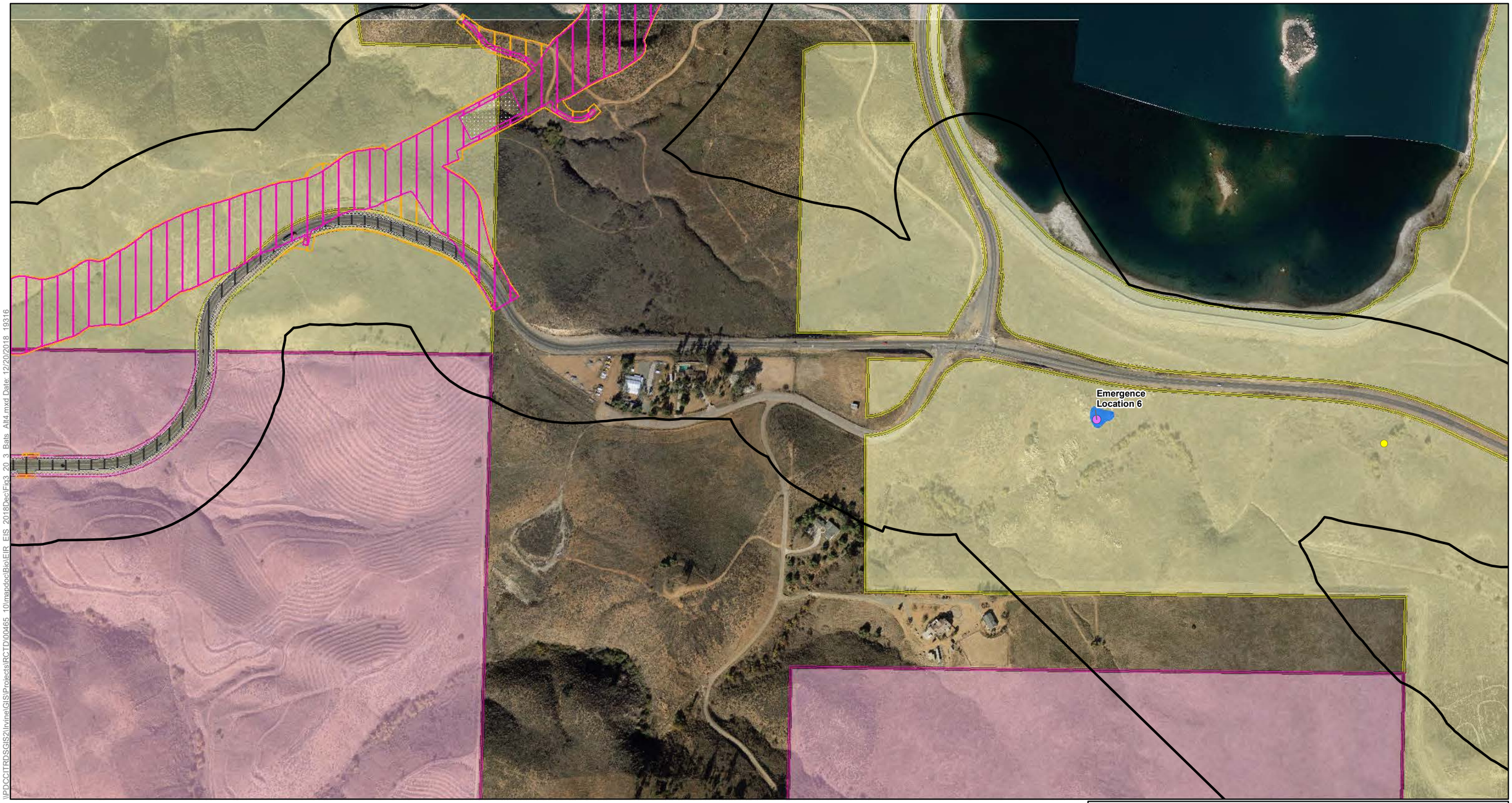

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

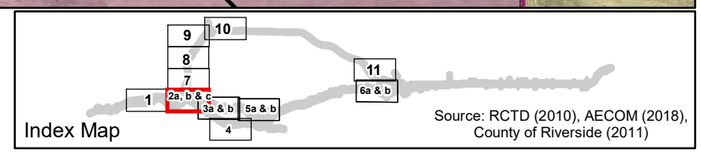
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 2c
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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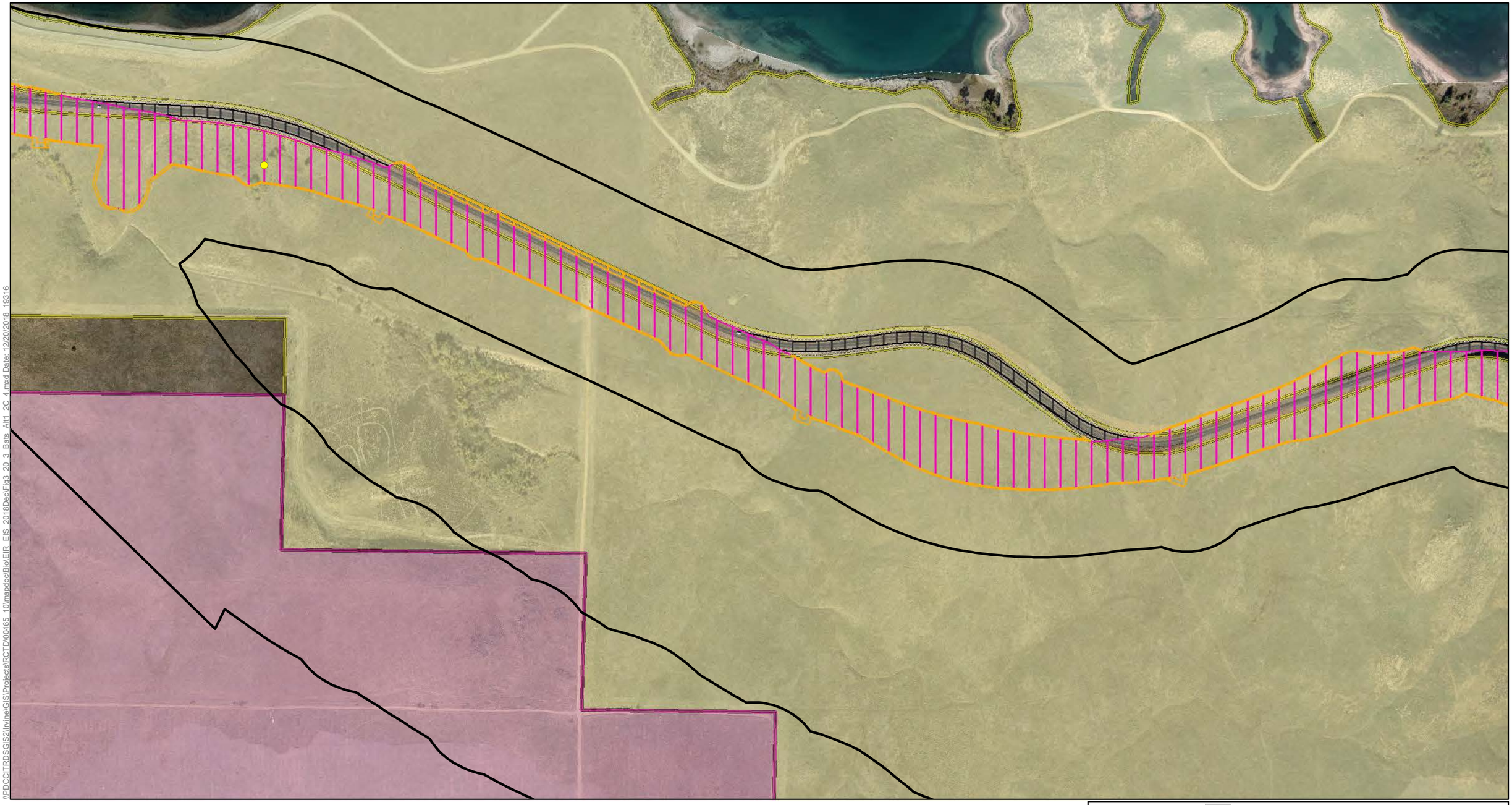

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

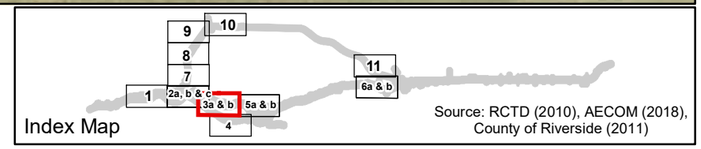
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3 - Sheet 3a
Special-status Bats Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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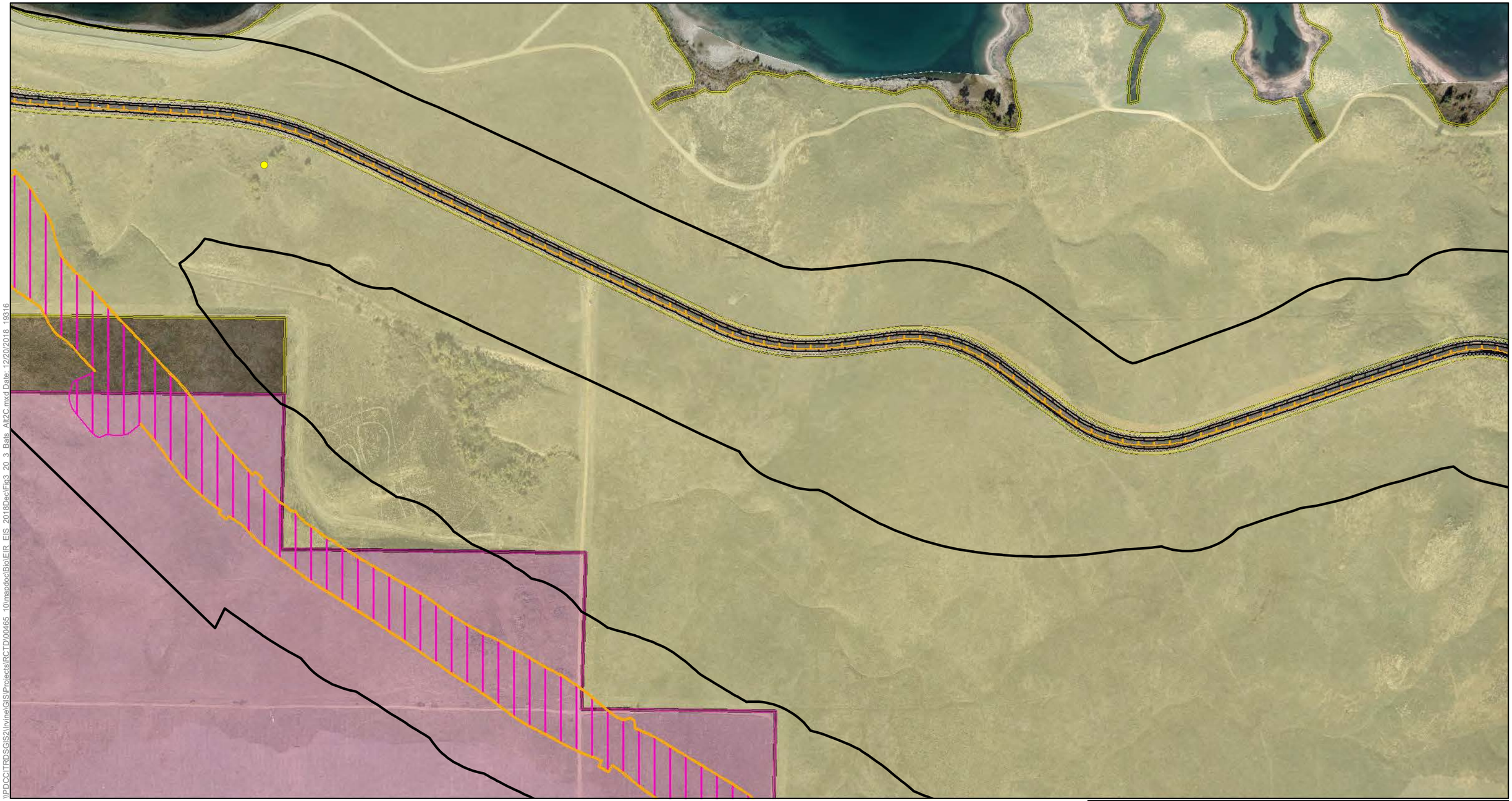

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

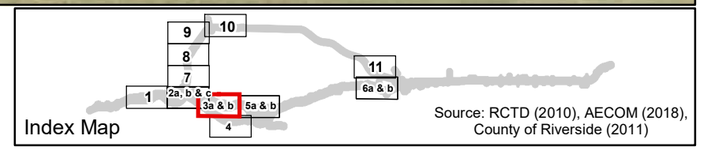
Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

*No USFWS species data available.

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 3b
Special-status Bats Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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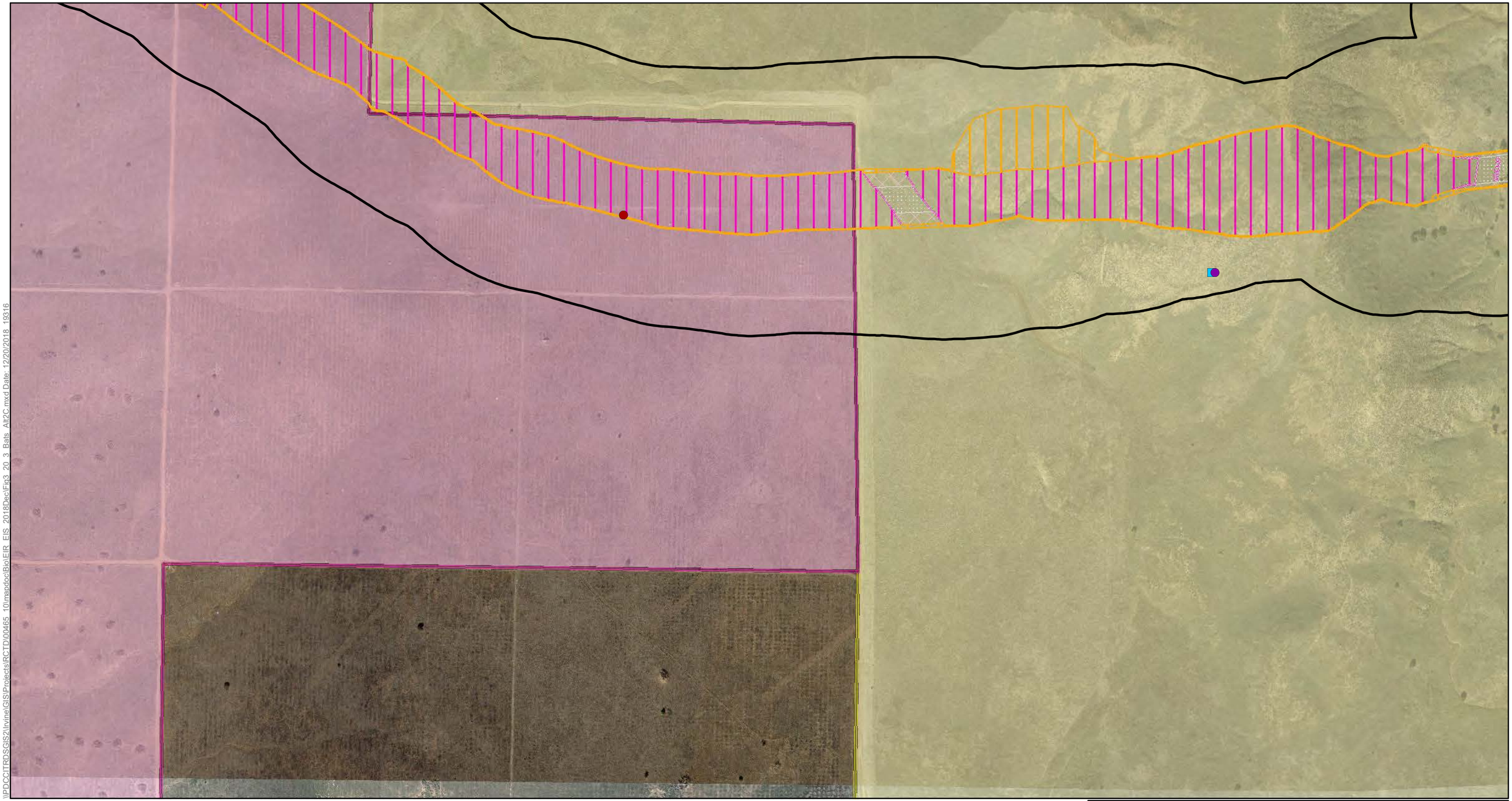

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

*No USFWS species data available.

N

0 100 200 400
Feet

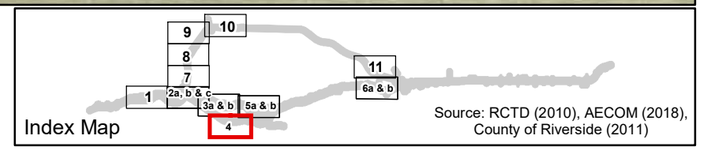

Figure 3.20-3- Sheet 4
Special-status Bats Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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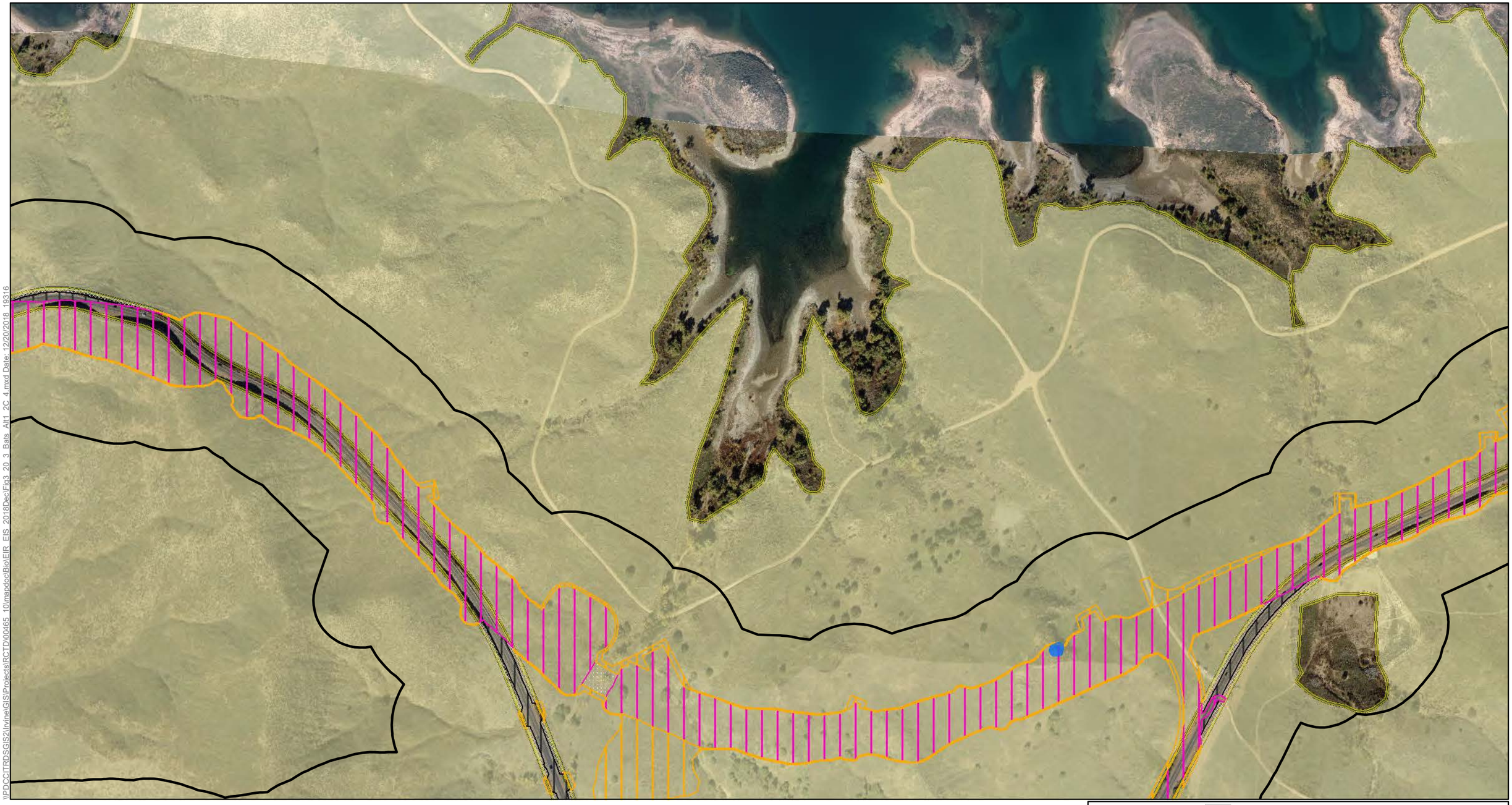

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

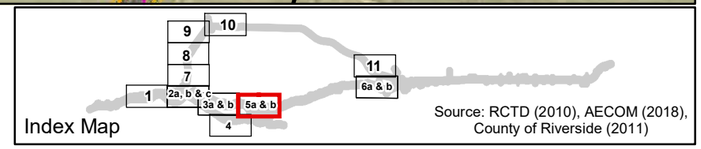
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3 - Sheet 5a
Special-status Bats Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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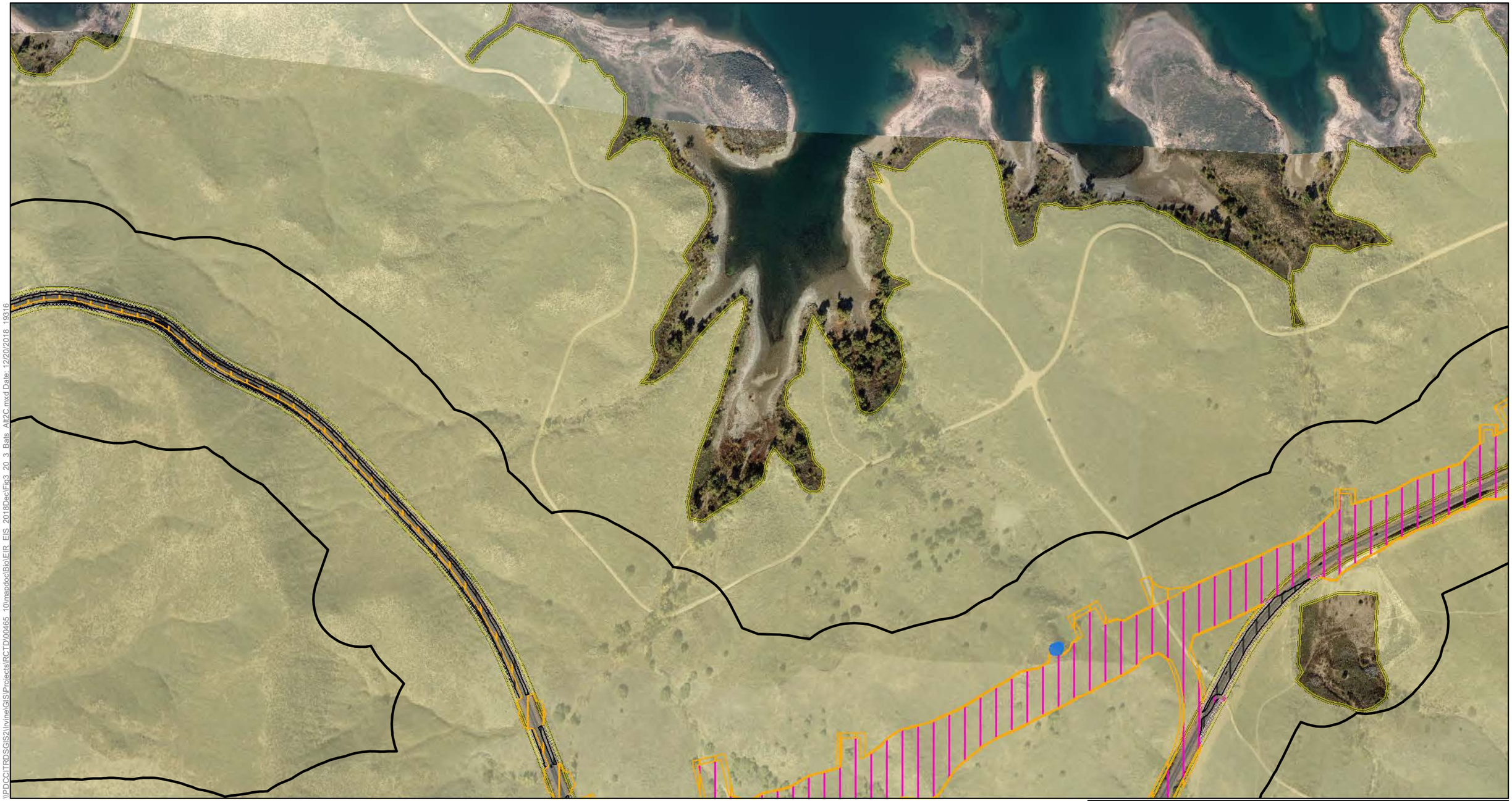

Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

*No USFWS species data available.

N

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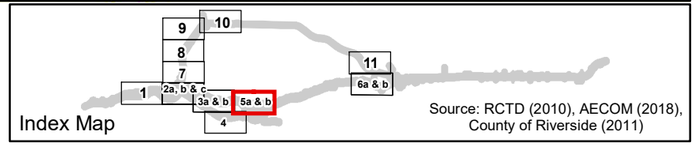
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 5b
Special-status Bats Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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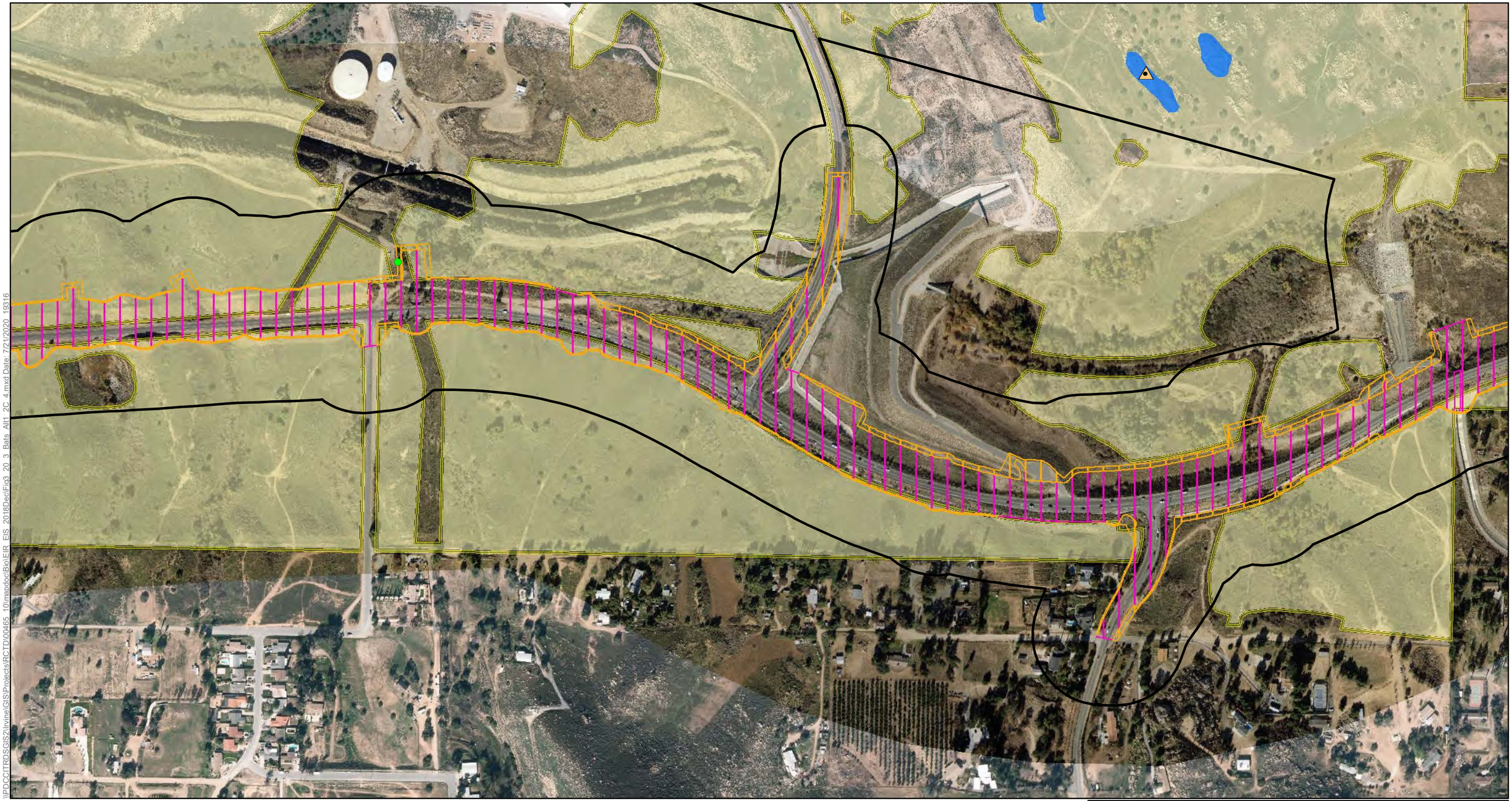

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

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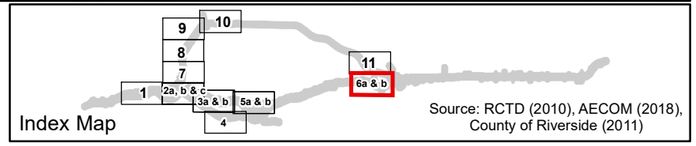
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3 - Sheet 6a
Special-status Bats Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

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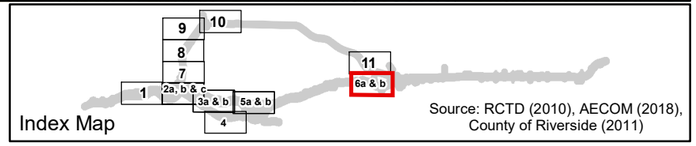
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 6b
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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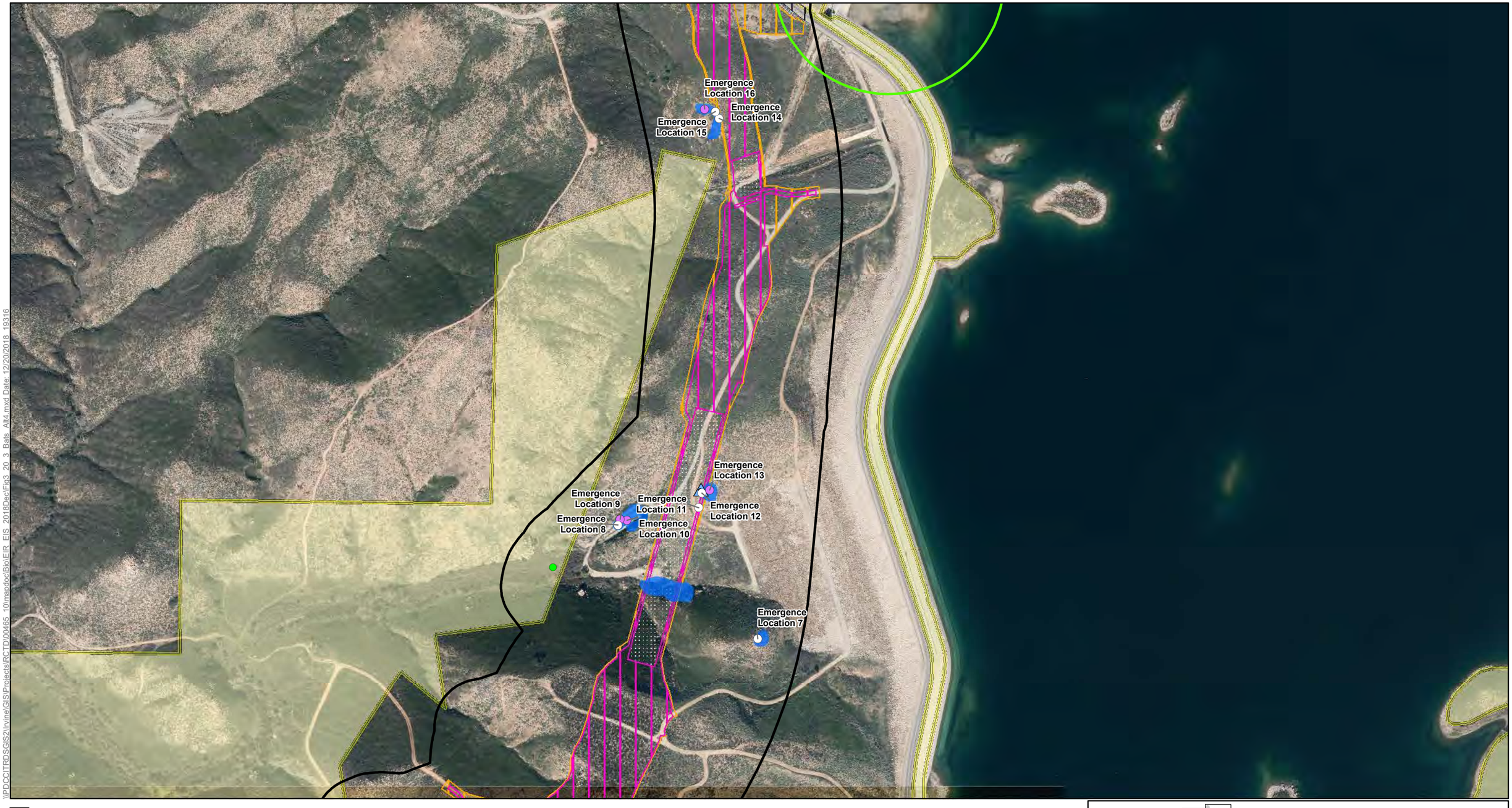

Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

Figure 3.20-3- Sheet 7
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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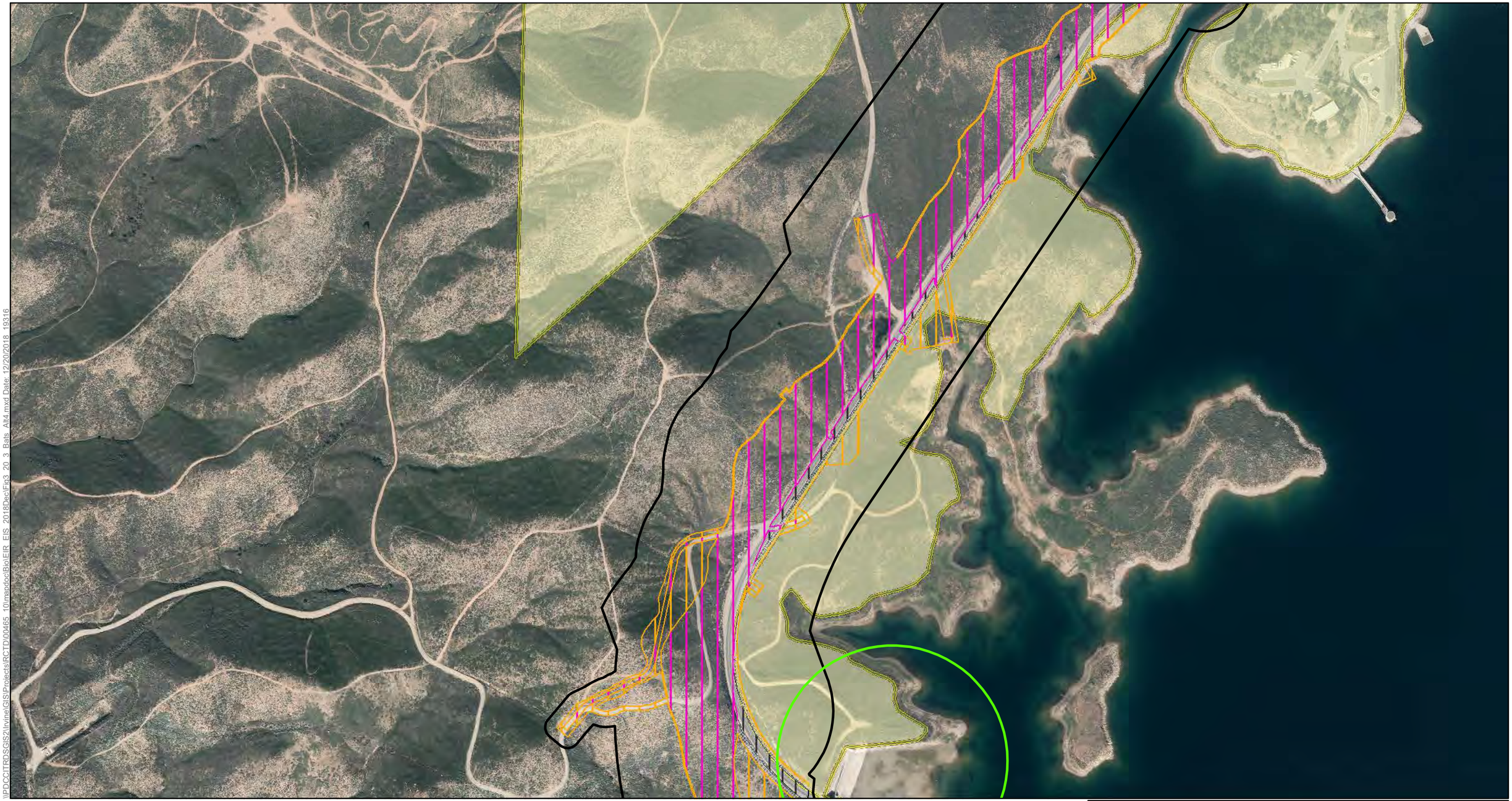

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

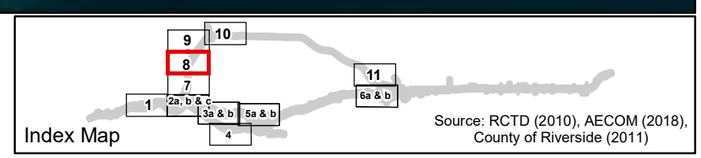
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 8
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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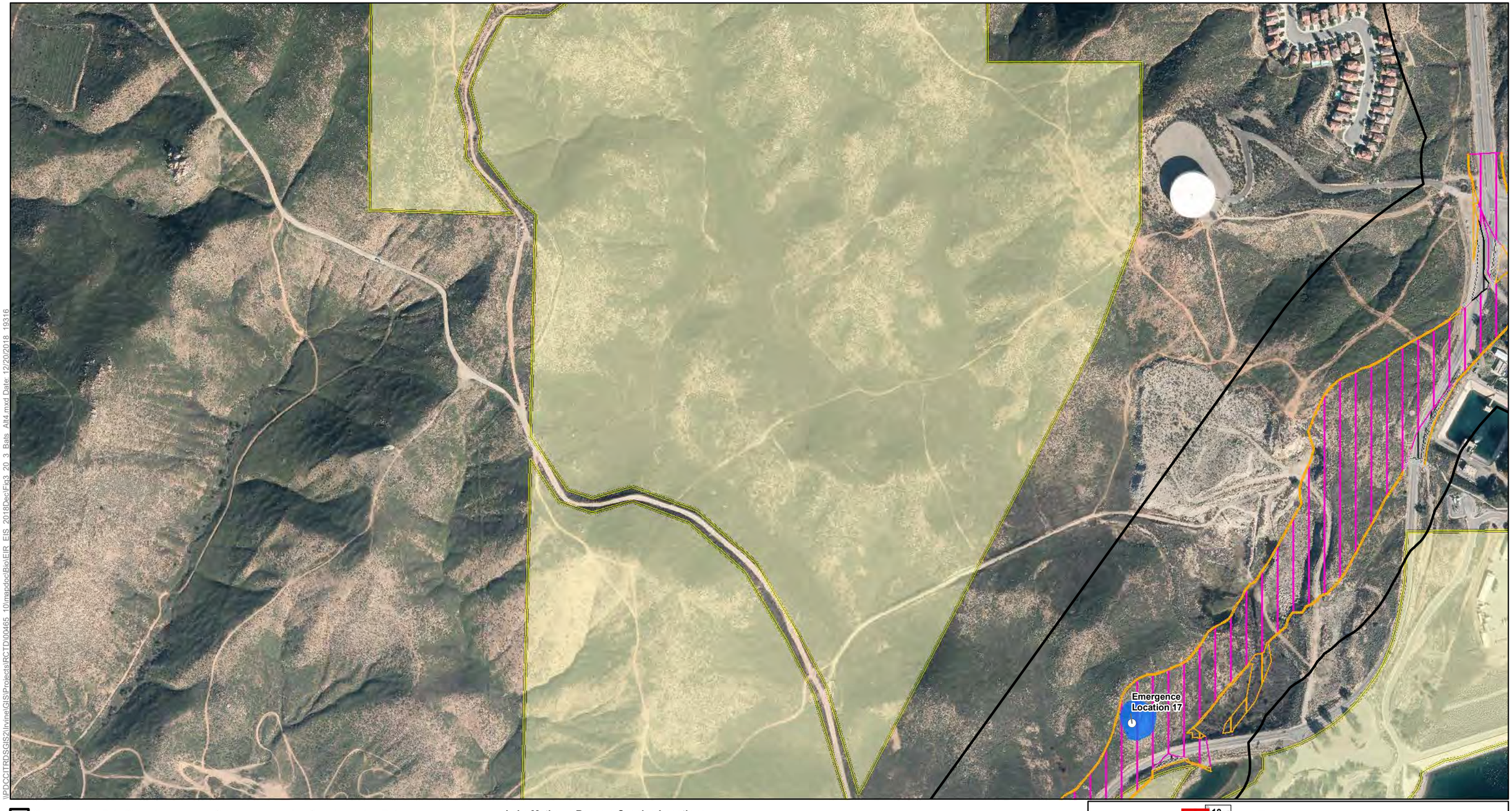

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Special-status Bats Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

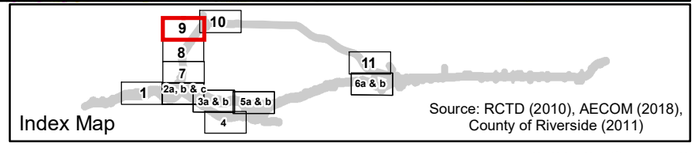
Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats
- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

Lake Mathews Reserve Species Locations
- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 9
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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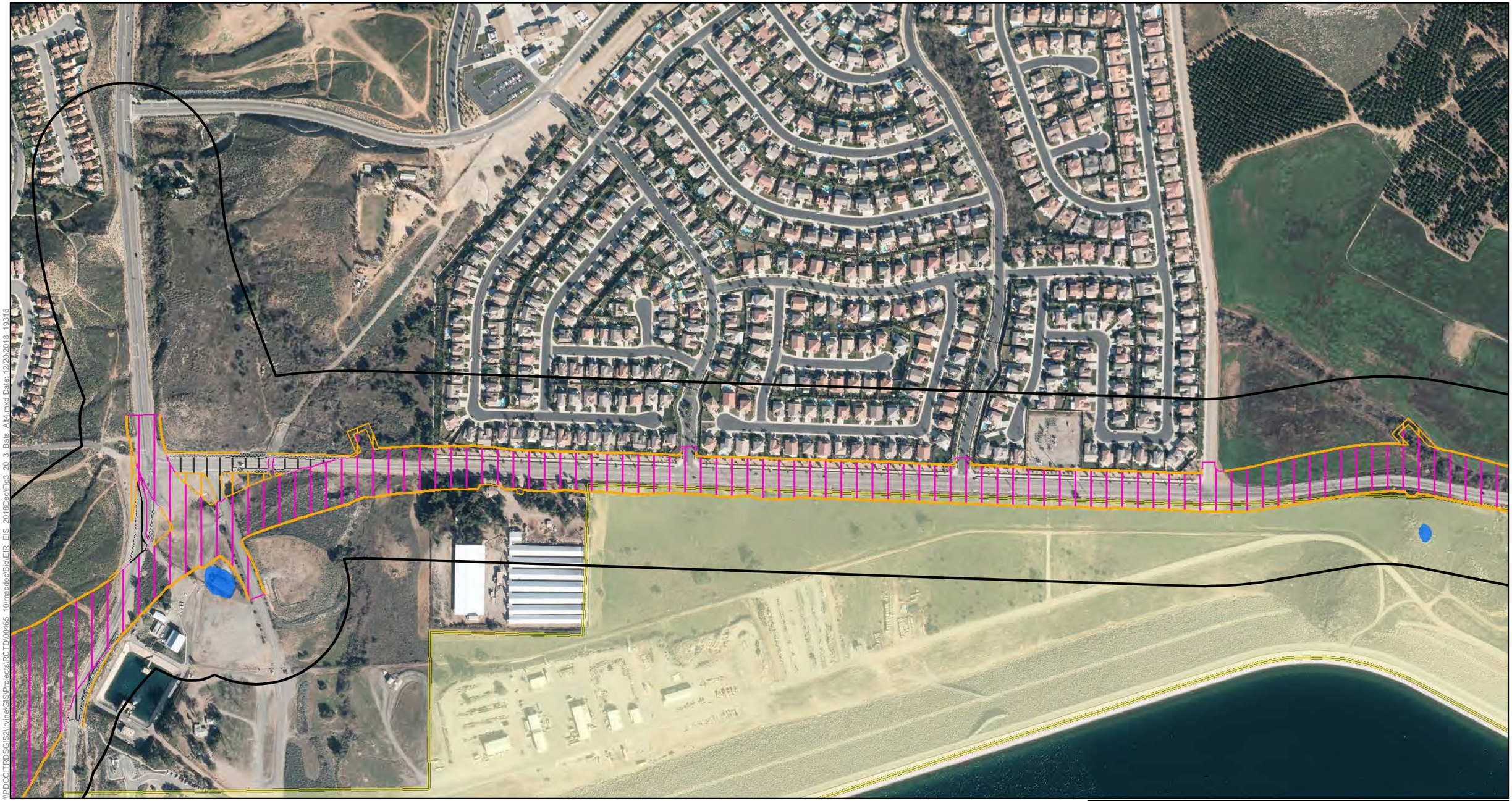

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Special-status Bats Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats

- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

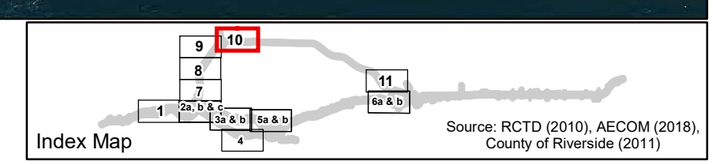
Lake Mathews Reserve Species Locations

- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 10
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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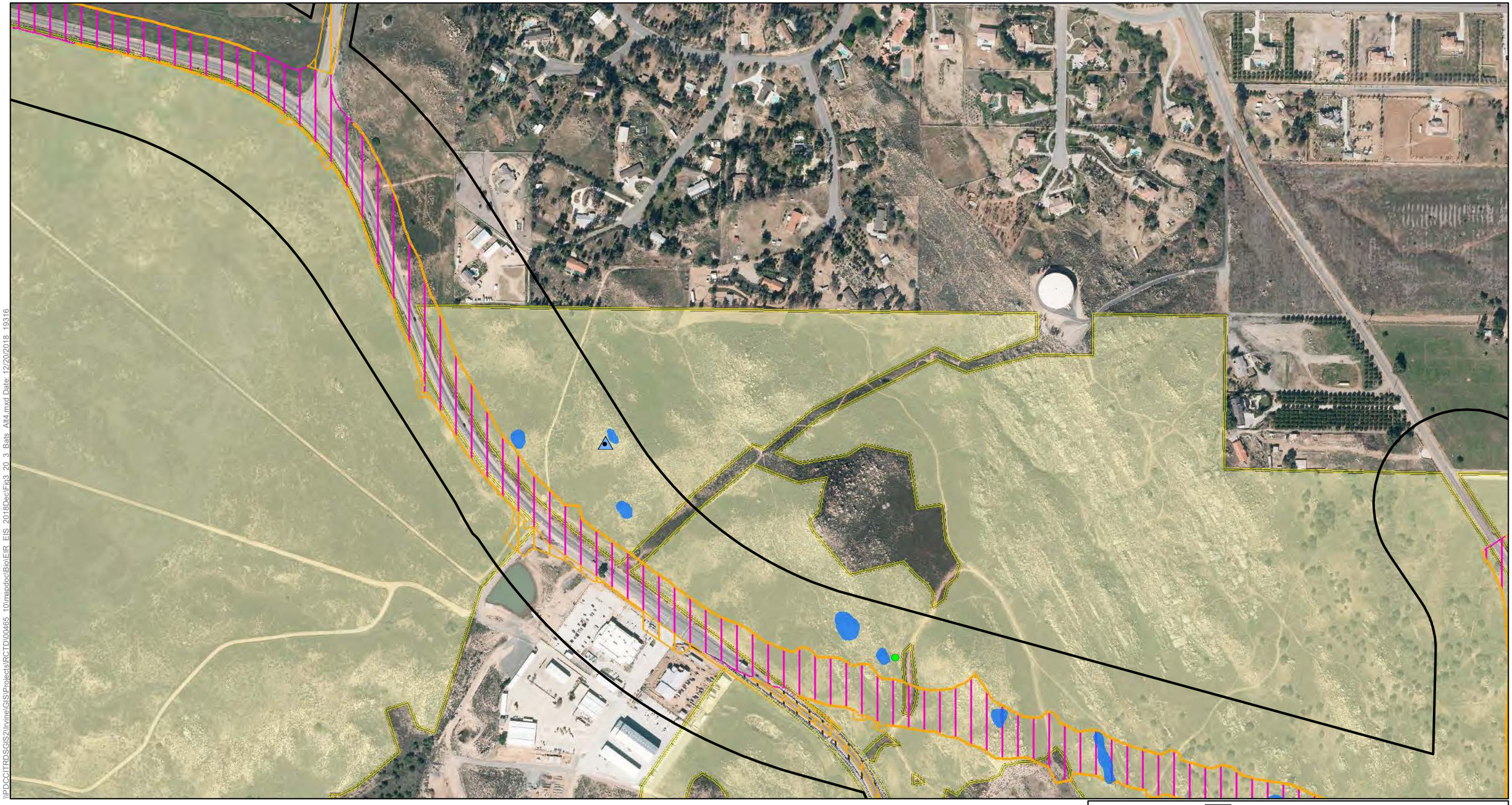


Special-status Bats Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

*No USFWS species data available.

Conserved Lands

- MWD
- RCHCA
- RCRCD
- WRCRCA

Special-status Bats

- Potential Colonial Bat Roost Habitat
- Western Yellow Bat (Summer 2015)
- Western Yellow Bat (Fall 2015)
- Summer 2015 Emergence
- Fall 2015 Emergence
- 2016 Spring Emergence
- 2016 Summer Emergence
- Suitable Habitat

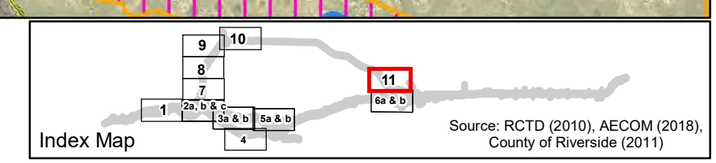
Lake Mathews Reserve Species Locations

- 1993 Pocket or Big Free-tail Bat
- 1993 Western Mastiff Bat

N

0 100 200 400

Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.20-3- Sheet 11
Special-status Bats Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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3.20.2.4 Non-Listed WRC MSHCP Covered Species

A total of 32 non-listed species are fully covered under the WRC MSHCP and could occur within the BSA. Habitat requirements for these species are listed in Table 3.20-1. Of the 32 non-listed, WRC MSHCP covered species that could occur in the BSA, 16 were detected during biological surveys: western spadefoot, Belding's orange-throated whiptail (*Aspidoscelis hyperythra beldingi*; CSC), coastal western whiptail (*Aspidoscelis tigris stejnegeri*; CSC), northern red-diamond rattlesnake (*Crotalus ruber*; CSC), northern harrier, golden eagle, Cooper's hawk (*Accipiter cooperi*; Watchlist [WL]), sharp-shinned hawk (*Accipiter striatus*; WL), prairie falcon (*Falco mexicanus*), California horned lark (*Eremophila alpestris actia*; WL), southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*; WL), Bell's sage sparrow (*Artemisiospiza belli belli*; WL), yellow warbler, yellow-breasted chat, San Diego black-tailed jackrabbit, and San Diego desert woodrat (*Neotoma lepida intermedia*; CSC). Of the species that were found in the BSA, all reptiles and mammals are year-round residents for this region, as are northern harrier (although this species is in regional decline due to a general lack of nesting habitat), golden eagle, Cooper's hawk, prairie falcon (also rare on the coastal slope due to lack of nesting habitat), California horned lark, southern California rufous-crowned sparrow, and Bell's sage sparrow. Sharp-shinned hawk is a winter resident, and yellow warbler and yellow-breasted chat are summer residents. Although there is suitable habitat in the BSA for the remaining 16 species, they were not detected during surveys.

3.20.2.5 Lake Mathews MSHCP

The LM MSHCP area of the BSA provides suitable habitat for a number of sensitive animal species. As described in Section 3.17, *Natural Communities*, habitat within the LM MSHCP area is generally composed of nonnative grasslands, Riversidian sage scrub, and riparian habitats. Planning wildlife species historically documented within the LM MSHCP area of the BSA include the following non-listed special-status species: San Diego horned lizard (*Phrynosoma blainvillii*; CSC), coastal western whiptail, northern red diamond rattlesnake, southern California rufous-crowned sparrow, tri-colored blackbird (*Agelaius tricolor*; CSC), California horned lark, Bell's sage sparrow, golden eagle, pocketed or big free-tail bat, San Diego black-tailed jackrabbit, northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*; CSC), white-tailed kite (*Elanus leucurus*; CFP), and San Diego Desert woodrat. These species were documented during field studies performed in 1992 and 1993 for the development of the LM MSHCP document. Several of these species were also observed during biological studies performed within the BSA for the proposed project; specific locations within the LM MSHCP area were not recorded.

In addition, there are several species that have no regulatory status but are planning species under the LM MSHCP, including Ruth's cuckoo bee (*Holcopasites ruthae*), San Bernardino ring-necked snake (*Diadophis punctatus modestus*), coastal rosy boa (*Lichanura trivirgata*), red-shouldered hawk (*Buteo lineatus*), rough-legged hawk (*Buteo lagopus*), and blue grosbeak (*Passerina caerulea*), that have potential to occur in the BSA. Focused studies were not performed for these species and are not required.

3.20.3 Environmental Consequences

3.20.3.1 Build Alternatives 1, 2C, and 4

The direct and indirect effects on natural vegetation communities are described in detail in Section 3.17, *Natural Communities*. The Impacts on special-status species that occur or potentially occur from Build Alternatives 1, 2C, and 4 are discussed in this section.

Burrowing Owl

Permanent removal of suitable habitat for BUOW would occur during construction of Build Alternatives 1, 2C, and 4. In addition, the build alternatives would temporarily affect habitat within the work area necessary to complete the project. As described above, a single wintering individual was found within the BSA adjacent to the Build Alternative 2C alignment (Figure 3.20-2); however, the burrow occupied by this individual occurs outside of the limits of disturbance (LOD). Although no individuals were detected along the Build Alternative 1 and 4 alignments during focused studies, BUOW are highly mobile and there is a potential for the species to occupy the LOD in the future. Measures **AS-1 (NES BIO-25)** through **AS-3 (NES BIO-28)** (in Section 3.20.4), as well as **NC-4 (NES BIO-5)** (in Section 3.17, *Natural Communities*), are intended to reduce potential direct effects on BUOW from Build Alternatives 1, 2C, and 4. Table 3.20-2 summarizes the permanent and temporary impacts on BUOW habitat.

Table 3.20-2. Direct Impacts on Suitable BUOW Habitat

Build Alternative	Impact Type[a]			
	Permanent (acres)	Roadbed Removal (Permanent Beneficial) (acres)	Temporary (acres)	Shading Effects[b] (acres)
Build Alternative 1	211.11	8.61	42.13	0.58
Build Alternative 2C	226.96	12.26	45.28	1.18
Build Alternative 4	201.28	6.55	38.94	3.97

[a] All totals are rounded to the nearest 100th.
[b] Shading effects = indirect impacts from bridge extensions and new bridges

Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction and returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation under the three build alternatives. This permanent impact is considered a beneficial impact and, although not required under the WRC MSHCP, would return suitable habitat for BUOW. The beneficial permanent impact from roadbed removal and rehabilitation of BUOW habitat under each build alternative is provided in Table 3.20-2.

Under all alternatives, any BUOW or its nest, if present adjacent to the LOD, could be temporarily and indirectly affected by project construction. Construction-related noise, rumbling, or general increased human presence could cause birds to abandon burrows or cause stress. Trash and food littered in the construction area could attract predators (such as coyotes), increasing potential predation of burrowing owl that may occur within the project vicinity. If construction occurs at night, night-lighting could disturb owls adjacent to the construction area. Temporary indirect impacts on habitat adjacent to the LOD could occur as well, including degradation of

habitat and the spread of exotic plant species, which could contribute to edge effects. However, indirect impacts on BUOW would be avoided and/or minimized by Measures **AS-1 (NES BIO-25)** through **AS-3 (NES BIO-28)** (in Section 3.20.4) and **NC-1 (NES BIO-1)** through **NC-9 (NES BIO-24)** (in Section 3.17, *Natural Communities*).

Special-Status Bats

Project impacts from Build Alternatives 1, 2C, and 4 would include the permanent removal of and temporary disturbance to potentially suitable foraging habitat for bats. Potential foraging habitat occurs throughout the LOD for each build alternative and varies from low to moderate quality. Potential foraging habitat within the grasslands and mustard-dominated nonnative vegetation is judged low quality due to its low prey abundance. Several areas that were identified as suitable habitat for large colonial roosts occur within the LOD of Build Alternative 1. Emergence of one individual at Emergence Location 6 (Figure 3.20-3) was observed at one of these locations; however, the location of the roosting individual occurred outside the project limits, and direct impacts on large colonial roosts within the LOD of Build Alternative 1 are not anticipated. Two areas that were identified as suitable habitat for large colonial roosts occur within the LOD of Build Alternative 2C. Direct impacts on large colonial roosts within the LOD of Build Alternative 2C are not anticipated. There were several areas that were identified as suitable habitat for large colonial roosts within the LOD of Build Alternative 4 (Sheets 6b, 7, and 11 of Figure 3.20-3). Direct impacts on large colonial roosts within the LOD for Alternative 4 are not anticipated. Table 3.20-3 provides the impacts on special-status bat species under each build alternative.

Table 3.20-3. Impacts on Foraging Habitat for Special-Status Bats

Build Alternative	Impact Type[a]			
	Permanent Impact (acres)	Roadbed Removal (Permanent Beneficial) (acres)	Temporary Impact (acres)	Shading Effect[b] (acres)
Build Alternative 1	241.30	9.29	53.76	1.35
Build Alternative 2C	256.76	12.85	56.90	1.93
Build Alternative 4	216.37	7.39	48.04	5.16

[a] All totals are rounded to the nearest 100th.
[b] Shading effects = indirect impacts from bridge extensions and new bridges.

Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction and returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation under the three build alternatives. This permanent impact is considered a beneficial impact because it would return suitable foraging habitat for special-status bats. The beneficial permanent impact from roadbed removal and rehabilitation of foraging habitat under each build alternative is provided in Table 3.20-3.

During construction, there is potential for temporary indirect impacts, such as noise and dust, to occur from construction activities, which could cause degradation of potential habitat adjacent to the LOD. These indirect impacts are expected to potentially affect only a few individuals given the existing disturbance levels along Cajalco Road. Measures **AS-2 (NES BIO-16)** and **AS-4 (NES BIO-26)** (in Section 3.20.4), as well as **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**,

NC-10 (NES BIO-10), and **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*), are intended to avoid and/or minimize potential indirect impacts on bats or their habitat.

Overall, project impacts from Build Alternatives 1, 2C, and 4 would occur on low- to medium-quality foraging habitat, and direct impacts on large colonial roosts within the LOD of Build Alternatives 1, 2C, and 4 are not anticipated; therefore, the project is not expected to have biologically substantial impacts on special-status bats or large colonial roosts.

Non-Listed Non-WRC MSHCP Covered Species

During construction of Build Alternatives 1, 2C, and 4, potentially suitable habitat for all 13 non-listed, non-WRC MSHCP covered species would be removed. The potential habitat proposed for removal occurs in a linear stretch along the existing roadway; thus, the number of individual animals that could be directly affected by this loss of habitat would likely be low as wildlife are generally not expected to be present in large numbers in this area. For birds, depending on the species, this may be suitable nesting, foraging, wintering, or stopover habitat used during migration. Table 3.20-4 summarizes the permanent and temporary impacts on suitable habitat for each non-listed, non-WRC MSHCP covered species for Build Alternatives 1, 2C, and 4.

Table 3.20-4. Direct Impacts on Suitable Habitat for Non-Listed, Non-WRC MSHCP Covered Species

Species	Impact Type[a]			
	Permanent[b] (acres)	Roadbed Removal[b] (Permanent Beneficial) (acres)	Temporary[b] (acres)	Shading Effect[c] (acres)
BUILD ALTERNATIVE 1				
Reptiles				
Southern California Legless Lizard	87.45	3.08	15.89	0.70
California Glossy Snake	194.55	8.81	29.06	0.52
Coast Western Patch-Nosed Snake	194.55	8.81	29.06	0.52
Two-Striped Garter Snake	7.18	0.07	4.12	0.40
Birds				
Least Bittern	0.06	--	0.06	--
Long-Eared Owl	9.39	0.38	5.17	0.35
Short-Eared Owl	116.76	5.80	18.18	0.22
Vaux's Swift	4.99	0.06	3.08	0.31
Clark's Marsh Wren	0.06	--	0.06	--
Oregon Vesper Sparrow	147.92	5.89	35.11	0.57
Yellow-Headed Blackbird	0.94	--	0.59	--
Mammals				
Southern Grasshopper Mouse	69.19	3.01	7.18	0.26
American Badger	176.41	8.65	23.37	0.45
BUILD ALTERNATIVE 2C				
Reptiles				
Southern California Legless Lizard	96.02	3.44	16.48	1.01
California Glossy Snake	195.77	12.38	31.41	1.12
Coast Western Patch-Nosed Snake	195.77	12.38	31.41	1.12
Two-Striped Garter Snake	5.77	0.05	4.16	0.39

Species	Impact Type[a]			
	Permanent[b] (acres)	Roadbed Removal[b] (Permanent Beneficial) (acres)	Temporary[b] (acres)	Shading Effect[c] (acres)
Birds				
Least Bittern	0.06	--	0.06	--
Long-Eared Owl	8.41	0.37	5.10	0.38
Short-Eared Owl	123.33	9.00	20.69	0.50
Vaux's Swift	4.43	0.05	3.14	0.34
Clark's Marsh Wren	0.06	--	0.06	--
Oregon Vesper Sparrow	139.36	9.08	36.96	0.84
Yellow-Headed Blackbird	16.27	--	1.30	--
Mammals				
Southern Grasshopper Mouse	79.56	3.38	7.89	0.58
American Badger	176.75	12.30	25.68	1.06
BUILD ALTERNATIVE 4				
Reptiles				
Southern California Legless Lizard	103.11	4.36	14.28	4.13
California Glossy Snake	149.72	6.21	26.05	4.02
Coast Western Patch-Nosed Snake	149.72	6.21	26.05	4.02
Two-Striped Garter Snake	5.08	0.06	2.32	0.39
Birds				
Least Bittern	0.06	--	0.06	--
Long-Eared Owl	6.36	0.37	3.36	0.38
Short-Eared Owl	54.95	1.91	15.23	0.28
Vaux's Swift	2.42	0.05	1.57	0.35
Clark's Marsh Wren	0.06	--	0.06	--
Oregon Vesper Sparrow	106.62	2.60	30.43	0.78
Yellow-Headed Blackbird	2.21	--	0.75	--
Mammals				
Southern Grasshopper Mouse	85.91	3.16	10.02	3.56
American Badger	138.12	5.06	24.27	3.83

[a] All totals are rounded to the nearest 100th.
[b] The impacts identified for each species were generated based on the habitat suitability requirements for each independent species. There may be some overlap in the vegetation communities that can be used by each species; however, the totals shown were evaluated independently.
[c] Shading effects = indirect impacts from bridge extensions and new bridges.

Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction and returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation under the three build alternatives. This permanent impact is considered a beneficial impact because it would return suitable habitat for species that occur in these particular areas. The beneficial permanent impact from roadbed removal and rehabilitation of habitat under each build alternative is provided in Table 3.20-4.

Both temporary and permanent impacts on individual animals could occur during construction. Indirect temporary impacts (e.g., degradation of habitat through noise, dust, human presence, increased fire risk) on potential habitat adjacent to the project LOD during construction may occur. While it is assumed that none of the bird species in this category would actually nest on-

site, if any did then active nesting habitat and/or active nests/young could be directly disturbed or destroyed by construction activities. The potential also exists for direct mortality and injury of individuals either during vegetation clearing and grading or by predators attracted to the construction area or by pets brought onto the site by construction personnel. Measures **AS-3 (NES BIO-28)**, **AS-5 (NES BIO-27)** and **AS-7 (NES BIO-20)** (in Section 3.20.4) are intended to avoid and/or minimize potential direct and indirect impacts on animals and their suitable habitat. For reptiles, this also includes Measures **NC-2 (NES BIO-2)** through **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*), as well as **AS-3 (NES BIO-28)** and **AS-7 (NES BIO-20)** (in Section 3.20.4); for birds this includes **NC-1 (NES BIO-1)** through **NC-10 (NES BIO-10)** and **NC-13 (NES BIO-9)** (in Section 3.17), as well as **AS-3 (NES BIO-28)** and **AS-5 (NES BIO-27)** (in Section 3.20.4); and for mammals, this includes **NC-2 (NES BIO-2)** through **NC-10 (NES BIO-10)** and **NC-13 (NES BIO-9)** (in Section 3.17), as well as **AS-3 (NES BIO-28)** (in Section 3.20.4) and **TE-1 (NES BIO-18)** (in Section 3.21, *Threatened and Endangered Species*).

The potential also exists for direct impacts on these species from operation of Build Alternatives 1, 2C, and 4. The addition of vehicle lanes could increase potential mortality from vehicle strikes because the wider roadway would be more difficult for animals to cross, particularly reptiles. However, wildlife crossings that have been incorporated into the project design would minimize the potential risk from vehicle strikes. Individual wildlife crossings proposed under each build alternative and their locations are provided in Appendix J; Table J-1 lists each proposed wildlife crossing and Figure J-1, Proposed Wildlife Crossings – Build Alternatives 1, 2C and 4, indicates the location of each crossing. Conditions related to operation and maintenance of Build Alternatives 1, 2C, and 4 would not differ appreciably from existing operating conditions. The roadway would continue to produce noise, dust, air pollution, and fire risk. However, all of these impacts have been occurring for decades.

Non-Listed WRC MSHCP Covered Species

Permanent removal of suitable habitat for WRC MSHCP covered non-listed species would occur during construction of Build Alternatives 1, 2C, and 4. The potential habitat proposed for removal occurs in a linear stretch along the existing roadway; thus, the number of individual animals that could be directly affected by this loss of habitat would likely be low because wildlife density would be expected to be low along roadways. If these species are present, there is potential for direct mortality and loss of live-in, breeding, and foraging habitat. Indirect impacts from project construction could degrade habitat further. However, these potential impacts are fully covered under the WRC MSHCP. Measures identified in Section 3.20.4 that are intended to avoid and/or minimize potential direct and indirect impacts on WRC MSHCP covered non-listed species include **AS-2 (NES BIO-16)** through **AS-5 (NES BIO-27)** and **AS-7 (NES BIO-20)**, as well as **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*) and **TE-3 (NES BIO-30)** (in Section 3.21, *Threatened and Endangered Species*). Table 3.20-5 on the following page summarizes the permanent and temporary impacts on suitable habitat for these species.

Table 3.20-5. Direct Impacts on Suitable Habitat for WRC MSHCP Covered Non-listed Species

Build Alternative	Impact Type[a]			
	Permanent (acres)	Roadbed Removal (Permanent Beneficial) (acres)	Temporary (acres)	Shading Effects[b] (acres)
Build Alternative 1	239.86	9.29	53.61	1.35
Build Alternative 2C	255.12	12.85	56.76	1.93
Build Alternative 4	216.16	7.28	47.57	4.99

[a] All totals are rounded to the nearest 100th.
[b] Shading effects = indirect impacts from bridge extensions and new bridges.

Potential indirect effects from operation of the proposed project may occur from vehicle strikes, fire risk, and degradation of habitat adjacent to the facility, but these impacts would not be expected to be substantially greater than existing conditions. Although the non-listed bird species and foraging habitat are covered under the WRC MSHCP, the birds and their active nests are still afforded protections under the Migratory Bird Treaty Act (MBTA) and California Fish and Game Code. The avoidance and minimization measures in Section 3.20.4 will ensure there would be no impacts on nesting birds or raptors. With implementation of these measures, all impacts on these species would be fully covered.

Nesting Birds

Project construction may additionally have adverse impacts on species that are protected by the MBTA and similar provisions of the California Fish and Game Code. This includes bird species previously addressed above as well as those that have no other protections. As stated above for other species, construction of the project would result in both temporary and permanent loss of habitat throughout the LOD. The act of removing this vegetation may result in increased stress to adult and young birds, nest abandonment, or direct take of nests that are in the construction footprint, as well as injury or mortality of birds at, in, or nearby to the nest. In addition, construction equipment and activity in the vicinity of active nests may have similar or the same results. Long-term operation may temporarily exclude species from nesting in the vicinity of the project, although over time small numbers of birds may return. It is expected that if this happened, those birds would be acclimated to the new road conditions, including noise and any visual disturbance, and that under normal circumstances no additional impacts would be expected to those particular nesting birds. Avoidance and minimization measures listed in Section 3.20.4, specifically **AS-5 (NES BIO-27)**, as well as **NC-1 (NES BIO-1)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*), would reduce the number of direct effects on individual birds, although it may not have an effect on the amount of habitat that is lost.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Burrowing Owl

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not

currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the six-lane facility would not change any effects on BUOW that are already expected as a result of the four-lane facility. Because the additional two lanes would be situated in the median, it would be unlikely for any BUOW to occur in this narrow strip of open land, which would be graded during construction of the selected build alternative. Operation of the two additional lanes could potentially result in additional traffic noise, but this is not expected to affect owls. If any staging areas are located in areas outside of the right of way, it is possible that there may be temporary impacts on BUOW in association with the use of the staging area.

Special-Status Bats

If the two additional lanes described above are constructed within the medians of Cajalco Road and La Sierra Avenue in the future, it is anticipated that operation of the six-lane facility would not change any effects on special-status bats that are already expected as a result of the four-lane facility. Because the additional two lanes would be situated in the median and would be graded during construction of the selected build alternative, a robust insect prey base would not be expected that would draw bats to forage there. If any foraging areas are located outside of the right of way, it is possible that there may be temporary impacts on special-status bats that may be roosting nearby, but staging areas could be located in areas where bat roosts do not occur so as to avoid or minimize impacts.

Non-Listed Non-WRC MSHCP Covered Species

If the two additional lanes described above are constructed within the medians of Cajalco Road and La Sierra Avenue in the future, it is anticipated that operation of the six-lane facility would not change effects on wildlife from those that are already expected as a result of the four-lane facility. Avoidance and minimization Measure **NC-16 (NES BIO-19)** (in Section 3.17, *Natural Communities*) would require wildlife exclusion fencing along the length of the road, with periodic ramps to allow any trapped wildlife out. Fencing would push wildlife to culverts that would travel below the road to allow safe crossing. Therefore, the development and use of the median as two additional travel lanes would have no effect on the exclusionary measures that would already be in effect to guide terrestrial wildlife under the road. The loss of the median may result in a minor loss of foraging habitat to species that prefer to forage in ruderal/open/grassland areas (e.g., doves), but because the project is in general surrounded by undeveloped lands it would be easy for the birds to move out of the footprint and into adjacent or nearby areas. If any staging areas are located in areas outside of the right of way, it is possible that there may be temporary impacts on wildlife in association with the use of the staging area.

Non-Listed WRC MSHCP Covered Species

If the two additional lanes described above are constructed within the medians of Cajalco Road and La Sierra Avenue in the future, it is anticipated that operation of the six-lane facility would not change effects on wildlife from those that are already expected as a result of the four-lane facility. Avoidance and minimization Measure **NC-16 (NES BIO-19)** (in Section 3.17, *Natural Communities*) would require wildlife exclusion fencing along the length of the road, with periodic ramps to allow any trapped wildlife out. Fencing would push terrestrial wildlife to culverts that would travel below the road to allow safe crossing. Therefore, the development and

use of the median as two additional travel lanes would have no effect on the exclusionary measures that would already be in effect to guide terrestrial wildlife under the road. Aquatic species would not be expected to be affected by the operation of the two additional lanes, and construction effects would be minimized or avoided through implementation of Measures **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12)** (in Section 3.17, *Natural Communities*). If any staging areas are located in areas outside of the ROW, it is possible that there may be temporary impacts on wildlife in association with the use of the staging area.

Nesting Birds

If the two additional lanes described above are constructed within the medians of Cajalco Road and La Sierra Avenue in the future, it is anticipated that operation of the six-lane facility would not change any effects on birds from those that are already expected as a result of the four-lane facility. Operation of the two additional lanes would perhaps result in additional traffic noise, but birds nesting, roosting, foraging, or otherwise along the side of the road would be expected to be acclimated to the noise and traffic. The two additional lanes would be in the median and would be graded during initial construction of the chosen build alternative, and thus would have little value to wildlife in general. The loss of the median may result in a minor loss of foraging habitat to species that prefer to forage in ruderal/open/grassland areas (e.g., doves), but because the project is in general surrounded by undeveloped lands it would be easy for the birds to move out of the footprint and into adjacent or nearby areas. If any staging areas are located in areas outside of the right of way, it is possible that there may be temporary impacts on wildlife in association with the use of the staging area.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Under Build Alternatives 1 and 2C, segments of Cajalco Road within the Lake Mathews MSHCP planning area and LMR would be expanded and realigned. Under Build Alternative 4, La Sierra Avenue and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities including drainage basins, culverts, bridges and wildlife crossings, would also be constructed within the LM MSHCP area and LMR under any of the build alternatives. Because the LM MSHCP does not currently accommodate the construction of these facilities or include a prescribed process to allow changes to the plan in response to public safety and/or accessed needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. All three build alternatives would also encroach into portions of the LMR and remove habitat for LM MSHCP target species (including the species addressed throughout this section). Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties.

Burrowing Owl

No burrowing owl were found within the LMR. Impacts on potential habitat would affect up to 128.26 acres under Build Alternative 1, 121.69 acres under Build Alternative 2C, and 65.54 acres under Build Alternative 4. Although no impacts would occur on BUOW, as previously mentioned, this species is highly mobile and may migrate into the LOD prior to construction. The measures identified above would apply within the LM MSHCP area. In addition, the project

would be required to replace suitable habitat for this species, regardless of the species presence or absence during focused studies (**NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

Special-Status Bats

The LMR provides approximately 120.56 acres of suitable foraging habitat for pallid bat, mastiff bat, pocketed free-tailed bat, and big free-tailed bat that would be permanently removed under Build Alternative 1. Temporary impacts would occur on 20.91 acres of the LMR. Species discussed above were not detected within these reserve lands.

The LMR has approximately 111.46 acres of suitable foraging habitat for pallid bat, mastiff bat, pocketed free-tailed bat, and big free-tailed bat that would be permanently removed under Build Alternative 2C. Temporary impacts would occur on 22.56 acres of the LMR.

Approximately 56.52 acres of suitable foraging habitat for pallid bat, mastiff bat, pocketed free-tailed bat, and big free-tailed bat would be permanently removed under Build Alternative 4. Temporary impacts would occur on 9.01 acres of the LMR. Species discussed above were not detected within the LMR.

Avoidance and minimizations identified above would also be implemented to reduce indirect impacts on bats within the LMR. In addition, the project would be required to replace suitable habitat for these species, regardless of the species' presence or absence during focused studies (**NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

Non-Listed Non-WRC MSHCP Covered Species

The non-listed WRC MSHCP species described above are not LM MSHCP Planning species; therefore, no impacts analysis for these species is provided.

Non-Listed WRC MSHCP Covered Species

The build alternatives would directly affect suitable habitat for many of the LM MSHCP Planning species. As mentioned in Section 3.20.2.5, there are 14 special-status species that have been historically documented in the BSA and/or documented during biological studies. There is a potential for the species to be potentially impacted by the build alternatives based on the removal of suitable habitat for these species.

The measures identified above would apply within the LMR. In addition, the project would be required to replace suitable habitat for the Planning species, regardless of the species directly affected (**NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

Nesting Birds

Undeveloped lands within the LMR provide suitable habitat that could potentially be used by birds and raptors protected by the MBTA and similar provisions under the California Fish and Game Code. During construction within the LM MSHCP area, the avoidance and minimization measures identified above for each build alternative would apply within the LMR as well.

Habitat Impacts

Direct and indirect effects would occur on habitat within the LMR, which supports the LM MSHCP target species identified in Section 3.20.2.5, including species that have no special regulatory status. Table 3.20-6 summarizes the direct impacts on natural vegetation communities within the LMR.

Table 3.20-6. Vegetation Communities Direct Impacts: Lake Mathews Reserve

	Impact Type		
Build Alternative	**Permanent Impact[a,b]**	**Temporary Impact**	**Roadbed Removal[c]**
Build Alternative 1	120.31	20.79	0.14
Build Alternative 2C	111.21	22.44	0.16
Build Alternative 4	56.52	8.76	0.70

[a] All totals are rounded to the nearest 100th.
[b] Replacement and restoration acreages are only for natural lands suitable for LM MSHCP covered species. These lands have been generally categorized as nonnative grassland, Riversidian sage scrub, and riparian. No developed areas or exotic/invasive vegetated areas would require compensation; therefore, these have been deducted from the total impacts for the conservation area.
[c] Roadbed removal would restore native vegetation suitable for this species and has already been removed from the total compensation requirements.

Measure **AS-7 (NES BIO-20)** would be implemented to ensure there are no impacts on the portions of the LMR that occur outside of the LOD. Mitigation measures to compensate for the loss of habitat will include acquisition and/or restoration of lands contiguous with the existing Reserve area; improvements to security fencing that will still allow for wildlife passage through wildlife crossings; installation of cameras to monitor wildlife usage at crossings and deter human trespass; and establishment of an endowment fund to be used for Reserve enhancement, management, and monitoring (**NC-17 [NES BIO-17]** and **NC-18 [NES BIO-31]** in Section 3.17, *Natural Communities*). In addition, temporary impacts are proposed to be addressed through onsite restoration (**NC-19 [NES BIO-15]** in Section 3.17).

The details for land acquisitions and funding requirements will be coordinated with the Lake Mathews Reserve Management Committee (RMC) and final selection of mitigation would be contingent upon approval by RMC. In addition, removal of the existing roadbed will return lands to natural topographic contours, be decompacted to allow for plant establishment, and revegetated with native vegetation. Under Build Alternative 2C, areas of roadbed removal will be kept as 20-foot-wide dirt, gravel, or partially paved access roads for management of the LMR and MWD use, but the road edges would be revegetated with native species. Roadbed removed under Build Alternatives 1 and 4 would be revegetated with native vegetation. Roadbed removal areas that are returned to natural state or planned for exclusive use by MWD or management of the Reserve are included as compensatory mitigation for impacts on the Reserve.

3.20.3.2 No-Build Alternative

Under the No-Build Alternative, there would be no permanent or temporary impacts on natural communities of special concern beyond those that would be expected to occur from the existing facility.

3.20.4 Avoidance, Minimization, and/or Mitigation Measures

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **TE-3 (NES BIO-30)** in Section 3.21, *Threatened and Endangered Species*, will ensure the indirect effects on non-listed special-status species from construction activities are avoided and/or minimized.

The following avoidance and minimizations measures address the direct and indirect impacts on non-listed special-status animals:

AS-1 (NES BIO-25): BUOW Management Plan – A burrowing owl (BUOW) management plan will be developed to ensure avoidance of impacts on BUOW within Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) BUOW survey areas. In the plan, the following information, at a minimum, will be included and performed during each phase of project construction:

a) Focused Survey for BUOW – Performed following the WRC MSHCP protocol between the window of March 1 through August 31 and in the survey season prior to scheduled construction. The survey will include the limits of disturbance (LOD) of the selected build alternative and up to a 300-foot buffer if performed between February 1 and August 31.

b) Preconstruction Survey for BUOW – Performed within 30 days prior to ground disturbance regardless of whether the species is found during the focused survey. The survey area would be the LOD and at least a 300-foot buffer and required only within WRC MSHCP BUOW survey areas.

c) Protocol for Presence – Steps necessary for handling the presence of BUOW (if found during either of the two surveys), which may include full avoidance, if feasible, or passive relocation by a qualified ornithologist.

d) Agency Approval – The BUOW management plan will be submitted for review by the Western Riverside County Regional Conservation Authority, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and Lake Mathews Reserve Management Committee (for the Lake Mathews Multiple Species Reserve area only).

AS-2 (NES BIO-16): Light Shielding – The Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) requires that shielding be incorporated in project designs to ensure ambient lighting in WRC MSHCP conservation areas is not increased (WRC MSHCP Volume I, Section 6.1.4). Night lighting will be directed away from natural lands within existing and proposed WRC MSHCP conservation areas in order to support potential linkage and core functions during construction. This is intended to protect species within existing and proposed WRC MSHCP conservation areas from direct night lighting during construction, if activities occur at night. Table 3.20-7 provides the areas where night lighting restrictions applies for each build alternative.

Table 3.20-7. Night Lighting Avoidance Areas by Build Alternative

Build Alternative	Night Lighting Avoidance Areas Within and Adjacent to Conservation Areas
Build Alternative 1	STA #18 to 27; STA #90 to 146; STA #159 to 513
Build Alternative 2C	STA #18 to 27; STA #90 to 146; STA #159 to 518
Build Alternative 4	STA #18 to 27; STA #90 to 149; STA #149 to 182 (west side of LOD only); STA #184 to 231 (east side of LOD only); STA #270 to 318 (south side of LOD only); STA #330 to 344 (south side of LOD only); STA #356 to 385 (south side of LOD only); STA #385 to 421; STA #421 to 511 (south side of LOD only); and STA #511 to 581.

LOD = limits of disturbance

AS-3 (NES BIO-28): Preconstruction Surveys – Preconstruction clearance surveys for sensitive wildlife species will be performed within 3 days prior to construction to flush the species from the construction footprint following the installation of Environmentally Sensitive Area (ESA) fencing. ESA fencing must be sufficient to prevent the entry of animals into the limits of disturbance (LOD) as feasible. No nesting birds will be flushed during the nesting season. Bats will not be flushed but will be protected as specified in **AS-4**. Burrowing wildlife will be relocated from the site as feasible during preconstruction clearance surveys.

AS-4 (NES BIO-26): Bat Management – A bat management plan will be developed to ensure mortality to roosting bats does not occur to ensure California Environmental Quality Act compliance and consistency with the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan. The following items will be included in the plan, at a minimum:

a) For each location determined to be suitable for special-status bat species or large colonial roosts, a preconstruction survey will be conducted to determine if the location is occupied by roosting bats.

b) For each location confirmed to be occupied by bats, the plan will provide details both in text and graphically where exclusion devices will need to be placed, the timing for exclusion work, and the timeline and methodology needed to exclude the bats.

c) Monitoring activities and schedule will be included, including frequency of monitoring, which structures would need to be monitored, and reporting requirements.

d) Draft plan will be submitted for review to the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and Lake Mathews Reserve Management Committee.

AS-5 (NES BIO-27): Nesting Bird Management – A nesting bird management plan will be drafted to provide a comprehensive approach to addressing nesting birds prior to the commencement of construction phases. It will include, at a minimum, the following items:

a) Project biologist and monitoring biologist qualifications.

b) Methods and timing (including seasonal considerations) for preconstruction surveys for nesting birds protected under the Migratory Bird Treaty Act and California Fish and Game Code, which will be performed prior to the start of all project phases during the bird breeding season. Preconstruction nesting bird survey requirements may be superseded by the Lake and Streambed Alteration Agreement.

c) Methods for addressing nesting birds, raptors, and colonial nesting birds (i.e., swallows), including avoidance buffers, avoidance measures to reduce disturbances to active nests, and deterrent methods.

d) Reporting requirements.

This nesting bird management plan will be coordinated with and submitted for review by U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and Lake Mathews Reserve Management Committee (as the plan pertains to the Lake Mathews Multiple Species Reserve area).

AS-6 (NE BIO-29): Pet Policy – Construction staff will not be permitted to bring their pets in, or adjacent to, the construction area.

AS-7 (NES BIO-20): Environmentally Sensitive Areas – Environmentally sensitive area (ESA) fencing must be sufficient to prevent the entry of animals into the limits of disturbance. Once the ESA fencing has been installed (**NC-6 [NES BIO-6]**), a preconstruction reptile and amphibian clearance survey will be conducted no more than 3 days prior to site grubbing and grading of lands in the area. If construction is to follow in stages, then the preconstruction clearance survey would be scheduled to follow just prior to site grubbing and grading. Clearance surveys will be conducted during the appropriate time of day when reptiles and amphibians are active. Table 3.20-8 describes where this measure is applicable for various species.

Table 3.20-8. ESA Fencing Locations for Reptiles and Amphibians

Species	Location	Refer to Section
Arroyo Toad	All Conserved Lands	3.21.3
Southern California Legless Lizard California Glossy Snake Coast Western Patch-Nosed Snake Two-Striped Garter Snake	Entire Project LOD	3.20.3
San Bernardino Ring-Necked Snake Coastal Rosy Boa	Lake Mathews Reserve	3.20.3

3.21 Threatened and Endangered Species

3.21.1 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 subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the Federal Highway Administration (FHWA) (and the Department, as assigned), are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 may include a Biological Opinion with an Incidental Take Statement, 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 Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFW. For species listed under both FESA and CESA requiring a Biological Opinion under Section 7 of the FESA, CDFW may also authorize impacts to CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.

Consistency with the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) would provide take coverage for state-listed species affected by the project, with the consistency review performed by the Western Riverside Regional Conservation Authority (RCA), USFWS, and CDFW (see Section 3.21.2.2).

The proposed project is a covered activity under the WRC MSHCP (Volume I, Section 7.2.2); therefore, take authorization for impacts on covered federal and state endangered species would occur through consistency with the WRC MSHCP and the plan's permits. A consistency review by the RCA, USFWS, and CDFW will be performed to ensure that the project is consistent with the requirements of the WRC MSHCP. The consistency review will result in a streamlined biological opinion from USFWS. Formal consultation under Section 7 will not be necessary.

In addition, the project overlaps a Stephens' kangaroo rat (SKR) Core Reserve established under the SKR Habitat Conservation Plan (HCP). Although take authorization for SKR would occur under the WRC MSHCP, any loss of SKR Core Reserve would require the preparation and

submittal of a Core Reserve Land Disturbance Report to the Riverside County Habitat Conservation Agency (RCHCA). This report would document the impacts on SKR and the compensatory mitigation.

The proposed project also overlaps with the Lake Mathews Multiple Species Reserve (LMR) established by the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP). The LM MSHCP is a joint conservation effort initiated by the Metropolitan Water District of Southern California (MWD) and the RCHCA in cooperation with the USFWS and CDFW that spans a total of 5,993.5 acres of open land around Lake Mathews. The LM MSHCP provides take of federally (ESA) and state-listed (CESA) species covered under the plan and the measures necessary to minimize and mitigate for such take. There are a total of 65 target species within the LM MSHCP area and the 5,110.4-acre LMR, including 12 covered federally and state-listed as threatened and endangered species. Proposed project impacts within the LM MSHCP area beyond the existing right of way are not an allowable use or activity under this plan. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements.

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.

3.21.2 Affected Environment

Unless otherwise noted, the information from this section was based upon the Natural Environment Study (NES) prepared for the project (Caltrans 2018, 2021). References used in the NES are not carried over into this section.

In order to comply with the provisions of various state and federal environmental statutes and executive orders, the potential impacts on natural resources of the region were investigated and documented. A list of species and habitats within the project region was developed based on information compiled from USFWS, California Natural Diversity Database (CNDDB), and other current publications. An official USFWS species list was generated March 4, 2021 (Appendix J). The Biological Study Area (BSA) was field reviewed to identify habitat types, potential to support threatened and endangered species, and potential problem areas.

A literature review determined that 32 federally and/or state-listed as threatened or endangered species may potentially occur within the BSA. Sixteen of the 32 threatened or endangered species identified in the literature review were determined to be absent due to a lack of suitable habitat. Potential habitat for the following 16 threatened or endangered species was judged present within the BSA: Munz's onion (*Allium munzii*), San Diego ambrosia (*Ambrosia pumila*), Nevin's barberry (*Berberis nevinii*), thread-leaved brodiaea (*Brodiaea filifolia*), slender-horned

spineflower (*Dodecahema leptoceras*), spreading navarretia (*Navarretia fossalis*), Riverside fairy shrimp (*Streptocephalus woottoni*), vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), Quino checkerspot butterfly (*Euphydryas editha quino*), southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (LBV) (*Vireo bellii pusillus*), bald eagle (*Haliaeetus leucocephalus*) (foraging only), coastal California gnatcatcher (CAGN) (*Polioptila californica*), arroyo toad (*Anaxyrus californicus*), and SKR (*Dipodomys stephensi*). Focused surveys were performed for rare plants, fairy shrimp, LBV, southwestern willow flycatcher, and SKR based on the survey requirements identified in WRC MSHCP Volume I, Section 6.1.2, 6.1.3, and 6.3.2, and the SKR HCP within the RCHCA SKR reserve.

Study areas for these species were applied to the limits of disturbance (LOD) as follows: (1) the rare plant study area and fairy shrimp study area included up to a 200-foot LOD buffer (Build Alternative 4 had up to a 300-foot buffer from the alternative's centerline); (2) the riparian bird study area included up to a 300-foot buffer from the LOD that was applied to surveys focused on LBV and southwestern willow flycatcher; and (3) the SKR study area included up to a 500-foot buffer from the LOD. Refer to Figure 3.17-1 for the limits of each study area. All other species with potential to occur within the BSA have no survey requirements.

Threatened and endangered species evaluated for the proposed project and their habitat requirements, regulatory status, and potential for occurrence within the BSA are provided in Table 3.21-1 on the following page, and are described in more detail in the NES report prepared for the project.

Table 3.21-1. Listed Species Potentially Occurring or Known to Occur in the BSA

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Plants				
Munz's Onion (*Allium munzii*)	E/T/1B.1/WRC MSHCP (b)/ LM MSHCP	Found on mesic exposures or seasonally moist microsites in grassy openings in coastal sage scrub, chaparral, juniper woodland, and valley and foothill grasslands in clay soils. Associated with a special "clay soil flora" found in southwestern Riverside County. At least one population (Bachelor Mountain) is reported to be associated with pyroxenite outcrops instead of clay.	A	Proposed project within Narrow Endemic Plant Species (NEPS) survey areas for this species. The BSA contains areas of grasslands with clay soils. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.
San Diego Ambrosia (*Ambrosia pumila*)	E/-/1B.1/WRC MSHCP (b)/-	Occurs in open floodplain terraces or in the watershed margins of vernal pools. This species occurs in a variety of associations that are dominated by sparse nonnative grasslands or ruderal habitat in association with river terraces, vernal pools, and alkali playas. San Diego ambrosia generally occurs at low elevations generally less than 1,600 feet above mean sea level (amsl) in the Riverside County populations and less than 600 feet amsl in San Diego County.	A	Proposed project within NEPS survey areas for this species. Potential habitat occurs in the BSA; however, this species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.
Marsh Sandwort (*Arenaria paludicola*)	E/E/1B.1/-/-	Found in sandy substrate where there are openings. Associated with marshes and swamps. Presumed extirpated or unknown population at San Bernardino South U.S. Geological Survey (USGS) quad.	HA	No suitable marsh habitat is present within the BSA. Because focused studies for rare plants included habitat in which the species could remotely occur and took place during the appropriate blooming period, this species was determined to be absent.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Braunton's Milkvetch (*Astragalus brauntonii*)	E/-/1B.1/- / LM MSHCP	Can be found within chaparral, coastal scrub, and valley and foothill grasslands. Often found within recently burned areas. Flowers emerge between January and August. Occurs at elevations up to approximately 2,500 feet amsl.	A	The BSA is well outside the geographic distribution of this species. Neither the CNDDB nor the California Native Plant Society (CNPS) have records of this species within the BSA or the 12 USGS quads the BSA occurs on or is directly adjacent to. It is presented here because it is a covered species with potential to occur in grassland and scrub habitat under the LM MSHCP. No potential for this species to be present.
San Jacinto Valley Crownscale (*Atriplex coronata* var. *notatior*)	E/-/1B.1/WRC MSHCP (d)/-	Occurs primarily in floodplains (seasonal wetlands) dominated by alkaline scrub, playas, vernal pools, and, to a lesser extent, alkaline grasslands. Restricted to highly alkaline, silty-clay soils in association with the Traver-Domino-Willows soil association; the majority (approximately 80%) of the populations are associated with the Willows soil series.	HA	The BSA lacks the combination of suitable vegetation communities and soils. This species is not expected to occur.
Nevin's Barberry (*Berberis nevinii*)	E/E/1B.1/WRC MSHCP (d)/-	Found in coarse soils and rocky slopes in chaparral and gravelly wash margins in alluvial scrub. Elevation range from 899 feet to 2,707 feet amsl. Any chaparral and alluvial scrub within the vicinity of the San Timoteo Badlands, Vail Lake, and Agua Tibia Mountains should be considered potential habitat.	A	Suitable habitat occurs within the BSA and the BSA is located within the elevational range for the species. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.
Thread-leaved Brodiaea (*Brodiaea filifolia*)	T/E/1B.1/WRC MSHCP (d)/-	Found in heavy soils (e.g., clay) in coastal sage scrub, chaparral, cismontane woodland, and vernal pools from 1,575 to 4,000 feet. Within western Riverside County found in southern Santa Ana Mountains, Santa Rosa Plateau, and alkali flats of the San Jacinto River flood plain and west of Hemet (Roberts et al. 2004).	A	Suitable habitat for this species is present within coastal sage scrub, particularly where clay/heavy soils are present. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Salt Marsh Bird's-beak (*Chloropyron maritimum* ssp. *maritimum*)	E/E/1B.2/-/-	Found in sandy loam substrate within coastal dunes and marshes and swamps with high salt concentrations. Presumed extant population exists in San Bernardino South USGS quad. Elevation range is from 0 feet to 98 feet.	HA	Suitable habitat for this species is absent from the BSA. Because focused studies for rare plants included habitat in which the species could remotely occur and took place during the appropriate blooming period, this species was determined to be absent.
Slender-horned Spineflower (*Dodecahema leptoceras*)	E/E/1B.1/WRC MSHCP (b)/LM MSHCP	Found on flood-deposited fine sand terraces and washes in Riversidian alluvial fan sage scrub from 656 to 2,493 feet. Also associated with cismontane woodland and chaparral having suitable hydrology and fine sands.	A	Proposed project within NEPS survey areas for this species. Suitable habitat is present within the BSA in the Riversidian alluvial fan sage scrub. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.
Santa Monica Dudleya (*Dudleya cymosa* ssp. *ovatifolia*)	T/-/1B.1/-/-	Found in volcanic or sedimentary substrate within chaparral and coastal scrub habitats. Elevation range is from 492 feet to 5,495 feet. Presumed extant population recorded in Santiago Peak USGS quad.	A	Suitable habitat occurs within the BSA in coastal sage scrub and the BSA is located within the elevation range for the species. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.
Santa Ana River Woollystar (*Eriastrum densifolium* ssp. *sanctorum*)	E/E/1B.1/WRC MSHCP/-	Found in sandy or gravelly substrate within chaparral and coastal scrub alluvial fan habitats. Elevation range is from 299 feet to 2,001 feet. Presumed extant populations recorded in Corona North and Riverside West USGS quads.	A	Suitable habitat occurs within the BSA and the BSA is located within the elevation range for the species. This species was not detected during the rare plant focused surveys that occurred in 2011, 2012, 2014, 2015, and 2016.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Spreading Navarretia (*Navarretia fossalis*)	T/-/1B.1/-	Associated with vernal pools and depressions and ditches in areas that once supported vernal pools. In western Riverside County, spreading navarretia has been found in relatively undisturbed and moderately disturbed vernal pools, within larger vernal floodplains dominated by annual alkali grassland or alkali playa. The alkali vernal playa/pool habitat found in the Hemet area is based primarily on silty clay soils in the Willows and Travers series. These soils are usually saline-alkaline in nature and reliably pond water for long durations.	A	There are a few areas with clay soils in the BSA that could potentially support this species. It was not detected during the rare plant focused survey in 2010, 2011, 2012, 2014, 2015, and 2016.
California Orcutt Grass (*Orcuttia californica*)	E/E/1B.1/-	Restricted to the deeper portions of undisturbed vernal pools. In Riverside County, this species is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet.	HA	No suitable vernal pool habitat is present within the BSA. It was not detected during the rare plant focused survey in 2010, 2011, 2012, 2014, 2015, and 2016.
Invertebrates				
Vernal Pool Fairy Shrimp (*Branchinecta lynchi*)	T/-/-/ WRC MSHCP (a)/-	Restricted to seasonal vernal pools. The vernal pool fairy shrimp prefers cool-water pools that have low to moderate dissolved solids, which are unpredictable and often short-lived.	A	Up to 19 pools were identified as potentially suitable habitat for fairy shrimp (Appendix F of the NES) within the BSA. Only versatile fairy shrimp (*B. lindahli*) was found within the BSA during the 2013–2014 focused survey.
San Diego Fairy Shrimp (*Branchinecta sandiegonensis*)	E/-/-/-/-	Found within vernal pools on mesas within San Diego and Orange Counties.	A	Up to 19 pools were identified as potentially suitable habitat for fairy shrimp (Appendix F of the NES) within the BSA. Only versatile fairy shrimp (*B. lindahli*) was found within the BSA during the 2013–2014 focused survey.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Quino Checkerspot Butterfly (*Euphydryas editha quino*)	E/-/-/WRC MSHCP/ LM MSHCP	Habitat associations seem to be tied to both host plant species and topography. Larvae feed on *Plantago erecta*, *Plantago patagonica*, *Antirrhinum coulterianum*, *Cordylanthus rigidus* (and possibly other Plantago species), *Collinsia concolor*, and *Castilleja exserta*. Adults nectar mostly on small annuals; often occur on open or sparsely vegetated rounded hilltops, ridgelines, and occasionally rocky outcrops. Habitat components have been found in association with, but not restricted to, vernal pools, sage scrub, chaparral, native and nonnative grassland, and open oak and juniper woodland communities. The key component seems to be open-canopied habitats.	HP	Suitable habitat for this species is present in coastal sage scrub and grassland habitat. The species has historically been documented along Cajalco Road east of La Sierra Avenue; however, because the species has not been documented since 2002, it is believed to be extirpated from the project vicinity.
Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis*)	E/-/-/WRC MSHCP/-	Restricted to the Colton Dunes habitat complex. The habitat is limited to 11-mile radius straddling Interstate 10 at Colton and Rialto municipal areas.	HA	BSA does not lie within or near the limited geography of the Colton Dunes complex and no suitable habitat is present. This species is not expected to occur.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Riverside Fairy Shrimp (*Streptocephalus woottoni*)	E/-/-/WRC MSHCP (a)/-	Restricted to deep seasonal vernal pools, vernal pool like ephemeral ponds, and stock ponds and other human modified depressions. Species prefers warm-water pools that have low to moderate dissolved solids, which are less predictable, and remain filled for extended periods of time. Basins that support Riverside fairy shrimp are typically dry a portion of the year, but usually are filled by late fall, winter, or spring rains, and may persist through May. All known habitat lies within annual grasslands, which may be interspersed through chaparral or coastal sage scrub vegetation. In Riverside County, found in pools formed over the following soils: Murrieta stony clay loams, Las Posas series, Wyman clay loam, and Willows soils.	A	Up to 19 pools were identified as potentially suitable habitat for fairy shrimp (Appendix F of the NES) within the BSA. Only versatile fairy shrimp (*B. lindahli*) was found within the BSA during the 2013–2014 focused survey.
Fish				
Santa Ana Sucker (*Catostomus santaanae*)	T/CSC/-/WRC MSHCP/LM MSHCP	Self-sustaining populations exist within the Santa Ana River upstream of Prado Dam where spawning beds are located near the MWD crossing and the Rapid Infiltration and Extraction facility and Sunnyslope Creek tributaries. Fish requires shallow narrow streams with heavy to sluggish current flow. Prefers substrates that are a mix of coarse gravel, rubble, and boulders covered in filamentous algae. Where water is cool, clean, and clear they thrive. Benefits from regular severe flooding, which decreases predatory fish pressure on young specimens. Santa Ana suckers and arroyo chub tend to occur in the same watersheds, with suckers found at higher-elevation, higher-gradient portions of the stream and chubs found at lower-elevation, lower-gradient stream sections.	HA	The BSA contains narrow streams with mixed substrate and very slow to slow flows. The majority of the streams present within the BSA do not flow year-round. Species not expected in Temescal Creek or the Colorado River aqueduct due to unsuitable conditions. The lower-elevation, lower-gradient nature of the streams in the BSA is not expected to support this species.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Amphibians				
Arroyo Toad (*Anaxyrus californicus*)	E/CSC/-/WRC MSHCP (c)/-	Found in slow-moving channels of rivers and streams, often with an associated riparian vegetation community component. This species requires waters with a low level of dissolved solids and a sandy/fine to medium gravelly substrate with very low levels of fine sediments for egg deposition and maturation of larvae.	HP	Although suitable habitat is present within Temescal Creek and other streams in the BSA, the project does not occur within the species-specific WRC MSHCP Survey Area. Therefore, if the species is present, mitigation would be provided under the WRC MSHCP.
California Red-legged Frog (*Rana draytonii*)	T/CSC/-/WRC MSHCP (c)/-	Occur near ponds in humid forests, woodlands, grasslands, coastal scrub, and stream sides with plant cover. It is most common in lowlands or foothills and is frequently found in woods adjacent to streams. Breeding habitat is in permanent or ephemeral water sources: lakes, ponds, reservoirs, slow streams, marshes, bogs, and swamps.	HA	The project occurs outside of this species known range; therefore, is not expected.
Birds				
Tricolored Blackbird (*Agelaius tricolor*)	T/CSC/-/WRC MSHCP/LM MSHCP	Nests in dense colonies in marshes and occasionally in moist thickets, agricultural fields, and sewage treatment plants.	Foraging: HA Breeding: HA	This species is not expected to breed or forage within the BSA due to the small amount of marsh habitat present in the BSA.
Swainson's Hawk (nesting role) (*Buteo swainsoni*)	-/T/-/WRC MSHCP/LM MSHCP	Only occurs as a migrant in Southern California and can occur in a group, foraging over recently disked agricultural fields. The species breeds on the western plains of North America and southwestern Canada from Texas to the Yukon. Preferred foraging habitats include prairies, plains, and other wide-open ranges with minimal tree cover.	Foraging: HP Breeding: HA	Suitable foraging habitat is present within open lands throughout the BSA. The BSA occurs outside of the species breeding range.
Western Snowy Plover (nesting role) (*Charadrius alexandrinus nivosus*)	T/CSC/-/-	Requires open, relatively flat areas with little or no vegetation, including undisturbed beaches, salt flats, playas, dredge spoils, levees, and river bars. Winter distribution is more coastal and may include sewage treatment ponds and agricultural wastewater sites.	Foraging: HA Breeding: HA	Human disturbances (i.e., disking) and lack of unvegetated areas within the BSA preclude this species presence; therefore, it is not expected to occur.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Western Yellow-billed Cuckoo (nesting role) (*Coccyzus americanus occidentalis*)	T/E/-/WRC MSHCP (a)/-	All breeding activity recorded in Prado Basin and adjacent Santa Ana River channel. Favors large insects like caterpillars, katydids, cicadas, grasshoppers, and crickets.	Foraging: HA Breeding: HA	No suitable breeding habitat is present within the BSA. This species is not expected to occur.
Southwestern Willow Flycatcher (nesting role) (*Empidonax traillii extimus*)	E/E/-/WRC MSHCP (a)/LM MSHCP	Species distribution associated with riparian woodlands and dense riparian shrub with surface water or heavily saturated soils. Heavily favors willows. Forages on flying insects and also gleans insects.	Foraging: HP Breeding: HP	Although potentially suitable habitat is present within riparian woodlands and riparian scrub, this species was not detected during focused studies conducted in 2011, 2012, and 2014. Therefore, this species is absent from the project site. This species has not been documented by the CNDDB or USFWS in the BSA.
Bald Eagle (nesting and wintering roles) (*Haliaeetus leucocephalus*)	D/E, CFP/-/WRC MSHCP/LM MSHCP	Primarily in or near seacoasts, rivers, swamps, and large lakes. Eats mainly fish and carrion. This species is a localized winter resident and rare migrant, with only very rare breeding efforts in coastal southern California (e.g., Lake Skinner, Riverside County).	Foraging: P Breeding: A	This species has been detected on numerous occasions during biological surveys. One incidental sighting in February 2015 included an adult and juvenile foraging near Lake Mathews. Suitable foraging habitat occurs at Lake Mathews Reservoir. However, no suitable nesting habitat is present.
Coastal California Gnatcatcher (*Polioptila californica californica*)	T/CSC/-/WRC MSHCP/LM MSHCP	Year-round obligate, permanent resident of sage scrub habitat.	Foraging: P, CH Breeding: P, CH	This species was observed during biological surveys within coastal sage scrub. Critical habitat for this species occurs within the BSA. However, the project is a covered activity, so critical habitat is excluded within the WRC MSHCP area.
Bank Swallow (nesting role) (*Riparia riparia*)	-/T/-/-/LM MSHCP	Found in low areas along rivers, streams, ocean coasts, or reservoirs. Also found along vertical cliffs or banks.	Foraging: HA Breeding: HA	No suitable breeding habitat is present in the BSA, the potential for the species to forage in the area is very low as this species is rare in Southern California, even during migration. It is presented here because it is a covered species with potential to occur under the LM MSHCP.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Least Bell's Vireo (nesting role) (*Vireo bellii pusillus*)	E/E/-/WRC MSHCP (a)/LM MSHCP	Found as a summer resident of Southern California where it inhabits low riparian growth in the vicinity of water or in dry river bottoms below 2,000 feet. Species selects dense vegetation low in riparian zones for nesting. Species most frequently located in riparian stands between 5 and 10 years old. Nests in areas with a substantial robust understory of willows as well as other plant species.	Foraging: P Breeding: P	Suitable habitat is present within Temescal Creek and riparian scrub habitat in the vicinity of Lake Mathews. This species was observed during focused studies.
Mammals				
San Bernardino Merriam's Kangaroo Rat (*Dipodomys merriami parvus*)	E/CSC/-/WRC MSHCP (c)/-	Found in Riversidian alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby sage scrub, chaparral and nonnative grassland upland areas (at lower densities). Primarily granivores, but do consume herbaceous material and insects when available. Within western Riverside County, only found in the San Jacinto River, Bautista Creek, and possibly remnant populations in Reche Canyon and the northern portion of the Jurupa Mountains in the Bloomington area.	HA	Only small patches of Riversidian alluvial fan sage scrub are present within the BSA and these are not large enough patches to support this species. The BSA does not occur within the WRC MSHCP survey area for this species; therefore, no additional action is required for this species.

Common/Scientific Name	Status[a] Fed/State/CNPS/ WRC MSHCP/LM MSHCP	General Habitat Description	Specific Habitat[b] Present/ Absent	Rationale
Stephens' Kangaroo Rat (*Dipodomys stephensi*)	E/T/-/ WRC MSHCP/LM MSHCP	This species is found almost exclusively in open grasslands or sparse shrublands with cover of less than 50% during the summer. Species avoids dense grasses (for example, nonnative bromes [*Bromus* spp.]) and are more likely to inhabit areas where the annual forbs disarticulate in the summer and leave more open areas. The species typically is found in sandy and sandy loam soils with a low clay to gravel content, although there are exceptions where they can utilize the burrows of Botta's Pocket Gopher (*Thomomys bottae*) and California Ground Squirrel (*Otospermophilus beecheyi*). Tends to avoid rocky soils. In general, the highest abundances of species occur on gentle slopes less than 15%.	P	Suitable habitat is present in the BSA on conserved RCHCA lands south of Cajalco Road. Species was found within RCHCA lands during trapping within suitable habitat.

[a] Status Codes

Federal
E = Federally listed; Endangered
T = Federally listed; Threatened
D = Delisted

State
T = State listed; Endangered
E = State listed; Threatened
CSC = California Species of Special Concern
CFP = California Fully Protected Species

WRC MSHCP
WRC MSHCP = No additional action necessary
WRC MSHCP(a) = Surveys may be required as part of wetlands mapping
WRC MSHCP(b) = Surveys may be required within the NEPS survey area
WRC MSHCP(c) = Surveys may be required within locations shown on survey maps
WRC MSHCP(d) = Surveys may be required within Criteria Area

CNPS
1B = Plants rare, threatened, or endangered in California and elsewhere
0.1 = Seriously threatened in California
0.2 = Moderately threatened in California

[b] Habitat Presence/Absence Codes
P = The species is present.
HP = Habitat is or may be present. The species may be present.
HA = No habitat present and no further work needed.
A = This species is absent.
CH = Project footprint is within designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Survey results for those species that were determined to have suitable habitat within the BSA are presented below. Project impacts on threatened or endangered species occurring or potentially occurring within the BSA are addressed in the subsections below.

During reconnaissance surveys and focused studies, bald eagle was incidentally observed flying over the BSA, likely foraging over Lake Mathews; no suitable nesting habitat is present for this species.

3.21.2.1 Results

During focused studies, LBV, CAGN, SKR, and bald eagle were documented within the BSA. No focused surveys were required for arroyo toad or Quino checkerspot butterfly; however, suitable habitat for these species was identified within the BSA.

Arroyo Toad

Arroyo toad is a federally listed endangered species and a California species of concern. Outside of designated survey areas, there are no conservation requirements and the species is considered fully covered under the WRC MSHCP. The proposed project does not lie within the WRC MSHCP Amphibian Survey Area for arroyo toad and therefore is considered to be fully covered for project impacts. The species is found in slow-moving channels of rivers and streams, often with an associated riparian vegetation community component dominated by mulefat and willows in light to moderate cover. Arroyo toads often utilize sage scrub, oak woodland, and areas containing sycamores and cottonwoods in surrounding uplands and terraces for dispersal, foraging, burrowing and sheltering, and aestivation. This species requires waters with a low level of dissolved solids and a sandy/fine to medium gravelly substrate with very low levels of fine sediments for egg deposition and maturation of larvae. Arroyo toad is not a target species under the LM MSHCP.

A habitat evaluation was conducted for arroyo toad during the reconnaissance surveys. Suitable arroyo toad habitat in the BSA exists within both Temescal and Cajalco Creeks and their adjacent upland areas. A focused survey was not performed for this species because the BSA is located outside of the designated mandatory evaluation/survey areas for arroyo toad within the WRC MSHCP Planning Area. Up to 41.62 acres of potentially suitable arroyo toad habitat are present within the BSA, which includes California sycamore woodland, coast live oak/sycamore riparian, coast live oak woodland, mulefat scrub, riparian scrub, Riversidian alluvial fan sage scrub (RAFSS), sandbar willow scrub, southern cottonwood-willow riparian forest, southern willow scrub, and willow/mulefat scrub. Although this encompasses the range of habitat types that arroyo toads could occur in, if present, they would most likely utilize a much smaller area than this. Areas that are most likely to be inhabited by breeding arroyo toads within these communities include those that generally have a light to moderate cover of mulefat and willows within an otherwise sparsely vegetated or unvegetated rocky/sandy streambed. Arroyo toads will forage in adjacent upland communities such as RAFSS and coast live oak woodland.

Coastal California Gnatcatcher

CAGN is federally listed as threatened and is a state species of special concern. CAGN is fully covered under the WRC MSHCP and has no survey requirement. It is also an LM MSHCP target

species. CAGN is essentially a year-round obligate inhabitant of sage scrub and normally does not utilize any other habitat types. However, this species is known to include the edges of riparian habitat as part of its foraging grounds during drought years and particularly during post-breeding dispersal and dispersal of young outside of their natal territories.

Up to 889.36 acres of nesting and foraging habitat for CAGN occurs within the BSA as brittlebush scrub, RAFSS, Riversidian sage scrub (RSS), and RSS/nonnative grassland (NNG). All of these communities function in the same manner as derivatives of coastal sage scrub. This habitat is primarily present along La Sierra Avenue and Cajalco Road. On the western side of the BSA, the habitat around Cajalco Road is more contiguous and consists primarily of large blocks of habitat, but moving farther east along Cajalco Road the suitable habitat becomes much patchier and interspersed with primarily NNG. Within the aforementioned CAGN habitat types, areas that are most likely to be inhabited by CAGN include those that are moderately dense and provide contiguous patches for individuals, pairs, and families to move through. This species is unlikely to be found in areas with trees or in areas overly dominated by NNG. Disturbed areas are less likely to be used, as are small patches of sagebrush. In inland areas such as the BSA location, CAGN breeding territories average approximately 8.4 acres.

CAGN protocol surveys were not conducted for this project because CAGN is a fully covered species under the WRC MSHCP and requires no surveys. However, suitable habitat was assessed during the reconnaissance fieldwork because FESA take consideration of this species under the WRC MSHCP is tracked through the removal of potential habitat. In addition, it is important to identify potential habitat because there are habitat removal constraints if suitable habitat occurs within a criteria cell and/or on public/quasi-public (PQP) lands. CAGN was incidentally observed in several areas west of La Sierra Avenue during other surveys for the proposed project, and there is an abundance of documented sightings of CAGN within the BSA, particularly along La Sierra Avenue between Cajalco Road and El Sobrante Road, and north of the intersection of Cajalco Road and El Sobrante Road. In addition, there are numerous records in the surrounding area outside of the BSA, particularly along the southern edge of Lake Mathews.

Federally designated critical habitat is present in the BSA. However, all final critical habitat for CAGN occurs outside of the BSA. Only excluded essential habitat occurs in the BSA. Excluded essential habitat is defined as habitat that is essential for the species but excluded from final critical habitat.

Potential habitat for CAGN in the BSA occurs in WRC MSHCP Criteria Cells 2026, 2120, 2121, 2214, 2308, 2309, 2310, 2311, 2323, 2324, 2402, 2403, 2404, 2405, 2407, and 2408. In addition, suitable habitat in the BSA occurs within WRC MSHCP cores and linkages (i.e., Proposed Linkage 3, Existing Core C, and Extension of Existing Core 2) (refer to Figure 3.17-3).

Least Bell's Vireo

LBV is federally and state-listed as an endangered species. This species is covered under the WRC MSHCP; however, focused studies for LBV are required when the species potentially occupies riparian-riverine vegetation and could be directly and/or indirectly affected (WRC MSHCP Volume I, Section 6.1.2). This species is also a target species under the LM MSHCP.

LBV is found as a summer resident of Southern California where it inhabits low riparian growth in the vicinity of water or dry river bottoms below 2,000 feet. Nests are found in dense vegetation located low in the riparian zones, most frequently in 5- to 10-year-old stands. When LBV nest in mature riparian woodlands, they nest in areas with a substantial robust understory of willows as well as other plant species.

Up to 146.58 acres of potential nesting and foraging habitat for LBV occurs within the riparian bird study area as disturbed southern willow scrub, eucalyptus/tamarisk scrub, mulefat scrub, riparian forest, riparian scrub, sandbar willow scrub, southern cottonwood-willow riparian forest, southern willow scrub, tamarisk scrub, and willow/mulefat scrub. These habitat types encompass the variety of nesting and foraging habitat that LBV could inhabit and, with some exceptions, are generally characterized under the term "riparian habitat." Suitable habitat is primarily present in drainages alongside or crossing Cajalco Road. LBV generally prefer semi-complex riparian habitats that have understory scrub and ample vertical complexity; riparian areas with no understory are less likely to be used. In California a dense shrub layer associated with riparian habitat was found to be the most critical structural component of occupied LBV habitat. In more xeric areas this species will readily utilize unconventional habitats, including mesquites and tamarisk. In riverine habitat in Southern California this species typically utilizes territory sizes of about 2 acres on average.

Under Section 6.1.2 of the WRC MSHCP, focused surveys for LBV are required in areas of riparian/riverine habitat that could support this species and that cannot be avoided by a given project. When occupied habitat will be directly affected, no more than 10 percent of the habitat that provides long-term conservation can be taken; greater than 10 percent habitat removal requires a Determination of Biologically Equivalent or Superior Preservation (DBESP). Impacts on LBV within the affected area are covered as long as the WRC MSHCP conservation area goals are adhered to. As such, focused surveys were conducted for this project during the appropriate survey periods in 2011, 2012, 2014, and 2017. Project-related focused surveys resulted in the documentation of up to 19 pairs and two individual birds (one bachelor male and one lone immature bird) within the overall project BSA. There are also known records of this species throughout the BSA and surrounding area based on data obtained from CDFW, USFWS, and the LM MSHCP. Refer to Figure 3.21-1 for recorded locations of LBV.

No federally designated critical habitat for LBV is present in the BSA.

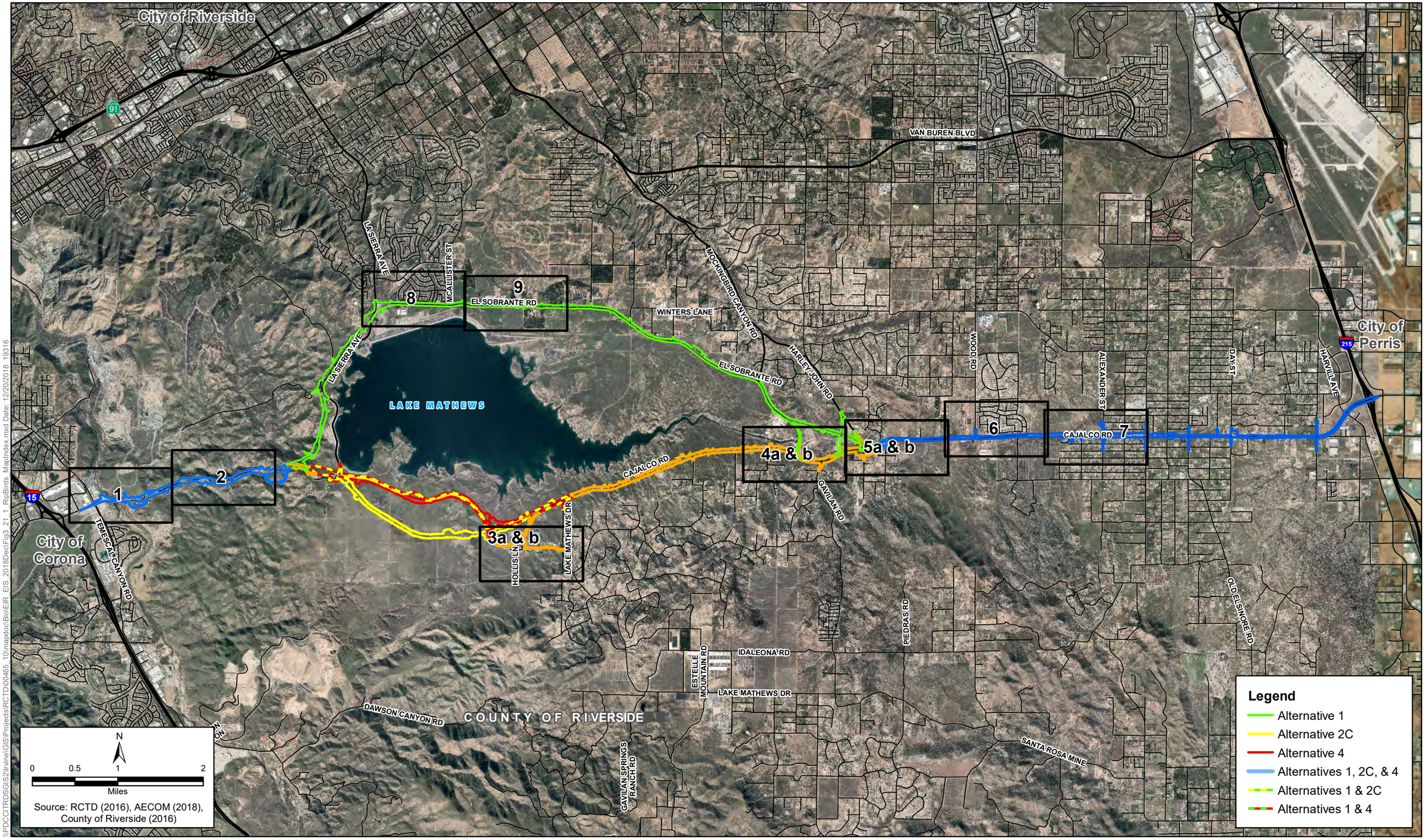

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Figure 3.21-1 - Map Index
Riparian Birds Results Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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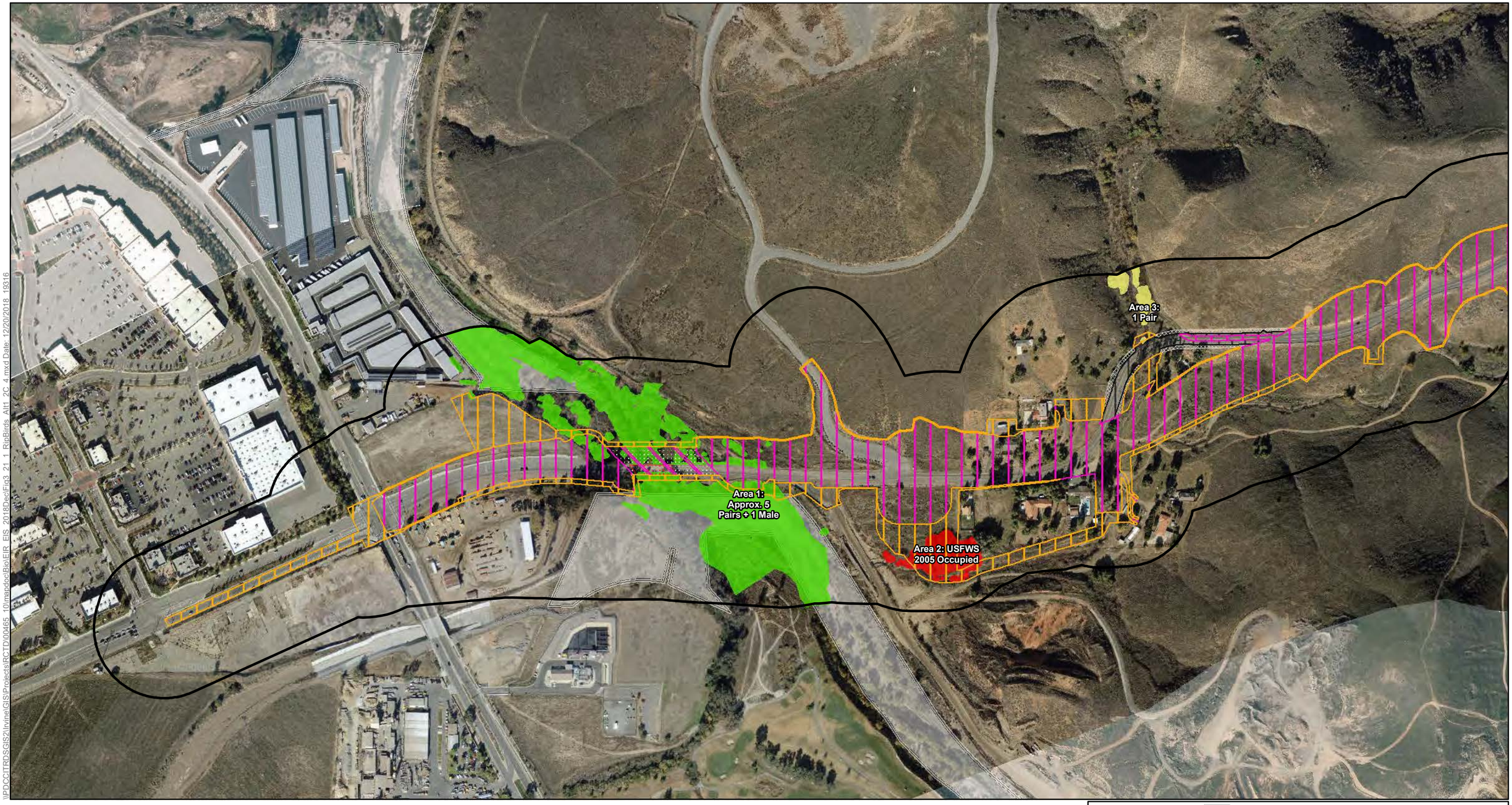

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Study Area

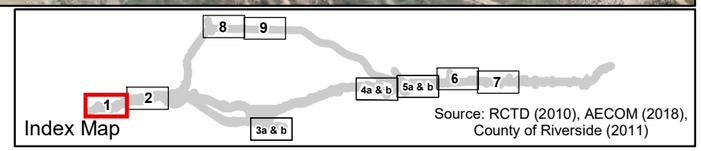
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1 - Sheet 1
Riparian Birds Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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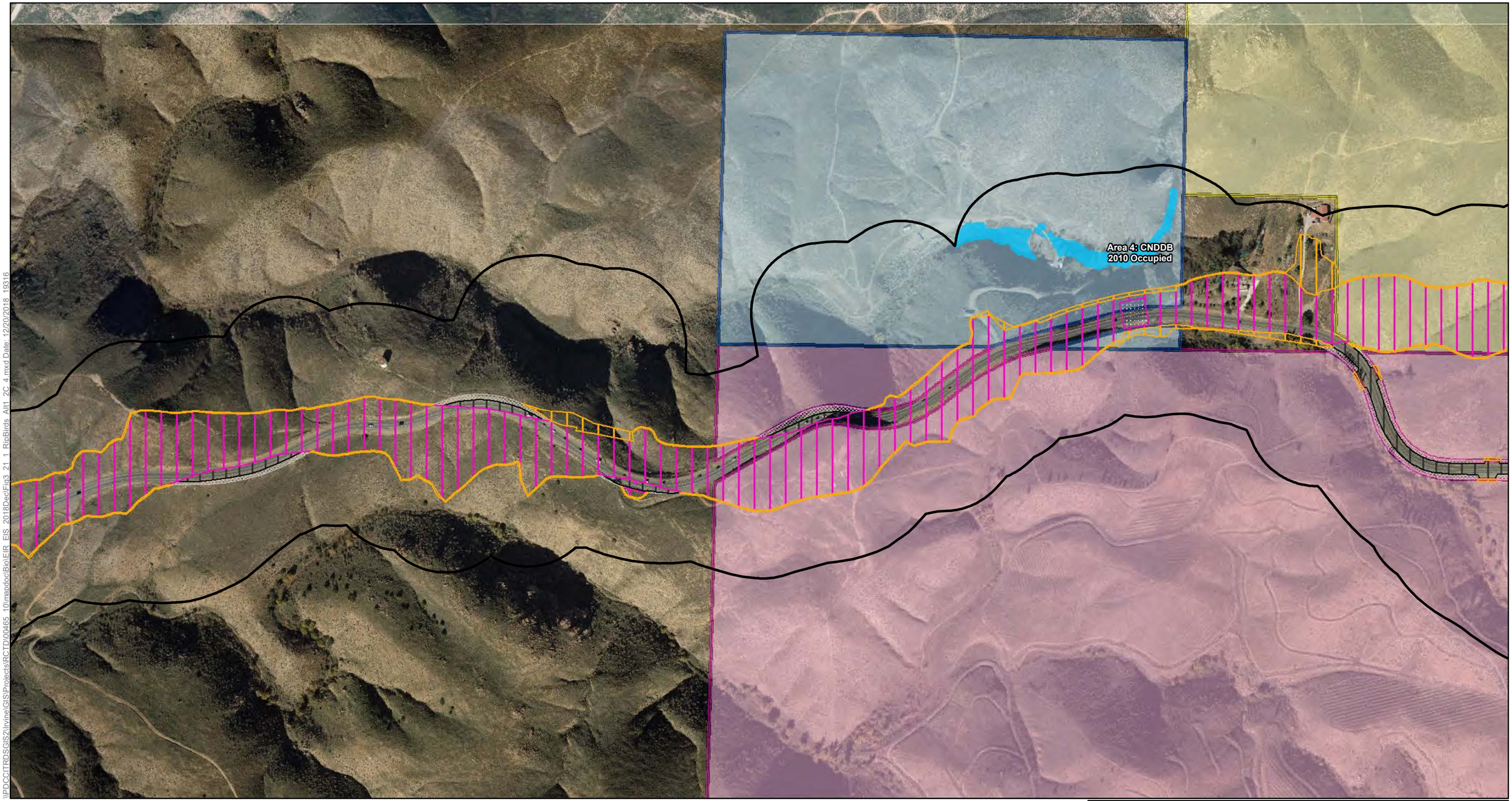

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Study Area

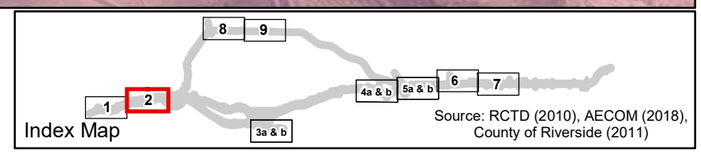
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1 - Sheet 2
Riparian Birds Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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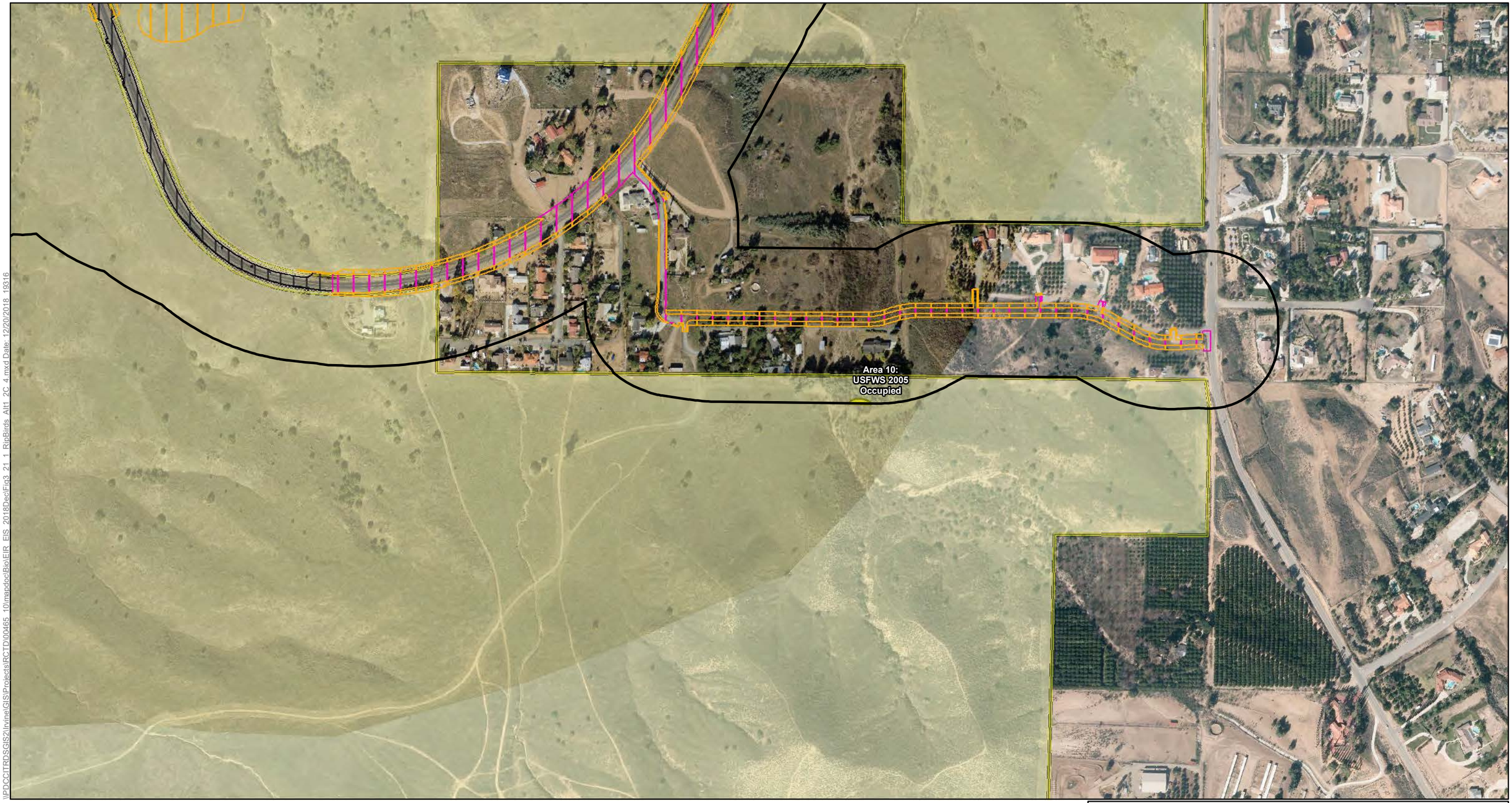

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Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet

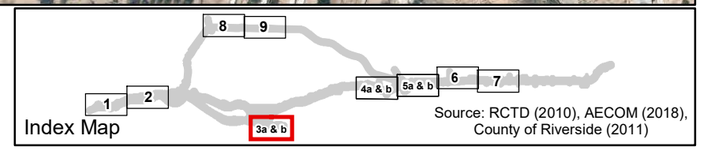

Figure 3.21-1 - Sheet 3a
Riparian Birds Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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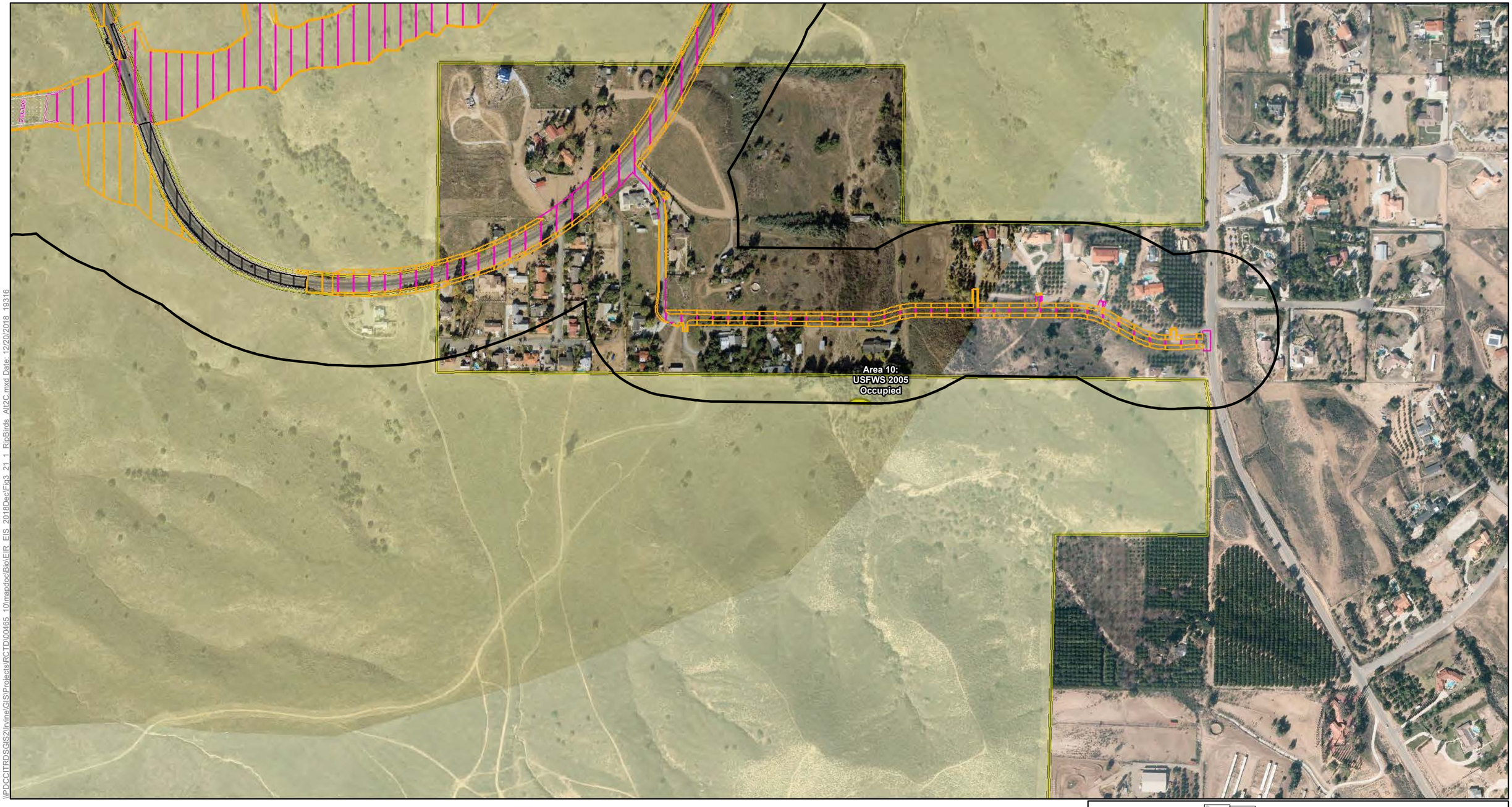

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Study Area

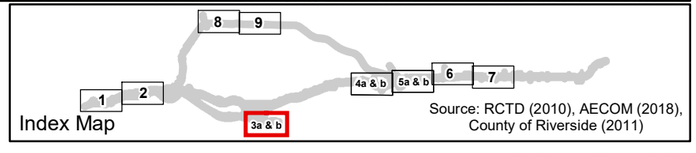
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1- Sheet 3b
Riparian Birds Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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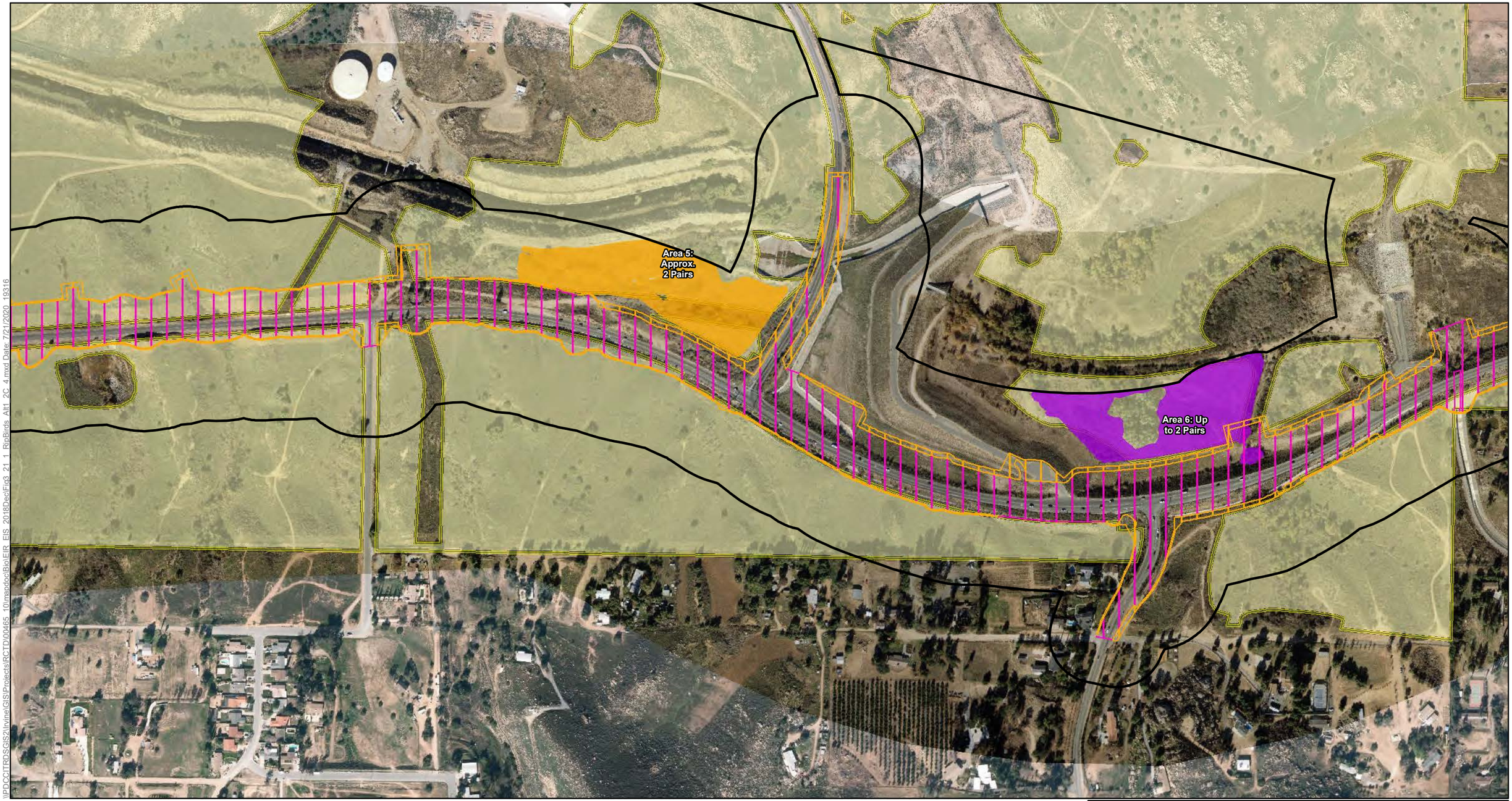

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Study Area

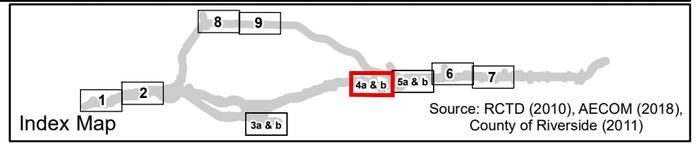
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1 - Sheet 4a
Riparian Birds Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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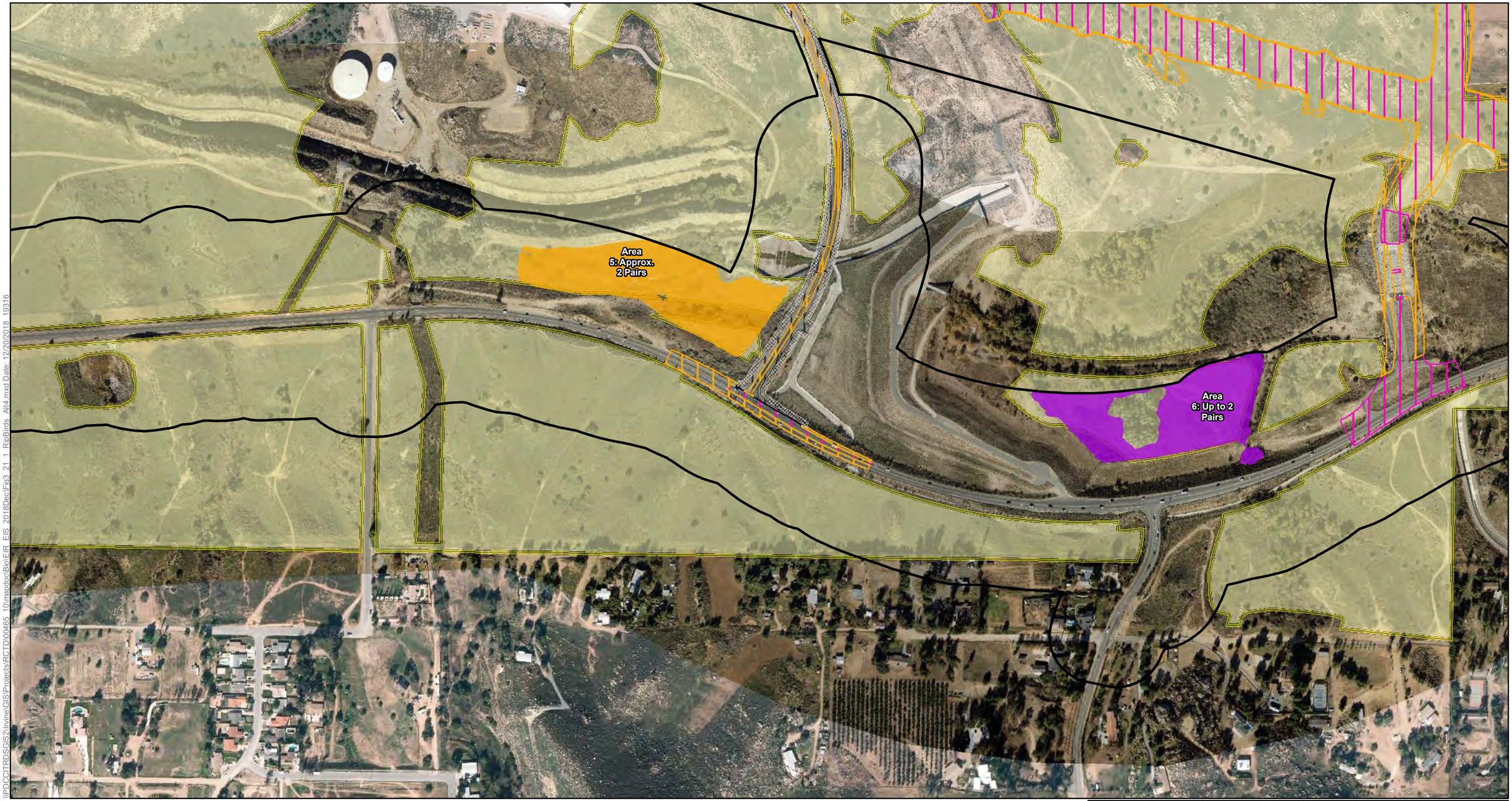

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Study Area

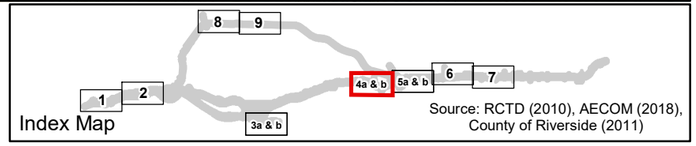
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1- Sheet 4b
Riparian Birds Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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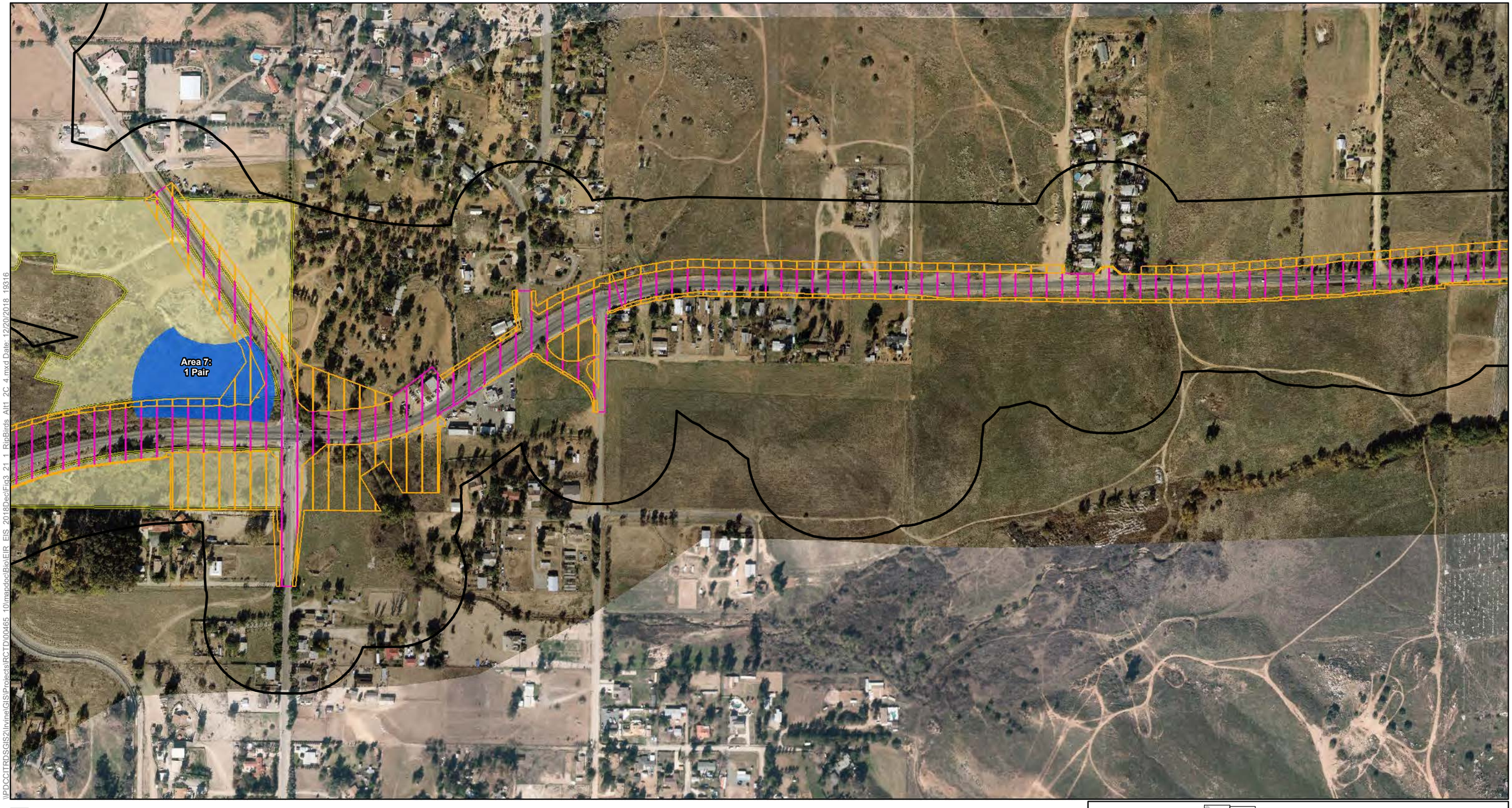

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Study Area

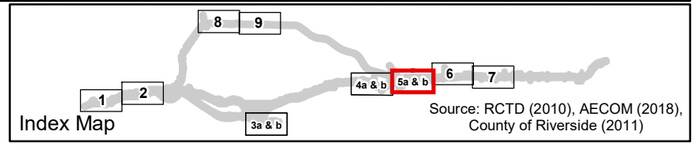
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1 - Sheet 5a
Riparian Birds Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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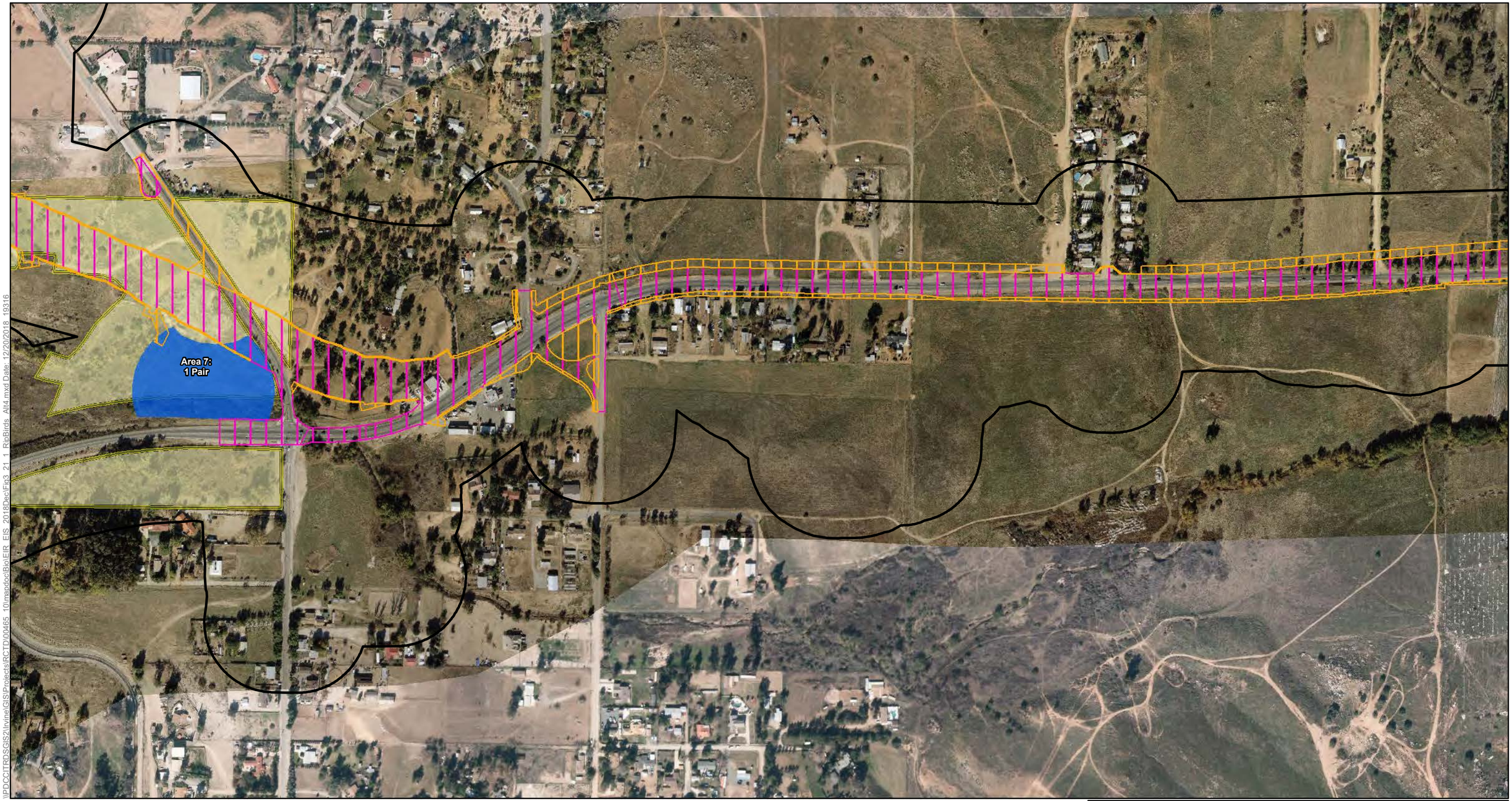

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Study Area

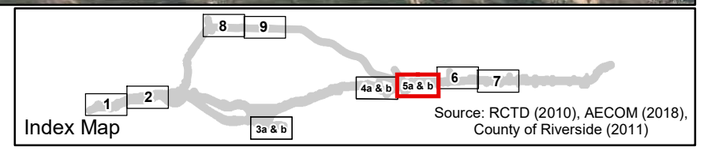
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1- Sheet 5b
Riparian Birds Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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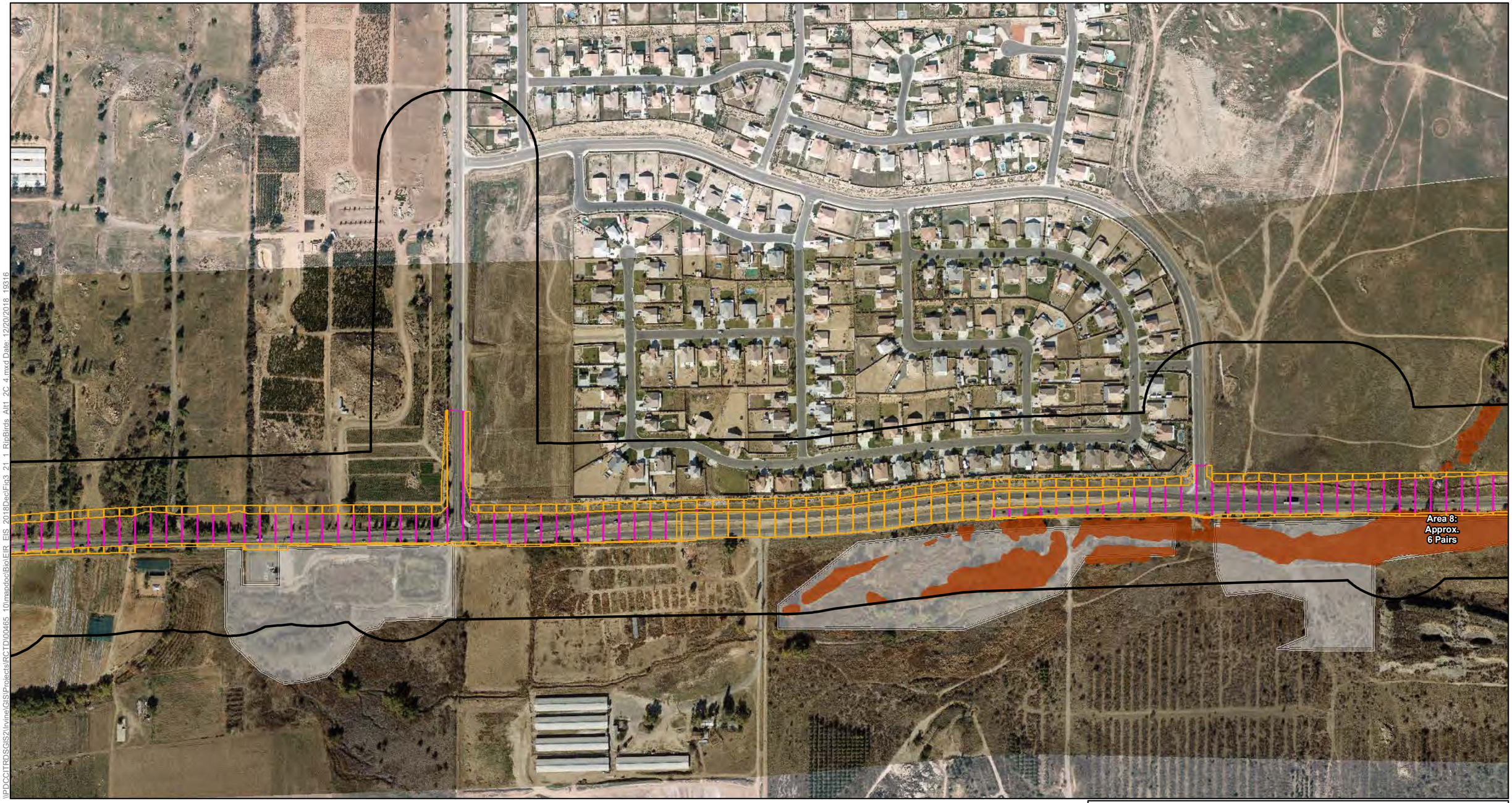

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Study Area

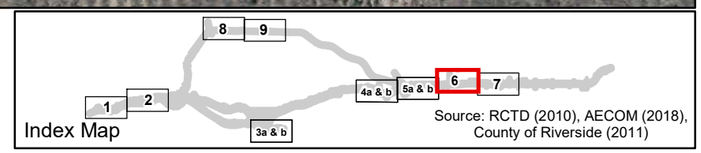
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1 - Sheet 6
Riparian Birds Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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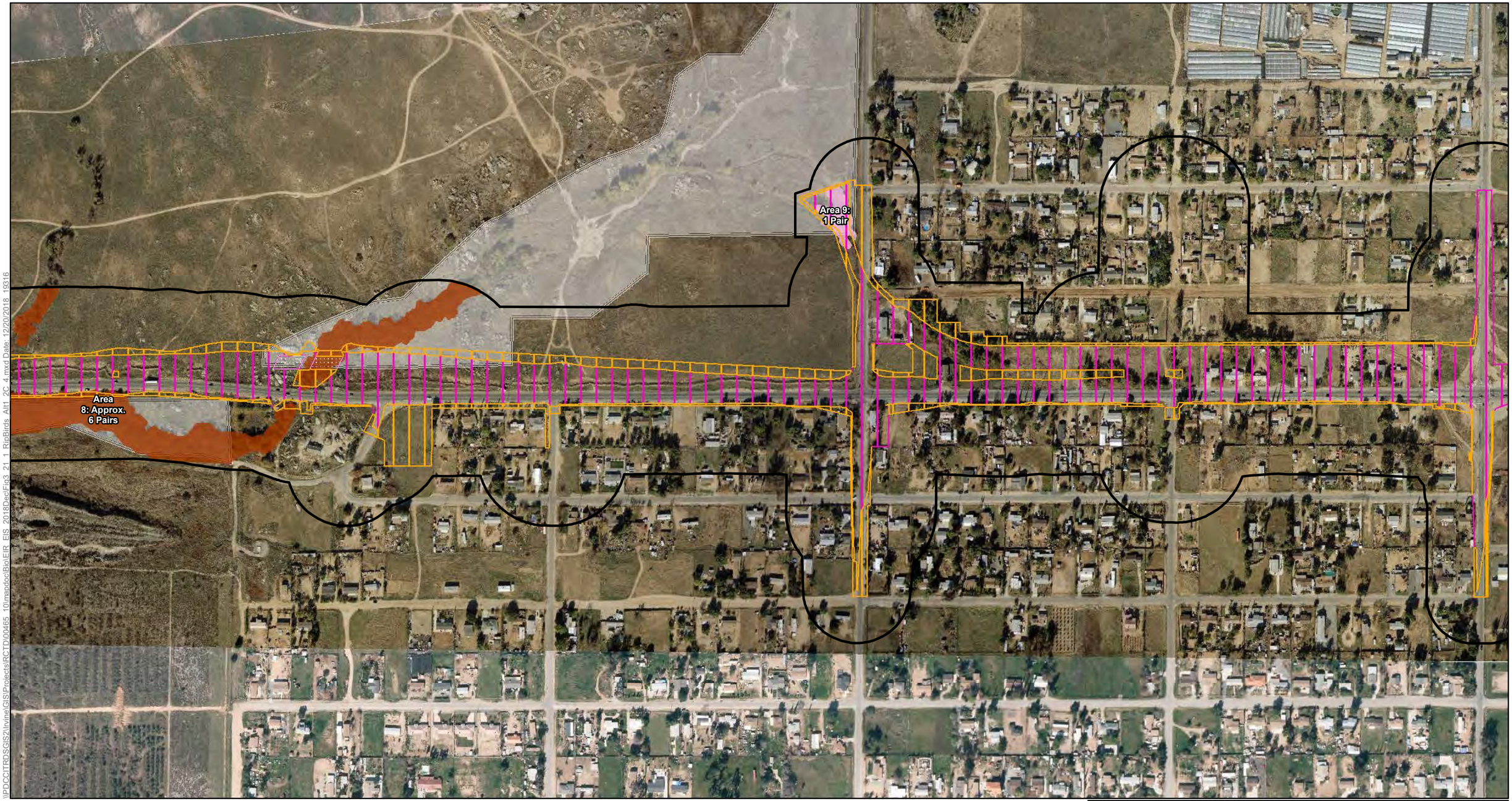

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Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet

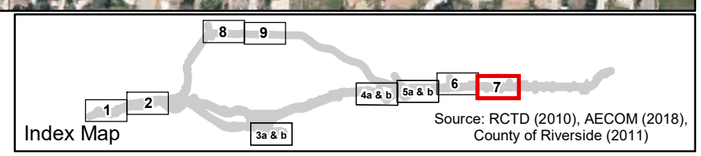

Figure 3.21-1 - Sheet 7
Riparian Birds Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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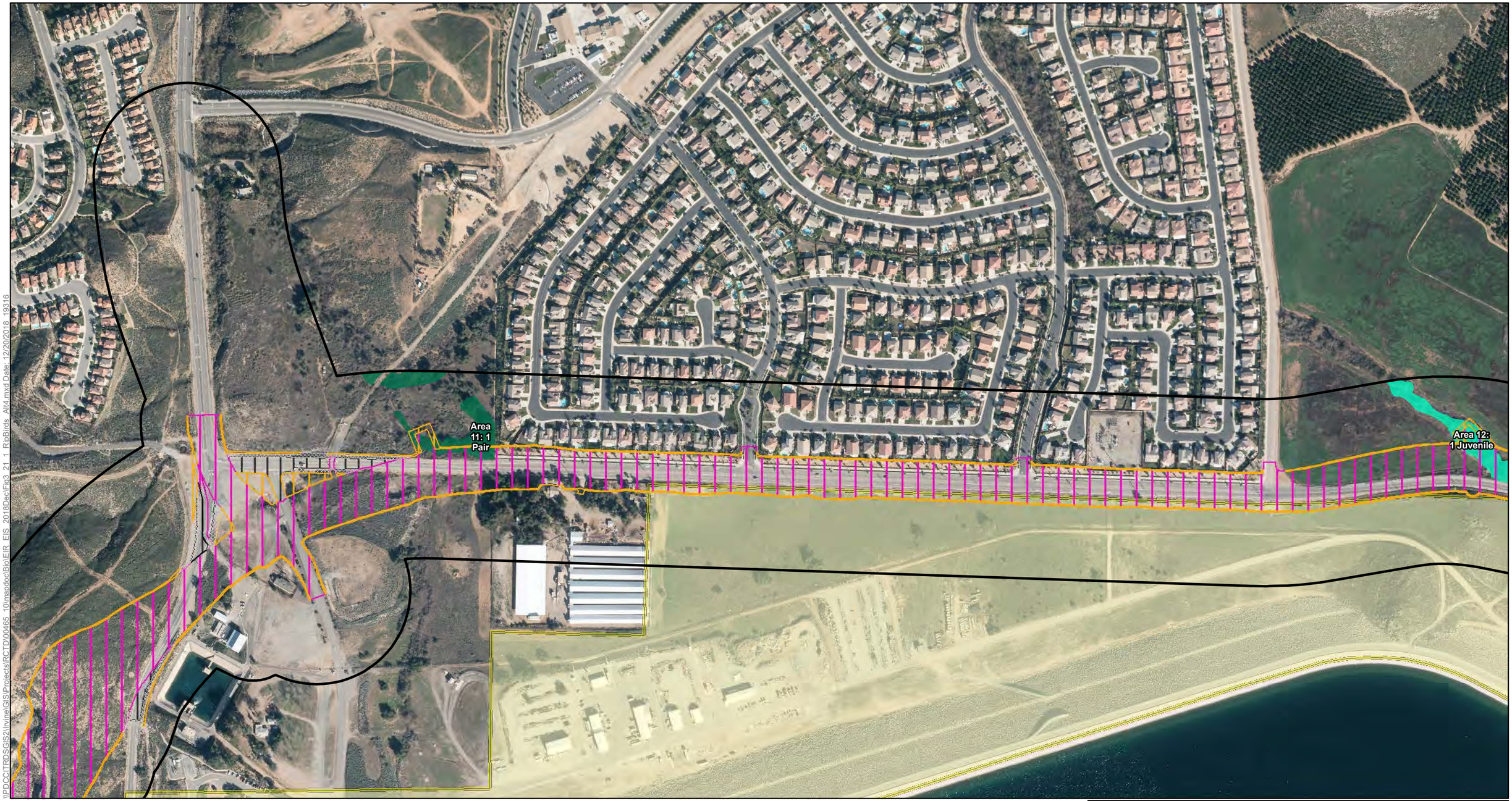

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Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat
- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet

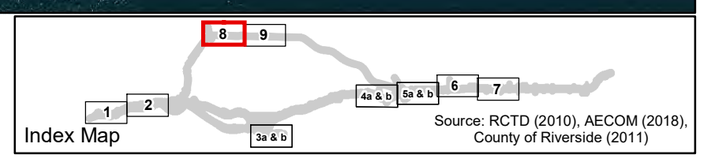

Figure 3.21-1- Sheet 8
Riparian Birds Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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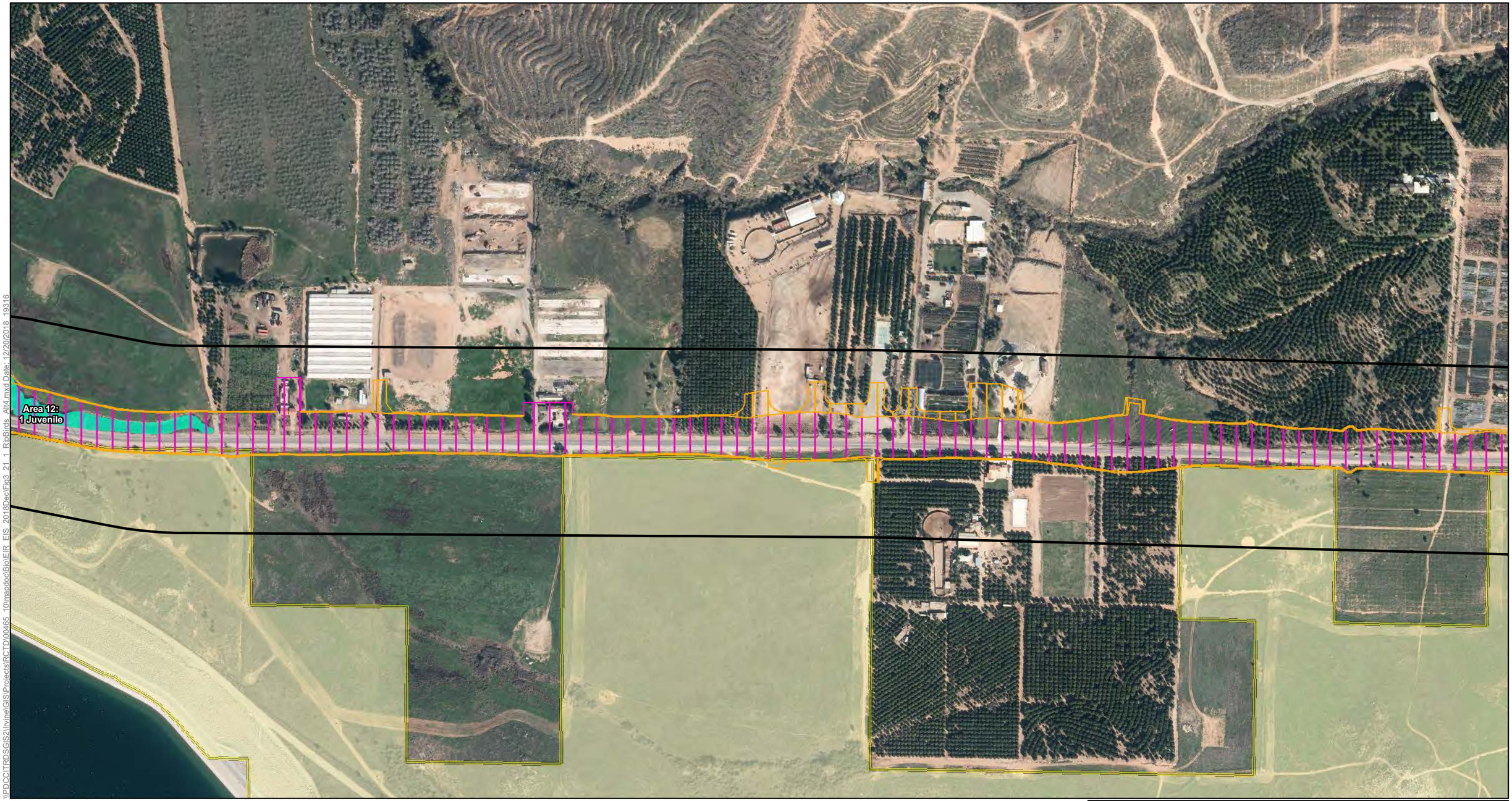

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Study Area

Impact Areas

- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands

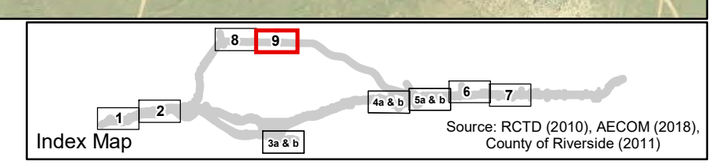
- MWD
- RCHCA
- RCRCD
- WRCRCA

LBV Occupied Habitat

- Area 1: Approx. 5 Pairs + 1 Male
- Area 2: USFWS 2005 Occupied
- Area 3: 1 Pair
- Area 4: CNDDB 2010 Occupied
- Area 5: Approx. 2 Pairs
- Area 6: Up to 2 Pairs
- Area 7: 1 Pair
- Area 8: Approx. 6 Pairs
- Area 9: 1 Pair
- Area 10: USFWS 2005 Occupied
- Area 11: 1 Pair
- Area 12: 1 Juvenile

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-1- Sheet 9
Riparian Birds Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Southwestern Willow Flycatcher

Southwestern willow flycatcher is a federally and state-listed endangered species. This species is covered under the WRC MSHCP but has survey requirements under the WRC MSHCP. Focused studies are required when potentially suitable habitat is present and a potential impact is foreseeable (WRC MSHCP Volume I, Section 6.1.2). Southwestern willow flycatcher is also a target species under the LM MSHCP. Refer to Table 3.21-1 for a summary of this species' habitat requirements.

Suitable breeding habitat for southwestern willow flycatcher occurs on approximately 106 acres of riparian vegetation communities within the BSA (Figure 3.21-1). Because of potentially affected, suitable habitat for this species in the BSA, a focused survey was necessary; however, southwestern willow flycatcher was not detected. Based on a review of the CNDDB and USFWS databases, there are no historical records of this species occurring within the BSA. Based on the results of the focused surveys and a review of historical data, this species is considered absent. No federally designated critical habitat for southwestern willow flycatcher is present in the BSA.

Stephens' Kangaroo Rat

SKR is federally listed as endangered and state-listed as threatened. The SKR HCP provides take authorization for SKR within the boundaries of the HCP and the WRC MSHCP provides for take of SKR outside of the boundaries of the SKR HCP. The SKR Core Reserves established by the SKR HCP are managed as a part of the WRC MSHCP Conservation Area. To afford take authorization for SKR within the SKR HCP and the WRC MSHCP, there are defined core areas that must be conserved. The LMR and RCHCA SKR Reserve (Existing Core 2 of the WRC MSHCP) are part of these SKR Core Reserve areas. SKR is also a target species under the LM MSHCP.

Habitat for SKR consists almost exclusively of open grasslands/sparse shrublands with 50 percent or less ground cover during the summer. SKR is more likely to be found in areas with annual forbs than in areas with thick, nonnative brome grasses. Soils within occupied habitat tend to be sandy and sandy loam soils with a low clay to gravel content (for ease of burrowing), except where Botta's pocket gopher and California ground squirrel burrows are present. SKR are usually found in flatter areas (slopes less than 30 percent) but may be found on steeper slopes at trace densities and may only use these areas for foraging.

Although SKR is a covered species under the WRC MSHCP and SKR HCP and focused surveys are not required by the WRC MSHCP, the proposed project is within and/or adjacent to the RCHCA SKR Reserve, both WRC MSHCP and LM MSHCP conserved lands, and would potentially affect PQP lands. Due to the potential loss of Core Reserve, a habitat assessment for SKR was conducted on the RCHCA SKR Reserve and data for the LMR were also reviewed. Throughout the SKR study area (LOD plus up to a 500-foot buffer), an estimated 1,682 acres of potentially suitable habitat for SKR was mapped in the form of NNG, disturbed RSS, and RSS/NNG. This estimate only considers suitable vegetation communities, but not topography or soils suitable for the species. Although SKR generally only occur on level to gently sloping terrain and within sandy to sandy loam soils, the species was documented within rugged terrain and clayey soils during focused studies within the RCHCA SKR Reserve; therefore, all areas of the RCHCA SKR Reserve with NNG, disturbed RSS, and RSS/NNG were considered suitable.

The species is assumed to be present throughout the Lake Mathews-Estelle Mountain Core Reserve. There are numerous CNDDB records for SKR within both the LOD and the BSA and from USFWS within these conserved lands. Refer to Figure 3.21-2 for the historical data records of SKR within the SKR study area.

SKR Core Reserve Areas described for conservation that would benefit SKR within the BSA include the Proposed Extension of Existing Core 2 of the WRC MSHCP and Proposed Linkage 3. Refer to Section 3.17, *Natural Communities*, for more details on these cores and linkages.

The results of the habitat suitability mapping, burrow density mapping, and trapping surveys described in the *Stephens' Kangaroo Rat Habitat Assessment and Trapping Survey Report* for the project (see Appendix G in the NES report) are summarized below.

Habitat Suitability Mapping

Within the RCHCA SKR Reserve, suitable habitat for SKR was present within open grassland and/or open RSS habitats on level to gently sloping terrain. The habitat suitability mapping performed on the RCHCA SKR Reserve rated habitat on the reserve from trace to high and was based on suitable vegetation community, topography, and presence of kangaroo rat sign (scat, tracks and burrow entrances, hind foot or trail drag marks, and characteristic small foraging divots in the soil surface). Although clay soils found on the RCHCA SKR Reserve are generally not considered suitable for kangaroo rat, it was confirmed during the burrow density mapping and trapping efforts (discussed below) that SKR were occupying areas within these denser soils.

Habitat suitability mapping data within the LMR was acquired from the Lake Mathews Reserve Management Plan and geographic information system modeling data provided by MWD. The majority of habitat on the LMR within the SKR study area had moderate to high suitability for the species within open grasslands with sandy or sandy loam soils on level terrain, or RSS habitat. Areas of low suitability were generally associated with riparian areas, steep ravines, or chaparral vegetation.

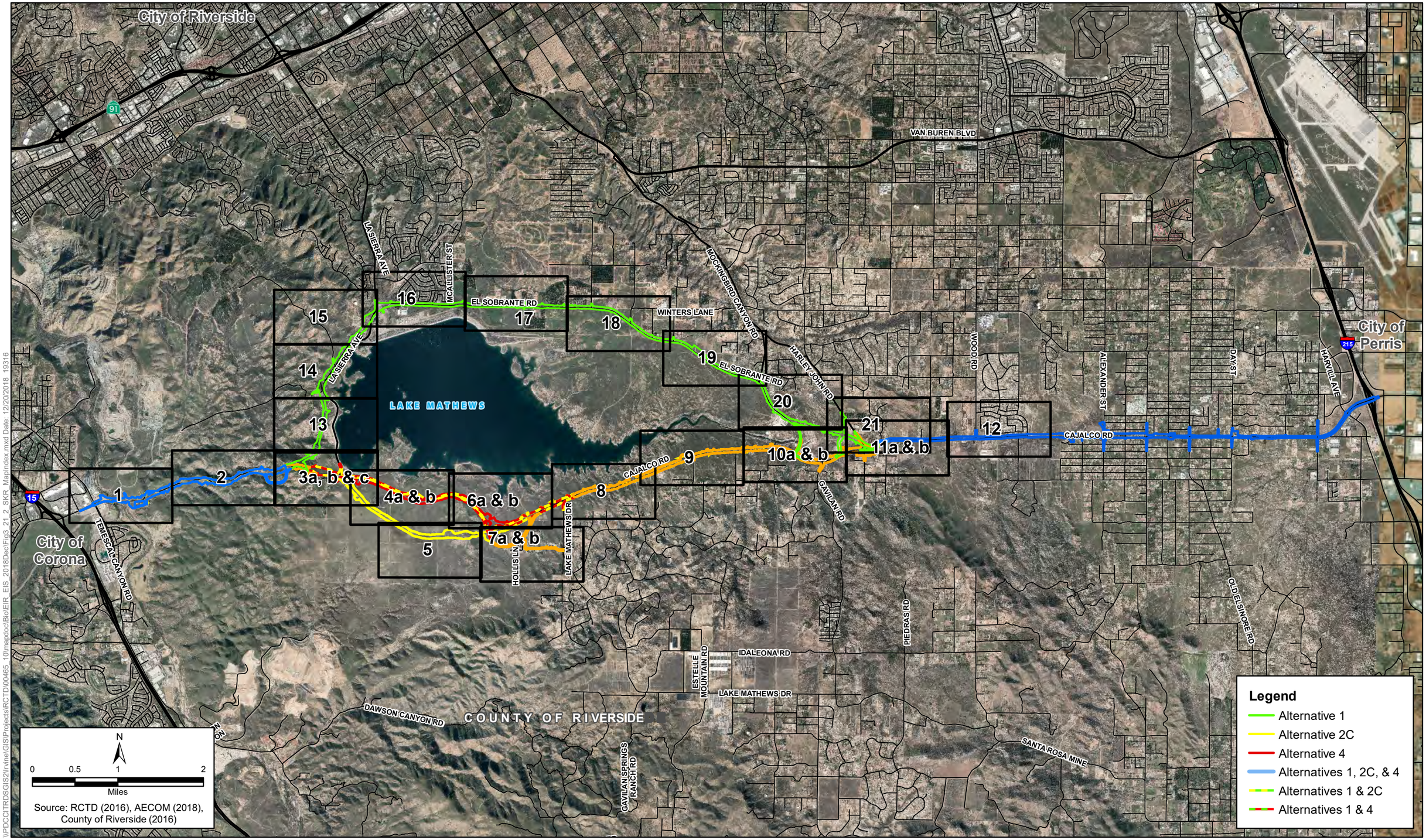

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Figure 3.21-2 - Map Index
Stephens' Kangaroo Rat Trapping Results Build Alternatives 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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SKR Study Area

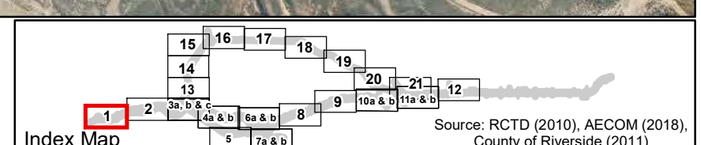
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 1
Stephens' Kangaroo Rat Trapping Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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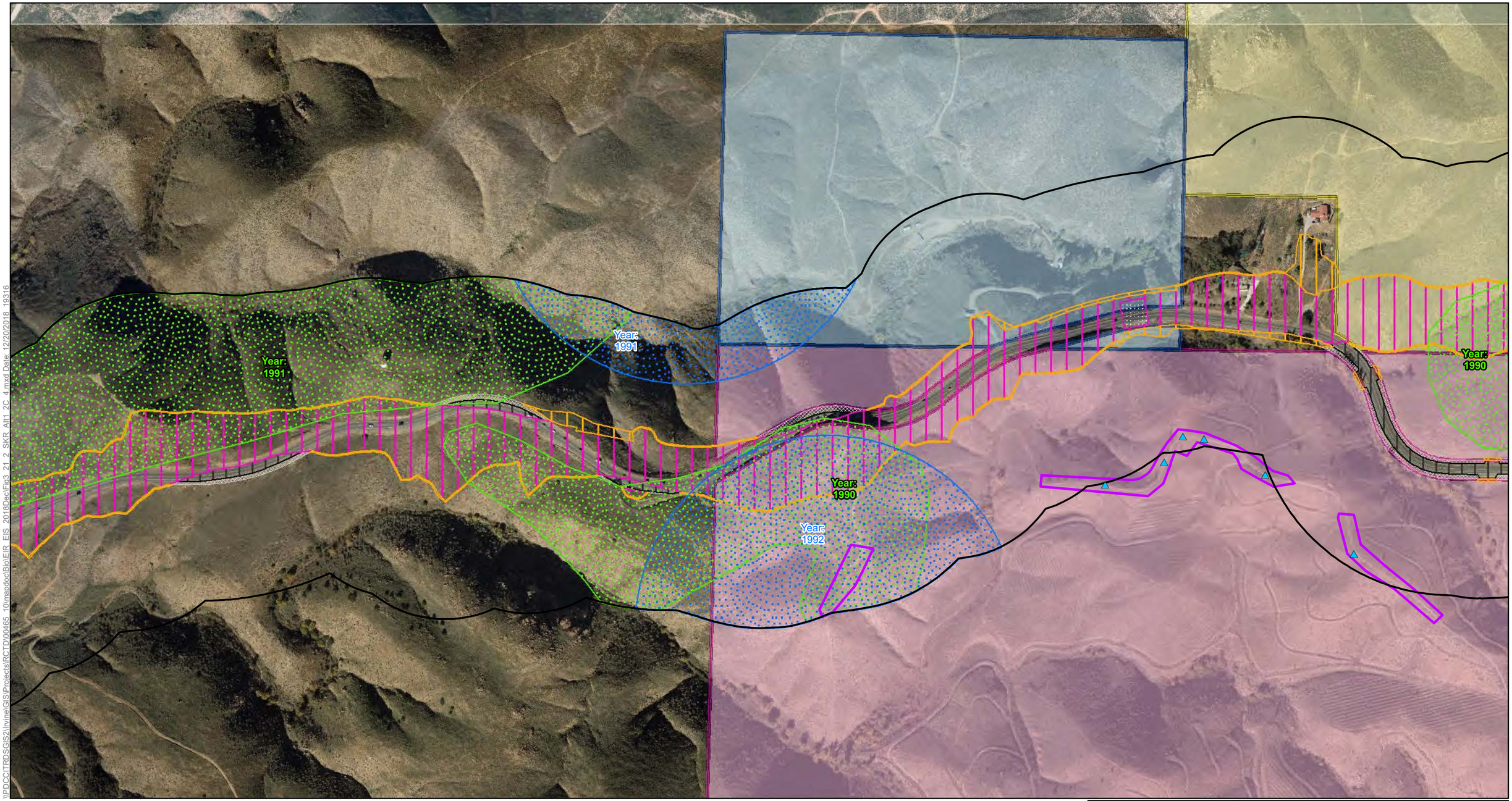

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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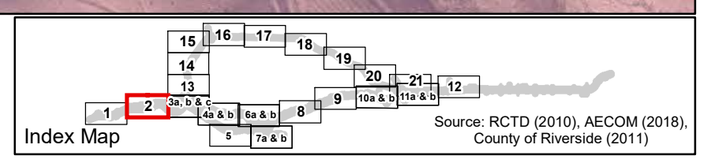
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 2
Stephens' Kangaroo Rat Trapping Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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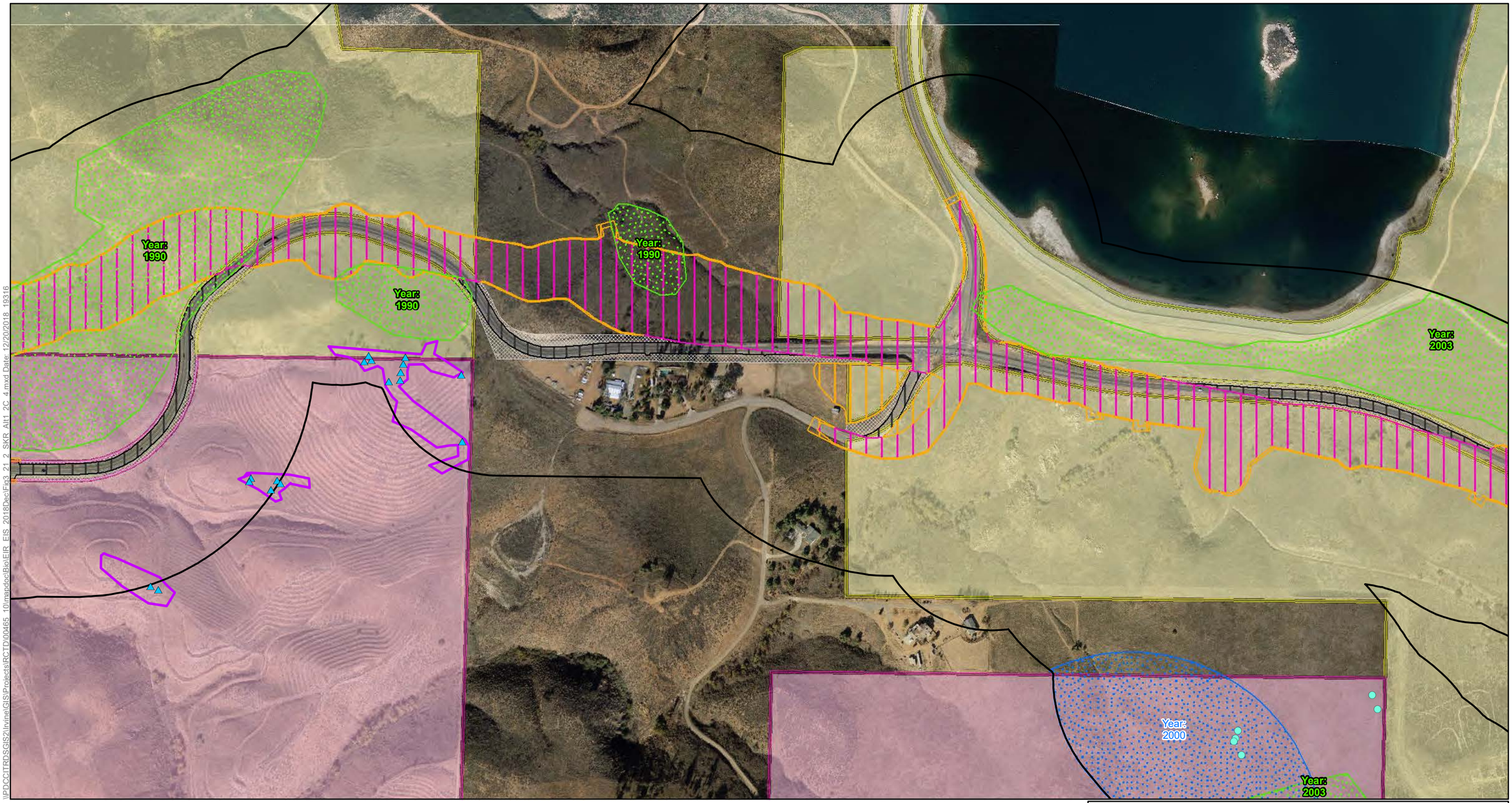

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SKR Study Area

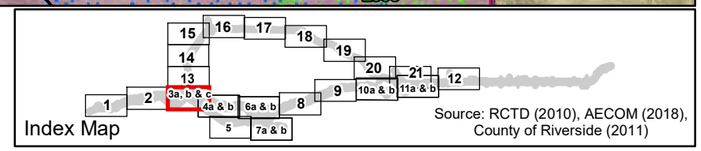
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 3a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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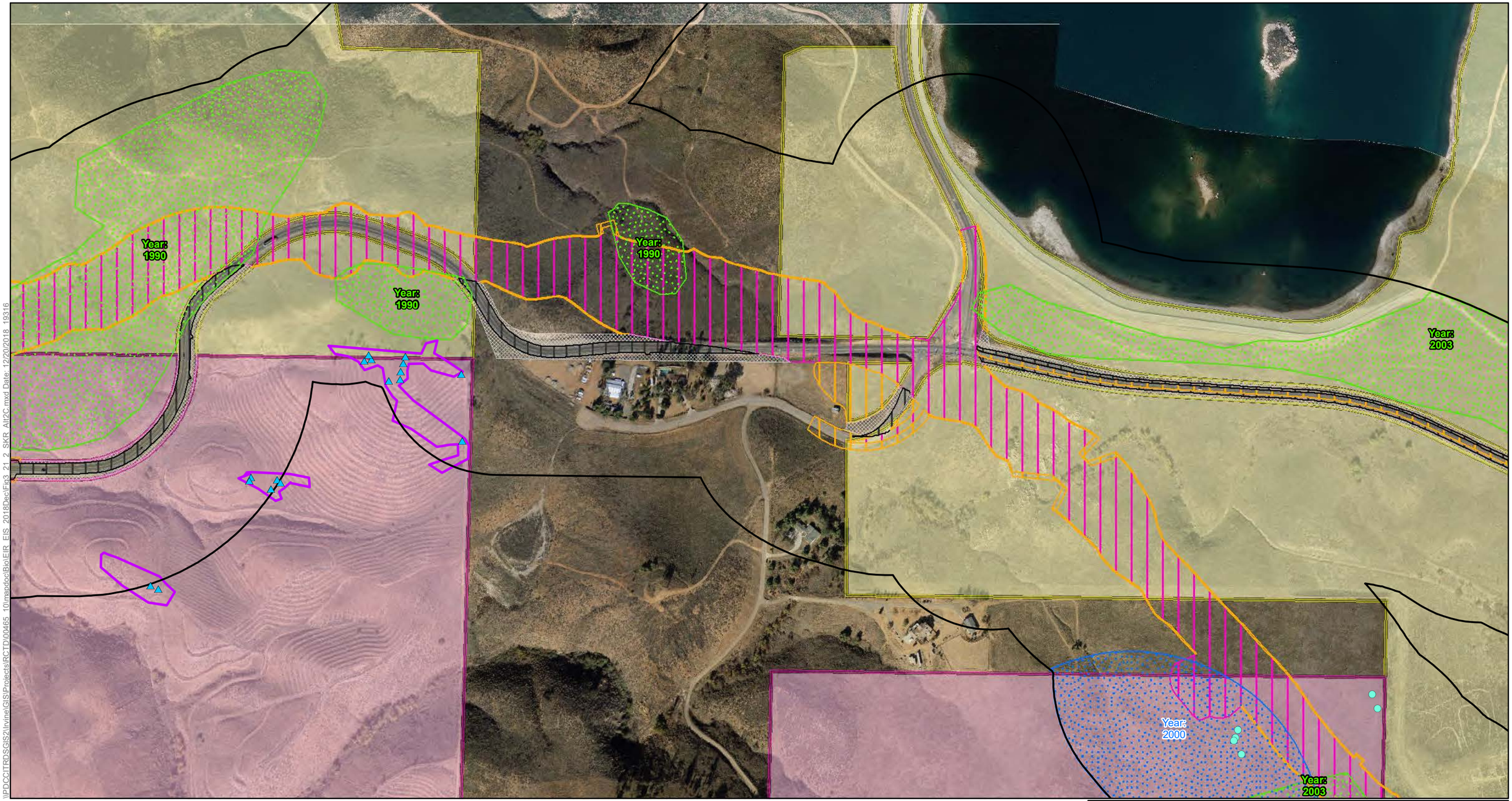

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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Feet

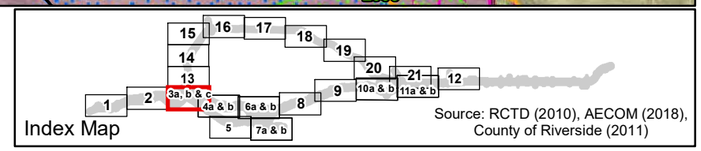

Figure 3.21-2- Sheet 3b
Stephens' Kangaroo Rat Trapping Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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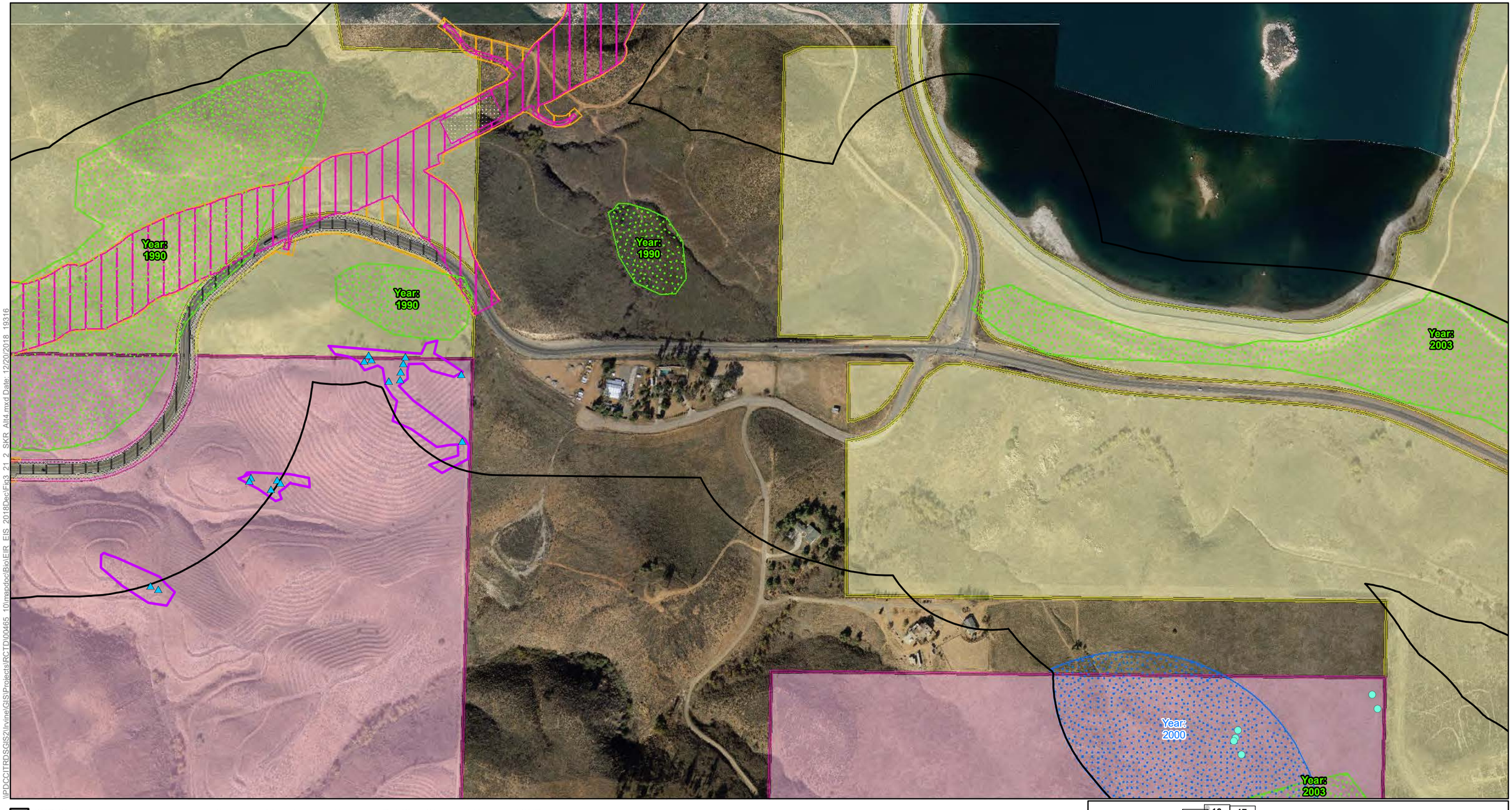

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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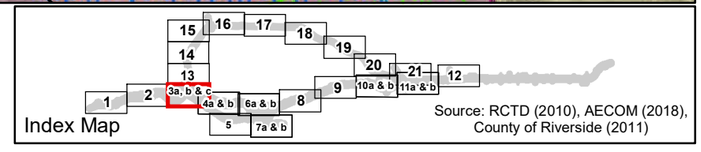
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 3c
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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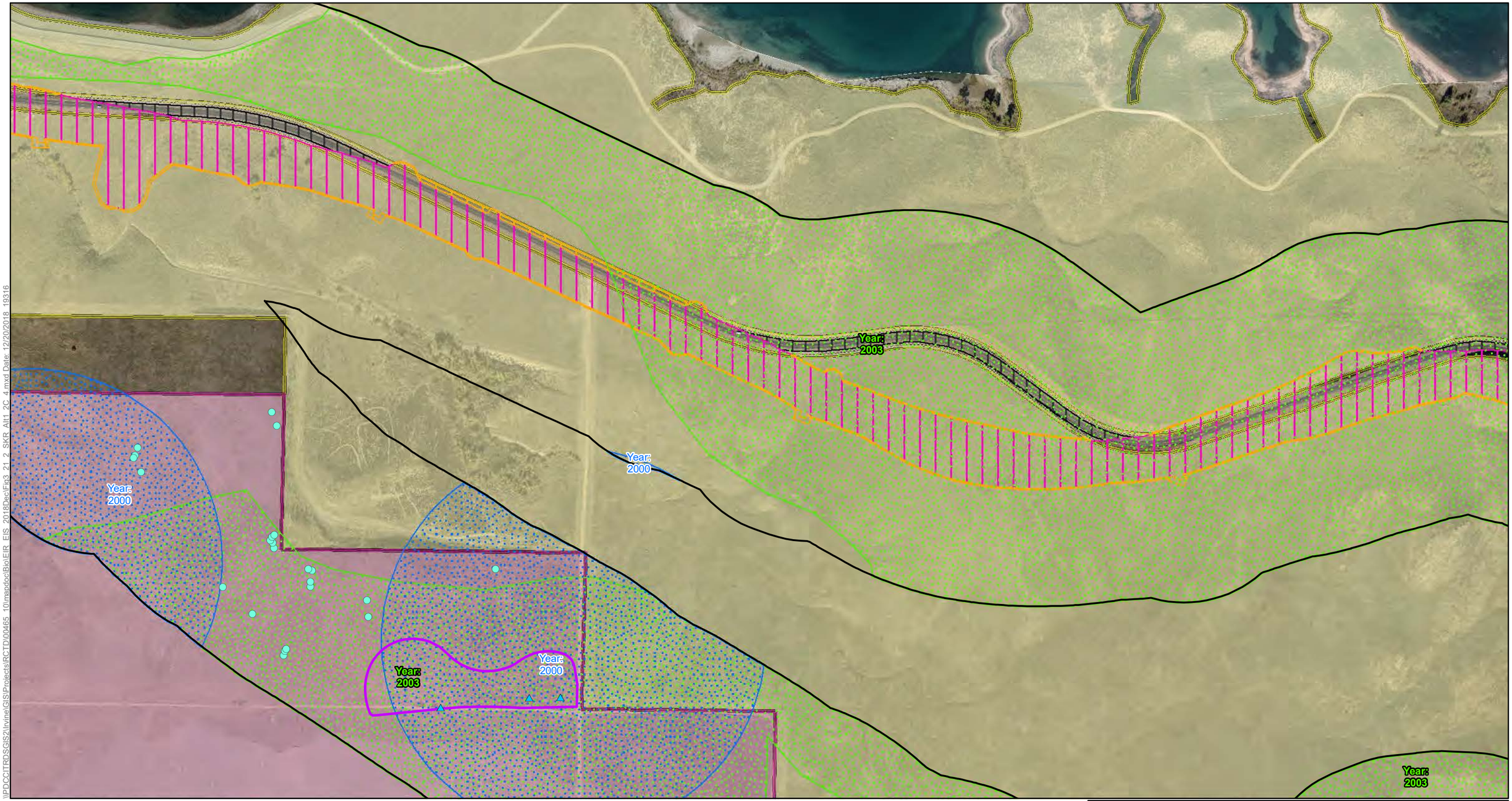

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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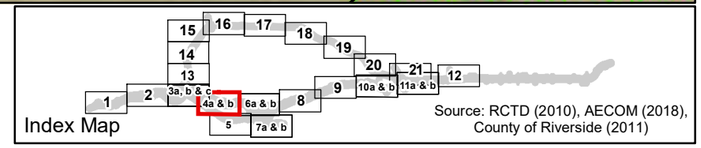
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 4a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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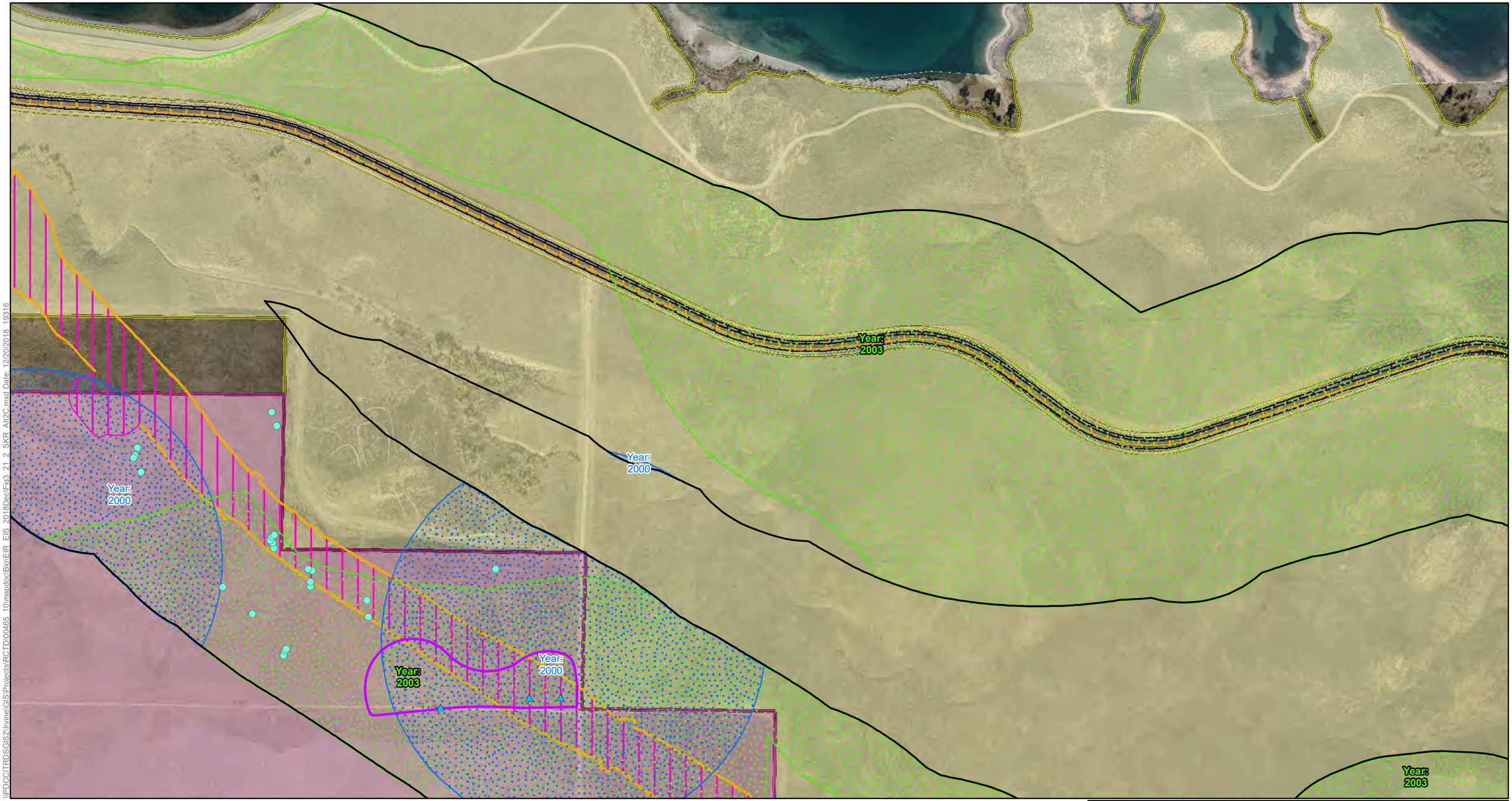

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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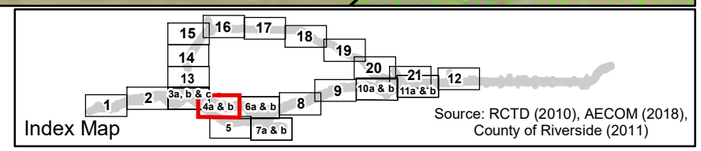
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 4b
Stephens' Kangaroo Rat Trapping Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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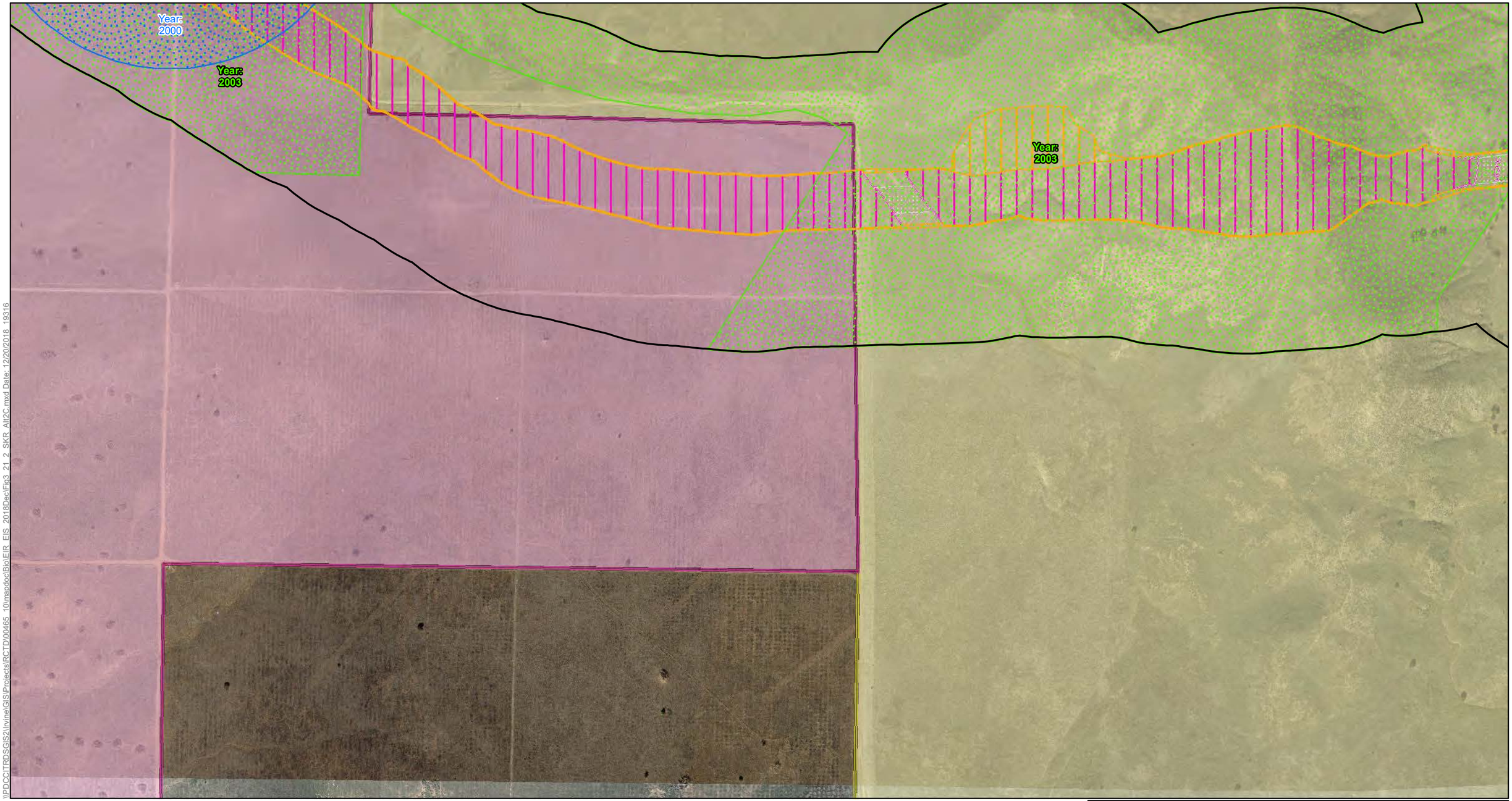

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet

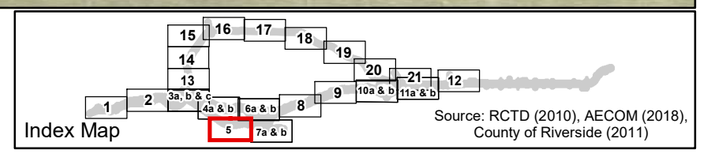

Figure 3.21-2- Sheet 5
Stephens' Kangaroo Rat Trapping Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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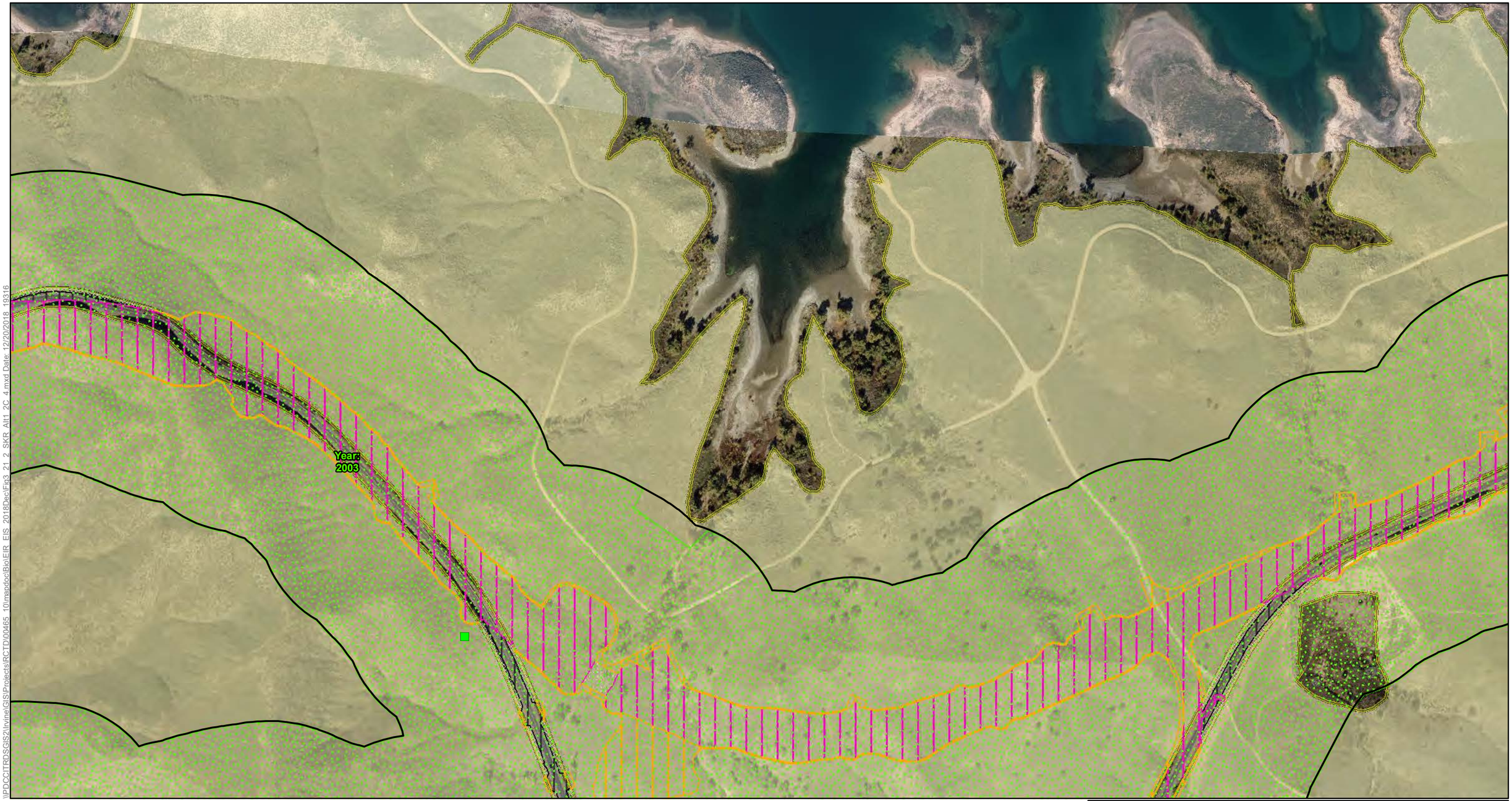

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SKR Study Area

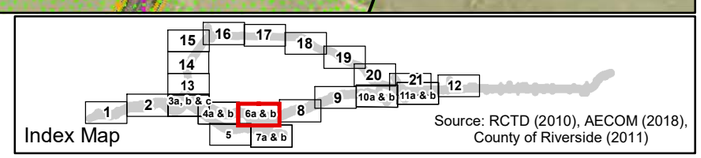
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 6a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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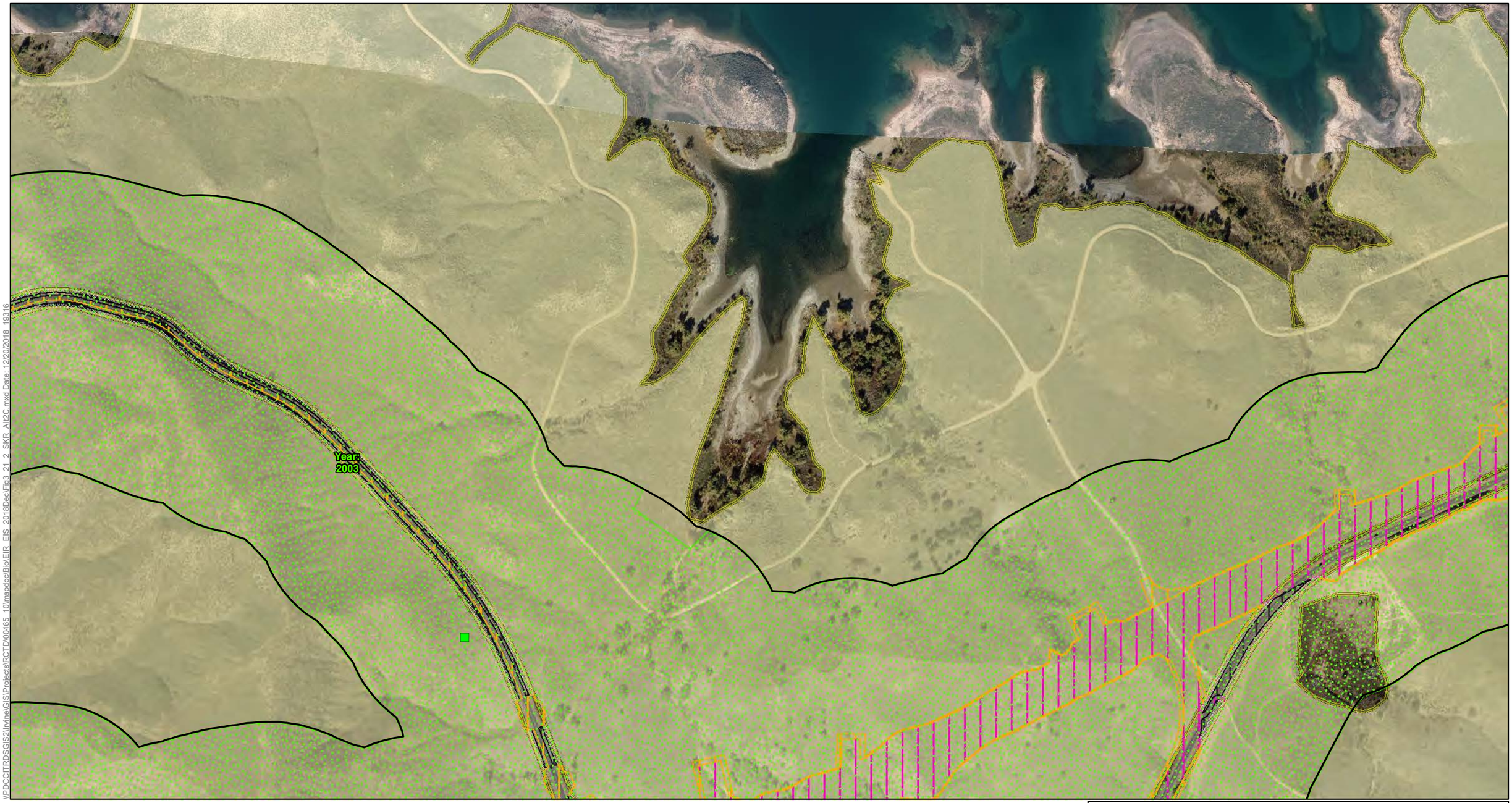

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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Feet

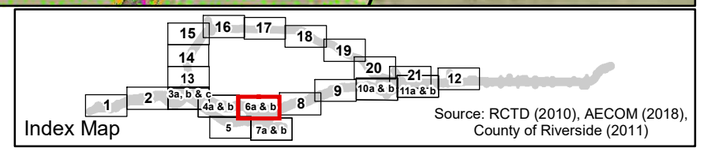

Figure 3.21-2- Sheet 6b
Stephens' Kangaroo Rat Trapping Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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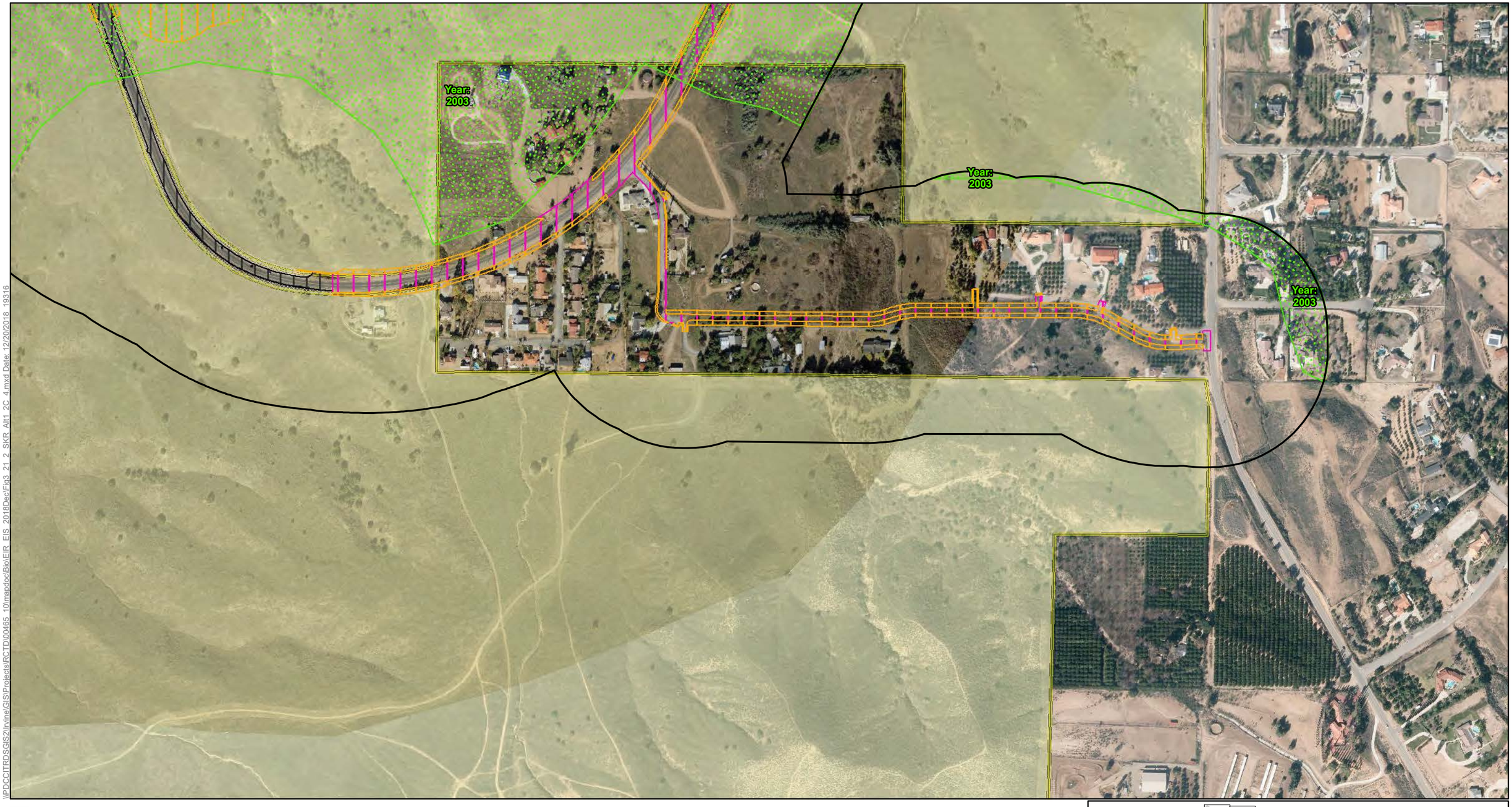

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SKR Study Area

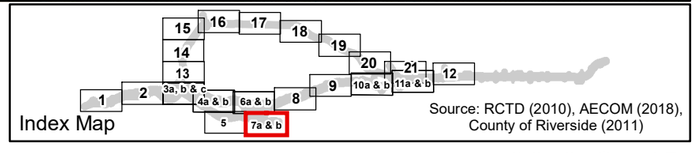
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 7a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1
Cajalco Road Widening and Safety Enhancement Project

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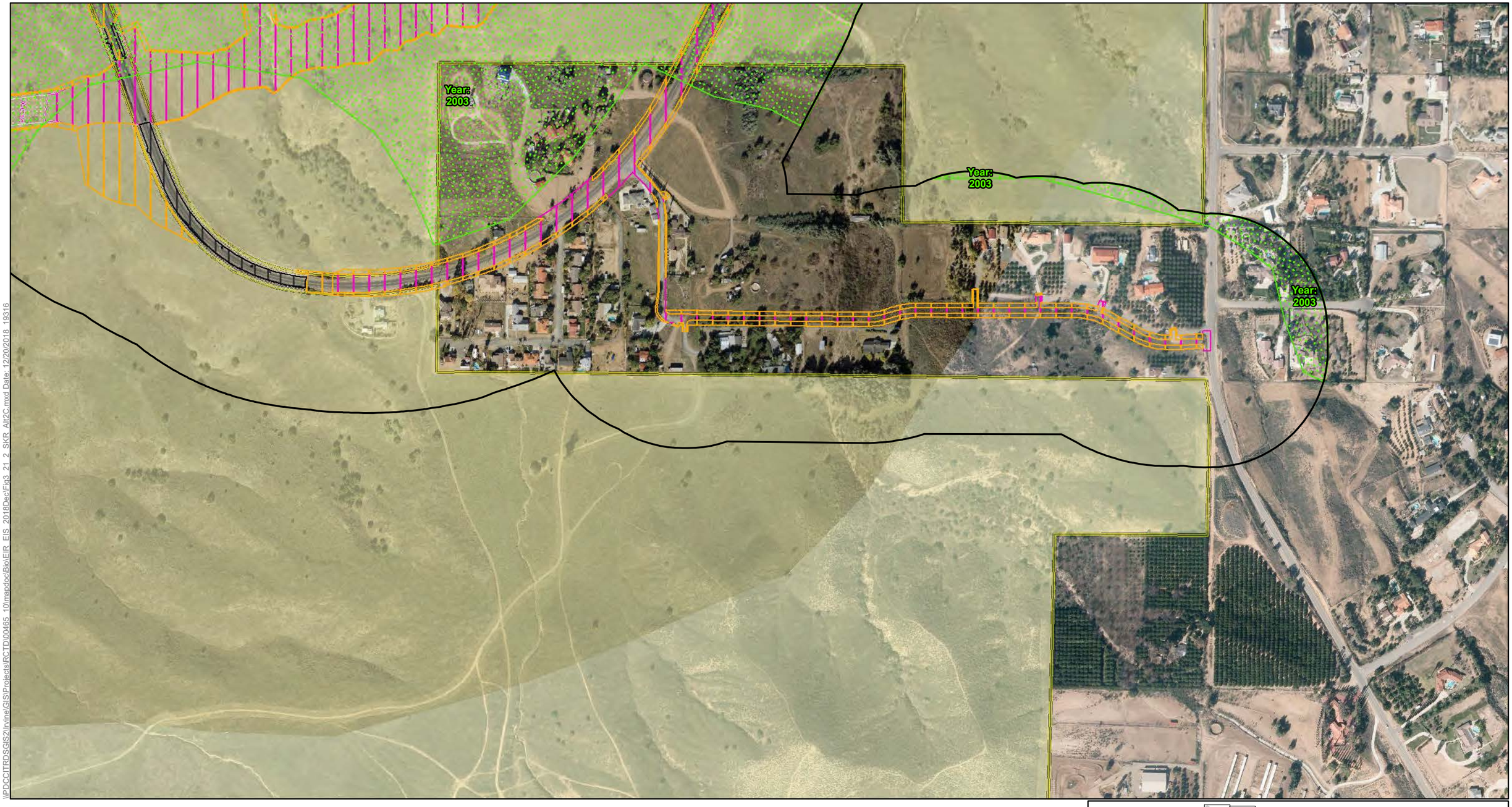

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Permanent Impact Area (Conserved Land)
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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Feet

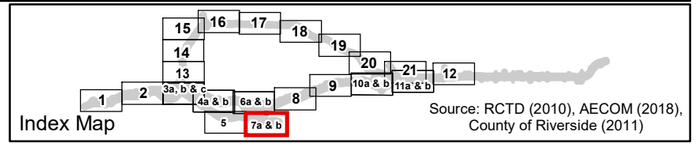

Figure 3.21-2- Sheet 7b
Stephens' Kangaroo Rat Trapping Results Build Alternative 2C
Cajalco Road Widening and Safety Enhancement Project

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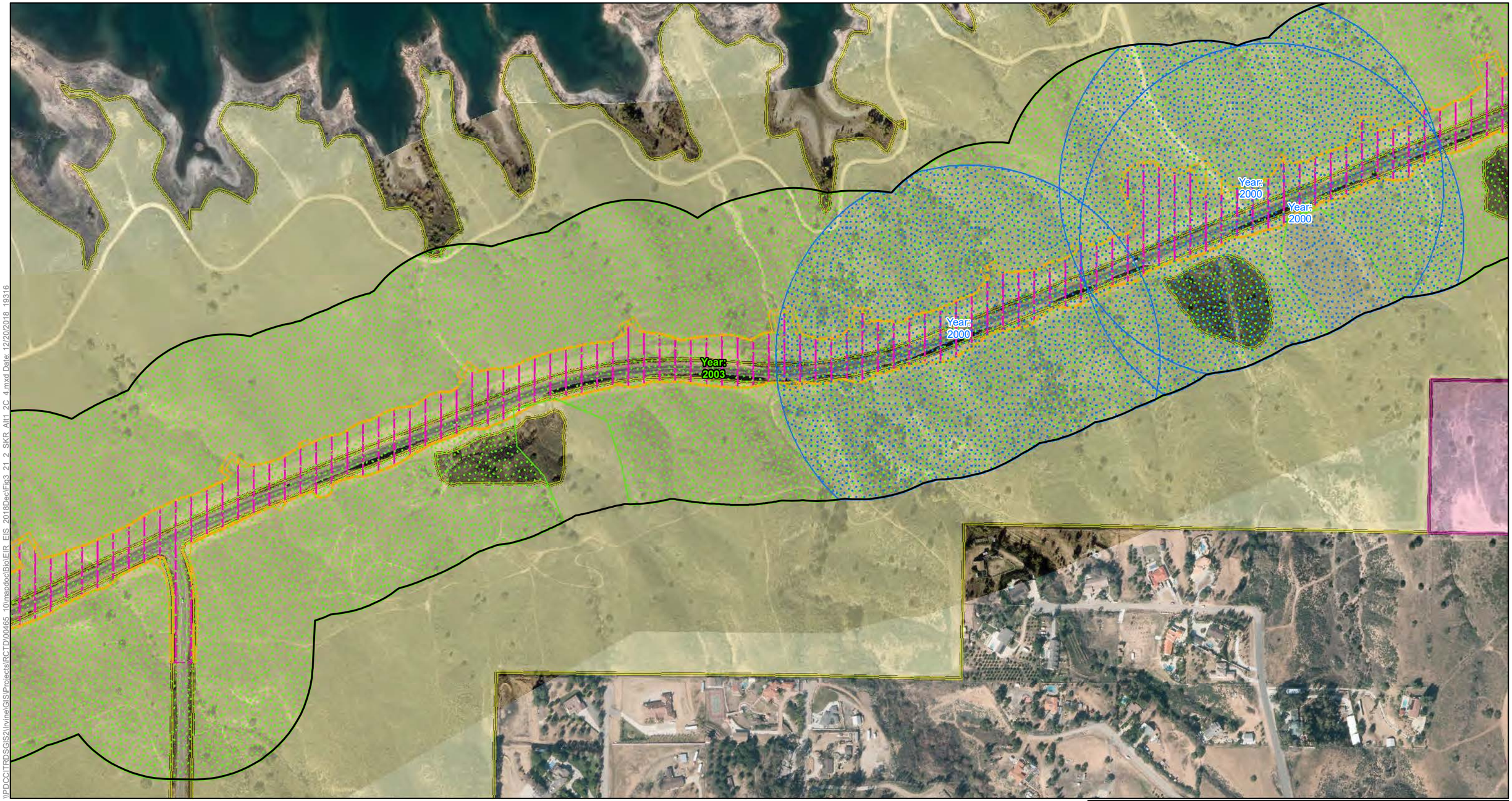

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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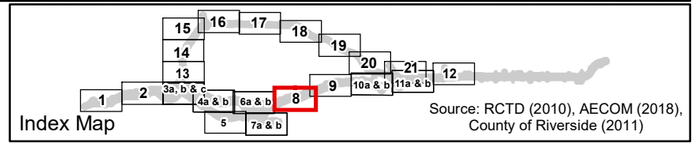
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 8
Stephens' Kangaroo Rat Trapping Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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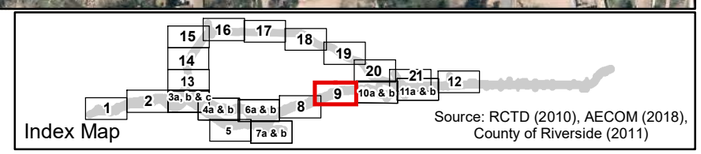
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 9
Stephens' Kangaroo Rat Trapping Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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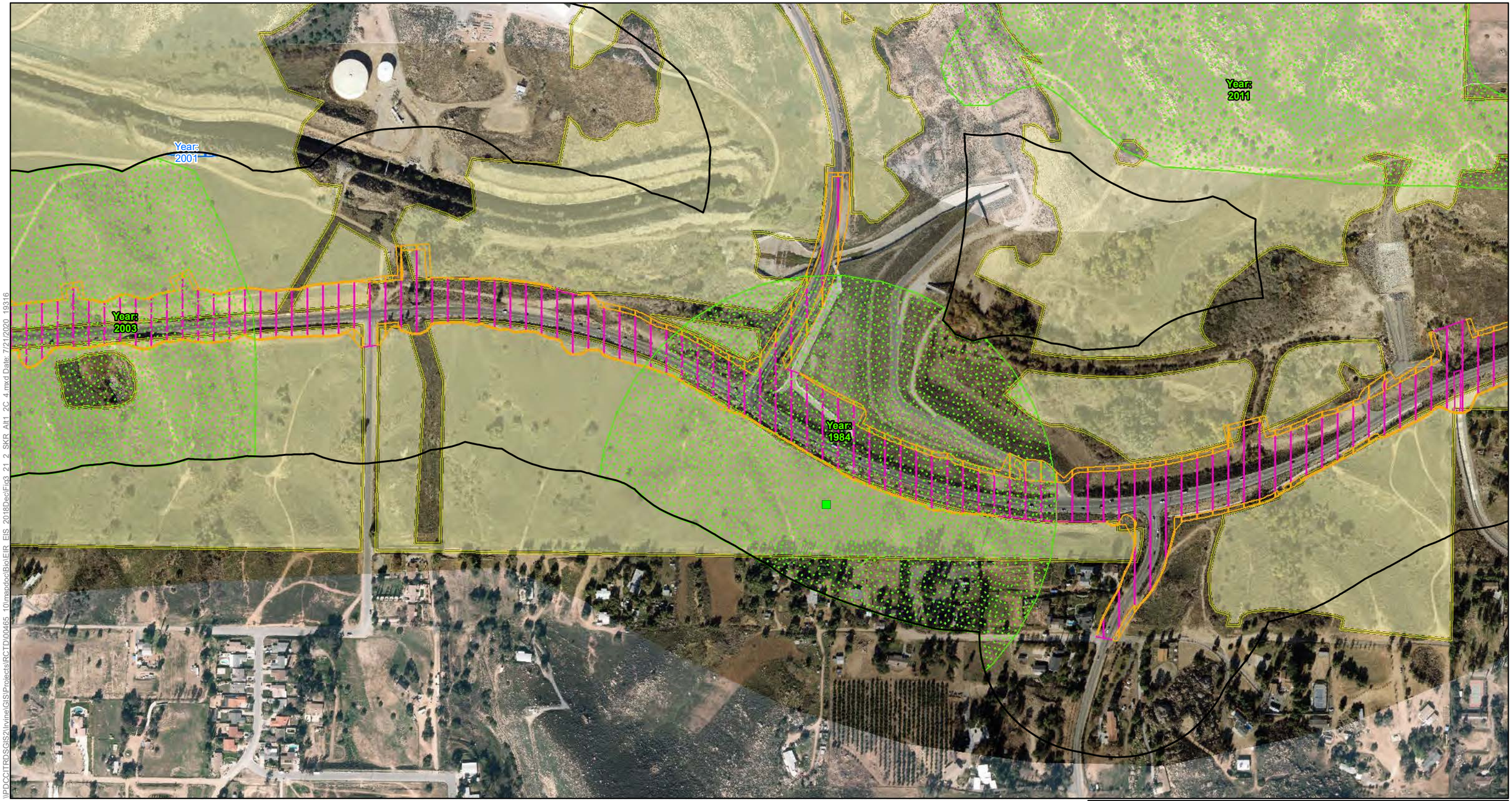

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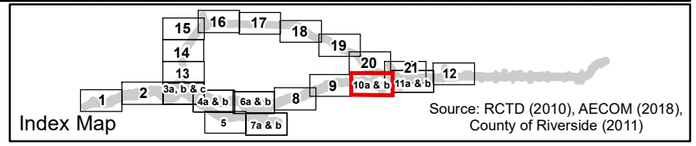
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- SKR Study Area
- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 10a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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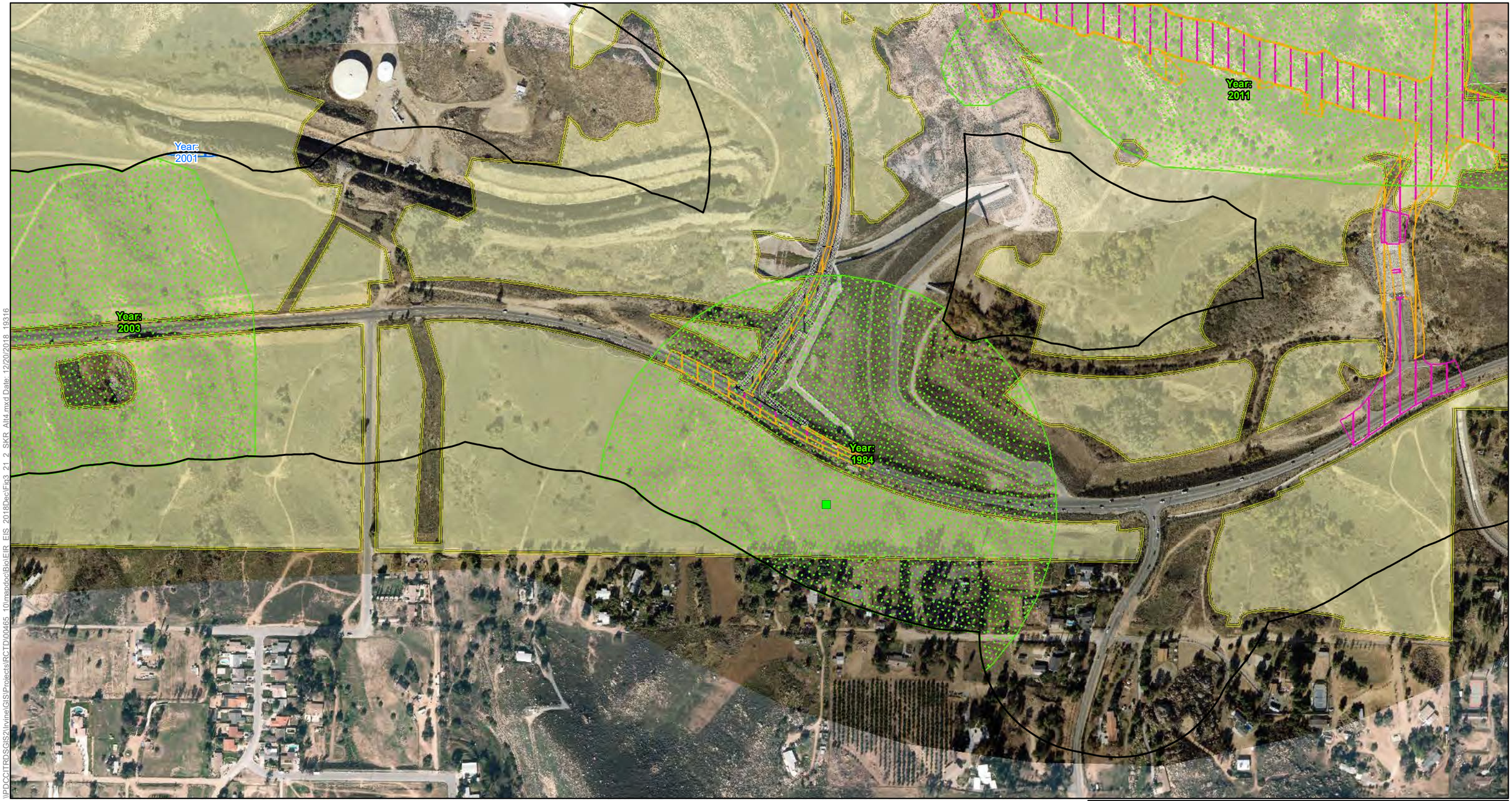

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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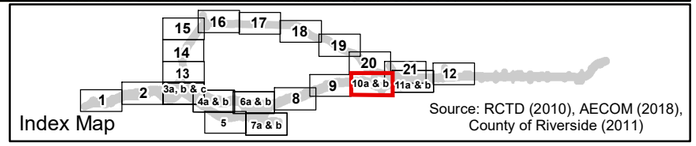
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 10b
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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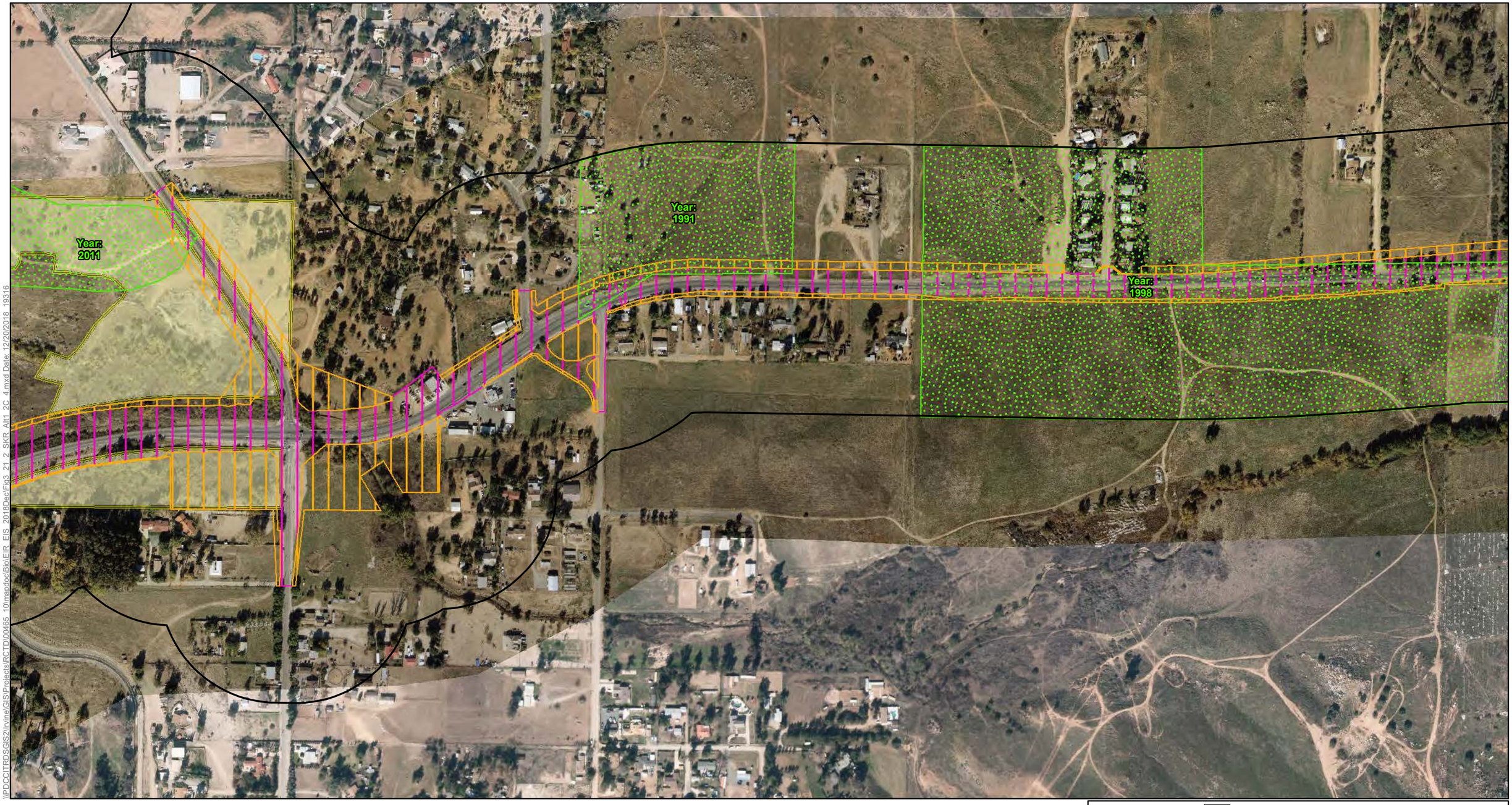

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SKR Study Area

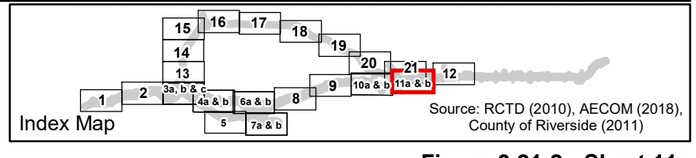
Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

0 100 200 400
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 11a
Stephens' Kangaroo Rat Trapping Results Build Alternative 1 & 2C
Cajalco Road Widening and Safety Enhancement Project

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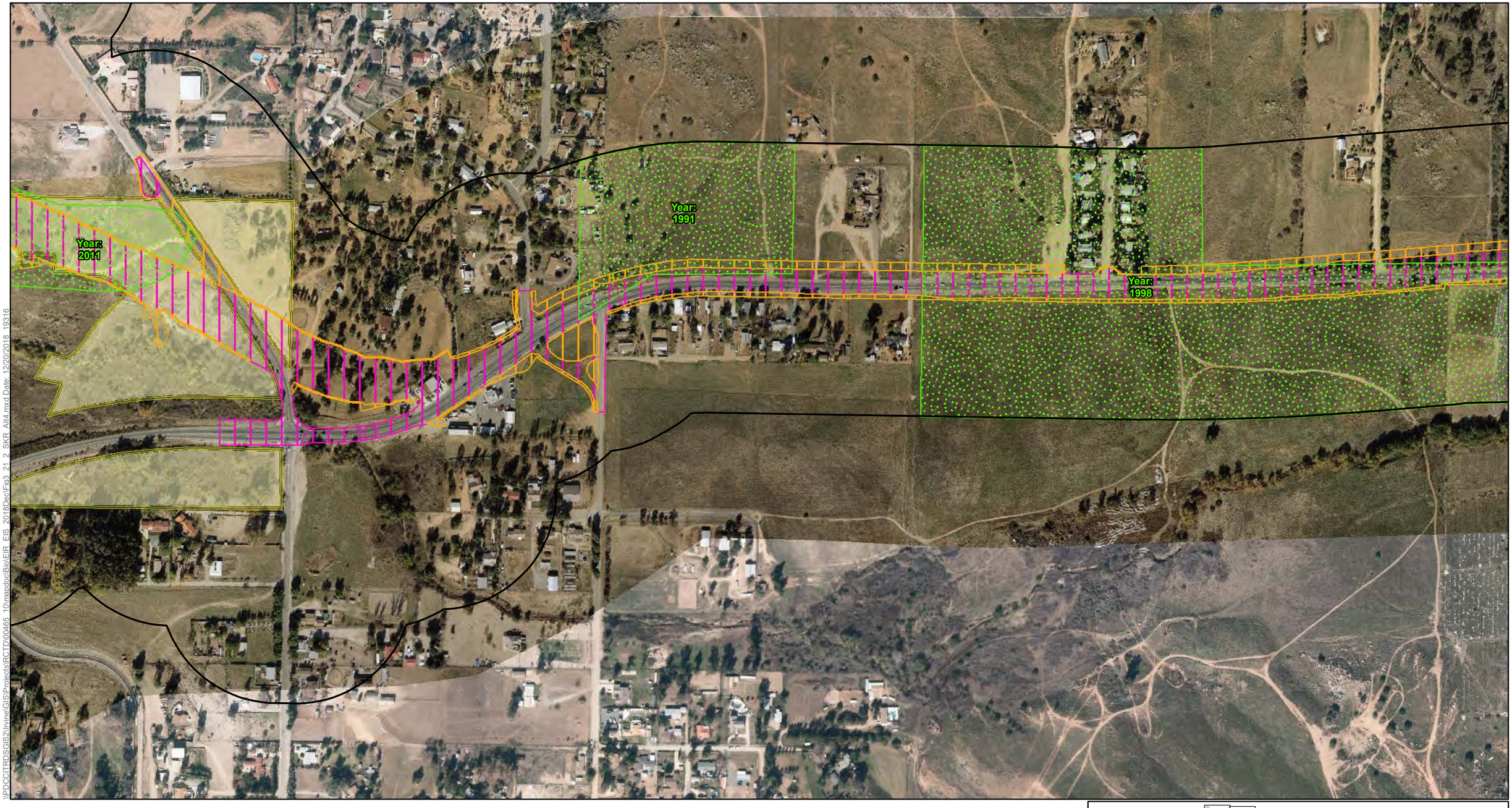

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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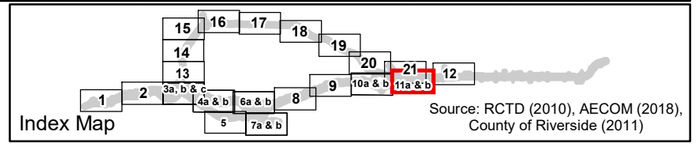
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 11b
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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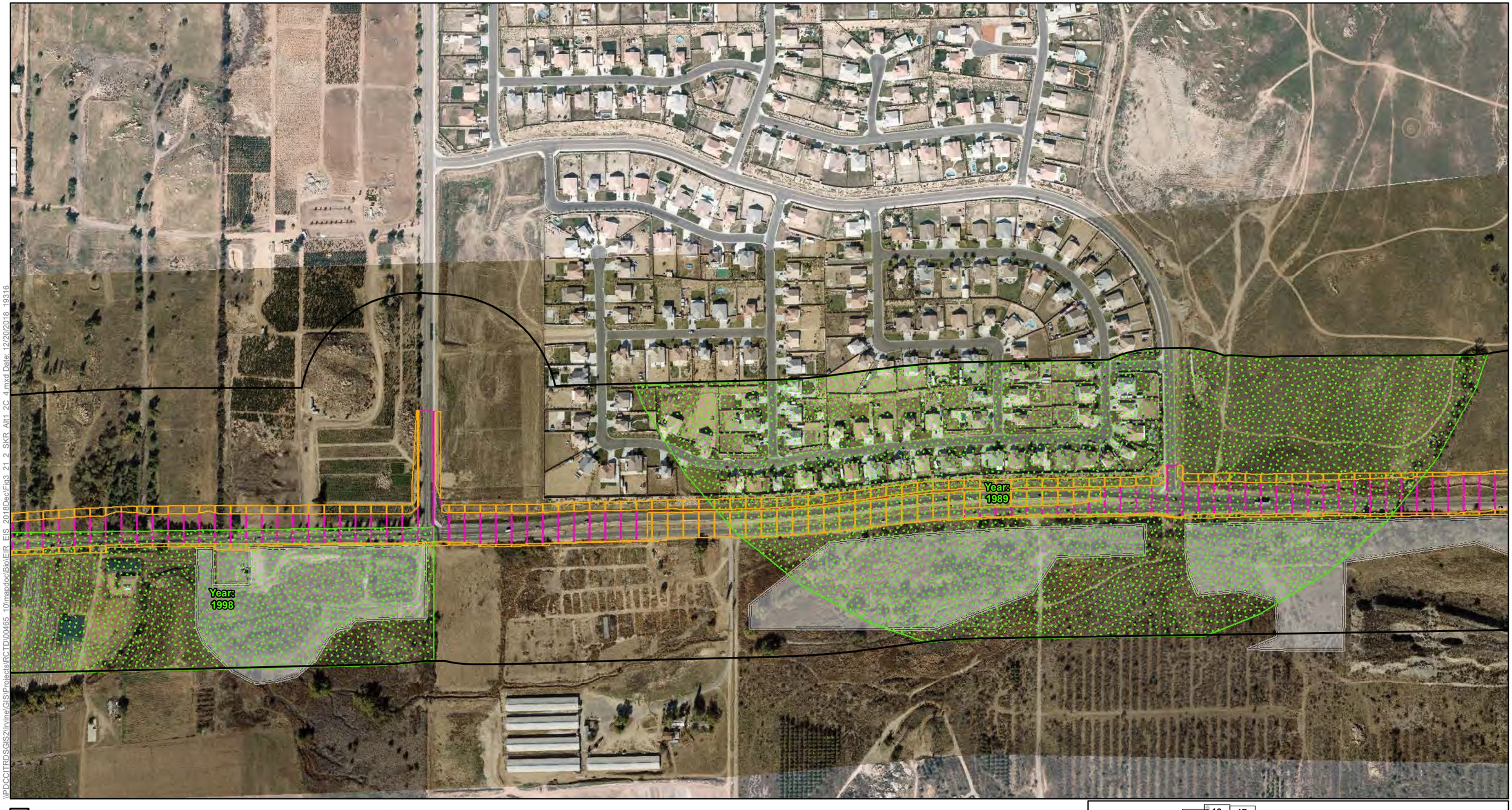

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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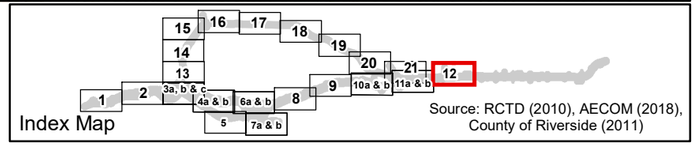
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2 - Sheet 12
Stephens' Kangaroo Rat Trapping Results Build Alternative 1, 2C & 4
Cajalco Road Widening and Safety Enhancement Project

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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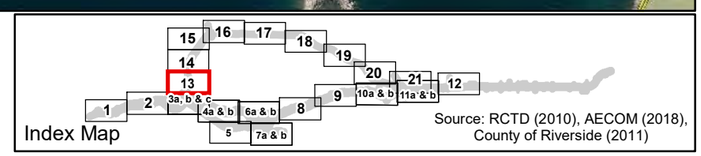
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 13
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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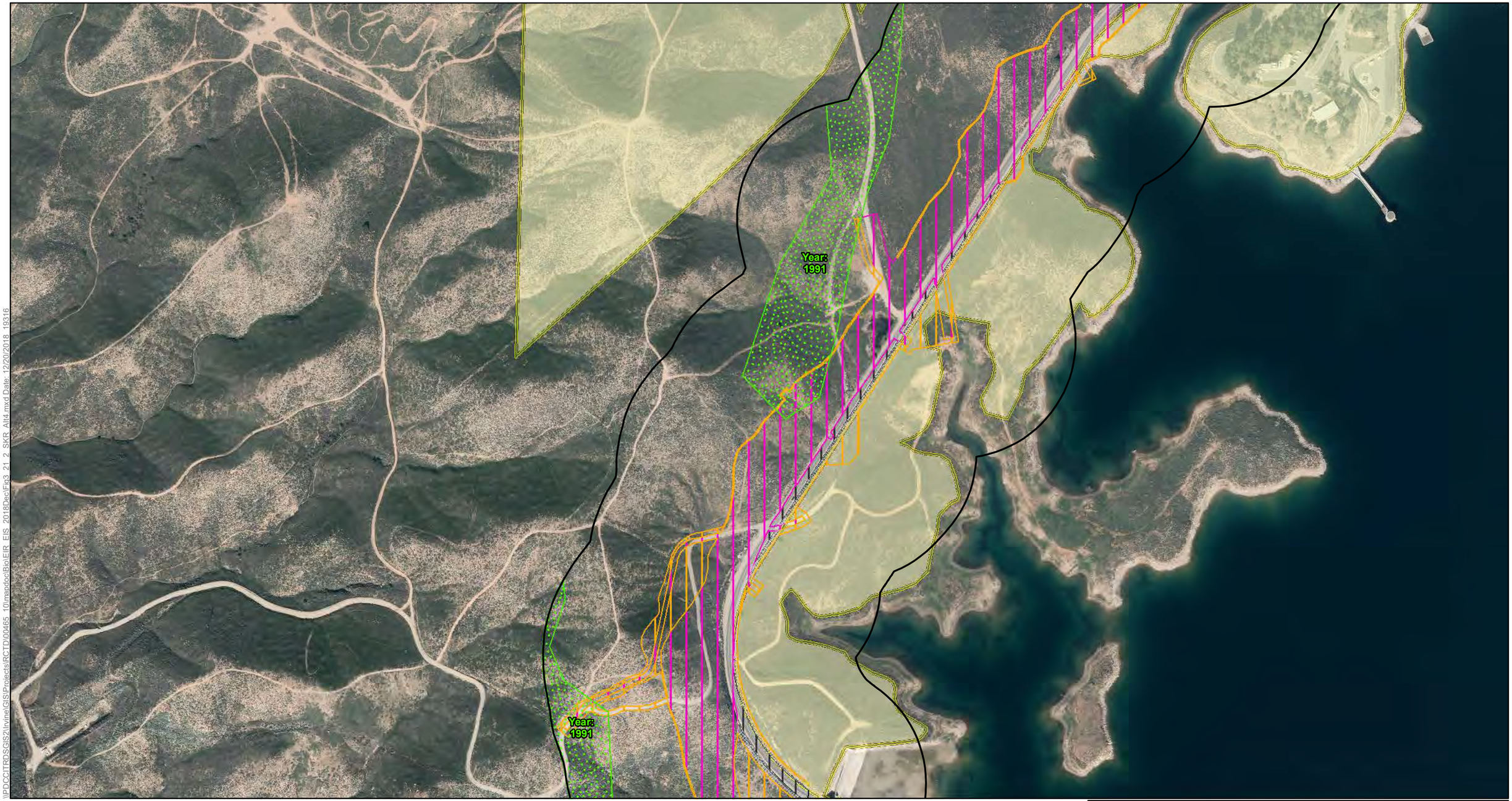

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

N

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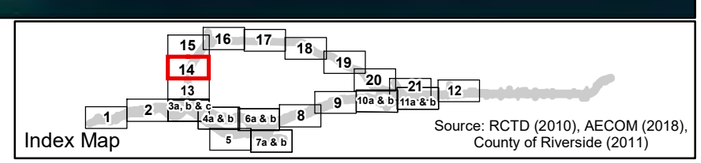
Feet



Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 14
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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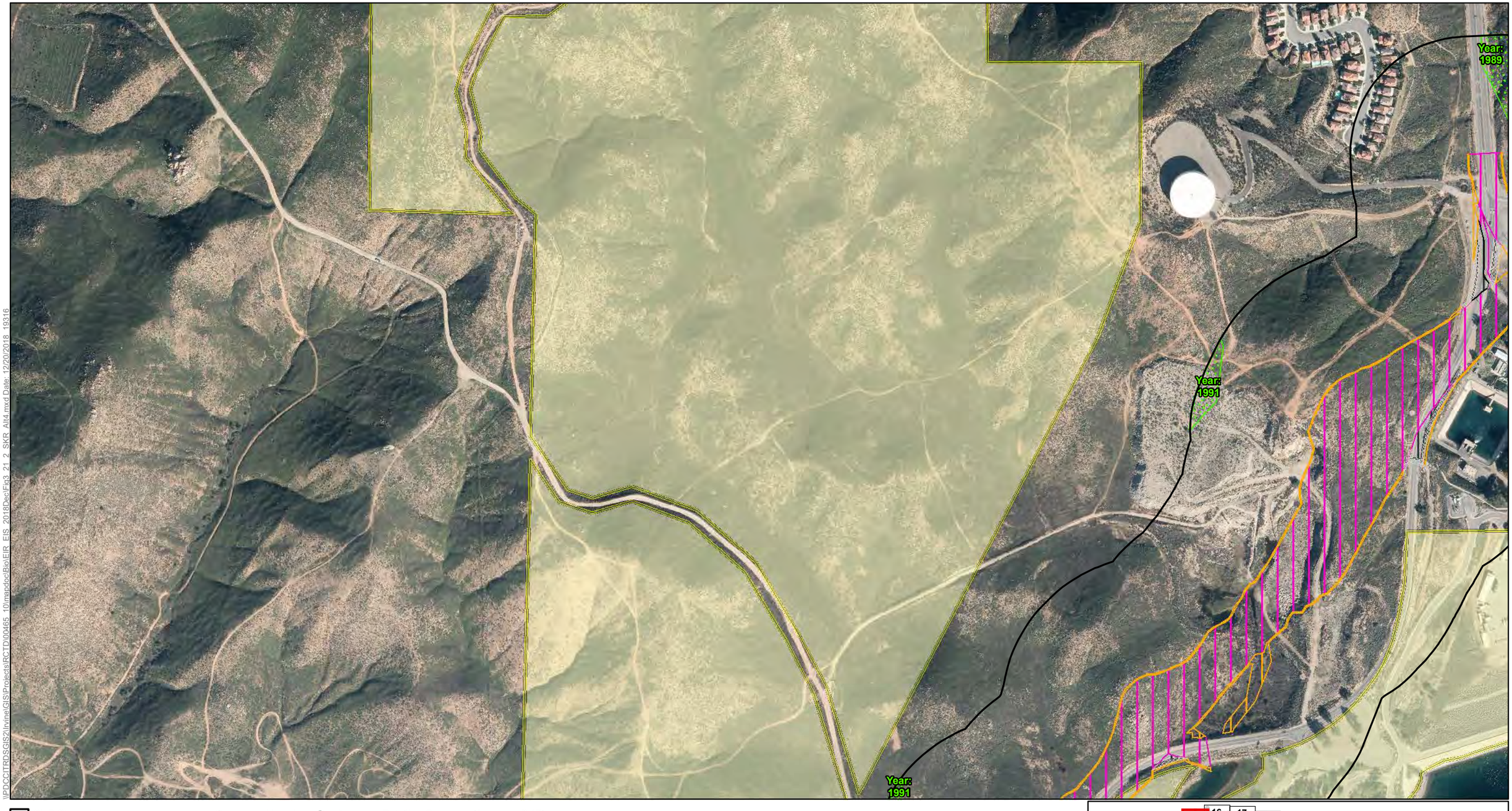

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SKR Study Area

Impact Areas
- Permanent Impact Area
- Temporary Impact Area
- Roadbed Removal (Beneficial)
- Roadbed Removal ROW (Beneficial)
- Temporary (Existing Shading)
- Permanent (Proposed Shading)

Conserved Lands
- MWD
- RCHCA
- RCRCD
- WRCRCA

- Kangaroo Rat Sign Observed (Assumed SKR)
- 2017 Capture Location - Stephens' Kangaroo Rat
- 2017 Trapping Areas
- MWD and RCHCA (1995) - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- CNDDB - Stephens' Kangaroo Rat
- USFWS - Stephens' Kangaroo Rat

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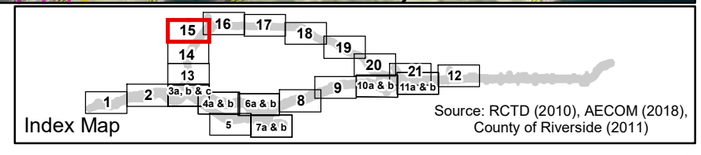
Feet



Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 15
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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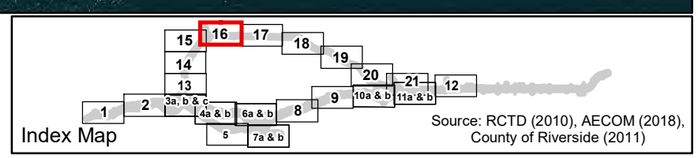

Figure 3.21-2- Sheet 16
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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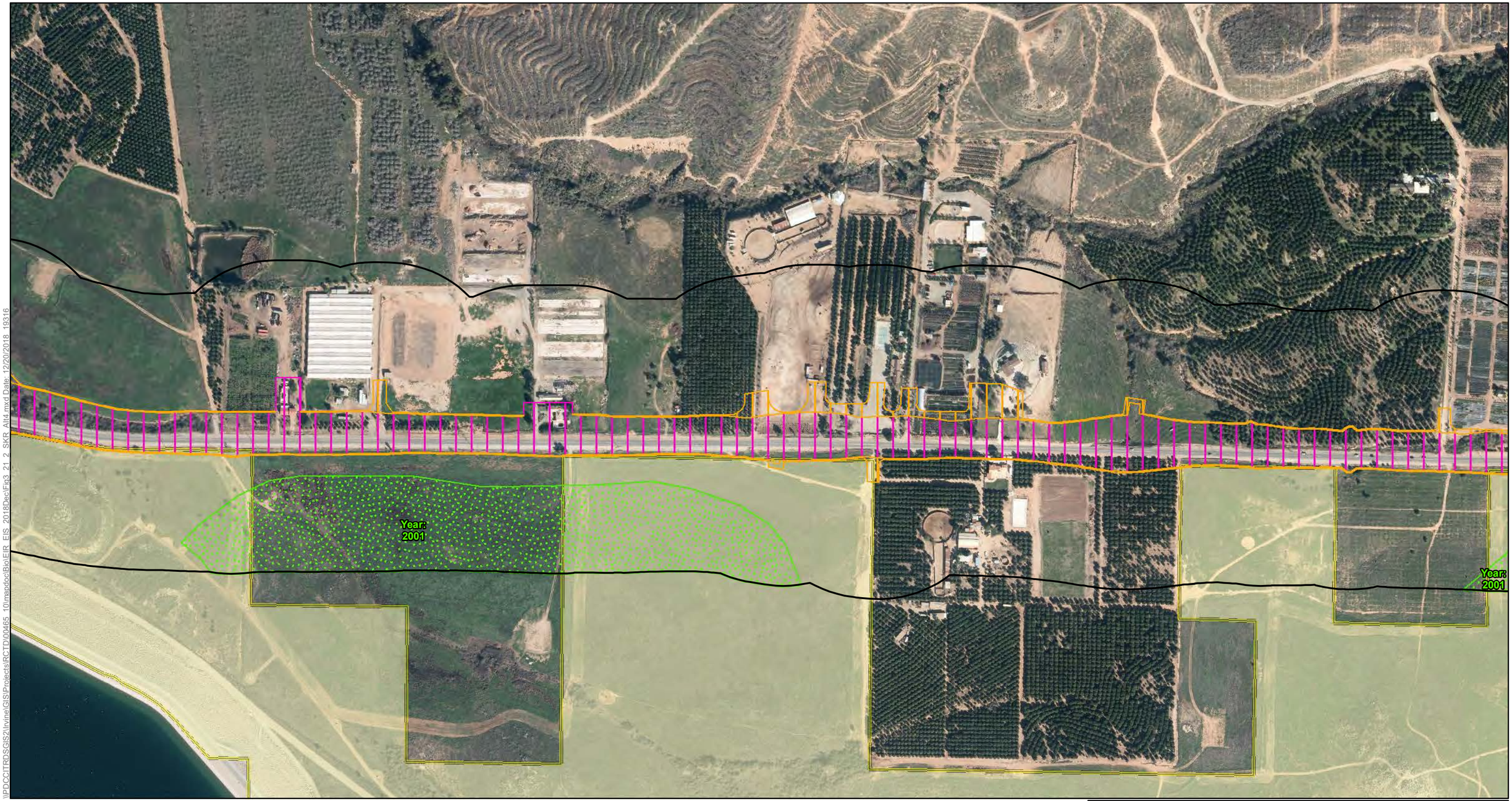

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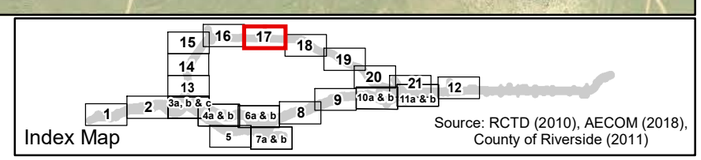

Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 17
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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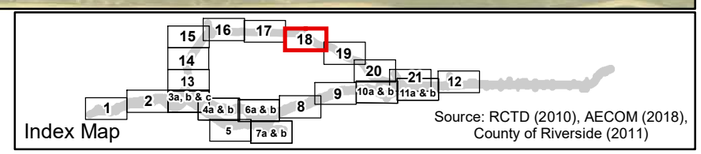

Index Map

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 18
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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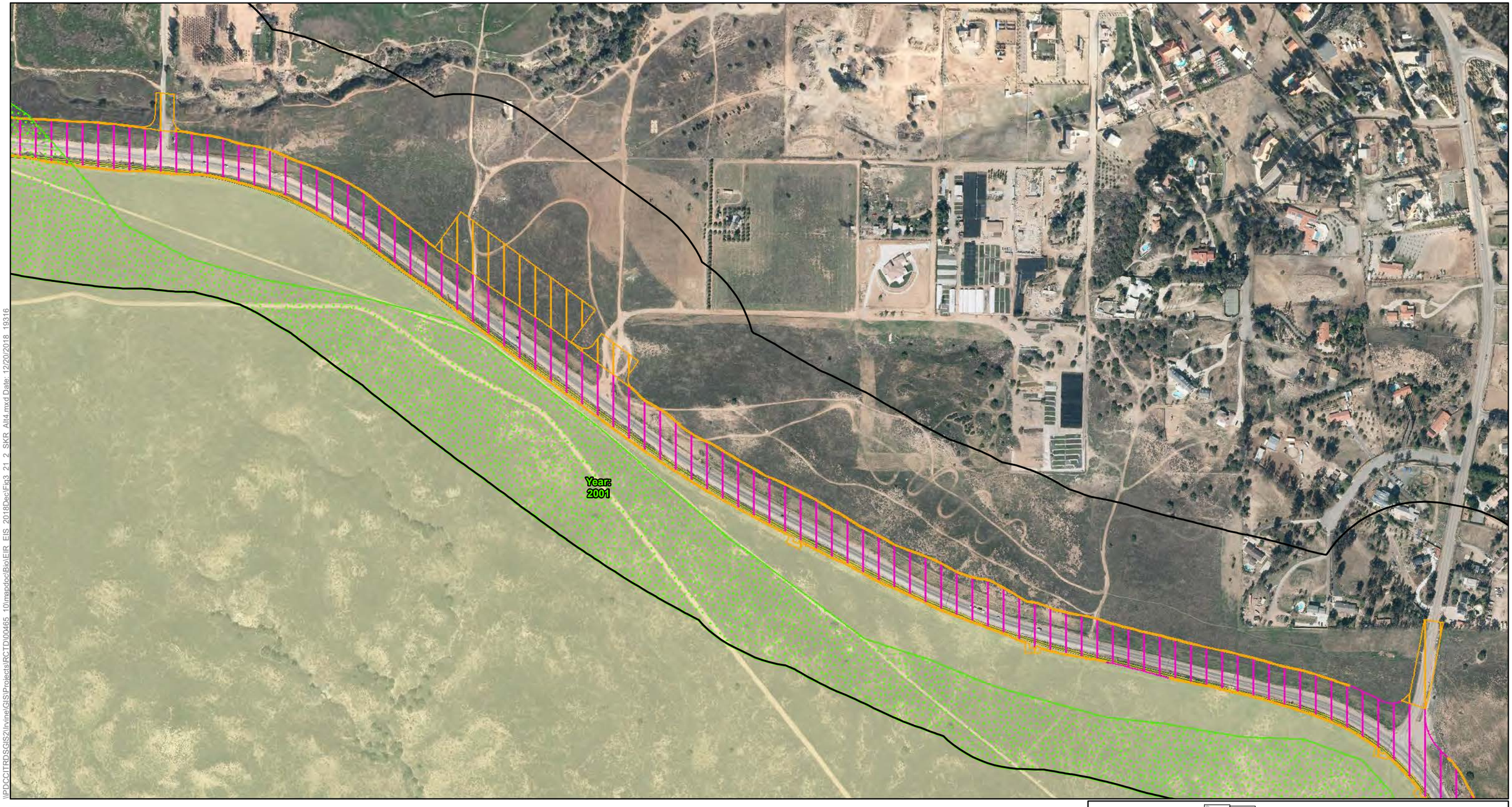

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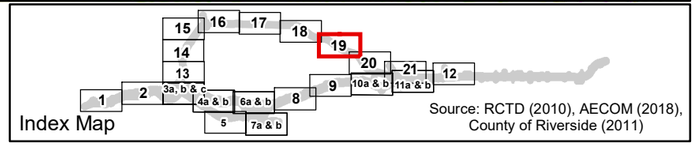

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 19
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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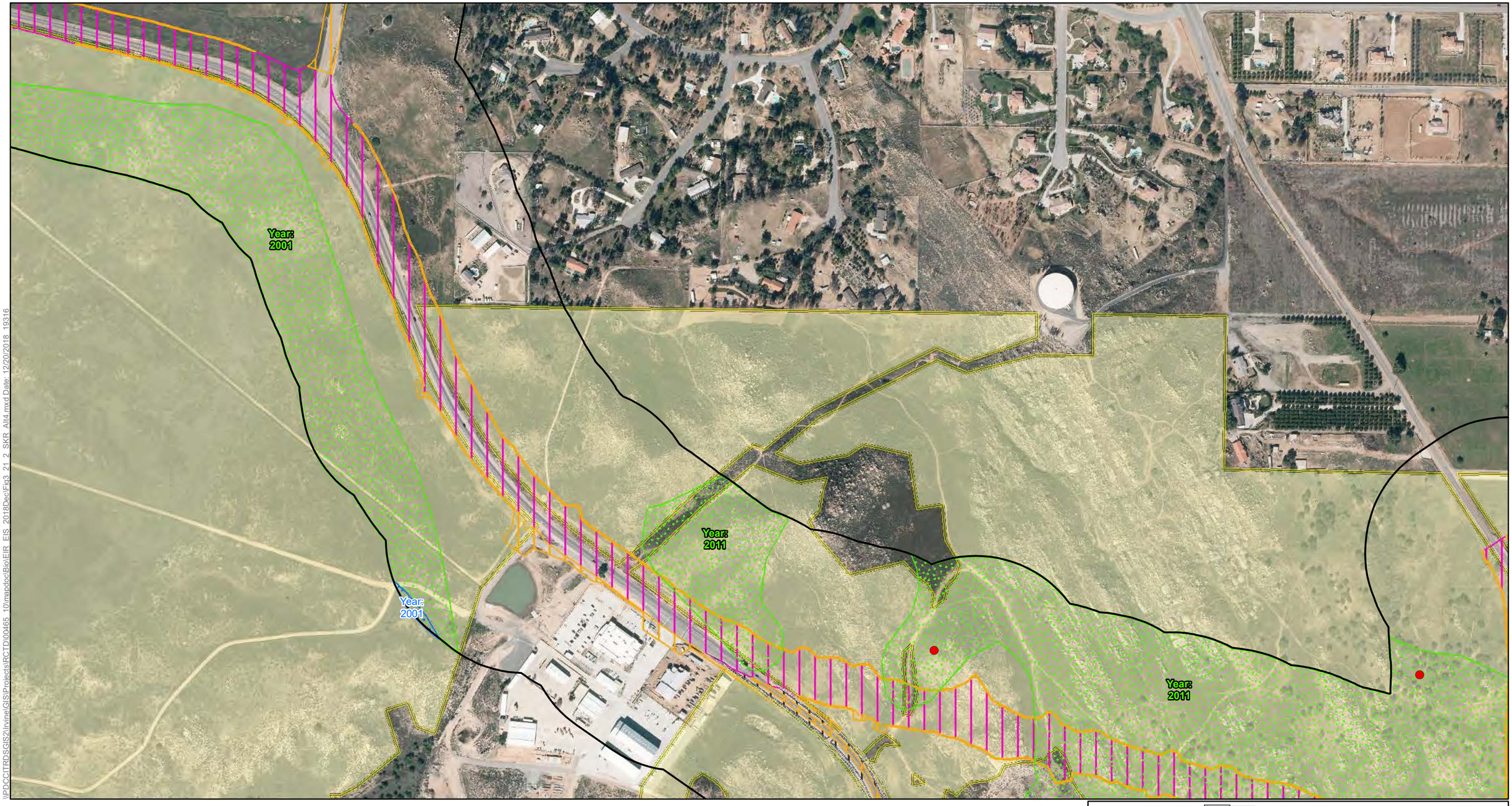

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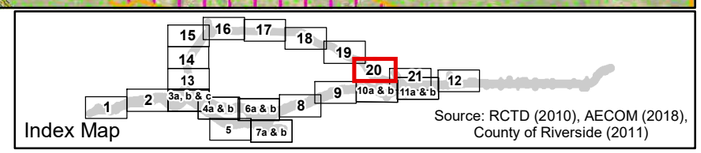

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 20
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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SKR Study Area

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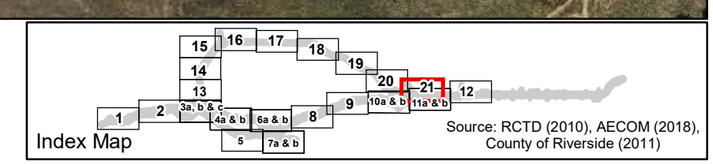

Source: RCTD (2010), AECOM (2018), County of Riverside (2011)

Figure 3.21-2- Sheet 21
Stephens' Kangaroo Rat Trapping Results Build Alternative 4
Cajalco Road Widening and Safety Enhancement Project

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Burrow Density Mapping

Relative kangaroo rat density was assigned to occupied habitat based on the total number of burrows in each transect that was walked (relative burrow density). Mapped burrow density categories are only provided as a rough estimate of relative SKR abundance. No assumption was made regarding the number of SKR actually present at a location or in the project site in general. Table 3.21-2 provides the estimated SKR density based on relative burrow density categories.

Table 3.21-2. SKR Abundance Based on Relative Burrow Density Categories

Relative Burrow Density	Estimated SKR Density
Trace	< 1 SKR/2.47 acres*
Low	< 5 SKR/2.47 acres
Medium	5-10 SKR/2.47 acres
High	> 10 SKR/2.47 acres
*Original estimates from O'Farrell and Uptain (1989) are based on 1 hectare. For this table, 1 hectare is equivalent to 2.47 acres.	

Diagnostic field signs of SKR and the common Dulzura kangaroo rat (*Dipodomys simulans*) are very similar. It is, therefore, not possible to confirm if field sign is from Dulzura kangaroo rat or SKR. However, SKR can usually be assumed to be the primary (and often only) resident species when loose aggregations of several to many burrows in open grasslands occur within the species' range. When burrow clusters were observed in level to gently sloping terrain, SKR were assumed present. SKR had been previously mapped for some open grasslands in these parts of the study area, which increased the likelihood that these areas were being used by SKR. Areas with rugged topography or terraced slopes and kangaroo rat sign were initially assumed to not be occupied by SKR based on trace habitat suitability; however, based on the results of the trapping (described below), this assumption was invalidated.

Burrow density mapping was not possible in 2017 due to extremely heavy rainfall in Southern California producing very high grass density and grass height, thereby minimizing the viewable ground surface for the burrow mapping and detecting of kangaroo rat sign. Therefore, relative density burrow mapping within portions of the SKR study area was infeasible.

Trapping

Trapping was performed within the RCHCA SKR Reserve to confirm presence of SKR in the SKR study area (Figure 3.21-2). It was assumed that open grasslands within the RCHCA lands were occupied by SKR based on numerous scattered locations of kangaroo rat sign and previous trapping efforts conducted by RCHCA land managers who confirmed that SKR was the dominant kangaroo rat species on the RCHCA SKR Reserve.

As previously mentioned, SKR was also found on very dense clay-based soils where the SKR study area and southeastern portion of the RCHCA SKR Reserve overlap, and it is assumed to be present within all level to gently sloping terrain. Nonetheless, the two traplines placed in this area captured three SKR and no Dulzura kangaroo rat, confirming that the observed sign was that of SKR. Additional traplines set within more rugged terrain at the western end of the RCHCA SKR Reserve confirmed presence of SKR at five of six trapping locations, with a total of 27 SKR and 13 Dulzura kangaroo rat captured during two nights of trapping. The positive trap

results occurred on ridgetop roads, which would be expected, but also unexpectedly on lower canyon saddles and terraced steep hills. Based on the limited trapping effort, it is assumed that SKR occupy the majority of the RCHCA SKR Reserve. Although no trapping was performed within the LMR, this species has previously been documented within the SKR study area. Figure 3.21-2 illustrates the mapped locations of SKR.

3.21.2.2 Federal and Resource Agency Consultation

Although no formal consultation under FESA or CESA for the proposed project has occurred to date, coordination with RCA, USFWS, and CDFW has occurred since 2011 and is ongoing for the proposed project. During meetings with the resource agencies, the preliminary project design was introduced and reviewed in detail throughout the technical study phase. Agency questions and comments were addressed and incorporated into the project design as feasible after each meeting. Agency coordination meetings relating to threatened and endangered species are summarized below. A complete list of agency coordination meetings pertaining to all biological resources can be found in the NES.

- 04/21/2011: USFWS confirmed that project would be covered under the WRC MSHCP.
- 7/21/2011: USFWS stated that all SKR Core Reserve lands (i.e., RCHCA SKR Reserve and LMR) affected by the project will require a 1:1 mitigation ratio and must be adjacent to the existing SKR Core Reserves.
- 12/15/2011: USFWS discussed take allowances and impact limits and indicated that if take limits were exceeded, Section 7 consultation could be an option. Potential mitigation lands were discussed.
- 9/20/2012: USFWS and CDFW discussed conserved lands take allowances and documentation, LM MSHCP mitigation bank credit use, and mitigation acquisition, and SKR habitat and movement in the area.
- 7/24/2018: Draft NES was submitted to USFWS and CDFW for their initial review and comments, which were then integrated into the final NES report.
- 8/1/2018: A focused call was held with USFWS, CDFW, and other resource agencies to walk through the sections of the NES and allow for initial comments.
- 9/14/2018: A focused call was held with USFWS and CDFW to discuss comments regarding the NES and proposed responses and resolution.

Section 7 consultation with USFWS will be required for potential impacts on arroyo toad, CAGN, LBV, and SKR (see Section 3.21.3). Formal consultation under FESA and CESA will commence once the approved NES, and the necessary documents, including the DBESP report, are provided to RCA, USFWS, and CDFW. Because all of the listed species with potential to be affected by the build alternatives are WRC MSHCP planning species, the consultation would be a streamlined process. A Biological Opinion would be performed and take authorization would be provided under the WRC MSHCP by demonstrating project consistency with the WRC MSHCP through the Joint Project Review application process. Take authorization for arroyo

toad, CAGN, and LBV would be provided by USFWS under the WRC MSHCP. For SKR, take authorization would be provided by the WRC MSHCP where the SKR HCP does not provide coverage. For potential take of SKR within the SKR HCP boundaries, the SKR HCP would provide take authorization.

3.21.3 Environmental Consequences

3.21.3.1 Build Alternatives 1, 2C, and 4

Impacts on federally and state-listed threatened and endangered species are based on the habitat evaluations and focused studies performed per the requirements of the WRC MSHCP. Take authorization for impacts on covered species would occur through project consistency with the WRC MSHCP and project approval through the Joint Project Review process with RCA and concurrence by USFWS and CDFW. For potential take of SKR within the SKR HCP plan boundaries, the SKR HCP would provide take authorization.

Build Alternatives 1, 2C, and 4 "may affect, likely to adversely affect" LBV, SKR, and CAGN based on direct removal of occupied habitat and/or take of individuals. Due to the presence of suitable habitat for arroyo toad within the BSA and full coverage under the WRC MSHCP, a "may affect, not likely to adversely affect" finding for arroyo toad is appropriate for Build Alternatives 1, 2C, and 4. A "No Effect" determination is appropriate for Munz's onion, San Diego ambrosia, marsh sandwort, Braunton's Milkvetch, San Jacinto Valley crownscale, Nevin's barberry, thread-leaved brodiaea, salt marsh bird's-beak, slender-horned spineflower, Santa Monica dudleya, Santa Ana River woollystar, spreading navarretia, California orcutt grass, San Bernardino Merriam's kangaroo rat, southwestern willow flycatcher, yellow-billed cuckoo, western snowy plover, California red-legged frog, Santa Ana sucker, quino checkerspot butterfly, Delhi sands flower-loving fly, Riverside fairy shrimp, San Diego fairy shrimp, and vernal pool fairy shrimp because these species are absent from the BSA.

Within the BSA, critical habitat for CAGN was formerly designated; however, following approval of the WRC MSHCP, the critical habitat within the BSA was designated as *excluded*. Because of this, no additional actions, beyond demonstrating consistency with the WRC MSHCP, would be required for CAGN critical habitat impacts. Table 3.21-3 on the following page provides the FESA effects findings for each federally listed species.

Build Alternatives 1, 2C, and 4 may result in direct impacts that could harm or kill individual LBV and SKR, and thus, would result in the state CESA definition of take[1] for these state-listed species. No take would occur for state-listed Munz's onion, marsh sandwort, Nevin's barberry, thread-leaved brodiaea, salt marsh bird's-beak, slender-horned spineflower, Santa Ana River woollystar, California orcutt grass, bank swallow, tricolored blackbird, southwestern willow flycatcher, yellow-billed cuckoo, bald eagle, Swainson's hawk.

[1] CESA take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill".

Table 3.21-3. FESA Effect and CESA Take Findings

Common Name	Scientific Name	Status[1]	FESA Effect Finding	FESA Effect Finding for Critical Habitat (as applicable)	CESA Take Finding
Plants					
Munz's Onion	*Allium munzii*	FE	No Effect	No Effect	No Take
San Diego Ambrosia	*Ambrosia pumila*	FE	No Effect	No Effect	n/a
Marsh Sandwort	*Arenaria paludicola*	FE	No Effect	No Effect	No Take
Braunton's Milkvetch	*Astragalus brauntonii*	FE	No Effect	No Effect	n/a
San Jacinto Valley Crownscale	*Atriplex coronata var. notatior*	FE	No Effect	No Effect	n/a
Nevin's Barberry	*Berberis nevinii*	FE	No Effect	No Effect	No Take
Thread-leaved Brodiaea	*Brodiaea filifolia*	FT	No Effect	No Effect	No Take
Salt Marsh Bird's-beak	*Chloropyron maritimum ssp. maritimum*	FE	No Effect	No Effect	No Take
Slender-horned Spineflower	*Dodecahema leptoceras*	FE	No Effect	No Effect	No Take
Santa Monica Dudleya	*Dudleya cymosa* ssp. *ovatifolia*	FT	No Effect	No Effect	n/a
Santa Ana River Woollystar	*Eriastrum densifolium ssp. sanctorum*	FE	No Effect	No Effect	No Take
Spreading Navarretia	*Navarretia fossalis*	FT	No Effect	No Effect	n/a
California Orcutt Grass	*Orcuttia californica*	FE	No Effect	No Effect	No Take
Invertebrates					
Vernal Pool Fairy Shrimp	*Branchinecta lynchi*	FT	No Effect	No Effect	No Take
San Diego Fairy Shrimp	*Branchinecta sandiegonensis*	FE	No Effect	No Effect	No Take
Quino Checkerspot Butterfly	*Euphydryas editha quino*	FE	No Effect	No Effect	No Take
Delhi Sands Flower-loving Fly	*Rhaphiomidas terminatus abdominalis*	FE	No Effect	No Effect	No Take
Riverside Fairy Shrimp	*Streptocephalus woottoni*	FE	No Effect	No Effect	No Take
Fish					
Santa Ana Sucker	*Catostomus santaanae*	FT	No Effect	No Effect	No Take
Amphibians and Reptiles					
Arroyo Toad	*Anaxyrus californicus*	FE	May Affect, Not Likely to Adversely Affect	No Effect	Take may Occur
California Red-Legged Frog	*Rana draytonii*	FT	No Effect	No Effect	No Take
Birds					
Tricolored Blackbird	*Agelaius tricolor*		n/a	n/a	No Take
Western Snowy Plover	*Charadrius alexandrinus nivosus*	FT	No Effect	No Effect	
Western Yellow-billed Cuckoo	*Coccyzus americanus occidentalis*	FT	No Effect	No Effect	No Take
Southwestern Willow Flycatcher	*Empidonax traillii extimus*	FT	No Effect	No Effect	No Take
Coastal California Gnatcatcher	*Polioptila californica*	FT	May Affect, Likely to Adversely Affect	No Effect	n/a
Least Bell's Vireo	*Vireo bellii pusillus*	FE	May Affect, Likely to Adversely Affect	No Effect	Take may Occur
Bald Eagle	*Haliaeetus leucocephalus*	SE	n/a	n/a	No Take
Swainson's Hawk	*Buteo swainsonii*	SE	n/a	n/a	No Take

Common Name	Scientific Name	Status[1]	FESA Effect Finding	FESA Effect Finding for Critical Habitat (as applicable)	CESA Take Finding
Mammals					
San Bernardino Merriam's Kangaroo Rat	*Dipodomys merriami parvus*	FE	No Effect	No Effect	No Take
Stephens' Kangaroo Rat	*Dipodomys stephensi*	FE	May Affect, Likely to Adversely Affect	No Effect	Take will Occur
[1] Federal Endangered (FE); Federal Threatened (FT)					

The project impacts (direct and indirect) on individual species are described below.

Arroyo Toad

Permanent removal of suitable habitat for arroyo toad would occur during construction of Build Alternatives 1, 2C, and 4. In addition, the build alternatives would temporarily affect habitat within the LOD. Temporary impacts from bridge expansion and the new bridges associated with the design of Build Alternatives 1, 2C, or 4 would also result in permanent shading effects on riparian habitat, resulting in the bridge areas no longer providing vegetative cover for arroyo toad. Refer to Table 3.21-4 for a summary of the permanent, temporary, and shading effect impacts on suitable arroyo toad habitat.

Table 3.21-4. Suitable Arroyo Toad Habitat Impacts

Build Alternative	Impact Type		
	Permanent (acres)	Temporary (acres)	Shading Effect[1] (acres)
Build Alternative 1	8.08	3.74	0.41
Build Alternative 2C	6.66	3.77	0.39
Build Alternative 4	6.24	2.38	0.40
[1] Shading effects = indirect impacts from bridge extensions and new bridges.			

Impacts on suitable habitat for arroyo toad are based on the loss of habitat types typically occupied by this species. Within the impact area, these habitat types include California sycamore woodland, mulefat scrub, riparian scrub, RAFSS, sandbar willow scrub, southern cottonwood-willow riparian forest, southern willow scrub, and willow/mulefat scrub. Permanent, temporary, and shading impacts on individual habitat types are provided in Tables 3.17-2, 3.17-4, and 3.17-5, respectively, in Section 3.17, *Natural Communities*.

If arroyo toad is present, there is the potential for direct mortality and injury of individuals during vegetation clearing and grading. Individuals could be struck by equipment or trapped and/or crushed within burrows. Indirect impacts on potential habitat adjacent to the project LOD during construction may also occur, including degradation of habitat through dust, noise, increased fire risk, and introduction of invasive plant species. Measures identified in Section 3.21.4 are intended to avoid and/or minimize such potential direct and indirect impacts on covered WRC MSHCP species, including arroyo toad. Operation of the roadway is not expected to change conditions for the species. Because the project is not within any designated survey areas, impacts on arroyo toad and its habitats are fully covered under the WRC MSHCP. Refer to Section 3.17, *Natural Communities*, for the discussion of project compliance with the WRC MSHCP.

Under Section 7 of the FESA, formal consultation with USFWS may be required due to the potential presence of the species within the BSA. However, because this species is fully covered under the WRC MSHCP, potential impacts for the covered project have been authorized.

Lake Mathews MSHCP (Arroyo Toad)

Arroyo toad are not LM MSHCP target species; therefore, no additional impact analysis for this species is provided beyond the analysis presented above.

Coastal California Gnatcatcher

Permanent removal of suitable habitat for CAGN would occur during construction of Build Alternatives 1, 2C, and 4. In addition, the build alternatives would temporarily affect habitat within the LOD. Temporary impacts from bridge expansion and new bridges associated with the design of Build Alternatives 1, 2C, or 4 would also result in permanent shading effects on scrub habitat, resulting in these bridge areas no longer providing vegetative cover for dispersing CAGN. Refer to Table 3.21-5 for a summary of the permanent, permanent beneficial, temporary, and shading effect impacts on CAGN habitat.

Table 3.21-5. Direct Impacts on Suitable CAGN Habitat and Criteria Cells

Build Alternative	Impact Type				Affected Criteria Cells
	Permanent (acres)	Roadbed Removal (Permanent Beneficial) (acres)	Temporary (acres)	Shading Effect[1] (acres)	
Build Alternative 1	67.09	2.85	7.60	0.22	2309, 2310, 2311, 2402, 2403, 2404, 2405, 2407, 2408, 2323, 2324
Build Alternative 2C	76.21	3.30	8.12	0.56	2309, 2310, 2311, 2402, 2403, 2404, 2405, 2407, 2408, 2323, 2324
Build Alternative 4	88.40	4.30	10.39	3.56	2214, 2120, 2121, 2026, 2309, 2310, 2311, 2402, 2403, 2404, 2405, 2323, 2324

[1] Shading effects = indirect impacts from bridge extensions and new bridges.

Impacts on suitable habitat for CAGN are based on the loss of habitat types typically occupied by this species. Within the BSA, these habitat types include brittlebush scrub, RAFSS, RSS, and RSS/NNG. Permanent, temporary, and shading impacts on individual habitat types are provided in Tables 3.17-2, 3.17-4, and 3.17-5, respectively. Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction and returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with native vegetation under each build alternative. This permanent impact is considered a beneficial impact and, although not required under the WRC MSHCP, would return suitable habitat for CAGN. The beneficial permanent impact from roadbed removal and rehabilitation of CAGN habitat under each build alternative is provided in Table 3.21-5.

Because CAGN is a year-round resident, there is a potential for direct impacts, including mortality or injury, to any individuals that may be occupying habitat that would be removed during construction of Build Alternatives 1, 2C, or 4. Vegetation clearing of suitable habitat for CAGN would be performed outside of the active breeding season for this species (see Measure

NC-1 [NES BIO-1] in Section 3.17, *Natural Communities*); as such, no direct impacts on eggs, nestlings, or nesting adults are anticipated.

Indirect impacts would likely be from degradation of habitat (e.g., fugitive dust, increased fire risk, or the spread of invasive plant species), disturbance from construction noise, traffic noise, or other construction-related activities that may result in disruptions to daily activities (e.g., foraging, calling). These disturbances could cause CAGN to temporarily relocate or, at the extreme, find new territories that are farther from the disturbances. Construction may result in indirect impacts on CAGN habitat from habitat degradation. These impacts would be greatly reduced with the implementation of the avoidance and minimizations measures identified in Section 3.21.4.

There is also potential for direct and indirect impacts on CAGN to occur during operation of the build alternatives. There may be an increase in the frequency of vehicle strikes of low-flying individuals traversing the widened roadway. Increased noise and maintenance could also diminish habitat quality. However, potential operational impacts most likely would not be substantially greater than existing conditions because they would generally occur in an existing fragmented corridor with many roadways rather than in an undeveloped area where birds may be unaccustomed to vehicle traffic.

Implementation of the avoidance and minimization measures in Section 3.21.4 for CAGN would ensure direct impacts on nesting individuals do not occur and effects on the species are minimized during construction within the Criteria Area, and would ensure consistency with the WRC MSHCP.

Lake Mathews MSHCP (Coastal California Gnatcatcher)

Up to 889.36 acres of nesting and foraging habitat for CAGN occurs within the BSA as brittlebush scrub, RAFSS, RSS, and RSS/NNG. CAGN surveys were not conducted and therefore were not performed in the LM MSHCP area, although the species is known to occur in the region. Impacts would occur as described in Table 3.21-5 and include impacts on the LMR, including 25.71 acres under Build Alternative 1, 35.42 acres under Build Alternative 2C, and 27.88 acres under Build Alternative 4. The measures identified above would also apply within the LMR. In addition, the proposed project would replace suitable habitat within the LMR (Measures **NC-17** [**NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

Least Bell's Vireo

Permanent removal of suitable habitat for LBV would occur during construction of Build Alternatives 1, 2C, and 4. In addition, the build alternatives would temporarily affect habitat within the LOD. Temporary impacts from bridge expansion and the new bridges associated with the design of Build Alternatives 1, 2C, or 4 would also result in permanent shading effects on riparian habitat, resulting in these bridge areas no longer providing vegetative cover for LBV. Refer to Table 3.21-6 for a summary of the permanent, temporary, and shading effect impacts on LBV habitat. Additional details for impacts occurring on riparian habitat are provided in Section 3.17, *Natural Communities*.

Table 3.21-6. Direct Impacts on Suitable LBV Habitat

Build Alternative	Impact Type			
	Permanent (acres)	Roadbed Removal (Permanent Beneficial)	Temporary (acres)	Shading Effect[1] (acres)
Build Alternative 1	7.85	0.07	4.78	0.36
Build Alternative 2C	6.43	0.05	4.81	0.34
Build Alternative 4	5.75	0.06	3.11	0.35
[1] Shading effects = indirect impacts from bridge extensions and new bridges.				

Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction but returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation under the three build alternatives. This permanent impact is considered a beneficial impact and, although not required under the WRC MSHCP, would return suitable habitat for LBV. The beneficial permanent impact from roadbed removal and rehabilitation of LBV habitat under each build alternative is provided in Table 3.21-6.

Within Build Alternatives 1 and 2C, the proposed project could affect up to 18 LBV pairs that were mapped during project-related focused surveys, as well as a bachelor male and three additional areas mapped by USFWS and CNDDB. Refer to Sheets 1, 2, 4a, 5a, 6, and 7 of Figure 3.21-1. Of these, five pairs observed during focused surveys were found in MWD lands. One occupied area mapped in the CNDDB was on RCA lands and seven pairs on USFWS-mapped territory were on Riverside-Corona Resource Conservation District lands.

Under Build Alternative 4, the proposed project would have the potential to affect up to 17 LBV pairs that were mapped during focused surveys as well as a bachelor male, a lone juvenile, and two additional areas that were mapped by USFWS and CDFW. Of these, one pair from project focused surveys was found in MWD lands. One occupied area mapped in the CNDDB was on RCA lands, and seven pairs were on Riverside-Corona Resource Conservation District lands. Refer to Sheets 1, 2, 5b, 6, 7, 8, and 9 of Figure 3.21-1.

Impacts on areas occupied by LBV would primarily be from construction-related disturbances (e.g., noise, night lighting, increased human presence, opportunistic predators) because most territories are outside of the LOD. However, some small areas closer to the roadways would be directly temporarily or permanently affected as a result of construction activities, most likely resulting in habitat loss and flushing birds out of territories if construction in those areas occurs during the nesting season. If LBV are present during vegetation clearing, there is the potential for direct mortality and injury of individuals that may be occupying that habitat. However, vegetation clearing of suitable habitat for LBV would be performed outside of the active breeding season for this species (see Measure **NC-1 [NES BIO-1]** in Section 3.17, *Natural Communities*); as such, no direct impacts on eggs, nestlings, or nesting adults are anticipated.

Construction activities occurring in or near riparian habitat may also result in sedimentation, degrading the on-site habitat, and potentially alterations to flow regimes if riparian areas are directly affected. In addition, project construction may result in indirect impacts on LBV habitat in the form of habitat degradation from fugitive dust, increased fire risk, or the spread of invasive plant species. Measures identified in Section 3.21.4 are intended to avoid and/or minimize such potential direct and indirect impacts.

Implementation of the avoidance and minimization measures in Section 3.21.4 for LBV would ensure direct impacts do not occur during construction within the Criteria Area and would ensure consistency with the WRC MSHCP.

Lake Mathews MSHCP (Least Bell's Vireo)

Up to 146.58 acres of suitable LBV habitat is present in the BSA within the LM MSHCP area. Within the LOD of Build Alternatives 1 and 2C, five LBV pairs were found in the LMR during project surveys, and there is one USFWS-mapped territory. Only one LBV pair was found in the LMR during project surveys within the LOD of Build Alternative 4. Impacts on suitable LBV habitat would occur as described in Table 3.21-6 and include impacts on the LMR including 4.37 acres under Build Alternative 1, 2.95 acres under Build Alternative 2C, and 0.49 acre under Build Alternative 4. The measures identified above would also apply for the LMR. The avoidance and minimization measures described for Build Alternatives 1, 2C, and 4 would ensure full avoidance of impacts on LBV and compensation/ mitigation for affected habitat in the LOD of Build Alternatives 1, 2C, and 4 that may become occupied by LBV in the future.

Stephens' Kangaroo Rat

Direct impacts from Build Alternatives 1, 2C, and 4 would occur during construction and operation. Permanent removal of suitable SKR habitat would occur during construction of each of the build alternatives. The LOD for the build alternatives includes areas outside of areas dedicated to/described for SKR conservation, areas conserved for the benefit of SKR, and areas described for conservation for the benefit of SKR. Table 3.21-7 provides the permanent and temporary impacts on SKR habitat within the LOD for each build alternative, including the permanent beneficial effect of roadbed removal and rehabilitation of habitat and permanent shading effects on suitable habitat. For illustrations of both temporary and permanent direct impacts on SKR, refer to Figure 3.21-2.

Table 3.21-7. Direct Impacts on Suitable Stephens' Kangaroo Rat Habitat

	Impact Type			
Build Alternative	**Permanent (acres)**	**Roadbed Removal (Permanent Beneficial) (acres)**	**Temporary (acres)**	**Shading Effect[1] (acres)**
Build Alternative 1	125.29	5.80	19.49	0.22
Build Alternative 2C	116.53	9.00	21.30	0.50
Build Alternative 4	63.11	3.30	15.51	1.09

Calculations are based on NNG, disturbed RSS, and RSS/NNG vegetation communities.
[1] Shading effects = indirect impacts from bridge extensions and new bridges.

Portions of the existing Cajalco Road and the road right of way would be permanently removed during project construction and returned to natural topographic contours, decompacted to allow for plant establishment, and revegetated with natural vegetation under the three build alternatives. This permanent impact is considered a beneficial impact and, although not required under the WRC MSHCP within non-conserved lands, would return suitable habitat for SKR. The beneficial permanent impact from roadbed removal and rehabilitation of SKR habitat under each build alternative is provided in Table 3.21-7.

Project construction and vegetation clearing could result in direct mortality, injury, or harassment of individual SKR as a result of construction equipment. Other direct impacts may include individuals being crushed or entombed in their burrows and injury or mortality from opportunistic predators during construction activity. Activities associated with construction, including disturbance from noise or vibrations, may result in disruption of SKR behavior. If construction occurs during the breeding season, it could disturb breeding behavior, resulting in negative impacts on reproduction. Soil compaction could decrease the availability of friable soils for burrow creation. Capturing, handling, and relocating SKR that occur within the construction area could cause injury or death if proper handling and relocation techniques are not used.

Permanent indirect impacts from construction activities on SKR may include habitat fragmentation. Habitat fragmentation is the breaking up of larger blocks of habitat into smaller blocks, leading to a reduction in the total area of habitat available to species and typically isolating habitat fragments into islands. Edge effects would reduce the quality of habitat at the edges of habitat fragments because these areas are more likely to have been disturbed by spread of invasive species, soil compaction, and adjacency to human presence and disturbances. Habitat fragmentation can result in changes in foraging patterns, shifts in territory and dispersal that could lead to increased predation, decreased reproductive success, and reduced population viability. Some aspects of the design of the project, such as wildlife-crossing structures, may reduce the impacts associated with fragmentation of occupied habitat. Individual wildlife crossings proposed under each build alternative, and their locations, are provided in Appendix J; Table J-1 lists each proposed wildlife crossing and Figure J-1, *Proposed Wildlife Crossings – Build Alternatives 1, 2C and 4,* indicates the location of each crossing.

The avoidance and minimization measures in Section 3.21.4 would ensure indirect impacts are greatly reduced or eliminated and would ensure compliance with the WRC MSHCP. The project is a planned road that traverses PQP lands (Section 7.2.2 of the WRC MSHCP). The project impacts outside of criteria areas and PQP lands would be mitigated (covered) within the WRC MSHCP plan area. The project impacts within existing PQP lands would be mitigated through the purchase and dedication of land into the WRC MSHCP Conservation Area that is in addition to the WRC MSHCP additional reserve lands. It is planned that there would be sufficient crossing opportunities for small mammals for opportunistic movement features (generally associated with undercrossings in the flatter areas of the alignment) to mitigate for edge effects.

Temporary indirect impacts from construction activities on SKR may occur from construction vehicle traffic, the temporary use of land for staging and access, noise, light, and other construction activities. Lighted construction areas could affect nocturnal activities, including foraging, decreasing reproductive success or altering territories. In addition, artificial lighting at night may increase predation risk by allowing predators, such as owls, to hunt more efficiently. Project construction would result in an increase in human activity in the area, which could result in an increase in opportunistic predators that are attracted to litter, such as coyote and American crow. Construction and mechanical soil disturbance may adversely affect SKR habitat on site by altering friability or encouraging the spread of invasive plant species, which could indirectly result in loss of quality habitat and an increase in fire risk. The avoidance and minimization measures in Section 3.21.4 would ensure these indirect impacts are greatly reduced or eliminated and would ensure compliance with the WRC MSHCP.

There is a potential for operation of the build alternatives to increase mortality of SKR through vehicle strikes of individuals attempting to cross the wider roadway. Maintenance activities along the roadway right of way are not expected to appreciably differ from existing operating conditions under the build alternatives. The existing roadway would continue to produce noise, dust, air pollution, and fire risk. However, noise, dust, and fire risk under Build Alternative 2C within the RCHCA SKR Reserve/LMR would increase and could also directly affect SKR during operations and maintenance. This impact could increase predation, decrease reproductive success, and reduce population viability in the vicinity of the roadway. The potential effects from operation and maintenance of the build alternatives would be minimized, however, with the inclusion of wildlife crossings that have been incorporated into the project design throughout SKR Core Reserve areas (refer to Section 3.17, *Natural Communities*, and Appendix J).

The proposed project is a Covered Activity under the WRC MSHCP (Volume I, Section 7.2.2). The permanent removal of 91.86 acres under Build Alternative 1, 84.16 acres under Build Alternative 2C, or 32.68 acres under Build Alternative 4 of suitable SKR habitat within the SKR Core Reserve lands would be a biologically substantial loss because the preservation of this conserved habitat was previously established under the WRC MSHCP, LM MSHCP, and SKR HCP. Direct removal of SKR Core Reserve lands would be biologically considerable and would require replacement to ensure consistency with the WRC MSHCP. Mitigation measures identified in Section 3.21.4 are intended to mitigate for the loss of conserved lands.

Lake Mathews MSHCP (Stephens' Kangaroo Rat)

SKR surveys were not conducted, although the species is known to occur in the LM MSHCP area and in the general region. Habitat assessments conducted for this project detected up to 1,682 acres of suitable habitat for SKR within the BSA as NNG, disturbed RSS, and RSS/NNG. Impacts would occur as described in Table 3.21-7 and include impacts on the LMR including 100.82 acres under Build Alternative 1, 83.47 acres under Build Alternative 2C, and 34.52 acres under Build Alternative 4. The measures identified above would also apply within the LM MSHCP area. In addition, the proposed project would replace suitable habitat within the LMR (Measures **NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road (Build Alternatives 1 and 2C) or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road (Build Alternative 4), for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the six-lane facility would not change any effects on threatened or endangered species that are already expected as a result of the four-lane facility because the additional lanes would be constructed in the median. As a result, it would be unlikely for any threatened or endangered species to occur in this narrow strip of open land, which would be graded during construction and maintained following construction. Operation of the two additional lanes may result in additional traffic noise and lights; however, threatened or endangered species would not be expected along the roadside. If any staging areas are located in areas outside of the right of way, it is possible that

there may be temporary impacts on any threatened or endangered species that may be present in the area in association with the use of the staging area.

Lake Mathews MSHCP

Within the LM MSHCP area, Build Alternatives 1 and 2C would expand and realign Cajalco Road, and Build Alternative 4 would expand and realign Cajalco Road, La Sierra Avenue, and El Sobrante Road. All three build alternatives would also encroach into the LMR and remove habitat for LM MSHCP target species, such as CAGN, LBV, and SKR, permanently removing suitable habitat for target species that is being conserved under the LM MSHCP. Permanent and temporary impacts on the LMR, which includes suitable habitat for LM MSHCP target species, are provided in Table 3.17-19 in Section 3.17, *Natural Communities*. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements (see Section 3.17, *Natural Communities*, for details regarding the LM MSHCP discretionary action). Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **NC-16 (NES BIO-19)** in Section 3.17, *Natural Communities*; Measures **AS-1 (NES BIO-25)**, **AS-3 (NES BIO-28)** through **AS-5 (NES BIO-27)**, and **AS-7 (NES BIO-20)** in Section 3.20, *Animal Species*; and Measures **TE-1 (NES BIO-18)** and **TE-3 (NES BIO-30)** in Section 3.21.4 are intended to avoid and/or minimize direct and indirect impacts on LM MSHCP target species, including threatened and endangered species, and their suitable habitat within the LMR. Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*, would replace and mitigate for the loss of potentially suitable habitat for LM MSHCP target species.

3.21.3.2 No-Build Alternative

Under the No-Build Alternative, there would be no permanent or temporary effects on threatened and endangered species, including arroyo toad, CAGN, LBV, and SKR, beyond those that would be expected to occur from the existing facility.

3.21.4 Avoidance, Minimization, and/or Mitigation Measures

3.21.4.1 Arroyo Toad

Measures **NC-2 (NES BIO-2)** through **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*) and **AS-2 (NES BIO-16)** and **AS-7 (NES BIO-20)** (in Section 3.20, Animal Species) would ensure that impacts on arroyo toad and potentially suitable habitat for arroyo toad would be avoided and minimized for Build Alternatives 1, 2C, and 4. These measures are not specific to arroyo toad but are generally required by the WRC MSHCP to avoid and minimize impacts on covered species. Because arroyo toad is considered a fully covered species under the WRC MSHCP within the project area, no mitigation is necessary under Build Alternatives 1, 2C, or 4.

3.21.4.2 Coastal California Gnatcatcher

As a fully covered species under the WRC MSHCP, potential direct and indirect impacts on CAGN would be fully addressed through consistency with the WRC MSHCP. To ensure full avoidance of CAGN within criteria cells and comply with the WRC MSHCP, construction work within the criteria area would be restricted during the breeding season (Measure **NC-1 [NES BIO-1]** in Section 3.17, *Natural Communities*). The measures generally required by the WRC MSHCP to avoid and minimize impacts on covered species (Measures **NC-2 [NES BIO-2]** through **NC-10 [NES BIO-10]** and **NC-13 [NES BIO-9]** in Section 3.17, *Natural Communities*, and Measure **AS-2 (NES BIO-16)** in Section 3.20, *Animal Species*) would also protect potential habitat for CAGN in the vicinity of the LOD for Build Alternatives 1, 2C, and 4 and ensure compliance with the WRC MSHCP. Although CAGN is a covered species under the WRC MSHCP, Measures **AS-3 (NES BIO-28)** and **AS-5 (NES BIO-27)** (in Section 3.20, Animal Species) would ensure that direct impacts on nesting CAGN are reduced because the species is protected by the Migratory Bird Treaty Act and similar provisions under the California Fish and Game Code. As CAGN is a fully covered species under the WRC MSHCP, no compensatory mitigation is necessary under Build Alternatives 1, 2C, or 4. However, the impacts on suitable habitat within the LM MSHCP area would require compensatory mitigation for permanent and temporary direct impacts on potential CAGN habitat (Measures **NC-17 [NES BIO-17]** and **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*).

3.21.4.3 Least Bell's Vireo

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*), **AS-2 (NES BIO-16)** and **AS-3 (NES BIO-28)**, and **AS-5 (NES BIO-27)** (in Section 3.20, *Animal Species*), and **TE-1 (NES BIO-30)** below would be implemented to protect LBV and its habitat under Build Alternatives 1, 2C, and 4 and ensure consistency with the WRC MSHCP. Compensatory mitigation for direct impacts on occupied LBV habitat and adjacent potential habitat would be necessary to ensure there is no net loss of occupied LBV habitat (i.e., equivalent or superior preservation). A DBESP (Measure **NC-14 [NES BIO-13]** in Section 3.17, *Natural Communities*) will be prepared to detail mitigation requirements for LBV and ensure consistency with the WRC MSHCP. Occupied LBV habitat will be replaced at minimum 2:1 for permanent impacts and 1:1 for temporary impacts (Measure **TE-2 [NES BIO-23]** below). The mitigation for the loss of suitable habitat for LBV will be integrated with the compensatory mitigation requirements for riparian-riverine resources (Measure **NC-15 [NES BIO-14]** in Section 3.17, *Natural Communities*) and PQP lands (Measure **NC-20 [NES BIO-21]** in Section 3.17, *Natural Communities*).

Compensatory mitigation for the permanent and temporary loss of LBV habitat within the LM MSHCP lands (refer to Table 3.17-19 in Section 3.17, *Natural Communities*) under Build Alternatives 1, 2C, and 4 would be accomplished through the acquisition, at a minimum 1:1 ratio, of replacement lands of equal or greater habitat value adjacent to the existing LM MSHCP area. This would ensure no net loss of LBV habitat and that the replacement lands will be effectively managed under the LM MSHCP (Measure **NC-17 [NES BIO-17]** in Section 3.17, *Natural Communities*). Temporary impacts will be addressed through preparation of a Habitat Mitigation and Monitoring Plan and on-site restoration (Measure **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*). In addition, impacts on LBV and suitable habitat, and the mitigation proposed to address the impacts, will require an appropriate discretionary action

between the County and the LM MSHCP responsible parties to accommodate the proposed project. (Refer to Section 3.17, *Natural Communities*, for additional details regarding LM MSHCP.)

TE-1 (NES BIO-18): Between March 15 and September 15, all heavy equipment will install and maintain mufflers or other noise-reducing features will be installed when working at Temescal Creek and Cajalco Creek. Additionally, a biological monitor shall be present for activities occurring within or adjacent to riparian habitats where the potential for noise levels to exceed 60 A-weighted decibels may occur at the edge of suitable habitat. If construction noise is negatively affecting least Bell's vireo or other nesting birds, as determined by the biological monitor, work shall cease (unless authorized by the wildlife agencies) until adequate sound barriers can be constructed to reduce noise levels at the edge of the riparian corridor. It may be most effective to construct noise barriers prior to March 15 to ensure construction delays do not occur. All noise barriers will need to be placed within the limits of disturbance.

TE-2 (NES BIO-23) (Mitigation): The permanent removal of occupied least Bell's vireo (LBV) habitat will be mitigated at a minimum 2:1 ratio, with compensatory mitigation occurring as creation and/or restoration. For all LBV occupied habitat temporarily removed during construction, restoration would occur at the original location at a minimum 1:1 ratio, including meeting performance criteria. Temporal loss of riparian habitat will be addressed by mitigation for riparian-riverine resources (see Section 3.17, *Natural Communities*). Compensatory mitigation for LBV impacts should be coordinated with the riparian-riverine resources mitigation (Measure **NC-15 [NES BIO-14]** in Section 3.17, *Natural Communities*), Public/Quasi-Public lands mitigation (Measure **NC-20** [**NES BIO-21]** in Section 3.17, *Natural Communities*), and aquatics permitting mitigation (Measure **WET-1** in Section 3.18, *Wetlands and Other Waters*).

3.21.4.4 Stephens' Kangaroo Rat

Measures **NC-2 (NES BIO-2)** through **NC-9 (NES BIO-24)** and **NC-13 (NES BIO-9)** (in Section 3.17, *Natural Communities*) and **AS-2 (NES BIO-16)** (in Section 3.20, *Animal Species*) would be implemented to protect SKR and its habitat under Build Alternatives 1, 2C, and 4 and ensure consistency with the WRC MSHCP. The Wildlife Fencing Plan (Measure **NC-16 [NES BIO-19]** in Section 3.17, *Natural Communities*) would ensure there is safe movement for SKR through the RCHCA SKR Reserve and LMR. Measure **AS-3 (NES BIO-28)** (in Section 3.20, *Animal Species*) would be implemented prior to construction. Measures **AS-6 (NE BIO-29)** (in Section 3.20, *Animal Species*) and **TE-3 (NES BIO-30)** below would be implemented during construction of Build Alternatives 1, 2C, and 4 within the RCHCA SKR Reserve and LMR areas. SKR will also benefit from implementation of **TE-1 (NES BIO-18)** above.

Although SKR is a fully covered species under the WRC MSHCP, there would be a loss of SKR Core Reserve within the RCHCA SKR Reserve and LMR. Preparation of a Core Reserve Land Disturbance Report would document the impacts on SKR and the compensatory mitigation and would be submitted to the RCHCA for Board approval. Implementation of Measure **NC-20 (NES BIO-21)** (in Section 3.17, *Natural Communities*) would address any loss of these conserved lands. Mitigation for the permanent and temporary loss of SKR habitat from the LMR (refer to Table 3.17-19 in Section 3.17, *Natural Communities*) under Build Alternatives 1, 2C,

and 4 would be accomplished through the acquisition, at a minimum 1:1 ratio, of replacement lands of equal or greater habitat value adjacent to the LMR. This would ensure no net loss of SKR habitat and would mitigate for permanent and temporary direct impacts on SKR habitat (Measure **NC-17 [NES BIO-17]** in Section 3.17, *Natural Communities*). Temporary impacts would be addressed through preparation of a Habitat Mitigation and Monitoring Plan for on-site restoration (Measure **NC-19 [NES BIO-15]** in Section 3.17, *Natural Communities*). Additionally, an endowment into the LMR will be created and used for land management of any new and existing reserve lands such that the replacement lands would be effectively managed under the LM MSHCP (Measure **NC-18** [**NES BIO-31]** in Section 3.17, *Natural Communities*).

TE-3 (NES BIO-30): Prior to the start of construction activities, a Stephens' kangaroo rat (SKR) management plan will be developed for project activities occurring on the Riverside County Habitat Conservation Agency (RCHCA) SKR Reserve to minimize direct impacts on the species. At a minimum this measure will include: (1) preconstruction surveys by a qualified biologist; and (2) avoidance and minimization measures to reduce impacts on SKR.

The SKR management plan will be consistent with existing reserve management guidelines that will be coordinated with RCHCA. In addition, the management plan will submitted for review by RCHCA, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and Lake Mathews Reserve Management Committee (as the plan pertains to the Lake Mathews Multiple Species Reserve area).

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3.22 Invasive Species

3.22.1 Regulatory Setting

3.22.1.1 Federal Regulations

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, currently maintained by the Invasive Species Council of California (ISCC) to define the invasive plants that must be considered as part of the National Environmental Policy Act (NEPA) analysis for a proposed project.

3.22.2 Affected Environment

Unless otherwise noted, the information from this section is based upon the Natural Environment Study (NES) prepared for the project (Caltrans 2018). References used in the NES are not carried over into this section.

Nonnative invasive plants invade natural communities in California and can outcompete and displace native plants that many native wildlife species depend on for food and cover. Invasive plants are a leading cause of declines in native plant and animal numbers, and are a factor in Endangered Species Act listings. They also increase wildfire and flood danger and diminish productive rangeland and timberland. Nonnative invasive animal species compete with native wildlife for limited resources and have the potential to displace, remove resources for, or consume native wildlife and can lead to population declines and potentially extinction of native plants and animals, lower biodiversity, and altered habitats for considerable time periods.

There were 45 invasive plant species documented during the reconnaissance surveys and rare plant surveys. Most of the invasive plant species are associated with disturbed areas such as the edges of existing roads and farmlands, but some also occur within and adjacent to streams and waterways. Table 3.22-1 on the following page summarizes the invasive plant species present within the Biological Study Area (BSA).

Table 3.22-1. Invasive Plant Species

Scientific Name	Common Name	CAL-IPC Category
Arundo donax	Giant reed	High
Atriplex semibaccata	Australian saltbush	Moderate
Avena barbata	Slender wild oat	Moderate
Avena fatua	Wild oat	Moderate
Bromus madritensis ssp. *rubens*	Red Brome	High
Bassia hyssopifolia	Fivehorn smotherweed	Limited
Brassica tournefortii	Sahara mustard	High
Bromus diandrus	Ripgut brome	Moderate
Bromus hordeaceus	Soft brome	Limited
Carduus pycnocephalus	Italian thistle	Moderate
Centaurea melitensis	Tocalote	Moderate
Cirsium vulgare	Bull thistle	Moderate
Conium maculatum	Poison hemlock	Moderate
Cynodon dactylon	Bermuda grass	Moderate
Erodium cicutarium	Redstem filaree	Limited
Eucalyptus camaldulensis	Red gum	Limited
Festuca myuros	Rattail fescue	Moderate
Festuca perennis	Rye grass	Moderate
Helminthotheca echioides	Bristly ox-tongue	Limited
Hirschfeldia incana	Short-pod mustard	Moderate
Hordeum murinum	Wall barley	Moderate
Hypochaeris glabra	Smooth cat's-ear	Limited
Kochia scoparia ssp. *scoparia*	Mexican fireweed	Limited
Lepidium latifolium	Perennial peppergrass (perennial pepperweed)	High
Ludwigia peploides	Floating water primrose	High
Marrubium vulgare	Horehound	Limited
Medicago polymorpha	California burclover	Limited
Mesembryanthemum crystallinum	Crystalline ice plant	Moderate
Nicotiana glauca	Tree tobacco	Moderate
Olea europaea	Olive	Limited
Oncosiphon piluliferum	Globe chamomile	Watch
Oxalis pes-caprae	Bermuda buttercup	Moderate
Polypogon monspeliensis	Rabbit foot beard grass	Limited
Raphanus sativus	Radish	Limited
Ricinus communis	Castorbean	Limited
Rumex crispus	Curly dock	Limited
Salsola tragus	Prickly Russian thistle	Limited
Schinus molle	Peruvian pepper-tree	Limited
Schismus barbatus	Mediterranean schismus	Limited
Silybum marianum	Blessed milk thistle	Limited
Sisymbrium irio	London rocket	Limited
Tamarix chinensis	Chinese tamarisk (fivestamen tamarisk)	High
Tamarix ramosissima	Hairy tamarisk (saltcedar)	High
Tribulus terrestris	Puncturevine	Limited
Washingtonia robusta	Mexican fan palm	Moderate
CAL-IPC = California Invasive Plant Council		

Seven nonnative and/or invasive wildlife species were observed (not including domestic animals) and documented within the BSA during field studies. Table 3.22-2 summarizes the invasive wildlife detected within the BSA.

Table 3.22-2. Invasive Wildlife Species

Scientific Name	Common Name
Apalone spinifera emoryi	Texas spiny softshell
Columba livia	Rock pigeon
Molothrus ater	Brown-headed cowbird
Passer domesticus	House sparrow
Streptopelia decaocto	Eurasian collared-dove
Sturnus vulgaris	European starling
Trachemys scripta elegans	Red-eared slider

3.22.3 Environmental Consequences

Invasive plant and animal species are known for their propensity to invade and negatively affect natural ecosystems. Seeds of invasive plant species can be transported to natural open space areas through a variety of mechanisms such as wind, wildlife, vehicles, imported soils, and landscaping. Recurring fires can encourage the establishment of colonial invasive species, as can some forms of routine land disturbance (e.g., disking, fire breaks). Invasive plant species can have profound impacts on native vegetation communities, removing or diminishing the value of required habitat for native plants and animals. Invasive animal species may dominate habitat otherwise available to native species and may prey on native species, which can have substantial effects on native wildlife populations. Therefore, a need exists to identify and recommend measures that avoid and/or reduce further transport of invasive species into natural open space areas. Because this project has a federal nexus, EO 13112 is applicable and the project must comply with its requirements, which state that federal agencies are required to prevent the introduction and spread of invasive species, and to support efforts to eradicate and control invasive species that are established.

3.22.3.1 Build Alternatives 1, 2C, and 4

In general, roadways exacerbate the spread of invasive and exotic plants. During construction activities under any of the build alternatives, construction vehicles and equipment could transport invasive plant species from previous work sites to project limits of disturbance and adjacent buffer areas. After construction is complete, some temporary impact areas within the right of way would remain undeveloped to serve as a shoulder and/or maintenance buffer. Areas left as bare ground could create favorable conditions for invasive plants and promote the spread of these species. Invasive plant species could also spread to open space areas adjacent to the proposed project.

Activities that would result in the spread of these species will be minimized through the implementation of standard best management practices and construction guidelines required under the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP). These measures will reduce the potential spread of invasive and exotic species. With

implementation of the minimization measures provided below, any potential indirect impacts from the introduction of invasive species is not expected to be adverse under NEPA.

The long-term operation of the proposed project under any of the build alternatives would continuously expose areas adjacent to the road right of way to invasive plant species. Seeds from invasive plant species may be transported by vehicles traveling on the roadway or in the loads they carry, resulting in the potential spread and establishment of invasive plant seeds and causing a degradation of vegetated areas adjacent to the paved roadway. Invasive plants can be moved from site to site during maintenance operations. Maintenance activities, such as routine grading and mowing along the road right of way will reduce the potential spread of invasive plant species provided the mowing occurs prior to seed set. However, the potential spread of invasive species would not differ appreciably from existing conditions along roadways.

In compliance with the Executive Order on Invasive Species, EO 13112, and guidance from FHWA, the landscaping and erosion control vegetation included in the project would not use species listed as invasive. All roadbed removal areas would be revegetated with a County-approved native seed mix and/or potted plants. All equipment and materials would be inspected for the presence of invasive species prior to mobilizing on the project site and cleaned, if necessary (refer to Measure **NC-8 [NES BIO-8]** in Section 3.17, *Natural Communities*).

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. The median areas are not proposed for drainage, habitat, or other functions under the build alternatives and would be earthen prior to construction of the future six-lane facility; therefore, the construction of the future six-lane facility would not result in additional exposure of open space areas to spread invasive species and would reduce the spread of invasive species. Regardless, the future six-lane facility would be required to comply with the WRC MSHCP, including implementation of measures in Volume I, Section 7.5.3, Construction Guidelines, and Appendix C, Standard Best Management Practices, during its construction activities.

Lake Mathews MSHCP (Build Alternatives 1, 2C and 4)

The proposed project would potentially introduce or contribute to the spread of invasive species into the Lake Mathews Multiple Species Reserve (LMR) of the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Communities Conservation Plan (LM MSHCP). As described in Section 3.17.3.3 (Table 3.17-8), the proposed project would have direct effects on lands within the LM MSHCP. As described above, seeds from invasive species can be transported to the construction area. Areas left as graded after construction is completed and increased habitat degradation within areas adjacent to the new road right of way would also create optimal conditions for invasive species to dominate. However, WRC MSHCP standard best management practices and construction guidelines (refer to Section 3.22.4) would reduce spread of invasive species within the LM MSHCP. In addition, Measure **NC-19 (NES BIO-15)** would restore temporary impact areas, reducing habitat degradation adjacent to the proposed

project. Operation of the proposed project would increase traffic within the LM MSHCP area, which could potentially increase the spread of invasive species transported by vehicles; however, this long-term effect of the LM MSHCP area is not expected to increase greatly from existing conditions within ongoing County maintenance (i.e., clearing for fire and weed abatement) of the road right of way.

As described in Sections 3.17 through 3.21, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Under the existing LM MSHCP, weed abatement within the LMR is currently monitored by the Lake Mathews Reserve Management Committee. The implementation of the selected alternative would slightly modify the location of existing monitored areas along the road right of way, including within the road removal areas that would be rehabilitated under the build alternatives and used as access roads by MWD.

3.22.3.2 No-Build Alternative

Under the No-Build Alternative, no temporary or permanent effects involving invasive species would occur.

3.22.4 Avoidance, Minimization, and/or Mitigation Measures

Measures **NC-2 (NES BIO-2)**, **NC-3 (NES BIO-3)**, **NC-5 (NES BIO-5)** through **NC-8 (NES BIO-8)**, and **NC-12 (NES BIO-12)** in Section 3.17, *Natural Communities*, will be implemented during construction to reduce the introduction and spread of invasive species to adjacent open space areas, including within streams and waterways, or off-site areas. Measure **NC-13 (NES BIO-9)** (refer to Section 3.17, *Natural Communities*) will ensure that invasive species will not be planted as part of the landscaping or revegetation of the project. Measure **NC-10 (NES BIO-10)** in Section 3.17, *Natural Communities*, will establish a Storm Water Pollution Prevention Plan and best management practices for the project to reduce or eliminate runoff containing invasive species. These measures will also ensure full compliance with the WRC MSHCP, Volume I, Section 7.5.3, Construction Guidelines, and Appendix C, Standard Best Management Practices.

Measure **NC-19 (NES BIO-15)** (refer to Section 3.17, *Natural Communities*) would ensure that temporary impact areas within the LM MSHCP are restored on site.

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3.23 Relationship between Local Short-term Uses of the Human Environment and the Maintenance and Enhancement of Long-Term Productivity

3.23.1 Introduction

Implementation of any of the build alternatives for the Cajalco Widening and Safety Enhancement Project would result in attainment of short-term and long-term transportation objectives at the expense of some long-term social, aesthetic, biological, and other land use impacts. The proposed transportation improvements are based on regional and local comprehensive planning efforts that consider the need for present and future traffic requirements within the context of present and future land use development.

3.23.2 Environmental Consequences

3.23.2.1 Build Alternatives

Short-term losses and impacts of the Cajalco Widening and Safety Enhancement Project build alternatives would include:

- Economic losses experienced by businesses from temporary displacements, relocations, or traffic detours;
- Temporary construction impacts on residents and visitors such as increased noise, impaired air quality from dust and debris, blocked viewsheds, and motorized and non-motorized traffic delays or detours;
- Temporary loss of productivity on and near sites used as temporary construction staging areas;
- Temporary increase in travel time to community facilities;
- Temporary, localized disturbance of Farmland Mapping and Monitoring Program (FMMP) important farmlands;
- Temporary disturbance of soils during construction increasing the chance of erosion and temporary water quality impacts; and
- Temporary impacts on plant resources, wildlife resources, and open space.

Short-term benefits of the build alternatives for the Cajalco Widening and Safety Enhancement Project would include:

- Increased revenue for the local region generated during construction, and possibly limited temporary employment opportunities.

Long-term losses of the build alternatives for the Cajalco Widening and Safety Enhancement Project would include:

- Permanent removal of residential and nonresidential uses and a possible permanent loss of those uses in the community along the ultimate Cajalco Road alignment if they are not relocated in the immediate project vicinity;
- Permanent conversion of FMMP important farmland and open space to roadway use;
- Permanent impacts on residents, business patrons, and travelers such as altered viewsheds, the visual presence of noise barriers, and a change in the aesthetic character of the land adjacent to the corridor due to the wider roadway;
- Permanent minor increases in noise and vibration at certain locations along the project corridor;
- Permanent loss of archaeological sites and the values associated with those sites;
- Permanent loss of paleontologically sensitive land;
- Permanent increase in impervious surfaces resulting in increased stormwater runoff and requiring new drainage facilities; and
- Permanent impacts on plant resources, wildlife resources, and open space.

Long-term gains of the build alternatives for the Cajalco Widening and Safety Enhancement Project would include:

- An improved transportation facility to address anticipated growth and mobility needs, as identified in the County of Riverside General Plan Circulation Element Policy 1.5;
- Improved interregional travel by improving east-west mobility in Riverside County;
- Increased efficiency of the movement of people and goods along Cajalco Road, which is expected to provide regional economic benefits;
- Reduction in travel times to community facilities due to roadway efficiency; and
- Improved roadway alignment and intersection design to enhance safety along Cajalco Road.

3.23.2.2 No-Build Alternative

The No-Build Alternative would not change the overall existing conditions of the Cajalco Road Widening and Safety Enhancement Project study area as described throughout Chapter 3, *Affected Environment, Environmental Consequences, and Mitigation Measures*. Therefore, the No-Build Alternative would not result in the losses/impacts described above and would not provide the benefits of the Cajalco Road Widening and Safety Enhancement Project described above.

3.23.3 Conclusions

Implementation of any of the build alternatives for the Cajalco Road Widening and Safety Enhancement Project would result in trade-offs between addressing transportation needs and goals (short and long term) and adverse environmental impacts (short and long term).

The Cajalco Road Widening and Safety Enhancement Project would serve to improve traffic conditions locally and within the region. In Riverside County, the circulation system is intended to accommodate a pattern of concentrated growth, providing both a regional and local linkage system between communities. Travel, including freight movement, extends past the Riverside County boundary and, as a result, the transportation system must be capable of adequately meeting a wide range of needs. Not only does the County need to accommodate the traffic that it generates, it also must accommodate pass-through traffic. The long-term benefits to the community (through transportation improvements) will be weighed against the short-term and long-term environmental impacts of the project as described in this Environmental Impact Report/Environmental Impact Statement.

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3.24 Irreversible and Irretrievable Commitments of Resources That Would Be Involved in the Proposed Project

3.24.1 Build Alternatives

The construction of any of the build alternatives under analysis for the proposed project involve a commitment of various natural, physical, human, and fiscal resources. Land used in the construction of the project would be considered an irreversible commitment during the time period that the highway facility exists. However, if a greater need arose for use of the land or if the roadway facility was no longer needed, the land could be converted to another use. There is no reason to believe such a conversion would ever be necessary or desirable within the foreseeable future.

Considerable amounts of fossil fuels, labor, public capital, and highway construction materials such as cement, aggregate, and bituminous material would be expended and would not be retrievable following construction of the proposed project. Additionally, large amounts of labor and natural resources are used in the production of construction materials, and these are generally not retrievable. However, they are not in short supply, and their use would not have an adverse effect upon continued availability of these resources.

Lands currently committed to conservation, including those in the Lake Mathews Multiple Species Reserve, Lake Mathews-Estelle Mountain Core Reserve, and Riverside-Corona Resource Conservation District, would be converted to other uses. Efforts to avoid or otherwise minimize conversion of these lands include project alignment and design adjustments, and standard project measures, incorporated into the project. For areas that could not be avoided through the efforts described above, mitigation measures that would compensate for the loss of lands have been developed in coordination with the agencies involved in the management of the conservation areas.

Construction of the proposed project would require a substantial, one-time expenditure of both state and federal funds, which are not retrievable; savings in travel time and improved transportation system efficiency would offset the use of these materials, labor, resources, and funds. In addition to the costs of construction and right of way, there would be ongoing costs for roadway maintenance.

The commitment of these resources to the proposed project is based on the concept that residents, workers, travelers, and others in the immediate area, region, and state would benefit from the improved quality of the transportation system in Riverside County. These benefits would consist of improved accessibility, travel time, and safety, which are expected to outweigh the commitment of resources.

3.24.2 No-Build Alternative

The No-Build Alternative would not result in any irretrievable commitment of resources because it would not result in the construction of the proposed project.

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3.25 Cumulative Impacts

3.25.1 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 on 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.

3.25.1.1 Methodology

The CEQA Guidelines Section 15130 provide two methods for an adequate analysis of cumulative impacts:

- The List Approach, which identifies all of the past, present, and probable future projects contributing to the cumulative impact, including projects that are outside of the control of the California Department of Transportation (Caltrans).
- The Projection Approach, which relies upon the cumulative impact analysis on a summary of projections of future development and impacts contained in an adopted general planning or related planning document, or in a prior environmental document that has been certified. These documents must be available to the public and describe or evaluate the regional or area-wide conditions contributing to the cumulative impact.

In 2005, Caltrans, in conjunction with the Federal Highway Administration (FHWA) and the U.S. Environmental Protection Agency (U.S. EPA), developed a guidance document: *Guidance for Preparers of Cumulative Impact Analysis*. The following analysis is based on the referenced guidance, which includes an eight-step process:

1. Identify the resources to consider in the cumulative impact analysis by gathering input from knowledgeable individuals and reliable information sources. This process is initiated during project scoping and continues throughout the NEPA/CEQA analysis.
2. Define the geographic boundary or Resource Study Area (RSA) for each resource to be addressed in the cumulative impact analysis.
3. Describe the current health and historical context of each resource.
4. Identify the direct and indirect impacts of the proposed project that might contribute to a cumulative impact on the identified resources.
5. Identify a set of other current and reasonably foreseeable future actions or projects and their associated environmental impacts to include in the cumulative impact analysis.
6. Assess cumulative impacts.
7. Report the results of the cumulative impact analysis.
8. Assess the need for mitigation and/or recommendations for actions by other agencies to address a cumulative impact.

As specified in the guidance, if a proposed project would not result in a direct or indirect impact on a resource, it would not contribute to a cumulative impact on that resource. This cumulative impact analysis includes environmental resources that are substantially affected by the project and resources that are currently in poor or declining health, or at risk even if project impacts would not be substantial.

In addition to the project, there are a number of development and transportation projects that have been identified as planned, approved, or recently constructed projects within the general project vicinity. Each project would be subject to all applicable federal and state environmental compliance requirements, as appropriate. A list of the projects considered in this analysis is provided in Table 3.25-1 on the following page, and the locations of the projects are depicted in Figure 3.25-1.

Table 3.25-1. Planned Projects within Project Vicinity

ID	Name	Jurisdiction/Location	Proposed Uses	Status
1	Magnolia Avenue Bridge Widening	City of Corona Magnolia Avenue from All American Way to El Camino Avenue	Widening Magnolia Avenue from four lanes to six lanes and widening the existing bridge over the Temescal Creek Channel.	Design phase; environmental studies in progress. PS&E anticipated to begin May 2021.
2	Ontario Avenue Widening	City of Corona Ontario Avenue from California Avenue to State Street	Widen the north side of Ontario Avenue to increase the vehicle capacity.	Planning and design in progress.
3	I-15 Express Lanes Project	County of Riverside I-15 from Cajalco Road to SR-60.	Addition of two tolled express lanes to I-15 in each direction, a distance of approximately 15 miles.	Construction initiated April 2018 and continuing through 2021.
4	Arantine Hills Specific Plan	City of Corona	A specific plan that proposes 1621 residential units on 129 acres, 38 acres of general commercial development, 40 acres of mixed-use development, 37 acres of open space, and 15 acres of park land.	Precise Plan (PP16-012) and a merchant builder map (TTM37030) approved for the first phase of development; under construction. Second phase is under plan check. City Approved 12/19/2018. General Plan Amendment (GPA2018-0001) with Specific Plan Amendment (SPA2018-0001), Parcel Map (PM 37036), and amendment to the Development Agreement (AEC724, DA15-001).
5	Cajalco Road / I-15 Interchange	City of Corona Cajalco Road and I-15, on and off ramp	Replace existing two-lane Cajalco/I-15 interchange bridge with a standard six-lane bridge and to reconfigure the on- and off-ramps to meet the projected traffic volumes for year 2035.	Construction completed.
6	Convenience store, car wash and gas station	County of Riverside North of Cajalco Road, east of Temescal Canyon Road, and west of Eagle Canyon Road	Approximately 5,881-sq. ft. convenience store, 1,262-sq. ft. car wash facility, and a 6,549-sq. ft. fuel canopy area that will house 10 fuel dispensers. In addition, 2.6 acres dedicated in accordance with MSHCP.	Constructed.
7	Two 30,000-sq. ft. industrial buildings	City of Corona East of Temescal Canyon Road and south of Cajalco Road	Parcel map to subdivide two lots. Two new 30,000–sq. ft. industrial buildings on 3.60 acres.	Construction completed.
8	McKinley Grade Separation	City of Corona McKinley Street and BNSF crossing	Build a grade separation on the McKinley railroad BNSF crossing	Design contract awarded July 2018. Construction anticipated to begin mid-2021.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
9	I-15 Express Lanes Southern Extension	County of Riverside Interstate 15 between Cajalco Road in Corona and State Route 74 (Central Avenue) in Lake Elsinore	Add two Express Lanes in both directions within the I-15 median	Undergoing engineering and environmental study; initiation of construction anticipated 2025.
10	Lake Hills Specific Plan #144	County of Riverside	1,650-acre residential development; 1704 units.	Specific Plan adopted January 1998. Partially built out.
11	91,000-sq. ft. shopping center	County of Riverside North of La Sierra Avenue and El Sobrante Road intersection. APNs 270190017 and 270190022	91,000-sq. ft. shopping center	Pre-application review approved; permits are in process.
12	Victoria Grove Specific Plan #270	County of Riverside North of El Sobrante Road, east of La Sierra Avenue.	86.8-acre residential development.	Specific plan adopted 12/1999. Nearly built out. 12.55-acre residential parcel remains undeveloped. SP00270A1: Add 86.8 acres (residential); approved. TR29282: Division of 7.7 acres into 24 single family lots; approved and construction completed
13	103-acre residential subdivision	County of Riverside 13100 El Sobrante Road	103-acre residential subdivision; 271 units.	TR36730: Approved TR36730E01: Approved extension of time. IP180069: Undergoing review.
14	Greentree Ranch Specific Plan #394	County of Riverside North of El Sobrante Road between McAllister Street and Mockingbird Canyon Road	Development of 513 residential units on 327.4 acres of land.	Notice of Preparation May 2017. Undergoing review.
15	Van Buren Boulevard and Little Court	City of Riverside 18171 Van Buren Boulevard	Development of a retail commercial center on 2 contiguous parcels; 7.17 acres; 10,700-sq. ft. retail, 10,000-sq. ft. daycare, 2,500-sq. ft. drive-thru restaurant, 10,000-sq. ft. office, and 8,000-sq. ft. medical office	Revised design plans submitted September 24, 2019; undergoing review.
16	117.7-acre residential subdivision	County of Riverside South of Cajalco Road, east of Gustin Road and west of Wood Road	Subdivision of 117.7 acres into 112 single family residential lots	TR30752: Sched B Division 117 AC into 112 Res Lots W/9 Open Space Lots; Approved. TR30752E03: Third extension of time expires July 2021. TR31608: Subdivide 41 acres into 65-sq. ft. open space lot; approved. TR31608E02: Second extension for TTM31608; expires July 2021.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
17	18-hole golf course with clubhouse and ancillary facilities	County of Riverside Located south of Cajalco Road and west of Wood Road	18-hole golf course with clubhouse and ancillary facilities.	Approved.
18	Boulder Springs Specific Plan #229	County of Riverside North of Cajalco Road; east of Wood Road and west of Alexander Street	981-acre specific plan that proposes 1421 dwelling units on 798 acres of land. H.B. Ranches: Subdivision of 283.3 acres into 468 residential lots.	Specific plan adopted 10/4/1988. Permits obtained or in process; some parcels constructed. Time extensions granted for H.B. Ranches Tentative Tract Maps Subdivision to January 9, 2021.
19	I-215 North Project	County of Riverside I-215 between Nuevo Road in Perris and SR-60 in Riverside	Widen 10.75-mile section of I-215 from Nuevo Road to 60/215 Interchange for one carpool lane added to I-215 in both directions.	Final design and environmental permitting, although funding is required to complete project.
20	Majestic Freeway Business Center Specific Plan #341	County of Riverside North of Cajalco Expressway, south of Nandina Avenue, west of I-215 and east of Decker Road	Construction of 6.2 million sq. ft. of light industrial buildings and 1.2 million sq. ft. of manufacturing, distribution, and warehouse facilities on 325 acres of land. Development of 1,138,800-sq. ft. industrial building.	Under construction.
21	26.73-acre industrial development	County of Riverside West and east of Harvill Avenue, south of Cajalco Expressway, and north of Cajalco Road	Subdivide 26.73 acres into 10 industrial lots. Five office buildings and light industrial.	Approved; under construction.
22	Hotel	County of Riverside Northeast of Dree Circle and Harvill Avenue	A three-story 51,994-sq. ft., 103-room hotel with 5,656-sq. ft. banquet/conference/ restaurant area on 3.2 acres	Under construction.
23	Villa Verona Apartment Community	City of Perris	Multi-family residential development on 17.33 acres; includes two and three-story buildings with one-, two-, three-, and four-bedroom units.	Project approved. Project has not been submitted for construction.
24	Duke Warehouse – Perry Street	City of Perris Southeast corner of Perry Street and Barrett Avenue	Industrial development project; 148,297 sq. ft. including 3,000 sq. ft. of office and 3,000 sq. ft. of mezzanine office space on 7.26-acre site	Approved late 2019.
25	Duke Warehouse – Perris Boulevard	City of Perris Northeast corner of Perris Boulevard and Markham Street	Industrial development project; 55 acres; 1.2 million sq. ft.	Completed.
26	Duke Warehouse – Patterson Avenue	City of Perris Southeast corner Patterson Avenue and Markham Street	Industrial development project; 37.5 acres; 811,260 sq. ft.	Completed.

ID	Name	Jurisdiction/Location	Proposed Uses	Status
27	Mid County Parkway	County of Riverside 16-mile transportation freeway between I-215 and SR-79	16-mile transportation corridor (freeway) between I-215 and SR-79	Construction of I-215/ Placentia Avenue interchange completed.
28	First Perry Logistics Project	City of Perris Adjacent to Redlands Avenue, north of Ramona Expressway	Industrial development project; 11 acres; 240,000 sq. ft.	Completed.
29	Stratford Ranch Residential Project	City of Perris West of Evans Road, north of Ramona Expressway	Residential development project; 270 lots	Partially constructed.
30	Nuevo Road and Nuevo Bridge Replacement Project	City of Perris Nuevo Road from Wilson Avenue to Perris Valley Storm Drain Channel	Widen Nuevo Road to its ultimate width (i.e., 128-foot curb-to-curb street section with a 14-foot median and 10-foot sidewalks on either side), including replacement of the Nuevo Road Bridge at the Perris Valley Storm Drain Channel.	Under construction.

Sources: County of Riverside Planning Department 2017, 2018; County of Riverside Building & Safety Department 2020; City of Corona 2020; City of Riverside Planning Division 2020; City of Corona Community Development Department 2020; City of Perris Planning Division 2018, 2020; City of Perris 2020; Duke Realty 2019; Google Earth 2020; Millie and Severson n.d.; Riverside County Transportation Commission 2018, 2019.

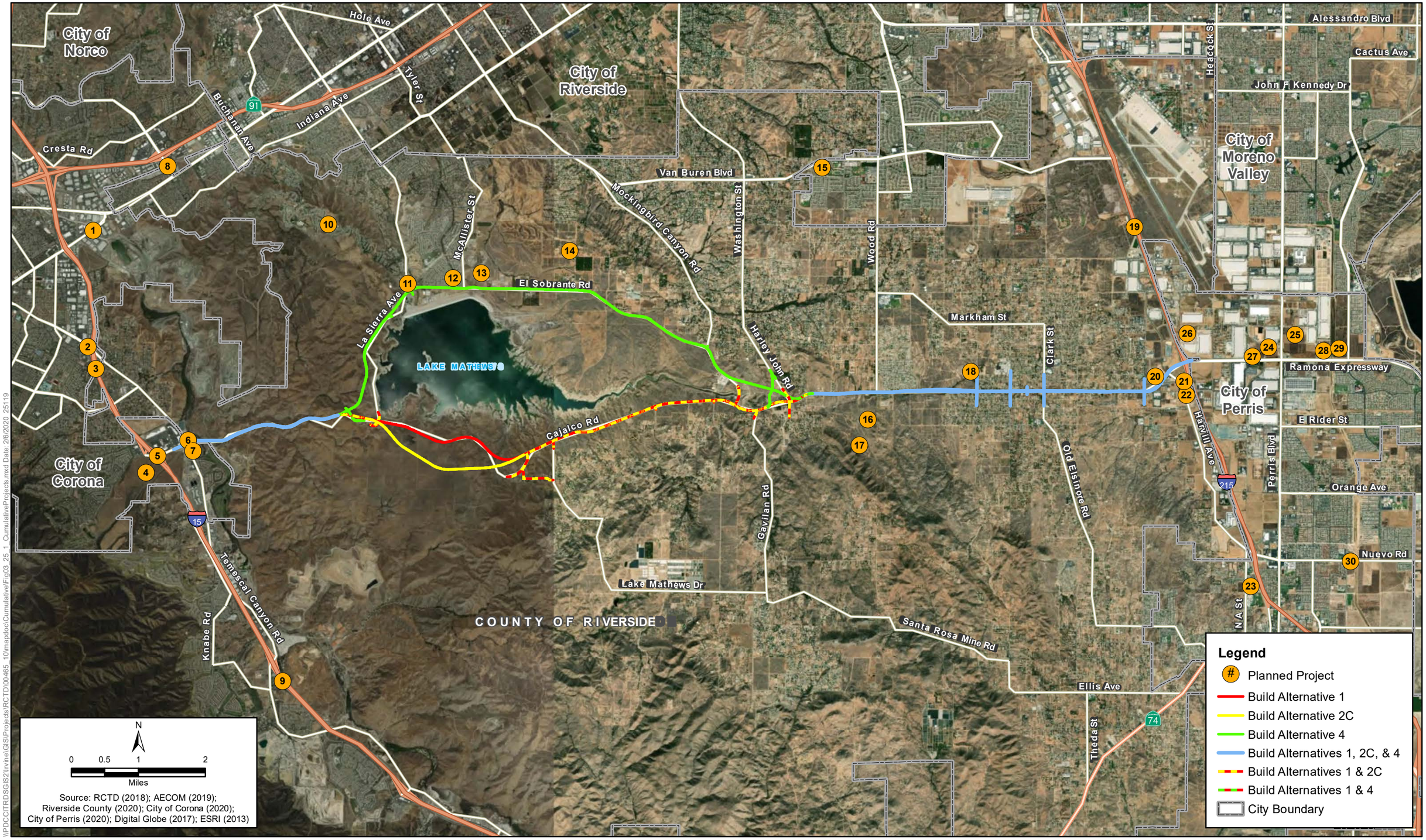

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Figure 3.25-1
Project Area Planned Projects
Cajalco Road Widening and Safety Enhancement Project

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3.25.2 Environmental Resources Excluded from the Cumulative Impact Analysis

If the project would not cause direct or indirect impacts on a resource, it would not contribute to a cumulative impact on that resource and would not need to be evaluated with respect to a potential cumulative impact. The project would have no effect on timberlands, coastal zone, wild and scenic rivers, sole source aquifers, or species listed by the National Marine Fisheries Service. Therefore, the project would not have the potential to contribute to a cumulative impact on these resources, and they will not be discussed within this section.

Based on the nature of the proposed project, the affected project area, and the impact analysis for each resource conducted for this Environmental Impact Report (EIR)/Environmental Impact Statement (EIS), it was determined the following resources would not require detailed cumulative impact analysis for the reason described under each resource area.

3.25.2.1 Air Quality

The proposed project is located in the South Coast Air Basin (SCAB); as such, the SCAB is the appropriate RSA for evaluation of cumulative impacts for air quality. The SCAB experiences chronic exceedances of state and federal ambient air quality standards however, the SCAB is in federal maintenance or attainment status for all criteria pollutants. The South Coast Air Quality Management District (SCAQMD) has responsibility for managing the SCAB's air resources, and is responsible for bringing the SCAB into attainment for federal and state air quality standards. The 2016 AQMP prepared by SCAQMD is part of California's State Implementation Plan (SIP), which shows how the state will attain conformity with federal ambient air quality standards, as required under the Clean Air Act.

As part of the AQMP, SCAQMD develops transportation emissions budgets based on the regional transportation planning documents prepared by the Southern California Association of Governments (SCAG). The proposed project is included in the SCAG 2020-2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) under Project ID 3A04WT137A. The proposed project has been incorporated into the SCAG 2021 Federal Transportation Improvement Program (FTIP) under project ID RIV090903. The 2020-2045 RTP/SCS was found by FHWA and the Federal Transportation Administration to be in conformity with the SIP on June 5, 2020. The 2021 FTIP was found to be in conformity with the SIP on April 16, 2021.[1]

[1] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

Per State CEQA Guidelines Section 15130 (d), where a project is included in an approved regional transportation plan (among other land use plans) that adequately address the affected resource area, no additional analysis is required. Because the proposed project is listed, as currently proposed, in the region's currently conforming SCAG 2020-2045 RTP/SCS and 2021 FTIP regional transportation planning documents, project emissions would not be cumulatively considerable. In addition to project RTP and SIP conformance, the following standard project features are included in the project that would reduce construction-period emissions and air quality impacts: **PF AQ-1**, **PF AQ-2**, and **NC-2 (NES BIO-2)**.

3.25.2.2 Geology

The RSA is composed of the area along Cajalco Road between Interstate 15 (I-15) and Interstate 215 (I-215) within the Peninsular Ranges geomorphic province of Southern California in a relatively stable structural platform known as the Perris Block. The closest known active fault is the Glen Ivy Section of the Elsinore Fault Zone approximately 3.4 miles southwest from the nearest end of the project area. The project site is in a seismically active area; however, seismically induced impacts are localized and would not contribute to cumulative impacts.

The proposed project would include Project Standard Measures **PF GEO-1** through **PF GEO-5**, which require soil testing prior to construction, which is intended to verify that the geological conditions of the construction sites are properly characterized and to specify excavation techniques to minimize adverse effects. Moreover, hazards mapping provisions require that the location of proposed structures be evaluated for their susceptibility to catastrophic risks, including seismic and geotechnical hazards. California building standards have been developed to consider such risks. The combination of these provisions ensures that risks to these structures and their inhabitants, visitors, or users are minimized; therefore, the build alternatives and planned projects contained within Table 3.25-1 would be required to adhere to these guidelines. Based on the information and analysis above, the proposed project in combination with other projects in the RSA would not cause direct or indirect cumulative impacts related to geology, soils, or seismicity. As a result, no further analysis is necessary.

3.25.2.3 Utilities and Emergency Services

Utilities and emergency services are actively planned for and developed based on service needs of the area in which they are provided. The RSA, which is composed of utilities, emergency services, and public services, is limited to the immediate vicinity of the active construction work areas; however, various water, gas, telephone, sewer, power, and other utility lines currently cross the RSA and may require relocation or special handling during construction activities. Proposed construction activities requiring relocation of an underground fiber optic line, for example, could be scheduled to coincide with a telephone company project to underground telephone lines. In this way, a situation may be avoided where constant construction and accompanying traffic delays occur on a busy street due to poorly coordinated schedules.

The effect of other projects identified in Table 3.25-1 on utilities and emergency services would be assessed as part of the environmental review of those projects; however, for transportation and public infrastructure projects, the impacts from these projects would be beneficial because they normally improve circulation in their respective project areas. Emergency services would potentially benefit from improved access and circulation. The incorporation of Standard Project

Measures **PF LU-1** and **PF UT-1**, and the implementation of Mitigation Measure **HYD-1**, are proposed to ensure continued function of Metropolitan Water District of Southern California (MWD) facilities, prevent unreasonable traffic delays and impacts on emergency access and utilities, and minimize impacts during proposed utility relocations. Based on the information and analysis above, direct or indirect cumulative impacts on utilities and emergency services are not anticipated to result from this project, and no further analysis is necessary. Impacts from the project would not be cumulatively considerable.

3.25.3 Environmental Resources Considered in the Cumulative Impact Analysis

This section discusses potential cumulative impacts on various resources that could occur as a result of the construction and operations of the build alternatives (1, 2C, and 4) together with related projects.

3.25.3.1 Energy

Because nearly all project-related energy consumption would result from fuel use by vehicles and equipment during the construction period as well as vehicles during everyday operation of the build alternatives, for the purposes of this cumulative impacts discussion, the only form of energy use considered is gasoline and diesel fuel use. Due to the specialized requirements for fuel formulation in California (CARB 2018), the RSA for cumulative energy use is the state of California. For the purposes of fuel consumption, this cumulative impact discussion uses the list of past, present, and reasonably foreseeable projects list approach identified in CEQA Guidelines Section 15130 (b)(1).

The proposed project, in combination with the projects identified in Table 3.25-1 as well as numerous other projects and ongoing operations of transportation facilities throughout the state, requires the use of gasoline and diesel fuel for construction and long-term operations. Direct diesel and gasoline consumption would result from the use of construction vehicles and equipment as well as from employee and maintenance trips during operation. Indirect fuel consumption would result from redistribution of trips that would occur from capacity changes along the proposed alignment. Each of the build alternatives would result in increased fuel use compared to the No-Build Alternative, as shown in Table 3.16-1 (see Section 3.16, *Energy*). However, despite this project-related increase in fuel consumption and projected growth in regional population and travel demand, fuel use is expected to fall as a result of increased fuel efficiency of vehicles and adoption of vehicles powered by electricity and fuel cells, and annual fuel consumption will fall in 2040 with full implementation of the 2016–2040 RTP/SCS.

As such, additional fuel infrastructure is not anticipated to be required to meet motor vehicle fuel demands in the future. Although each of the build alternatives would result in increased fuel use in the project area relative to the No-Build Alternative, the project's contribution to energy consumption would not be substantial, as the project's gasoline and diesel fuel requirements would be small, and demand could be met by the extensive network of fueling stations found throughout the project area. Standard Project Measures **PF AQ-1**, **PF LU-1**, **PF VIS-6**, and **PF SW-1** would further be incorporated into the project and reduce energy consumption during construction. Therefore, impacts related to energy use would not be cumulatively considerable.

3.25.3.2 Farmlands

The RSA for farmlands is defined as a 0.5-mile-radius of proposed project right of way. This RSA was selected because it includes the populations and communities within those portions of unincorporated Riverside County and the Cities of Corona and Perris that are most likely to experience potential impacts from the physical improvements associated with the project. The RSA contains approximately 2,869 acres of Important Farmland[2]. Williamson Act land is intermittently within the study area of Build Alternative 4 north and south of El Sobrante Road from La Sierra Avenue to Mockingbird Canyon Road. All build alternatives include lands within the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) area that meet the California Department of Conservation's Farmland Mapping and Monitoring Program Important Farmland criteria.

All three build alternatives would require permanent acquisitions and temporary construction easements that would require conversion of important farmland. Table 3.25-1 summarizes many adopted transportation and land use plans that could potentially contribute to conversion of farmland to transportation uses along Cajalco Road or El Sobrante Road. Planned projects converting farmland to other uses would be required to address potential impacts through mitigation and as part of project approvals required by the implementing jurisdiction in which they are located.

The proposed and related projects resulting in farmland conversion would continue the regional trend of converting farmland to nonagricultural uses. With acquisition proposed by the project, the remainder of each parcel could continue to be used for agricultural purposes. While Build Alternatives 1 and 2C would not result in impacts on Williamson Act land, Build Alternative 4 would result in permanent and temporary impacts on this type of farmland. Therefore, even with inclusion of Standard Project Measures **PF LU-1**, **PF COM-1**, **PF COM-2**, and **PF FA-2**, impacts would be substantial and unavoidable, and the project's cumulative contribution would be cumulatively considerable.

3.25.3.3 Growth

The RSA for growth is regional and includes Riverside County and the Cities of Corona and Perris. The population of Riverside County has grown since 2015 and is expected to continue growing through 2040. Population growth projections developed for SCAG's 2016–2040 RTP/SCS indicate that between 2015 and 2040 the populations of Riverside County, City of Corona, and City of Perris are expected to increase by 37.4 percent, 10.5 percent, by 65 percent, respectively.

The build alternatives would not be expected to influence the amount, location, or distribution of growth in the cities, unincorporated areas, or portion of Riverside County within the project study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors. In addition, under the Community and Environmental Transportation Acceptability Process Project, which would provide a western transportation corridor between I-15 and I-215 and an alternate east-west route to Cajalco Road, the anticipated traffic conditions would remain relatively similar,

[2] Excludes lands committed to urban development and water storage per 7 CFR 658.2(a).

with or without the proposed project. Therefore, the build alternatives would not induce traffic to be diverted to Cajalco Road. Consequently, the build alternatives are not anticipated to affect the rate or location of future development within the project area or region. Also, because this is a transportation project within the semi-rural, partially developed project area, the proposed project is not expected to result in direct impacts related to growth in the form of providing access to new areas that are currently inaccessible. However, it is possible that the project could make areas surrounding employment centers, where developable land is still available, more appealing for future development if peak travel commute times are reduced. The project along with development could result in indirect effects related to growth on surrounding areas that can support future growth.

The proposed project itself would not cause development to occur in the region due to land use controls such as County and local city general plan land use designations, development restrictions, lands committed to conservation, and lands currently or in the process of being developed. Future development and transportation projects in the Cities of Riverside, Corona, and Perris are anticipated to be limited to developments that are currently in progress and infill development. Infill development is not expected to result in impacts on resources of concern other than water, if water availability is constrained at the time of future development. Future infill projects would be subject to environmental review and would be required to identify adequate water supplies prior to development; therefore, implementation of the proposed project and other related projects would not have a cumulatively considerable contribution to the cumulative effects related to growth.

3.25.3.4 Parks and Recreational Facilities

The RSA for parks and recreational resources includes any park, recreational facility, open space area, recreational bikeway, or other recreational trails within 0.5 mile of the proposed project. This RSA was chosen because it includes the populations and communities that are most likely to experience potential impacts associated with the project. There are eight parks and recreational areas within 0.5 mile of the build alternatives. Of these eight resources, five are public schools with outdoor playgrounds and other recreational facilities, which are assumed to be open to the general public. Two of the remaining properties are outdoor parks, and one is a privately owned golf course. Riverside County currently has one developed trail, the Santa Ana River Trail, that is outside the RSA; however, additional future planned trail facilities are within the RSA. No formally designated bicycle routes or facilities, such as marked bicycle lanes, are currently within the project limits. Build Alternatives 1, 2C, and 4 would not require partial or full acquisition of any parks or recreational facilities.

In addition to the eight parks identified within the RSA, four agency-managed conservation areas are within the RSA; the Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve), Lake Mathews Multiple Species Reserve (LMR), Riverside Corona Resource Conservation District (RCRCD) mitigation lands, and Western Riverside County Regional Conservation Authority (WRCRCA) conserved lands. As described in Section 3.1.5.3, land from agency-managed conservation areas would be temporarily and permanently acquired by all of the build alternatives. As shown in Table 3.1-10, the LM-EM Reserve would experience the greatest impact of the agency-managed conservation areas. Build Alternative 2C would result in the greatest amount of permanent and temporary land acquisition of the LM-EM Reserve, followed

by Build Alternative 1 and Build Alternative 4. The RCRCD Mitigation Lands and WRCRCA Conserved Lands would experience a much smaller acquisition impact under all three build alternatives.

Table 3.25-1 summarizes many development and transportation projects that could contribute to impacts on parks and recreational facilities near Cajalco Road or El Sobrante Road. Planned projects would be required to address potential impacts on parks and recreational facilities through mitigation and as part of project approvals required by the implementing jurisdiction in which they are located. For the proposed project, in addition to the avoidance and minimization measures for property acquisitions identified in Section 3.4.4, *Relocations and Real Property Acquisition*, replacement for the permanent loss of habitat within the LM MSHCP will be required at a minimum 1:1 ratio (see Measures **NC-17 [NES BIO-17]** and **NC-19** [**NES BIO-15]** in Section 3.17, *Natural Communities*). The project would not preclude future consideration of trail and bicycle facilities identified in local plans, or interfere with continued use of local, unpaved roadways for equestrian uses. Also, no conflicts would occur with any future recreational facility proposed by other development projects. Temporary impact areas would be addressed through preparation of a TMP (see Standard Project Measure **PF LU-1** in Section 3.1.1.2) and compliance with noise-reducing measures (see Standard Project Measure **PF NOI-1** in Section 3.15, *Noise and Vibration*), especially if multiple projects are being constructed at the same time. With no impacts on the eight parks and other recreational facilities, trails, bicycle facilities, or equestrian uses within the RSA, and the mitigation required as a result of impacts on the LM MSHCP, operation of the build alternatives would result in only a minor contribution to cumulative impacts on parks and recreational facilities within the RSA.

3.25.3.5 Land Use

The RSA for land use is defined as a 0.5-mile radius of proposed project right of way, and includes the populations and communities that are most likely to experience potential impacts or fragmentation from the physical improvements associated with the project. Land use within the RSA varies from mining, open space, scattered rural estates, and communities of single-family houses to commercial businesses and farmland.

All build alternatives would require right of way acquisitions, including up to 240 acres of property involving residential, nonresidential, and vacant parcels for Build Alternative 4. Acquisitions would also include lands from the LM MSHCP area, including the LMR. These acquisitions would change land uses from their current uses to that of a transportation facility. However, in addition to the reopening of the LM MSHCP and discretionary action to accommodate the project, the acquisition of lands within the LM MSHCP would require the coordination of mitigation, including replacement lands, with the managing resource agencies. The acquisitions necessary for all build alternatives represent a small percentage of total residences and businesses within Riverside County; therefore, appreciable land use change would not occur as a result of the proposed project. The future six-lane facility is not anticipated to interfere with existing land uses for all build alternatives and operation of the facility would not change existing land uses because additional property acquisitions are not anticipated. Land use impacts involving temporary changes during construction would be addressed with the incorporation of Standard Project Measures **PF LU-1** and **PF FA-2**.

Table 3.25-1 summarizes many development and transportation projects that could potentially contribute to land use impacts and increase the number of land use conversions near Cajalco Road or El Sobrante Road. Planned and approved projects would be consistent with applicable general plan and zoning requirements. Tables 3.1-5 and 3.1-6 in Section 3.1, *Land Use*, detail the temporary and permanent impacts on defined land use zoning as a result of the build alternatives.

As detailed in Table 3.1-7, Build Alternatives 1, 2C, and 4 would conflict with the current LM MSHCP. The LM MSHCP does not currently accommodate the transportation improvements of the proposed project within lands managed by MWD. Because of this inconsistency, the proposed project would require the reopening of the LM MSHCP, and discretionary action coordinated between the County and LM MSHCP responsible parties to accommodate the project. Changes in the LM MSHCP as well as changes to the lands managed by the LM MSHCP would be addressed by mitigation coordinated with MWD and other responsible agencies, and the build alternatives are not anticipated to conflict with the goals or policies of any other relevant plans and programs.

Build Alternatives 1, 2C, and 4 would conflict with three goals or policies of relevant regional and local plans and programs: the LM MSHCP, the Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), and the Stephens' kangaroo rat (SKR) Habitat Conservation Plan (HCP). Land use changes as a result of the conversion of conservation lands to a transportation facility would require the coordination of mitigation, including replacement lands, with the managing resource agencies. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed roadway improvements within the LM MSHCP boundary. An application to amend the LM MSHCP would be pursued by the County; approval would need to be obtained prior to any construction.

To compensate for the loss of natural lands on the LM-EM Reserve and in the WRC MSHCP plan area (which includes the SKR HCP), the County will coordinate with the Riverside County Habitat Conservation Agency (RCHCA), MWD, the Lake Mathews Reserve Management Committee, WRCRCA, U.S. Fish and Wildlife Service (USFWS), and California Department of Fish and Wildlife (CDFW) to develop a suite of mitigation measures that demonstrate biological equivalency to offset the loss. Please refer to Measures **NC-17 (NES BIO-17)** through **NC-20 (NES BIO-21)** in Section 3.17, *Natural Communitie*s. Temporary impact areas would be addressed through preparation of a habitat mitigation and monitoring plan and onsite restoration to original conditions; see Measure **NC-19 (NES BIO-15)** in Section 3.17 for additional information.

Operation of the build alternatives would result in a noticeable change in land uses and a moderate contribution to cumulative land use conversion impacts in the RSA as up to 240 acres of land would be converted to transportation uses with implementation of the project. The project, when combined with other development and transportation projects, would result in an increase in land acquisitions and noticeable land use changes in the RSA and throughout Riverside County. Land use impacts involving temporary changes during construction would be addressed with the incorporation of Standard Project Measures **PF LU-1** and **PF FA-2** for the project, and other development and transportation projects would require similar measures to minimize temporary construction and operation impacts. Coordination with the managing resource agencies would also be required for the project and other development and

transportation projects to determine the extent of mitigation, including replacement lands. Therefore, implementation of the proposed project and other related projects would not have a cumulatively considerable contribution to the cumulative effects related to land use.

3.25.3.6 Community

The RSA for community impacts has been defined to include the 2015 U.S. Census Bureau census tracts within 0.5 mile of the proposed project. The primary study area for community impacts is defined by the nine Census tracts that are adjacent to or span the three build alternatives. The study area for economic conditions is Riverside County and the Cities of Corona and Perris. The study area for community facilities is the area within 0.5 mile of the project build alternatives.

There are six distinct communities in the project vicinity: Mead Valley, Lake Mathews/Gavilan Hills, Woodcrest/Mockingbird Canyon, Victoria Grove, Lake Hills/Home Gardens, and Temescal Canyon. While the proposed project would result in minor changes to the character of each community within the limits of the project, the changes would not be substantial enough to cause changes to the overall character of each community, because it would neither change the zoning within the area nor provide new access to areas that are currently undeveloped. Although transportation improvements are generally capable of having urbanizing effects in an area, the project improvements would improve the existing roadway rather than result in increased development pressure in the study area. Land use and zoning designations in the immediate and surrounding areas beyond the project limits would not change as a result of the project. Consequently, it is anticipated that the proposed project would not result in any changes to the character of the study area. Therefore, when added to the projects detailed in Table 3.25-1, which also have to comply with the city or county general plan and zoning regulations, Build Alternatives 1, 2C, and 4 would not have a cumulative impact on community character.

Depending on the project's selected alternative, the County would fully acquire 19 residential units under Build Alternatives 1 and 2C, and 21 residential units under Build Alternative 4. In addition, the project would require two nonresidential acquisitions under all build alternatives. Although displacements of residents and employees would occur, there are adequate residential and commercial replacement properties available within a 50-mile radius of the project.

Cumulative impacts may result from the replacement properties that would need to be acquired for various projects within the cumulative impact study area; however, a sufficient number of replacement properties currently exist within the city or area vicinity. In addition, many of the specific plan projects listed in Table 3.25-1 would build additional housing, thereby offsetting any housing reduction resulting from the proposed and other related roadway improvement projects. Additionally, Standard Project Measures **PF LU-1**, **PF FA-2, PF COM-1**, and **PF UT-1** would address temporary impacts on businesses during construction, and **PF FA-1**, **PF COM-2**, and Measure **COM-3** would address impacts associated with property acquisition and relocation; therefore, no substantial impacts pertaining to property acquisition and relocation on a cumulative basis are anticipated as a result of the project in combination with other development and transportation projects.

Construction of the build alternatives in combination with other development and transportation projects would not induce population growth or have an effect on population characteristics or

housing. Community character and cohesion would not be adversely affected during construction of the project due to the temporary partial closures of Cajalco Road. When combined with other development and transportation projects, the project would not cause a substantial change because construction sites and schedules would be staggered throughout Riverside County. The project would not cut off connected neighborhoods from each other. No development features are proposed that would divide an established community or limit movement, travel, or social interaction between established communities. The project would not introduce a new barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods because Cajalco Road is an existing roadway that currently traverses communities and neighborhoods. Also, the project proposes pedestrian and safety improvements, which would benefit community members and schools. However, the project would change the aesthetic character of the land adjacent to Cajalco Road by making the roadway wider and more urban-like, although changes to the aesthetic environment within the study area would be minimal. Standard project measures and additional mitigation measures are recommended to minimize impacts related to visual encroachment, noise, air quality, utilities, and hazards and compensate for impacts on the communities of Mead Valley, Lake Mathews/Gavilan Hills, Woodcrest/Mockingbird Canyon, Victoria Grove, Lake Hills/Home Gardens, and Temescal Canyon. The proposed project, in combination with other development and transportation projects, is not anticipated to result in permanent and temporary community character and cohesion impacts specific to any community; therefore, implementation of the proposed project and other related projects would not contribute to cumulative community impacts.

3.25.3.7 Environmental Justice

The RSA for the environmental justice analysis is the census block groups within 0.5 mile of the proposed right of way. Of the six distinct communities within the study area, the percentages of minority populations within four of the communities—Mead Valley, Lake Mathews/Gavilan Hills, Lake Hills/Home Gardens, and Temescal Canyon—are greater than 50 percent, at 79.2, 52.5, 61.9, and 53.6 percent, respectively. With respect to poverty status in the study area, the median household income in all block groups is higher than the Department of Health and Human Services poverty guidelines ($26,200 for a family of four in 2020). Therefore, low-income populations are not present in the study area for the build alternatives.

The build alternatives would have a minimal effect on community cohesion because they would not introduce a new barrier that would divide the community, separate residences from community facilities, or result in substantial growth. All build alternatives would benefit most RSA residents, including minority populations, by improving mobility and circulation throughout the RSA; however, property acquisitions for the build alternatives would affect communities that have a greater minority population than some counties and cities within the RSA. Non-minority populations would also be affected by property acquisitions; however, the build alternatives would have a disproportionately high and adverse impact on environmental justice populations because property acquisition and relocation impacts would predominantly be borne by a minority population within the Mead Valley community. In addition to the benefits of increased pedestrian, vehicular, and cyclist safety; improved pedestrian facilities for access to community facilities; and flood control improvements, Standard Project Measure **PF COM-1** and Mitigation Measure **COM-3** are proposed to minimize and mitigate for impacts involving

property acquisitions and displacements for residents, employees, and property owners within the Mead Valley community.

When added to the projects presented within Table 3.25-1, the impacts of the proposed project on minority populations, however, are not cumulatively considerable as property acquisitions and relocations associated with the other projects would be limited and occur within census areas that contain a range of minority populations.

The proposed project would result in temporary construction detours, temporary and permanent air and noise impacts, and temporary and permanent changes in travel patterns throughout the study area. Temporary construction cumulative impacts on community disruption could occur if multiple projects in the same locality are scheduled to undergo construction at the same time. Impacts related to visual encroachment and hazardous materials releases may also be borne by environmental justice populations. Along with reducing operational impacts through design and mitigation measures, the County would work closely with the cities and communities within the project area to identify such potential consequences and adjust construction schedules to avoid construction, to the extent applicable, of multiple projects to occur within the same locality simultaneously, as described in Standard Project Measure **PF LU-1**. Standard Project Measures **PF COM-1**, **PF COM-2**, **PF FA-1**, **PF FA-2**, **PF UT-1**, **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, **PF NOI-1**, **PF HAZ-2**, **PF HAZ-3**, **PF HAZ-5**, **PF AQ-1**, and **PF NOI-1**, and Mitigation Measures **COM-3**, **VIS-2**, **VIS-8**, **NOI-2**, **NOI-3**, **HAZ-1**, **HAZ-4**, **HAZ-6**, **HAZ-7**, and **HAZ-8**, would also be implemented to avoid or minimize impacts on the local communities. The projects listed in Figure 3.25-1 would not contribute to cumulative adverse effects on environmental justice populations with mitigation incorporated to reduce impacts borne by these communities. The proposed project is anticipated to benefit environmental justice communities by enhancing the operations of the project corridor; therefore, implementation of the proposed project and other related projects would not contribute to cumulative environmental justice impacts.

3.25.3.8 Noise

The RSA is the same as the study area evaluated in Section 3.15, which divided the project alignment into three noise analysis areas (Area A, Area B, and Area C). Area A is located along Cajalco Road, west of Harley John Road. The western terminus of Area A is approximately 500 feet west of the Temescal Canyon Road/Cajalco Road intersection. Area B is located along Cajalco Road, between Harley John Road and the Cajalco Road/Interstate 215 (I-215) interchange. Area C is located along El Sobrante Road and La Sierra Avenue between Temescal Canyon Road and Lake Mathews Drive and the Lake Mathews Drive/Cajalco Road intersection.

Traffic is the primary source of noise for the existing noise environment along the project alignment. Changes in traffic noise levels between design year condition for all three build alternatives (which includes the proposed project, all reasonably foreseeable projects, and all other projects included in the traffic study) and the design year No-Build Alternative condition (which includes all reasonably foreseeable projects and all other projects included in the traffic study) indicated that noise levels at noise-sensitive receptors would range from a 19-decibel (dB) decrease to an 11-dB increase under Build Alternative 1, a 19-dB decrease to a 12-dB increase under Build Alternative 2C, and no change to a 15-dB increase under Build Alternative 4.

Table 3.25-1 summarizes many adopted transportation and land use plans that could potentially contribute to noise impacts and increase the number of receptors that may be exposed to noise associated with Cajalco Road or El Sobrante Road. The traffic report for the project included all reasonably foreseeable actions in the future build and no-build condition traffic projections, and it assumed a growth factor for the project area that would be expected to increase traffic noise levels over time as additional land uses are developed and transportation facilities and improvements are implemented. As such, this growth is also incorporated into the traffic noise analysis.

Construction activities would cause short-term elevated noise levels at the surrounding residences over approximately 4 years. It is reasonable to assume that other projects could occur within this time frame in close proximity to the project alignment. Projects identified to be constructed during this time include residential developments (specific plans and subdivisions) and commercial/industrial developments (business park). Even if construction of any project listed in Table 3.25-1 were to occur within the same time frame of construction of any of the build alternatives, and in close proximity, construction noise would not be considered cumulatively considerable, as construction noise is generally exempt from the County's noise ordinance, provided that construction activities occur during the permitted hours.

NEPA

For the operation of the project, a noise impact would occur under NEPA if the project would cause traffic noise levels to approach or exceed (come within 1 dB) of the Noise Abatement Criteria (NAC) or would result in a 12 dB increase during the design year relative to the existing traffic noise level. As discussed in Section 3.15, *Noise and Vibration,* impacts would occur with all three build alternatives; three receivers would approach or exceed the NAC of 67 A-weighted decibels (dBA) hourly equivalent noise level (Leq[h]) under Build Alternatives 1 and 2C and four receivers would approach or exceed the NAC of 67 dBA Leq(h) under Build Alternative 4, and traffic noise levels are predicted to increase by 12 dB at one receiver, relative to the existing condition. The project's cumulative impact relative to the no-build condition for all three build alternatives indicates that these impacts would occur solely due to the inclusion of the project.

Abatement in the form of soundwalls was considered and incorporated (as discussed in Section 3.15, *Noise and Vibration*), which would reduce traffic noise levels at all affected receivers under Build Alternatives 1 and 2C. Noise Barriers S-624, S-650, and S-652 were considered feasible and reasonable (from a cost perspective) and are therefore intended to be incorporated as abatement as Mitigation Measure **NOI-2 (**Noise Barrier S-624) and Mitigation Measure **NOI-3** (Noise Barriers S-650, and S-652), provided that the survey process approves the noise barriers. With the inclusion of Noise Barriers S-624, S-650, and S-652, impacts would be reduced, and the project's cumulative impact would not be cumulatively considerable for affected receptors under Build Alternatives 1 and 2C. Under Build Alternative 4, one receiver would approach or exceed the NAC of 67 dBA Leq(h), where no abatement was available due to access constraints to the subject property. Therefore, even with the inclusion of Noise Barriers under Mitigation Measures **NOI-2** and **NOI-3**, the project's cumulative impact would be cumulatively considerable.

CEQA

Under CEQA, an impact would occur if, once in operation, the project would exceed an increase of 1.5 dB at any receiver that exceeded the 65 dBA Community Noise Equivalent Level (CNEL) (relative to the existing condition) threshold during the design year, if the project would result in a 3 dB increase at any receiver that during the existing condition was between 60 and 65 dBA CNEL. Additionally, an impact would occur if the project would result in an increase of 5 dB or more at any receiver below 60 dBA CNEL under the existing condition.

The noise modeling in Chapter 4 (CEQA), Section 4.2.15, *Noise*, indicates predicted traffic noise level increases relative to the existing condition by 1.5 dB at three modeled receivers, and by 3 or 5 dB (based on the existing noise level) at 48 modeled receivers under Build Alternatives 1 and 2C. Mitigation Measure **NOI-4** (rubberized asphalt) was identified to reduce impacts. With inclusion of Mitigation Measure **NOI-4**, impacts associated with Build Alternatives 1 and 2C would be reduced to less-than-significant levels and the project's cumulative contribution would not be cumulatively considerable.

The noise modeling in Section 4.2.15 further indicates that traffic noise levels would increase relative to the existing, by 1.5 dB at three modeled receivers; three modeled receivers would also increase 3 dB and 78 other modeled receivers would increase by 5 or more dB (based on the existing noise level) under Build Alternative 4. Mitigation Measure **NOI-4** was identified to reduce impacts. However, two modeled receivers would still exceed the Federal Interagency Committee on Noise 1.5 dB and County 5 dB sound levels even with Mitigation Measure **NOI-4** included. Two barriers at the two receiver locations were considered as part of the NEPA analysis; however, as one barrier (S-624) is subject to the decision of the benefited receptors and the other barrier (S-565) was not cost effective, the barriers were not considered further for impacts under CEQA. Therefore, even with inclusion of Mitigation Measure **NOI-4**, impacts would be significant, and the project's cumulative contribution would be cumulatively considerable under CEQA.

3.25.3.9 Visual Resources/Aesthetics

The RSA for cumulative impacts on visual resources would consist of a viewshed extending out 1 mile north and south along the approximately 16-mile length of the proposed alignment. As described in Section 3.7, *Visual/Aesthetics*, the landscape of the immediate project area ranges from flat to hilly to gently rolling terrain. The open space lands, rolling terrain, and lack of tall vegetation allow for scenic vista views to the surrounding mountains and Lake Mathews. The project corridor travels through the LMR and LM-EM Reserve, and through parcels of land owned by MWD and RCHCA. Much of the land surrounding Lake Mathews is undeveloped because these lands are protected by the LMR and the LM-EM Reserve of the SKR HCP.

There are no roadways in or near the project area that are designated in federal or state plans as an officially designated scenic highway or route worthy of protection for maintaining and enhancing scenic viewsheds. Interstate 15 (I-15) is an eligible state scenic highway; however, the project's western terminus is approximately 0.3 mile away from the freeway, and views of the project corridor from the freeway are blocked by the interchange berms. I-215 is a classified Landscaped Freeway between Post Miles 30.81 and 31.31. The Riverside County General Plan Circulation Element also indicates that Cajalco Road from I-15 to approximately Harley John

Road/Smith Road, El Sobrante Road, and La Sierra Avenue from El Sobrante Road to Cajalco Road are County-eligible scenic corridors, and County-eligible roadway segments located within the project vicinity.

As described in Section 3.7, and for the purpose of the cumulative analysis, the area surrounding the project area has been subdivided into four visual assessment units (VAUs) based on specific vantage points and differing sensitivities of those affected by the proposed project, including Rural Residential, Open Space, Suburban Residential, and Commercial. Refer to Section 3.7.2 for a description of each VAU. The overall visual quality of the Rural Residential, Suburban Residential, and Commercial VAUs are moderate, and the overall visual quality of the Open Space VAU is moderate-low.

Temporary and permanent impacts would be the same along the portion of Cajalco Road between Harley John Road and Seaton Avenue for Build Alternatives 1, 2C, and 4. The roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway with associated turn lanes that is more suburban in nature. Standard Project Measure **PF VIS-1** (Contouring and Replanting Disturbed Areas) and Mitigation Measure **VIS-2** (Replace or Relocate Site Features and Landscaping Affected by the Project) would lessen impacts on affected properties to the extent possible. To alleviate noise impacts on adjacent residences, noise barriers are proposed on the northwest corner of Cajalco Road and Cowan Road and north of Cajalco Road on either side of Extravaganza Lane under all build alternatives. Standard Project Measures **PF VIS-1** and **PF VIS-3** (Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity), and Mitigation Measure **VIS-2**, would ensure that new noise barriers are visually consistent with existing noise barriers in the project vicinity and that landscaping softens the appearance of the barriers. Removal of two or three trees adjacent to the freeway overpass may affect the landscaped freeway designation because vegetation in the Commercial VAU is already sparse and removal may be deemed negative under all build alternatives. Mitigation Measure **VIS-8** would ensure that vegetation removed along this portion of landscaped freeways is replaced. Lastly, implementation of Standard Project Measure **PF VIS-4** would address the effects associated with street lighting and ensure that project light and glare would not result in adverse visual effects under all build alternatives.

The combined visual effect of this proposed project and other development projects planned, recently in construction, or currently in construction would change the visual character of the region. Table 3.25-1 summarizes many adopted transportation and land use plans and projects that could potentially contribute to visual impacts associated with Cajalco Road or El Sobrante Road. The general plans for Riverside County and the City of Corona would also contribute to development within and surrounding the project area. Once implemented, these plans and smaller development projects would widen and improve existing transportation corridors, and/or create new and reconfigured transportation corridors, that may result in the development and the infill of open space areas and vacant lots within the project vicinity. These plans also allow for continued development to occur around the project area. Other transportation projects would widen segments of other local connectors and create larger roadways, and widening associated with the Cajalco Road project would contribute to cumulative visual impacts by replacing two-lane roadways with more suburban, four-lane (and in some cases, accommodate six-lane) roadways and affecting associated vegetation, private properties, and viewers.

The proposed project is driven by implementation of transportation and land use plans and the projects described above to provide access and to support future land uses in the vicinity, and all three build alternatives would result in the same cumulative visual impacts. Temporary construction impacts associated with the proposed project would result in cumulative visual impacts because even though they would be temporary, they would compound the visual presence of construction in the area, especially when combined with other larger-scale development and transportation projects.

Planned development and transportation projects would also alter the existing visual character of the area in the long term and affect the area's visual character, including the open space areas and vacant lots in the project vicinity. Development in the project vicinity would contribute to changes in the visual quality of views as seen from all VAUs. Roadway users, residents, businesses, and recreationists will be able to see open space areas and vacant lots within the landscape gradually transition and infill to industrial, mixed-use, commercial, and residential development, and this development will include the associated transportation and utility infrastructure needed to support it. However, the visual quality of the Open Space VAU would remain mostly unchanged because these lands are protected reserve lands. Future development and roadway improvements would also add to ambient atmospheric lighting and glare in the area by infilling unlit open space areas with lit buildings and roadways, using blue-rich white light lamps light-emitting diode lighting, and adding reflective surfaces to areas that are currently undeveloped or moderately developed.

The proposed project would have an incremental contribution to cumulative impacts associated with lighting, because roadway lighting would not greatly increase as a result of the project. The project would incrementally contribute to visual changes related to planned and/or proposed development in the area because it would alter the existing visual landscape, in some cases degrade the visual quality of the project area, and affect highways users and roadway neighbors. The incorporation of Standard Project Measures **PF VIS-1**, and **PF VIS-3** through **PF VIS-7**, and implementation of Mitigation Measures **VIS-2** and **VIS-8**, as detailed in Section 3.7, *Visual/Aesthetics*, would reduce the project's impact on visual resources to ensure that impacts from the proposed project would be reduced in terms of the proposed project's contribution to cumulative impacts on visual resources that are expected to occur when taking into consideration past, present, and future projects that have occurred and are anticipated in the project viewshed. Although the project and other projects, such as the Mid County Parkway, would contribute to a cumulative visual impact within the RSA, these new transportation facilities were expected and planned for in the Riverside County General Plan. Development would design or mitigate impacts through landscaping, tree preservation, apply lighting standards, wall design, and other aesthetic enhancements. Based on the discussion above, overall, the project would have moderate cumulative impacts on visual resources within the RSA.

3.25.3.10 Hydrology

The RSA for cumulative impacts associated with surface hydrology and water quality is the Middle Santa Ana River, Lake Mathews, and Perris hydrologic areas (HAs). The westerly end of the project is within the Bedford Hydrologic Subarea (HSA) 801.32 within the Lake Mathews HA 801.30. The middle section of the project, located within the Cajalco HSA 801.33, is also within the Lake Mathews HA. Portions of Build Alternative 4 are within the Arlington HSA

801.26 within the Middle Santa Ana River HA 801.20. The easterly end of the project is within the Perris Valley HSA 802.11 within the Perris HA 802.10. The westerly end of the project crosses Temescal Wash as well as several unnamed tributaries to and Temescal Wash. The proposed project also crosses several unnamed tributaries to Lake Mathews, and Cajalco Creek. Temescal Creek is within the Zone A floodplain on the western portion of the project site. Cajalco Creek is within a mapped Zone A floodplain. A small portion of the western end of the project site is within the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin. A limited section of the eastern end of the project is within the San Jacinto Groundwater Basin.

All build alternatives would encroach into the floodplains at four creek crossing locations, and they would share the same impacts as Build Alternatives 1 and 2C for Locations 1, 3, and 4. MWD Lake Mathews facilities are within the project footprint within this floodplain encroachment area and would be affected by the proposed project. MWD facilities that would be affected by all build alternatives include Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins. These facilities are located along the north side of Cajalco Road between El Sobrante Road and Harley John Road. Mitigation Measure **HYD-1** (see Section 3.9.4) is proposed to obtain approval from MWD regarding the right of way acquisition from Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. Mitigation Measure **HYD-1** requires preparation of a Drainage Study to confirm implementation of the proposed project would not affect continued operation of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin.

Under Build Alternatives 1 and 2C, the culvert replacements and new bridge along Cajalco Creek would extend existing structures and add new piers in the floodplain. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks consistent with the existing conditions. Through the use of project design features such as detention basins and culverts, 100-year storm flows would be conveyed, and would not result in any new flooding.

Under Build Alternative 4, several cross culverts would convey stormwater runoff from areas north of the proposed roadway, under the roadway, and into the existing basins. The proposed encroachments would be in areas considered ineffective in conveying flow through the basins and therefore would not adversely affect water surface elevation or velocity of the existing Cajalco Creek floodplain.

Proposed projects within Riverside County are required to maintain sufficient drainage system capacity and convey 100-year peak flows consistent with the municipal stormwater programs from Riverside County and include Low-Impact Development features and post-construction design measures. These measures would prevent or reduce a cumulative adverse hydrology impact during operation. With the addition of the above referenced mitigation measure, the proposed project, in conjunction with those listed within Table 3.25-1, would not have a cumulatively considerable impact on hydrology within the RSA.

3.25.3.11 Hazardous Materials/Wastes

For hazardous materials and waste, the concern would not be from contamination caused by the project, but rather from materials that are currently present in the environment and materials

transported on the area-wide roadway system on a daily basis. The transportation, use, storage, and disposal of hazardous waste and associated materials are highly regulated by local, state, and federal laws; therefore, impacts associated with hazardous waste and materials would be localized. There are two Recognized Environmental Conditions, one Historical Recognized Environmental Condition, and five Environmental Areas of Concern within the RSA.

Hazardous wastes and petroleum products used during construction of development and transportation projects would be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Safety and Health Administration standards, including Waste Management and Materials Pollution Control BMPs – Spill Prevention and Control, Materials; and Waste Management BMP, Hazardous Waste Management. The following Riverside County active landfills are permitted as Class III landfills, and these facilities accept construction wastes such as asphalt, concrete, excess soil, and non-hazardous materials:

- El Sobrante Landfill (10910 Dawson Canyon Road, Corona) is 4 miles from the project site.
- Badlands Landfill (31125 Ironwood Avenue, Moreno Valley) is 35 miles from the project site.
- Lamb Canyon Sanitary Landfill (16411 Lambs Canyon Road, Beaumont) is 47 miles from the project site.
- Agua Mansa MRP (1830 Agua Mansa Road, Riverside) is 22 miles from the project site and is a recycling center.

Hazardous wastes would not be allowed at these disposal sites, and the project and other projects would not contribute to cumulative hazardous waste impacts on local landfills. Treated wood waste (TWW) is required to be stored and manifested as hazardous waste. Some forms of TWW are accepted at Riverside County facilities, upon approval by the facility, but they are generally transported to Class I hazardous waste landfills (e.g. Antelope Valley Recycling and Disposal Facility, 1200 West City Ranch Road, Palmdale; Calabasas Landfill, 5300 Lost Hills Road, Agoura), where TWW are accepted.

There would be an incremental increase in the generation of hazardous materials in the study area during construction; however, long-term operational impacts would not contribute to the generation of hazardous materials as the project is not a development project. With the incorporation of Standard Project Measures **PF HAZ-2**, **FP HAZ-3, PF HAZ-5**, and **PF SW-1**, and the implementation of Mitigation Measures **HAZ-1, HAZ-4**, **HAZ-6**, **HAZ-7**, and **HAZ-8**, the proposed project would not result in substantial permanent adverse impacts related to hazardous waste and materials. Future land use and transportation projects noted in Table 3.25-1 would comply with applicable city and county Hazardous Waste Management Plans, ordinances, and state regulations related to hazardous materials, which would ensure that there would be no adverse hazardous material impacts resulting from future development in the cities and the county; therefore, the proposed project would not contribute to cumulative hazardous waste and materials impacts.

3.25.3.12 Transportation

The RSA for cumulative impacts associated with transportation includes all freeway segments, interchange ramps, and ramp terminus intersections along I-15 from Weirick Road to State Route 91 and I-215 from Nuevo Road to State Route 60. It also includes intersections along Cajalco Road, Markham Street, and Rider Street.

As further detailed in Section 3.6.3.1, *Permanent Impacts*, the following study area intersections would operate at an acceptable level of service (LOS) under the No-Build Alternative in the forecast year (2044) but are projected to operate at an unacceptable LOS in the same year for the respective build alternatives:

Build Alternatives 1 and 2C

- Cajalco Road and La Sierra Avenue in the PM peak hour
- Seaton Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Placentia Avenue in the PM peak hour
- I-215 southbound ramps and Van Buren Boulevard in the PM peak hour
- I-215 northbound Frontage Road and Placentia Avenue in the PM peak hour
- Webster Avenue and Ramona Expressway in the AM peak hour

Build Alternative 4

- Clark Street and Cajalco Road in the AM peak hour

With exception of the intersection at Clark Street and Cajalco Road (Build Alternative 4), none of the above-listed intersection are identified for improvement in the County's 2017/2018 Transportation Improvement Program (TIP). In the County's 2017/2018 TIP, the intersection at Clark Street and Cajalco Road is identified for "design traffic signal modifications." As development is approved (entitled) in the project area, project applicants (developers) would be responsible for paying their fair share contribution for roadway operations improvements including, but not limited to, intersection improvements. Furthermore, and as the need for such improvements is identified, pertinent intersection improvements will be accounted for in future County TIPs as a means to improve operations through the project corridor. Also, projected and cumulative truck traffic is not anticipated to result in an increased risk to pedestrian or cyclist safety as the projected minor increases would be consistent with the overall projected traffic volumes through most of the project limits.

The incremental effect of the proposed project is estimated to be considerable when taking into account the additive effects of probable future land development projects in the area; therefore, the proposed project is anticipated to result in a substantial cumulative impact on the above-listed roadway intersections that cannot be mitigated by the project addressed herein.

3.25.3.13 Water Quality

The project is adjacent to Lake Mathews and crossed by Cajalco Creek and Temescal Wash, as well as several tributaries to Lake Mathews, Cajalco Creek, and Temescal Wash. The project site is within the Perris Valley hydrologic subarea, which drains to the Perris Valley Storm Drain about 2 miles east of the project site; the Temescal Subbasin of the Upper Santa Ana Valley Groundwater Basin (8-002.09); and the San Jacinto Groundwater Basin (8-005). According to the Initial Site Assessment (2017), the groundwater in the vicinity of the project site ranges from approximately 10 to 45 feet below ground surface. The context for cumulative hydrology and water quality impacts is geographic and a function of whether impacts could affect surface water features/watersheds, municipal storm drainage systems of Riverside County, or groundwater, each of which has its own physical boundary. This analysis accounts for anticipated cumulative growth within the potentially affected geographic area, as represented by full implementation of the Riverside County General Plan.

The Santa Ana Regional Water Quality Control Board (RWQCB) has developed water quality objectives for waters within the project area and has published them in the Basin Plan. Water quality objectives for Lake Mathews and tributaries to Temescal Creek (e.g., Cajalco Creek, un-named drainages) are provided in Section 3.10, *Water Quality and Stormwater Runoff*. Existing water quality conditions in the project area are good as indicated by the fact that neither Temescal Wash (Reach 2), Lake Mathews, nor Cajalco Creek and its tributaries are listed on the Clean Water Act (CWA) 303(d) list as Impaired Water Bodies for any pollutant within the Santa Ana Region.

The proposed project does not represent a substantial departure from the existing land use of the area but would result in a substantial increase in the impervious surface area. The project, under any of the build alternatives, would permanently increase the area of paved, impermeable surfaces in the project site. This increase in impervious area would result in increased pollutant build up and wash-off and a greater volume and rate of stormwater runoff that could cause or contribute to erosion and offsite pollutant transport. For the entire project area, runoff volume would increase. The proposed bridges, culverts, and channels would provide larger conveyance through this area, lowering the water surface and reducing velocities and eliminating flow over roads during the 100-year flood. The project would be required to implement post-construction stormwater quality best management practices (BMPs) under the Caltrans and Regional Storm Water Management Plan prepared for compliance with the National Pollutant Discharge Elimination System Permits, as discussed in Section 3.10, *Water Quality and Stormwater Runoff*. These BMPs are designed to permanently control water pollution originating from the operation and maintenance of the highway. Under the Future-Six Lane, an increase of impervious surfaces and associated runoff volumes and rates would be expected, which also may require post-construction BMPs. The implementation of standard water quality protection measures **PF WQ-1** through **PF WQ-4**, required as part of the Section 401 certification and 404 and Municipal Separate Storm Sewer System (MS4) permit processes would ensure the protection of water quality during construction and operation of the proposed project. Compliance with Measures **NC-6 (NES BIO-6)**, **NC-10 (NES BIO-10)** through **NC-12 (NES BIO-12), HYD-1**, **PF VIS-1**, **NC-6 (NES BIO-6)**, **NC-13** (**NES BIO-9**) through **NC-15** (**NES BIO-14**), and **WET-1** would also ensure the protection of water quality during construction and operation of the proposed project.

Existing vegetation would be removed, thereby increasing the potential for erosion. Consistent with the Statewide construction stormwater programs, the project-specific Storm Water Pollution Prevention Plans would include construction BMPs. Stormwater runoff would be directed to existing and proposed stormwater collection systems. Stormwater conveyance capacities along Cajalco Road would be met or exceeded with the proposed improvements and new drainage facilities would be added to accommodate the proposed improvements. Because the proposed project would increase roadway capacity, the input of additional pollutants from vehicles is anticipated.

For the entire project area, runoff volume would increase with all build alternatives due to similarities in their scope and design; therefore, impacts are discussed collectively. The proposed bridges, culverts, and channels would provide larger conveyance through this area, lowering the water surface and reducing velocities and eliminating flow over roads during the 100-year flood. While the proposed project would result in the addition of impervious surfaces, the proposed project would not affect any existing groundwater recharge facilities because there are no existing groundwater recharge facilities located in the project area. Infiltration BMPs were determined to be infeasible due to soil types that do not allow for infiltration. In addition, high groundwater and shallow basement rock limit feasibility for infiltration BMPs within the project area and limit groundwater recharge. Furthermore, an indirect lowering of the local groundwater table is not likely to occur, as the proposed project would not require the use of local groundwater and, given soil and bedrock conditions, would not limit infiltration compared to existing conditions.

Construction of the proposed project as well as other planned projects within the project vicinity would result in soil area disturbances through the grading and compaction associated with typical development activities. The proposed project, collectively with projects listed in Table 3.25-1 that are over 1 acre, would be required to comply with the Construction General Permit during construction activities and would be required to implement BMPs to limit sedimentation and erosion and other construction pollutants. Therefore, the proposed project would not contribute to a cumulative water quality impact during construction.

During project operation, the proposed project could contribute to the degradation of water quality and a cumulative impact if any altered land use would result in an increase in the type and concentration of pollutants in stormwater runoff. New development projects allowed within the Riverside County General Plan would increase impervious surface areas, which would result in increased stormwater runoff. The proposed project and cumulative projects would be required to comply with the Santa Ana Region MS4 Permit during operational activities. Therefore, new development projects would need to be consistent with the municipal stormwater programs from Riverside County and include Low-Impact Development features and post-construction design measures that would promote infiltration and provide water quality treatment consistent with the MS4 Permit requirements, and would therefore not contribute to cumulative operation water quality impacts.

Cumulatively, development allowed within the Riverside County General Plan could increase the rate and volume of stormwater runoff because of the overall increase in the amount of impervious surfaces. Increases in the rate or volume of stormwater runoff can cause localized flooding if storm drain capacity is exceeded or if flows exceed channel capacities and are conveyed to overbank areas where flood storage may not be available. Proposed projects within

Riverside County, including projects like Mid County Parkway and Arantine Hills Specific Plan, are required to maintain sufficient drainage system capacity and convey 100-year peak flows. Therefore, changes in flows that could increase localized flood risk are not expected to be substantial and would not be cumulatively considerable.

All cumulative development allowed within the Riverside County General Plan would be required to include design features that would reduce flows to pre-project conditions, according to Riverside County MS4 Permit requirements and other municipal stormwater requirements. In addition, local jurisdictions review all development projects on a case-by-case basis to ensure that sufficient local and regional drainage capacity is adequate. Cumulative impacts on hydrology and water quality, as well as the proposed project's contribution to cumulative impacts, would not be cumulatively considerable.

3.25.3.14 Natural Communities

The RSA for biological resources occurs in the South Coast subregion of the Southwestern California region and within the California Floristic Province. The natural vegetation of the subregion consists primarily of chaparral, sage scrub, annual grasslands, woodland, and riparian scrub and forest. Much of the natural vegetation occurs in preserved open space or scattered in fragmented patches in areas that are not developed. The RSA is composed of the proposed project footprint for Build Alternatives 1, 2C, and 4, up to a 500-foot buffer. Additional details for the cumulative effects on natural communities of concern, riparian/riverine resources, and wildlife corridors and linkages are provided below.

Natural Communities of Concern

The RSA for the build alternatives is also composed of the boundaries of the WRC MSHCP area. The WRC MSHCP is a 1,966-square-mile area that provides a comprehensive planning program that addresses multiple species' needs by preserving native vegetation, natural communities of concern, riparian/riverine resources, and wildlife corridor/linkages within Western Riverside County. The WRC MSHCP also provides the mitigation mechanism for covered activities and addresses the cumulative effects on these resources within the RSA. The guidelines and BMPs for covered activities described in the WRC MSHCP would be implemented for the avoidance and/or minimization of impacts on sensitive biological resources from planned projects within the area. It would also allow for improvements and maintenance of the County's roadway facilities and provide long-term conservation value of preserved habitat in the region. Approximately 60 percent of western Riverside County (752,870 acres out of the 1,258,780 acres within the MSHCP Plan Area) has been identified as reasonably foreseeable for development, based on anticipated impacts projected by the MSHCP within the next 75 years. The WRC MSHCP EIR/EIS concluded that with the implementation of measures described in Section 7.5.2 and Appendix C of the WRC MSHCP, Volume I, covered activities would not have a substantial effect on natural communities.

The permanent impacts on natural communities of concern would occur on 76.58 acres under Build Alternative 1, 85.20 acres under Build Alternative 2C, and 79.78 acres under Build Alternative 4 (refer to Table 3.17-4). Details for the direct impacts on natural communities of concern are provided in Section 3.17, *Natural Communities*. The majority of the natural communities of concern that would be affected during project construction occur within open

space lands between Temescal Canyon Road and Harley John Road that occur within existing conservation lands under long-term preservation. Additional open space lands east of Harley John Road are already planned for future development, including residential development, a golf course, and business development. Refer to Table 3.25-1 for the full list of projects planned for future development in the project vicinity. Natural communities of concern temporarily affected by project construction would be restored and/or replaced through compensatory mitigation. Construction of the proposed project would contribute to an incremental loss of natural communities of concern within the RSA. Projects like the Mid County Parkway would have permanent impacts on between 117.0 and 124.6 acres of other natural communities of special concern. Cumulative impacts from any one of the build alternatives on natural communities of concern would be covered under the WRC MSHCP because the proposed project is a covered activity under the WRC MSHCP Volume I, Section 7.2.2 (Circulation Element Roads). Measures **NC-1 (NES BIO-1)** through **NC-15 (NES BIO-14)** would be implemented and ensure the project's compliance with the WRC MSHCP.

In addition to complying with the provisions of the WRC MSHCP and implementing avoidance/minimization and mitigation measures, the build alternatives would replace all natural vegetation communities that would be permanently affected within the LM MSHCP area and the RCHCA SKR Reserve. These lands would be replaced through implementation of measures **NC-17 (NES BIO-17)**, **NC-19 (NES BIO-15)**, and **NC-20 (NES BIO-21)**. Replacement of the SKR Core Reserve lands will ensure that the project is in compliance with the long-term SKR HCP. Lands acquired to replace affected areas of the LM MSHCP will be integrated into the discretionary action coordinated between the County and LM MSHCP responsible parties. The proposed project, collectively with projects listed within Table 3.25-1 that are within the LM MSHCP area and RCHCA SKR Reserve, would be required to comply with provisions established within these conserved areas. Combined with development and transportation projects, construction of the project would contribute to the incremental loss of natural communities in the region; however, the MSHCP provides a comprehensive approach to the regional conservation of natural communities for all development and, as a regional plan, serves to provide mitigation for cumulative impacts on such habitats. Therefore, with consistency with the MSHCP and through mitigation for impacts on natural communities of concern on a project-by-project basis, the proposed project would not contribute to a cumulative impact.

Riparian/Riverine Resources

For riparian/riverine resources, the jurisdictional delineation study area includes the project footprint and 200-foot buffer for each of the build alternatives. The WRC MSHCP requires covered activities to identify and map riparian/riverine resources and vernal pools. The WRC MSHCP defines riparian/riverine areas as "lands that contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend on soil moisture from a nearby freshwater source; or areas with freshwater flow during all or a portion of the year." In addition, streams that lack riparian vegetation but that have ephemeral or greater flows and provide biological functions and values that contribute to downstream habitat values for covered species inside the WRC MSHCP Conservation Area are also considered riparian/riverine resources. WRC MSHCP riparian/riverine resources within the limits of disturbance are mapped on Figure 3.17-5.

Permanent impacts on natural communities of concern would occur on 16.01 acres under Build Alternative 1, 14.31 acres under Build Alternative 2C, and 9.01 acres under Build Alternative 4 (refer to Table 3.17-13). Details for the direct impacts on WRC MSHCP riparian/riverine resources are provided in Section 3.17, *Natural Communities*. As described above, riparian/riverine resources between Temescal Canyon Road and Harley John Road would mostly be preserved as open space, based on a review of the projects proposed for the regional vicinity (refer to Table 3.25-1). Open space areas east of Harley John Road would be developed, but the majority of the riparian/riverine resources (included drainage features) would be preserved on site (i.e., Boulder Springs Specific Plan Area) or can be incorporated into the design of future projects. Cumulative impacts from any one of the build alternatives and other projects in the regional vicinity on MSHCP riparian/riverine resources may be cumulatively considerable due to the rapid decline of this resource in the RSA. For example, the Mid County Parkway would have permanent impacts on between 10.8 and 11.4 acres of riparian riverine areas; the Arantine Hills Specific Plan would have permanent impacts on 0.41 acre of unvegetated streambed and 0.01 acre of vegetated riparian habitat.

Because the proposed project is a covered activity under the WRC MSHCP Volume I, Section 7.2.2 (Circulation Element Roads), construction guidelines and BMPs (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9])** will be incorporated to ensure the project's compliance with the WRC MSHCP. Measures **NC-14 (NES BIO-13)** (Preparation of the Determination of Biologically Equivalent or Superior Preservation [DBESP]) and **NC-15 (NES BIO-14)** (Replacement of WRC MSHCP Riparian/Riverine Resources) would mitigate for the loss of these resources and also address temporal loss of riparian/riverine resources during construction. The DBESP will provide a functions and values assessment of the riparian/riverine resources, including an evaluation of hydrologic regimen, sediment trapping and transport, flood storage and flow modification, nutrient retention and transformation, toxicant trapping, public use, habitat for wildlife, and aquatic habitat. Approval of the DBESP by WRCRCA, USFWS, and CDFW and adequate compensatory mitigation for riparian/riverine resources will ensure consistency with the WRC MSHCP. The proposed project and future projects must also fulfill WRC MSHCP consistency requirements. Therefore, with consistency with the MSHCP and through mitigation for impacts on riparian/riverine resources on a project-by-project basis, cumulative effects would not be cumulatively considerable.

Wildlife Corridors and Linkages

Permanent impacts on corridors and linkages would occur on 265.59 acres under Build Alternative 1, 273.99 acres under Build Alternative 2C, and 176.81 acres under Build Alternative 4 (refer to Table 3.17-17). Details for the direct impacts on wildlife corridors and linkages are provided in Section 3.17, *Natural Communities*. Impacts from the proposed project would have a minimal cumulative effect on Existing Core C and Proposed Extension of Existing Core 2 from the widened roadway, as there are no other foreseeable projects within the conserved lands between Temescal Canyon Road and Harley John Road. Once construction of the proposed project and all future projects in the RSA are completed, the remaining preserved open space and WRC MSHCP core/linkage areas would remain undeveloped. In addition, the proposed build alternatives have incorporated wildlife corridors/dry crossings into the project design and wildlife fencing (**NC-16 [NES BIO-19]**) that would direct wildlife movement through preserved open space areas, enhancing the function and values of the core/linkage areas.

Project impacts on Proposed Linkage 3 and future planned projects in the area may contribute to cumulative effects on cores/linkages due to future projects planned within the vicinity of the Proposed Linkage 3, potentially constraining this linkage. The proposed project and future projects must also fulfill WRC MSHCP consistency requirements and mitigate impacts on a project-by-project basis. Therefore, cumulative effects would not be cumulatively considerable.

3.25.3.15 Wetlands and Other Waters

The RSA for jurisdictional waters is within the Santa Ana River and San Jacinto Valley Watersheds, as determined by the Temescal Wash and Lower San Jacinto River hydrological units (HUC 1807020306 and 1 1807020203). The RSA also occurs within the following U.S. Geological Survey 7.5-minute quadrangles: Alberhill, Corona North, Corona South, Lake Elsinore, Lake Mathews, Perris, Riverside East, Riverside West, Romoland, Santiago Peak, Steele Peak, and Sunnymead.

The direct effects on federal and state jurisdictional waters under each build alternative are provided in Table 3.18-2 and Table 3.18-4. Details for the direct impacts on federal and state jurisdictional waters are provided in Section 3.18, *Wetlands and Other Waters*. Each of the build alternatives would directly contribute to the regional loss of waters of the United States (WoUS), including wetlands, waters of the State (WoS), and state streambeds and riparian-associated habitats due to the widened road facilities, new roadway in areas, and appurtenant facilities.

The loss of jurisdictional waters by Build Alternatives 1, 2C, and 4 may be cumulatively considerable, due to the rapid decline of this resource in the region. The build alternatives bisect federal and state jurisdictional water resources along Cajalco Road and El Sobrante Road between the Temescal Canyon Wash and I-215, including federally jurisdictional wetlands and CDFW riparian habitats. Given the amount of impact proposed, the rapid decline of this habitat, and regional impact, Build Alternatives 1, 2C, and 4 could make a cumulatively considerable contribution to a regional decline of jurisdictional water resources. There are no future projects along Cajalco Road that would contribute to impacts on jurisdictional waters west of Harley John Road under Build Alternatives 1 and 2C, as most of these areas are composed of conserved and open space lands. The Mid County Parkway would have impacts on approximately 2 acres of wetlands, and the Arantine Hills Specific Plan would have permanent impacts on 0.33 acre of non-wetland waters. A residential development is proposed on the north side of El Sobrante Road, and this development in conjunction with impacts on jurisdictional waters from Build Alternative 4 may have a cumulative contribution to impacts on WoUS, WoS, and state streambeds. East of Harley John Road, the build alternatives and other developments would also contribute to cumulative effects on jurisdictional waters in the region.

Each build alternative would also require coverage under Nationwide Permits from the U.S. Army Corps of Engineers (Project Standard Feature **PF WQ-2**), a CWA Section 401 water quality certification from the RWQCB (Project Standard Feature **PF WQ-1**), and a Lake and Streambed Alteration Agreement. Implementation of the measures identified in Sections 3.17 and 3.18 would ensure that potential direct and indirect effects are reduced to the maximum extent practicable. In addition, Mitigation Measure **WET-1** would fully replace all federal and state jurisdictional waters, including addressing the temporal loss of these resources. Other projects in the region would be subject to similar permitting, avoidance, minimization, and mitigation requirements for affected jurisdictional waters, and each project would be required to

replace affected wetlands and nonwetland waters. Therefore, the effects from the proposed project are not expected to require additional mitigation for cumulative impacts.

3.25.3.16 Plant Species

The RSA for plant species consists of western Riverside County and includes the WRC MSHCP area. The WRC MSHCP is a comprehensive regional conservation plan that preserves habitat for plants and covered species and mitigates for cumulative impacts on these habitats and covered species. In addition, species not covered under the WRC MSHCP benefit greatly from the plan, as they occur within similar sensitive habitats and natural vegetation communities. Covered projects under the WRC MSHCP are required to conduct focused studies within Narrow Endemic Plant Survey Areas (WRC MSHCP Volume I, Section 6.3.2) and Criteria Area Species Survey Area (WRC MSHCP Volume I, Section 6.1.3) for specific species. No Narrow Endemic or Criteria Area species were found within their respective survey areas.

Small-flowered morning glory, Palmer's grapplinghook, Parry's spineflower, and long-spined spineflower are the fully covered WRC MSHCP species detected during focused studies. Smooth tarplant and round-leaved filaree were found outside of the Criteria Area; therefore, they are also fully covered under the WRC MSHCP. Measures **NC-2 (NES BIO-2)** through **NC-13 (NES BIO-9)** identified in Section 3.17.4 are required under the WRC MSHCP, and would avoid and minimize impacts on sensitive habitats for special-status species. Projects like Mid County Parkway would also contribute to the incremental loss of areas of long-term conservation value for species like smooth tarplant (2.73 acres). Because the WRC MSHCP provides for conservation of these fully covered species, and other projects within the region would also be required to implement WRC MSHCP conservation measures, the build alternatives would not have a cumulative impact on WRC MSHCP covered plant species.

Sensitive plant species that are not covered WRC MSHCP species, such as paniculate tarplant, will also benefit from the conservation provided by the WRC MSHCP and measures described above. Under Build Alternatives 1 and 2C, a few individuals of paniculate tarplant along the existing roadway would be affected by the project. Measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)** in Section 3.17.4 and conservation of LM MSHCP lands adjacent to Build Alternatives 1 and 2C would ensure that there are no cumulative effects on paniculate tarplant. Under Build Alternative 4, the new roadway would bisect a large population of several thousand individuals west of Harley John Road. In addition to implementation of measures **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)**, prior to construction, seeds would be collected (**PL-1**) for future dissemination. In addition, the population occurs within an existing conservation area, which will require full replacement under **NC-17 (NES BIO-17)** and **NC-20 (NES BIO-21)** (Section 3.17.4). Because paniculate tarplant is still relatively common in the RSA, and with implementation of the avoidance, minimization, and mitigation measures identified above, the impacts on paniculate tarplant from Build Alternative 4 would not be cumulatively considerable.

3.25.3.17 Threatened and Endangered Species

The RSA for threatened and endangered species consists of the boundaries of the WRC MSHCP. Four threatened and endangered species were evaluated fully in Section 3.21, *Threatened and*

Endangered Species: arroyo toad, coastal California gnatcatcher, least Bell's vireo, and SKR. The evaluation of cumulative effects on these species is provided below.

Arroyo Toad

The build alternatives do not occur within the WRC MSHCP Survey Area for arroyo toad; therefore, focused studies for this species are not required. However, due to the presence of suitable habitat, potential impacts on arroyo toad by the build alternatives could occur if the species is present. Because the build alternatives occur outside of the WRC MSHCP Survey Area, any potential impacts on this species are fully covered under the WRC MSHCP. The WRC MSHCP provides the mitigation mechanism for covered activities and addresses the cumulative effects on this resource. Implementation of measures **NC-2 (NES BIO-2)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)**, and **AS-7 (NES BIO-20)** would reduce potential effects on arroyo toad. No additional measures are necessary for cumulative effects.

Coastal California Gnatcatcher

The build alternatives would permanently remove suitable habitat for coastal California gnatcatcher (refer to Section 3.21, *Threatened and Endangered Species*, for a full description). This includes 67.09 acres under Build Alternative 1, 76.21 acres under Build Alternative 2C, and 88.40 acres under Build Alternative 4 (refer to Table 3.21-5). Impacts on suitable habitat may incrementally contribute to cumulative loss of habitat. The species is fully covered under the WRC MSHCP and cumulative effects on coastal California gnatcatcher have been addressed in the WRC MSHCP. The majority of suitable habitat that would be directly affected by the proposed project occurs adjacent to areas that will be conserved. Roadbed removal areas will be revegetated with native vegetation that may provide suitable habitat for coastal California gnatcatcher. Covered activities, including the proposed project, within the Criteria Area require avoidance of vegetation clearing during the breeding season (**NC-1 [NES BIO-1]**). Measures **NC-2 (NES BIO-2)** through **NC-10 (NES BIO-10)**, **NC-13 (NES BIO-9)** (Section 3.17.4), and **AS-2** (Section 3.20.4) would also protect potential habitat in the conservation area for coastal California gnatcatcher in the vicinity of the limits of disturbance for Build Alternatives 1, 2C, and 4 and ensure compliance with the WRC MSHCP. Although it is a covered species under the WRC MSHCP, Measures **AS-3 (NES BIO-28)** and **AS-5 (NES BIO-27)** would address potential direct impacts on nesting coastal California gnatcatcher. Other projects within the RSA would also need to address potential effects on coastal California gnatcatcher and mitigate impacts on a project-by-project basis. Because the cumulative effects on coastal California gnatcatcher have been addressed in the WRC MSHCP, no additional mitigation by the proposed project is required.

Least Bell's Vireo

The proposed project would permanently affect 7.85 acres of suitable habitat under Build Alternative 1, 6.43 acres under Build Alternative 2C, and 5.75 acres under Build Alternative 4. In addition, approximately 18 individuals would be directly affected under Build Alternatives 1 and 2C, and 17 individuals would be directly affected under Build Alternative 4. The majority of impacts on least Bell's vireo would occur during construction of the proposed project in the form of direct removal of habitat, lighting, noise, vibrations, and degradation of riparian habitat

adjacent to the right of way. In addition, if the species is present during vegetation clearing, there is a potential for direct mortality or injury during the nesting season. Refer to Section 3.21 for a full description of impacts on least Bell's vireo. Least Bell's vireo and suitable habitat for this species are rapidly declining within the RSA, and projects like Mid County Parkway would have impacts on an additional 3.66 acres of least Bell's vireo habitat. These impacts on least Bell's vireo, in conjunction with other projects within the region, may be cumulatively considerable.

The WRC MSHCP requires evaluation of least Bell's vireo in Section 6.1.2 of the plan, including focused studies. The proposed project would affect least Bell's vireo and riparian/riverine habitat (discussed in Section 3.17, *Natural Communities*); therefore, a DBESP would be prepared and provide the mitigation plan for the direct effects on least Bell's vireo and its habitat, including the temporal loss of habitat. Implementation of avoidance, minimization, and mitigation measures **NC-1 (NES BIO-1)** through **NC-15 (NES BIO-14)**, **NC-20 (NES BIO-21)**, **TE-1 (NES BIO-18)**, **TE-2 (NES BIO-23)**, **AS-2 (NES BIO-16)**, **AS-3 (NES BIO-28)**, and **AS-5 (NES BIO-27)** would ensure there is no direct mortality of individuals and address replacement and restoration of suitable habitat for the species within the region. Other projects within the RSA will also be required to address potential take of least Bell's vireo and mitigate for such loss, including temporal loss of suitable habitat. Therefore, the project would not substantially contribute to a cumulatively considerable impact on least Bell's vireo.

Stephens' Kangaroo Rat

Habitat that is suitable and/or occupied by SKR would be permanently affected during project construction, including 125.29 acres under Build Alternative 1, 116.53 acres under Build Alternative 2C, and 63.11 acres under Build Alternative 4. In addition, temporary impacts on suitable habitat would occur during construction of the proposed project and may also directly affect SKR. The potential direct effects on SKR from construction activities could cause direct mortality, injury, or harassment of SKR. Refer to Section 3.21 for a full description of impacts on SKR. Due to the species coverage under the WRC MSHCP, cumulative effects on the species outside of the Core Reserve were already evaluated during development of the plan, and suitable habitat outside of the Core Reserve would not require replacement. Roadbed removal areas would be revegetated with native vegetation that may provide suitable habitat for SKR in the future and provide a benefit to the species.

Each of the build alternatives would also directly affect conserved lands that have been dedicated as Core Reserves for SKR by the WRC MSHCP and SKR HCP. These SKR Core Reserves (within the Lake Mathew Reserve and RCHCA SKR Reserve) consist of conserved areas that are dedicated to/described for SKR conservation, areas conserved for the benefit of the species, and areas described for conservation for the benefit of SKR. Impacts on the SKR Core Reserve may be cumulatively considerable for SKR. However, the WRC MSHCP provides full coverage for take of SKR. As mentioned above, cumulative effects on this species were also addressed in the WRC MSHCP for covered projects, and other projects would be required to address impacts on a project-by-project basis. In addition, implementation of **NC-2 (NES BIO-2)** through **NC-9 (NES BIO-24)**, **NC-13 (NES BIO-9)**, **AS-3 (NES BIO-28)**, **AS-6 (NES BIO-29)**, and **TE-3 (NES BIO-30)** would reduce potential effects on SKR during construction. Affected SKR habitat on the Core Reserve would be required to be fully replaced (**NC-20 [NES BIO-21]**) to ensure consistency with the WRC MSHCP and SKR HCP. In addition, the proposed project will

incorporate wildlife crossings and modified culverts into the project design that with the implementation of **NC-16 (NES BIO-19)** will accommodate safer wildlife movement (including for SKR) within conservation lands. Because the SKR Core Reserve would be fully replaced, and avoidance and minimization measures would be implemented to reduce the direct effects on SKR, the proposed project is not expected to make a cumulative contribution to impacts on SKR.

3.25.3.18 Animal Species

The RSA for non-listed special-status animal species consists of the boundaries of the WRC MSHCP. These species are evaluated fully in Section 3.20, *Animal Species*, of this EIR/EIS. Cumulative effects on non-listed special-status animals may be cumulatively considerable. Further details for non-listed special-status animals are discussed below.

Burrowing Owl

The majority of proposed project occurs within the WRC MSHCP Burrowing Owl Survey Area. Covered activities, such as the proposed project, are required to perform focused studies within suitable habitat in the Survey Area in order to be in compliance with the plan. If the species is found within the Burrowing Owl Survey Area, affected lands must be evaluated to determine whether there is long-term conservation value. One wintering individual was documented during focused studies for the proposed project. No evaluation of the few areas that occur outside of the WRC MSHCP Burrowing Owl Survey Area are required under the plan. Because the proposed project is a covered activity, any potential cumulative effects outside of the WRC MSHCP Burrowing Owl Survey Area were already evaluated during development of the plan. The permanent loss of suitable habitat (211.11 acres under Build Alternative 1, 226.96 acres under Build Alternative 2C, and 201.28 acres under Build Alternative 4), in conjunction with other planned projects in the regional vicinity (i.e., Mid County Parkway would have impacts on 3.1 acres of suitable burrowing owl habitat), may make a cumulatively considerable contribution to the regional decline of the species. This is primarily due to loss of suitable habitat including lands that can be used for foraging and nesting.

Although the build alternatives would directly remove potential habitat for the species, the WRC MSHCP evaluated loss of burrowing owl habitat throughout the RSA. Conserved lands within the RSA that also contribute to the conservation of burrowing owl would be permanently affected, which also may make a cumulative contribution to decline of this species. Measures **AS-1 (NES BIO-25)** through **AS-3 (NES BIO-28)** in Section 3.20.4 and **NC-1 (NES BIO-1)** through **NC-9 (NES BIO-24)** in Section 3.17.4 would ensure there is no mortality or direct effects on burrowing owl. Measure **NC-20 (NES BIO-21)** (Section 3.14.4) is being implemented to replace conservation lands to provide suitable habitat for burrowing owl, thereby addressing this potential cumulative effect on habitat loss for the species. Implementation of the measures identified above, in conjunction with the proposed project's consistency with WRC MSHCP, and implementation of other similar measures by other development and transportation projects, would ensure the effects on burrowing owl are not cumulatively considerable.

Special-status Bat Species

The RSA provides suitable roosting and foraging habitat for both special-status and non-special-status bat species. Seven bat species were documented during biological studies. Due to the rapid

decline of bat populations within the RSA from human development, increased predation, and disease, additional potential loss of roosting or suitable habitat may be cumulatively considerable. The proposed build alternatives are not anticipated to have a direct effect on roost sites, as all potential sites occur outside of the impact area. Measures **AS-2 (NES BIO-16)** and **AS-4 (NES BIO-26)** (Section 3.20.4) as well as **NC-2 (NES BIO-2)** through **NC-8 (NES BIO-8)**, **NC-10 (NES BIO-10),** and **NC-13 (NES BIO-9)** (Section 3.17.4) would be implemented to avoid/minimize potential indirect effects. With the implementation of these and other similar measures required by other development and transportation projects, the proposed project is not expected to contribute to cumulative effects on bat species.

Non-WRC MSHCP Species

There are 13 non-listed special-status species that could potentially be affected by the proposed project (as described in Section 3.20, *Animal Species*). These species are not afforded coverage under the WRC MSHCP. The proposed project may incrementally increase the risk of mortality during construction and to individuals crossing the roadway during operation of the project.

The potential impacts on non-listed special-status species that are not already covered under the WRC MSHCP, in conjunction with other cumulative projects in the RSA, may contribute to cumulative effects on these 13 species. However, implementation of measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** (Section 3.17.4), **AS-3 (NES BIO-28)**, **AS-5 (NES BIO-27)**, and **AS-7 (NES BIO-20)** (identified in Section 3.20.4) are intended to avoid and/or minimize potential direct and indirect impacts on special-status animals and their suitable habitat. In addition, **TE-1 (NES BIO-18)** (identified in Section 3.21.4), which would be implemented for other listed species, would also reduce potential noise effects on non-listed special-status animals.

WRC MSHCP Fully Covered Species

There are 32 non-listed special status animal species that are fully covered under the WRC MSHCP and that potentially occur in the RSA. These species do not require additional study at the species level. Although all of these species are covered under the WRC MSHCP, the bird species and their active nests are protected under the Migratory Bird Treaty Act and California Fish and Game Code. Most of these species are relatively common throughout western Riverside County and the number of individuals that may be affected by the proposed project is expected to be low. The 32 fully covered WRC MSHCP species are described in Section 3.20.2.4. Therefore, implementation of the build alternatives would not make a cumulatively considerable contribution to the regional decline of any of these species. In addition, cumulative impacts on these species were evaluated for covered activities during the development of the WRC MSHCP.

In order to comply with the WRC MSHCP and ensure the proposed project does not contribute to cumulative effects on WRC MSHCP fully covered species, the County, as a permittee, is required to implement measures identified in WRC MSHCP Volume I, Section 7.5.2 and Appendix C. Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** identified in Section 3.17.4 coincide with these WRC MSHCP requirements. In addition, **AS-2 (NES BIO-16)** through **AS-5 (NES BIO-27)** and **AS-7 (NES BIO-20)** (Section 3.17.4) would ensure any construction-related effects on non-listed special-status species are avoided and/or minimized). In addition, measure **TE-3 (NES BIO-30)** (Section 3.21.4) would replace habitat for a listed

species that would also directly benefit WRC MSHCP fully covered species. With the implementation of these and other similar measures required by other development and transportation projects, the proposed project is not expected to contribute to cumulative effects on WRC MSHCP fully covered species. No additional measures to address cumulative effects on WRC MSHCP covered species are necessary.

3.25.3.19 Paleontological Resources

The RSA for paleontological resources is within the extreme northern portion of the Peninsular Ranges Geomorphic Province, near the boundary with the Transverse Ranges Province to the north. The majority of the Peninsular Ranges Province is characterized by Mesozoic- to Paleozoic-age granitic and metamorphic bedrock and includes the Perris Block and Elsinore Trough. According to the results of the record search, four fossil localities were found within the Lake Mathews Formation traversed by Alternatives 1 and 2C, south of Lake Mathews. These localities could be within or are in close proximity to the two alignments. These sites were found to contain the bones, teeth, and fragments of large mammals, including camel, oredont, and felid; small mammals; and a tapir dentition. One fossil locality, located just east of the El Sobrante Road and Cajalco Road intersection, was found in Late Pleistocene alluvium, in an area traversed by all build alternatives. The site contained the ulna of a horse. The abundance of fossils previously found in this general area and their proximity to the project suggest the high paleontological sensitivity of the region. The geologic units within the project study area that have high sensitivity include the Silverado Formation, Topanga Formation, Lake Mathews Formation, Puente Formation, Fernando Formation, and late Pliocene to Pleistocene deposits. The Lake Mathews Formation and Late Pleistocene deposits, which are both sensitive for paleontological resources, are within the LM MSHCP area. Several fossil localities have been found in portions of the Lake Mathews Formation and Late Pleistocene deposits within the LM MSHCP area and within or immediately adjacent to the build alternative alignments.

Paleontological resources are, in general, always undergoing the effects of weathering, tectonic activity, and other formation processes that put their integrity in a natural gradual state of decline over very large periods of time. Because paleontological resources are site-specific in nature, the County would implement a Paleontological Mitigation Plan that will require monitoring and collecting resources to minimize adverse impacts in the event construction activities uncover any paleontological resources, as further described in Mitigation Measure **PAL-1**. With implementation of monitoring and collection measures, the project would not substantially contribute to cumulatively adverse impacts on paleontological resources.

3.25.3.20 Cultural Resources

Under both CEQA and NEPA, cumulative impacts refer to the indirect and direct cumulative effects on cultural resources for the current project coupled with past, future, and other current projects in or near a project area. Direct effects are those caused by the project, while indirect effects on cultural resources can include noise, vibration, disturbance to setting, added foot traffic, looting, and vandalism as a result of increased accessibility to a resource by the public as a result of the project. Additionally, resources can be affected by processes such as erosion that has been exacerbated by the current project or due to the cumulative effects of other projects. Mitigation of project effects will not be fully determined until a preferred alternative is selected

and a Memorandum of Agreement has been developed and agreed upon between Caltrans and consulting parties.

As discussed in Section 3.25.1, the study area includes a number of development and transportation projects in the vicinity of the proposed project APE. The Historic Property Survey Report (HPSR) reports a total of 17 archaeological resources identified within the APE of the proposed project, either through past surveys or as part of the proposed project. As a result of field surveys and resource evaluations, three sites were combined into a single site and nine sites (including the combined site) were subsumed into a newly defined Potential Prehistoric Archaeological District (PPAD), resulting in 15 archaeological resources. Of these 15 prehistoric and historic-aged archaeological resources identified in the proposed project APE, three are "historic resources/historic properties," individually eligible for inclusion in the National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR) and one is individually eligible as a contributor to a larger archaeological site. Additionally, Caltrans has made an assumption of eligibility of inclusion in the NRHP/CRHR for one archaeological resource, the Mead Valley PPAD, with the nine prehistoric archaeological sites in the APE contributing elements of the PPAD, for the purposes of this project only. As a result of consultation between Caltrans on behalf of FHWA and the Pechanga Band of Luiseño Mission Indians, three traditional cultural properties (TCPs) were identified. For the purposes of the project, Caltrans has assumed NRHP eligibility for the three TCPs. As a result of the cultural resources study, there are 13 historic properties. These 13 resources were analyzed for the purposes of cumulative impacts analysis. Cumulative analysis was not undertaken on the five historic period archaeological resources and nine built-environment resources evaluated as not eligible for the NRHP or CRHR. The archaeological sites and TCPs identified, and the build alternatives that they are located within, are presented in Table 3.25-2.

Table 3.25-2. Historic Properties within the Project APE

Site Number	Age	Description	NRHP Status	Site Located within APE (Alternative)		
				1	2C	4
Mead Valley Potential Prehistoric Archaeological District including contributing elements: CA-RIV-2263, -2264, and -4444 (combined site CA-RIV-2263); CA-RIV-4403; CA-RIV-4407; CA-RIV-4408; CA-RIV-4409; CA-RIV-4454; 33-13791/ CA-RIV-7843, Locus 816; 33-13791/ CA-RIV-7843, Locus 817; and CA-RIV-012623	Prehistoric	Bedrock milling stations, lithic scatter within an as-yet undefined larger boundary inclusive of additional likely similar sites outside of the APE	PPAD assumed eligible under Criteria A/1, B/2, C/3, and D/4; Caltrans' Cultural Studies Office (CSO) approved assumption of eligibility 7/7/2020. NRHP status for contributing elements described for each qualifying site, below.	✓	✓	✓
Combined site of CA-RIV-2263; CA-RIV-2264; CA-RIV-4444	Prehistoric	Bedrock milling station, lithic scatter, and reported petroglyph	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 07/7/2020).	✓	✓	
CA-RIV-4403	Prehistoric	Bedrock milling station	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4407	Prehistoric	Bedrock milling station and lithic scatter	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓

Site Number	Age	Description	NRHP Status	Site Located within APE (Alternative)		
				1	2C	4
CA-RIV-4408	Prehistoric	Bedrock milling station and lithic scatter	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4409	Prehistoric	Bedrock milling station	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).			✓
CA-RIV-4454	Prehistoric	Artifact scatter	Not eligible for the NRHP/CRHR under any criteria individually; assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	
33-13791/CA-RIV-7843, Locus 816	Prehistoric	Habitation site, midden, milling features, and cupule rock	Eligible for listing in the NRHP/CRHR under Criteria A/1, C/3, and D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	✓	✓	✓
33-13791/CA-RIV-7843, Locus 817	Prehistoric	Prehistoric milling station and artifact scatter	Not eligible for listing in the NRHP or CRHR individually (SHPO concurrence 2/10/2021). Assumed eligible for listing as a locus of CA-RIV-7843 under Criteria D/4 (CSO approval 7/7/2020).	✓	✓	✓
CA-RIV-012623	Prehistoric	Artifact scatter	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/72020).	✓	✓	✓
Traditional Cultural Properties - *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik*	N/A	Traditional cultural properties encompassing a vast geographical area	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2021).	✓	✓	✓

Past projects have resulted in cumulatively significant impacts on cultural resources throughout Riverside County because of physical demolition, destruction, relocation, or alteration of historical and archaeological resources and their setting. In order to proactively protect and consider the potential for impacts on historical and archaeological resources, federal, state, and local regulations have been created, including Public Resources Code (PRC) Section 5097; California Penal Code, Section 622; the Mills Act; California Health and Safety Code, Section 18950–18961; and the Secretary of the Interior's Standards for Rehabilitation and Standards for the Treatment of Historic Properties; future projects would be required to comply with these regulations, which would contribute to a reduction in cumulative impacts on archaeological and historical resources.

Archaeological Resources and Traditional Cultural Properties

Mead Valley Potential Prehistoric Archaeological District

The Mead Valley PPAD includes nine sites (CA-RIV-2263 [combined site MR 2]; CA-RIV-4403, -4407, -4408, and -4409; CA-RIV-4454; CA-RIV-7843 (Loci 816 and 817); and CA-RIV-012623, as contributing elements) and their previously recorded features and boundaries within the project APE, as well as a yet-undefined boundary and larger number of sites not within the project APE. The boundary for the Mead Valley PPAD is potentially much larger and inclusive of many other sites that are geographically and morphologically similar. For the purposes of this project only, Caltrans assumes the PPAD is eligible for the NRHP and CRHR under Criteria A/1, B/2, C/3, and D/4. Sites CA-RIV-4403, 4407, -4408, and -4409, and Locus 817 of CA-RIV-7843, are individually ineligible for inclusion in the NRHP or CRHR by Caltrans; however, they are eligible as contributors to the PPAD under Criterion D/4 (Vargas and Bryne 2020). Sites CA-RIV-2263, Locus 816 of CA-RIV-7843, and CA-RIV-012623 are considered eligible for listing in the NRHP both individually and as contributing elements to the PPAD. For the purposes of the project and the evaluation of effects related to the project, the acreage approximation for the PPAD is 30,263 acres.

Under any of the build alternatives, construction activities would occur within the Mead Valley PPAD, impacting the PPAD and contributing elements. Build Alternatives 1 and 2C would directly affect 336 acres (1.11 percent) and 501 acres (1.65 percent) of the Mead Valley PPAD, respectively. Build Alternative 4 would directly affect a total of 309 acres (1.02 percent) of the Mead Valley PPAD. Build Alternatives 1 and 2C would not directly affect four of contributing elements of the PPAD within the APE (CA-RIV-4403, -4407, -4408, and -4409), but they would directly affect the remaining five. Build Alternative 4 would not directly affect two of contributing elements of the PPAD within the APE (CA-RIV-2263 and CA-RIV-4454), but it would directly affect the remaining seven.

In addition to direct impacts from construction activities, remaining portions of the PPAD are likely to be affected by indirect impacts from both this project and others such as the Van Buren Boulevard and Little Court (16) and the 117.7-acre Residential Subdivision (17), which could lead to additional vehicular traffic thus creating additional indirect impacts such as those described above. Indirect impacts on the remainders of sites may include potential exposure to additional pedestrian traffic, noise and vibration from additional and new vehicular traffic, and

an overall loss of setting. As such, there will be cumulative adverse impacts on the Mead Valley PPAD as a result of Build Alternatives 1, 2C, or 4.

Combined Site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444

CA-RIV-2263, -2264, and -4444 were initially recorded as individual archaeological sites but combined into a single site after field surveys and resource evaluation. The combined site is eligible for listing in the NRHP/CRHR under Criterion D/4. Excavations at all three sites demonstrated only minor amounts of disturbance through the presence of some introduced historic and modern materials such as bullet casings and fragments of glass.

Significant portions of the combined site of CA-RIV-2263, -2264, and -4444 would be directly affected by Build Alternatives 1 and 2C. Construction of either of these alternatives could result in destruction of portions of the site, including all three loci and newly added areas. Because there is a buried component to the site that is not fully mapped, it is likely that unknown buried components of the site would be directly affected. It is also assumed that increased traffic and the addition of a new route in Build Alternative 2C could cause indirect impacts on the portions of the site that will not be directly affected. Indirect impacts would be realized through potential exposure to additional noise and vibration from additional and new vehicular traffic, and a loss of setting. None of the other regional projects identified in Table 3.25-1 appear to intersect this combined site directly, but developments such as the Arantine Hills Specific Plan (4) and the 117.7-Acre Residential Subdivision (17) could lead to additional vehicular traffic, therefore creating additional indirect impacts such as those described above. As such, there will be cumulative adverse impacts on the combined site of CA-RIV-2263, -2264, and -4444 as a result of Build Alternatives 1 and 2C, and a cumulative impact on the Mead Valley PPAD.

CA-RIV-4403, -4407, -4408, and -4409

Due to the proximity of sites CA-RIV-4403, -4407, -4408, and -4409 within the project APE, the potential for cumulative adverse impacts on the four sites is addressed collectively. Under Build Alternatives 1 and 2C, no construction activities or other disturbance would occur, including indirect effects; therefore, no impacts that would contribute to cumulative effects would be anticipated. Under Build Alternative 4, construction activities would physically destroy parts of sites CA-RIV-4403, -4407, -4408, -4409, resulting in the removal of resources from their context. As these sites are contributing elements to the Mead Valley PPAD, impacts from Build Alternative 4 would contribute to an overall cumulative impact on the PPAD.

CA-RIV-4454

Under Build Alternatives 1 and 2C, construction activities would result in the physical removal of the majority of the artifact scatter at CA-RIV-4454. The impacts would result in the removal of resources from their context. As this site is a contributing element to the Mead Valley PPAD, impacts from Build Alternatives 1 and 2C would contribute to an overall cumulative impact on the PPAD. Under Build Alternative 4, no construction activities or other disturbance would occur, including indirect effects; therefore, no impacts that would contribute to cumulative effects would be anticipated.

CA-RIV-7843 (Loci 816 and 817)

CA-RIV-7843 is a prehistoric village complex covering an approximately 3.5-square-kilometer area. As a locus of the larger site CA-RIV-7843 (presumed eligible for inclusion in the NRHP and CRHR), Locus 816 is eligible for the NRHP/CRHR individually under Criteria A/1, C/3, and D/4, and as a contributing element of CA-RIV-7843, Mead Valley PPAD, and the three TCPs. Locus 817 is individually ineligible for listing in the NRHP or CRHR, but it is eligible as a contributing element of CA-RIV-7843, Mead Valley PPAD, and the three TCPs under Criterion D/4 (Vargas and Bryne 2020).

Build Alternatives 1, 2C, and 4 would directly affect 2.16 acres of the 3.1-acre Locus 816 and 0.65 acre of Locus 817. Residential properties and Cajalco Road are immediately adjacent to the loci, and have most likely affected the site to some degree. While the loci retain integrity of location, their integrity of setting has been impaired substantially through the loss of materials and loss of the traditional viewshed with the introduction of paved roads and the construction of houses.

CA-RIV-7843 (including Loci 816 and 817) has been affected by agricultural activities for many years, and has likely been subject to impacts from pedestrian foot traffic, vandalism, and looting. Impacts related to the proposed project at CA-RIV-816 and -817 would contribute to the overall cumulative impacts on site CA-RIV-7843. Three regional projects (Van Buren Boulevard and Little Court [16], the 117.7-Acre Residential Subdivision [17], and the 18-Hole Golf Course [18]) will likely also contribute indirect impacts on the larger site. Indirect impacts from these projects could include increased vehicular traffic and increased exposure to pedestrian traffic, which in turn could lead to impacts from noise, vibration, loss of integrity to setting, vandalism, looting, and inundation with roadside refuse. Considering the indirect impacts from other proposed projects and the continued impacts of agricultural activities, the impacts from this project would contribute to an overall cumulative impact on CA-RIV-7843 and the Mead Valley PPAD.

CA-RIV-012623

Archaeological testing was not conducted at CA-RIV-012623, and, therefore, it is unknown whether a subsurface component exists, although soil conditions at the site indicate the potential for buried cultural deposits. CA-RIV-012623 is eligible for inclusion in the NRHP and CRHR under Criterion D/4. CA-RIV-012623 shows moderate signs of disturbance from the earlier construction of existing Cajalco Road and associated brush clearing and grading, and nearby residential development. The site retains integrity of location and impaired integrity of setting through likely disturbance and loss of archaeological materials and loss of the traditional viewshed with the introduction of paved roads and the construction of houses nearby. Build Alternatives 1 and 2C would directly affect 0.17 acre, and Build Alternative 4 would directly affect 0.00008 acre, of the 0.17-acre CA-RIV-012623. No regional projects would directly affect the site. The direct impacts from the proposed project coupled with the indirect impacts of nearby regional projects indicate that construction activities associated with Alternatives 1, 2C, and 4 would constitute a cumulative impact on the site as whole and the Mead Valley PPAD.

Traditional Cultural Properties of *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*

Through consultation between Caltrans on behalf of FHWA and the Pechanga Band of Luiseño Indians, three TCPs were identified in the APE and APE vicinity. The three TCPs are *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*. Together, these TCPs compose an expansive, overlapping geographic area that includes the APE and all the project alternatives. For the purposes of the project and the evaluation of effects related to the project, the acreage approximation for the combined TCPs is 28,531 acres. The TCPs share common uses and locations of religious and cultural importance, embodied by their position as a regional resource gathering area, a regional hub along a travel and trade route, and an expression of tribal values concerning the tribe's present-day cultural values as expressed in the Creation account. Based on the information provided by the tribe (Woodward et al. 2019; DuBois 2020) and consideration of the eligibility criteria in light of guidelines for evaluating TCPs (NPS 1997), Caltrans assumes the TCPs of *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik* are eligible for the NRHP and CRHR under Criteria A1, B/2, C/3, and D/4 for the purposes of this project only.

Cumulative impacts of the project on the TCPs are considered in the context of the APE and vicinity, which stretches from Corona to Perris and includes the Lake Mathews area and Mead Valley. The TCPs are significant for their religious and cultural significance to the Luiseño that are associated with cultural practices, traditions, and beliefs, and embodied in the landscape. Although the outer boundaries of the TCPs are not known, changes to the location, setting, and visual character of the TCPs resulting from the project and other past and planned future projects are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Build Alternative 1 would directly affect 390.2 acres (1.37 percent), Build Alternative 2C would directly affect 399.2 acres (1.40 percent), and Build Alternative 4 would directly affect 395.9 acres (1.39 percent) of the combined TCPs delineated in the vicinity of the project. Additionally, even though ground-disturbing activities associated with development would affect individual components of the TCPs, their loss would not be a cumulative impact on the landscape and intangible cultural values held by the Luiseño people caused by any project alternative and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs. Therefore, with respect to the TCPs, the impacts from this project would not contribute to an overall cumulative impact.

Mitigation

All 10 archaeological historic properties within the proposed project APE would be affected either directly through construction activities or indirectly because of additional vehicular and pedestrian traffic. Other regional projects will also contribute indirect impacts on the sites within the project APE, which would constitute a cumulative impact on these sites as a result of this project. It is assumed that mitigation will be necessary for sites determined (with State Historic Preservation Officer [SHPO] concurrence) to be eligible for inclusion in the NRHP and CRHR. Avoidance and preservation in place is the preferred measure for historic properties and/or historical resources; however, specific mitigation measures will be developed for all historic properties affected by the project through development of a Memorandum of Agreement (MOA). The MOA will be developed for all historic properties that will be affected by the project, and it will include mitigation measures and treatment for historic properties. The Native American

tribes that have been involved in consultation for the project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS. The MOA will stipulate the responsibilities of the FHWA, SHPO, Caltrans (as assigned by FHWA), Riverside County Transportation Department, and the Advisory Council on Historic Preservation (if it chooses to participate) on measures that will be taken to avoid, minimize, or mitigate the effects of the undertaking on historic properties.

The MOA will specify procedures for the protection, treatment, recovery, and disposition of any human remains and burial associated goods, in accordance with federal and state law. Recovery, treatment, and disposition of any artifacts found would also be provided for in the Discovery and Monitoring Plan. Unanticipated discovery of archaeological resources or human remains constitutes a cumulative impact, as construction activities could lead to their damage and/or destruction. Measures for treatment of unanticipated archaeological discoveries and/or human remains are presented as Standard Project Measures **PF CR-1** and **PF CR-2** in Section 3.8, *Cultural Resources*.

For sites that would be adversely affected, mitigation measures that might be included in the MOA include development of an archaeological treatment plan, data recovery, and development of protective measures for individual elements of sites or sites as a whole. Protective measures could also include alternative construction techniques. The archaeological treatment plan would define the elements of data recovery, including methods of investigation, a research design, and guidelines for the treatment and disposition of materials recovered during data recovery. Data recovery methods generally involve some form of excavation, recovery of artifacts, laboratory analysis, more detailed archival research, and reporting. Generally, a phased approach is enacted that includes surface collection, artifact mapping, excavation, laboratory processing, artifact/ecofact analysis, processing of special samples, consultation with interested parties, curation, reporting, and repatriation (if necessary). Alternative construction measures to assist in the lessening of such effects as vibration could include cast-in-drilled-hole piles or shallow-spread footings for bridge construction. Protective measures for individual elements of archaeological sites could include stabilization measures, burial or covering of such features, the use of protective measures such as fencing, design of alternative routes for equipment, the use of rubber tired vehicles, and other measures to be determined.

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Chapter 4. California Environmental Quality Act Evaluation

4.1 Determining Significance under CEQA

The project is subject to federal, as well as County of Riverside (County) and state environmental review requirements because the County proposes the use of federal funds from the Federal Highway Administration (FHWA) and/or the project requires an approval from FHWA. Project documentation, therefore, has been prepared in compliance with both the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The County is the project proponent and the lead agency under CEQA. 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.

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

CEQA, on the other hand, does require the County 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.

4.2 CEQA Environmental Checklist

This checklist identifies physical, biological, social, and economic factors that might be affected by the proposed project. In many cases, background studies performed in connection with the projects will indicate that there are no impacts to a particular resource. A NO IMPACT answer in the last column reflects this determination. The words "significant" and "significance" used throughout the following checklist are related to CEQA, not NEPA, impacts. The questions in this form are intended to encourage the thoughtful assessment of impacts and do not represent thresholds of significance.

Project features, which can include both design elements of the project, and standardized measures that are applied to all or most Caltrans projects such as Best Management Practices (BMPs) and measures included in the Standard Plans and Specifications or as Standard Special Provisions, are considered to be an integral part of the project and have been considered prior to any significance determinations documented below; see Chapter 2, *Project Alternatives*, and Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, Mitigation Measures*, for a detailed discussion of these features. The annotations to this checklist are summaries of information contained in Chapter 3 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 3. This checklist incorporates by reference the information contained in Chapters 2 and 3.

The significance of the potential impacts of Build Alternatives 1, 2C, and 4 under CEQA has been assessed based on the 2019 CEQA Environmental Checklist and the analyses of project impacts discussed in detail in Chapter 3. The potential impacts of the build alternatives, including the identification of their levels of significance under CEQA, are summarized in the following sections. Each section includes an impact summary table that reflects the greatest level of significance, or potential impact, anticipated under the most impactful alternative. The impact summary table does not include impact determinations for all alternatives, and in many cases the preferred alternative is expected to have a lesser impact as discussed, where applicable. Potential impacts specific to each project build alternative, including their level of significance under CEQA, are discussed following each impact summary table.

Because the alignments of each build alternative extend through the boundaries of the Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP), Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP), and Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP), and include design elements that are either inconsistent with or that exceed requirements of the current plans, actions that would allow for the LM MSHCP, WRC MSHCP, and SKR HCP to accommodate the proposed project would be required and are therefore included in the analysis of each build alternative, where applicable. The LM MSHCP does not include a prescribed amendment or process to allow changes to the plan in response to public safety and/or access needs, and it involves multiple management areas, managing documents, governing structures, and existing agreements. Therefore, an appropriate discretionary action or actions coordinated between the County and LM MSHCP responsible parties are proposed as part of the project to accommodate the proposed roadway improvements, and these actions may include a new LM MSHCP amendment along with the development of procedures for the amendment.

Modifications to the LM MSHCP and associated agreements, easements, and permits, including the identification of proposed mitigation, require approvals by regulatory and responsible parties, and they are subject to CEQA where such agreements, easements, and permits apply, and to NEPA. Therefore, analyses involving the LM MSHCP are provided under separate headings, *Lake Mathews MSHCP,* in this chapter (Chapter 4 [CEQA]) and in Chapter 3 (NEPA) for each build alternative, as applicable.

This chapter discusses the impacts of Build Alternatives 1, 2C, and 4; for a discussion of the impacts of the No-Build Alternative, refer to Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, Mitigation Measures*.

4.2.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☒	☐	☐	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☐	☒
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☒	☐	☐	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

This section was prepared using information from Section 3.7, *Visual/Aesthetics*, and the *Visual Impact Assessment* technical report prepared for the project (Caltrans 2018a).

4.2.1(a) Have a substantial adverse effect on a scenic vista?

Build Alternatives 1 and 2C

Less than Significant with Mitigation

In the central area of the project, the project alignments of Build Alternatives 1 and 2C travel through open space lands and rolling terrain associated with the LM MSHCP and Lake Mathews Multiple Species Reserve (LMR) areas; the lack of tall vegetation allows for scenic vista views to the surrounding mountains and Lake Mathews. As discussed in Section 3.7, *Visual/Aesthetics*, roadway widening under Build Alternative 1 would require large areas of cut and fill to accommodate the widening and traverse the undeveloped, hilly terrain. The roadway corridor would stand out more in the natural landscape and appear more like a highway than a small rural roadway. This is due to landform alterations that would be required to widen the roadway and slightly realign the corridor. Wildlife exclusion fencing would be visible but would also recede in views due to the color treatment. Under Build Alternative 1, the existing visual character would be altered by more pronounced roadside cuts and degradation of the quality of views from the roadway even though the project would be designed so that slopes appear more natural.

Roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway and associated turn lanes that would be more suburban in nature under Build Alternative 1. However, these changes are not anticipated to affect the quality of views and scenic vistas available from Cajalco Road because views from the roadway would not be greatly altered, as there are no structures proposed that would interfere with scenic vista views and the changes would not degrade the quality of scenic vista views available from the roadway.

Under Build Alternative 2C, impacts on scenic vistas would be similar to those under Build Alternative 1. Build Alternative 2C would also include realignment of a segment of the existing Cajalco Road to vacant LMR reserve lands, south of the existing corridor alignment, resulting in large areas of cut to accommodate the new alignment. Relocating the segment of Cajalco Road would create new vista views from the realigned segment that are likely to be scenic. Furthermore, abandoned portions of Cajalco Road would be removed and restored, creating a more natural look where these roadway segments once were. Besides partial realignment of the corridor under Build Alternative 2C, the most notable change would be the widening of existing segments of Cajalco Road from two to four lanes that would create a roadway that is more suburban than rural in nature. However, these changes are not likely to affect scenic vistas available from this portion of the roadway because the quality of scenic vista views from the roadway would not be greatly altered.

Overall, Build Alternatives 1 and 2C would offer scenic vista views and have views that are consistent with the scenic qualities for which Cajalco Road, La Sierra Avenue, and El Sobrante Road qualified when considered by the County as scenic-eligible roadways. Standard Project Measure **PF VIS-1** and Mitigation Measure **VIS-2** would replace vegetation on affected properties and reduce glare. Standard Project Measure **PF VIS-3**, Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity, is designed to reduce the visual impact of adding noise barriers. Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that project light and glare would not result in adverse visual effects under all build alternatives. The proposed project would include Standard Project Measure **PF VIS-5** for proposed basins and larger drainages to ensure the most natural appearance feasible for the introduced features. **PF VIS-6**, Temescal Creek Bridge Design, specifies that the City of Corona El Cerrito Specific Plan Scenic Corridor Design Standards will be applied in the design and construction of the widened Temescal Creek Bridge. Lastly, **PF VIS-7**, New Bridge Architectural Treatments, such as color or texture, would require aesthetic treatments that are consistent with County design and engineering standards on new bridges. Therefore, permanent visual changes would not result in adverse visual effects on scenic roadways under Build Alternatives 1 and 2C with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Mitigation Measure **VIS-2** (see Section 3.7, *Visual/Aesthetics*, for the full text of these measures). Therefore, impacts would be less than significant with mitigation.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, permanent impacts on viewer groups and visual quality associated with converting the median area to travel lanes would be similar to those described for Build Alternatives 1 and 2C within the Rural Residential, Open Space, and Commercial visual assessment units (VAUs). If the additional lanes are constructed in the future, it is anticipated that impacts would be limited to paving the median to create six lanes and would occur within the already modified roadway corridor and not affect visual resources beyond changing the median area to a paved median and likely installing a safety barrier to separate directional

travelways. Visual changes would be minimal and would not result in a substantial adverse effect on a scenic vista.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant with Mitigation

Under Build Alternatives 1 and 2C, scenic vista views along Cajalco Road occur only within the LM MSHCP plan area; the existing visual character would be altered by more pronounced roadside cuts and degradation of the quality of views from the roadway even though the project would be designed so that slopes appear more natural. The incorporation of Standard Project Measure **VIS-1** and application of Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would ensure that vegetation affected by either build alternative is replaced where appropriate and to the degree possible, helping to maintain the quality of views within the foreground of scenic vista views available from the roadway. Therefore, impacts on scenic vistas within the LMR under Build Alternatives 1 and 2C would be less than significant with mitigation.

Build Alternative 4—El Sobrante Alignment

Potentially Significant Impact

Under Build Alternative 4, scenic vista views are available from Cajalco Road, El Sobrante Road, and La Sierra Avenue. Cajalco Road and small segments of La Sierra Avenue travel through the LM MSHCP plan area and El Sobrante Road borders the LM MSHCP plan area to the north (refer to Figure 1-2). Therefore, impacts on scenic vistas seen from Cajalco Road, El Sobrante Road, and La Sierra Avenue that are discussed herein are the same as those that occur within the LMR, which are addressed below, under *Lake Mathews MSHCP (Build Alternative 4)*. Scenic vista views available from Cajalco Road and El Sobrante Road would not be affected by the proposed widening because the changes would not introduce any structures that would interfere with vista views and would not degrade the quality of views available from the roadway.

Under Build Alternative 4, scenic vista views would not be negatively affected because the proposed project would not introduce features that would block or alter such views. Although views from El Sobrante Road would not be greatly altered, there would be substantial landform alterations along La Sierra Avenue. The large cut slopes and suburban feel of the widened roadway would result in alterations to the visual character and would increase the prominence of roadway infrastructure, which would degrade views associated with the corridor. In addition, under Build Alternative 4, impacts on the MWD Lake Mathews facility would occur because the entrances would be affected by the intersection realignment, as described above, affecting vegetation and fencing. Mitigation Measure **VIS-2** would replace landscape features to the degree possible to reduce the effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor. Lastly, visual changes along El Sobrante Road would not result in adverse visual effects on most scenic vistas under Build Alternative 4 with Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Mitigation Measure **VIS-2** (see Section 3.7, *Visual/Aesthetics*, for the full text of these measures).

However, the widening and realignment of La Sierra Avenue under Build Alternative 4 would require large areas of cut and fill to accommodate the widening and to traverse the undeveloped, hilly terrain that would also require an approximately 1,800-foot-long arch bridge, introducing new bridge infrastructure where none presently exists. The realignment of La Sierra Avenue under Build Alternative 4 would introduce several permanent elements that do not currently exist within that viewshed, including the bridge, paved and widened roadway and shoulder, unpaved median, wildlife corridor fencing, graded roadway shoulders and slopes, and vehicular traffic. This would also remove existing scenic vista views that are available along the current roadway alignment. The realignment is likely to provide new scenic vista views, but they would contain more human-made features than the existing alignment and be more suburban in nature. The arch bridge and smaller roadway bridges proposed west of Lake Mathews would further include architectural treatments consistent with County design standards that would lessen potential visual impacts associated with the introduction of the new structures, to the extent possible. These architectural treatments would be applied under Standard Project Measure **PF VIS-7**, New Bridge Architectural Treatments. However, the removal of existing scenic vista views and the introduction of new structures would be an adverse effect. Therefore, even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Mitigation Measure **VIS-2**, impacts associated with Build Alternative 4 would be potentially significant.

Future Six-Lane Facility (Build Alternative 4)

Less than Significant Impact

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that paving the median to create six lanes would occur within the already modified roadway corridor and would not affect visual resources beyond changing the median area to a paved median and likely installing a safety barrier to separate directional travelways. Visual changes would be minimal and would not result in a substantial adverse effect on a scenic vista.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

As described under Build Alternative 4, above, Cajalco Road and La Sierra Avenue travel through the LM MSHCP plan area and El Sobrante Road borders the LM MSHCP plan area to the north. Scenic vistas along Cajalco Road, El Sobrante Road, and La Sierra Avenue are only available within the LM MSHCP plan area. The application of Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would ensure that vegetation affected by the build alternative is replaced where appropriate and to the degree possible, helping to maintain the quality of views within the foreground of scenic vista views available from the roadway. Permanent visual changes would result in adverse visual effects on scenic roadways under Build Alternative 4 even with implementation of Standard Project Measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**, and Mitigation Measure **VIS-2** (see Section 3.7, *Visual/Aesthetics*, for the full text of these measures). Therefore, impacts on scenic vistas within the LMR under Build Alternative 4 would be significant and unavoidable.

4.2.1(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Build Alternatives 1, 2C, and 4

No Impact

No roadways within or near the project area are designated in federal or state plans as a scenic highway or route for maintaining and enhancing scenic viewsheds (Caltrans 2017a). Interstate 15 (I-15) is an eligible state scenic highway; however, the project's western terminus is approximately 0.3 mile away from the freeway, and views of the project corridor from the freeway are blocked by the interchange berms. Interstate 215 (I-215) is a classified Landscaped Freeway within the project viewshed; the project's eastern terminus connects to the I-215 southbound ramps (Caltrans 2018b). As described in Section 3.7, *Visual/Aesthetics*, portions of Cajalco Road, El Sobrante Road, and La Sierra Avenue are County-eligible scenic corridors that are to be managed in a manner so as to maintain their aesthetic value. The Riverside County General Plan Circulation Element also indicates that Cajalco Road from I-15 to approximately Harley John/Smith Roads, El Sobrante Road, and La Sierra Avenue from El Sobrante Road to Cajalco Road are County-eligible scenic corridors, which are to be managed in a manner so as to maintain their aesthetic value (County of Riverside 2016). Views of state scenic roadways would not be altered by the permanent visual changes associated with the build alternatives, as I-15, which is a state scenic highway, is too far from the build alternatives to be adversely affected. Therefore, there would be no impact and mitigation is not required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that a change from four to six lanes would not greatly affect scenic corridors beyond what has been analyzed for the build alternatives, above. Under all four-lane alternatives, paving the median to create six lanes would occur within the already modified roadway corridor and would not affect visual resources beyond changing the median area to a paved median and likely installing a safety barrier to separate directional travelways. Visual changes would be minimal and would not result in further damage to the state scenic highway, I-15.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that widening from four to six lanes would not affect the state scenic highway, I-15, as it is too far from the potential improvements.

4.2.1(c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Build Alternatives 1 and 2C

Less than Significant with Mitigation

Under Build Alternatives 1 and 2C, Cajalco Road between I-15 and Harley John Road/Smith Road is a County-eligible scenic corridor that is protected for its aesthetic value. A segment of the existing Cajalco Road would be relocated from the Rural Residential VAU to the Open Space VAU.

As discussed in Section 3.7, *Visual/Aesthetics*, roadway widening would require large areas of cut and fill to accommodate the widening and traverse undeveloped, hilly terrain. The roadway corridor would stand out more in the natural landscape and appear more like a highway than a small rural roadway. This is due to landform alterations that would be required to widen the roadway and slightly realign the corridor. This would alter the existing visual character of the scenic corridor by making roadside cuts more pronounced and degrading the quality of views from the roadway even though the project would be designed so that slopes appear more natural. Wildlife exclusion fencing would be visible but would recede in views due to the color treatment.

Roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway and associated turn lanes that is more suburban in nature. However, these changes are not likely to affect the quality of scenic views available from this portion of County-eligible scenic roadway because views from the roadway would not be greatly altered because there are no structures proposed that would interfere with vista views and the changes would not degrade the quality of views available from the roadway. Permanent visual changes would not result in adverse visual effects on County-eligible scenic corridor with implementation of the recommended standard measures (Standard Project measures **PF VIS-1** and **PF VIS-3** through **PF VIS-7**), and Mitigation Measure **VIS-2**.

The majority of the project setting is rural and non-urbanized. As discussed in Section 3.7, *Visual/Aesthetics*, the proposed project would take approximately 4 years to construct, but construction activities would be sporadic, transitory, and short term in nature, and would proceed in segments so that localized impacts would not be concentrated in a given area for a substantial amount of time. Culvert widening and utility relocations would appear similar under all alternatives and would only result in minor visual changes as the modifications are occurring. Therefore, the primary visual changes would result from widening the roadway and installing medians and turn lanes, curbs and gutters, sidewalks along portions of the roadway, stormwater facilities, a bridge over Cajalco Creek, replacement bridge at Temescal Creek, noise barriers, and new street lights and traffic signals at intersections.

The roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway and associated turn lanes that is more suburban in nature and would bring

roadway facilities and traffic closer to roadway neighbors. The majority of the project and its alternatives would widen into vacant lands or residential properties, requiring partial acquisitions and the removal of formal and informal landscaping and site features, including mature trees, small trees, and shrubs. However, incorporation of Standard Project Measure **PF VIS-1**, Contouring and Replanting Disturbed Areas, and Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would address changes in landscaping and site features for affected properties as appropriate and to the degree possible. Roadside grading would have limited areas of cut and fill and would require erosion control measures to vegetate exposed soils. To the extent feasible rock cut slopes shall be irregular where possible for a natural appearance, with rounding of the tops and ends of cut slopes, and steep, obvious cuts and fills shall be avoided to improve project aesthetics associated with roadside slopes. To the extent feasible, replanting of vegetation shall reflect adjacent communities and natural surroundings, serve as a visual buffer for objectionable views of the highway facility for adjacent land uses, soften visual impacts associated with graded slopes and large structures, and act to frame or enhance quality views. These design approaches would minimize visual impacts associated with roadside grading and slopes.

The widened bridge at Temescal Creek under Build Alternatives 1 and 2C would be low profile, but would be constructed partially within the City of Corona El Cerrito Specific Plan area, which includes Scenic Corridor Design Standards for changes within 500 feet of the Cajalco Road right of way (within the specific plan boundary). The proposed project would include Standard Project Measure **PF VIS-6**, Temescal Creek Bridge Design, to ensure consistency with applicable design guidelines specified in Section 14.7.1 of the City of Corona El Cerrito Specific Plan. Refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-6**.

The proposed stormwater basins would result in the most notable visual change because they would result in the partial and full acquisitions, vegetation removal, and removal of residential and commercial properties immediately along the affected portion of Cajalco Road. Removal of development and vegetation on affected parcels would alter the existing visual character of this residential portion of Cajalco Road and would replace it with a large-scale, anthropogenic, geometric stormwater facility that would contrast with the surrounding developed areas to remain.

Between Carpinus Drive and Alexander Street, Cajalco Road would diverge and split into two separate travelways to cross over Cajalco Creek. The westbound lane bridge over the creek would be low profile and would not result in notable visual changes for roadway travelers or nearby sensitive viewers. Furthermore, the project would include Standard Project Measure **PF VIS-7**, New Bridge Architectural Treatments, to ensure that aesthetic treatments would be applied to new bridge structures, consistent with County design and engineering standards. Refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-7**. The eastbound lane culvert would not be very visible, like current conditions. Riparian vegetation removed during construction would be replaced under Standard Project Measure **NC-13 (NES BIO-9)** and Mitigation Measure **NC-15 (NES BIO-14)**, and would naturally recolonize the site within a few years. The widened roadway corridor would not greatly detract from the quality of views and, from this vantage, the widened roadway corridor, sidewalk, and curbs and gutters contribute to a view that appears more intact and unified than existing conditions.

The proposed noise barriers would introduce a much taller, vertical surface near residences where a much shorter, similar structure currently exists, which could degrade the quality of views from residences and local roadways by installing a visual barrier. Incorporation of Standard Project Measure **PF VIS-3**, Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers in the Project Vicinity, would ensure that new noise barriers are visually consistent with existing noise barriers in the project vicinity and that landscaping softens the appearance of the barriers. Refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-3**.

Build Alternatives 1 and 2C would also realign Cajalco Road to the north and move traffic away from the rural residential area that is west of Lake Mathews Drive. This would create a cul-de-sac on Cajalco Road, west of Hollis Lane, and create a new roadway connection between this portion of Cajalco Road and Lake Mathews Drive. Relocating Cajalco Road would not affect views from the existing Cajalco Road, but would create new views that are likely to be scenic from the realigned segments. Views of the realigned portions of Cajalco Road would be visible from nearby residences. Instead of a roadway that follows the existing topography with minimal intrusion, large areas of fill would be created to accommodate the realignment that would be most visible to the residents near the northern end of Lynette Lane, because roadway modifications would come within 390 feet under Build Alternative 1 and 220 feet under Build Alternative 2C. The roadway corridor would stand out in the natural landscape and appear like a major highway imposed upon the landscape rather than a small rural roadway that blends with the landscape. The wildlife exclusion fencing does not stand out in views. Abandoned portions of Cajalco Road would be removed and restored, creating a more natural look where these roadway segments once were. Creating a cul-de-sac along the existing Cajalco Road would not affect visual resources but is likely to improve views for residences by greatly reducing the amount of traffic they can see. The new roadway connection to Lake Mathews Drive would not affect any residences and would result in minimal vegetation removal.

Creating a cul-de-sac along the existing Harley John Road would not affect visual resources but is likely to improve views for residences by greatly reducing the amount of traffic they can see. The realigned connection of Harley John Road to Cajalco Road would go behind the existing residences along Harley John Road, would not affect any residential structures, and would result in minimal vegetation removal. However, the noise proposed barriers would introduce a tall, vertical surface near residences where no such structures currently exist. The noise barrier would also block views of the hills to the south that are likely to be valued by residences and the realigned roadway would increase the visible presence of roadway infrastructure in this immediate area. If the noise barriers are designed without aesthetic consideration, this would degrade the quality of views from residences and local roadways by installing a visual barrier. However, the incorporation of Standard Project Measure **PF VIS-3** would ensure that new noise barriers are visually consistent with existing noise barriers in the project vicinity.

The LM MSHCP area falls within the Open Space VAU, which is primarily undeveloped interspersed with infrastructure associated with the Lake Mathews dam, spillway, access roads and operational facilities, and an occasional rural residence. Build Alternative 1 would follow a portion of the current alignment for Cajalco Road and widen to either side of the roadway onto vacant reserve lands. Several of the existing curves would be realigned, abandoning segments of roadway that would be removed and restored, creating a more natural look where these roadway segments once were. Culvert widening and utility relocations would appear similar under all

alternatives and would only result in minor visual changes as the modifications are occurring. A vehicular bridge that would follow the existing roadway contours of Cajalco Road would be constructed approximately 1 mile west of La Sierra Avenue; however, the bridge would be low profile and would not result in notable visual changes for roadway travelers or nearby sensitive viewers. The widened bridge at Temescal Creek would also be low profile but would affect riparian vegetation along the creek. All riparian vegetation that would be affected and permanently removed during construction would be replaced to aid in returning the site to natural conditions. In addition, riparian vegetation would naturally recolonize the site within a few years and further aid in returning the site to natural conditions.

The proposed project would slightly widen the existing corridor in the Suburban Residential VAU because much of this segment of Cajalco Road was previously widened to four lanes. No vegetation or structures would be affected to accommodate a widened median and new sidewalk. Therefore, visible changes would be very minor.

Widening at the eastern terminus in the Commercial VAU would require the removal of some mature trees along the south side of Cajalco Road near Seaton Avenue to accommodate the slight widening and new sidewalks. Minor grading would also occur near the I-215 overcrossing and the frontage of the 76 Gas Station and Jack in the Box would be needed to accommodate these changes. The incorporation of Standard Project Measure **PF VIS-1** and Mitigation Measure **VIS-2** would address changes in landscaping and site features for affected properties as appropriate and to the degree possible, making these changes largely consistent with the existing visual character and quality of the eastern terminus. Removal of two or three trees right next to the freeway overpass may affect the landscaped freeway designation because vegetation in this area is already sparse and removal may be deemed negative. Mitigation Measure **VIS-8**, Replace Disturbed Vegetation along Landscaped Freeways*,* is proposed to ensure that vegetation removed along this portion of the landscaped freeway is replaced to maintain the existing visual quality of landscaped freeway. Refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-1,** Mitigation Measure **VIS-2**, and Mitigation Measure **VIS-8**. Striping changes west of Temescal Canyon Road would not result in a notable visual change. Widening at the western terminus between Temescal Canyon Road and Temescal Creek would occur on vacant land along the roadway corridor, adjacent to industrial land uses, and would be consistent with the existing visual character and quality of the western terminus. Views of traffic using Cajalco Road from this VAU would not differ compared to current conditions under all build alternatives.

Portions of the alignment would widen into vacant lands; however, the most noticeable visual changes would be where the alignment widens into private properties under all build alternatives. The widening would bring the right of way closer to residents and businesses under all build alternatives. This may create a sense of visual encroachment for properties with structures close to the new right of way or where landscaping would be removed so that views of and from the roadway are now available where views were once more screened. While Mitigation Measure **VIS-2** would relocate or replace landscaping, fencing, and other landscape features to the degree possible, this measure would not be able to reverse the impacts experienced by affected roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor. This measure would also not reduce the effects associated with structures that would be permanently displaced through implementation of the stormwater facilities under Build Alternatives 1 and 2C.

Many properties within the developed portions of the corridor that are along and just outside the right of way would not be affected or would only be slightly affected by the project. Therefore, the removal of structures on affected properties and changes to landscaping, fencing, and other landscape features would not be so great that they would alter the existing visual character of lands adjacent to the project corridor or views of these areas from the project corridor, except for where the stormwater facilities are located.

Build Alternative 2C would realign a segment of Cajalco Road to vacant reserve lands to the south of the existing corridor alignment between the realigned connection of La Sierra Avenue with Cajalco Road and Lake Mathews Drive, whereas Build Alternative 1 would widen the existing alignment with some minor curve reductions. Instead of natural terrain, large areas of cut would be created to accommodate the new alignment. The roadway corridor would stand out in the natural landscape and appear like a major highway imposed upon the landscape. Wildlife exclusion fencing would be visible but would recede in views due to the color treatment and would not stand out in views.

Abandoned portions of Cajalco Road would be removed and restored, creating a more natural look where these roadway segments once were. Relocating Cajalco Road would create new views that are likely to be scenic from the realigned segments. Besides realigning the corridor under Build Alternative 2C, the most notable change is that widening to four lanes would create a roadway that is more suburban than rural in nature.

Overall, roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway, with associated turn lanes and sidewalks in some locations, that is more suburban in nature. The proposed project would utilize context-sensitive solutions so that slopes would be gentle, smooth, and well transitioned into the existing adjacent roadside and landforms, avoiding obvious cuts and fills and improving project aesthetics associated with roadside slopes. Therefore, these changes are not likely to affect the quality of views and scenic vistas available from the roadway because views from the roadway would not be greatly altered because there are no structures proposed that would interfere with views and the changes would not degrade the quality of views available from the roadway. The removal of mature trees right next to the freeway overpass may affect the landscaped freeway designation because vegetation in this area is already sparse and removal may be deemed negative. Mitigation Measure **VIS-8** is proposed to address this impact with replacement planting and landscaping. Therefore, impacts would be less than significant with the incorporation of Mitigation Measures **VIS-2** and **VIS-8**.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Less than Significant

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that the change would not greatly alter the existing visual character and quality of views beyond what has been analyzed for Build Alternatives 1 and 2C. Paving the median to create six lanes would occur within the already modified roadway corridor. Visual changes would be minimal and not substantially degrade the existing visual character or quality of public views, or conflict with zoning or other regulations governing scenic quality.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant with Mitigation

The County-eligible scenic roadway portions of Cajalco Road occur only within the LM MSHCP plan area. Therefore, impacts on scenic roadways within the LMR would be the same as those described above for Build Alternatives 1 and 2C; impacts would be less than significant. The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that widening from four to six lanes would not greatly affect scenic corridors beyond what has been analyzed for Build Alternative 2C, above.

Within the LM MSHCP plan area, changes to the existing visual character and quality of views associated with the widening of Cajalco Road would require large areas of cut and fill to accommodate the widening and traverse the undeveloped, hilly terrain. The roadway corridor would stand out more in the natural landscape and appear like a highway rather than a small rural roadway. This is due to landform alterations that would be required to widen the roadway and slightly realign the corridor. Wildlife exclusion fencing would be visible but would recede in views due to the color treatment. This would alter the existing visual character by making roadside cuts more pronounced and degrade the quality of views from the roadway even though the project would be designed so that slopes appear more natural. Roadway widening would increase the roadway surface area from a two-lane rural roadway to a four-lane roadway and associated turn lanes that is more suburban in nature. However, these changes are not likely to affect the quality of views available from this portion of Cajalco Road because views from the roadway will not be greatly altered because there are no structures proposed that would interfere with views and the changes would not degrade the quality of views available from the roadway. In addition, the incorporation of Standard Project Measure **PF VIS-1**, Contouring and Replanting Disturbed Areas, and application of Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would ensure that vegetation is replanted to help replace some of the vegetation that is affected by the project, helping to maintain the quality of views within the foreground of views available from the roadway. Refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-1** and Mitigation Measure **VIS-2**. Therefore, impacts would be less than significant with the incorporation of Mitigation Measure **VIS-2**.

Build Alternative 4—El Sobrante Alignment

Potentially Significant Impact

Cajalco Road, between I-15 and Harley John Road/Smith Road, and La Sierra Avenue and El Sobrante Road within the limits of Build Alternative 4, are designated County-eligible scenic corridors. As discussed in Section 3.7, *Visual/Aesthetics*, scenic views available from Cajalco Road and El Sobrante Road would not be greatly affected by the proposed widening because the changes would not introduce any structures that would interfere with scenic vista views and would not degrade the quality of views available from the roadway. However, the widening and realignment of La Sierra Avenue under Build Alternative 4 would require large areas of cut and fill to accommodate the widening and to traverse undeveloped, hilly terrain. An approximately 1,800-foot-long arch bridge would also be constructed on realigned La Sierra Avenue,

introducing new bridge infrastructure where none presently exists. While the realignment would be anticipated to provide new scenic views, the views and scenic vistas would contain more human-made features than the existing alignment and be more suburban in nature.

However, these changes would not constitute a substantial visual effect because most views would be transitory (roadway users/motorists); the visible features would lack substantial vertical profile and would not obstruct sightlines to visual resources; and the new bridge, roadway, and support structures would replace an existing graveled roadway. The arch bridge and smaller roadway bridges proposed west of Lake Mathews would further include architectural treatments consistent with County design standards that would lessen potential visual impacts associated with the introduction of the new structures, to the extent possible. These architectural treatments would be applied under Standard Project Measure **PF VIS-7**, New Bridge Architectural Treatments.

Under Build Alternative 4, scenic vista views would not be negatively affected because the proposed project would not introduce features that would block or alter such views. Although views from El Sobrante Road would not be greatly altered, there would be substantial landform alterations along La Sierra Avenue. The large cut slopes and suburban feel of the widened roadway would result in alterations to the visual character and would increase the prominence of roadway infrastructure, which would degrade views associated with the corridor. In addition, under Build Alternative 4, impacts on the MWD Lake Mathews facility would occur because the entrances would be affected by the intersection realignment, as described above, affecting vegetation and fencing. Mitigation Measure **VIS-2** would replace landscape features to the degree possible to reduce the effects experienced by roadway neighbors through the loss of such landscape features and alterations in their views of the project corridor.

Under Build Alternative 4, construction and operation features would be the same as those under Build Alternative 1 along the portion of Cajalco Road between Harley John Road and I-215; Build Alternative 4 would also widen the majority of the roadway alignment within predominantly vacant lands along the length of El Sobrante Road, or residential or commercial properties west of Vista Del Lago Road. Similar to the widening of Cajalco Road for Build Alternatives 1 and 2C, construction would require partial and full acquisition of lands to accommodate the widened roadway and right of way. This would remove formal and informal landscaping and site features, including mature trees, small trees, and shrubs. The incorporation of Standard Project Measure **PF VIS-1**, Contouring and Replanting Disturbed Areas, and application of Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would address changes in landscaping and site features for affected properties as appropriate and to the degree possible (refer to Section 3.7, *Visual/Aesthetics,* for Standard Project Measure **PF VIS-1** and Mitigation Measure **VIS-2**); however, the widening and realignment of La Sierra Avenue would involve large areas of cut and fill and an approximately 1,800-foot-long arch bridge, introducing new bridge infrastructure where none presently exists. In addition to the bridge, several permanent built elements that do not currently exist within that viewshed would be added to this undeveloped location, including a wide roadway with shoulders, an unpaved median, wildlife corridor fencing, graded roadway shoulders and slopes, and vehicular traffic. This would also remove existing scenic views that are available along the existing roadway alignment of La Sierra Avenue.

Under Build Alternative 4, views toward La Sierra Avenue would be substantially affected by the realigned intersection of La Sierra Avenue and El Sobrante Road. The resulting visual impacts on the existing visual character and quality would be moderate-high under Build Alternative 4. These permanent visual changes would result in adverse visual effects under Build Alternative 4 even with implementation of the recommended standard measures.

The proposed project would include Standard Project Measures **PF VIS-6** and **PF VIS-7** to ensure consistency with applicable design guidelines for the replacement bridge at Temescal Creek, and that aesthetic treatments, such as color and texture, would be applied to new bridge structures. The realignment would be anticipated to provide new scenic views, but the views would contain more human-made features than the existing alignment and be more suburban in nature. Therefore, Build Alternative 4 would result in significant impacts on the existing visual character and quality of views even with incorporation of Standard Project Measures **PF VIS-6** and **PF VIS-7**, and application of Mitigation Measure **VIS-2**, because the measures cannot fully offset the impacts associated with Build Alternative 4, and impacts would be significant and unavoidable.

Future Six-Lane Facility (Build Alternative 4)

Less than Significant Impact

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing a median area to a paved median and installing a safety barrier would not greatly alter the existing visual character and quality of views beyond what has been analyzed for Build Alternative 4. Visual changes would be minimal and would not substantially degrade the existing visual character or quality of public views, or conflict with zoning or other regulations governing scenic quality.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

Within the LM MSHCP plan area, the visual character and quality of views available from Cajalco Road and El Sobrante Road within the LMR would not be affected by the proposed widening because the changes would not introduce any structures that would interfere with views and the changes would not degrade the quality of views available from the roadway. However, the widening and realignment of La Sierra Avenue under Build Alternative 4 would require large areas of cut and fill to accommodate the widening and to traverse the undeveloped, hilly terrain that would also require an approximately 1,800-foot-long arch bridge, introducing new bridge infrastructure where none presently exists. In addition to the bridge, several permanent built elements that do not currently exist within that viewshed would be added to this undeveloped location, including a wide roadway with shoulders, an unpaved median, wildlife corridor fencing, graded roadway shoulders and slopes, and vehicular traffic. This would also remove existing scenic views that are available along the existing roadway alignment of La Sierra Avenue. The realignment is likely to provide new views that are scenic, but these views would contain more human-made features than the existing alignment and be more suburban in nature,

altering the character of the roadway. Therefore, Build Alternative 4 would result in significant impacts on the existing visual character and quality of the roadway even with incorporation of Standard Project Measures **PF VIS-6** and **PF VIS-7**, and application of Mitigation Measure **VIS-2**, because the measures cannot fully offset the impacts associated with Build Alternative 4, and impacts would be significant and unavoidable.

4.2.1(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Build Alternatives 1, 2C, and 4

Less than Significant with Mitigation

As discussed in Section 3.7, *Visual/Aesthetics*, impacts related to light and glare would be the same or very similar under all build alternatives. Evening and nighttime construction activities would require the use of bright lights but County staff, working with contractors, would make sure that no lighting is aimed toward homes and businesses consistent with Caltrans standard specifications.

The proposed project would result in a nominal increase in daytime glare by increasing the paved area and removing some of the roadside vegetation that provides shade along the project corridor. However, the pavement would be dark and greatly reduce glare. Within the rural residential and suburban residential areas, roadside trees associated with residences would still be present along the right of way to provide some shade. In addition, implementing Mitigation Measure **VIS-2**, Replace or Relocate Site Features and Landscaping Affected by the Project, would replace vegetation on affected properties and reduce glare. Therefore, the proposed project would not create a new source of substantial glare that would negatively affect daytime or nighttime views in the area. Implementation of Standard Project Measure **PF VIS-4** is identified to address the effects associated with street lighting and ensure that project light and glare would not result in adverse visual effects.

Improving existing traffic signals along Cajalco Road and installing new traffic signals at Cowan Road/Gustin Road, within the Rural Residential VAU, would add an inconsequential amount of light to the project area. These lights are proposed for safety purposes at intersections and are not proposed for the length of the alignment. If not properly designed, new and relocated street lighting proposed along the project corridor at intersections could negatively affect nearby roadway neighbors. However, Standard Project Measure **PF VIS-4**, Apply Minimum Lighting Standards, would ensure that lighting is designed to reduce impacts. In particular, Standard Project Measure **PF VIS-4** would ensure that blue-rich white light lamps (BRWL) light-emitting diode (LED) lighting is not used and shielding is provided. The use of BRWL LED lighting can negatively affect humans by increasing nuisance light and glare, in addition to increasing ambient light glow, if proper shielding is not provided and BRWL are used (American Medical Association 2016; International Dark-Sky Association 2010a, 2010b, 2015). Studies indicate that a 4,000-Kelvin (K) white LED light causes approximately 2.5 times more light pollution than high-pressure sodium lighting with the same lumen output, which would affect sensitive receptors and more than double the perceived brightness of the night sky (Aubé et al. 2013; Falchi et al. 2011, 2016). This would result in a substantial source of nighttime light and glare that would negatively affect nighttime views in the area if lighting is not properly designed and

shielding is not employed. This would also result in a substantial source of nighttime light and glare that could negatively affect nighttime views in the area. Such impacts would also occur within the Open Space VAU from relocating the traffic signals and lights at the Cajalco Road intersection with La Sierra Avenue if BRWL LED is used. Mitigation Measure **VIS-2** and the incorporation of Standard Project Measure **PF VIS-4** would ensure that light and glare associated with street lighting would be addressed under all build alternatives. Refer to Section 3.7, *Visual/Aesthetics*, for Mitigation Measure **VIS-2** and Standard Project Measure **PF VIS-4**. Therefore, impacts would less than significant with the incorporation of Mitigation Measure **VIS-2**.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that the change from four to six lanes would not greatly alter light and glare beyond what has been analyzed for the build alternatives, above. Under all four-lane alternatives, the median would be grass and/or low-growing, non-invasive plant species and would not be paved. Paving the median to create six lanes would occur within the already modified roadway corridor and would not affect visual resources beyond changing the median area to a paved median and likely installing a safety barrier to separate directional travelways. Changes to light and glare would be minimal.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The proposed project would result in a nominal increase in daytime glare by increasing the paved area and by removing some of the roadside vegetation that provides shade along the project corridor. However, the pavement would be dark and greatly reduce glare. Improving existing traffic signals along Cajalco Road within the LM MSHCP would add an inconsequential amount of light to the project area. New traffic signals at the realigned intersection of El Sobrante Road with La Sierra Avenue/main Metropolitan Water District of Southern California (MWD) Lake Mathews facility entrance and the new intersection of El Sobrante and Harley John Road could negatively affect nearby roadway neighbors if not properly designed and LED lighting is used. The incorporation of Standard Project Measure **PF VIS-4** would ensure that light and glare associated with street lighting would be addressed under all build alternatives. Therefore, impacts would be less than significant and mitigation would not be required.

4.2.2 Agriculture and Forest Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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 information and analyses in this section are based on Sections 3.1, *Land Use*, and 3.2, *Farmland,* of this EIR/EIS, and the *Community Impact Assessment* and *Errata* (Caltrans 2018c, 2021).

4.2.2(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?

Build Alternatives 1 and 2C

Less than Significant Impact

The Department of Conservation (DOC) Farmland Mapping and Monitoring Program (FMMP), identifies approximately 2,869 acres of Important Farmland within a 0.5-mile radius of the proposed project, as indicated in Table 3.2-1 and shown on Figure 3.2-1. This includes

approximately 61 acres of Prime Farmland, 281 acres of Unique Farmland, 83 acres of Farmland of Statewide Importance, and 2,444 acres of Farmland of Local Importance.

Impacts on mapped farmland were evaluated using the United States Department of Agriculture "Farmland Conversion Impact Rating" (Form NRCS CPA 106, EIR/EIS Appendix I), which was completed in coordination with the Natural Resources Conservation Service. Consistent with 7 Code of Federal Regulations (CFR) §658.2(a), lands committed to urban development (existing and planned roadway right of way, and urban development) and water storage were not factored into the total farmland impacts of each build alternative.[1]

Build Alternatives 1 and 2C would involve temporary construction disturbance and easements, and permanent right of way and easements, affecting lands designated as Unique Farmland and Farmland of Local Importance. Build Alternative 1 would result in the permanent conversion of 7.69 acres of important farmland composed of 0.19 acre of Unique Farmland and 7.5 acres of Farmland of Local Importance, and temporary use of 10.8 acres of important farmland composed of 0.82 acre of Unique Farmland and 9.97 acres of Farmland of Local Importance, during construction. Build Alternative 2C would result in the permanent conversion of 7.85 acres of important farmland composed of 0.19 acre of Unique Farmland and 7.66 acres of Farmland of Local Importance, and temporary use of 10.8 acres composed of 0.82 acre of Unique Farmland and 9.98 acres of Farmland of Local Importance, during construction. This represents less than 0.5 percent of all the important farmland in the study area for all build alternatives. The total site assessment ratings for Build Alternatives 1 and 2C are 90, and are below the threshold score of 160.[2] Compensation to individual landowners for property impacts would be addressed and negotiated through the right of way acquisition process, as warranted (refer to Standard Project Measures **PF COM-1** in Section 3.4, *Community Impacts*).

Most temporary project activities within areas designated as farmland would occur within areas that currently front existing roadways and are not actively farmed. Standard Project Measure **PF FA-1** would ensure access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway. In addition, Standard Project Measure **PF FA-2** would ensure areas temporarily occupied during construction are returned to conditions that would allow for continued use and function as farmland following construction.

Build Alternatives 1 and 2C would result in the conversion of 0.19 acre of Unique Farmland to non-agricultural use, but would not affect FMMP Prime Farmland or Farmland of Statewide Importance.

Given the limited percentage of important farmland that would be converted within the study area, viability and quantity of the remaining farmland of affected properties for agricultural use, and total assessment rating comparative to the threshold score, impacts would be less than significant. No mitigation is required.

[1] 7 CFR 658.2(a). Lands committed to urban development for future roadway per City and County zoning and General Plans, and lands committed to urban development for water storage, utilities, and commercial and residential development, per County zoning.

[2] Projects sites receiving a total score of less than 160 need not be given further consideration for protection, and no further evaluation is required under the Farmland Protection Policy Act (CFR 658.4(c)(2)).

Future Six-Lane Facility (Build Alternatives 1 and 2C)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that no additional right of way would be required that would involve farmland resources.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

No Impact

Under Build Alternatives 1 and 2C, portions of Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Areas identified as FMMP important farmland occur within the LM MSHCP and LMR; however, as discussed in Section 3.2, *Farmlands*, of the EIR/EIS, the LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews reservoir and dam facilities. As such, lands within the LM MSHCP and LMR are not currently used for farming purposes. Furthermore, much of the land within the LM MSHCP and LMR is committed to water storage and therefore not included as farmland per 7 CFR §658.2(a). Therefore, no impacts would occur and no mitigation is required.

Build Alternative 4—El Sobrante Alignment

Less than Significant Impact

Build Alternative 4 would result in the permanent conversion of 23.44 acres of important farmland composed of 0.47 acre of Prime Farmland, 3.08 acres of Unique Farmland, 0.99 acre of Farmland of Statewide Importance, and 18.89 acres of Farmland of Local Importance. During construction, 9.86 acres of important farmland composed of 0.05 acre of Prime Farmland, 2.42 acres of Unique Farmland, 0.96 acre of Farmland of Statewide Importance, and 6.43 acres of Farmland of Local Importance would be used temporarily. This represents less than 0.5 percent of all the important farmland in the study area for all build alternatives. The total site assessment rating for Build Alternative 4 is 130, below the threshold score of 160. Compensation to individual landowners for property impacts would be addressed and negotiated through the right of way acquisition process, as warranted (refer to Standard Project Measure **PF COM-2** in Section 3.4, *Community Impacts*). Standard Project Measure **PF FA-1** would further ensure access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway. In addition, Standard Project Measure **PF FA-2** would ensure farmland areas temporarily occupied during construction are returned to conditions that would allow for continued use and function as farmland following construction.

Under Build Alternative 4, 4.79 acres of Williamson Act land would be permanently acquired and incorporated into the transportation system and 2.12 acres of Williamson Act land would be temporarily acquired during construction. Section 51291 of the Williamson Act requires notification to the Director of Conservation and the local governing body responsible for the administration of agricultural preserves of the intended acquisition of lands within an agricultural preserve or property restricted by Williamson Act contract for public use. Because Build

Alternative 4 is one of three build alternatives under consideration for the proposed project, the Director of the DOC was notified of potential acquisition of lands under Williamson Act contract.[3] The notification is included in Appendix I of this EIR/EIS. If Build Alternative 4 is identified as the preferred alternative, a second notice would be provided to DOC within 10 working days following acquisition of the properties Because Build Alternative 4 would not exceed the state threshold of 100 acres of Williamson Act contract cancellations, it would not result in a significant impact on Williamson Act lands (CEQA Guidelines Section 15206).

Given the limited percentage of important farmland and Williamson Act land that would be converted within the study area, viability and quantity of the remaining farmland of affected properties for agricultural use, and total assessment rating comparative to the threshold score, impacts would be less than significant. No mitigation is required.

Future Six-Lane Facility (Build Alternative 4)

No Impact

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that no additional right of way would be required that would involve farmland resources.

Lake Mathews MSHCP (Build Alternative 4)

No Impact

Under Build Alternative 4, Cajalco Road, La Sierra Avenue, and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR. Areas identified as FMMP important farmland occur within the LM MSHCP and LMR; however, as discussed in Section 3.2, *Farmlands*, of the EIR/EIS, the LM MSHCP does not allow for land uses that are not directly associated with management of the LMR or Lake Mathews reservoir and dam facilities. As such, lands within the LM MSHCP and LMR are not currently used for farming purposes. Furthermore, much of the land within the LM MSHCP and LMR is committed to water storage and therefore not included as farmland per 7 CFR §658.2(a). Therefore, no impacts would occur and no mitigation is required.

4.2.2(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

Build Alternatives 1 and 2C

No Impact

Build Alternatives 1 and 2C would not affect any Williamson Act land; therefore, there would be no impact. No mitigation is required.

[3] The County of Riverside serves as the local governing body responsible for administration of the contracts listed in Table 3.2-3.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that no additional right of way would be required that would involve farmland resources.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

No Impact

Build Alternatives 1 and 2C within the LM MSHCP would not affect any Williamson Act land; therefore, there would be no impact. No mitigation is required.

Build Alternative 4—El Sobrante Alignment

Less than Significant Impact

Under Build Alternative 4, 4.79 acres of Williamson Act land would be permanently acquired and incorporated into the transportation system and 2.12 acres of Williamson Act land would be temporarily acquired during construction. Because Build Alternative 4 would not exceed the state threshold of 100 acres of Williamson Act contract cancellations, and the remaining farmland of affected properties would continue to be available for agricultural use, a significant impact on Williamson Act lands (CEQA Guidelines Section 15206) would not occur.

Given the limited percentage of important farmland and Williamson Act land that would be converted within the study area, impacts would be less than significant. No mitigation is required.

Future Six-Lane Facility (Build Alternative 4)

No Impact

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that no additional right of way would be required that would involve farmland resources.

Lake Mathews MSHCP (Build Alternative 4)

No Impact

Build Alternative 4 within LM MSHCP would not affect any Williamson Act land; therefore, there would be no impact. No mitigation is required.

4.2.2(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))?

Build Alternatives 1, 2C, and 4

No Impact

The project study area is devoid of timberland, forest land, and timberland zoned Timberland Production; therefore, the proposed project would not affect timberland or forestry resources.

4.2.2(d) Result in the loss of forest land or conversion of forest land to non-forest use?

Build Alternatives 1, 2C, and 4

No Impact

The project study area is devoid of timberland, forest land, and timberland zoned Timberland Production; therefore, the proposed project would not affect timberland or forestry resources.

4.2.2(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?

Build Alternatives 1, 2C, and 4

No Impact

The proposed project would involve transportation facility improvements and include the construction of appurtenant facilities such as drainage basins, culverts, and bridges. No additional potential impacts involving farmland resources beyond those discussed under 4.2.2(a) and 4.2.2(b) would be anticipated.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that no additional right of way would be required that would involve farmland resources.

4.2.3 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:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

This section is based on information from Section 3.14, *Air Quality*, and the *Air Quality Study Report* technical report prepared for the project (Caltrans 2017b).

CEQA Guidelines §15125 indicate that existing conditions at the time a Notice of Preparation is released or when environmental review begins normally constitute the baseline for environmental analysis. In 2010, the California Supreme Court issued an opinion holding that while lead agencies have some flexibility in determining what constitutes the baseline, relying on "hypothetical allowable conditions" when those conditions are not a realistic description of the conditions without the project, would be an illusory basis for a finding of no significant impact from the project and, therefore, a violation of CEQA (*Communities for a Better Environment v. South Coast Air Quality Management District* (2010) 48 Cal. 4th 310).

On August 5, 2013, the California Supreme Court decided *Neighbors for Smart Rail v. Exposition Metro Line Construction Authority* (57 Cal. 4th 439). This latest decision has clarified that, under certain circumstances, a baseline may reflect future, rather than existing, conditions. The rule specifies that factual circumstances can justify an agency departing from that norm in the following circumstances, when such reasons are supported by substantial evidence.

- When necessary to prevent misinforming or misleading the public and decision-makers.
- When the use of future conditions in place of existing conditions is justified by unusual aspects of the project or surrounding conditions.

With respect to the proposed project, using existing conditions to evaluate criteria pollutant impacts would misrepresent and mislead the public and decision-makers with respect to potential air quality impacts, for the following reasons: (1) changes in on-road emission factors, and (2) net project vehicle miles traveled (VMT) reductions.

1. On-road vehicle emissions rates are anticipated to experience reductions in the future due to (a) continuing engine advancements, (b) more stringent air quality regulations, and (c) the retirement of older, more-polluting vehicles from the service population fleet. Quantifying

emissions utilizing current vehicle emissions rates would not only represent a fictitious scenario, but would also overestimate emissions reductions and potential air quality benefits achieved by the project.

2. Using the relatively higher "existing conditions" emissions factors to quantify emissions reduction benefits assorted with project-related VMT reductions in the years 2024 and 2044 would overstate the project's emissions reduction benefits.

These facts represent substantial evidence in support of using a future conditions analysis, rather than existing conditions, to evaluate air quality impacts. Accordingly, for the purposes of this analysis, the CEQA assessment evaluates project emissions under opening (2024) and design (2044) year conditions, compared to the future no project alternative. This approach reflects appropriate vehicle fleet characteristics and emission factors. Using future year conditions as the basis for the CEQA analysis avoids misinforming and misleading the public and decision-makers with respect to air quality impacts, consistent with current CEQA case law.

4.2.3(a) Conflict with or obstruct implementation of the applicable air quality plan?

Build Alternatives 1 and 2C

No Impact

The project lies within the Riverside County portion of the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD is required, pursuant to the federal Clean Air Act, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. SCAQMD's most recent plan to achieve air quality standards is the 2016 Air Quality Management Plan (AQMP).

The 2016 AQMP was adopted by the SCAQMD Governing Board on March 3, 2017. The 2016 AQMP outlines comprehensive control strategies to meet particulate matter (PM) 2.5 microns or less in diameter (PM2.5), ozone, and lead standards and to maintain carbon monoxide (CO), nitrogen dioxide (NO_2), and PM 10 microns or less in diameter (PM10) standards. These strategies are based, in part, on the regional population, housing, and employment projections (and related transportation-source emissions) prepared by the region's cities and counties and adopted by the Southern California Association of Governments (SCAG). Projects that propose development that is consistent with the growth anticipated in the relevant land use plans and transportation plans used in the formulation of the AQMP are therefore considered to be consistent with the AQMP. The governing transportation planning documents relevant to the project area are the SCAG 2020–2045 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) and the SCAG 2021 Federal Transportation Improvement Program (FTIP).

A project would conflict with or obstruct implementation of a regional air quality plan if it would be inconsistent with the growth assumptions of the plan. Build Alternatives 1 and 2C are included in SCAG's 2020–2045 RTP/SCS under Project ID 3A04WT137 and SCAG's 2021 FTIP under Project ID RIV090903. On June 5, 2020, FHWA found that the RTP/SCS conformed to the State Implementation Plan (SIP). The SCAG 2021 FTIP was determined to conform by

FHWA and the Federal Transit Administration on April 16, 2021.[4] Because the proposed project is included as proposed in both the SCAG 2020–2045 RTP/SCS and the 2021 FTIP, which were found to conform to the SIP responsible for attaining and maintaining compliance with air quality standards, the proposed project would not conflict with or obstruct implementation of an air quality plan. No impact would result.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Less than Significant Impact

The future six-lane facility has not been planned and programmed as part of the SCAG RTP/SCS or FTIP, and would need to be included in these documents in order to comply with regional transportation conformity requirements.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

No Impact

The entire LM MSHCP area is within the SCAB. The SCAG RTP/SCS and FTIP and SCAQMD AQMP have been developed to ensure that the SCAB conforms with the SIP. Given that Build Alternatives 1 and 2C have been included in the 2020–2045 RTP/SCS under Project ID 3A04WT137 and SCAG's 2021 FTIP under Project ID RIV090903, the portion of Build Alternatives 1 and 2C within the LM MSHCP boundary would not conflict with or obstruct implementation of the applicable air quality plan. No impact would result.

Build Alternative 4—El Sobrante Alignment

No Impact

The project's regional conformity determination requirements have been satisfied for Build Alternatives 1 and 2C. In the event that Build Alternative 4 is identified as the preferred alternative, the FTIP description would need to be revised to accurately describe the improvements on Cajalco Road, La Sierra Avenue, and El Sobrante Road, and the SCAG regional model would need to be updated. Although the Build Alternative 4 alignment differs from the description included in the SCAG RTP/SCS and FTIP, it is anticipated that there would be no conflict with or obstruction of the applicable air quality plan. Build Alternative 4 is likely to result in greater numbers of area roadway users accessing the regional highway network via State Route 91 (SR-91) from La Sierra Avenue than under Build Alternatives 1 and 2C, which would involve more travel along Cajalco Road to I-15. However, Build Alternative 4 is not

[4] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

anticipated to alter the overall regional emissions analysis substantially. Therefore, no impact is anticipated.

Future Six-Lane Facility (Build Alternative 4)

Less than Significant Impact

The future six-lane facility has not been planned and programmed as part of the SCAG RTP/SCS or FTIP, and would need to be included in these documents in order to comply with regional transportation conformity requirements.

Lake Mathews MSHCP (Build Alternative 4)

No Impact

As discussed above, the LM MSHCP area is within the SCAB, and the SCAG RTP/SCS and FTIP and SCAQMD AQMP are responsible for ensuring that SCAB conforms with the SIP. In the event that Build Alternative 4 is identified as the preferred alternative, the FTIP description would need to be revised to accurately describe the improvements on Cajalco Road, La Sierra Avenue, and El Sobrante Road, and the SCAG regional model would need to be updated. Despite the anticipated increase of area roadway users accessing the regional highway network via SR-91 from La Sierra Avenue relative to the other build alternatives, regional emissions are not expected to change substantially and the portion of Build Alternative 4 within the LM MSHCP boundary would not conflict with or obstruct implementation of the applicable air quality plan. No impact would result.

4.2.3(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Operation

As discussed in Chapter 3, Section 3.14, *Air Quality*, and shown in Table 4.2-1, regional increases in operational emissions would occur under Build Alternative 1 (for CO), Build Alternative 2C (for CO, nitrogen oxides [NO_X], and PM10), and Build Alternative 4 (for CO) relative to the No-Build Alternative at Opening Year 2024. At Horizon Year 2044, there would be increases in reactive organic gases (ROG), CO, and NO_X under Build Alternative 1, an increase in CO under Build Alternative 2C, and an increases in ROG, CO, and NO_X under Build Alternative 4. However, such increases would not exceed the regional thresholds developed for the purposes of bringing the SCAB into attainment.

Table 4.2-1. Project Area Mobile-Source Emissions

Evaluation Scenario	Criteria Pollutant Emissions in Pounds per Day				
	ROG	CO	NO_X	PM10	PM2.5
Existing Year 2014	1,356	30,327	13,189	201	191
Opening Year 2024					
No-Build Alternative	**551**	**14,814**	**4,059**	**50**	**47**
Build Alternative 1	**548**	**14,892**	**4,035**	**50**	**47**
Increase/(Decrease) Compared to Existing	(808)	(15,435)	(9,154)	(151)	(144)
Increase/(Decrease) Compared to No-Build Alternative	(3)	78	(24)	0	0
Build Alternative 2C	**551**	**14,969**	**4,063**	**51**	**47**
Increase/(Decrease) Compared to Existing	(805)	(15,358)	(9,126)	(150)	(144)
Increase/(Decrease) Compared to No-Build Alternative	0	155	4	1	0
Build Alternative 4	**549**	**14,945**	**4,046**	**51**	**47**
Increase/(Decrease) Compared to Existing	(807)	(15,382)	(9,143)	(150)	(144)
Increase/(Decrease) Compared to No-Build Alternative	(2)	131	(13)	(150)	(144)
Horizon Year 2044					
No-Build Alternative	**480**	**10,988**	**2,754**	**30**	**28**
Build Alternative 1	**484**	**11,074**	**2,778**	**30**	**28**
Increase/(Decrease) Compared to Existing	(872)	(19,253)	(10,411)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	4	86	24	0	0
Build Alternative 2C	**480**	**11,010**	**2,754**	**30**	**28**
Increase/(Decrease) Compared to Existing	(876)	(19,317)	(10,435)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	0	22	0	0	0
Build Alternative 4	**484**	**11,083**	**2,783**	**30**	**28**
Increase/(Decrease) Compared to Existing	(1,810)	(19,244)	(10,406)	(171)	(163)
Increase/(Decrease) Compared to No-Build Alternative	4	95	29	0	0
SCAQMD Regional Significance Threshold	**55**	**550**	**55**	**150**	**55**

With respect to the potential for localized CO and PM hotspots to occur under Build Alternatives 1, 2C, and 4, Section 3.14, *Air Quality*, includes the qualitative step-by-step screening procedure identified in the CO Protocol and the U.S. Environmental Protection Agency's PM hot-spot analysis guidance. As detailed in Section 3.14, each of the build alternatives would result in increased truck traffic and additional delay at some study area intersections. However, for CO, both background CO concentrations and traffic volumes under Build Alternatives 1, 2C, and 4 would be lower than the attainment demonstration intersections included in the 2003 AQMP. For PM, the SCAG Transportation Conformity Working Group during its Tuesday, May 23, 2017, meeting concurred with the determination that the project was not a project of air quality concern and would not require a quantitative PM hot-spot analysis.

Based on the minor increases in criteria and precursor pollutants and that hot-spot screening procedures for CO and PM indicate that localized impacts would not occur, Build Alternatives 1, 2C, and 4 would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Impacts would be less than significant.

Construction

As discussed in Section 3.14, *Air Quality*, construction is anticipated to begin in 2023 and would last approximately 4 years. Temporary construction emissions would result from grubbing/land clearing, grading/excavation, drainage/subgrade construction, paving, and the commuting patterns of construction workers. Pollutant emissions would vary daily depending on the level of activity, specific operations, and prevailing weather. Daily emissions of criteria pollutants and precursor pollutants for each stage of construction are shown in Table 4.2-2. As shown therein, emissions would not exceed the SCAQMD regional and localized thresholds during any phase of construction. Maximum daily regional mass emissions would be 5 pounds of ROG, 53 pounds of CO, 50 pounds of NO_X, 13 pounds of PM10, and 4 pounds of PM2.5. Maximum daily onsite emissions during the construction period would be 5 pounds of ROG, 48 pounds of CO, 47 pounds of NO_X, 10 pounds of PM10, and 4 pounds of PM2.5. Construction-period impacts related to violating air quality standards or contributing substantially to an existing or projected air quality violation would be less than significant. The project would comply with Standard Project Measures **PF AQ-1** and **PF AQ-2** identifying Caltrans Standard Specification 14-9.02, which specifies that all air-pollution-control rules, regulations, ordinances, and statutes will be followed. One such rule, SCAQMD Rule 403 (**PF AQ-2**), requires control of fugitive dust emissions during earth-moving activities and construction/demolition activities, and for any surface area through heavy- and light-duty vehicular movement or other means. California Code of Regulations Title 13, Section 2449(d)(3), further restricts idling of construction vehicles to no longer than 5 consecutive minutes.

Table 4.2-2. Estimate of Criteria Pollutant Emissions during Construction (pounds per day)

Construction Phase	ROG	CO	NO_X	PM10	PM2.5
Grubbing and Clearing	1	13	9	11	2
Grading/Excavation	5	53	50	13	4
Drainage/Utilities/Sub-Grade	3	34	27	11	3
Paving	2	21	16	1	1
Daily Maximum Regional Emissions	5	53	50	13	4
SCAQMD Regional Emissions Daily Significance Threshold	75	550	100	150	55
Daily Maximum Onsite Emissions	5	48	47	10	4
SCAQMD Localized Significance Threshold	N/A[a]	1,700	270	12	8

Source: Calculated by ICF; detailed calculation assumptions are provided in Appendix B to the August 2017 *Air Quality Impact Report*.
[a] ROG emissions have no SCAQMD Localized Emissions Threshold; SCAQMD Source Receptor Area 22, 5-acre site, 25-meter receptor distance.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project.

The future six-lane facility has not been planned and programmed as part of the SCAG RTP/SCS or FTIP, and would need to be included in these documents in order to comply with regional transportation conformity requirements. For project-level conformity, the future six-lane facility would require interagency consultation with the Transportation Conformity Working Group to determine whether or not the future six-lane facility would be considered a project of air quality concern. The project would also be required to demonstrate that it does not result in the creation of criteria pollutant hot-spots.

Estimated emissions of regional criteria pollutant and precursor pollutant emissions from mobile sources in the project area are shown in Table 4.2-3. Emissions estimates are based on VMT and speed profile data projected under the six-lane future facility and are compared to emissions that would occur under the build alternatives at the Horizon Year 2044. The future six-lane facility is compared to the corresponding Horizon Year 2044 build alternatives because the future six-lane facility would not be implemented until a later date and would only occur after the construction of the selected build alternative. As such, the 2044 build alternative scenarios are the appropriate baseline for comparison. As shown in Table 4.2-3, operational emissions are expected to be greater under the six-lane future facility when compared to the corresponding build alternatives, but the increases would not exceed any current regional standards set for bringing the region into attainment.

Table 4.2-3. Project Area Mobile-Source Emissions for Future Six-Lane Facility (2044)

	Criteria Pollutant Emissions in Pounds per Day				
Evaluation Scenario	**ROG**	**CO**	**NO_X**	**PM10**	**PM2.5**
Horizon Year 2044					
Future Six-Lane Facility (Build Alternative 1/2C)	**488**	**11,138**	**2,806**	**30**	**28**
Increase/(Decrease) Compared to 2044 Build Alternative 1	4	64	28	< 1	< 1
Future Six-Lane Facility (Build Alternative 4)	**488**	**11,164**	**2,822**	**31**	**29**
Increase/(Decrease) Compared to 2044 Build Alternative 4	5	81	41	< 1	< 1
SCAQMD Regional Significance Threshold	**55**	**550**	**55**	**150**	**55**

Table 4.2-4 shows the comparison of estimated mobile source air toxic (MSAT) emissions in the project area, which are expected to be similar under the future six-lane facility and the corresponding build alternative. Any increases would be due to the projected increases in VMT. Substantial reductions in MSAT emissions are estimated to occur relative to Existing Year 2014 due to the retirement of older vehicles.

Table 4.2-4. Comparison of Years 2014 and 2044 MSAT Emissions for Future Six-Lane Facility (in Pounds per Day)

MSAT Pollutant	Existing Year 2014	Horizon Year 2044			
		Build Alternative 1	6-Lane Future Facility (Alternative 1/2C)	Build Alternative 4	6-Lane Future Facility (Alternative 4)
Benzene	45	16	16	16	16
Acrolein	2	1	1	1	1
Acetaldehyde	42	17	18	17	18
Formaldehyde	96	39	39	39	39
Butadiene	9	3	3	3	3
Naphthalene	1	1	1	1	1
POM	2	1	1	1	1
Diesel PM	174	12	12	12	12
DEOG	479	207	209	207	209
Regional VMT	8,585,371	14,779,906	14,843,301	14,811,302	14,893,944

The future six-lane facility would involve air pollutant emissions from construction equipment use, material movement, and worker commute trips. Construction activities anticipated for the future six-lane facility would include clearing, grading and paving, and temporary staging for the segment of Cajalco Road between Temescal Canyon Road and La Sierra Avenue under Build Alternative 1 or 2C, or for the segments of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road under Build Alternative 4. Because the roadway areas represent less than half of the overall length and project area associated with the build alternatives, construction-period emissions are anticipated to be less than that identified for the build alternatives shown in Table 4.2-4. Similarly, construction-period MSAT emissions under the future six-lane facility are anticipated to be less than construction-period emissions under the build alternatives.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Emissions within the LM MSHCP would be a subset of the overall construction-period and operational emissions resulting from implementation of Build Alternatives 1, 2C, and 4. Therefore, impacts related to violating air quality standards or contributing substantially to an existing or projected air quality violation would be less than significant.

4.2.3(c) Expose sensitive receptors to substantial pollutant concentrations?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Caltrans considers schools, medical centers and similar health care facilities, child care facilities, and parks and playgrounds to be sensitive land uses. There are no sensitive land uses present within 500 feet of any of the proposed build alternatives.

Construction activities would result in the short-term generation of emissions in the immediate vicinity from the use of heavy-duty construction equipment, material movement trips, and worker commute trips. Additional indirect emissions may result from temporary delays in roadway operation during the construction period; such emissions would be minimized through compliance with Standard Project Measures **PF AQ-1**, **PF AQ-2**, and **PF LU-1**, which include Caltrans' Standard Specification 14-9.02, SCAQMD Rule 403, and the implementation of a Traffic Management Plan (TMP). The construction emissions analysis assumed a 25-meter receptor distance to assess the potential effects of construction activities on residences, which SCAQMD recommends as the receptor distance to use for uses adjacent to construction activities. As shown in Table 4.2-2, onsite emissions would not exceed localized thresholds.

Following the construction period, operational emissions associated with roadway operations would include tailpipe emissions as well as re-entrained road dust from vehicles operating in the project vicinity. The build alternatives would also result in indirect changes to traffic patterns in the area, which would change the location of a portion of emissions, with some intersections and roadway segments anticipated to see more vehicular travel than under the No-Build Alternative. Although emissions of some pollutants would increase under the build alternatives (as indicated in Table 4.2-1), these emissions increases would be throughout the project region, and emissions increases in specific locations would be a small proportion of any projected increases. Thus, the build alternatives would not expose sensitive receptors to substantial pollutant concentrations, and impacts would be less than significant.

Health-Based Effects for Project-Generated Pollutants of Human Health Concern

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment for the ozone and particulate matter 2.5 microns or less in diameter National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS). The Court found that the air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that environmental documents must connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

As discussed in Table 3.14-3, all criteria pollutants that would be generated by the proposed project are associated with some form of health risk (e.g., asthma and other respiratory tract effects). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone and nitrogen dioxide are considered regional criteria pollutants, whereas CO, sulfur dioxide, and lead are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern in the study area are ozone (including ROG and NO_X), CO, and PM (including diesel particulate matter, or DPM).

Regional Project-Generated Criteria Pollutants (Ozone Precursors and Regional PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the proposed project (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_X) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_X generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. While there are models capable of quantifying ozone and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project-generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District and SCAQMD, both of which provided *amici curiae* briefs for the Friant Ranch legal proceedings. In its brief, San Joaquin Valley Air Pollution Control District (2015) acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, "it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The air district further notes that emissions solely from the Friant Ranch project (which equate to less than one-tenth of 1 percent of the total NO_X and volatile organic compounds [VOC] in the Valley) is not likely to yield valid information, and that any such information should not be "accurate when applied at the local level." SCAQMD (2015) presents similar information in its brief, stating that "it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels."[5]

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed from the findings of a wide range of scientific evidence that demonstrates that there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and to not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the project could increase

[5] For example, SCAQMD's analysis of its 2012 Air Quality Attainment Plan showed that modeled NO_X and ROG reductions of 432 and 187 tons per day, respectively, only reduced ozone levels by 9 parts per billion. Analysis of SCAQMD's Rule 1315 showed that emissions of NO_X and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absence (SCAQMD 2015).

photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. As such, a project's incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis. However, given that project-related emissions would not exceed SCAQMD regional significance thresholds, increased incidence of specific health consequences are expected to be less than significant.

Localized Project-Generated Criteria Pollutants (PM and CO)

Localized pollutants generated by a project are deposited near the emissions source. Because these pollutants are not transported over long distances and do not undergo complex photochemical or atmospheric reactions, emissions from individual projects can result in direct and material health impacts on adjacent sensitive receptors. Models and thresholds are readily available to quantify these potential health effects and evaluate their significance. Furthermore, it should be noted that the NAAQS and CAAQS are health-protective standards and define the maximum amount of ambient pollution that can be present without harming public health. SCAQMD's Localized Significance Thresholds (LSTs) represent the level of pollutant emissions from onsite sources from a project that would not exceed the most stringent applicable federal or state ambient air quality standards. As such, projects with emissions below the applicable LSTs will not be in violation of the NAAQS or CAAQS or health-protective standards developed by the California Air Resources Board (ARB) and the U.S. Environmental Protection Agency.

As shown in Table 3.14-14, construction-period emissions of pollutants would not exceed applicable SCAQMD LSTs. Following the construction period, emissions of localized pollutants would be generated throughout the project area related to the combustion of fuel from vehicles using project area roadways. Given that vehicles would generate emissions throughout the project area, no major concentrations of localized pollutants are anticipated, which is supported by the CO and PM screening procedures conducted for the project. As summarized in Section 3.14, *Air Quality*, emissions of localized pollutants were not projected to result in the generation of hot spots. Therefore, there would be no violations of the health-protective CAAQS and NAAQS, and impacts would be less than significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project.

Estimated emissions of regional criteria pollutant and ozone precursor pollutant emissions from mobile sources in the project area are shown in Table 3.14-12. As discussed above, technical limitations prevent accurate correlation of project-related regional pollutant emissions to specific health outcomes. However, given that emissions increases would not be substantial and no

exceedances of the NAAQS or CAAQS are anticipated, impacts related to increased incidence of specific health consequences would be less than significant. Additional analysis would be required to demonstrate that implementation of the future six-lane facility would not result in the creation of localized criteria pollutant hot spots.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Emissions within the LM MSHCP would be a subset of the overall construction-period and operational emissions resulting from implementation of the build alternatives. Therefore, impacts related to violating air quality standards or contributing substantially to an existing or projected air quality violation would be less than significant.

4.2.3(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The project is not anticipated to result in adverse effects related to emissions, such as those leading to odors. Some phases of construction, particularly asphalt paving, would result in short-term odors in the immediate area of each paving site. Such odors would be quickly dispersed below detectable thresholds as distance from the site increases. Project operation would not create objectionable odors. Impacts from objectionable odors would be less than significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

It is anticipated that emissions, including those leading to odors, would be generated in minor concentrations in the construction of the future six-lane facility. However, these impacts would be temporary and would not adversely affect a substantial number of people.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Emissions, including those leading to odors, would be generated in minor concentrations in the LM MSHCP area during the construction period, particularly during the paving period. However, these impacts would be temporary and would not adversely affect a substantial number of people.

4.2.4 Biological Resources

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

The information and analyses in this section are based on the final Natural Environment Study (NES) prepared for the project (Caltrans 2018d), the preliminary Jurisdictional Delineation (JD) prepared for the project (Caltrans 2018e), the JD impacts memorandum (Appendix L of the NES), and the following sections of the EIR/EIS:

- Section 3.17, *Natural Communities*
- Section 3.18, *Wetlands and Other Waters*
- Section 3.19, *Plant Species*
- Section 3.20, *Animal Species*
- Section 3.21, *Threatened and Endangered Species*
- Section 3.22, *Invasive Species*

The discussion of the sensitive biological resources present in the Biological Study Area (BSA), impacts under Build Alternatives 1, 2C, and 4, and the avoidance, minimization, and mitigation measures to address the significant effects from the project on sensitive biological resources are provided in Sections 3.17 through 3.22.

Existing Conditions

The 43 vegetation communities/land types that occur within the BSA are described in detail in Section 3.17, *Natural Communities*. Eight of the vegetation communities are classified as natural communities of concern by the California Department of Fish and Wildlife (CDFW): Riversidian sage scrub (RSS), Riversidian alluvial fan sage scrub (RAFSS), coast live oak woodland, southern coast live oak riparian forest, southern cottonwood-willow riparian forest, southern riparian forest, southern willow scrub, and coast and valley freshwater marsh. Over 4,990 acres occur within the BSA, of which approximately 2,227 acres are conserved lands owned/managed by the Riverside County Habitat Conservation Authority (RCHCA), MWD, Western Riverside County Regional Conservation Authority (RCA), and Riverside-Corona Resource Conservation District.

In addition, aquatic resources that are jurisdictional under the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW occur throughout the Jurisdictional Study Area (JSA). These aquatic resources are discussed in detail in Section 3.18, *Wetlands and Other Waters*, and are illustrated on Figures 3.18-1 and 3.18-2.

The proposed project also occurs within the boundaries of the WRC MSHCP and is a covered project under Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP. The WRC MSHCP provides take coverage for numerous special-status (listed and non-listed) plants and wildlife species. The BSA occurs within the Narrow Endemic Plant Species Survey Area and Criteria Area Species Survey for several plant species (detailed in Section 3.19, *Plant Species*). The project is within the burrowing owl survey area and is subject to the WRC MSHCP riparian/riverine and vernal pool policy (refer to Section 6.1.2 of the WRC MSHCP Volume I). As a covered activity, compliance with WRC MSHCP Volume I, Section 7.5.1 (Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasi-public Lands), 7.5.2 (Guidelines for Construction of Wildlife Crossings), 7.5.3 (Construction Guidelines) and Appendix C (Standard Best Management Practices) is required.

As described in Section 3.17, *Natural Communities*, a large portion of the proposed project between Temescal Wash and Harley John Road is composed of open space areas that provide "live-in" habitat for numerous species across the landscape. The landscape within the areas west of Harley John Road is largely composed of open space bounded by existing roads; diverse topographical conditions, including flats and canyons; riparian corridors; and relatively low levels of human use. The density of residential development increases and the proximity to open space decreases along Cajalco Road between Harley John Road and I-215. The WRC MSHCP Cores and Linkages within the proposed project area are Existing Core C, Proposed Extension of Existing Core 2, and Proposed Linkage 3. Existing roadways and roadway features with potential to influence Cores and Linkages (i.e., habitat connectivity) include Cajalco Road, La Sierra Avenue, El Sobrante Road, and Harley John Road, all of which are composed of two-lane, undivided minor arterial and major collector roads that lack wildlife fencing, dedicated wildlife crossings, median barriers, and standard shoulders. Details for existing wildlife movement

through the BSA are provided in Section 3.17.2.5. The proposed project also occurs within the boundaries of the long-term Stephens' kangaroo rat (SKR) Habitat Conservation Plan (HCP), which occurs entirely within the WRC MSHCP area. The proposed project overlaps the SKR HCP Core Reserve. Take coverage within the SKR Core Reserve (RCHCA SKR Reserve and LMR lands) would be provided through the SKR HCP.

As described in Section 3.17, *Natural Communities*, the project also occurs within the LM MSHCP area. The project is not a covered activity under the LM MSHCP and would directly affect conserved resources within the LM MSHCP area. Specific impacts on biological resources potentially within the LM MSHCP area are also analyzed for each resource, below. Refer to the introduction to Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, Mitigation Measures*; Section 3.1, *Land Use*; and Section 3.17, *Natural Communities*, for details of the LM MSHCP.

Special-status species documented within the BSA, or that would potentially be affected by the proposed project based on presence of suitable habitat in the BSA, include:

Plant Species (refer to Section 3.19)

- Coulter's Matilija poppy (California Rare Plant Rank [CRPR] 4.2)
- Long-spined spineflower (CRPR rank 1B.2)
- Small-flowered morning glory (CRPR rank 4.2)
- Paniculate tarplant (CRPR 4.2)

Animal Species (refer to Section 3.20)

- Burrowing owl (California Species of Concern [CSC])
- Southern California legless lizard (CSC)
- California glossy snake (CSC)
- Coast western patch-nosed snake (CSC)
- Two-striped garter snake (CSC)
- Least bittern (CSC)
- Long-eared owl (CSC)
- Short-eared owl (CSC)
- Vaux's swift (CSC)
- Clark's marsh wren (CSC)
- Oregon vesper sparrow (CSC)
- Yellow-headed blackbird (CSC)
- Southern grasshopper mouse (CSC)
- American badger (CSC)
- Western yellow bat (CSC)

- Western mastiff bat (CSC)
- Pallid bat (CSC)
- Big free-tail bat (CSC)
- Pocketed free-tailed bat (CSC)

Threatened and Endangered Species (refer to Section 3.21)

- Arroyo toad (federally listed as endangered and CSC)
- Coastal California gnatcatcher (federally listed as threatened)
- Least Bell's vireo (federally and state-listed as endangered)
- Stephens' kangaroo rat (federally listed as endangered and state-listed as threatened)

There are numerous additional plant and wildlife species which are fully covered under the WRC MSHCP that are present or potentially present within the BSA but were not specifically evaluated for impacts because they are already afforded take coverage under the WRC MSHCP. These species are fully described in Section 3.19, *Plant Species*; Section 3.20, *Animal Species*; and Section 3.21, *Threatened and Endangered Species*, of this document and Section 4.6.6 of the NES.

For each biological resource, an evaluation of the impacts within the LM MSHCP area is also provided. LM MSHCP target species that have no special regulatory status are discussed in detail in Section 4.7 and 5.10 of the NES and Section 3.17, *Natural Communities*, of this document.

Invasive species (both plant and animal) were documented throughout the BSA, particularly within disturbed areas. Refer to Table 3.22-1 and Table 3.22-2 in Section 3.22, *Invasive Species*.

4.2.4(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?

The evaluation of impacts for all special-status species (i.e., those species protected under the federal Endangered Species Act [FESA], California Endangered Species Act [CESA], CRPR by the California Native Plant Society, or that are LM MSHCP target species and WRC MSHCP covered) are discussed below for each build alternative. Direct impacts (i.e., permanent and temporary impacts) on special-status species were based on the assumption that loss of suitable habitat would result in adverse effects on specific special-status species. Direct impacts on special-status species were therefore calculated by totaling impact acreages of natural vegetation communities that provide suitable habitat for each plant and animal species. This project is outside of National Marine Fisheries Service (NMFS) jurisdiction; therefore, an NMFS species list is not required and no effects on NMFS species are anticipated.

Build Alternative 1—Cajalco Alignment

Less than Significant with Mitigation

Build Alternative 1 would result in direct adverse impacts on the following special-status species due to loss of suitable habitat:

Non-Listed Animal Species

Refer to Section 3.20, *Animal Species*, for details on the direct effects on non-listed animal species. Suitable habitat for the following species would be affected under Build Alternative 1:

- Burrowing owl: 253.24 acres (211.11 acres permanent, 42.13 acres temporary) direct impacts; 0.58 acre indirect shading effects as described in Table 3.20-2.
- Special-status bats: 295.06 acres (241.30 acres permanent, 53.76 acres temporary) direct impacts on suitable foraging habitat; 1.35 acres indirect shading effects on foraging habitat as described in Table 3.20-3.
- Southern California legless lizard: 103.34 acres (87.45 acres permanent, 15.89 acres temporary) direct impacts; 0.70 acre indirect shading effects as described in Table 3.20-4.
- California glossy snake: 223.61 acres (194.55 acres permanent, 29.06 acres temporary) direct impacts, 0.52 acre shading effects as described in Table 3.20-4.
- Coast western patch-nosed snake: 223.61 acres (194.55 acres permanent, 29.06 acres temporary) direct impacts; 0.52 acre indirect shading effects as described in Table 3.20-4.
- Two-striped garter snake: 11.30 acres (7.18 acres permanent, 4.12 acres temporary) direct impacts; 0.40 acre indirect shading effects as described in Table 3.20-4.
- Least bittern: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Long-eared owl: 14.56 acres (9.39 acres permanent, 5.17 acres temporary) direct impacts; 0.35 acre indirect shading effects as described in Table 3.20-4.
- Short-eared owl: 134.94 acres (116.76 acres permanent, 18.18 acres temporary) direct impacts; 0.22 acre indirect shading effects as described in Table 3.20-4.
- Vaux's swift: 8.07 acres (4.99 acres permanent, 3.08 acres temporary) direct impacts; 0.31 acre indirect shading effects as described in Table 3.20-4.
- Clark's marsh wren: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Oregon vesper sparrow: 183.03 acres (147.92 acres permanent, 35.11 acres temporary) direct impacts; 0.57 acre indirect shading effects as described in Table 3.20-4.
- Yellow-headed blackbird: 1.53 acres (0.94 acre permanent, 0.59 acre temporary) direct impacts as described in Table 3.20-4.
- Southern grasshopper mouse: 76.37 acres (69.19 acres permanent, 7.18 acres temporary) direct impacts; 0.26 acre indirect shading effects as described in Table 3.20-4.

- American badger: 199.78 acres (176.41 acres permanent, 23.37 acres temporary) direct impacts; 0.45 acre indirect shading effects as described in Table 3.20-4.

Furthermore, construction of Build Alternative 1 would remove portions of the roadbed along the existing Cajalco Road and restore portions of the existing roadbed and the right of way, resulting in a beneficial effect on burrowing owl (8.61 acres), special-status bats (9.29 acres), southern California legless lizard (3.08 acres), California glossy snake (8.81 acres), coast western patch-nosed snake (8.81 acres), two-striped garter snake (0.07 acre), long-eared owl (0.38 acre), short-eared owl (5.80 acres), Vaux's swift (0.06 acre), Oregon vesper sparrow (5.89 acres), southern grasshopper mouse (3.01 acres), and American badger (8.65 acres). Refer to Section 3.20, *Animal Species*, for details on the direct effects on non-listed animal species.

In addition to direct effects, the construction and operation of Build Alternative 1 would contribute to indirect effects on special-status animals such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

In addition, the 16 non-listed special-status animals described in Section 3.20, A*nimal Species*, that would be directly affected by Build Alternative 1 are fully covered under the WRC MSHCP; therefore, no additional analysis is required under Build Alternative 1.

The following measures have been incorporated into Build Alternative 1 to address these adverse impacts:

- **NC-1 (NES BIO-1)**: Seasonal Vegetation Clearing Restrictions
- **NC-2 (NES BIO-2)**: Dust Control
- **NC-3 (NES BIO-3)**: Fire Prevention
- **NC-4 (NES BIO-4)**: Environmental Awareness Training
- **NC-5 (NES BIO-5)**: Biological Monitoring
- **NC-6 (NES BIO-6)**: ESA Fencing
- **NC-7 (NES BIO-7)**: Invasive Species Removal
- **NC-8 (NES BIO-8)**: Cleaning Construction Equipment
- **NC-9 (NES BIO-24)**: Disposal of Trash
- **NC-10 (NES BIO-10)**: Water Pollution and Erosion Control Plans
- **NC-11 (NES BIO-11)**: Defining the Limits of Disturbance
- **NC-12 (NES BIO-12)**: Placement of Construction Equipment
- **NC-13 (NES BIO-9)**: Post-construction Hydro-seeding
- **AS-1 (NES BIO-25)**: Burrowing Owl Management Plan
- **AS-2 (NES BIO-16)**: Lighting Restrictions
- **AS-3 (NES BIO-28)**: Preconstruction Wildlife Surveys
- **AS-4 (NES BIO-26)**: Bat Management Plan

- **AS-5 (NES BIO-27)**: Nesting Bird Management Plan
- **AS-6 (NES BIO-29)**: Pet Policy
- **AS-7 (NES BIO-20)**: ESA Fencing

Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)** are required to ensure full compliance with the WRC MSHCP. Measure **NC-13 (NES BIO-9)** would ensure all temporary impact areas are restored. Measures **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** will ensure potential direct effects on special-status species are avoided and/or minimized. With the implementation of the measures identified above, potential effects on non-listed special-status animals would be reduced to a less-than-significant level under CEQA.

Non-Listed Plant Species

Three non-listed plant species would be directly removed during construction of Build Alternative 1: long-spined spineflower, small-flowered morning glory, and paniculate tarplant. The direct effects on long-spined spineflower and small-flowered morning glory are fully covered under the WRC MSHCP; therefore, no additional analysis is required under Build Alternative 1. Refer to Section 3.19, *Plant Species*, for details on the direct effects on non-listed plants.

Although Build Alternative 1 would potentially affect a few individuals of paniculate tarplant, these impacts are not considered significant under CEQA because this species is fairly common regionally. There are no other non-listed plants that would be directly affected during construction of Build Alternative 1. In addition, Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** described for non-listed animals would also address potential indirect effects on non-listed plants that may occur adjacent to the LOD. Impacts on non-listed plant species are considered less than significant under CEQA.

Threatened and Endangered Species

Suitable habitat for the following species would be affected under Build Alternative 1:

- Arroyo toad: 11.82 acres (8.08 acres permanent, 3.74 acres temporary) direct impacts; 0.41 acre indirect shading effects as described in Table 3.21-4.
- Coastal California gnatcatcher: 74.69 acres (67.09 acres permanent, 7.60 acres temporary) direct impacts; 0.22 acre indirect shading effects as described in Table 3.21-5.
- Least Bell's vireo: 12.63 acres (7.85 acres permanent, 4.78 acres temporary) direct impacts; 0.36 acre indirect shading effects as described in Table 3.21-4.
- Stephens' kangaroo rat: 144.78 acres (125.29 acres permanent, 19.49 acres temporary) direct impacts; 0.22 acre indirect shading effects as described in Table 3.21-4.

These species are all fully covered under the WRC MSHCP; however, there are species-specific survey requirements for least Bell's vireo where suitable habitat is present, and for SKR within the RCHCA-owned conserved lands (SKR Core Reserve).

Furthermore, construction of Build Alternative 1 would remove portions of the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a

beneficial effect on coastal California gnatcatcher (2.85 acres), least Bell's vireo (0.07 acre), and SKR (5.80 acres). Refer to Section 3.21, *Threatened and Endangered Species*, for details on the direct effects on threatened and endangered species.

In addition to direct effects, the construction and operation of Build Alternative 1 would contribute to indirect effects on special-status animals such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

The following mitigation measures have been incorporated into Build Alternative 1 to address these adverse impacts:

- **TE-1 (NES BIO-18)**: Noise Reduction for Equipment
- **TE-2 (NES BIO-23)**: Replacement of Least Bell's Vireo Habitat
- **TE-3 (NES BIO-30)**: Stephens' Kangaroo Rat Management Plan

Mitigation Measure **TE-1 (NES BIO-18)** would address avoidance of direct effects on least Bell's vireo and **TE-2 (NES BIO-23)** would address compensatory requirements for impacts on suitable habitat for the species. Measure **TE-3 (NES BIO-30)** would create a management plan for SKR within the SKR Core Reserve area. In addition to the measures above, the measures identified above for non-listed species would also be implemented. Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)** would be implemented to ensure compliance with the WRC MSHCP, **NC-13 (NES BIO-9)** would address replacement of native vegetation within temporarily affected areas, and **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)** would avoid and/or minimize direct effects on listed species. Implementation of **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** would reduce any significant effects to a less-than-significant level under CEQA.

Lake Mathews MSHCP (Build Alternative 1)

Less than Significant with Mitigation

There were a total of 65 LM MSHCP target species evaluated for potential effects based on the presence of suitable habitat within the LM MSHCP boundary. The LM MSHCP target species with special regulatory status that could potentially be affected based on presence of suitable habitat within Build Alternative 1, and are discussed above, are burrowing owl, special-status bats, long-eared owl, southern grasshopper sparrow, and American badger. There are other LM MSHCP target species that are fully covered under the WRC MSHCP or species that have no special regulatory status (e.g., Great Valley phacelia) that may potentially be affected under Build Alternative 1. Refer to Chapter 4 of the NES and Sections 3.17, 3.19, 3.20, and 3.21 of this document for details pertaining to LM MSHCP target species.

The LM MSHCP tracks suitable habitat for target species in three general categories (Nonnative Grassland, Riversidian Sage Scrub, and Riparian); therefore, impacts within the LM MSHCP are

presented using these categories.[6] LM MSHCP target species utilize these vegetation community associations for feeding, breeding, shelter, or movement. Therefore, impacts on LM MSHCP target species are based on the project's effects on these broad vegetation classifications within the LM MSHCP area (refer to Table 3.17-8 for the impact details on LM MSHCP target species):

- Nonnative Grassland: 91.86 acres permanent impact and 14.24 acres temporary impact
- Riversidian Sage Scrub: 22.96 acres permanent impact and 3.08 acres temporary impact
- Riparian: 5.49 acres permanent impact and 3.47 acres temporary impact

Removal of roadbed would potentially restore 0.14 acre of habitat for LM MSHCP target species, which would be a beneficial effect. In addition to direct effects, the construction and operation of Build Alternative 1 would contribute to indirect effects on LM MSHCP target species such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

The minimum compensatory requirements for LM MSHCP target species is 141.24 acres (120.31 acres replacement and 20.79 acres restoration) under Build Alternative 1 (refer to Table 3.17-19 for additional details for each vegetation community association). Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP. Therefore, these effects would be reduced to a less-than-significant level under CEQA.

Build Alternative 2C

Less than Significant with Mitigation

As discussed in Chapter 3, Build Alternative 2C would result in direct adverse impacts on special-status species as follows.

Non-Listed Animal Species

Suitable habitat for the following species would be affected under Build Alternative 2C:

[6] The natural vegetation communities presented in in Section 3.17 were broadly categorized into three vegetation classifications (Nonnative Grassland, Riversidian Sage Scrub, and Riparian) to align with how the LM MSHCP tracks target species habitat for the purposes of presenting impacts on LM MSHCP resources.

- Burrowing owl: 272.24 acres (226.96 acres permanent, 45.28 acres temporary) direct impacts; 1.18 acres indirect shading effects as described in Table 3.20-2.
- Special-status bats: 313.66 acre (256.76 acres permanent, 56.90 acres temporary) direct impacts on suitable foraging habitat; 1.93 acres indirect shading effects on foraging habitat as described in Table 3.20-3.
- Southern California legless lizard: 112.50 acres (96.02 acres permanent, 16.48 acres temporary) direct impacts; 1.01 acres indirect shading effects as described in Table 3.20-4.
- California glossy snake: 227.18 acres (195.77 acres permanent, 31.41 acres temporary) direct impacts, 1.12 acres shading effects as described in Table 3.20-4.
- Coast western patch-nosed snake: 227.18 acres (195.77 acres permanent, 31.41 acres temporary) direct impacts, 1.12 acres shading effects as described in Table 3.20-4.
- Two-striped garter snake: 9.93 acres (5.77 acres permanent, 4.16 acres temporary) direct impacts; 0.39 acre indirect shading effects as described in Table 3.20-4.
- Least bittern: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Long-eared owl: 13.51 acres (8.41 acres permanent, 5.10 acres temporary) direct impacts; 0.38 acre indirect shading effects as described in Table 3.20-4.
- Short-eared owl: 144.02 acres (123.33 acres permanent, 20.69 acres temporary) direct impacts; 0.50 acre indirect shading effects as described in Table 3.20-4.
- Vaux's swift: 7.57 acres (4.43 acres permanent, 3.14 acres temporary) direct impacts; 0.34 acre indirect shading effects as described in Table 3.20-4.
- Clark's marsh wren: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Oregon vesper sparrow: 176.32 acres (139.36 acres permanent, 36.96 acres temporary) direct impacts; 0.84 acre indirect shading effects as described in Table 3.20-4.
- Yellow-headed blackbird: 17.57 acres (16.27 acres permanent, 1.30 acres temporary) direct impacts as described in Table 3.20-4.
- Southern grasshopper mouse: 87.45 acres (79.56 acres permanent, 7.89 acres temporary) direct impacts; 0.58 acre indirect shading effects as described in Table 3.20-4.
- American badger: 202.43 acres (176.75 acres permanent, 25.68 acres temporary) direct impacts; 1.06 acres indirect shading effects as described in Table 3.20-4.

Furthermore, construction of Build Alternative 1 would remove portions of the roadbed along the existing Cajalco Road, which would restore the existing roadbed and the right of way, resulting in a beneficial effect on burrowing owl (12.26 acres), special-status bats (12.85 acres), southern California legless lizard (3.44 acres), California glossy snake (12.38 acres), coast western patch-nosed snake (12.38 acres), two-striped garter snake (0.06 acre), long-eared owl (0.37 acre), short-eared owl (9.00 acres), Vaux's swift (0.05 acre), Oregon vesper sparrow (9.08 acres), southern grasshopper mouse (3.38 acres), and American badger (12.30 acres).

In addition to direct effects, the construction and operation of Build Alternative 2C would contribute to indirect effects on special-status animals such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

In addition, the 16 non-listed special-status animals described in Section 3.20, *Animal Species*, that would be directly affected by Build Alternative 2C are fully covered under the WRC MSHCP; therefore, no additional analysis for these species is required under Build Alternative 2C.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** under Build Alternative 1 would also apply for Build Alternative 2C and would address adverse impacts. With the implementation of the measures identified above, potential effects on non-listed special-status animals would be reduced to a less-than-significant level under CEQA.

Non-Listed Plant Species

Four non-listed plant species would be directly removed during construction of Build Alternative 2C: round-leaved filaree, long-spined spineflower, small-flowered morning glory, and paniculate tarplant. The direct effects on long-spined spineflower and small-flowered morning glory are fully covered under the WRC MSHCP. The direct effects on four individuals of round-leaved filaree would occur outside of the WRC MSHCP Criteria Area and it is fully covered under the WRC MSHCP; therefore, no additional analysis is required under Build Alternative 2C for these species. Refer to Section 3.19, *Plant Species*, for details on the direct effects on non-listed plants.

Although Build Alternative 2C would potentially affect a few individual paniculate tarplants, these impacts are not considered significant under CEQA because this species is fairly common regionally. There are no other non-listed plants that would be directly affected during construction of Build Alternative 2C. In addition, Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** described for non-listed animals would also address potential indirect effects on non-listed plants that may occur adjacent to the LOD. Impacts on non-listed plant species are considered less than significant under CEQA.

Threatened and Endangered Species

Suitable habitat for the following species would be affected under Build Alternative 2C:

- Arroyo toad: 10.43 acres (6.66 acres permanent, 3.77 acres temporary) direct impacts; 0.39 acre indirect shading effects as described in Table 3.21-4.
- Coastal California gnatcatcher: 84.33 acres (76.21 acres permanent, 8.12 acres temporary) direct impacts; 0.56 acre indirect shading effects as described in Table 3.21-5.
- Least Bell's vireo: 11.24 acres (6.43 acres permanent, 4.81 acres temporary) direct impacts; 0.34 acre indirect shading effects as described in Table 3.21-4.
- Stephens' kangaroo rat: 137.83 acres (116.53 acres permanent, 21.30 acres temporary) direct impacts; 0.50 acre indirect shading effects as described in Table 3.21-4.

These species are all fully covered under the WRC MSHCP; however, there are species-specific survey requirements for least Bell's vireo where suitable habitat is present, and for SKR within the RCHCA-owned conserved lands (SKR Core Reserve).

Furthermore, construction of Build Alternative 2C would remove portions of the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a beneficial effect on coastal California gnatcatcher (3.30 acres), least Bell's vireo (0.05 acre), and SKR (9.00 acres). Refer to Section 3.21, *Threatened and Endangered Species*, for details on the direct effects on threatened and endangered species.

The indirect effects from construction and operation of Build Alternative 2C would be the same as those identified under Build Alternative 1.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-7 (NES BIO-20)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** under Build Alternative 1 would also apply for Build Alternative 2C and would address adverse impacts on threatened and endangered species. Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)** would be implemented to ensure compliance with the WRC MSHCP, Measure **NC-13 (NES BIO-9)** would address replacement of native vegetation within temporarily affected areas, and Measures **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)** would avoid and/or minimize direct effects on listed species. In addition, Mitigation Measure **TE-1 (NES BIO-18)** would address avoidance of direct effects on least Bell's vireo and **TE-2 (NES BIO-23)** would address compensatory requirements for impacts on suitable habitat for the species. Measure **TE-3 (NES BIO-30)** would create a management plan for SKR within the SKR Core Reserve area. With the implementation of **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** (identified under Build Alternative 1), any significant effects on threatened and endangered species would be reduced to a less-than-significant level under CEQA.

Lake Mathews MSHCP (Build Alternative 2C)

Less than Significant with Mitigation

There were a total of 65 LM MSHCP target species evaluated for potential effects based on the presence of suitable habitat within the LM MSHCP boundary. The LM MSHCP target species with special regulatory status that could potentially be affected based on presence of suitable habitat within Build Alternative 2C, and are discussed above, are burrowing owl, special-status bats, long-eared owl, southern grasshopper sparrow, and American badger. There are also numerous other LM MSHCP target species that are fully covered under the WRC MSHCP or species that have no special regulatory status (e.g., Great Valley phacelia) that may potentially be affected under Build Alternative 2C. Refer to Chapter 4 of the NES and Sections 3.17, 3.19, 3.20, and 3.21 of this document for details pertaining to LM MSHCP target species.

The LM MSHCP tracks suitable habitat for target species in three general categories (Nonnative Grassland, Riversidian Sage Scrub, and Riparian); therefore, impacts on the LM MSHCP are presented using these categories. LM MSHCP target species utilize these vegetation community associations for feeding, breeding, shelter, or movement. Therefore, impacts on LM MSHCP target species are based on the project's effects on these broad vegetation classifications within

the LM MSHCP area (refer to Table 3.17-8 for the impact details on LM MSHCP target species):

- Nonnative Grassland: 72.17 acres permanent impact and 15.44 acres temporary impact
- Riversidian Sage Scrub: 35.36 acres permanent impact and 3.68 acres temporary impact
- Riparian: 3.67 acres permanent impact and 3.33 acres temporary impact

Removal of roadbed would potentially restore 0.16 acre of habitat for LM MSHCP target species, which would be a beneficial effect. In addition to direct effects, the construction and operation of Build Alternative 2C would contribute to indirect effects on LM MSHCP target species such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

The minimum compensatory requirements for LM MSHCP target species is 134.53 acres (111.21 acres replacement and 22.44 acres restoration) under Build Alternative 2C (refer to Table 3.17-8 for additional details for each vegetation community association). Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP. Therefore, these effects would be reduced to a less-than-significant level under CEQA.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

Build Alternative 4 would result in direct adverse impacts on the following special-status species due to loss of suitable habitat.

Non-Listed Animal Species

Suitable habitat for the following species would be affected under Build Alternative 4:

- Burrowing owl: 240.22 acres (201.28 acres permanent, 38.94 acres temporary) direct impacts; 3.97 acres indirect shading effects as described in Table 3.20-2.
- Special-status bats: 264.41 acre (216.37 acres permanent, 48.04 acres temporary) direct impacts on suitable foraging habitat; 5.16 acres indirect shading effects on foraging habitat as described in Table 3.20-3.

- Southern California legless lizard: 117.39 acres (103.11 acres permanent, 14.28 acres temporary) direct impacts; 4.13 acres indirect shading effects as described in Table 3.20-4.
- California glossy snake: 175.77 acres (149.72 acres permanent, 26.05 acres temporary) direct impacts, 4.02 acres shading effects as described in Table 3.20-4.
- Coast western patch-nosed snake: 175.77 acres (149.72 acres permanent, 26.05 acres temporary) direct impacts, 4.02 acres shading effects as described in Table 3.20-4.
- Two-striped garter snake: 7.40 acres (5.08 acres permanent, 2.32 acres temporary) direct impacts; 0.39 acre indirect shading effects as described in Table 3.20-4.
- Least bittern: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Long-eared owl: 9.72 acres (6.36 acres permanent, 3.36 acres temporary) direct impacts; 0.38 acre indirect shading effects as described in Table 3.20-4.
- Short-eared owl: 70.18 acres (54.95 acres permanent, 15.23 acres temporary) direct impacts; 0.28 acre indirect shading effects as described in Table 3.20-4.
- Vaux's swift: 3.99 acres (2.42 acres permanent, 1.57 acres temporary) direct impacts; 0.35 acre indirect shading effects as described in Table 3.20-4.
- Clark's marsh wren: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) direct impacts as described in Table 3.20-4.
- Oregon vesper sparrow: 137.05 acres (106.62 acres permanent, 30.43 acres temporary) direct impacts; 0.78 acre indirect shading effects as described in Table 3.20-4.
- Yellow-headed blackbird: 2.96 acres (2.21 acres permanent, 0.75 acre temporary) direct impacts as described in Table 3.20-4.
- Southern grasshopper mouse: 95.93 acres (85.91 acres permanent, 10.02 acres temporary) direct impacts; 3.56 acres indirect shading effects as described in Table 3.20-4.
- American badger: 162.39 acres (138.12 acres permanent, 24.27 acres temporary) direct impacts; 3.83 acres indirect shading effects as described in Table 3.20-4.

Furthermore, construction of Build Alternative 4 would remove portions of the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a beneficial effect on burrowing owl (6.55 acres), special-status bats (7.39 acres), southern California legless lizard (4.36 acres), California glossy snake (6.21 acres), coast western patch-nosed snake (6.21 acres), two-striped garter snake (0.06 acre), long-eared owl (0.37 acre), short-eared owl (1.91 acres), Vaux's swift (0.05 acre), Oregon vesper sparrow (2.60), southern grasshopper mouse (3.16 acres), and American badger (5.06 acres). Refer to Section 3.20, *Animal Species*, for details on the direct effects to non-listed animal species.

In addition to direct effects, the construction and operation of Build Alternative 4 would contribute to indirect effects on special-status animals such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

In addition, the 16 non-listed special-status animals described in Section 3.20, *Animal Species,* that would be directly affected by Build Alternative 4 are fully covered under the WRC MSHCP; therefore, no additional analysis is required under Build Alternative 4.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** under Build Alternative 1 would also apply for Build Alternative 4 and would address adverse impacts.

Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)** are required to ensure full compliance with the WRC MSHCP. Measure **NC-13 (NES BIO-9)** would ensure all temporary impact areas are restored. Measures **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** will ensure potential direct effects on special-status species are avoided and/or minimized. With implementation of the measures identified above, potential effects on non-listed special-status animals would be reduced to a less-than-significant level under CEQA.

Non-Listed Plant Species

Three non-listed plant species would be directly removed during construction of Build Alternative 4: long-spined spineflower, small-flowered morning glory, and paniculate tarplant. The direct effects on long-spined spineflower and small-flowered morning glory are fully covered under the WRC MSHCP; therefore, no additional analysis is required under Build Alternative 4. Refer to Section 3.19, *Plant Species*, for details on the direct effects on non-listed plants.

Build Alternative 4 would affect several thousand individuals of paniculate tarplant dispersed (approximately 6.80 acres) and would bisect the population located east of Harley John Road. Paniculate tarplant seeds will be collected prior to project construction (**PL-1 [NES BIO-22]**) and disseminated following construction, which will offset the number of individuals directly removed during construction of Build Alternative 4. There are no other non-listed plants that would be directly affected during construction of Build Alternative 4. In addition, Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** described for non-listed animals would also address potential indirect effects on non-listed plants that may occur adjacent to the LOD. With implementation of these measures, these impacts are not considered significant under CEQA because this species is fairly common regionally and the measures will offset impacts and facilitate local recovery.

Threatened and Endangered Species

Suitable habitat for the following species would be affected under Build Alternative 1:

- Arroyo toad: 8.62 acres (6.24 acres permanent, 2.38 acres temporary) direct impacts; 0.40 acre indirect shading effects as described in Table 3.21-4.
- Coastal California gnatcatcher: 98.79 acres (88.40 acres permanent, 10.39 acres temporary) direct impacts; 3.56 acres indirect shading effects as described in Table 3.21-5.
- Least Bell's vireo: 8.86 acres (5.75 acres permanent, 3.11 acres temporary) direct impacts; 0.35 acre indirect shading effects as described in Table 3.21-4.
- Stephens' kangaroo rat: 78.62 acres (63.11 acres permanent, 15.51 acres temporary) direct impacts; 1.09 acres indirect shading effects as described in Table 3.21-4.

These species are all fully covered under the WRC MSHCP; however, there are species-specific survey requirements for least Bell's vireo where suitable habitat is present, and for SKR within the RCHCA-owned conserved lands (SKR Core Reserve).

Furthermore, construction of Build Alternative 4 would remove portions of the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a beneficial effect on coastal California gnatcatcher (4.30 acres), least Bell's vireo (0.06 acre), and SKR (3.30 acres). The indirect effects from construction and operation of Build Alternative 4 would be the same as those identified under Build Alternative 1. Refer to Section 3.21, *Threatened and Endangered Species*, for details on the direct effects on threatened and endangered species.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-7 (NES BIO-20)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** under Build Alternative 1 would also apply for Build Alternative 4 and would address adverse impacts. Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-7 (NES BIO-20)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** under Build Alternative 1 would also apply for Build Alternative 2C and would address adverse impacts on threatened and endangered species. Measures **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)** would be implemented to ensure compliance with the WRC MSHCP, Measure **NC-13 (NES BIO-9)** would address replacement of native vegetation within temporarily affected areas, and Measures **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)** would avoid and/or minimize direct effects on listed species. In addition, Mitigation Measure **TE-1 (NES BIO-18)** would address avoidance of direct effects on least Bell's vireo and **TE-2 (NES BIO-23)** would address compensatory requirements for impacts on suitable habitat for the species. Measure **TE-3 (NES BIO-30)** would create a management plan for SKR within the SKR Core Reserve area. With the implementation of **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **AS-2 (NES BIO-16)** through **AS-6 (NES BIO-29)**, and **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)** (identified under Build Alternative 1), any significant effects on threatened and endangered species would be reduced to a less-than-significant level under CEQA.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant with Mitigation

There were a total of 65 LM MSHCP target species evaluated for potential effects based on the presence of suitable habitat within the LM MSHCP boundary. The LM MSHCP target species with special regulatory status that could potentially be affected based on presence of suitable habitat within Build Alternative 4 are burrowing owl, special-status bats, long-eared owl, southern grasshopper sparrow, and American badger. There are also numerous other LM MSHCP target species that are fully covered under the WRC MSHCP or species that have no special regulatory status (e.g., Great Valley phacelia) that may potentially be affected under Build Alternative 4. Refer to Chapter 4 of the NES and Sections 3.17, 3.19, 3.20, and 3.21 of this document for details pertaining to LM MSHCP target species.

The LM MSHCP tracks suitable habitat for target species in three general categories (Nonnative Grassland, Riversidian Sage Scrub, and Riparian); therefore, impacts on the LM MSHCP are presented using these categories. LM MSHCP target species utilize these vegetation community associations for feeding, breeding, shelter, or movement. Therefore, impacts on LM MSHCP

target species are based on the project's effects on these broad vegetation classifications within the LM MSHCP area (refer to Table 3.17-8 for the impact details on LM MSHCP target species).

- Nonnative Grassland: 31.39 acres permanent impact and 6.25 acres temporary impact
- Riversidian Sage Scrub: 24.84 acres permanent impact and 2.33 acres temporary impact
- Riparian: 0.30 acre permanent impact and 0.18 acre temporary impact

Removal of roadbed would potentially restore 0.70 acre of habitat for LM MSHCP target species, which would be a beneficial effect. In addition to direct effects, the construction and operation of Build Alternative 4 would contribute to indirect effects on LM MSHCP target species such as edge effects, degraded quality of habitat through introduction and spread of invasive species, increased risk of fire to open space lands, and spread of toxics or pollutants from construction equipment or vehicles.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)** and **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

The minimum compensatory requirements for LM MSHCP target species is 65.99 acres (56.52 acres replacement and 8.76 acres restoration) under Build Alternative 4 (refer to Table 3.17-8 for additional details for each vegetation community association). Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP. Therefore, these effects would be reduced to a less-than-significant level under CEQA.

4.2.4(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Build Alternative 1

Less than Significant with Mitigation

Build Alternative 1 would have direct effects on natural communities of concern (as defined by CDFW), riparian/riverine resources (as defined by the WRC MSHCP, Section 6.1.2), and CDFW

jurisdictional streambeds including associated riparian habitats.[7] Wetlands are discussed in 4.2.4(c), below. The effects from Build Alternative 1 on these sensitive habitats are discussed below:

Natural Communities of Concern

There are six natural communities of concern (as defined by CDFW) that would be directly affected under Build Alternative 1 (refer to Tables 3.17-4 through 3.17-7 for the impacts). No impacts would occur on coast live oak woodland or southern coast live oak riparian forest. Impacts on natural communities of concern are as follows:

- Riversidian Sage Scrub (RSS): 72.42 acres (69.43 acres permanent, 7.81 acres temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.
- Riversidian Alluvial Fan Sage Scrub (RAFSS): 1.63 acre (1.33 acres permanent, 0.30 acre temporary) would be directly affected; 0.05 acre would be indirectly affected through bridge shading.
- Southern Cottonwood-Willow Riparian Forest: 0.29 acre (0.19 acre permanent, 0.10 acre temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.
- Southern Riparian Forest: 0.90 acre (0.34 acre permanent, 0.56 acre temporary) would be directly affected; no effects from bridge shading would occur.
- Southern Willow Scrub: 7.86 acres (5.23 acres permanent, 2.63 acres temporary) would be directly affected; 0.14 acre would be indirectly affected through bridge shading.
- Coast and Valley Freshwater Marsh: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) would be directly affected; no effects from bridge shading would occur.

In addition, construction of Build Alternative 1 would remove the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a beneficial effect on 2.99 acres of RSS and 0.05 acre of southern riparian forest. Refer to Section 3.17, *Natural Communities*, for details on direct effects on natural communities of concern.

In addition to these direct effects, the construction and operation of Build Alternative 1 could contribute to indirect effects on natural communities of concern that may contribute to edge effects, degrade quality of habitat through introduction and spread of invasive species, increase risk of fire to open space lands, and spread toxics or pollutants from construction equipment or vehicles.

[7] The natural communities of concern identified as riparian are not inclusive of all riparian habitat within the BSA. Some habitat (e.g., mulefat scrub) is not classified as a natural community of concern, but may be included as a WRC MSHCP riparian/riverine resource or CDFW jurisdictional riparian habitat depending on the community's location, association with a CDFW streambed, or the resource's functions and values for a sensitive WRC MSHCP species. Similarly, there are certain natural communities of concern, such as RSS, which are generally considered upland communities but, due to their location adjacent to a riverine resource and functions and values to wildlife, could also be considered WRC MSHCP riparian/riverine resource. Therefore, the impacts identified for natural communities of concern, WRC MSHCP riparian/riverine, and CDFW jurisdictional resources for the build alternatives have been quantified separately, but may overlap spatially.

Impacts on natural communities of concern would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above.

The measures in Section 3.17, *Natural Communities*, and Section 3.10, *Water Quality and Stormwater Runoff*, are intended to address the potential effects on natural communities of concern.

- **NC-1 (NES BIO-1):** Seasonal Vegetation Clearing Restrictions
- **NC-2 (NES BIO-2):** Dust Control
- **NC-3 (NES BIO-3):** Fire Prevention
- **NC-4 (NES BIO-4):** Environmental Awareness Training
- **NC-5 (NES BIO-5):** Biological Monitoring
- **NC-6 (NES BIO-6):** ESA Fencing
- **NC-7 (NES BIO-7):** Invasive Species Removal
- **NC-8 (NES BIO-8):** Cleaning Construction Equipment
- **NC-9 (NES BIO-24):** Disposal of Trash
- **NC-10 (NES BIO-10):** Water Pollution and Erosion Control Plans
- **NC-11 (NES BIO-11):** Defining the Limits of Disturbance
- **NC-12 (NES BIO-12):** Placement of Construction Equipment
- **NC-13 (NES BIO-9):** Post-construction Hydro-seeding
- **PF WQ-3:** Post-Construction BMPs
- **PF WQ-4:** Construction Storm Water Pollution Prevention Plan (SWPPP)

Compensatory mitigation requirements for impacts on natural communities of concern would be addressed through mitigation required within conservation lands (i.e., lands within the LM MSHCP area, RCHCA SKR Reserve, and public/quasi-public [PQP] lands) (discussed in 4.2.4(f)) and through compensatory mitigation for impacts on WRC MSHCP riparian/riverine resources (described below). Implementation of these measures and the project's consistency with the WRC MSHCP requirements would reduce the adverse effects on natural communities of concern to less-than-significant levels.

WRC MSHCP Riparian/Riverine Resources

Build Alternative 1 would have a direct effect on the following WRC MSHCP riparian/riverine resources, which are sensitive resources under Section 6.1.2 of the WRC MSHCP Volume I:

- Riparian: 19.31 acres (11.67 acres permanent and 7.64 acres temporary) would be directly affected; 0.45 acre would be indirectly affected through bridge shading.
- Riverine: 6.14 acres (4.65 acres permanent and 1.49 acres temporary); 0.33 acre would be indirectly affected by bridge shading.

In addition, Build Alternative 1 would remove 0.16 acre of roadbed and right of way that would be restored and result in a beneficial effect. Impact details are provided in Section 3.17, *Natural Communities* (refer to Table 3.17-13).

These WRC MSHCP riparian/riverine resources would also be subject to long-term effects from operation of the proposed project, including activities that may degrade riparian/riverine habitat (e.g., maintenance of the new right of way, increased litter, increased risk of fire) and reduce the resources' functions and value for wildlife movement and other species use. The direct and indirect effects on WRC MSHCP Riparian/riverine resources would be an adverse effect under CEQA.

Implementation of Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** (identified above for natural communities of concern) would also apply to WRC MSHCP riparian/riverine resources under Build Alternative 1. Impacts on riparian/riverine resources will also require mitigation and replacement of the resource. The following measures will mitigate for the impacts on WRC MSHCP riparian/riverine resources:

- **NC-14 (NES BIO-13):** Preparation of a Determination of Biologically Equivalent or Superior Preservation (DBESP)
- **NC-15 (NES BIO-14):** Replacement of Riparian/Riverine Resources

With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 1 would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian Habitat

The direct impacts on CDFW jurisdictional waters under Build Alternative 1 that would occur during construction activities include:

- Permanent impacts on 10.399 acres CDFW streambeds (of which 4.649 acres are CDFW riparian)
- Temporary impacts on 5.397 acres CDFW streambeds (of which 1.973 acres would occur on CDFW riparian)

Shading effects from construction of new or expanded bridges may convert 0.047 acre of CDFW riparian to state unvegetated streambed.

Roadbed removal would rehabilitate 0.161 acre of CDFW jurisdictional streambeds, of which 0.004 acre of CDFW riparian would be restored and be considered a beneficial effect of Build Alternative 1. Refer to Section 3.18, *Wetlands and Other Waters*, for details on the direct effects on CDFW streambeds and associated riparian habitat (refer to Table 3.18-4).

There is also a potential for long-term effects on CDFW unvegetated streambeds and associated riparian during operation of the proposed project. Maintenance within the road right of way and additional vehicles traveling along the project could increase toxicants and invasive species, and degrade quality of habitat, resulting in edge effects on drainage and/or wetlands adjacent to the widened roadway. However, this effect would not differ appreciably from existing conditions.

There would be a potentially significant impact on CDFW jurisdictional waters due to the regional and rapid decline of these resources, including riparian habitats. With implementation of the measures described below, the impacts on CDFW jurisdictional streambeds and associated riparian are less than significant with mitigation incorporated.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, would also be implemented to reduce construction-related effects on CDFW jurisdictional waters.

Build Alternative 1 also would require a Lake and Streambed Alteration Agreement from CDFW.

Measure **WET-1 (NES BIO-14)** (in Section 3.18, *Wetlands and Other Waters*) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for CDFW riparian and 1:1 for CDFW unvegetated streambeds/culverts), temporary impacts (minimum 1:1 for CDFW riparian and CDFW unvegetated streambeds/culverts), and shading effects (minimum 2:1 for CDFW riparian). Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 1 on CDFW jurisdictional streambeds will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 1)

Less than Significant with Mitigation

Natural Communities of Concern

Build Alternative 1 would have adverse effects on natural communities of concern that are present within the LM MSHCP area. Only three of the natural communities of concern that would be affected under Build Alternative 1 occur within the LM MSHCP area.

- Riversidian Sage Scrub (RSS): 28.99 acres (25.87 acres permanent, 3.12 acres temporary) would be directly affected; no impacts would occur from bridge shading.
- Riversidian Alluvial Fan Sage Scrub (RAFSS): 0.03 acre (0.02 acre permanent, 0.01 acre temporary) would be directly affected; no impacts would occur from bridge shading.
- Southern Willow Scrub: 3.05 acres (2.27 acres permanent, 0.78 acre temporary) would be directly affected; no impacts would occur from bridge shading.

As described above for Build Alternative 1, the direct effects on natural communities of concern within the LM MSHCP area would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above. There would be no beneficial effects on natural communities of concern from roadbed removal within the LM MSHCP area. Refer to Tables 3.17-9 through 3.17-12 in Section 3.17, *Natural Communities*, for details on the direct effects on natural communities of concern within the LM MSHCP area.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities of concern within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP.

WRC MSHCP Riparian/Riverine

Build Alternative 1 would directly affect WRC MSHCP riparian/riverine resources that occur within the LM MSHCP area as follows:

- Riparian: 8.96 acres (5.44 acres permanent and 3.52 acres temporary) would be directly affected; 0.05 acre would be indirectly affected through bridge shading.
- Riverine: 1.37 acres (1.15 acres permanent and 0.22 acre temporary); 0.01 acre would be indirectly affected by bridge shading.

No roadbed removal would occur within the LM MSHCP area that would affect WRC MSHCP riparian/riverine resources. Refer to Table 3.17-15 in Section 3.17, *Natural Communities*, for details on the direct effects on WRC MSHCP riparian/riverine resources within the LM MSHCP area.

The long-term operational effects that would occur within the LM MSHCP area are identified above for Build Alternative 1. The direct and indirect effects on WRC MSHCP riparian/riverine resources would be an adverse effect under CEQA.

Implementation of measures (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]**, **PF WQ-3** and **PF WQ-4**) and mitigation (**NC-14 [NES BIO-13]** and **NC-15 [NES BIO-14]**) identified above for Build Alternative 1 and compensatory mitigation for impacts on the LM MSHCP area (**NC-17 [NES BIO-17]** through **NC-19 [NES BIO-15]**) would also apply. With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 1 would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian

Build Alternative 1 would directly affect CDFW jurisdictional streambeds and associated riparian habitats that occur within the LM MSHCP area as follows:

- Permanent impact of 2.946 acres CDFW streambeds (of which 1.792 acres are CDFW riparian)

- Temporary impacts of 0.776 acre CDFW streambeds (of which 0.467 acre is CDFW riparian)

Shading effects from construction of new bridges within the LM MSHCP area would convert 0.047 acre of CDFW riparian to state unvegetated streambed. No roadbed removal (beneficial effect) would occur within the LM MSHCP area. Refer to Table 3.18-5 in Section 3.18, *Wetlands and Other Waters*, for details on the direct effects on CDFW jurisdictional streambeds and associated riparian habitats.

The long-term and operational effects identified above for Build Alternative 1 would also occur within the LM MSHCP area. As noted above, this effect would not differ appreciably from existing conditions. CDFW jurisdictional streambeds and associated riparian habitats are sensitive communities regionally that provide habitat for LM MSHCP target species; therefore, impacts on these CDFW resources could be significant. However, with the implementation of the avoidance, minimization, and mitigation measures for Build Alternative 1 and acquisition of a Lake and Streambed Alteration Agreement from CDFW, the impacts on state streambeds would be reduced to a less-than-significant level with mitigation incorporated.

Build Alternative 2C

Less than Significant with Mitigation

Build Alternative 2C would have direct effects on natural communities of concern (as defined by CDFW), riparian/riverine resources (as defined by the WRC MSHCP, Section 6.1.2), and CDFW jurisdictional streambeds including associated riparian habitats. Wetlands are discussed in 4.2.4(c), below. The effects from Build Alternative 2C on these sensitive habitats are discussed below.

Natural Communities of Concern

There are six natural communities of concern (as defined by CDFW) that would be directly affected under Build Alternative 2C. No impacts would occur on coast live oak woodland or southern coast live oak riparian forest. Impacts on natural communities of concern are as follows:

- Riversidian Sage Scrub (RSS): 86.69 acres (78.61 acres permanent, 8.08 acres temporary) would be directly affected; 0.50 acre would be indirectly affected through bridge shading.
- Riversidian Alluvial Fan Sage Scrub (RAFSS): 1.63 acres (1.33 acres permanent, 0.30 acre temporary) would be directly affected; 0.05 acre would be indirectly affected through bridge shading.
- Southern Cottonwood-Willow Riparian Forest: 0.29 acre (0.19 acre permanent, 0.10 acre temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.
- Southern Riparian Forest: 0.90 acre (0.34 acre permanent, 0.56 acre temporary) would be directly affected; no effects from bridge shading would occur.
- Southern Willow Scrub: 7.36 acres (4.67 acres permanent, 2.69 acres temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.

- Coast and Valley Freshwater Marsh: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) would be directly affected; no effects from bridge shading would occur.

These direct effects would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above. In addition, construction of Build Alternative 2C would remove the roadbed along the existing Cajalco Road and restore the removed roadbed and the right of way, resulting in a beneficial effect on 3.38 acres of RSS and 0.05 acre of southern riparian forest. Impact details are provided in Section 3.17, *Natural Communities* (refer to Tables 3.17-4 through 3.17-7).

The indirect effects from construction and operation of Build Alternative 2C would be the same as those identified under Build Alternative 1. Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** identified above under Build Alternative 1 would also be applicable under Build Alternative 2C and would address the potential indirect effects on natural communities of concern.

Compensatory mitigation requirements for impacts on natural communities of concern would be addressed through mitigation required within conservation lands (i.e., lands within the LM MSHCP area, RCHCA SKR Reserve, and PQP lands) (discussed in 4.2.4(f)) and through compensatory mitigation for impacts on WRC MSHCP riparian/riverine resources (described below). Implementation of these measures and the project's consistency with the WRC MSHCP requirements would reduce the adverse effects on natural communities of concern to less-than-significant levels.

WRC MSHCP Riparian/Riverine Resources

Build Alternative 2C would have a direct effect on the following WRC MSHCP riparian/riverine resources, which are sensitive resources under Section 6.1.2 of the WRC MSHCP Volume I:

- Riparian: 11.19 acres (9.86 acres permanent and 1.33 acres temporary) would be directly affected; 0.43 acre would be indirectly affected through bridge shading.
- Riverine: 6.24 acres (4.76 acres permanent and 1.48 acres temporary); 0.36 acre would be indirectly affected by bridge shading.

In addition, the Build Alternative would remove 0.15 acre of roadbed and right of way that would be restored and result in a beneficial effect. Impact details are provided in Section 3.17, *Natural Communities* (refer to Table 3.17-13).

The indirect effects from construction and operation of Build Alternative 2C would be the same as those identified under Build Alternative 1. The direct and indirect effects on WRC MSHCP riparian/riverine resources under Build Alternative 2C would be adverse under CEQA.

Implementation of measures (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]**, **PF WQ-3**, and **PF WQ-4**) identified above for natural communities of concern would also apply to WRC MSHCP riparian/riverine resources under Build Alternative 2C. Impacts on riparian/riverine resources will also require mitigation and replacement of the resource. The following measures will mitigate for the impacts from Build Alternative 2C on WRC MSHCP riparian/riverine resources:

- **NC-14 (NES BIO-13):** Preparation of a DBESP
- **NC-15 (NES BIO-14):** Replacement of Riparian/Riverine Resources

With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 2C would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian Habitat

Impacts on CDFW jurisdictional waters under Build Alternative 2C that would occur during construction activities include:

- Permanent impacts on 10.465 acres CDFW streambeds (of which 4.241 acres are CDFW riparian)
- Temporary impacts on 5.585 acres CDFW streambeds (of which 1.973 acres would occur on CDFW riparian)

Shading effects from construction of new or expanded bridges would convert 0.031 acre of CDFW riparian to state unvegetated streambed.

Roadbed removal would rehabilitate 0.173 acre of CDFW jurisdictional streambeds, of which 0.002 acre of CDFW riparian and 0.065 acre of CDFW wetland would be restored and be considered a beneficial effect of Build Alternative 2C. The direct effects on CDFW streambeds and associated riparian habitat are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-4).

The long-term and operational effects under Build Alternative 2C would be the same as those identified under Build Alternative 1, above; however, this effect would not differ appreciably from existing conditions along existing roadways. The long-term effect and operation of the project through conservation lands southeast of La Sierra Avenue and Cajalco Road would be new; therefore, these additional effects may be significant. In addition, Build Alternative 2C may contribute to the regional and rapid decline of CDFW streambeds and associated riparian habitats, which would be potentially significant under CEQA.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, would be implemented to reduce construction-related effects on CDFW jurisdictional waters. In addition, Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for CDFW riparian and 1:1 for CDFW unvegetated streambed/culverts), temporary impacts (minimum 1:1 for CDFW riparian and CDFW unvegetated streambeds/culverts), and shading effects (0.062 acre CDFW riparian). Build Alternative 2C also will require a Lake and Streambed Alteration Agreement from CDFW. Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 2C on CDFW jurisdictional streambeds will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 2C)

Less than Significant with Mitigation

Natural Communities of Concern

Build Alternative 2C would have adverse effects on natural communities of concern that are present within the LM MSHCP area. Only three of the natural communities of concern that would be affected under Build Alternative 2C occur within the LM MSHCP area.

- Riversidian Sage Scrub (RSS): 38.95 acres (35.32 acres permanent, 3.63 acres temporary) would be directly affected; no impacts would occur from bridge shading.
- Riversidian Alluvial Fan Sage Scrub (RAFSS): 0.03 acre (0.02 acre permanent, 0.01 acre temporary) would be directly affected; no impacts would occur from bridge shading.
- Southern Willow Scrub: 2.56 acres (1.72 acres permanent, 0.84 acre temporary) would be directly affected; no impacts would occur from bridge shading.

As described above for Build Alternative 2C, the direct effects on natural communities of concern within the LM MSHCP area would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above. There would be no beneficial effects on natural communities of concern from roadbed removal within the LM MSHCP area. Refer to Tables 3.17-9 through 3.17-12 in Section 3.17, *Natural Communities*, for details on the direct effects on natural communities of concern within the LM MSHCP area.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities of concern within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP. Therefore, effects on the LM MSHCP under Build Alternative 2C would be less than significant with mitigation incorporated.

WRC MSHCP Riparian/Riverine

Build Alternative 2C would directly affect WRC MSHCP riparian/riverine resources that occur within the LM MSHCP area as follows:

- Riparian: 7.61.as acres (3.62 acres permanent and 3.99 acres temporary) would be directly affected; 0.03 acre would be indirectly affected through bridge shading.

- Riverine: 1.47 acres (1.26 acres permanent and 0.21 acre temporary); 0.05 acre would be indirectly affected by bridge shading.

No roadbed removal would occur within the LM MSHCP area that would affect WRC MSHCP riparian/riverine resources. Refer to Table 3.17-15 in Section 3.17, *Natural Communities*, for details on the direct effects on WRC MSHCP riparian/riverine resources within the LM MSHCP area.

The long-term operational effects that would occur within the LM MSHCP area under Build Alternative 2C are identified above in Build Alternative 1. The direct and indirect effects on WRC MSHCP riparian/riverine resources would be an adverse effect under CEQA.

Implementation of measures (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]**, **PF WQ-3** and **PF WQ-4**) and mitigation (**NC-14 [NES BIO-13]** and **NC-15 [NES BIO-14]**) identified above for Build Alternative 2C and compensatory mitigation for impacts on the LM MSHCP area (**NC-17 [NES BIO-17]** through **NC-19 [NES BIO-15]**) would also apply. With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 2C would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian

Build Alternative 2C would directly affect CDFW jurisdictional streambeds and associated riparian habitats that occur within the LM MSHCP area as follows:

- Permanent impacts on 2.642 acres CDFW streambeds (of which 1.383 acres are CDFW riparian)
- Temporary impacts on 0.801 acre CDFW streambeds (of which 0.466 acre is CDFW riparian)

Shading effects from construction of new bridges within the LM MSHCP area would convert 0.031 acre of CDFW riparian to state unvegetated streambed. No roadbed removal (beneficial effect) would occur within the LM MSHCP area. Refer to Table 3.18-5 in Section 3.18, *Wetlands and Other Waters*, for details on the direct effects on CDFW jurisdictional streambeds and associated riparian habitats.

The long-term and operational effects identified above for Build Alternative 2C would also occur within the LM MSHCP area. As noted above, this effect would not differ appreciably from conditions along existing roadways. However, the operational and long-term effects on adjacent conservation lands southeast of La Sierra Avenue and Cajalco Road would be new. CDFW jurisdictional streambeds and associated riparian habitats are sensitive communities within the region that provide habitat for LM MSHCP target species; therefore, impacts on these CDFW resources could be significant. However, with implementation of the avoidance, minimization, and mitigation measures for Build Alternative 2C and acquisition of a Lake and Streambed Alteration Agreement from CDFW, the impacts on state streambeds would be reduced to a less-than-significant level with mitigation incorporated.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

Build Alternative 4 would have direct effects on natural communities of concern (as defined by CDFW), riparian/riverine resources (as defined by the WRC MSHCP, Section 6.1.2), and CDFW jurisdictional streambeds including associated riparian habitats. Wetlands are discussed in 4.2.4(c), below. The effects from Build Alternative 4 on these sensitive habitats are discussed below:

Natural Communities of Concern

There are six natural communities of concern (as defined by CDFW) that would be directly affected under Build Alternative 4. No impacts would occur on coast live oak woodland or southern coast live oak riparian forest. Impacts on natural communities of concern are as follows:

- Riversidian Sage Scrub (RSS): 83.94 acres (75.25 acres permanent, 8.42 acres temporary) would be directly affected; 2.09 acres would be indirectly affected through bridge shading.
- Riversidian Alluvial Fan Sage Scrub (RAFSS): 1.57 acres (1.28 acres permanent, 0.29 acre temporary) would be directly affected; 0.05 acre would be indirectly affected through bridge shading.
- Southern Cottonwood-Willow Riparian Forest: 0.29 acre (0.19 acre permanent, 0.10 acre temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.
- Southern Riparian Forest: 0.10 acre (0.01 acre permanent, 0.09 acre temporary) would be directly affected; no effects from bridge shading would occur.
- Southern Willow Scrub: 4.58 acres (2.99 acres permanent, 1.59 acres temporary) would be directly affected; 0.18 acre would be indirectly affected through bridge shading.
- Coast and Valley Freshwater Marsh: 0.12 acre (0.06 acre permanent, 0.06 acre temporary) would be directly affected; no effects from bridge shading would occur.

These direct effects would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above. In addition, construction of Build Alternative 4 would remove portions of roadbed along existing paved roadways, and restore the removed roadbed and the right of way, resulting in a beneficial effect on 4.30 acres of RSS and 0.05 acre of southern riparian forest. Refer to Section 3.17, *Natural Communities*, for details on direct effects on natural communities of concern.

The indirect effects from construction and operation of Build Alternative 4 would be the same as those identified under Build Alternative 1. Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** identified above under Build Alternative 1 would also be applicable under Build Alternative 4 and would address the potential indirect effects on natural communities of concern.

Compensatory mitigation requirements for impacts on natural communities of concern would be addressed through mitigation required within conservation lands (i.e., lands within the LM MSHCP area, SKR Reserve, and PQP lands) (discussed in 4.2.4(f)) and through compensatory mitigation for impacts on WRC MSHCP riparian/riverine resources (described below). Implementation of these measures and the project's consistency with the WRC MSHCP requirements would reduce the adverse effects on natural communities of concern to less-than-significant levels.

WRC MSHCP Riparian/Riverine Resources

Build Alternative 4 would have a direct effect on the following WRC MSHCP riparian/riverine resources, which are sensitive resources under Section 6.1.2 of the WRC MSHCP Volume I:

- Riparian: 10.37 acres (6.62 acres permanent and 3.75 acres temporary) would be directly affected; 0.58 acre would be indirectly affected through bridge shading.
- Riverine: 4.28 acres (2.39 acres permanent and 1.89 acres temporary); 0.64 acre would be indirectly affected by bridge shading.

In addition, Build Alternative 4 would remove 0.26 acre of roadbed and right of way that would be restored and result in a beneficial effect where El Sobrante Road and La Sierra Avenue intersect. Impact details are provided in Section 3.17, *Natural Communities* (refer to Table 3.17-13).

The indirect effects from construction and operation of Build Alternative 4 would be the same as those identified under Build Alternative 1. The direct and indirect effects on WRC MSHCP riparian/riverine resources under Build Alternative 4 would be an adverse effect under CEQA.

Implementation of measures (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]**, **PF WQ-3** and **PF WQ-4**) identified above for natural communities of concern would also apply to WRC MSHCP riparian/riverine resources affected by Build Alternative 4. The following measures will mitigate for the impacts from Build Alternative 4 on WRC MSHCP riparian/riverine resources:

- **NC-14 (NES BIO-13):** Preparation of a DBESP
- **NC-15 (NES BIO-14):** Replacement of Riparian/Riverine Resources

With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 4 would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian Habitat

The direct impacts on CDFW jurisdictional streambeds under Build Alternative 4 that would occur during construction activities include:

- Permanent impacts on 7.083 acres CDFW streambeds (of which 3.463 acres are CDFW riparian)
- Temporary impacts on 5.800 acres CDFW streambeds (of which 1.263 acres would occur on CDFW riparian)

Shading effects from construction of new or expanded bridges would convert 0.037 acre of CDFW riparian and 0.136 acre of CDFW wetland to state unvegetated streambed.

Roadbed removal would rehabilitate 0.179 acre of CDFW jurisdictional streambeds, of which 0.003 acre of CDFW riparian would be restored and be considered a beneficial effect of Build Alternative 4. Refer to Section 3.18, *Wetlands and Other Waters*, for details on the direct effects on CDFW streambeds and associated riparian habitat (refer to Table 3.18-4).

The long-term and operational effects under Build Alternative 4 would be the same as those identified under Build Alternative 1, above; however, this effect would not differ appreciably from existing conditions along existing roadways. In addition, Build Alternative 4 may contribute to the regional and rapid decline of CDFW streambeds and associated riparian habitats, which would be potentially significant under CEQA.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, would be implemented to reduce construction-related effects on CDFW jurisdictional streambeds. In addition, Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for CDFW riparian and 1:1 for CDFW unvegetated streambed/culverts), temporary impacts (minimum 1:1 for CDFW riparian and unvegetated streambed), and shading effects (minimum 2:1 for CDFW riparian). Build Alternative 4 also will require a Lake and Streambed Alteration Agreement from CDFW. Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 4 on CDFW jurisdictional streambeds will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant with Mitigation

Natural Communities of Concern

Build Alternative 4 would have adverse effects on natural communities of concern that are present within the LM MSHCP area. Only two of the natural communities of concern that would be affected under Build Alternative 4 occur within the LM MSHCP area.

- Riversidian Sage Scrub (RSS): 24.11 acres (21.95 acres permanent, 2.19 acres temporary) would be directly affected; no impacts would occur from bridge shading.
- Southern Willow Scrub: 0.46 acre (0.29 acre permanent, 0.17 acre temporary) would be directly affected; no impacts would occur from bridge shading.

In addition, construction of Build Alternative 4 would remove the roadbed and restore 0.49 acre of RSS, resulting in a beneficial effect. As described above for Build Alternative 4, the direct effects on natural communities of concern within the LM MSHCP area would be adverse because these natural communities of concern are rapidly declining throughout the region and provide habitat for many of the special-status species discussed in 4.2.4(a), above. Refer to

Tables 3.17-9 through 3.17-12 in Section 3.17, *Natural Communities*, for details on the direct effects on natural communities of concern within the LM MSHCP area.

Measures **NC-1 (NES BIO-1)** through **NC-13 (NES BIO-9)**, **PF WQ-3**, and **PF WQ-4** identified above would also be applicable within the LM MSHCP area. In addition, the impacts on natural communities of concern within the LM MSHCP area would require the following compensatory mitigation to address the effects on suitable habitat (including natural communities of concern) for LM MSHCP target species:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

Full replacement/restoration of natural vegetation communities within the LM MSHCP area and funding endowment will ensure biological equivalency and offset the loss of lands within the LM MSHCP. Therefore, effects on the LM MSHCP under Build Alternative 4 would be less than significant with mitigation incorporated.

WRC MSHCP Riparian/Riverine

Build Alternative 4 would directly affect WRC MSHCP riparian/riverine resources that occur within the LM MSHCP area as follows:

- Riparian: 0.48 acre (0.30 acre permanent and 0.18 acre temporary) would be directly affected; 0.17 acre would be indirectly affected through bridge shading.
- Riverine: 0.10 acre (0.09 acre permanent and 0.01 acre temporary); 0.01 acre would be indirectly affected by bridge shading.

No roadbed removal would occur within the LM MSHCP area that would affect WRC MSHCP riparian/riverine resources. Refer to Table 3.17-15 in Section 3.17, *Natural Communities*, for details on the direct effects on WRC MSHCP riparian/riverine resources within the LM MSHCP area.

The long-term operational effects that would occur within the LM MSHCP area under Build Alternative 4 are identified above under Build Alternative 1. The direct and indirect effects on WRC MSHCP riparian/riverine resources would be an adverse effect under CEQA.

Implementation of measures (**NC-1 [NES BIO-1]** through **NC-13 [NES BIO-9]**, **PF WQ-3** and **PF WQ-4**) and mitigation (**NC-14 [NES BIO-13]** and **NC-15 [NES BIO-14]**) identified above for Build Alternative 4 and compensatory mitigation for impacts on the LM MSHCP area (**NC-17 [NES BIO-17]** through **NC-19 [NES BIO-15]**) would also apply. With the implementation of these mitigation measures and the project's consistency with the WRC MSHCP Section 6.1.2 policy (see 4.2.4(f) below for more details), Build Alternative 4 would have a less-than-significant effect under CEQA with mitigation incorporated.

CDFW Streambeds and Associated Riparian

Build Alternative 4 would directly affect CDFW jurisdictional streambeds and associated riparian habitats that occur within the LM MSHCP area as follows:

- Permanent impacts on 0.139 acre CDFW streambeds (of which 0.47 acre is CDFW riparian)
- Temporary impacts on 0.09 acre CDFW streambeds (of which 0.061 acre is CDFW riparian)

Shading effects from construction of new bridges within the LM MSHCP area would convert 0.032 acre of CDFW riparian to state unvegetated streambed. No roadbed removal (beneficial effect) would occur within the LM MSHCP area. Refer to Table 3.18-5 in Section 3.18, *Wetlands and Other Waters*, for details on the direct effects on CDFW jurisdictional streambeds and associated riparian habitats.

The long-term and operational effects identified above for Build Alternative 4 would also occur within the LM MSHCP area. As noted above, this effect would not differ appreciably from conditions along existing roadways. CDFW jurisdictional streambeds and associated riparian habitats are sensitive communities within the region that provide habitat for LM MSHCP target species; therefore, impacts on these CDFW resources could be significant. However, with implementation of the avoidance, minimization, and mitigation measures for Build Alternative 4 and acquisition of a Lake and Streambed Alteration Agreement from CDFW, the impacts on state streambeds would be reduced to a less-than-significant level with mitigation incorporated.

4.2.4(c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Build Alternative 1—Cajalco Alignment

Less than Significant with Mitigation

USACE/RWQCB Jurisdictional Waters

Impacts on USACE/RWQCB jurisdictional waters under Build Alternative 1 that would occur during construction activities include[8]:

- Permanent impacts on 3.605 acres, of which 0.76 acre would occur on wetland waters of the U.S. (WoUS)/waters of the State (WoS)
- Temporary impacts on 2.078 acres, of which 0.236 acre would occur on wetland WoUS/WoS
- Shading effects would convert 0.042 acre wetland WoUS/WoS to non-wetland WoUS/WoS
- Roadbed removal would rehabilitate 0.078 acre of non-wetland WoUS/WoS

[8] Aquatic resources within the project area were delineated according to the 1987 Wetland Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.

No vernal pools or vernal pool watersheds would be affected by this build alternative. The direct impacts on USACE/RWQCB jurisdictional waters are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-3).

There is also a potential for long-term effects on federal jurisdictional waters during operation of the proposed project. Maintenance within the road right of way and additional vehicles traveling along the project could increase toxicants and invasive species, and degrade quality of habitat, resulting in edge effects on drainage and/or wetlands adjacent to the widened roadway. However, this effect would not differ appreciably from existing conditions. There would be a potentially significant impact on federal jurisdictional waters due to the regional and rapid decline of wetlands and non-wetland waters.

The following measures would be implemented to reduce construction-related effects on federal jurisdictional waters.

- **NC-4 (NES BIO-4):** Environmental Awareness Training
- **NC-5 (NES BIO-5):** Biological Monitoring
- **NC-6 (NES BIO-6):** ESA Fencing
- **NC-10 (NES BIO-10):** Water Pollution and Erosion Control Plans
- **NC-11 (NES BIO-11):** Defining the Limits of Disturbance
- **NC-12 (NES BIO-12):** Placement of Construction Equipment
- **NC-13 (NES BIO-9):** Post-construction Hydro-seeding
- **PF WQ-3:** Post-Construction BMPs
- **PF WQ-4:** Construction SWPPP

The following permits will be necessary under Build Alternative 1 as described in **PF WQ-1** and **PF WQ-2** (in Section 3.10, *Water Quality and Stormwater Runoff*):

- Section 401 Certification from RWQCB
- Section 404 Nationwide Permit and/or Individual Permit from USACE

Measure **WET-1 (NES BIO-14)** (refer to Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for wetland and minimum 1:1 for non-wetland) or temporary impacts (minimum 1:1) on USACE wetlands and non-wetlands, including any effects from permanent shading of wetland WoUS/WoS (minimum 2:1). Final compensatory mitigation requirements will be negotiated with the resource agencies during final project design and project permitting. These measures would ensure any adverse impacts from Build Alternative 1 on federal wetlands and other waters will be reduced to below a level of significance under CEQA.

CDFW Wetlands

Impacts on CDFW wetlands under Build Alternative 1 that would occur on CDFW wetlands during construction activities are:

- Permanent impacts on 1.283 acres of CDFW wetlands

- Temporary impacts on 1.671 acres of CDFW wetlands

Shading effects from construction of new or expanded bridges may convert 0.136 acre of CDFW wetland to state unvegetated streambed. As identified under 4.2.4(b) above for Build Alternative 1, roadbed removal would rehabilitate 0.190 acre of CDFW jurisdictional streambeds. Of this, 0.065 acre of CDFW wetland would be restored and be considered a beneficial effect from Build Alternative 1. The impacts on CDFW wetlands are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-4).

There is also a potential for long-term effects on CDFW wetlands during operation of the proposed project. Maintenance within the road right of way and additional vehicles traveling along the project could increase toxicants and invasive species, and degrade water quality, which could contribute to edge effects on wetlands occurring adjacent to the widened roadway. However, this effect would not differ appreciably from existing conditions.

There would be a potentially significant impact on CDFW wetlands due to the regional and rapid decline of this resource. With implementation of the measures described below, the impacts on CDFW wetlands are less than significant with mitigation incorporated.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, would also be implemented to reduce construction-related effects on CDFW wetlands. Build Alternative 1 also would require a Lake and Streambed Alteration Agreement from CDFW. Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through and in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for CDFW wetlands), temporary impacts (minimum 1:1 for CDFW wetlands), and shading effects (minimum 2:1 for CDFW wetlands). Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 1 on CDFW wetlands will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 1)

Less than Significant with Mitigation

Impacts on federal and state wetlands present within the LM MSHCP area are included in the impacts described above for Build Alternative 1. Specifically, permanent impacts would occur on 1.157 acres and temporary impacts would occur on 0.339 acre on WoUS/WoS present within the LM MSHCP area. Although no permanent effects on federal wetlands would occur within the LM MSHCP area, there would be temporary effects on 0.003 acre wetland WoUS/WoS. In addition, permanent impacts would occur on less than 0.001 acre and temporary impacts would occur on 0.036 acre of CDFW wetlands.

The measures and project permits described above for Build Alternative 1 would apply within the LM MSHCP area, and reduce adverse impacts from Build Alternative 1 on federal wetlands and other waters within the LM MSHCP area to a less-than-significant level under CEQA.

Build Alternative 2C—Modified Cajalco Alignment

Less than Significant with Mitigation

USACE/RWQCB Jurisdictional Waters

Impacts on USACE/RWQCB jurisdictional waters under Build Alternative 2C that would occur during construction activities include[9]:

- Permanent impacts on 3.938 acres, of which 0.076 acre would occur on wetland WoUS/WoS
- Temporary impacts on 1.1.782 acres, of which 0.236 acre would occur on wetland WoUS/WoS
- Shading effects would convert 0.042 acre wetland WoUS/WoS to non-wetland WoUS/WoS
- Roadbed removal would rehabilitate 0.071 acre of non-wetland WoUS/WoS

No vernal pools or vernal pool watersheds would be affected by this build alternative. The impacts on USACE jurisdictional USACE/RWQCB jurisdictional waters are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-3).

Potential long-term effects pm federal jurisdictional waters during operation of the proposed project under Build Alternative 2C are similar to those under Build Alternative 1. There would be a potentially significant impact on federal jurisdictional waters due to the regional and rapid decline of wetlands and non-wetland waters.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, described under Build Alternative 1 would also be implemented under Build Alternative 2C to reduce construction-related effects on federal jurisdictional waters.

Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for wetlands and 1:1 for non-wetlands) or temporary impacts (minimum 1:1) on USACE wetlands and non-wetlands, including any effects from permanent shading of wetland WoUS/WoS (minimum 2:1). Final compensatory mitigation requirements will be negotiated with the resource agencies during final project design and project permitting. The measures and permits identified under Build Alternative 1 would also apply to Build Alternative 2C and would ensure any adverse impacts from Build Alternative 2C on federal wetlands and other waters will be reduced to below a level of significance under CEQA.

[9] Aquatic resources within the project area were delineated according to the 1987 Wetland Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.

CDFW Wetlands

Impacts on CDFW wetlands under Build Alternative 2C that would occur on CDFW wetlands during construction activities include:

- Permanent impacts would occur on 1.283 acres of CDFW wetlands
- Temporary impacts would occur on 1.685 acres of CDFW wetlands

Shading effects from construction of new or expanded bridges may convert 0.136 acre of CDFW wetland to state unvegetated streambed. As identified under 4.2.4(b) above for Build Alternative 2C, roadbed removal would rehabilitate 0.173 acre of CDFW jurisdictional streambeds, of which 0.065 acre of CDFW wetland would be restored and be considered a beneficial effect of Build Alternative 2C. The impacts on CDFW wetlands are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-4).

Potential long-term effects on CDFW wetlands during operation of the proposed project under Build Alternative 2C are similar to those under Build Alternative 1. There would be a potentially significant impact on CDFW wetlands due to the regional and rapid decline of this resource.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, described under Build Alternative 1 would also be implemented under Build Alternative 2C to reduce construction-related effects on CDFW wetlands. Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1), temporary impacts (minimum 1:1), and shading effects (2:1) for CDFW wetlands. Build Alternative 2C also will require a Lake and Streambed Alteration Agreement from CDFW. Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 2C on CDFW wetlands will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 2C)

Less than Significant with Mitigation

Impacts on federal jurisdictional waters present within the LM MSHCP area are included in the impacts described above for Build Alternative 2C. Specifically, permanent impacts would occur on 1.184 acres and temporary impacts would occur on 0.336 acre on WoUS/WoS present within the LM MSHCP area. Although no permanent effects on wetland WoUS/WoS would occur within the LM MSHCP area, there would be temporary effects on 0.003 acre wetland WoUS/WoS. CDFW wetlands would have less than 0.001 acre permanent impacts and 0.037 acre temporary impacts.

The measures and project permits required for Build Alternative 2C would apply within the LM MSHCP area, and reduce adverse impacts from Build Alternative 2C on federal and state wetlands and other waters within the LM MSHCP area to a less-than-significant level under CEQA.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

USACE/RWQCB Jurisdictional Waters

Impacts on USACE/RWQCB jurisdictional waters under Build Alternative 4 that would occur during construction activities include[10]:

- Permanent impacts on 1.436 acres, of which 0.82 acre would occur on wetland WoUS/WoS
- Temporary impacts on 1.561 acres, of which 0.233 acre would occur on wetland WoUS/WoS
- Shading effects would convert 0.042 acre wetland WoUS/WoS to non-wetland WoUS/WoS
- Roadbed removal would rehabilitate 0.081 acre of non-wetland WoUS/WoS

No vernal pools or vernal pool watersheds would be affected by this build alternative. The impacts are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-3).

Potential long-term effects on federal jurisdictional waters during operation of the proposed project under Build Alternative 4 are similar to those under Build Alternative 1. There would be a potentially significant impact on federal jurisdictional waters due to the regional and rapid decline of wetlands and non-wetland waters.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, described under Build Alternative 1 would also be implemented under Build Alternative 4 to reduce construction-related effects on federal jurisdictional waters.

Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1 for wetlands and 1:1 for non-wetlands) or temporary impacts (minimum 1:1) on USACE wetlands and non-wetlands, including any effects from permanent shading of wetland WoUS/WoS (minimum 2:1). Final compensatory mitigation requirements will be negotiated with the resource agencies during final project design and project permitting. The measures and permits identified under Build Alternative 1 would also apply to Build Alternative 4 and would ensure any adverse impacts from Build Alternative 4 on federal wetlands and other waters will be reduced to below a level of significance under CEQA.

CDFW Wetlands

Impacts on CDFW wetlands under Build Alternative 4 that would occur on CDFW wetlands during construction activities include:

[10] Aquatic resources within the project area were delineated according to the 1987 Wetland Delineation Manual, Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, and A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. The extent of jurisdiction was not refined based on the definition established by the Navigable Waters Protection Rule. Acreages represented are conservative and may be reduced in the future based on the regulations in place when the project is finalized and goes to permitting.

- Permanent impacts would occur on 7.083 acres of CDFW wetlands
- Temporary impacts would occur on 2.187 acres of CDFW wetlands

Shading effects from construction of new or expanded bridges would convert 0.136 acre of CDFW wetland to state unvegetated streambed. As identified under 4.2.4(b), above, roadbed removal would rehabilitate 0.179 acre of CDFW jurisdictional streambeds, of which 0.05 acre of CDFW wetland would be restored and is considered a beneficial effect of Build Alternative 4. The impacts on CDFW wetlands are detailed in Section 3.18, *Wetlands and Other Waters* (refer to Table 3.18-4).

The long-term and operational effects under Build Alternative 4 would be the same as those identified under Build Alternative 1, above; however, this effect would not differ appreciably from existing conditions along existing roadways. There would be a potentially significant impact on CDFW wetlands due to the regional and rapid decline of this resource.

Measures **NC-4 (NES BIO-4)** through **NC-6 (NES BIO-6)** and **NC-10 (NES BIO-10)** through **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*, and **PF WQ-3** and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, described under Build Alternative 1 would also be implemented under Build Alternative 4 to reduce construction-related effects on CDFW wetlands. In addition, Measure **WET-1 (NES BIO-14)** (in Section 3.18.4) would ensure full compensatory mitigation through an in-lieu fee program or mitigation bank for permanent impacts (minimum 3:1), temporary impacts (minimum 1:1), and shading effects (1:1) on CDFW wetlands. Build Alternative 4 will also require a Lake and Streambed Alteration Agreement from CDFW. Final compensatory mitigation requirements will be negotiated with CDFW during final project design and project permitting. These measures would ensure any adverse effects from Build Alternative 4 on CDFW jurisdictional streambeds will be reduced to below a level of significance under CEQA.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant with Mitigation

Impacts on federal jurisdictional waters present within the LM MSHCP area are included in the impacts described above for Build Alternative 4. Specifically, permanent impacts would occur on 0.057 acre and temporary impacts would occur on 0.018 acre on WoUS/WoS present within the LM MSHCP area. There would be no impacts on wetlands within the LM MSHCP area under Build Alternative 4.

The measures and project permits required for Build Alternative 4 would apply within the LM MSHCP area, and reduce adverse impacts from Build Alternative 4 on federal wetlands and other waters within the LM MSHCP area to a less-than-significant level under CEQA.

No CDFW wetlands are present within the LM MSHCP area; therefore, no impacts would occur.

4.2.4(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?

Build Alternative 1—Cajalco Alignment

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

Build Alternative 1 would result in impacts on wildlife movement and connectivity by creating a wider roadway and removing habitat within regional wildlife connectivity areas and WRC MSHCP cores and linkages as summarized below:

- Existing Core C: 210.04 acres permanent and 27.33 acres temporary
- Proposed Extension of Existing Core 2: 52.60 acres permanent and 8.37 acres temporary
- Proposed Linkage 3: 2.95 acres permanent and 3.54 acres temporary

Such impacts may result in direct effects such as decreased habitat connectivity (i.e., increased habitat fragmentation), decreased wildlife movement, and increased wildlife-vehicle collisions. Indirect effects may include wildlife road avoidance behavior caused by increases in noise, traffic, lighting, and disturbance. Details for impacts on each of the WRC MSHCP cores/linkages are provided in Table 3.17-17 in Section 3.17.3.3.

Although the project will directly and indirectly affect these wildlife connectivity areas, there are currently no dedicated wildlife crossings in the BSA. However, there are existing structures such as bridges and culverts that may opportunistically support some wildlife movement. Lack of median barriers or existing wildlife fencing does not hinder movement across existing roadways for some species. Existing roads could also restrict movement by other species that do not cross these facilities. As discussed in Section 3.17.3.3 in *Natural Communities*, any existing movement across roadways increases risk of wildlife and vehicle collisions.

The proposed project has incorporated 73 wildlife crossings (including modified culverts designed to facilitate both hydrologic flows and wildlife movement) into the Build Alternative 1 design to facilitate wildlife movement. Wildlife fencing would also be incorporated to direct wildlife toward crossing structures and prohibit movement across the roadway. Fish movement would not be affected because all crossing structures would completely span all waterways and would not present an obstruction to fish movement. Wildlife migration would not be affected because the proposed Build Alternative 1 would facilitate movement through the project area.

Wildlife crossing structures would be designed for small (e.g., small mammals and reptiles), medium (e.g., raccoons and coyotes), and large animals (e.g., mule deer and mountain lion), and range from small crossings and culverts to large expansive bridges. The majority of the wildlife crossings and modified culverts would occur within the WRC MSHCP Core and Linkage areas and meet the minimum design guidelines in Section 7.5.2 of the WRC MSHCP, with modifications added as needed to accommodate species requirements and design specifications warranted by current science. Refer to Appendix J for the detailed analysis and mapped locations of all proposed wildlife crossings.

In addition to the incorporation of WRC MSHCP Guidelines for Construction of Wildlife Crossings throughout Build Alternative 1, the proposed project would include a wildlife fencing plan (**NC-16 [NES BIO-19]**) to ensure wildlife do not encroach on or get trapped within the roadway. Such fencing would facilitate both the use of wildlife crossings (i.e., facilitating wildlife movement and connectivity) and reductions in wildlife-vehicle collision (i.e., improved road safety). In addition, implementation of Measure **NC-20 (NES BIO-21)** would ensure that PQP lands are replaced, preserving potential core/linkages areas in the future.

- **NC-16 (NES BIO-19):** Wildlife Fencing Plan
- **NC-20 (NES BIO-21):** Replacement of PQP Lands

Because Build Alternative 1 will enhance wildlife movement through WRC MSHCP Cores and Linkages through the addition of 73 dedicated wildlife crossings serving a variety of wildlife species, and with the incorporation of **NC-16 (NES BIO-19)**, and **NC-20 (NES BIO-21)**, the impacts on WRC MSHCP Cores and Linkages and wildlife connectivity and movement through the region would be a beneficial effect. Therefore, this impact will be less than significant under CEQA.

Wildlife Nursery Sites

The habitats within the project area support native wildlife nesting and rearing (breeding) and many species of native wildlife are expected to breed in the area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementation of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

Lake Mathews MSHCP (Build Alternative 1)

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

The direct and indirect effects identified above from Build Alternative 1 would also occur adjacent to the LM MSHCP plan area. A number of the wildlife crossings identified for Build Alternative 1 would be constructed near the LM MSHCP area and therefore could improve connectivity for LM MSHCP target species throughout the LMR and adjacent lands.

With implementation of wildlife crossing structures, **NC-16 (NES BIO-19)**, **NC-20 (NES BIO-21)** (Replacement of PQP Lands), WRC MSHCP guidelines, and avoidance, minimization, and mitigation measures listed above, Build Alternative 1 is not expected to disrupt connectivity of LM MSHCP species and would likely improve connectivity through the plan area.

Wildlife Nursery Sites

The habitats within the LM MSHCP area that would be affected under Build Alternative 1 support native wildlife nesting and rearing (breeding) and many species of native wildlife are

expected to breed in the LM MSHCP area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementation of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

Build Alternative 2C—Modified Cajalco Alignment

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

The impacts on wildlife movement and connectivity under Build Alternative 2C would be similar to the direct effects described under Build Alternative 1. Build Alternative 2C would widen the existing roadway and create a new roadway through conserved lands, removing habitat within regional wildlife connectivity areas and WRC MSHCP Cores and Linkages, as summarized below:

- Existing Core C: 215.39 acres permanent and 35.05 acres temporary
- Proposed Extension of Existing Core 2: 55.65 acres permanent and 8.63 acres temporary
- Proposed Linkage 3: 2.95 acres permanent and 3.54 acres temporary

Such impacts may result in direct effects such as decreased habitat connectivity (i.e., increased habitat fragmentation), decreased wildlife movement, and increased wildlife-vehicle collisions. Indirect effects may include wildlife road avoidance behavior caused by increases in noise, traffic, lighting, and disturbance. Details for impacts on each of these cores/linkages are provided in Table 3.17-17 in Section 3.17.3.3.

Although the project will directly and indirectly affect these wildlife connectivity areas, there are no dedicated wildlife crossings currently in the BSA. However, there are existing structures such as bridges and culverts that may facilitate wildlife movement. Lack of median barriers or existing wildlife fencing does not hinder movement across existing roadways for some species. Existing roads could also restrict movement by other species that do not cross these facilities. As discussed in Section 3.17.3.3 in *Natural Communities*, any existing movement across roadways increases risk of wildlife and vehicle collisions.

The proposed project has incorporated 71 wildlife crossings (including modified culverts designed to facilitate both hydrologic flows and wildlife movement) into the Build Alternative 2C design to facilitate wildlife movement. Wildlife fencing would also be incorporated to direct wildlife toward crossing structures and prohibit movement across the roadway. Fish movement would not be affected because all crossing structures would completely span all waterways and would not present an obstruction to fish movement. Wildlife migration would not be affected because the proposed Build Alternative 2C would facilitate movement through the project area.

Similar to Build Alternative 1, wildlife crossing structures for Build Alternative 2C would be designed for small, medium, and large animals, and range from small crossings and culverts to

large expansive bridges. The majority of the wildlife crossings and modified culverts would occur within the WRC MSHCP Core and Linkage areas and meet the minimum design guidelines in Section 7.5.2 of the WRC MSHCP, with modifications added as needed to accommodate species requirements and design specifications warranted by current science. Refer to Appendix J for the detailed analysis and mapped locations of all proposed wildlife crossings.

In addition to the incorporation of WRC MSHCP Guidelines for Construction of Wildlife Crossings throughout Build Alternative 2C, the proposed project would include a wildlife fencing plan (**NC-16 [NES BIO-19]**) to ensure wildlife do not encroach on or get trapped within the roadway. Such fencing would facilitate both the use of wildlife crossings (i.e., facilitating wildlife movement and connectivity) and reductions in wildlife-vehicle collision (i.e., improved road safety). In addition, implementation of Measure **NC-20 (NES BIO-21)** would ensure that PQP lands are replaced, preserving potential core/linkages areas in the future. Because Build Alternative 2C will enhance wildlife movement through WRC MSHCP Cores and Linkages through the addition of 71 dedicated wildlife crossings serving a variety of wildlife species, and with the incorporation of **NC-16 (NES BIO-19)** and **NC-20 (NES BIO-21)**, the impacts on WRC MSHCP Cores and Linkages and wildlife connectivity and movement through the region would be a beneficial effect. Therefore, this impact will be less than significant under CEQA.

Wildlife Nursery Sites

The habitats within the Build Alternative 2C support native wildlife nesting and rearing (breeding) and many species of native wildlife are expected to breed in the area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementation of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

Lake Mathews MSHCP (Build Alternative 2C)

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

The direct and indirect effects identified above from Build Alternative 2C would also occur adjacent to the LM MSHCP plan area. A number of the wildlife crossings identified for Build Alternative 2C would be constructed near the LM MSHCP area and therefore could improve connectivity for LM MSHCP target species throughout the LMR and adjacent lands.

With implementation of wildlife crossing structures, **NC-16 (NES BIO-19)**, **NC-20 (NES BIO-21)**, WRC MSHCP guidelines, and avoidance, minimization, and mitigation measures listed above, Build Alternative 2C is not expected to disrupt connectivity of LM MSHCP species and would likely improve connectivity through the plan area.

Wildlife Nursery Sites

The habitats within the LM MSHCP area that would be affected under Build Alternative 1 support native wildlife nesting and rearing (breeding) and many species of native wildlife are expected to breed in the LM MSHCP area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementation of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

The impacts on wildlife movement and connectivity under Build Alternative 4 would be similar to the direct effects described under Build Alternative 1. Build Alternative 4 would widen existing roadways, removing habitat within regional wildlife connectivity areas and WRC MSHCP cores and linkages, as summarized below:

- Existing Core C: 82.32 acres permanent and 12.99 acres temporary
- Proposed Extension of Existing Core 2: 93.51 acres permanent and 16.68 acres temporary
- Proposed Linkage 3: 0.98 acre permanent

Such impacts may result in direct effects such as decreased habitat connectivity (i.e., increased habitat fragmentation), decreased wildlife movement, and increased wildlife-vehicle collisions. Indirect effects may include wildlife road avoidance behavior caused by increases in noise, traffic, lighting, and disturbance. Details for impacts on each of these cores/linkages are provided in Table 3.17-17 in Section 3.17.3.3.

Although the project will directly and indirectly affect these wildlife connectivity areas, there are no dedicated wildlife crossings currently in the BSA. However, there are existing structures such as bridges and culverts that may facilitate wildlife movement. Lack of median barriers or existing wildlife fencing does not hinder movement across existing roadways for some species. Existing roads could also restrict movement by other species that do not cross these facilities. As discussed in Section 3.17.3.3 in *Natural Communities*, any existing movement across roadways increases risk of wildlife and vehicle collisions.

The proposed project has incorporated 51 wildlife crossings (including modified culverts designed to facilitate both hydrologic flows and wildlife movement) into the Build Alternative 4 design to facilitate wildlife movement. Wildlife fencing would also be incorporated to direct wildlife toward crossing structures and prohibit movement across the roadway. Fish movement would not be affected because all crossing structures would completely span all waterways and would not present an obstruction to fish movement. Wildlife migration would not be affected because the proposed Build Alternative 4 would facilitate movement through the project area.

Similar to Build Alternative 1 described above, wildlife crossing structures for Build Alternative 4 would be designed for small, medium, and large animals, and range from small crossings and culverts to large expansive bridges. The majority of the wildlife crossings and modified culverts would occur within the WRC MSHCP Core and Linkage areas and meet the minimum design guidelines in Section 7.5.2 of the WRC MSHCP, with modifications added as needed to accommodate species requirements and design specifications warranted by current science. Refer to Appendix J for the detailed analysis and mapped locations of all proposed wildlife crossings.

In addition to the incorporation of WRC MSHCP Guidelines for Construction of Wildlife Crossings throughout Build Alternative 4, the proposed project would include a wildlife fencing plan (**NC-16 [NES BIO-19]**) to ensure wildlife do not encroach on or get trapped within the roadway. Such fencing would facilitate both the use of wildlife crossings (i.e., facilitating wildlife movement and connectivity) and reductions in wildlife-vehicle collision (i.e., improved road safety). In addition, implementation of Measure **NC-20 (NES BIO-21)** would also ensure that PQP lands are replaced, preserving potential core/linkages areas in the future. Because Build Alternative 4 will enhance wildlife movement through WRC MSHCP Cores and Linkages through the addition of 51 dedicated wildlife crossings serving a variety of wildlife species, and with the incorporation of **NC-16 (NES BIO-19)** and **NC-20 (NES BIO-21)**, the impacts on WRC MSHCP Cores and Linkages and wildlife connectivity and movement through the region would be a beneficial effect. Therefore, this impact will be less than significant under CEQA.

Wildlife Nursery Sites

The habitats within Build Alternative 4 support native wildlife nesting and rearing (breeding) and many species of native wildlife are expected to breed in the area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementation of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

Lake Mathews MSHCP (Build Alternative 2C)

Less than Significant with Mitigation

Fish and Wildlife Movement and Migration

The direct and indirect effects identified above for Build Alternative 2C would also occur adjacent to the LM MSHCP plan area. A number of the wildlife crossings identified for Build Alternative 4 would be constructed near the LM MSHCP area and therefore could improve connectivity for LM MSHCP target species throughout the LMR and adjacent lands.

With implementation of wildlife crossing structures, **NC-16 (NES BIO-19)**, **NC-20 (NES BIO-21)**, WRC MSHCP guidelines, and avoidance, minimization, and mitigation measures listed above, Build Alternative 2C would not be expected to disrupt connectivity of LM MSHCP species and would likely improve connectivity through the plan area.

Wildlife Nursery Sites

The habitats within the LM MSHCP area that would be affected under Build Alternative 2C support native wildlife nesting and rearing (breeding) and many species of native wildlife are expected to breed in the LM MSHCP area. Direct removal and disturbance of vegetation, other habitats, and water quality (aquatic species) could directly harm wildlife and their breeding success and/or offspring or disturb breeding activities, interfering with successful reproduction. Implementations of Measures **NC-1 (NES BIO-1)** through **NC-19 (NES BIO-15)**, **AS-1 (NES BIO-25)** through **AS-7 (NES BIO-20)**, **TE-1 (NES BIO-18)** through **TE-3 (NES BIO-30)**, **PF WQ-1** through **PF WQ-4**, and **WET-1 (NES BIO-14)** would reduce potential direct and indirect impacts on native wildlife breeding activities and ensure that any removed and disturbed breeding habitat is replaced and restored.

4.2.4(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Build Alternatives 1, 2C, and 4

No Impact

The proposed project would not conflict with any local policies including tree preservation policy or ordinance; therefore, no impacts would occur. No avoidance, minimization, or mitigation measures are required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not conflict with any local policies including tree preservation policy or ordinance within the LM MSHCP area; therefore, no impacts would occur. No avoidance, minimization, or mitigation measures are required.

4.2.4(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?

Build Alternative 1—Cajalco Alignment

Less than Significant with Mitigation

Build Alternative 1 occurs within the boundaries of the WRC MSHCP, SKR HCP, and LM MSHCP.

Western Riverside County MSHCP

The proposed project is a covered activity under Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP Volume I and occurs within both the Criteria Area and PQP land. As a permittee, the County is required to meet obligations described in Section 13.2 of the WRC MSHCP Implementation Agreement and conditions in the 10(a)(1)(B) take permit, including:

- Comply with the policies for the "Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools" as set forth in Section 6.1.2 of the WRC MSHCP;
- Comply with the policies for the "Protection of Narrow Endemic Plant Species" as set forth in Section 6.1.3 of the WRC MSHCP;
- Conduct surveys as set forth in Section 6.3.2 of the WRC MSHCP;
- Comply with the "Urban/Wildlands Interface Guidelines" as set forth in Section 6.1.4 of the WRC MSHCP;
- Comply with the BMPs and siting requirements and design criteria as set forth in Section 7.0 and Appendix C of the WRC MSHCP;
- Acquire and replace PQP habitat at a no less than 1:1 ratio that is biologically equivalent or superior to the disturbed habitat.

The proposed project was also designed to comply with WRC MSHCP, Section 7.5.2, "Guidelines for Construction of Wildlife Crossings." In addition, the proposed project must complete the Joint Project Review (JPR) with the RCA and demonstrate consistency with the WRC MSHCP. A full WRC MSHCP consistency analysis was performed in Section 5.12 of the NES and is also detailed in Section 3.17, *Natural Communities*.

In addition to meeting the requirements of the WRC MSHCP described above, the take allowance within the Criteria Area consists of a 128-foot right of way (approximately 96.51 acres) as identified under in the General Plan Circulation Element for Cajalco Road (Figure 7-1 in the WRC MSHCP Volume I). Because project impacts from Build Alternative 1 extend beyond the 128-foot right of way to accommodate slope easements and appurtenant facilities, Build Alternative 1 would also trigger a minor amendment of the WRC MSHCP document (in Section 6.10.2 of the WRC MSHCP). The County will submit a request for a minor amendment to the RCA prior to the submittal of the JPR. The minor amendment analysis will review the effects of grading/slopes outside of the covered roadway on the Rough Step status of vegetation communities, future Reserve assembly, and Reserve connectivity. The approved minor amendment will be provided in the Final EIR/EIS. In addition, the County will work with the RCA to reduce the maximum right of way from another County facility through the minor amendment to accommodate any additional right of way acquisition that may be needed.

The following measures will be required for WRC MSHCP compliance:

- **NC-1 (NES BIO-1):** Seasonal Vegetation Clearing Restrictions
- **NC-2 (NES BIO-2):** Dust Control
- **NC-3 (NES BIO-3):** Fire Prevention
- **NC-4 (NES BIO-4):** Environmental Awareness Training
- **NC-5 (NES BIO-5):** Biological Monitoring
- **NC-6 (NES BIO-6):** ESA Fencing
- **NC-7 (NES BIO-7):** Invasive Species Removal
- **NC-8 (NES BIO-8):** Cleaning Construction Equipment

- **NC-9 (NES BIO-24):** Disposal of Trash
- **NC-10 (NES BIO-10):** Water Pollution and Erosion Control Plans
- **NC-11 (NES BIO-11):** Defining the Limits of Disturbance
- **NC-12 (NES BIO-12):** Placement of Construction Equipment
- **NC-14 (NES BIO-13):** Preparation of the DBESP
- **NC-15 (NES BIO-14):** Replacement of Riparian/Riverine Resources
- **NC-16 (NES BIO-19):** Wildlife Fencing Plan
- **NC-20 (NES BIO-21):** Replacement of PQP Lands
- **AS-1 (NES BIO-25):** Burrowing Owl Management Plan
- **AS-2 (NES BIO-16):** Lighting Restrictions
- **AS-3 (NES BIO-28):** Preconstruction Wildlife Surveys
- **TE-2 (NES BIO-23):** Replacement of Least Bell's Vireo Habitat

These measures will ensure consistency with the WRC MSHCP and will reduce the level of significance under CEQA with mitigation incorporated.

Stephens' Kangaroo Rat HCP

A portion of Build Alternative 1 occurs within the Lake Mathews-Estelle Mountain Core Reserve (LM-EM Reserve) (part of the SKR Core Reserve system) and is subject to requirements of the long-term SKR HCP, including acquisition of replacement lands for the SKR Core Reserve system. Approximately 121.82 acres (7.00 acres of the RCHCA SKR Reserve and 114.82 acres of the LMR) would be permanently removed. Take authorization for potential impacts on SKR outside of the SKR Core Reserve would be provided through consistency with the WRC MSHCP. The direct removal of lands within the SKR Core Reserve would conflict with the SKR HCP goal of preservation of habitat for SKR, resulting in a significant effect under CEQA.

However, the WRC MSHCP and long-term SKR HCP require a minimum 1:1 replacement of SKR Core Reserve with habitat that is biologically equivalent or superior and that could be added back into the SKR Core Reserve. This will be achieved through the implementation of the following compensatory measures:

- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area
- **NC-20 (NES BIO-21):** Replacement of PQP Lands

The replacement of Core Reserve lands with **NC-17 (NES BIO-17)** and **NC-20 (NES BIO-21)**, and restoration of temporarily affected SKR Core Reserve (**NC-19 [NES BIO-15]**) will ensure the project is consistent with the long-term SKR HCP.

Lake Mathews MSHCP (Build Alternative 1)

Potentially Significant Impact

Build Alternative 1 is not a covered activity under the LM MSHCP. Build Alternative 1 would permanently remove 120.31 acres of habitat designated for LM MSHCP target species and temporarily affect 20.79 acres. Roadbed removal along Cajalco Road would restore 0.14 acre that could potentially be added back into the LMR. Because Build Alternative 1 is not a covered project under the LM MSHCP and would directly remove habitat within the LMR, this project would directly conflict with the provisions of the LM MSHCP, resulting in a significant effect under CEQA.

Discussions have occurred between the County, MWD, and the Lake Mathews Reserve Management Committee (RMC) to identify sufficient mitigation that would ensure full replacement of lost lands and feasible management of these replacement lands, including:

- **NC-16 (NES BIO-19):** Wildlife Fencing Design Plan
- **NC-17 (NES BIO-17):** Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31):** Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15):** Restoration for Temporary Impacts within the LM MSHCP Area

Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement/restoration of lands that are directly affected during construction. Measure **NC-16 (NES BIO-19)** would include strategies for integrating wildlife fencing with the MWD security fencing. Measure **NC-18 (NES BIO-31)** will establish a funding mechanism to cover costs associated with the long-term management of new conservation lands, including maintenance of new fencing and installation of security cameras near wildlife crossing areas to deter human trespass into MWD lands and facilities.

In addition to the measures described above, modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties. As described in Section 3.17.3.6, Build Alternative 1 would expand and realign Cajalco Road, and construct drainage basins, culverts, bridges, and wildlife crossings through the LM MSHCP area. Build Alternative 1 would permanently remove 120.31 acres of habitat designated for LM MSHCP target species and temporarily affect 20.79 acres. Roadbed removal along Cajalco Road would restore 0.14 acre that can be added back into the LMR. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required as part of the project to accommodate the proposed roadway improvements. Impacts would be considered significant and unavoidable.

Build Alternative 2C—Modified Cajalco Alignment

Less than Significant with Mitigation

Build Alternative 2C occurs within the boundaries of the WRC MSHCP, SKR HCP, and LM MSHCP.

Western Riverside County MSHCP

The proposed project is a covered activity under Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP Volume I, and occurs within both the Criteria Area and PQP land. The County is a permittee of the WRC MSHCP and obligations are described in Section 13.2 of the WRC MSHCP Implementation Agreement and conditions in the 10(a)(1)(B) take permit, including:

- Comply with the policies for the "Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools" as set forth in Section 6.1.2 of the WRC MSHCP;
- Comply with the policies for the "Protection of Narrow Endemic Plant Species" as set forth in Section 6.1.3 of the WRC MSHCP;
- Conduct surveys as set forth in Section 6.3.2 of the WRC MSHCP;
- Comply with the "Urban/Wildlands Interface Guidelines" as set forth in Section 6.1.4 of the WRC MSHCP;
- Comply with the BMPs and the siting requirements and design criteria as set forth in Section 7.0 and Appendix C of the WRC MSHCP; and
- Acquire and replace PQP habitat at a no less than 1:1 ratio that is biologically equivalent or superior to the disturbed habitat.

Build Alternative 2C was also designed to comply with WRC MSHCP, Section 7.5.2, "Guidelines for Construction of Wildlife Crossings." In addition, the proposed project must complete the Joint Project Review with the RCA and demonstrate consistency with the WRC MSHCP. A full WRC MSHCP consistency analysis was performed in Section 5.12 of the NES and is also detailed in Section 3.17, *Natural Communities*.

In addition to meeting the requirements of the WRC MSHCP described above, the take allowance for Build Alternative 2C within the Criteria Area consists of a 128-foot right of way (approximately 96.51 acres) as identified under in the General Plan Circulation Element for Cajalco Road (Figure 7-1 in the WRC MSHCP Volume I). Because project impacts from Build Alternative 2C extend beyond the 128-foot right of way to accommodate slope easements and appurtenant facilities, Build Alternative 2C would also trigger a minor amendment of the WRC MSHCP document (in Section 6.10.2 of the WRC MSHCP). The County will submit a request for a minor amendment to the RCA prior to the submittal of the JPR. The minor amendment analysis will review the effects of grading/slopes outside of the covered roadway on the Rough Step status of vegetation communities, future Reserve assembly, and Reserve connectivity. The approved minor amendment will be provided in the Final EIR/EIS. In addition, the County will work with the RCA to reduce the maximum right of way from another County facility through the minor amendment to accommodate any additional right of way acquisition that may be needed.

The measures identified for Build Alternative 1 will also apply to Build Alternative 2C and will ensure the project's consistency with the WRC MSHCP, reducing the level of significance under CEQA with mitigation incorporated.

Stephens' Kangaroo Rat HCP

A portion of Build Alternative 2C occurs within the RCHCA SKR Reserve and is subject to requirements of the SKR HCP, including acquisition of replacement lands for the SKR Core Reserve. Approximately 140.44 acres (32.91 acres of the RCHCA SKR Reserve and 107.53 acres of the LMR) would be permanently removed. Take authorization for potential impacts on SKR outside of the SKR Core Reserve would be provided through consistency with the WRC MSHCP.

The replacement of Core Reserve lands with **NC-17 (NES BIO-17)** and **NC-20 (NES BIO-21)**, and restoration of temporarily affected Core Reserve (**NC-19 [NES BIO-15]**) (identified previously under Build Alternative 1) will ensure the project is consistent with the long-term SKR HCP.

Lake Mathews MSHCP (Build Alternative 2C)

Potentially Significant Impact

Build Alternative 2C is not a covered activity under the LM MSHCP. Build Alternative 2C would permanently remove 111.21 acres of habitat designated for LM MSHCP target species and temporarily affect 22.44 acres. Roadbed removal along Cajalco Road would restore 0.16 acre that could potentially be added back into the LMR. Because Build Alternative 2C is not a covered project under the LM MSHCP and would directly remove habitat within the LMR, this project would directly conflict with the provisions of the LM MSHCP, resulting in a significant effect under CEQA.

As described above under Build Alternative 1, the County has coordinated extensively with MWD and RMC to identify mitigation requirements and opportunities including implementation of Measures **NC-16 (NES BIO-19)** through **NC-19 (NES BIO-15)** under Build Alternative 2C.

Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement/restoration of lands that are directly affected during construction. Measure **NC-16 (NES BIO-19)** would include strategies for integrating with the MWD's security fencing. Measure **NC-18 (NES BIO-31)** will establish a funding mechanism to cover costs associated with the long-term management of new conservation lands, including maintenance of new fencing and installation of security cameras near wildlife crossing areas to deter human trespass.

In addition to the measures described above, modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties. As described in Section 3.17.3.6, Build Alternative 2C would expand and realign Cajalco Road and construct drainage basins, culverts, bridges, and wildlife crossings through the LM MSHCP area. Build Alternative 2C would permanently remove 111.21 acres of habitat designated for LM MSHCP target species and temporarily affect 22.44 acres. Roadbed removal along Cajalco Road would restore 0.16 acre that could be added back into the LMR. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow

changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required as part of the project to accommodate the proposed roadway improvements. Impacts would be considered significant and unavoidable.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

Build Alternative 4 occurs within the boundaries of the WRC MSHCP, SKR HCP, and LM MSHCP.

Western Riverside County MSHCP

The proposed project is a covered activity under Section 7.2.2 (Circulation Element Roads) of the WRC MSHCP Volume I, and occurs within both the Criteria Area and PQP lands. The County's obligations as a permittee are described in Section 13.2 of the WRC MSHCP Implementation Agreement and conditions in the 10(a)(1)(B) take permit, including:

- Comply with the policies for the "Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools" as set forth in Section 6.1.2 of the WRC MSHCP;
- Comply with the policies for the "Protection of Narrow Endemic Plant Species" as set forth in Section 6.1.3 of the WRC MSHCP;
- Conduct surveys as set forth in Section 6.3.2 of the WRC MSHCP;
- Comply with the "Urban/Wildlands Interface Guidelines" as set forth in Section 6.1.4 of the WRC MSHCP;
- Comply with the BMPs and the siting requirements and design criteria as set forth in Section 7.0 and Appendix C of the WRC MSHCP; and
- Acquire and replace PQP habitat at a no less than 1:1 ratio that is biologically equivalent or superior to the disturbed habitat.

The proposed project was also designed to comply with WRC MSHCP, Section 7.5.2, "Guidelines for Construction of Wildlife Crossings." In addition, the proposed project must complete the Joint Project Review with the RCA and demonstrate consistency with the WRC MSHCP. A full WRC MSHCP consistency analysis was performed in Section 5.12 of the NES and is also detailed in Section 3.17, *Natural Communities*.

In addition to meeting the requirements of the WRC MSHCP described above, the take allowance within the Criteria Area consists of a 196-foot right of way (approximately 96.51 acres) as identified in the General Plan Circulation Element for El Sobrante Road (Figure 7-1 in the WRC MSHCP Volume I). The proposed right of way of Build Alternative 4 will not exceed the 196-foot right of way through the Criteria Area; however, portions of the slope easements and appurtenant facilities may exceed a 196-foot right of way. Therefore, a minor amendment of the WRC MSHCP document as described in Volume I, Section 6.10.2, may be required under Build Alternative 4 to accommodate the slope easements and appurtenant facilities. The County will submit a request for a minor amendment to the RCA prior to the submittal of the JPR. The minor amendment analysis will review the effects of grading/slopes outside of the covered

roadway on the Rough Step status of vegetation communities, future Reserve assembly, and Reserve connectivity. The approved minor amendment will be provided in the Final EIR/EIS.

The measures identified for Build Alternative 1 will also apply to Build Alternative 4 and will ensure the project's consistency with the WRC MSHCP, reducing the level of significance under CEQA with mitigation incorporated.

Stephens' Kangaroo Rat HCP

A portion of Build Alternative 4 occurs within the SKR Core Reserve and is subject to requirements of the SKR HCP, including acquisition of replacement lands for the SKR Core Reserve. Approximately 63.22 acres (7.00 acres of the RCHCA SKR Reserve and 56.22 acres of the LMR) would be permanently removed. Take authorization for potential impacts on SKR outside of the SKR Core Reserve would be provided through consistency with the WRC MSHCP.

The replacement of Core Reserve lands with **NC-17 (NES BIO-17)** and **NC-20 (NES BIO-21)**, and restoration of temporarily affected Core Reserve **NC-19 (NES BIO-15)** (identified previously under Build Alternative 1) will ensure the project is consistent with the long-term SKR HCP.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

Build Alternative 4 is not a covered activity under the LM MSHCP. Build Alternative 4 would permanently remove 56.52 acres of habitat designated for LM MSHCP target species and temporarily affect 8.76 acres. Roadbed removal along Cajalco Road would restore 0.70 acre that could potentially be added back into the LMR. Because Build Alternative 4 is not a covered project under the LM MSHCP and would directly remove habitat within the LMR, this project would directly conflict with the provisions of the LM MSHCP, resulting in a significant effect under CEQA.

As described above under Build Alternative 1, the County has coordinated extensively with MWD and RMC to identify mitigation requirements and opportunities including implementation of Measures **NC-16 (NES BIO-19)** through **NC-19 (NES BIO-15)** under Build Alternative 4. Measures **NC-17 (NES BIO-17)** and **NC-19 (NES BIO-15)** would ensure full replacement/restoration of lands that are directly affected during construction. Measure **NC-16 (NES BIO-19)** would include strategies for integrating with the MWD's security fencing. Measure **NC-18 (NES BIO-31)** will establish a funding mechanism to cover costs associated with the long-term management of new conservation lands, including maintenance of new fencing and installation of security cameras near wildlife crossing areas to deter human trespass.

In addition to the measures described above, modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties. As described in Section 3.17.3.6, Build Alternative 4 would expand and realign La Sierra Avenue and El Sobrante Road through the LM MSHCP area and construct drainage basins, culverts, bridges, and wildlife crossings through the LM MSHCP area. Build Alternative 4 would permanently remove 56.52 acres of habitat designated for LM MSHCP target species and

temporarily affect 8.76 acres. Roadbed removal along Cajalco Road would restore 0.70 acre that can be added back into the LMR. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required as part of the project to accommodate the proposed roadway improvements. Impacts would be significant and unavoidable.

4.2.5 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☒	☐	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☒	☐	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

The information and discussion presented in this section are based on Section 3.8, *Cultural Resources*, and 3.25.3.18, *Cumulative Impacts*, of this EIR/EIS, as well as the following reports prepared for the proposed project: *Historic Property Survey Report* (HPSR) (Caltrans 2020a), *Archaeological Survey Report* (ASR) (Caltrans 2020b), *Historical Resources Evaluation Report* (HRER) (Caltrans 2020c), *Archaeological Evaluation Report* (AER) (Caltrans 2020d), and *Finding of Adverse Effect*) (Caltrans 2020e). Caltrans submitted a Finding of Adverse Effect analysis to the State Historic Preservation Officer (SHPO) in accordance with Stipulation VIII.C.6 of the Section 106 PA seeking concurrence with their determinations. On February 17, 2021, SHPO concurred with Caltrans' determinations. Finding of Adverse Effect analysis provided by .

4.2.5(a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Build Alternative 1—Cajalco Alignment

Potentially Significant Impact

As discussed in Section 3.8, *Cultural Resources*, nine historical resources would potentially be affected by construction of Build Alternative 1. Build Alternative 1 would permanently affect six National Register of Historic Places (NRHP)/California Register of Historical Resources (CRHR)-eligible archaeological properties:

1. The Mead Valley Potential Prehistoric Archaeological District (PPAD), for which Caltrans has assumed eligibility for listing in the NRHP under Criteria A, B, C, and D for the purposes of this project only, and are assumed eligible for the CRHR under Criteria 1, 2, 3, and 4 (Caltrans' Cultural Studies Office [CSO] Approval on July 7, 2020);
2. Combined site of CA-RIV-2263, 2264, and 4444, which are individually assumed eligible for the NRHP and CRHR under Criterion D/4 and assumed eligible as a contributing element to the PPAD under criterion D/4 (CSO Approval on July 7, 2020);
3. CA-RIV-4454, which is not individually eligible (SHPO concurrence on February 10, 2021), assumed eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of a PPAD (CSO approval on July 7, 2020);

4. CA-RIV-7843 Locus 816, which is individually eligible for listing in the NRHP/CRHR under Criteria A/1, C/3, and D/4 (SHPO Concurrence on February 10, 2021), assumed eligible as a locus of the larger CA-RIV-7843 site that is eligible under Criterion D/4, and eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of a PPAD (CSO approval July 7, 2020);
5. CA-RIV-7843 Locus 817, which is not individually eligible (SHPO concurrence on February 10, 2021), assumed eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of CA-RIV-7843, and for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of a PPAD; and
6. CA-RIV-012623, which is eligible for the NRHP and CRHR under Criterion D/4 (SHPO concurrence on February 10, 2021)(Polanco 2021a).

Build Alternative 1 would also potentially affect three Traditional Cultural Properties (TCPs), *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* for which Caltrans has assumed eligibility for listing in the NRHP under Criteria A, B, C, and D for the purposes of this project only (CSO approval on May 7, 2020). Therefore, under CEQA, there would be a potentially significant impact. Standard Project Measures **PF CR-1** and **PF CR-2**, listed in Table 4.2-5, are proposed to avoid or otherwise minimize impacts on historical resources under Build Alternative 1 (refer to Section 3.8, *Cultural Resources*, for **PF CR-1** and **PF CR-2**).

Table 4.2-5. Historical Resources Impact Assessment—Build Alternative 1

Property	Impact Assessment	Standard Project Measures and Mitigation
Mead Valley PPAD	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4454	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 816	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 817	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012623	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Three traditional cultural properties - *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik*	Less than Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

For the six archaeological resources (Mead Valley PPAD; combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444; CA-RIV-4454; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623), while the proposed measures would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on archaeological historical resources would remain significant and unavoidable.

A Section 106 Memorandum of Agreement (MOA) will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for

historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

The *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik* TCPs compose an expansive, unbounded, and overlapping geographic area that includes the Area of Potential Effects (APE) and all the project alternatives (refer to Confidential Figures B-2 and B-3 in Appendix A, *Section 4(f)*, of this EIR/EIS). Although the outer boundaries of the TCPs are not known, impacts on the TCPs from the project, including ground-disturbing activities associated with development that would affect individual physical components of the TCPs, are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Additionally, even though ground-disturbing activities associated with development would affect individual physical components of the TCPs, their loss would not cause a significant impact on the intangible cultural values held by the Luiseño people and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs.

A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information has been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternatives 1, 2C, and 4.

An MOA among participating Native American tribes, Caltrans, and the County that would include additional measures for mitigating any adverse effect and would reflect input from the participating Native American tribes will be prepared before the Final EIR/EIS.

Future Six-Lane Facility (Build Alternative 1)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 1. If grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 1 would apply, measures and treatment stipulated in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 1, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. However, with the implementation of measures and treatments developed in the MOA and Standard Project Measures **PF CR-1** and

PF CR-2, the proposed project's impact on the three TCPs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant.

Lake Mathews MSHCP (Build Alternative 1)

Potentially Significant Impact

The LM MSHCP, as it pertains to cultural resources, would remain unchanged. However, under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which may result in potential impacts on buried archaeological resources within the LM MSHCP area and LMR. As discussed under Build Alternative 1, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. However, with the implementation of measures and treatments developed in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCPs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant.

Build Alternative 2C—Modified Cajalco Alignment

Potentially Significant Impact

As discussed in Section 3.8, *Cultural Resources*, nine historical resources would potentially be affected by construction of Build Alternative 2C. Build Alternative 2C would permanently affect the same six NRHP/CRHR-eligible archaeological properties and three TCPs identified under Build Alternative 1, above. Therefore, under CEQA, there would be a potentially significant impact. In an effort to mitigate the significant impacts, measures and treatments developed in the MOA will be implemented. Additionally, Standard Project Measures **PF CR-1** and **PF CR-2**, listed in Table 4.2-6, below, are proposed to avoid or otherwise minimize impacts on historical resources under Build Alternative 2C (refer to Section 3.8, *Cultural Resources*, for **PF CR-1** and **PF CR-2**).

Table 4.2-6. Historical Resources Impact Assessment—Build Alternative 2C

Property	Impact Assessment	Standard Project Measures and Mitigation
Mead Valley PPAD	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4454	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 816	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 817	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

Property	Impact Assessment	Standard Project Measures and Mitigation
CA-RIV-012623	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Three traditional cultural properties - *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik*	Less than Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

For the six archaeological resources (Mead Valley PPAD; combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444; CA-RIV-4454; Loci 816 and 817 of CA-RIV-7843: and CA-RIV-012623), while the proposed measures would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on archaeological historical resources would remain significant and unavoidable. Standard Project Measures **PF CR-1** and **PF CR-2** have been identified to further reduce impacts on cultural resources (see Section 3.8, *Cultural Resources*).

A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

The *T u'uv, Qax alku Pay mik*, and *Qax alku Kw imik* TCPs compose an expansive, unbounded, and overlapping geographic area that includes the APE and all the project alternatives (refer to Confidential Figures B-2 and B-3 in Appendix A, *Section 4(f)*, of this EIR/EIS). Although the outer boundaries of the TCPs are not known, impacts on the TCPs from the project, including ground-disturbing activities associated with development that would affect individual physical components of the TCPs, are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Additionally, even though ground-disturbing activities associated with development would affect individual physical components of the TCPs, their loss would not cause a significant impact on the intangible cultural values held by the Luiseño people and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv, Qax alku Pay mik*, and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs.

A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information has been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternatives 1, 2C, and 4.

An MOA among participating Native American tribes, Caltrans, and the County that would include additional measures for mitigating any adverse effect and would reflect input from the participating Native American tribes will be prepared before the Final EIR.

Future Six-Lane Facility (Build Alternative 2C)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 2C. If grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 2C would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 2C, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. However, with the implementation of the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCPs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant.

Lake Mathews MSHCP (Build Alternative 2C)

Potentially Significant Impact

The LM MSHCP, as it pertains to cultural resources, would remain unchanged. However, under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project, which may result in potential impacts on archaeological resources within the LM MSHCP area and LMR. An MOA will be developed to reduce impacts, and Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 2C, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. However, with the measures and treatments developed in the MOA and implementation of Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCPs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant with mitigation.

Build Alternative 4—El Sobrante Alignment

Potentially Significant Impact

As discussed in Section 3.8, *Cultural Resources*, eleven historical resources would potentially be affected by construction of Build Alternative 4. Build Alternative 4 would permanently affect the following eight NRHP/CRHR-eligible archaeological properties:

1. Mead Valley PPAD, which is assumed eligible for listing in the NRHP/CRHR under Criteria A/1, B/2, C/3, and D/4 for the purposes of this project only (CSO approval on July 7, 2020);

2. CA-RIV-4403, -4407, -4408, and -4409, which are not eligible individually (SHPO concurrence on February 10, 2010) and assumed eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing elements of the Mead Valley PPAD (CSO approval on July 7, 2020);
3. CA-RIV-7843 Locus 816, which is eligible for listing in the NRHP/CRHR individually under Criteria A/1, C/3, and D/4 (SHPO concurrence on February 10, 2021), assumed eligible as a locus of the larger CA-RIV-7843 site that is eligible under Criterion D/4, and eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of the Mead Valley PPAD (CSO approval on July 7, 2020);
4. CA-RIV-7843 Locus 817, which is not individually eligible (SHPO concurrence on February 10, 2021), assumed eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of CA-RIV-7843, and eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of the Mead Valley PPAD (CSO approval on July 7, 2020); and
5. CA-RIV-012623, individually eligible for the NRHP and CRHR under Criterion D (SHPO concurrence on February 10, 2021).

Build Alternative 4 would also potentially affect three TCPs for which Caltrans has assumed eligibility for listing in the NRHP under Criteria A, B, C, and D for the purposes of this project only (CSO approval on May 7, 2020). Therefore, under CEQA, there would be a potentially significant impact. Measures and treatments to reduce impacts on significant resources will be developed in an MOA. Additionally, Standard Project Measures **PF CR-1** and **PF CR-2**, listed in Table 4.2-7, below, are proposed to avoid or otherwise minimize impacts on historical resources under Build Alternative 4 (refer to Section 3.8, *Cultural Resources*, for **PF CR-1** and **PF CR-2**).

Table 4.2-7. Historical Resources Impact Assessment—Build Alternative 4

Property	Impact Assessment	Standard Project Measures and Mitigation
Mead Valley PPAD	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4403	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4407	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4408	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4409	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 816	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-7843, Locus 817	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012623	Potentially Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Three traditional cultural properties - *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik*	Less Than Significant Impact	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

For the eight archaeological resources (Mead Valley PPAD; CA-RIV-4403, -4407, -4408, and -4409; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623), while the proposed measures would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on archaeological historical resources would be significant and unavoidable.

A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with the SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS.

The *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik* TCPs compose an expansive, unbounded, and overlapping geographic area that includes the APE and all the project alternatives (refer to Confidential Figures B-2 and B-3 in Appendix A, *Section 4(f)*, of this EIR/EIS). Although the outer boundaries of the TCPs are not known, impacts on the TCPs from the project, including ground-disturbing activities associated with development that would affect individual physical components of the TCPs, are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Additionally, even though ground-disturbing activities associated with development would affect individual physical components of the TCPs, their loss would not cause a significant impact on the intangible cultural values held by the Luiseño people and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs.

A number of meetings have been held to discuss tribal concerns and consider mitigation, and Native American tribes have been actively engaged with Caltrans during site testing. Native American input and information have been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternatives 1, 2C, and 4.

An MOA among participating Native American tribes, Caltrans, and the County that would include additional measures for mitigating any adverse effect and would reflect input from the participating Native American tribes will be prepared before the Final EIR/EIS.

Future Six-Lane Facility (Build Alternative 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 4. If grading, cut, and fill as part of the future six-lane facility are

conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 4 would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 4, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. However, with the implementation of the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCPs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

The LM MSHCP, as it pertains to cultural resources, would remain unchanged. However, under Build Alternative 4, portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which may result in potential impacts on undiscovered, buried archaeological resources within the LM MSHCP area and LMR. Impacts would be the same for the *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik* TCPs. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable.

4.2.5(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Build Alternative 1—Cajalco Alignment

Potentially Significant Impact

There are eight archaeological resources that would be affected by Build Alternative 1. Of the eight resources, six are eligible for listing in the NRHP and are therefore considered historical resources for the purposes of CEQA. Build Alternative 1 would permanently affect all six archaeological historical resources: Mead Valley PPAD; combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444; CA-RIV-4454; CA-RIV-7843 Locus 816; CA-RIV-7843 Locus 817; and CA-RIV-012623, as indicated in Table 4.2-8, below.

Table 4.2-8. Archaeological Resources Affected and Eligibility—Build Alternative 1

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
Mead Valley PPAD	Bedrock milling stations and lithic scatter within an as-yet undefined larger boundary inclusive of additional likely similar sites outside of the APE	PPAD as a whole assumed eligible for the purposes of this project only under Criteria A/1, B/2, C/3, and D/4 (approved by CSO 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Prehistoric bedrock milling station, lithic scatter, and reported petroglyph	Evaluated. Individually assumed eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element to the PPAD; CSO approval 7/7/2020.	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4454	Prehistoric artifact scatter	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (approved by CSO July 7, 2020).	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-6623/H	Historic period refuse scatter and imported manos	Not eligible for listing in the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 816	Prehistoric cupule rock, milling features, and lithic	Previously recommended as eligible for the NRHP. See Garcia et al. (2005). No formal evaluation and no SHPO concurrence. Evaluated. Individually eligible under Criteria A/1, C/3, and D/4 (SHPO concurrence 2/10/2021). Eligible as an assumed contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1:** Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 817	Prehistoric milling station and artifact scatter	Evaluated. Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012623	Prehistoric artifact scatter	Evaluated. Individually eligible (SHPO concurrence 2/10/2021), and as an assumed contributing element to the PPAD, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-3832H	AT&SF Railroad alignment	Evaluated. Not eligible for listing in the NRHP and CRHR under any criteria (SHPO concurrence 2/10/2021).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

While implementation of measures and treatments developed in the MOA and **PF CR-1** and **PF CR-2** would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on archaeological historical resources would be significant and unavoidable.

Future Six-Lane Facility (Build Alternative 1)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 1. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would be employed if applicable. As discussed under Build Alternative 1, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant.

Lake Mathews MSHCP (Build Alternative 1)

Potentially Significant Impact

The LM MSHCP, as it pertains to archaeological resources, would remain unchanged. However, under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges and wildlife crossings would also be constructed. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the MSHCP area. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project, which could result in potential impacts on archaeological resources that are eligible for the CRHR within the LM MSHCP area and LMR. The proposed project would be constructed and developed in a manner to minimize effects on archaeological resources during construction. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would be employed if applicable.

Build Alternative 2C—Modified Cajalco Alignment

Potentially Significant Impact

There are nine archaeological resources that would be affected by Build Alternative 2C. Of the nine resources, six are eligible for listing in the NRHP and are therefore considered historical resources for the purposes of CEQA. Build Alternative 2C would permanently affect all six historical resources: the Mead Valley PPAD; combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444; CA-RIV-4454; CA-RIV-7843 Locus 816; CA-RIV-7843 Locus 817; and CA-RIV-012623, as indicated in Table 4.2-9 on the following page.

Table 4.2-9. Archaeological Resources Affected and Eligibility—Build Alternative 2C

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
Mead Valley PPAD	Bedrock milling stations and lithic scatter within an as-yet undefined larger boundary inclusive of additional likely similar sites outside of the APE	PPAD as a whole assumed eligible for the purposes of this project only under Criteria A/1, B/2, C/3, and D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Prehistoric bedrock milling station; lithic scatter; reported petroglyph	Individually assumed eligible under Criterion D/4; eligible as an assumed contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4454	Prehistoric artifact scatter	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-6623/H	Historic period refuse scatter; imported manos	Not eligible for the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 816	Prehistoric cupule rock, milling features, lithic scatter	Individually eligible under Criteria A/1, C/3, and D/4 (SHPO concurrence 2/10/2021). Eligible as an assumed contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 817	Prehistoric milling station and artifact scatter	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012618	Historic period refuse scatter	Evaluated. Not eligible for the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012623	Artifact scatter	Individually eligible (SHPO concurrence 2/10/2021), and as an assumed contributing element to the PPAD, under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
CA-RIV-3832H	AT&SF Railroad alignment	Evaluated. Not eligible for listing in the NRHP and CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

While implementation of measures and treatments developed in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2** would reduce impacts associated with the proposed project on the four archaeological historical resources, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on historical resources would potentially be significant and unavoidable.

Future Six-Lane Facility (Build Alternative 2C)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 2C. If grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 2C would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 2C, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant.

Lake Mathews MSHCP (Build Alternative 2C)

Potentially Significant Impact

The LM MSHCP, as it pertains to archaeological resources, would remain unchanged. However, under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the MSHCP area. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required in order to accommodate the proposed project, which could result in potential impacts on archaeological resources that are eligible for the CRHR within the LM MSHCP area and LMR. The proposed project would be constructed and developed in a manner to minimize effects on archaeological resources during construction. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would be employed if applicable. As discussed under Build Alternative 2C, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant.

Build Alternative 4—El Sobrante Alignment

Potentially Significant Impact

There are eleven archaeological resources that would be affected by Build Alternative 4. Of the eleven resources, eight are eligible for listing in the NRHP and CRHR and are therefore considered historical resources for the purposes of CEQA, as indicated in Table 4.2-10.

Table 4.2-10. Archaeological Resources Affected and Eligibility—Build Alternative 4

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
Mead Valley PPAD	Prehistoric bedrock milling station	PPAD assumed eligible under Criteria A/1, B/2, C/3, and D/4 (CSO approval 7/7/2020). NRHP status for contributing elements described below for each qualifying site.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4403	Bedrock milling station	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4407	Bedrock milling station and lithic scatter	Not individually eligible (SHPO concurrence on 2/10/2021; assumed eligible as an assumed contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4408	Bedrock milling station and lithic scatter	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-4409	Bedrock milling station	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 816	Prehistoric cupule rock, milling features, and lithic scatter	Individually eligible under Criteria A/1, C/3, and D/4 (SHPO concurrence 2/10/2021). Eligible as an assumed contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 (approved by CSO 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
33-13791/CA-RIV-7843, Locus 817	Prehistoric milling station and artifact scatter	Not individually eligible (SHPO concurrence 2/10/2021); assumed eligible as a contributing element to the PPAD, and as a locus of CA RIV-7843, under Criterion D/4 CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012621	Historic period refuse scatter	Evaluated. Not eligible for the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

Site Number	Description	NRHP/CRHR Status	Standard Project Measures and Mitigation
CA-RIV-012622	Indeterminate period rock cairn	Evaluated. Not eligible for the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-012623	Prehistoric artifact scatter	Individually eligible (SHPO concurrence 2/10/2021), and as an assumed contributing element to the PPAD under Criterion D/4 (CSO approval 7/7/2020).	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains
CA-RIV-3832H	AT&SF Railroad alignment	Evaluated. Not eligible for the NRHP/CRHR under any criteria; SHPO concurrence 2/10/2021.	• **PF CR-1**: Unanticipated Discoveries • **PF CR-2:** Discovery of Human Remains

While implementation of measures and treatments developed in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2** would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on historical resources would be significant and unavoidable.

Future Six-Lane Facility (Build Alternative 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternative 4. If grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 4 would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 4, above, even with the incorporation of Standard Project Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

The LM MSHCP, as it pertains to archaeological resources, would remain unchanged. However, under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the MSHCP area. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required

to accommodate the proposed project, which could result in potential impacts on archaeological resources that are eligible for the CRHR within the LM MSHCP area and LMR. The proposed project would be constructed and developed in a manner to minimize effects on archaeological resources during construction. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **CR-2** would be employed if applicable.

4.2.5(c) 4.2.5(c) Disturb any human remains, including those interred outside of dedicated cemeteries?

Build Alternatives 1, 2C, and 4

No Impact

No human remains have been previously identified in the project APE either through the records search or through the pedestrian archaeological survey conducted for the project. However, given the sensitivity of the project area for archaeological resources, the presence of unknown, previously undiscovered human remains cannot be discounted, however unlikely their presence. If human remains are discovered, Standard Project Measure **PF CR-1** would be employed.

State Health and Safety Code Section 7050.5 states that further disturbances and activities shall stop in any area or nearby area that is suspected to overlie remains, and the County Coroner contacted. If the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who, pursuant to Public Resources Code (PRC) Section 5097.98, will then notify the Most Likely Descendant (MLD). At this time, the person who discovered the remains will contact Gary Jones, District Native American Coordinator, at (909) 383-7505 so that they can work with the MLD regarding the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

If additional travel lanes are constructed within the median of Cajalco Road between Temescal Canyon Road and La Sierra Avenue, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternatives 1, 2C, and 4.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which would result in potential impacts on undiscovered human remains, should they exist. The proposed project would be constructed and developed in a manner to minimize effects on cultural resources during construction. Standard Project Measure **PF CR-1** would be employed if human remains are discovered.

4.2.6 Energy

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

This section is based on information from Section 3.16, *Energy*, and the *Air Quality Study Report* technical report prepared for the project (Caltrans 2017b).

4.2.6(a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

As discussed in Section 3.16, *Energy*, energy would be consumed during both temporary construction activities as well long-term operational use of the project area roadways. Temporary energy consumption would result from use of diesel-powered heavy equipment, portable diesel generators, and heavy-duty trucks for material hauling and delivery and light-duty vehicles for worker commute trips, almost all of which would involve the consumption of petroleum-based gasoline or diesel fuel. Temporary construction-period activities would require the consumption of the equivalent of 462,000 gallons of diesel fuel, or approximately 64,000 million British thermal units (MMBTU). Long-term operational use of the facility under Build Alternatives 1, 2C, and 4 would result in energy consumption primarily in the form of vehicle fuel use. As shown in Table 3.16-1, operational energy use would vary by build alternative and analysis year based on the differing vehicle speed and operations.

Energy reduction technology incorporated into the proposed project, such as the use of LED bulbs in place of incandescent bulbs, would consume 10 percent of the electricity of traditional lights. Refer to Standard Project Measure **PF VIS-4** in Section 3.7, *Visual/Aesthetics*.

Construction activities would be implemented to provide additional east-west vehicular capacity in the project area and long-term operations would serve local and regional transportation needs. Furthermore, through innovations such as longer pavement lives, improved TMPs, and changes in materials, the energy used during construction would be offset to some degree by longer intervals between maintenance and rehabilitation activities. Therefore, the build alternatives would not result in potentially significant impacts due to wasteful, inefficient, or unnecessary consumption of energy resources. Standard Project Measures **PF AQ-1**, which includes restrictions on idling of construction vehicles and the use of onsite mobile equipment powered by alternative fuel sources, and **PF SW-1**, which includes recycling of non-hazardous construction

waste, would be employed and reduce energy consumption during construction. Refer to Standard Project Measure **PF AQ-1** in Section 3.14, *Air Quality*, and **PF SW-1** in Section 4.2.8, *Greenhouse Gas Emissions*.

Based on the consumption of energy resources during temporary construction activities and the minor increases in long-term operational vehicle fuel use in the project area associated with Build Alternatives 1, 2C, and 4, impacts would be less than significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

As discussed in Section 3.16, *Energy*, energy would be consumed for the future six-lane facility during both temporary construction activities as well as long-term operational use of the project area roadways. Temporary energy consumption would result from use of diesel-powered heavy equipment, portable diesel generators, and heavy-duty trucks for material hauling and delivery and light-duty vehicles for worker commute trips, almost all of which would involve the consumption of petroleum-based gasoline or diesel fuel. Because the roadway areas represent less than half of the overall length and project area associated with the build alternatives, construction-period energy consumption is anticipated to be less than that identified for the build alternatives. Such temporary increases in energy consumption are not anticipated to be wasteful or inefficient.

Long-term operational use of the future six-lane facility would result in energy consumption primarily in the form of vehicle fuel use. As shown in Table 3.16-2, operational energy use would vary by build alternative and analysis year based on the differing vehicle speed and operations. The future six-lane facility would be implemented to provide additional east-west vehicular capacity in the project area and long-term operations would serve local and regional transportation needs. Therefore, the future six-lane facility would not result in wasteful, inefficient, or unnecessary consumption of energy resources. Based on the consumption of energy resources during temporary construction activities and the minor increases in long-term operational vehicle fuel use in the project area associated with the future six-lane facility, impacts would be less than significant.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

A portion of the construction and operational energy consumption would occur within the limits of the LM MSHCP. As specified in Table 3.16-1, operational energy consumption would increase under the build alternatives relative to the No-Build Alternative, and a portion of those increases would occur in the LM MSHCP area. In addition to everyday roadway operations within the LM MSHCP area, ongoing maintenance activities for the appurtenant facilities would also result in increases in energy emissions. Given the infrequent nature of maintenance activities and that the maintenance activities would generally be limited in scope, such energy consumption would be minor. Therefore, impacts related to energy in the LM MSHCP area would not be wasteful, inefficient, or unnecessary. As such, impacts related to the consumption of energy resources during project construction or operation in the LM MSHCP area would be less than significant.

4.2.6(b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Build Alternatives 1, 2C, and 4

No Impact

The 2017 Climate Change Scoping Plan prepared by ARB calls for prioritizing transportation sustainability as part of the statewide goals to achieve greenhouse gas (GHG) reductions. Analyses by ARB show fossil fuel demand will decrease by more than 45 percent by 2030 through the implementation of a range of transportation programs related to efficient land use, affordable housing, infrastructure for cyclists and pedestrians, public transit, new vehicle technologies, fuels, and freight (ARB 2017). The California Energy Commission adopts an Integrated Energy Policy Report every 2 years and an update every other year. The most recently adopted report update, titled *Toward A Clean Energy Future, 2018 Integrated Energy Policy Report Update, Volume II,* was adopted February 20, 2019 (CEC 2019). Among the state policies summarized in the report, the 2018 Integrated Energy Policy Report discusses the effort to move the transportation sector's diverse vehicle segments away from petroleum to near-zero emission vehicles operating with low-carbon fuels and zero-emission vehicles that run on electricity from batteries or hydrogen fuel cells (CEC 2019:120). Each of these programs would contribute to reductions in energy use, or increases in energy efficiency.

The build alternatives would implement local and regional transportation improvements that would not conflict with or obstruct such statewide energy and energy efficiency efforts. Implementation of the build alternatives would involve short-term increases in energy consumption from construction activities. Long-term operations would involve increased energy consumption from vehicles on the roadway relative to the No-Build Alternative, but energy consumption per vehicle mile traveled would be substantially lower than under existing conditions. More efficient vehicle technologies using improved fuels would be able to use the alignment under the build alternatives. Standard project measures incorporated into the project would meet or exceed the measures recommended in the SCAG 2016–2040 Programmatic EIR that incorporate Best Available Control Technology to be employed during project design, construction, and operation. These measures include Standard Project Measures **PF LU-1**, **PF VIS-4**, and **PF AQ-1**. Based on the lack of conflict with state and local plans for renewable energy and energy efficiency, no impacts would occur as a result of implementation of Build Alternative 1, 2C, or 4.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The future six-lane facility would not conflict with or obstruct state or local plans for renewable energy or energy efficiency because it would not affect the implementation of ongoing transportation programs to improve vehicle technologies and improve fuel efficiency. As such, no impacts related to the potential for the future six-lane facility to conflict with or obstruct a state or local plan for renewable energy or energy efficiency would occur.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The portion of the project within the LM MSHCP area would not conflict with or obstruct state or local plans or renewable energy or energy efficiency because it would not affect the implementation of ongoing transportation programs to improve vehicle technologies and improve fuel efficiency. As such, no impacts related to the potential for the project to conflict with or obstruct a state or local plan for renewable energy or energy efficiency in the LM MSHCP area would occur.

4.2.7 Geology and Soils

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

The information presented in this section is based on Chapter 3, Section 3.11, *Geology/Soils/Seismic/Topography*, of this EIR/EIS, the project-specific *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 110)* (County 2017a), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 268)* (County 2017b), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 242)* (County 2017c), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 267)* (County 2017d), *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 145)* (County 2019a), *Structure Preliminary Geotechnical Report: Wildlife Crossing (New) (Bridge No. 179)* (County 2017e), *Structure Preliminary Geotechnical Report: Cajalco Creek Bridge (New) (Bridge No. 740)* (County 2017f), *Structure Preliminary Geotechnical Report: Temescal Wash Bridge (Replace) (Bridge No. 22)* (County 2019b), *Structure Preliminary Geotechnical Report: Bridge Over Creek (New) (Bridge No. 173)* (County 2019c), *Structure*

Preliminary Geotechnical Report: Bridge Over MWD Maintenance Area (New) (Bridge No. 163) (County 2019d)*, Structure Preliminary Geotechnical Report: Ramona Expressway Overhead (Widen) (Bridge No. 56C-0196)* (County 2019e), *Structure Preliminary Geotechnical Report: Bridge Over Lake Mathews Spillway Channel (New) (Bridge No.* 565*)* (County 2019f), and WRC MSHCP (Western Riverside County Regional Conservation Authority 2003).

4.2.7(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

Build Alternatives 1, 2C, and 4

No Impact

The project area is not in a State of California Special Studies ("Alquist-Priolo") Zone for fault rupture, and no known active faults are mapped as crossing or projecting toward the site. The closest known active fault is the Glen Ivy Section of the Elsinore Fault Zone approximately 3.4 miles southwest of the nearest end of the project area. Therefore, potential for fault rupture is considered remote and no impact is anticipated. Seismic design would also meet County of Riverside requirements for near-source design parameters under the Uniform Building Code.

4.2.7(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The proposed project is situated within the Perris Block province, bound to the east and west by active northwest-trending fault zones, including the San Jacinto and Elsinore fault zones. Neither ground shaking nor fault rupture can be avoided in the design of roadways; however, placing the realigned roadway either at natural grade or in low cuts or on low embankments limits the potential for, and consequences of, failure in the cuts and fills. Accordingly, the currently proposed designs are generally favorable for accommodating future ground shaking or surface rupture. Compliance with Caltrans' procedures regarding seismic design, as detailed in Section 19, "Earthwork," of the Caltrans Standard Specifications Manual, is also anticipated to prevent any adverse effects related to seismic ground shaking. Seismic design would also meet County of Riverside requirements for near-source design parameters under the Uniform Building Code). The proposed project further includes Standard Project Measures **PF GEO-1** through **PF GEO-5**

to confirm soil conditions and bridge footing design; design recommendations based on the results of the testing would be incorporated into the final design.

The Generalized Liquefaction Map for Riverside County indicates that liquefaction potential in the western end of the project alignment at Temescal Creek is considered low to moderate (refer to Figure 3.11-3 in Section 3.11, *Geology/Soils/Seismicity/Topography*). However, based on site reconnaissance, soils in the area of the proposed replacement of Bridge No. 56C-0155 at Temescal Creek may have a moderate to high liquefaction potential. The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-3** that would specify appropriate excavation and stabilization techniques.

Due to relatively shallow bedrock and deep groundwater, liquefaction potential is low to very low west of Lake Mathews Drive. Liquefaction potential along much of the eastern end of the project is also considered low due to localized bedrock conditions. The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-5** that would address seismic settlement potential.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is expected that the new lanes would be exposed to the same seismic hazards as the proposed project described under Build Alternatives 1, 2C, and 4, above. It is also anticipated that geotechnical evaluations would be required to evaluate impacts resulting from any excavation, cuts, and fill required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which would result in exposure of transportation facilities and structures to potential seismic activity. The proposed project would also result in the excavation, grading, cut, and fill of soils and rock within the LM MSHCP area. Through compliance with Standard Project Measures **PF GEO-1** through **PF GEO-3**, the proposed project would be constructed and developed in a manner to minimize effects from seismic hazards as well as to minimize impacts on the surrounding soils and geology.

4.2.7(b) Result in substantial soil erosion or the loss of topsoil?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Sandy soils found in various areas of the project can be easily erodible, and erosion could occur during construction. Development of the roadway would cause groundbreaking and vegetation removal during construction. As a result, soil could be exposed to rain and wind, potentially causing accelerated erosion and deposition from the project site. Federal and state jurisdictions require that an approved SWPPP be prepared for projects that involve greater than 1 acre of disturbance. The preparation and implementation of the SWPPP is included as Standard Project Measure **PF WQ-4** (see Section 3.10, *Water Quality and Stormwater Runoff*). The SWPPP will specify BMPs (**PF WQ-3**) that would prevent construction pollutants from contacting stormwater, with the intent of keeping all products of erosion from moving off site into receiving waters. Earthwork in the project area would be performed in accordance with Section 19, "Earthwork," of the Caltrans Standard Specifications Manual, the requirements of applicable government agencies, and recommendations from the preliminary geotechnical reports.

4.2.7(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?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Soils in the project area are varied and include the following types west of Harley John Road: Young and very old alluvial deposits and alluvial fan deposits, boulder gravel and gravel, mesozoic metasedimentary rocks, granodiorite and gabbro, monzogranite, and Lake Mathews Formation. Soils at the proposed location of Bridge 110 in the western end of the project along Cajalco Road and within Cajalco Canyon appear to be sandy/gravelly fills that go down to about 10 feet deep and are underlain by bedrock, becoming less weathered and harder with depth. A soil boring taken south of Lake Mathews indicated approximately 10 feet of alluvial materials overlying Tertiary formational material (Lake Mathews Formation). The alluvial material is primarily stiff to very stiff sandy silt (ML). No subsurface data were available below 26.5 feet below ground surface, but it likely consists of sedimentary rock becoming less weathered and harder with depth. The colluvial soil found between rock outcrops in this area is loose, coarse-grained, silty sand and sandy silt. The following soil types are present east of Harley John Road: tonalite of Val Verde pluton, artificial fill, very old axial channel deposits, young alluvial wash deposits, very old alluvial fan deposits, and tonalite, undifferentiated.

The proposed project includes Standard Project Measures **PF GEO-1** through **PF GEO-5** that would be employed during the Plans, Specifications, and Estimates (PS&E) phase of the project to confirm soils and slope stability conditions, and specific excavation and stabilization techniques for each location based on the results of testing. Impacts would therefore be less than significant and mitigation would not be required.

4.2.7(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?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

As described under 4.2.7(c), soils within the project area include artificial fill, alluvium, colluvium, Cretaceous granitic rock, Tertiary formational material (soft sedimentary rock), and Holocene and late Pleistocene-age Young axial channel deposits. The large variety of soils throughout the project site includes pockets of expansive soils. Foundation type and any stabilization techniques would be identified prior to construction through Standard Project Measures **PF GEO-1** through **PF GEO-3**. Impacts would be less than significant and mitigation would not be required.

4.2.7(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?

Build Alternatives 1, 2C, and 4

No Impact

The proposed project would not include septic tanks, sewer, or alternative wastewater disposal systems, or other facilities where such facilities would be required. There would be no impact.

4.2.7(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Build Alternatives 1 and 2C—Cajalco Alignment and Modified Cajalco Alignment

Less than Significant with Mitigation

As discussed in Chapter 3, Build Alternatives 1 and 2C would cross the Silverado Formation along the western end of the project limits, east of Temescal Canyon. As the alignment continues eastward, the alternatives would traverse the Lake Mathews Formation and the Plio-Pliestocene deposits south of Lake Mathews. It is anticipated that ground-disturbing activities east of Lake Mathews Drive may range from 2 to 12 feet in depth, depending on construction activity. Limited locations may require excavating to a depth of up to approximately 50 feet for the installation of utility poles, bridge pilings, and associated activities. West of Lake Mathews Drive, construction depth could reach depths greater than 12 feet, and may require depths up to 100 feet in limited locations for utility poles, bridge pilings, and associated drilling activities.

All three build alternatives have the potential to affect sensitive paleontological areas. However, because their alignments traverse a larger area of sensitive geologic units, Build Alternatives 1 and 2C have the potential to affect a larger sensitive paleontological area than Build Alternative 4. With implementation of the Mitigation Measure **PAL-1**, impacts would be mitigated to less-than-significant levels. Refer to Chapter 3, Section 3.12, *Paleontology*, for Mitigation Measure **PAL-1.**

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant with Mitigation

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed highway widening, which would result in potential impacts on sensitive paleontological areas.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

As discussed in Chapter 3, Build Alternative 4 would cross the Silverado Formation in the western end of the project limits just east of Temescal Canyon. Build Alternative 4 would avoid sensitive units to the south, but would traverse two limited areas of the Lake Mathews Formation to the northeast of Lake Mathews. It is anticipated that ground-disturbing activities east of Lake Mathews Drive may range from 2 to 12 feet in depth, depending on construction activity. Limited locations may require excavating to a depth of up to approximately 50 feet for the installation of utility poles, bridge pilings, and associated activities. West of Lake Mathews Drive, construction depth could reach depths greater than 12 feet, and may require depths up to 100 feet in limited locations for utility poles, bridge pilings, and associated drilling activities.

All three build alternatives have the potential to affect sensitive paleontological areas. However, because their alignments traverse a larger area of sensitive geologic units, Alternative 1 and Alternative 2C have the potential to affect a larger sensitive paleontological area than Build Alternative 4. With implementation of Mitigation Measure **PAL-1**, impacts would be mitigated to less-than-significant levels. Refer to Section 3.12, *Paleontology*, for Mitigation Measure **PAL-1.**

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant with Mitigation

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed highway widening, which would result in potential impacts on sensitive paleontological areas.

4.2.8 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☒	☐	☐	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

4.2.8(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Build Alternatives 1, 2C, and 4

Potentially Significant Impact

GHG emissions for transportation projects can be divided into those produced during construction and those produced during operations. Construction GHG emissions include emissions produced as a result of material processing, emissions produced by onsite construction equipment, and emissions arising from traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved TMPs, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. As discussed in Section 4.2.3, *Air Quality,* construction of the project would be in compliance with applicable air quality rules. As the CEQA lead agency, this evaluation is based on the County of Riverside's significance thresholds, and reflects the determinations of the County. Caltrans' methods have been applied to this evaluation due to its statewide role in funding and delivering transportation projects; however, the County is responsible for CEQA determinations herein.

Construction Emissions

Construction GHG emissions would result from material processing, onsite construction equipment, and traffic delays due to construction. These emissions would be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases.

In addition, with innovations such as longer pavement lives, improved TMPs, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities. Construction-period GHG emissions were calculated using the Sacramento Metropolitan Air Quality Management District

Roadway Construction Emissions Model, and were estimated to total 4,718 metric tons of carbon dioxide equivalent (CO_2e) over the course of the 4-year construction period.[11]

Construction activities anticipated for the future six-lane facility would involve additional GHG emissions, but because the roadway areas represent less than half of the overall length and project area associated with the build alternatives, construction-period emissions are anticipated to be less than that identified for the build alternatives.

The project would comply with all requirements of SCAQMD (which has jurisdiction over the SCAB in which the project site is located). In addition, the County will include as part of the construction contract Caltrans Standard Specifications Section 14-9, Air Quality, which requires contractors to comply with all federal, state, regional, and local rules, regulations, and ordinances related to air quality; compliance with this specification is included in the project as Standard Project Measure **PF AQ-1**. Additional measures, such as idling time restrictions and keeping equipment engines properly tuned and maintained, which reduce vehicle emissions and energy use, also reduce GHG emissions. A TMP (Standard Project Measure **PF LU-1**), which would include a public awareness campaign, would be also implemented to minimize traffic delays during construction.

Operational Emissions

The proposed build alternatives would improve traffic conditions during peak travel periods and increase capacity within the project limits. The VMT data shown in Table 4.2-11, along with EMFAC2014 emission rates (within the CT EMFAC model), were used to calculate the CO_2e emissions under the Baseline/Existing Year 2014, Opening Year 2024, and Horizon Year 2044 conditions. For purposes of this analysis, CO_2e comprises CO_2 and methane (CH_4).

Table 4.2-11. Modeled Annual CO_2 Emissions and Vehicle Miles Traveled – Alternatives 1, 2C, and 4

Year / Alternative	CO_2 Emissions (Metric Tons/Year)	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2014	1,364,951	2,979,123,737
Open to Traffic 2024		
No Build	1,285,751	3,699,198,298
Build Alternative 1	1,294,347	3,751,722,597
Build Alternative 2C	1,301,794	3,771,736,039
Build Alternative 4	1,299,554	3,768,515,922
20-Year Horizon/Design-Year 2044		
No Build	1,365,350	5,086,991,199
Build Alternative 1	1,377,419	5,128,627,382
Build Alternative 2C	1,370,635	5,108,239,744
Build Alternative 4	1,378,941	5,139,521,794
Future Six-Lane Facility (Build Alternative 1/2C)	1,385,029	5,150,625,375
Future Six-Lane Facility (Build Alternative 4)	1,388,430	5,168,198,490

CO_2 = carbon dioxide
Source: EMFAC 2014
[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per ARB methodology (ARB 2008). Differences in VMT and CO_2 emissions between Alternatives 1 and 2C based on results of traffic modeling conducted for each alternative.

[11] CO_2e is a standard unit for measuring carbon footprints. The idea is to express the impact of each different GHG in terms of the amount of CO_2 that would create the same amount of warming.

As shown in Table 4.2-11, the modeled CO_2e emissions in the project area under 2014 Existing/Baseline conditions would be approximately 1.36 million metric tons CO_2e per year. In Opening Year 2024, annual emissions from mobile sources operating in the project area[12] would be approximately 1.29 million metric tons CO_2e under the No-Build Alternative, 1.29 million metric tons CO_2e under Build Alternative 1, 1.30 million metric tons CO_2e under Build Alternative 2C, and 1.30 million metric tons CO_2e under Build Alternative 4.

Table 4.2-11 also shows emissions at the 2044 Horizon Year, which are estimated to be 1.37 million metric tons CO_2e under the No-Build Alternative, 1.38 million metric tons CO_2e under Build Alternative 1, 1.37 million metric tons CO_2e under Build Alternative 2C, and 1.38 million metric tons CO_2e under Build Alternative 4. When compared to the 2014 Existing/Baseline, GHG emissions at the Horizon Year 2044 would be 0.03 percent higher under the No-Build Alternative, 0.91 percent higher under the Build Alternative 1, 0.42 percent high under Build Alternative 2C, and 1.02 percent higher under Build Alternative 4. Although there would be increases in emissions, the increases would not be substantial relative to the greater than 70 percent increases in VMT, which is attributed to the projected improvements in vehicle fuel efficiency.

At the 2044 Horizon Year, emissions would increase under the build alternatives when compared with the No-Build Alternative, with annual GHG emissions estimated to increase 0.88 percent under Build Alternative 1, 0.38 percent under Build Alternative 2C, and 0.99 percent under Alternative 4. Such increases are attributable to the greater VMT and changes in the speed profile projected in the project area under each of the build alternatives.

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.

The County of Riverside adopted a Climate Action Plan Update in November 2019, which set goals for Riverside County to reduce GHG emissions to 15 percent below 2008 levels by the year 2020, 49 percent below 2008 levels by 2030, and 83 percent below 2008 levels by 2050, which are consistent with the statewide goal identified in Assembly Bill (AB 32), Senate Bill 32 (SB 32), and Executive Order S-3-05. A number of the transportation-related policies are applicable to the proposed project. Many of the policies are statewide policies that would result in GHG reductions in Riverside County, such as the Pavley standards for passenger and light-duty vehicles, the low carbon fuel standard, and electrification of the vehicle fleet. Among the local policies that will be implemented in the study area that would coincide with project implementation are the use of LED bulbs in traffic signals identified in Measure R2-EE10, reduction of waste diverted to landfills identified in Measure R2-S1, reduction of water use

[12] For the purposes of this GHG analysis, the project area is defined as the study region defined in the Traffic Operations Analysis Report, which includes roadway segments generally bounded by I-15 on the west, SR-91 to the north, I-215 to the north and west, and the area immediately south of Cajalco Road on the south.

identified in Measure R2-W2, and signal synchronization and transportation flow management identified as Reduction Measure T1.C (County 2019g). In addition, the project would be consistent with many of the policies identified in the Riverside County General Plan that have a GHG reduction co-benefit, including those related to improving circulation and relieving congestion, those related to the use of building materials/methods and waste reduction, and those related to reduced water use (County 2018a).

The increases during the construction period would be short term and the increases during long-term operations would not be substantial relative to the improvements in mobility provided by the project. Nevertheless, due to the increases in GHG emissions, impacts would be significant. Given that there would be increases in emissions, standard project measures and mitigation measures identified below have been considered and evaluated for the reduction of GHG emissions. Although increases in GHG emissions would be reduced through implementation of standard project measures and mitigation measures, impacts would remain significant.

Greenhouse Gas Emissions Reduction Strategies and Project Measures

Given that the finished project is a roadway improvement project, there is a lack of available avenues to fully offset project GHG emission increases. Standard project measures incorporated into the proposed project, such as the use of LED bulbs in place of incandescent bulbs, would consume 10 percent of the electricity of traditional lights, which will also help reduce CO_2 emissions and, subsequently, GHG emissions. Furthermore, the use and maintenance of construction equipment in accordance with Caltrans' Standard Specifications, Section 14-9.02, ARB commercial vehicle idle regulations, and manufacturers' specifications would reduce GHG emissions from diesel-powered construction vehicles. These standard project measures, as well as Mitigation Measure **GHG-1**, align with the measures and strategies outlined in the County of Riverside's November 2019 Climate Action Plan Update and SCAG 2016–2040 Programmatic EIR, and would reduce GHG emissions associated with the proposed project.

The following standard project measures have been incorporated into the project, and would reduce GHG emissions and potential climate change impacts from the project. The measures below include measures that meet or exceed measures recommended in the SCAG 2016–2040 Programmatic EIR that incorporate Best Available Control Technology to be employed during project design, construction, and operation as avoidance and minimization measures to minimize GHG emissions, and measures recommended in the SCAG 2016–2040 Programmatic EIR similarly identified to avoid or reduce GHG emissions. These measures include Standard Project Measures **PF LU-1** in Section 3.1, *Land Use*; **PF VIS-1** and **PF VIS-4** in Section 3.7, *Visual/Aesthetics*; and **PF AQ-1** in Section 3.14, *Air Quality*:

- **PF LU-1: Traffic Management Plan (summarized)**. Prior to construction, the County of Riverside will develop a Traffic Management Plan that will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. The County will coordinate with local agencies, emergency services, and law enforcement to minimize disruptions to access, circulation, and parking. The County will coordinate with local jurisdictions to adjust signal timing on arterial streets during construction to minimize traffic congestion. If short-term full roadway closure is necessary, it will be scheduled for nighttime to minimize impacts on motorists.

- **PF VIS-1: Contouring and Replanting Disturbed Areas (summarized).** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix.
- **PF VIS-4: Apply Minimum Lighting Standards (summarized)**. All artificial outdoor lighting and overhead street lighting will be limited to only those locations where it is absolutely necessary for safety and security requirements such as intersections. In most cases, lighting will consist of County lighting standards that are up to 35 feet in height, and the minimum required for driver safety. Lighting will be designed using the Illuminating Engineering Society's design guidelines and in compliance with International Dark-Sky Association–approved fixtures. The lowest allowable wattage will be used for all lighted areas, and the number of nighttime lights needed to light an area will be minimized. Lighting will be designed for energy efficiency, with daylight sensors or timers with an on/off program. Lights will provide good color rendering with natural light qualities, with the minimum intensity needed for security, safety, and personnel access. Lighting, including light color rendering and fixture types, will be designed to be aesthetically pleasing. Light-emitting diode (LED) lighting will avoid the use of blue-rich white light lamps (BRWL) lamps and use a correlated color temperature that is no higher than 3,000 Kelvin, consistent with the International Dark-Sky Association's Fixture Seal of Approval Program (International Dark-Sky Association 2010a, 2010b, 2015).
- **PF AQ-1 (summarized)**: The project would conform to California Department of Transportation (Caltrans) construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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. Exhaust emissions control measures may include, but are not limited to: idling restrictions, proper equipment maintenance, solar power use, and the preparation and implementation of a construction traffic plan.
- **PF SW-1:** Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.
- **NC-13 (NES BIO-9):** Post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades, decompacted to eliminate compressed soils and allow for plant establishment, and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory.

In addition to the standard project measures above, Mitigation Measures **GHG-1**, **VIS-2**, and **VIS-8**, described below, would also be implemented:

- **GHG-1:** The project will incorporate the use of energy efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—consume less electricity than traditional lights, which will also help reduce the project's carbon dioxide emissions.
- **VIS-2: Replace or Relocate Site Features and Landscaping Affected by the Project (summarized)**. Where appropriate and to the degree possible, landscaping and related

appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts.

- **VIS-8:** Replace Disturbed Vegetation along Landscaped Freeways. The County of Riverside will work with the appropriate California Department of Transportation (Caltrans) district landscape architect to determine which disturbed portions of landscaped freeways within the project limits require replanting and to what extent. At a minimum, replanting will follow the guidance in Section 92.3 of the Streets and Highways Code.

Summary

Standard project measures incorporated into the project, and identified mitigation measures, would meet or exceed the measures identified in the Climate Action Plan and, therefore, the build alternatives would not conflict with the County's Climate Action Plan. Because the proposed project is identified in the SCAG 2020–2045 RTP/SCS (project number 3A04WT137), project emissions would not conflict with any plan, policy, or regulation adopted for the purpose of reducing GHG emissions. However, there would be increases in emissions even with the incorporation of standard project measures and addition of mitigation measures, and GHG emissions generated by the project may not be reduced to an extent that would avoid a significant impact on the environment.

For these reasons identified above:

1. The proposed project may generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and
2. The proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As such, the proposed project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs, but the contribution to global GHG emissions and climate change would be potentially significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

Although the future six-lane facility is not currently proposed as part of the project, Table 4.2-11 shows the estimated operational emissions associated with its implementation if constructed in the future. Given that the future six-lane facility would not be implemented until a later date and only after construction of the selected build alternative, emissions from the future six-lane facility are compared to the corresponding Horizon Year 2044 build alternatives. The future six-lane facility under the Build Alternative 1/2C scenario would result in estimated emissions of 1.39 million metric tons per year, a 0.55 percent increase in GHG emissions relative to the Horizon Year 2044 Build Alternative 1 scenario. The future six-lane facility under the Alternative 4 scenario would result in estimated emissions of 1.39 million metric tons CO_2e per year, a 0.69 percent increase in GHG emissions relative to the Horizon Year 2044 Build Alternative 4 scenario. The future six-lane facility, if constructed, would include the measures identified for Build Alternatives 1, 2C, and 4, that would minimize GHG emissions of the

project; however, even with the incorporation of standard project measures and addition of mitigation measures, GHG emissions generated by the project may not be reduced to an extent that would avoid a significant impact on the environment.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant with Mitigation

Localized GHG emissions within the LM MSHCP area would be less than those identified for the proposed project. Build Alternatives 1, 2C, and 4 further include measures incorporated into the project, and mitigation measures, that would minimize GHG emissions during construction and operation of the proposed project.

4.2.8(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Build Alternatives 1, 2C, and 4

No Impact

Following the State's adopted AB 32 GHG reduction target, Riverside County has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a 15 percent decrease from 2008 levels, as recommended in the AB 32 Scoping Plan. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the proposed General Plan Update, are 12,129,497 metric tons of CO_2e. In order to reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 metric tons of CO_2e by the year 2020 (County 2018a).

The onsite construction equipment for the proposed project is anticipated to emit a total of 3,570 metric tons of GHGs during construction. With innovations such as longer pavement lives, improved TMPs, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Compliance with the 2015 Caltrans Standard Specifications, the SCAQMD Rules and Regulations, in addition to Standard Project Measures **PF LU-1** and **PF AQ-1** during construction would minimize construction-related GHG impacts. Please refer to Section 3.1, *Land Use*, for **PF LU-1**; and Section 3.14, *Air Quality*, for **PF AQ-1**.

The proposed project would address growth and mobility needs as identified in the Riverside County General Plan Circulation Element. The proposed project would not generate new vehicular traffic trips because new homes or businesses would not be constructed as part of the project, and the proposed project is not considered a traffic generator.

The proposed project would result in a slight increase in GHG emissions during construction; however, these emissions are at levels not considered significant for an individual project. In addition, because the proposed project would not generate new traffic, it is anticipated that the proposed project would not result in any increase in operational GHG emissions that would have a significant impact on the environment.

In addition to the application of Standard Project Measures **PF LU-1** and **PF AQ-1** during construction, the proposed project would also include Standard Project Measures **PF VIS-1**, **PF VIS-4**, **NC-13 (NES BIO-9),** and **PF SW-1**, which would minimize GHG emissions consistent with the measures and goals identified in the Riverside County Climate Action Plan and would therefore be consistent with the plan. As described Section 4.2.3, *Air Quality*, the project is also consistent with the SCAG RTP/SCS. Therefore, the proposed project would not conflict with the applicable plan adopted for the purpose of reducing GHG emissions. Please refer to Section 3.7, *Visual/Aesthetics*, for **PF VIS-1** and **PF VIS-4**; and Section 3.17, *Natural Communities*, for **NC-13 (NES BIO-9)**.

The proposed project is consistent with, and does not conflict with, any applicable plans, policies, or regulations adopted for the purposes of reducing the emissions of GHGs. No impacts would result.

4.2.9 Hazards and Hazardous Materials

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

The information presented in this section is based on Chapter 3, Section 3.13, *Hazardous Waste/Materials*, of this EIR/EIS, the project-specific *Initial Site Assessment* (ISA) *Cajalco Road Widening and Safety Enhancement Project Riverside County, California* (Caltrans 2020f), *Preliminary Site Investigation* (PSI) *Cajalco Road Widening and Safety Enhancement Project Riverside County, California* (Caltrans 2020g), and the *Aerially Deposited Lead (ADL) Investigation, Cajalco Road Widening and Safety Enhancement Project Riverside County, California* (Caltrans 2017c).

4.2.9(a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? and

4.2.9(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?

Build Alternatives 1, 2C, and 4

Less than Significant Impact with Mitigation

During construction, there is the potential to encounter hazardous materials in soils and existing road and structures materials. Construction of any of the build alternatives would disturb soils, demolish existing buildings and structures, and remove pavement markings. As discussed in Section 3.13, *Hazardous Waste/Materials*, there are two Recognized Environmental Conditions (RECs), one Historical Recognized Environmental Condition (HREC), and five Environmental Areas of Concern (AOCs) associated with the proposed project. As a result, contaminants such as polychlorinated biphenyls (PCBs), lead chromate, lead-based paint (LBP), creosote treated wood, and asbestos-containing material (ACM), may be encountered during construction. Typical hazardous materials anticipated to be used during construction of any of the build alternatives (e.g., solvents, paints, fuels) and hazardous wastes generated during construction would be handled in accordance with Standard Project Measure **PF HAZ-3** (waste handling, transport and disposal), which identifies the applicable federal and state regulations and Caltrans policies regarding the use, storage, handling, disposal, and transport of these materials.

The identified RECs within the limits of Build Alternatives 1, 2C, and 4 are Mobil Baldwin at 21020 Cajalco Road and 9001 Cajalco Road. Full acquisition of Assessor's Parcel Numbers (APNs) 318-061-027 and -030, associated with the Mobil Baldwin site, and partial acquisition of APNs 279-231-004, -006, -011, and 281-140-021, associated with 9001 Cajalco Road, are proposed as part of the project.

The Mobil Baldwin site involved unauthorized release of gasoline that affected onsite soils and groundwater, and is currently undergoing remediation. Site contaminant characterization and remediation activities have been ongoing at the Mobil Baldwin site since 2005, and remediation may be concluded by the time project construction begins. Due to elevated contaminant concentrations identified at the site and open regulatory case status, however, Mitigation Measure **HAZ-4** (coordination, health and safety plan, soil management plan, VOC monitoring, groundwater disposal) is proposed to confirm safe conditions and minimize potential impacts related to the acquisition of APNs 318-061-027 and -030 (see Section 3.13, *Hazardous Waste/Materials*); these measures, in addition to Standard Project Measures **PF HAZ-2** (health and safety plan) and **PF HAZ-3** (waste handling, transport. and disposal), would ensure hazards associated with the acquisition of APNs 318-061-027 and -030, and soil disturbance activities during construction, are minimized to the greatest extent feasible and potential impacts would be less than significant.

The 9001 Cajalco Road site is a former red clay mine and rock quarry; according to the Environmental Information Risk Services Database Report findings, it is associated with elevated concentrations of arsenic in soils. A 2004 Phase I Environmental Site Assessment

(ESA) revealed no evidence of RECs in connection with the property, and a response letter from Department of Toxic Substances Control concurred with the Phase I ESA findings. In 2007, an Environmental Oversight Agreement/School Cleanup Agreement identified additional investigative studies to be prepared in advance of the site being considered for the construction of a new school. While no further investigative studies were prepared related to the school, a PSI of 9001 Cajalco Road and 21020 Cajalco Road (Mobil Baldwin site) was conducted in September 2020 for the proposed project. The PSI included review of the site history and prior site testing, and confirmed potential for arsenic to occur within the project limits at 9001 Cajalco Road. Mitigation Measure **HAZ-1** (detailed site investigation and remediation, if appropriate) is identified to minimize potential impacts related to the acquisition of APNs 279-231-004, -006, -011, and 281-140-021 (see Section 3.13, *Hazardous Waste/Materials*); this measures, in addition to Standard Project Measures **PF HAZ-2** and **PF HAZ-3**, would ensure hazards associated with the acquisition of APNs 279-231-004, -006, -011, and 281-140-021, and soil disturbance activities during construction, are minimized to the greatest extent feasible and potential impacts would be less than significant.

The Lake Mathews General Store site, located at 17679 Cajalco Road was identified as an HREC and formerly associated with soil and soil vapor contamination. However, the site was granted closure in May of 2017 by the Riverside County Local Oversight Program and the Santa Ana RWQCB. Partial acquisition and of the property and temporary construction activities are proposed. Standard Project Measures **PF HAZ-2** and **PF HAZ-3** would ensure hazards involving soil disturbance activities during construction are minimized to the greatest extent feasible and potential impacts would be less than significant.

The five identified AOCs would require attention prior to construction and are listed below:

1, 2) Utility poles containing creosote-treated wood are located along several roads within the project limits. During construction, creosote-treated wood waste may be generated when aforementioned poles are manipulated or removed. Pole-mounted transformers were also noted throughout the project footprint for all build alternatives. Two pad-mounted transformers are located at the eastern portion of the project (at the intersection of Harvill Avenue and Cajalco Expressway). The transformers may contain PCBs. Compliance with Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF HAZ-5** (creosote-treated wood waste) would ensure hazards would be minimized to the greatest extent feasible and potential impacts would be less than significant.

3) Areas immediately adjacent to and within the limits of Build Alternatives 1, 2C, and 4 are either currently or have historically been used for agriculture. According to the ISA prepared for the proposed project, agricultural activities were noted along limited sections of the proposed project alignments as early as 1938. Refer to Figure 3.13-2 in Section 3.13, *Hazardous Waste/Materials*, for the locations of current and historic agricultural land uses along the project alignments. Agricultural chemicals, including organochlorine pesticides (OCPs) and arsenic, may have previously been applied within these areas along with their associated metal constituents, and may be present in near-surface soils at residual concentrations. Soil disturbance during construction may potentially expose the public and environment to unsafe levels of OCPs and arsenic if these constituents are present at levels above regulatory thresholds. Therefore, additional investigation of land formerly associated with agriculture that has not undergone development is warranted to ensure residual concentrations are below hazardous thresholds. The

implementation of Mitigation Measure **HAZ-6** and compliance with Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF AQ-2** (Fugitive Dust Control) would ensure hazards related to the release and exposure of unsafe OCPs or arsenic would be avoided.

4) Yellow striping was observed within the construction limits of Build Alternatives 1, 2C, and 4. Yellow striping used prior to 2006 may contain significant levels of lead and chromium; therefore, disturbance of the paint striping could result in an exposure risk to construction personnel and surrounding environment. Handling of this material would be consistent with Caltrans Standard Special Provision (SSP) 84-9.03C. In addition to the implementation of Measure **HAZ-7** (yellow paint), compliance with Standard Project Measures **PF HAZ-2** and **PF HAZ-3** would ensure hazards would be minimized to the greatest extent feasible.

5) Based on the age (prior to 1978) of some structures within the project footprint, such as the Temescal Canyon Bridge, there is potential for ACM or LBP to be present in the building materials of these structures. If these structures are to be modified or removed as part of the implementation of any of the build alternatives, construction personnel and the surrounding environment could be exposed to hazardous materials. In addition to the implementation of Mitigation Measure **HAZ-8** (LBP and ACM), the handling of LBP and ACM would be conducted consistent with Standard Project Measures **PF HAZ-2** and **PF HAZ-3**.

After implementation of the measures as described above, Build Alternatives 1, 2C, and 4 would have less-than-significant impacts related to the routine transport, use, or disposal of hazardous materials, as well as less-than-significant impacts related to the accidental release of hazardous materials.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Construction activities associated with the future six-lane facility would include grading, cut, and fill; however, these activities would occur within the limits of the widening and safety enhancement project. Because all applicable avoidance, minimization, and mitigation measures would have been applied during implementation of the widening and safety enhancement project, the construction activities associated with adding the future additional travel lanes is unlikely to result in significant hazardous materials impacts. However, if grading, cut, and fill as part of the Future Six-Lane Facility would be conducted in areas that were previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and standard measures described above for 9001 Cajalco Road under Build Alternatives 1, 2C, and 4 would apply. Therefore, impacts would be less than significant.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed to allow for the proposed project. Significant hazardous waste/materials impacts (as discussed above) under Build Alternatives 1, 2C, and 4 are not anticipated.

4.2.9(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Build Alternatives 1 and 2C

No Impact

There are no existing or proposed schools within one-quarter mile of the project alignments of Build Alternatives 1 or 2C. Therefore, there would be no impact on schools related to hazardous materials.

Build Alternative 4—El Sobrante Alignment

Less than Significant with Mitigation

Lake Mathews Elementary School at 12252 Blackburn Road, Riverside, CA 92503, is approximately one-quarter mile north of the project alignment on El Sobrante Road. No schools are known to be planned within 0.25 mile of the alignment of Build Alternative 4. As discussed in 4.2.9(a) and 4.2.9(b) above, there is the potential to encounter hazardous materials in soils and existing road and structure materials. The implementation of Mitigation Measures **HAZ-1**, **HAZ-4**, **HAZ-6**, **HAZ-7**, and **HAZ-8** (ACM and LBP), as well as compliance with Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF HAZ-5**, would reduce impacts to less-than-significant levels. Therefore, the construction and operation of Build Alternative 4 would result in less-than-significant impacts related to the emissions or handling of hazardous waste or materials near existing or proposed schools.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant with Mitigation

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed highway widening. As discussed above, significant hazardous waste/materials impacts would not occur with the implementation of avoidance, minimization, and mitigation measures, as applicable to Build Alternative 4.

4.2.9(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?

Build Alternatives 1, 2C, and 4

Less than Significant with Mitigation

As described in 4.2.9(a) and 4.2.9(b) above, there are known hazardous material sites within the limits of Build Alternatives 1, 2C, and 4: Mobil Baldwin at 21020 Cajalco Road and 9001 Cajalco Road. The Mobil Baldwin site involved unauthorized release of gasoline that affected onsite soils and groundwater. Elevated concentrations of petroleum hydrocarbons; benzene, toluene, ethylbenzene, and xylene (BTEX); and methyl tert-butyl ether (MTBE) were identified

at this site. At the time of completion of the PSI, the site is undergoing remediation and remains active with an open regulatory case status. Mitigation Measure **HAZ-4** (coordination, health and safety plan, soil management plan, VOC monitoring, groundwater disposal) is proposed to confirm safe conditions and minimize potential impacts related to the acquisition of APNs 318-061-027 and -030 (see Section 3.13, *Hazardous Waste/Materials*); these measures, in addition to Standard Project Measures **PF HAZ-2** (health and safety plan) and **PF HAZ-3**, would ensure hazards associated with the acquisition of APNs 318-061-027 and -030, and soil disturbance activities during construction, are minimized to the greatest extent feasible and potential impacts would be less than significant.

The 9001 Cajalco Road site is a former red clay mine and rock quarry with elevated concentrations of arsenic in soils and is listed as requiring additional evaluation. A 2004 Phase I ESA revealed no evidence of RECs in connection with the property. However, considering the land use history associated with the property and because the current case status is open, Mitigation Measure **HAZ-1** (detailed site investigations and remediation, if appropriate) is identified to minimize potential impacts related to the acquisition of APNs 279-231-004, -006, -011, and 281-140-021 (see Section 3.13, *Hazardous Waste/Materials*); this measure, in addition to Standard Project Measures **PF HAZ-2** and **PF HAZ-3**, would ensure hazards associated with the acquisition of APNs 279-231-004, -006, -011, and 281-140-021, and soil disturbance activities during construction, are minimized to the greatest extent feasible and potential impacts would be less than significant.

The Lake Mathews General Store site at 17679 Cajalco Road was identified as an HREC and formerly associated with soil and soil vapor contamination. However, as the site was granted closure in May of 2017 by the Riverside County Local Oversight Program and the Santa Ana RWQCB. Compliance with Standard Project Measures **PF HAZ-2** and **PF HAZ-3** would reduce impacts related to the RECs and HREC within the project site to less-than-significant levels.

Additionally, several areas immediately adjacent to and within the construction footprint of Build Alternatives 1, 2C, and 4 are either currently or have historically been used for agriculture (refer to Figure 3.13-2). As such, agricultural chemicals have likely been applied within these areas and these chemicals, along with their associated metal constituents, may be present in near-surface soils at residual concentrations. The implementation of Mitigation Measure **HAZ-6**, as well as compliance with Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF AQ-2**, would reduce impacts to less-than-significant levels.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant with Mitigation

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed highway widening. As discussed above, significant hazardous waste/materials impacts would not occur with the implementation of avoidance, minimization, and mitigation measures as applicable to Build Alternatives 1, 2C, and 4.

4.2.9(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?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The proposed project is within an Airport Influence Area for March Air Reserve Base. Build Alternatives 1, 2C, and 4 are designated as Safety Zone Area D and Area E, with a portion of the eastern part of Cajalco Road designated as a High Terrain Zone overlay. Construction personnel working on the project would temporarily be within these Safety Zones. However, they would not be subject to areas of high hazard related to direct approach or take-off (Zone B1). Risk levels associated with Zones D and E are low and the risk level for the High Terrain Zone is medium. However, the medium risk is associated with tall single objects, such as antennas. Therefore, impacts would be less than significant because the project would not include the construction of any air traffic hazards.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed to accommodate the proposed project, which would not result in impacts related to airport safety hazards.

4.2.9(f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Build Alternatives 1, 2C, and 4

No Impact

Build Alternatives 1, 2C, and 4 would improve the operational performance and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area, thereby improving the delivery of public services (police and fire protection and emergency medical response) in the area that would otherwise would not occur under the No-Build Alternative.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed to accommodate the proposed project, which would not affect an adopted emergency response plan or emergency evacuation plan.

4.2.9(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

According to the Temescal Canyon Area Plan and Lake Mathews/Woodcrest Area Plan, and California Department of Forestry and Fire Protection (CAL FIRE) Very High Hazard Severity Zones (VHFHSZ) in Local Responsibility Area (LRA), Western Riverside County, Build Alternatives 1, 2C, and 4 are within State Responsibility Area/Federal Responsibility Area High/Very High/Moderate Fire Hazard Severity Zones between just east of Temescal Creek and Carpinus Drive, as related to wildfire susceptibility (CAL FIRE 2009; County 2016, 2018a, 2018b). At Temescal Creek, the project alignment passes through a limited area designated LRA VHFHSZ; the alignment of Build Alternative 4 only also passes through a limited area of local VHFHSZ just east of La Sierra Avenue (County 2018a). The proposed project would involve improvements to existing roadways, with some realignments, and related facilities such as bridges, sidewalks, and drainage and would not include any habitable structures. The proposed project would also add an alternate access route for residents between Lake Mathews Drive and Dirt Road, increase the capacity of improved roadways, and improve connections with intersecting roadways throughout the project limits. Therefore, impacts related to hazards involving wildland fires would be less than significant and mitigation would not be required.

Lake Mathews HCP (Build Alternatives 1, 2C, and 4)

No Impact

A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed to accommodate the proposed project, which would not result in impacts related to increased hazards associated with wildfires.

4.2.10 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☒	☐	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

The potential for the proposed project to affect hydrology and water quality was assessed in Section 3.9, *Hydrology and Floodplain*, and Section 3.10, *Water Quality and Stormwater Runoff*, of this EIR/EIS. The following discussion is also based on information contained in the *Location Hydraulic Study Form and Floodplain Encroachment Report – Cajalco Road Widening Project* (County 2017h), *Water Quality Assessment Report—Cajalco Road Widening and Safety Enhancement Project* (Caltrans 2018f), and the *Santa Ana Region Municipal Separate Storm Sewer System (MS4) Permit Program, Low Impact Development: Guidance and Standards for Transportation Projects – Cajalco Road Widening and Safety Enhancement Project* (County 2017i).

4.2.10(a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or ground water quality?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The proposed project is located in the Santa Ana River and San Jacinto Valley Hydrologic Units, within the Lake Mathews, Middle Santa Ana River, and Perris Hydrologic Areas. The alignments of each build alternative occur adjacent to Lake Mathews in the western half of the project area and cross Cajalco Creek toward the easterly project limits. The build alternatives also cross several unnamed tributaries to Lake Mathews and Cajalco Creek.

During construction activities associated with demolition, grubbing/land clearing, grading/excavation, drainage/subgrade construction, and paving, sediment, metals, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals could be spilled or leaked with potential for those pollutants of concern to be transported directly or indirectly via storm runoff into receiving waters. Standard BMPs would be employed to control erosion, sediment, and other pollutants during construction, thereby minimizing or avoiding water quality impacts on receiving waters and nearby Lake Mathews. Because the proposed project disturbs over 1 acre, compliance with the Construction General Permit compliance is required. The Construction General Permit requires implementation of a SWPPP. The BMPs used during construction to protect water quality would be documented in the SWPPP in compliance with the Construction General Permit.

The preparation and implementation of the SWPPP is included as Standard Project Measures **PF WQ-4** (see Section 3.10, *Water Quality and Stormwater Runoff*) and **NC-10 (NES BIO-10)** (see Section 3.17, *Natural Communities*). The SWPPP would identify appropriate hazardous material management practices, spill prevention measures, and other good housekeeping measures to implement during construction in order to reduce the potential for chemical spills or releases of contaminants, including any non-stormwater discharge, off site. Any construction-related impacts on water quality would be avoided or otherwise minimized with the implementation of construction BMPs such as fiber rolls, silt fencing, stabilized construction entrances/exits, and concrete washouts. The SWPPP would also identify post-construction erosion control measures such as revegetation of disturbed soil areas to limit the potential for erosion following construction activities. The project would further include Standard Project Measures **NC-11 (NES BIO-11)** and **NC-12 (NES BIO-12)**, which require the demarcation of the LOD in stream areas and avoidance of construction equipment placed within a stream or on adjacent banks. Short-term water quality impacts are anticipated to be reduced to the maximum extent practicable during construction of the proposed project.

The proposed project would result in a permanent increase in impervious surface due to the addition of the roadway and median widening. Build Alternative 1 would increase the amount of impervious surface by approximately 83 acres, Build Alternative 2C by approximately 84 acres, and Build Alternative 4 by approximately 105 acres. For the entire project area, runoff volume would increase about 2.60 acre-feet for Build Alternative 1, 2.62 acre-feet for Build Alternative 2C, and 3.22 acre-feet for Build Alternative 4. Flow rates would increase about 11.4 cubic feet per second (cfs) for Build Alternative 1, 11.5 cfs for Build Alternative 2C, and 14.0 cfs for Build Alternative 4. This increase in the amount of runoff, resulting from the increased

impervious surface within the proposed project limits, would more effectively transport pollutants on the roadway to receiving waters. Pollutants in runoff from the widened roadway would include sediment, oils and grease, and metals, similar to the contaminants from the existing roadway operations. Without post-construction BMPs, the introduction of substantial amounts of additional pollutants in stormwater runoff could result in or contribute to a violation of water quality standards.

The project would comply with the Santa Ana Region MS4 Permit, Order No. R8-2010-0033 (adopted on and effective January 29, 2010). The current MS4 Permit requires standard design and post-development BMP guidance to be incorporated into projects for streets, roads, highways, and freeway improvements to reduce the discharge of pollutants from the project to the maximum extent practicable. As such, the proposed project would include post-construction BMPs as part of Standard Project Measure **PF WQ-3** and would be consistent with County MS4 Permit requirements. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These roadside ditches, drainages, and basins would provide some water quality treatment as highway runoff pollutants, such as sediment, would settle out. Long-term effects on turbidity would be addressed through final stabilization of soils. Based on compliance with the County MS4 Permit requirements under Standard Project Measure **PF WQ-3**, no adverse water quality impacts are anticipated during operation of the proposed project.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes were constructed in the future, an increase of impervious surfaces and associated runoff volumes and rates would not be expected because the median would be paved or otherwise treated for roadway facility use as part of the proposed project. Post-construction BMPs would be constructed as part of the proposed project, as described under Build Alternatives 1, 2C, and 4. No additional impacts would occur.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities—including a drainage basin, culverts, bridges and wildlife crossings—would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which would increase impervious surfaces and associated runoff volumes and rates. The proposed project would need to construct proper drainage facilities so that runoff would not result in erosion or flooding. Through the use of project design features such as detention basins

and culverts, 100-year storm flows would be conveyed, and would not result in any new flooding. Post-construction BMPs would be required to reduce the discharge of runoff and pollutants, as detailed in Standard Project Measure **PF WQ-3**. Based on compliance with the County MS4 Permit requirements in Standard Project Measure **PF WQ-3**, no adverse water quality impacts are anticipated during operation of the proposed project.

4.2.10(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The proposed project would not result in the need for groundwater supplies and would not substantially decrease groundwater supplies. Because the project site is not used specifically for groundwater recharge, the project's increase in impervious surface would not interfere substantially with groundwater recharge and would not affect groundwater levels. Groundwater hydrology is not expected to be adversely affected or to adversely affect the project.

Dewatering may be required in the surface waters where new bridge footings would be installed. In the event that groundwater and any other non-stormwater dewatering activities are necessary, these activities are subject to the requirements of the Regional Board Dewatering Permit (Order No. R8-2015-0004 [NPDES No. CAG998001]). A separate permit would be required if dewatering is necessary. The Dewatering Permit requires implementation of a Monitoring and Reporting Program to ensure discharges meet permit standards. Therefore, it is not anticipated that surface water would be affected during construction activities as a result of site dewatering, as long as any potential groundwater discharged meets the RWQCB dewatering permit. Impacts are considered less than significant, and no mitigation is required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The proposed project would not result in the need for groundwater supplies and would not substantially decrease groundwater supplies. Because the project site is not used specifically for groundwater recharge, the project's increase in impervious surface would not interfere substantially with groundwater recharge and would not affect groundwater levels. Groundwater hydrology is not expected to be adversely affected or to adversely affect the project. If the additional lanes were constructed in the future, an increase of impervious surfaces and associated runoff volumes and rates would not be expected because the median would be paved or otherwise treated for roadway facility use as part of the proposed project and would not affect groundwater further.

Lake Mathews HCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities—including a drainage basin, culverts, bridges

and wildlife crossings—would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would allow for the proposed project, which would not result in groundwater impacts beyond those identified for the proposed project. Impacts are considered less than significant, and no mitigation is required.

4.2.10(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

(iv) impede or redirect flood flows?

Build Alternatives 1, 2C, and 4

Less than Significant with Mitigation

Because the general topography would be similar to existing conditions, the proposed project would not significantly change the drainage patterns but would result in an increase in the total impervious surface area. The addition of new impervious area from the additional roadway is anticipated to increase runoff. Build Alternative 1 would increase the amount of impervious surface by approximately 83 acres, Build Alternative 2C by approximately 84 acres, and Build Alternative 4 by approximately 105 acres. For the entire project area, runoff volume would increase about 2.60 acre-feet for Build Alternative 1, 2.62 acre-feet for Build Alternative 2C, and 3.22 acre-feet for Build Alternative 4. Flow rates would increase about 11.4 cfs for Build Alternative 1, 11.5 cfs for Build Alternative 2C, and 14.0 cfs for Build Alternative 4. Because the proposed project would increase runoff volumes and flow rates, there is a potential for the proposed project to increase erosion, flooding, and pollutant discharges and exceed the capacity of existing drainage systems.

Under Build Alternatives 1, 2C, and 4, new facilities for onsite drainage would be constructed as part of the realignment and roadway improvements. The proposed project would be designed so that the stormwater runoff flows into newly constructed roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks, consistent with the existing conditions. Build Alternatives 1, 2C, and 4 would encroach into the floodplains at four creek crossing locations: one at Temescal Creek and three along Cajalco Creek. Refer to Figure 3.9-1, FEMA Floodplains, in Section 3.9, *Hydrology and Floodplain*, for the location of these encroachments. The proposed bridge structure would be supported by piers that would be placed in the floodplains. Through the use of project design features such as roadside ditches, detention basins, and culverts, 100-year storm flows would be conveyed, and would not result in flooding. The proposed project's

encroachment to the floodplain would not reduce the storage volume of the creeks because the proposed project would provide larger openings than currently exist to more efficiently convey flows, resulting in lowering of the upstream water surface elevation; therefore, the proposed project would not have an adverse effect on the base floodplain elevation and would limit the potential for flooding and exceeding capacities of drainage facilities. Refer to Section 3.9, *Hydrology and Floodplain*, for additional details.

MWD Lake Mathews facilities are located within the project footprint within this floodplain encroachment area and would be affected by the proposed project. MWD facilities that would be affected by Build Alternatives 1 and 2C include Cajalco Creek Dam and Detention Basin, Cajalco Creek Sedimentation Basin, and the Inlet Channel separating the two basins. These facilities are located along the north side of Cajalco Road between El Sobrante Road and Harley John Road. The Cajalco Creek Sedimentation Basin is approximately 31 acres, sited immediately upstream of the 70-acre Cajalco Creek Dam and Detention Basin.

Under Build Alternatives 1 and 2C, approximately 3.69 acres of the Cajalco Creek Sedimentation Basin (approximately 12 percent of the basin size) and 4.95 acres of the Cajalco Creek Dam and Detention Basin (approximately 7 percent of the basin size) would be converted to right of way. Under Build Alternative 4, approximately 0.12 acre of the Cajalco Creek Dam and Detention Basin (less than 1 percent of the basin size) and 3.55 acres of the Cajalco Creek Sedimentation Basin (approximately 11.5 percent of the basin size) would be converted to right of way. The Inlet Channel would be replaced with a wildlife crossing and may affect inlet operation. Because the proposed project would reduce the capacity of the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin, this could affect the operations of the basins. However, the proposed encroachments would be in areas considered ineffective in conveying flow through the basins and therefore would not adversely affect water surface elevation or velocity of the existing Cajalco Creek floodplain.

The County of Riverside will coordinate directly with MWD to obtain approval for right of way acquisition involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin. The County will coordinate directly with MWD in the preparation of a site-specific Drainage Study to evaluate the changes in runoff and floodplain encroachment into the Cajalco Creek Dam and Detention Basin and the Cajalco Creek Sedimentation Basin, and determine whether the conversion of right of way would affect operation of the dam and basins. Mitigation Measure **HYD-1** requires that if operation of the basins is affected by the project, engineering recommendations will be provided, and implemented as necessary, to ensure continued operation of the dam and basins. Impacts would be less than significant with implementation of Mitigation Measure **HYD-1.** Refer to Section 3.9, *Hydrology and Floodplain*, for additional details.

Erosion during project construction and operation would be addressed through compliance with the applicable National Pollutant Discharge Elimination System construction and municipal permits. Standard BMPs would be employed to control erosion, sediment, and other pollutants during construction, thereby minimizing or avoiding erosion. The BMPs used during construction would be documented in the SWPPP in compliance with the Construction General Permit, as detailed in Standard Project Measures **PF WQ-4** and **NC-10 (NES BIO-10)**. Long-term effects on erosion would be addressed through final stabilization of soils. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages,

and several detention basins, in compliance with the County's MS4 Permit, as detailed in Standard Project Measure **PF WQ-3**. Therefore, the proposed project would not include drainage modifications that would result in substantial erosion, siltation, or flooding on or off the project site. Impacts are considered less than significant.

The increase in the amount of impervious surface would increase peak storm flows such that they could affect downstream drainage facilities. However, through compliance with the requirements of the County's MS4 permit, the proposed project would minimize any incremental pollutant loading associated with the increased impervious surface areas. Impacts would be considered less than significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and/or La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that there would not be an increase in impervious surfaces and associated runoff volumes and rates, because the median would be paved as part of the proposed project. No additional development in the floodplain would occur. No substantial additional sources of polluted runoff or exceeding the capacity of storm drainage infrastructure would occur as a result of the proposed project. The proposed project roadway lanes would also construct proper drainage facilities so that runoff would not result in flooding. No additional impacts would occur.

Lake Mathews HCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Under Build Alternatives 1, 2C, and 4, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Build Alternative 1 would increase the amount of impervious surface within the LM MSHCP area by approximately 45 acres, Build Alternative 2C by approximately 35 acres, and Build Alternative 4 by approximately 35 acres. However, the project is outside the LM MSHCP area on the western and eastern ends of Cajalco Road; the middle section is within the LM MSHCP. Therefore, three of the four floodplain encroachments would not occur within the LM MSHCP area. Under Build Alternatives 1 and 2C, the proposed project would result in an encroachment of Cajalco Creek at Harley John Road and would involve replacement of three culverts with a reinforced concrete box culvert. A portion of these improvements are located within the LM MSHCP area, the impacts of which are detailed above under the build alternatives.

Under Build Alternative 4, the proposed project would result in an encroachment of Cajalco Creek at Harley John Road and would result in a new roadway alignment within this floodplain area. A portion of these improvements are within the LM MSHCP area, the impacts of which are detailed above under Build Alternative 4. Under Build Alternative 4, portions of La Sierra

Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. A discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to allow for the proposed highway widening, which would result in an increase of flood flows from increased impervious surfaces and development in the floodplain; however, the proposed project would construct proper drainage facilities so that runoff would not result in additional flooding, as discussed previously. Impacts are considered less than significant.

Runoff associated with the proposed project would be treated to remove pollutants of concern. The proposed project includes construction of several basins to reduce the runoff flows from the impervious surfaces so that the capacity of existing or planned stormwater drainage facilities would not be exceeded. In addition, the proposed project would include upgrades to the drainage system as needed to accommodate existing and proposed flows. No substantial additional sources of polluted runoff or exceeding the capacity of storm drainage infrastructure would occur as a result of the proposed project. Impacts would be considered less than significant.

4.2.10(d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Build Alternatives 1, 2C, and 4

No Impact

Flood hazard areas are designated as zones, with the proposed project in Federal Emergency Management Agency (FEMA) Zone A and un-shaded Zone X. Zone A is an area subject to inundation by the 100-year flood. Zone X is an area of minimum flood hazard outside the 500-year flood limits. Build Alternatives 1, 2C, and 4 would encroach into the floodplains at Temescal Creek and at Cajalco Creek west of Alexander Street and between Alexander Street and Clark Street. The proposed project would not increase risk of release of pollutants due to project inundation beyond that identified in 4.2.10(a) associated with stormwater runoff. The project would not otherwise store pollutant materials that could be released in the event of inundation. The project site is adjacent to the Cajalco Creek Dam, Lake Mathews Dam, and Lake Mathews Reservoir. The proposed project would not affect the Lake Mathews Dam or Reservoir or increase the potential for dam failure. The proposed project would not be located in an area at risk for tsunami inundation due to distance to the Pacific Ocean.

Under Build Alternatives 1, 2C, and 4, new facilities for onsite drainage would be included as part of the realignment and roadway improvements. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks, consistent with the existing conditions. These roadside ditches, drainages, and basins would provide some water quality treatment as highway runoff pollutants, such as sediment, would settle out. Impacts would be considered less than significant.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and/or La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that there would not be an increase in impervious surfaces and associated runoff volumes and rates, because the median would be paved as part of the proposed project. No additional development in the floodplain would occur. The proposed project roadway lanes would also construct proper drainage facilities so that runoff would not result in flooding. No additional impacts would occur.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These detention basins would provide peak flow attenuation to reduce the discharge of stormwater into the creeks, consistent with the existing conditions. The incorporation of standard water quality protection measures required as part of the Section 401 certification and 404 and MS4 permit processes would ensure the protection of water quality during construction and operation of the proposed project.

4.2.10(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

The proposed project is within the boundaries of the Drainage Water Quality Management Plan for the Lake Mathews Watershed (DWQMP) and Water Quality Control Plan for the Santa Ana Region (Basin Plan). The project must comply with all applicable water quality standards and prohibitions, including provisions of the Basin Plan.

The incorporation of standard water quality protection measures required as part of the Section 401 certification, Section 404 and MS4 permit, and Construction General Permit and SWPPP during construction would ensure the protection of water quality during construction of the proposed project. These permits, and the steps required to obtain them, are included as Standard Project Measures **PF WQ-1**, **PF WQ-2**, and **PF WQ-4** in Section 3.10, *Water Quality and Stormwater Runoff*, and Standard Project Measure **NC-10 (NES BIO-10)** in Section 3.17, *Natural Communities*. As discussed in 4.2.10(a), runoff associated with the proposed project would be treated to remove pollutants of concern. The project would comply with the Santa Ana Region MS4 Permit and include post-construction BMPs, as detailed in Standard Project Measure **PF WQ-3**. The proposed project would be designed so that the stormwater runoff flows into roadside ditches, drainages, and several detention basins. These roadside ditches, drainages, and basins would provide some water quality treatment as highway runoff pollutants, such as

sediment, would settle out. With implementation of these measures, the proposed project is not expected to conflict with implementation of a water quality control plan. No substantial degradation to water quality would occur as a result of the proposed project. Impacts would be considered less than significant with implementation of Standard Project Measures **NC-10 (NES BIO-10)**, **PF WQ-1**, **PF WQ-2**, **PF WQ-3**, and **PF WQ-4**.

As discussed in 4.2.10(b), the proposed project would not result in the need for groundwater supplies and would not substantially decrease groundwater supplies. Because the project site is not used specifically for groundwater recharge, the project's increase in impervious surface would not interfere substantially with groundwater recharge and would not affect groundwater levels. Implementation of the project is not expected to conflict with or obstruct implementation of a sustainable groundwater management plan.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and/or La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that there would not be an increase in impervious surfaces and associated runoff volumes and rates, because the median would be paved as part of the proposed project. No additional degradation to water quality would occur as the proposed project would include post-construction BMPs to be consistent with County MS4 Permit requirements. Based on compliance with the County MS4 Permit requirements, no adverse water quality impacts are anticipated during operation of the proposed project. No additional impacts would occur.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Avenue would also be expanded and realigned within the LM MSHCP area and LMR. An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed highway widening, which would increase impervious surfaces and associated runoff volumes and rates. Runoff associated with the proposed project would be treated to remove pollutants of concern. No substantial degradation to water quality would occur as a result of the proposed project. Impacts would be considered less than significant**.**

4.2.11 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☒	☐	☐

The potential for the proposed project to affect land use and planning was assessed in Sections 3.1, *Land Use*, and 3.4.1, *Community Character and Cohesion*, of this EIR/EIS. The following discussion is also based on information in the *Community Impact Assessment* and *Errata*, *Draft Relocation Impact Report – Cajalco Road Widening Project* (Caltrans 2018c, 2018g, 2021).

4.2.11(a) Physically divide an established community?

Build Alternatives 1, 2C, and 4

No Impact

The proposed widening of Cajalco Road or El Sobrante Road would not introduce a barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods. The widening of Cajalco Road or El Sobrante Road would occur predominantly along the existing alignment of the road, which would make it compatible with the existing land uses and aesthetics. No development features are proposed that would divide an established community or limit movement, travel, or social interaction between established communities. Therefore, there would be no impact. No mitigation is required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

If constructed in the future, the limits of two additional travel lanes placed within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, would not introduce a barrier that would divide any existing communities, separate residences from community facilities, result in substantial growth, or impede connectivity between neighborhoods. There would be no impact; no mitigation would be required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As indicated under Build Alternatives 1, 2C, and 4 above, there would be no impact. No mitigation would be required.

4.2.11(b) Cause a significant environmental impact due to conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Build Alternatives 1, 2C, and 4

Less than Significant with Mitigation

As discussed in the *Consistency with State, Regional, and Local Plans and Programs* section in Chapter 3, Section 3.1.4, Table 3.1-3 analyzes the consistency of the build alternatives with the relevant plans and programs. As detailed in Table 3.1-3, the proposed project would be consistent with most applicable goals and policies of relevant plans and programs.

Build Alternatives 1, 2C, and 4 would result in the acquisition of DOC FMMP important farmlands, and Build Alternative 4 would require the acquisition of 4.79 acres currently under Williamson Act contract. The assessment scores for each build alternative do not exceed the threshold standard under CFR 658.4(c)(2)), and would not result in a significant impact. Because Build Alternative 4 would not exceed the state threshold of 100 acres of Williamson Act contract cancellations, and the remaining farmland of affected properties would continue to be available for agricultural use, a significant impact on Williamson Act lands (CEQA Guidelines Section 15206) would not occur. Standard Project Measure **PF FA-1** would ensure access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway. In addition, Standard Project Measure **PF FA-2** would ensure areas temporarily occupied during construction are returned to conditions that would allow for continued use and function as farmland following construction.

Because the proposed project is included as proposed in both the SCAG 2020–2045 RTP/SCS and the 2021 FTIP, which were found to conform to the SIP responsible for attaining and maintaining compliance with air quality standards, the proposed project would not conflict with or obstruct implementation of an air quality plan. The proposed project further includes Standard Project Measures **PF LU-1**, **PF VIS-1**, **PF VIS-4**, **PF AQ-1**, **NC-13 (NES BIO-9),** and **PF SW-1**, and proposes Mitigation Measure **VIS-2**, which would minimize GHG emissions consistent with the measures and goals identified in the Riverside County Climate Action Plan and would therefore be consistent with the plan.

Build Alternatives 1, 2C, and 4 would directly affect PQP lands in the WRC MSHCP, and one of the long-term SKR HCP Core Reserve Areas (Existing Core C). The conversion of land to transportation uses is covered/allowed under Section 7.2.2 of the WRC MSHCP. Compliance with WRC MSHCP Volume I, Sections 7.5.1 (Guidelines for the Siting and Design of Planned Roads within the Criteria Area and Public/Quasi-public Lands), 7.5.2 (Guidelines for Construction of Wildlife Crossings), and 7.5.3 (Construction Guidelines), and Appendix C (Standard Best Management Practices) is required. Impacts associated with the proposed roadway improvements that would include slope easements and appurtenant facilities are anticipated to extend beyond the 128-foot right of way in limited areas under Build Alternatives 1 and 2C, and beyond the 196-foot right of way in limited areas under Build Alternative 4, and would require a minor amendment to the WRC MSHCP to accommodate the additional right of way needed. Mitigation Measure **NC-20 (NES BIO-21)** listed in Section 3.17, *Natural Communities*, is proposed to compensate for the loss of land and habitat in WRC MSHCP PQP

lands and SKR HCP Core Reserve Area. With implementation of the above mitigation measures, impacts would be less than significant with mitigation incorporated.

Under Build Alternatives 1, 2C, and 4, Cajalco Road would be expanded and realigned within the LM MSHCP and LMR; refer to *Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)*.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The limits of two additional travel lanes placed within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, are not included in the currently proposed project. If constructed in the future, the additional lanes would be within the limits of the currently proposed project and consistency with the WRC MSHCP and LM MSHCP would have been addressed through the WRC MSHCP minor amendment and LM MSHCP discretionary action processes. No related impacts would be anticipated and mitigation would not be required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant with Mitigation

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities including a drainage basin, culverts, bridges, and wildlife crossings would also be constructed. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Road would also be expanded and realigned within the LM MSHCP area and LMR. Build Alternatives 1, 2C, and 4 would conflict with the current LM MSHCP. The LM MSHCP does not currently accommodate planned transportation improvements of the proposed project within lands managed by MWD. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required. Build Alternatives 1, 2C, and 4 would also encroach into the LM MSHCP and remove habitat for LM MSHCP target species, which is not currently permissible under the LM MSHCP. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by the build alternatives will be coordinated between the County and LM MSHCP responsible parties.

Following selection of the preferred alternative, any adjustments to the right of way or another County road facility would be negotiated with RCA during the minor amendment process to accommodate the project alternative. Any amendment would occur prior to the RCA Joint Project Review with the associated wildlife agencies' approval, and is anticipated prior to the Final EIR/EIS. Additionally, there has been extensive, ongoing coordination between the County and MWD, and the Lake Mathews Reserve Management Committee, to develop a mitigation plan to compensate for the loss of lands within the LMR and to address the goals of the LM MSHCP. Refer to Mitigation Measures **NC-17 (NES BIO-17)** through **NC-19 (NES BIO-15)** in Section 3.17, *Natural Communities*. With implementation of the above mitigation measures, impacts would be less than significant.

4.2.12 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	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?	☐	☐	☐	☒

This section was prepared using information from Section 3.1, *Land Use*, the *Community Impact Assessment* technical report and *Errata* prepared for the project (Caltrans 2018c, 2021), DOC, and County of Riverside General Plan.

4.2.12(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?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

According to the California State Geological Survey, the proposed project is located with the Temescal Valley Production Area Boundary as established by DOC; the majority of lands within the boundary are classified as Mineral Resource Zone (MRZ) 3, which is defined by DOC as "areas containing mineral occurrences of undetermined mineral resource significance" (DOC 2014). A very limited portion of the western end of the project limits travels through a narrow area identified as "Sector Q" of the Temescal Valley Production Area; the Sector Q area encompasses instream alluvial deposits of Temescal Wash from Magnolia Avenue in the City of Corona extending to Cajalco Road. Land within Sector Q is classified MRZ-2, which DOC defines as "areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood for their presence exists. This zone shall be applied to known mineral deposits or where well-developed lines of reasoning, based upon economic-geologic principles and adequate data, demonstrate that the likelihood for occurrence of significant mineral deposits is high." Sector Q contains an estimated 18.2 million tons of aggregate resource.

Within areas defined as MRZ-2, Build Alternatives 1, 2C, and 4 propose to replace the existing Temescal Creek Bridge with a widened bridge structure. Permanent impacts associated with the bridge replacement, including roadbed widening, bridge embankments, and fill, would affect approximately 0.4 acre of land classified as MRZ-2. Temporary impacts associated with the bridge replacement, including grading and construction easements, would affect approximately 0.5 acre of land classified as MRZ-2.

The proposed project would involve the acquisition of lands classified as MRZ-2; however, the amount of aggregate resource affected compared to the remaining 18.2 million tons available within Sector Q (composed of instream alluvial deposits of Temescal Wash) would not

significantly affect the availability of the resource. Furthermore, mining activities within the streambed of Temecula Creek would be subject to strict environmental regulations, and mining activities immediately upstream of the creek bed that is protected as part of the Riverside-Corona Resource Conservation District are unlikely. Therefore, impacts affecting the availability of a known mineral resource would be less than significant and mitigation is not required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not include any use that would increase demand for mineral resources. The portion of the project that traverses areas of the LM MSHCP and LMR would not affect existing mineral resources. Therefore, mineral resources, as they relate to the proposed LM MSHCP discretionary action to accommodate the project, would remain unchanged.

4.2.12(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?

Build Alternatives 1, 2C, and 4

No Impact

Sector Q of the Temescal Valley Production Area within the project area is also zoned Open Space-Mineral Resource (MR) (County 2018b); a very limited area within the project limits is also designated MR in the Temescal Canyon Area Plan (County 2016).

Within areas zoned MR, Build Alternatives 1, 2C, and 4 propose to replace the existing Temescal Creek Bridge with a widened bridge structure. Permanent impacts associated with the bridge replacement, including roadbed widening, bridge embankments, and fill, would affect approximately 1.2 acres of land zoned MR; temporary impacts associated with the bridge replacement, including grading and construction easements, would affect approximately 2.5 acres of MR-zoned land. The proposed project would involve permanent and temporary impacts on lands zoned MR; however, the lands are not part of a mineral resource recovery site and the County General Plan includes the planned widening of Cajalco Road through the affected area. Therefore, the project would be not result in the loss of availability of an important local mineral resources recovery site, and would be consistent with the planned widening of a transportation facility through MR-zoned lands. There would be no impact and mitigation is not required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not include any use that would increase demand for mineral resources. The portion of the project that traverses areas of the LM MSHCP and LMR would not affect existing mineral resources. Therefore, mineral resources, as they relate to the proposed LM MSHCP discretionary action to accommodate the project, would remain unchanged.

4.2.13 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☒	☐	☐	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

This section was prepared using information from Section 3.15, *Noise and Vibration*, the *Noise Study Report* (Caltrans 2019a), and the *Noise Abatement Decision Report* prepared for the project (Caltrans 2019b).

4.2.13(a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Permanent Impacts

Build Alternatives 1 and 2C

Less than Significant with Mitigation

Potential impacts from the proposed project were evaluated using modeling results from the Traffic Noise Model ® Version 2.5 (TNM). Existing and Design-Year 2044 peak-hour traffic volumes were converted to the Community Noise Equivalent Level (CNEL) values using a typical 24-hour diurnal traffic pattern. Operational traffic noise for the proposed project was analyzed by comparing the Design-Year CNEL noise levels to the Existing CNEL levels and the 65 CNEL sound level included in the County's General Plan (Policy N 1.3). Policy N 1.3 identifies noise levels in excess of 65 A-weighted decibels (dBA) CNEL as the level at which "any land use that is exposed to levels higher than 65 CNEL" would require noise attenuation measures.

For the purposes of this analysis, the Federal Interagency Committee on Noise (FICON) methodology was used to determine impacts. This methodology was blended with the County's

65 dBA CNEL (County General Plan Policy N 1.3) exterior sound level.[13] An impact would occur if the project would cause an increase of 1.5 decibels (dB) at any receiver that exceeded the 65 dBA CNEL (relative to the existing condition) during the design year, if the project would result in a 3 dB increase at any receiver that during the existing condition was between 60 and 65 dBA CNEL. One final consideration was included to determine level of significance: if the project would result in an increase of 5 dB or more at any receiver below 60 dBA CNEL under the existing condition. The 5 dB increase represents the increase in noise that is considered readily perceptible. Additionally, the County's interior noise level of 45 dBA CNEL (General Plan Policy N 14.1) was considered in tandem.

An analysis of the existing noise levels and the Design-Year noise levels at receiver locations, compared with the FICON and County General Plan Policy N 1.3 standards, is included in Table 4.2-12 on the following page. Receivers listed in Table 4.2-12 are the same for Build Alternatives 1 and 2C, as the two alternatives were similar in design and therefore have a similar geographic extent.

[13] The FICON methodology and thresholds are based on a day/night level, which divides a typical day into two distinct time frames: day and night (10 dB penalty from 10 p.m. to 7 a.m.). The County uses CNEL, which divides a typical day into three distinct time frames: day, evening (5 dB penalty from 7 p.m. to 10 p.m.), and night (10 dB penalty 10 p.m. to 7 a.m.).

Table 4.2-12. Modeled Exterior Traffic Noise Levels - Build Alternatives 1 and 2C

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Does Existing Condition Exceed 65/45 dBA (Exterior/Interior) CNEL standard?	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	Existing	Alt 1	Alt 2C
M-4	55	59	59	4	4	No	No	No
M-5	59	63	63	4	4	No	No	No
M-6/ST-2	58	**63**	**63**	**5**	**5**	No	**Yes**	**Yes**
M-7	53	**61**	**61**	**8**	**8**	No	**Yes**	**Yes**
M-8	56	**64**	**64**	**8**	**8**	No	**Yes**	**Yes**
M-9	49	53	53	4	4	No	No	No
M-10	64	62	62	-2	-2	No	No	No
M-17A	49	**57**	**57**	**8**	**8**	No	**Yes**	**Yes**
M-24	59	59	60	0	1	No	No	No
M-27	43	**48**	**51**	**5**	**8**	No	**Yes**	**Yes**
M-45	51	37	37	-14	-14	No	No	No
M-46/ST-13	50	36	36	-14	-14	No	No	No
M-47	50	35	35	-15	-15	No	No	No
M-47A	57	37	37	-20	-20	No	No	No
M-48	50	35	35	-15	-15	No	No	No
M-49	52	40	40	-12	-12	No	No	No
M-50	59	41	41	-18	-18	No	No	No
M-51	50	42	42	-8	-8	No	No	No
M-52	52	42	42	-10	-10	No	No	No
M-53	54	43	43	-11	-11	No	No	No
M-54	65	43	43	-22	-22	No	No	No
M-55	56	42	42	-14	-14	No	No	No
M-55A	43	38	38	-5	-5	No	No	No
M-56	60	44	44	-16	-16	No	No	No
M-57	58	41	41	-17	-17	No	No	No
M-58	44	**53**	**53**	**9**	**9**	No	**Yes**	**Yes**
M-59/ST-14	53	45	45	-8	-8	No	No	No
M-59A	62	53	53	-9	-9	No	No	No
M-61A	42	43	43	1	1	No	No	No
M-61B	43	45	45	2	2	No	No	No
M-61C	41	44	44	3	3	No	No	No

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Does Existing Condition Exceed 65/45 dBA (Exterior/Interior) CNEL standard?	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	Existing	Alt 1	Alt 2C
M-61D	40	44	44	4	4	No	No	No
M-61E	41	44	44	3	3	No	No	No
M-82/ST-21	51	**57**	**57**	**6**	**6**	No	**Yes**	**Yes**
M-83	53	**58**	**58**	**5**	**5**	No	**Yes**	**Yes**
M-89	53	**60**	**60**	**7**	**7**	No	**Yes**	**Yes**
M-90	48	**55**	**55**	**7**	**7**	No	**Yes**	**Yes**
M-92A	55	**62**	**62**	**7**	**7**	No	**Yes**	**Yes**
M-93	**69**	**75**	**75**	**6**	**6**	**Yes**	**Yes**	**Yes**
M-96	52	**59**	**59**	**7**	**7**	No	**Yes**	**Yes**
M-97	54	**62**	**62**	**8**	**8**	No	**Yes**	**Yes**
M-98A	49	**57**	**57**	**8**	**8**	No	**Yes**	**Yes**
M-99/ST-23	61	65	65	4	4	No	No	No
M-99A	49	**57**	**57**	**8**	**8**	No	**Yes**	**Yes**
M-99B	53	**59**	**59**	**6**	**6**	No	**Yes**	**Yes**
M-99C	52	56	56	4	4	No	No	No
M-100	53	57	57	4	4	No	No	No
M-101	44	48	48	4	4	No	No	No
M-102	49	53	53	4	4	No	No	No
M-103	54	**59**	**59**	**5**	**5**	No	**Yes**	**Yes**
M-104A	51	**58**	**58**	**7**	**7**	No	**Yes**	**Yes**
M-105	**71**	**74**	**74**	**3**	**3**	**Yes**	**Yes**	**Yes**
M-106	62	**66**	**66**	**4**	**4**	No	**Yes**	**Yes**
M-107	58	62	62	4	4	No	No	No
M-108	54	**60**	**60**	**6**	**6**	No	**Yes**	**Yes**
M-109	51	**56**	**56**	**5**	**5**	No	**Yes**	**Yes**
M-110	50	**56**	**56**	**6**	**6**	No	**Yes**	**Yes**
M-111	47	**53**	**53**	**6**	**6**	No	**Yes**	**Yes**
M-112	47	**52**	**52**	**5**	**5**	No	**Yes**	**Yes**
M-113	51	**57**	**57**	**6**	**6**	No	**Yes**	**Yes**
M-114	52	**57**	**57**	**5**	**5**	No	**Yes**	**Yes**
M-115	55	**60**	**60**	**5**	**5**	No	**Yes**	**Yes**
M-116	58	62	62	4	4	No	No	No
M-117	62	**65**	**65**	**3**	**3**	No	**Yes**	**Yes**

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Does Existing Condition Exceed 65/45 dBA (Exterior/Interior) CNEL standard?	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	Existing	Alt 1	Alt 2C
M-118	**68**	**70**	**70**	**2**	**2**	**Yes**	**Yes**	**Yes**
M-118A	50	55	55	5	5	No	No	No
M-121	59	62	62	3	3	No	No	No
M-125	53	56	56	3	3	No	No	No
M-125A	49	51	51	2	2	No	No	No
M-125B	47	50	50	3	3	No	No	No
M-126/ST-26	55	58	58	3	3	No	No	No
M-127	54	57	57	3	3	No	No	No
M-128	46	49	49	3	3	No	No	No
M-129	59	62	62	3	3	No	No	No
M-131/ST-27	59	62	62	3	3	No	No	No
M-131A	56	58	58	2	2	No	No	No
M-132	59	62	62	3	3	No	No	No
M-133	59	62	62	3	3	No	No	No
M-134	58	61	61	3	3	No	No	No
M-135	58	62	62	4	4	No	No	No
M-136	58	61	61	3	3	No	No	No
M-137	55	59	58	4	3	No	No	No
M-138	52	55	55	3	3	No	No	No
M-139	46	49	49	3	3	No	No	No
M-144	53	54	54	1	1	No	No	No
M-146	62	62	62	0	0	No	No	No
M-147	55	56	57	1	2	No	No	No
M-148	58	59	59	1	1	No	No	No
M-149	59	60	60	1	1	No	No	No
M-150	57	60	60	3	3	No	No	No
M-151	61	**65**	**65**	**4**	**4**	No	**Yes**	**Yes**
M-154	59	63	63	4	4	No	No	No
M-155	61	63	63	2	2	No	No	No
M-156	52	55	55	3	3	No	No	No
M-157	60	**65**	**65**	**5**	**5**	No	**Yes**	**Yes**
M-159	52	**59**	**59**	**7**	**7**	No	**Yes**	**Yes**
M-160	52	**59**	**59**	**7**	**7**	No	**Yes**	**Yes**

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Does Existing Condition Exceed 65/45 dBA (Exterior/Interior) CNEL standard?	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	Existing	Alt 1	Alt 2C
M-161	52	**59**	**59**	**7**	**7**	No	**Yes**	**Yes**
M-162	62	**65**	**65**	**3**	**3**	No	**Yes**	**Yes**
M-163	55	58	58	3	3	No	No	No
M-164	55	59	59	4	4	No	No	No
M-165	53	57	57	4	4	No	No	No
M-166	57	61	61	4	4	No	No	No
M-168	56	60	60	4	4	No	No	No
M-169	53	**59**	**59**	**6**	**6**	No	**Yes**	**Yes**
M-170	54	**60**	**60**	**6**	**6**	No	**Yes**	**Yes**
M-171	51	**58**	**58**	**7**	**7**	No	**Yes**	**Yes**
M-172	53	**62**	**62**	**9**	**9**	No	**Yes**	**Yes**
M-173	57	**62**	**62**	**5**	**5**	No	**Yes**	**Yes**
M-174	53	**60**	**60**	**7**	**7**	No	**Yes**	**Yes**
M-176	55	**63**	**63**	**8**	**8**	No	**Yes**	**Yes**
M-179	55	**60**	**60**	**5**	**5**	No	**Yes**	**Yes**
M-181	53	**61**	**61**	**8**	**8**	No	**Yes**	**Yes**
M-184	53	57	57	4	4	No	No	No
M-188	50	**56**	**56**	**6**	**6**	No	**Yes**	**Yes**
M-190	57	59	59	2	2	No	No	No
M-191	53	55	55	2	2	No	No	No
M-192	54	56	56	2	2	No	No	No
M-193	59	62	62	3	3	No	No	No
M-196	60	**63**	**63**	**3**	**3**	No	**Yes**	**Yes**
M-197	59	62	62	3	3	No	No	No
M-198	54	57	57	3	3	No	No	No
M-199	61	**65**	**65**	**4**	**4**	No	**Yes**	**Yes**
M-200	53	55	55	2	2	No	No	No
M-203	54	58	58	4	4	No	No	No
M-204	53	55	55	2	2	No	No	No
M-205	59	62	62	3	3	No	No	No
M-209	57	61	61	4	4	No	No	No
M-210	55	59	59	4	4	No	No	No
M-211	60	**63**	**63**	**3**	**3**	No	**Yes**	**Yes**

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Does Existing Condition Exceed 65/45 dBA (Exterior/Interior) CNEL standard?	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	Existing	Alt 1	Alt 2C
M-213	55	59	59	4	4	No	No	No
M-214	49	51	51	2	2	No	No	No
M-215	60	**63**	**63**	**3**	**3**	No	**Yes**	**Yes**
M-216	50	52	52	2	2	No	No	No
M-217	56	60	60	4	4	No	No	No
M-219	53	56	56	3	3	No	No	No
M-221	56	56	56	0	0	No	No	No
M-222	52	55	55	3	3	No	No	No
M-223	59	62	62	3	3	No	No	No
M-224	55	**60**	**60**	**5**	**5**	No	**Yes**	**Yes**
M-226	54	57	57	3	3	No	No	No
M-229	61	63	63	2	2	No	No	No
M-230	57	60	60	3	3	No	No	No
M-231	58	62	62	4	4	No	No	No

Note: **Bold** noise level indicates that County of Riverside's 65 dBA CNEL planning standard for residential land use is exceeded by 1.5 dB or that an increase of 3 dB or 5 dB was expected due to the project.

As indicated in Table 4.2-12, traffic noise levels are projected to increase by 1.5 dB or more at three noise-sensitive receivers (M-93, M-105, and M-118) that currently exceed the County's 65 dBA CNEL noise level under the existing condition. These three modeled receivers (M-93, M-105, and M-118) along with M-106 (66 dBA CNEL under the design condition) are predicted to exceed the 65 dBA CNEL noise level; therefore, it is assumed that the 45 dBA CNEL (interior) level would also be exceeded. Based on the Caltrans Technical Noise Supplement, a light frame building with windows closed would result in a 20-dB exterior to interior transmission loss from the building shell; while this reduction would be substantial, it is assumed that the 45 dBA CNEL (interior) level would still be exceeded for these receivers. Additionally, 48 other modeled receivers are predicted to experience increases of 3 dB (between the existing levels of 60 to 65 dBA CNEL) or 5 dB during the design year (relative to the existing noise level). Figures 4.2-1 and 4.2-2 show the locations of modeled noise sensitive receivers throughout Build Alternatives 1 and 2C. Without mitigation, future noise levels in the project area are predicted to exceed the County 65 dBA and 45 dBA CNEL exterior and interior noise levels and the FICON noise level increases (3 and 5 dB) under Build Alternatives 1 and 2C.

In response to the future predicted noise level increases and potential for significant impact, rubberized asphalt was considered as a mitigation measure (**NOI-4**) to decrease predicted noise levels to less-than-significant levels. Rubberized asphalt allows air to escape from between the tire/pavement surface in multiple pathways, thereby reducing the pressure and soundwaves and reducing overall traffic noise; the inclusion of rubberized asphalt shows a wide range of noise reduction. A mid-range of noise reduction associated with inclusion of rubberized asphalt would be 5 dB noise reduction (Mavridoua and Kehagia 2017).

Table 4.2-13 indicates the predicted noise levels with the use of rubberized asphalt as a mitigation measure for Build Alternatives 1 and 2C. Because the rubberized asphalt would result in a reduction of noise levels at multiple modeled receivers, the use of rubberized asphalt is proposed to be implemented under Build Alternatives 1 and 2C to mitigate traffic noise along the project alignment.

Table 4.2-13. Traffic Noise Results after Mitigation (Build Alternatives 1 and 2C)

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)		After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	--	Alt 1	Alt 2C	Alt 1	Alt 2C
M-6/ST-2	58	63	63	5	5	5	58 [0]	58 [0]	No	No
M-7	53	61	61	8	8	5	56 [3]	56 [3]	No	No
M-8	56	64	64	8	8	5	59 [3]	59 [3]	No	No
M-17A	49	57	57	8	8	5	52 [3]	52 [3]	No	No
M-27	43	48	51	5	8	5	43 [0]	46 [3]	No	No
M-58	44	53	53	9	9	5	48 [4]	48 [4]	No	No
M-82/ST-21	51	57	57	6	6	5	52 [1]	52 [1]	No	No
M-83	53	58	58	5	5	5	53 [0]	53 [0]	No	No
M-89	53	60	60	7	7	5	55 [2]	55 [2]	No	No
M-90	48	55	55	7	7	5	50 [2]	50 [2]	No	No
M-92A	55	62	62	7	7	5	57 [2]	57 [2]	No	No
M-93	69	75	75	6	6	5	70 [1]	70 [1]	No	No
M-96	52	59	59	7	7	5	54 [2]	54 [2]	No	No
M-97	54	62	62	8	8	5	57 [3]	57 [3]	No	No
M-98A	49	57	57	8	8	5	52 [3]	52 [3]	No	No
M-99A	49	57	57	8	8	5	52 [3]	52 [3]	No	No
M-99B	53	59	59	6	6	5	54 [1]	54 [1]	No	No
M-103	54	59	59	5	5	5	54 [0]	54 [0]	No	No
M-104A	51	58	58	7	7	5	53 [2]	53 [2]	No	No
M-105	71	74	74	3	3	5	69 [-2]	69 [-2]	No	No
M-106	62	66	66	4	4	5	61 [-1]	61 [-1]	No	No
M-108	54	60	60	6	6	5	55 [1]	55 [1]	No	No
M-109	51	56	56	5	5	5	51 [0]	51 [0]	No	No

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)		After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	--	Alt 1	Alt 2C	Alt 1	Alt 2C
M-110	50	56	56	6	6	5	51 [1]	51 [1]	No	No
M-111	47	53	53	6	6	5	48 [1]	48 [1]	No	No
M-112	47	52	52	5	5	5	47 [0]	47 [0]	No	No
M-113	51	57	57	6	6	5	52 [1]	52 [1]	No	No
M-114	52	57	57	5	5	5	52 [0]	52 [0]	No	No
M-115	55	60	60	5	5	5	55 [0]	55 [0]	No	No
M-117	62	65	65	3	3	5	60 [-2]	60 [-2]	No	No
M-118	68	70	70	2	2	5	65 [-3]	65 [-3]	No	No
M-151	61	65	65	4	4	5	60 [-1]	60 [-1]	No	No
M-157	60	65	65	5	5	5	60 [0]	60 [0]	No	No
M-159	52	59	59	7	7	5	54 [2]	54 [2]	No	No
M-160	52	59	59	7	7	5	54 [2]	54 [2]	No	No
M-161	52	59	59	7	7	5	54 [2]	54 [2]	No	No
M-162	62	65	65	3	3	5	60 [-2]	60 [-2]	No	No
M-169	53	59	59	6	6	5	54 [1]	54 [1]	No	No
M-170	54	60	60	6	6	5	55 [1]	55 [1]	No	No
M-171	51	58	58	7	7	5	53 [2]	53 [2]	No	No
M-172	53	62	62	9	9	5	57 [4]	57 [4]	No	No
M-173	57	62	62	5	5	5	57 [0]	57 [0]	No	No
M-174	53	60	60	7	7	5	55 [2]	55 [2]	No	No
M-176	55	63	63	8	8	5	58 [3]	58 [3]	No	No
M-179	55	60	60	5	5	5	55 [0]	55 [0]	No	No
M-181	53	61	61	8	8	5	56 [3]	56 [3]	No	No
M-188	50	56	56	6	6	5	51 [1]	51 [1]	No	No
M-196	60	63	63	3	3	5	58 [-2]	58 [-2]	No	No

Receiver	dBA CNEL			Change in Noise Level Compared to Existing (dB)		Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)		After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Alt 1	Alt 2C	Alt 1	Alt 2C	--	Alt 1	Alt 2C	Alt 1	Alt 2C
M-199	61	65	65	4	4	5	60 [-1]	60 [-1]	No	No
M-211	60	63	63	3	3	5	58 [-2]	58 [-2]	No	No
M-215	60	63	63	3	3	5	58 [-2]	58 [-2]	No	No
M-224	55	60	60	5	5	5	55 [0]	55 [0]	No	No

Note: **Bold** noise level indicates that County of Riverside's 65 dBA CNEL planning standard for residential land use is exceeded by 1.5 dB or that an increase of 3 dB or 5 dB was expected due to the project after mitigation.

As shown in Table 4.2-13, traffic noise increases associated with the proposed project at the four modeled receivers that would exceed the County's 65 CNEL sound level (modeled receivers M-93, M-105, M-106, and M-118) would change relative to the existing noise level by 1, -2, -1, and -3 dB, respectively. At these locations, the implementation of rubberized asphalt (**NOI-4**) would reduce traffic noise increases associated with the proposed project to less than the 1.5- and 3-dB increase thresholds.

All other modeled receivers predicted to have a 3- or 5-dB or greater increase associated with the project design relative to the use of **NOI-4** would experience no more than a 4-dB increase.

Therefore, with implementation of Mitigation Measure **NOI-4**, increases in traffic noise as a result of the project would be reduced to less-than-significant levels under Build Alternatives 1 and 2C.

- **NOI-4: Inclusion of Quiet Pavement**. The County of Riverside will require the construction contractor to provide an asphalt mix that provides 5-decibel minimum tire pavement noise reduction, and will include this mix during construction and paving of the proposed project.

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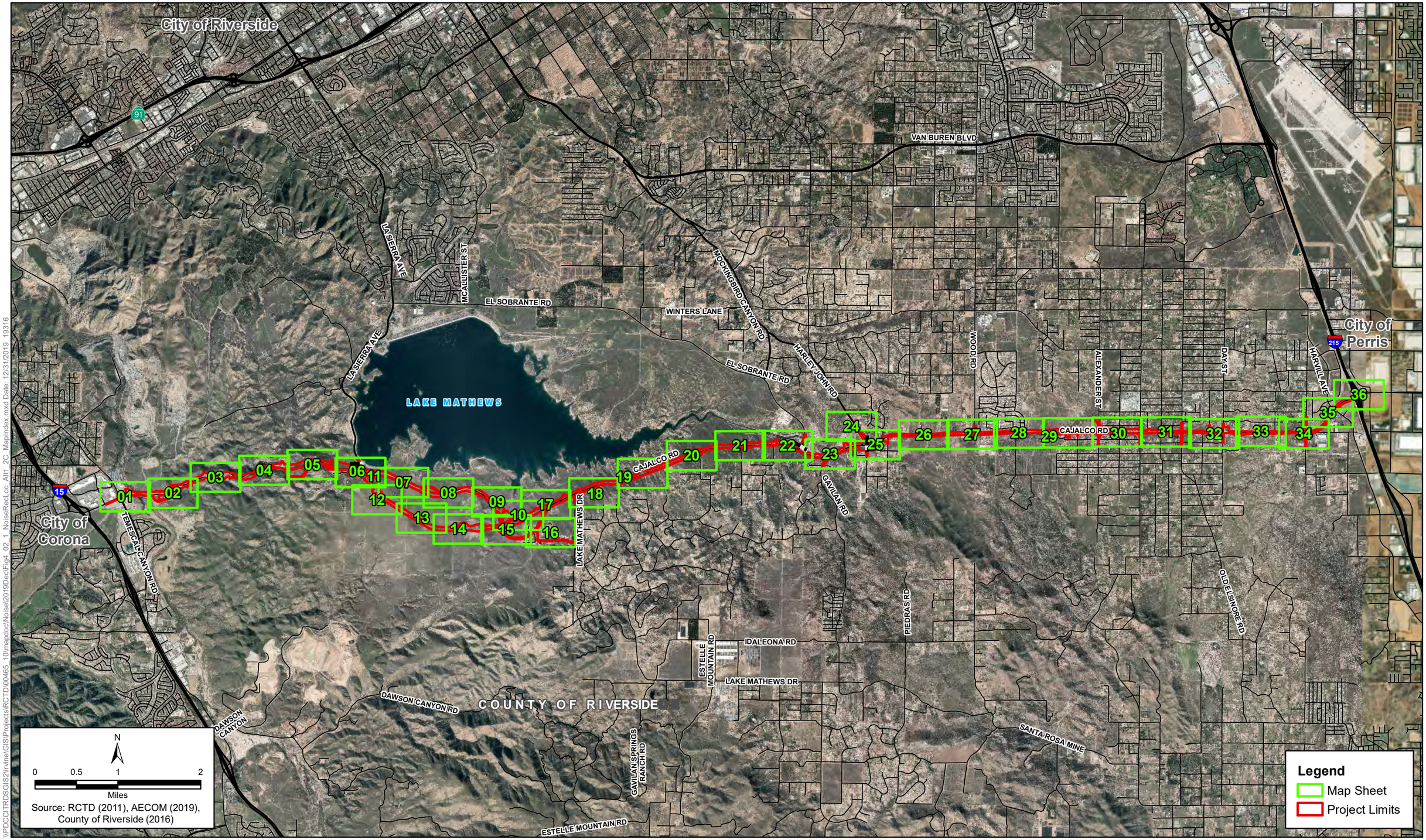

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Figure 4.2-1 - Map Index
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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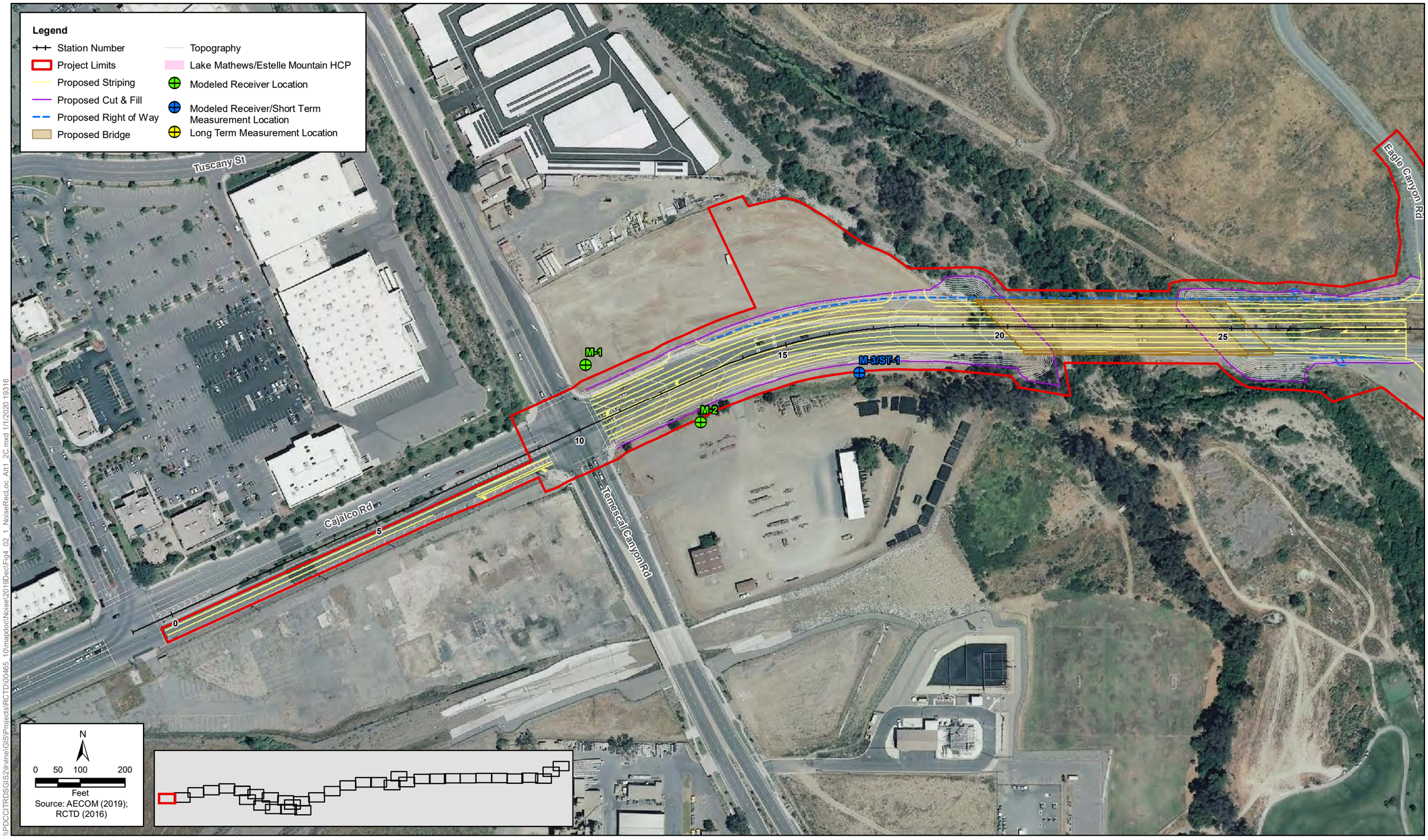

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Figure 4.2-1 - Sheet 1 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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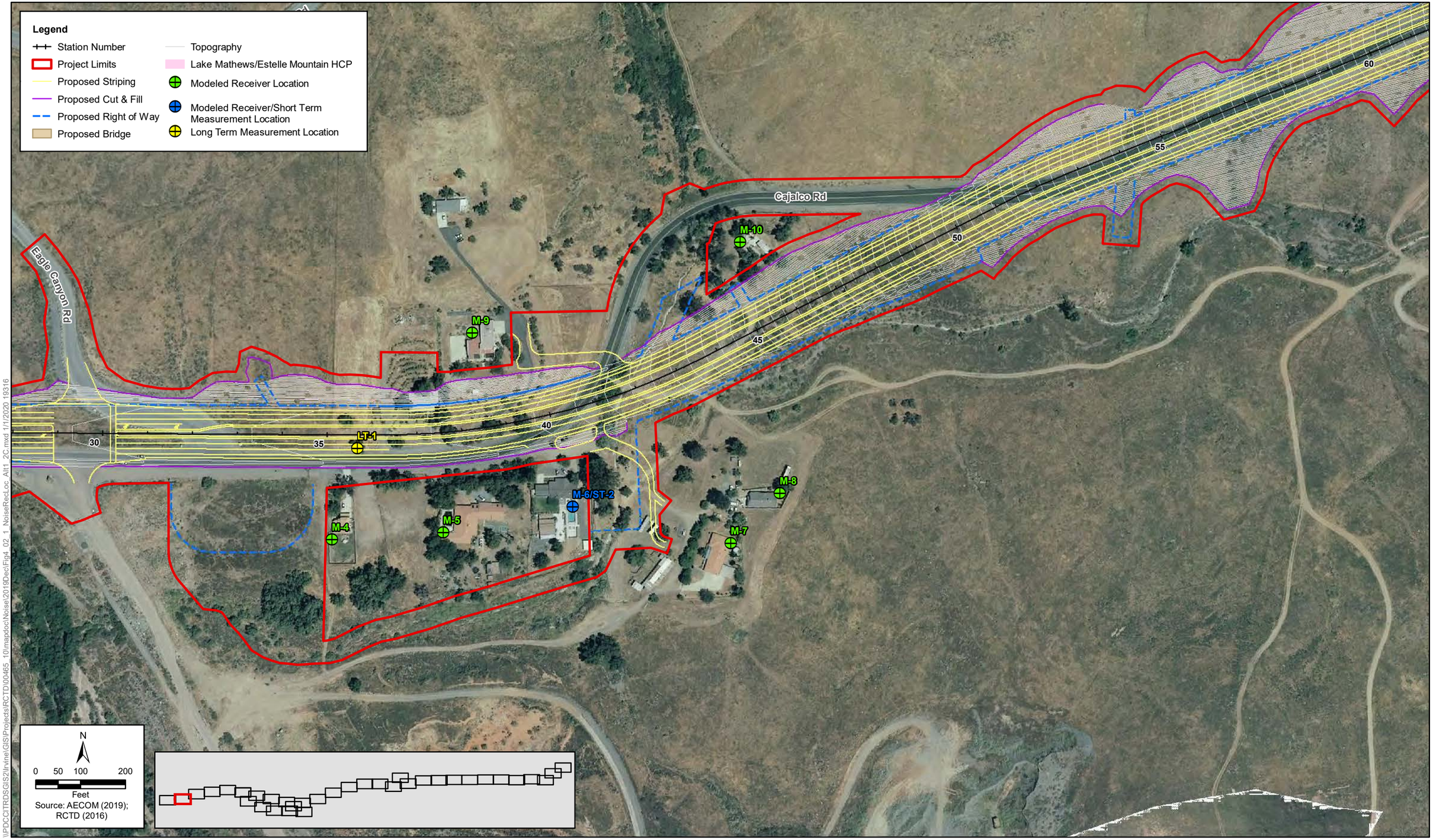

Figure 4.2-1 - Sheet 2 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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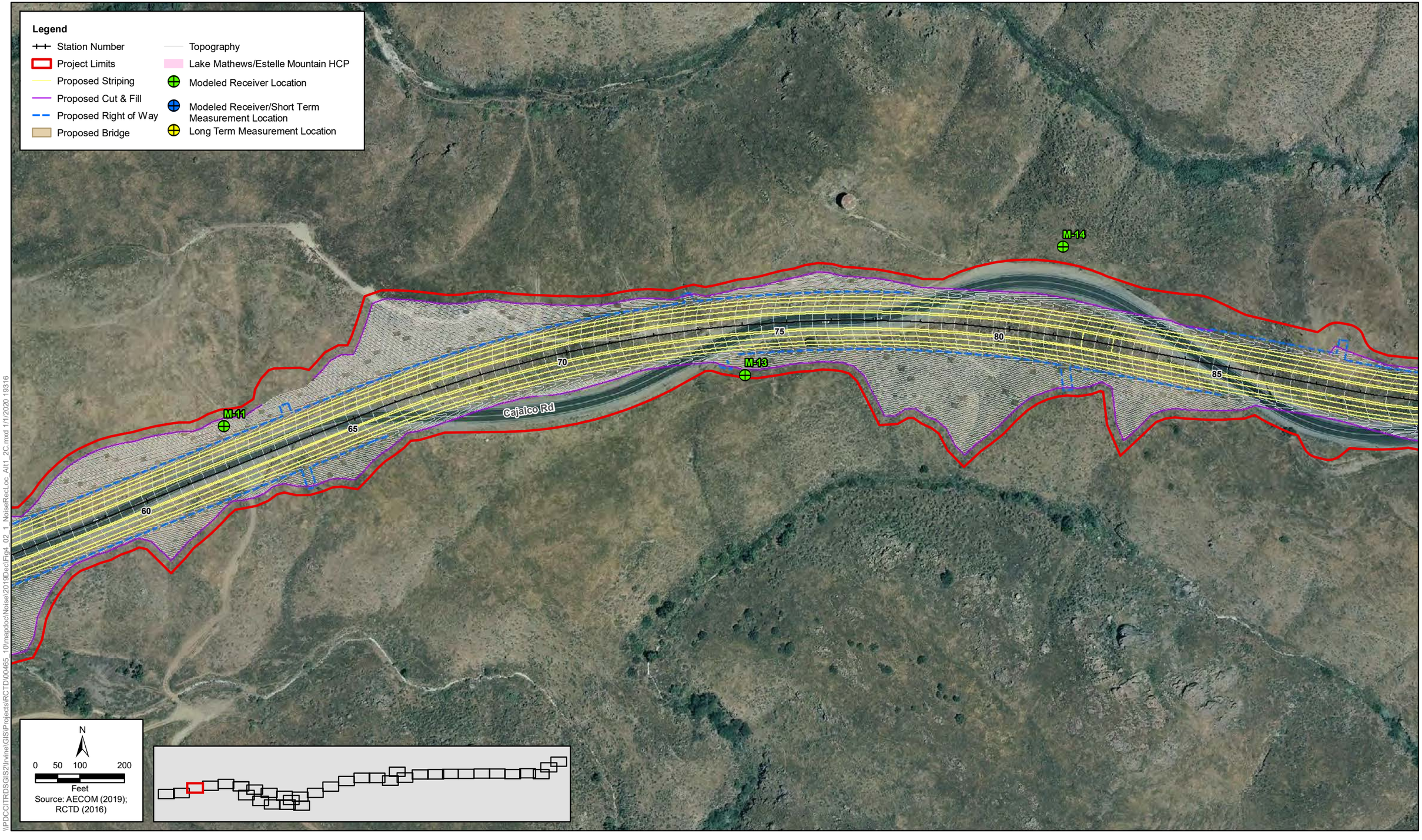

Figure 4.2-1 - Sheet 3 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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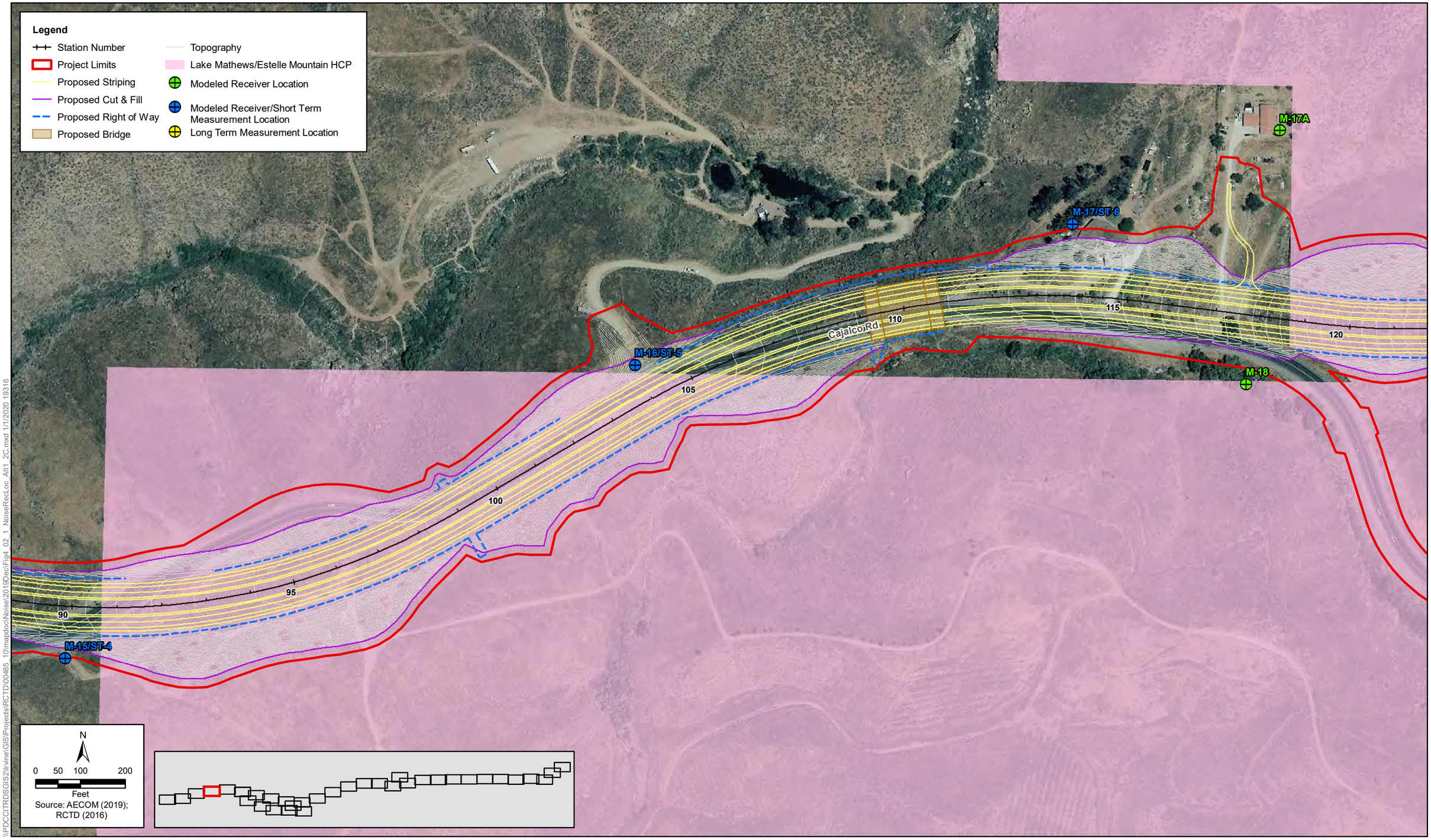

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Figure 4.2-1 - Sheet 4 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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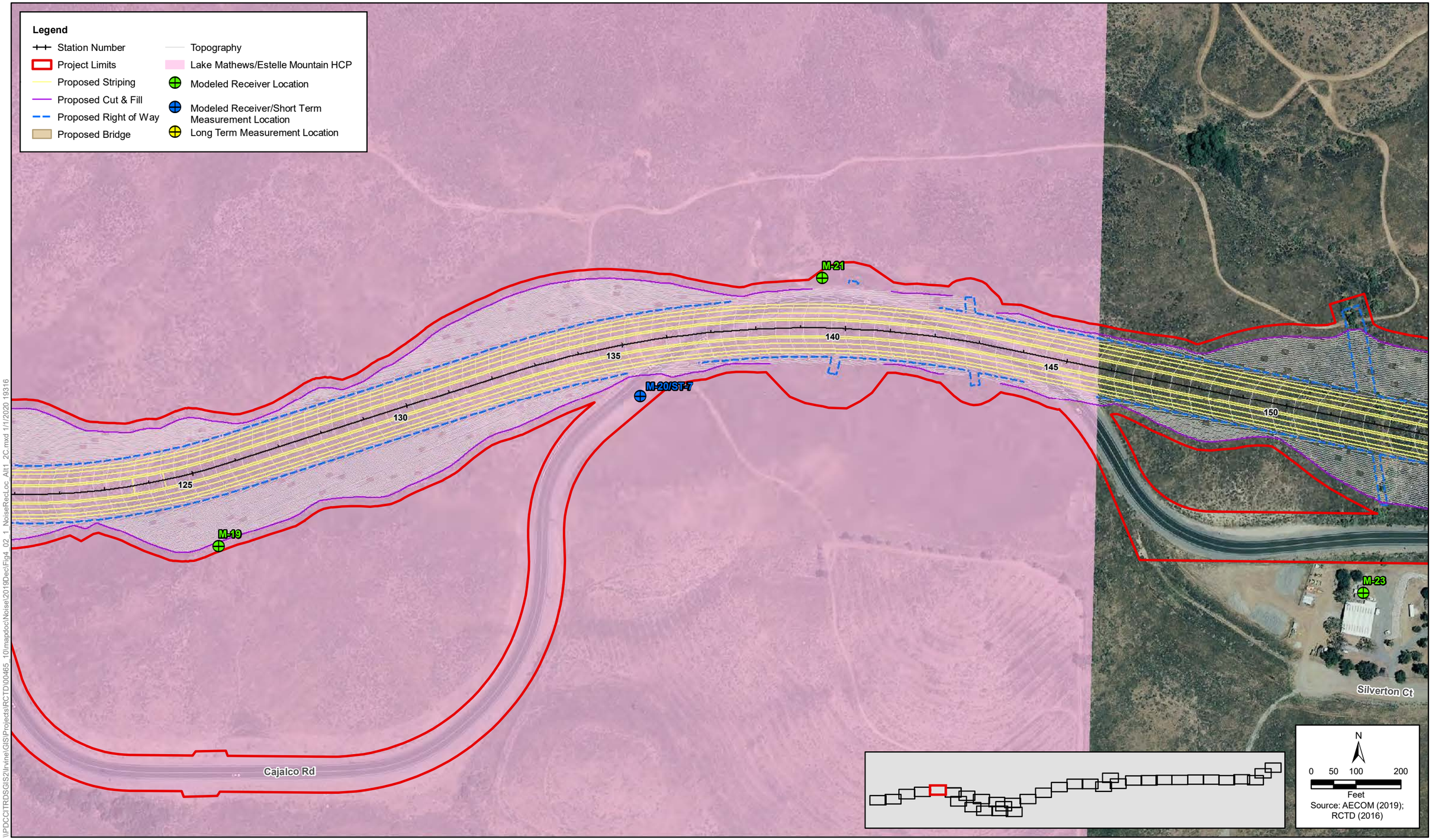

Figure 4.2-1 - Sheet 5 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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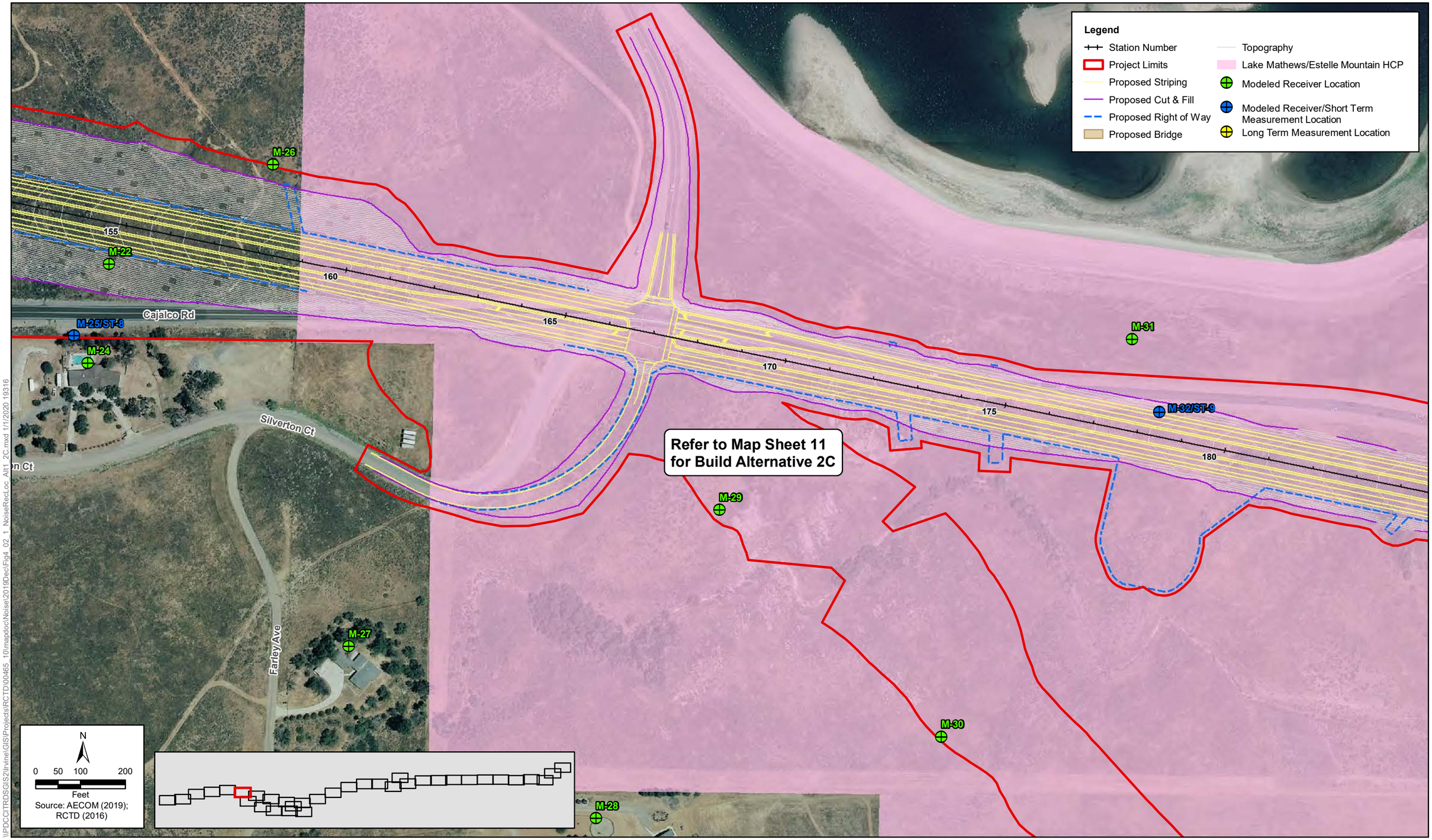

Figure 4.2-1 - Sheet 6 of 36
Build Alternative 1
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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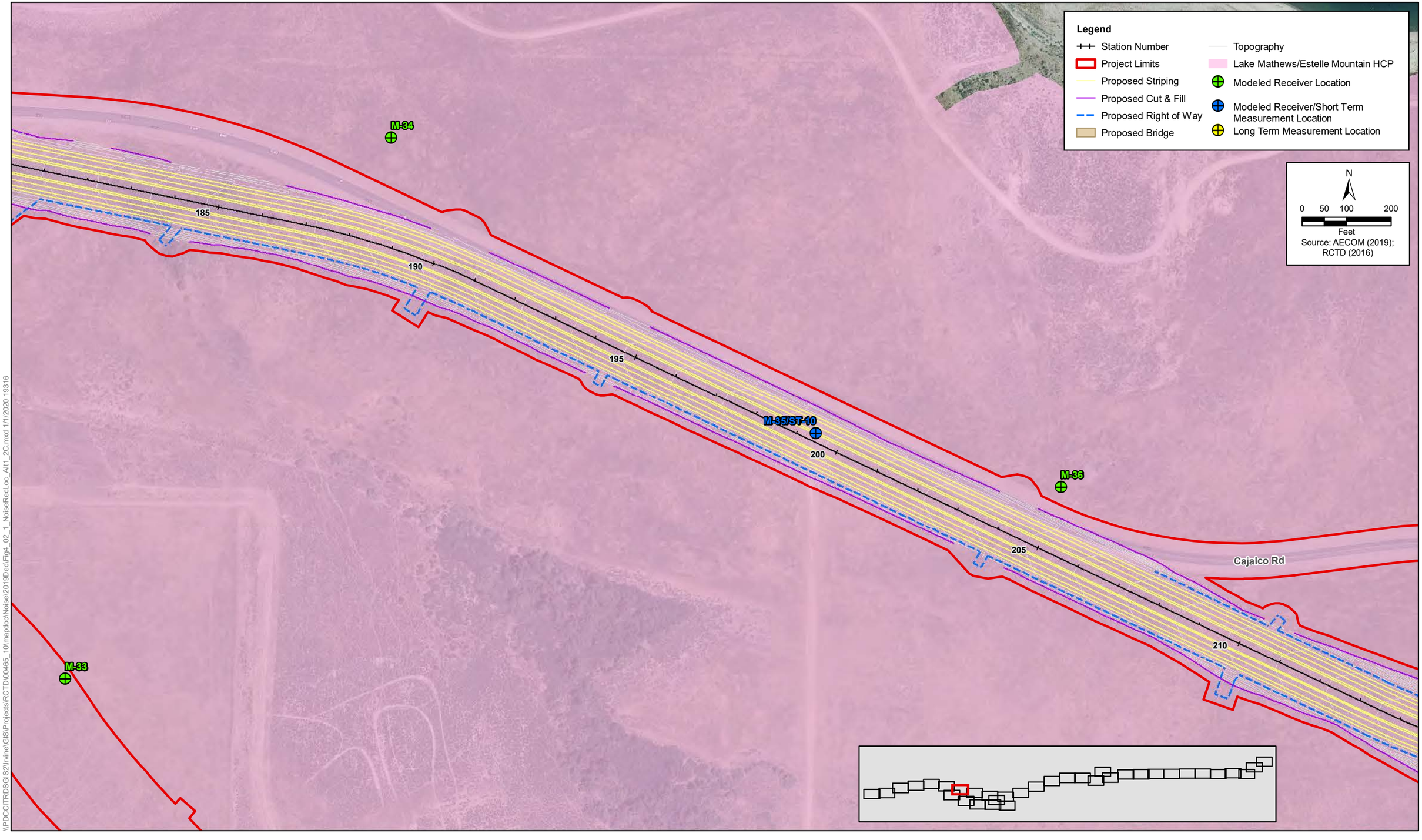

Figure 4.2-1 - Sheet 7 of 36
Build Alternative 1
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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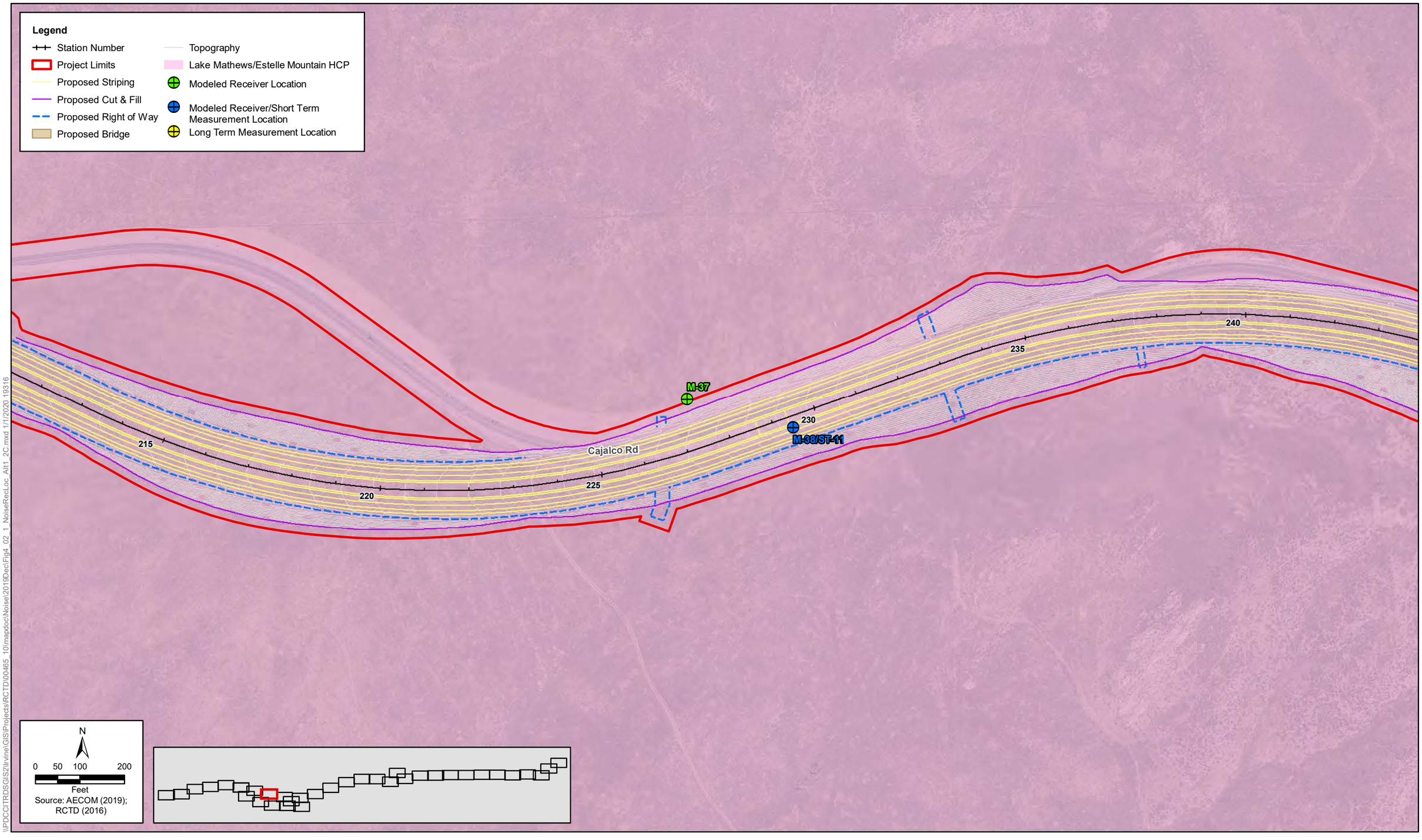

Figure 4.2-1 - Sheet 8 of 36
Build Alternative 1
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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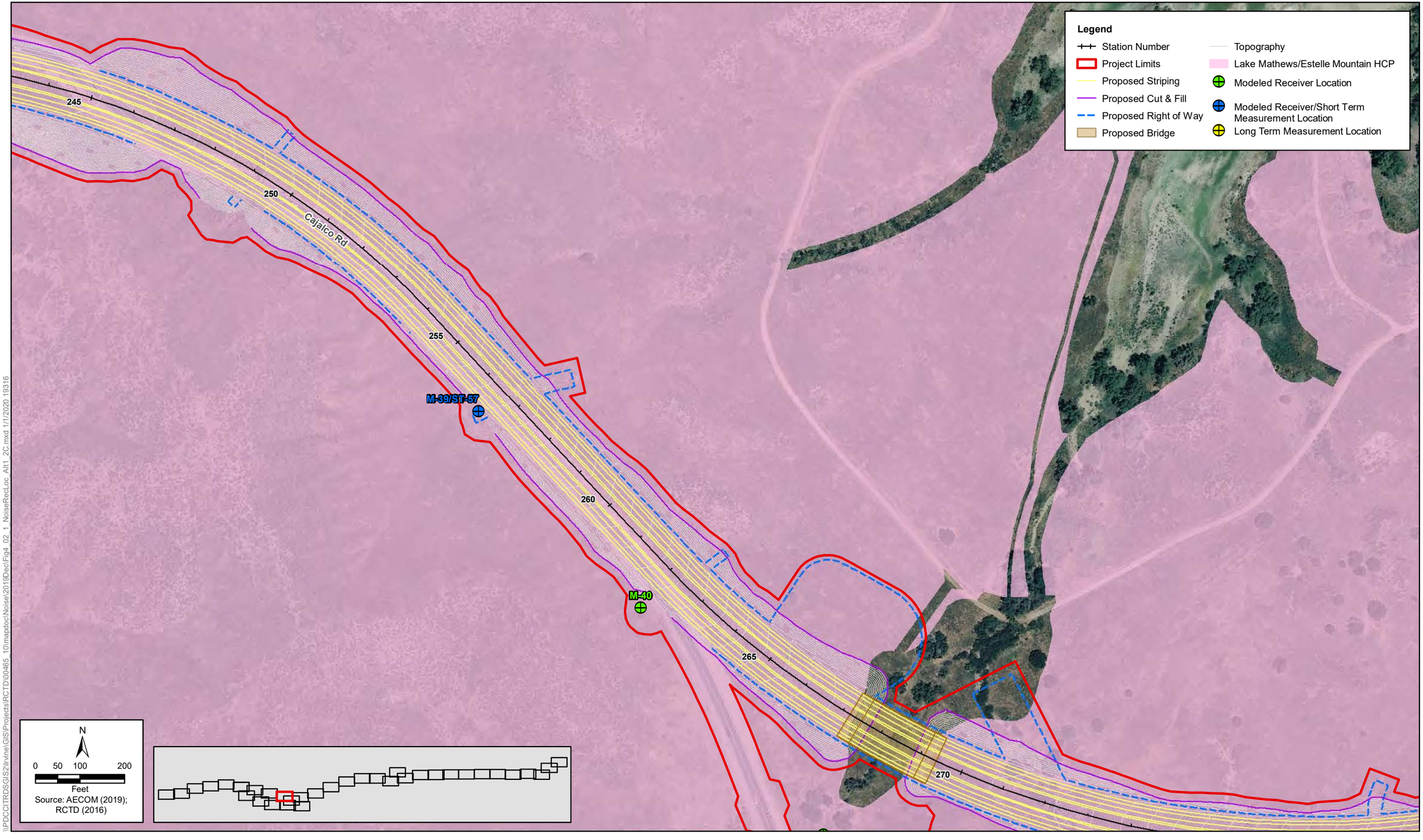

Figure 4.2-1 - Sheet 9 of 36
Build Alternative 1
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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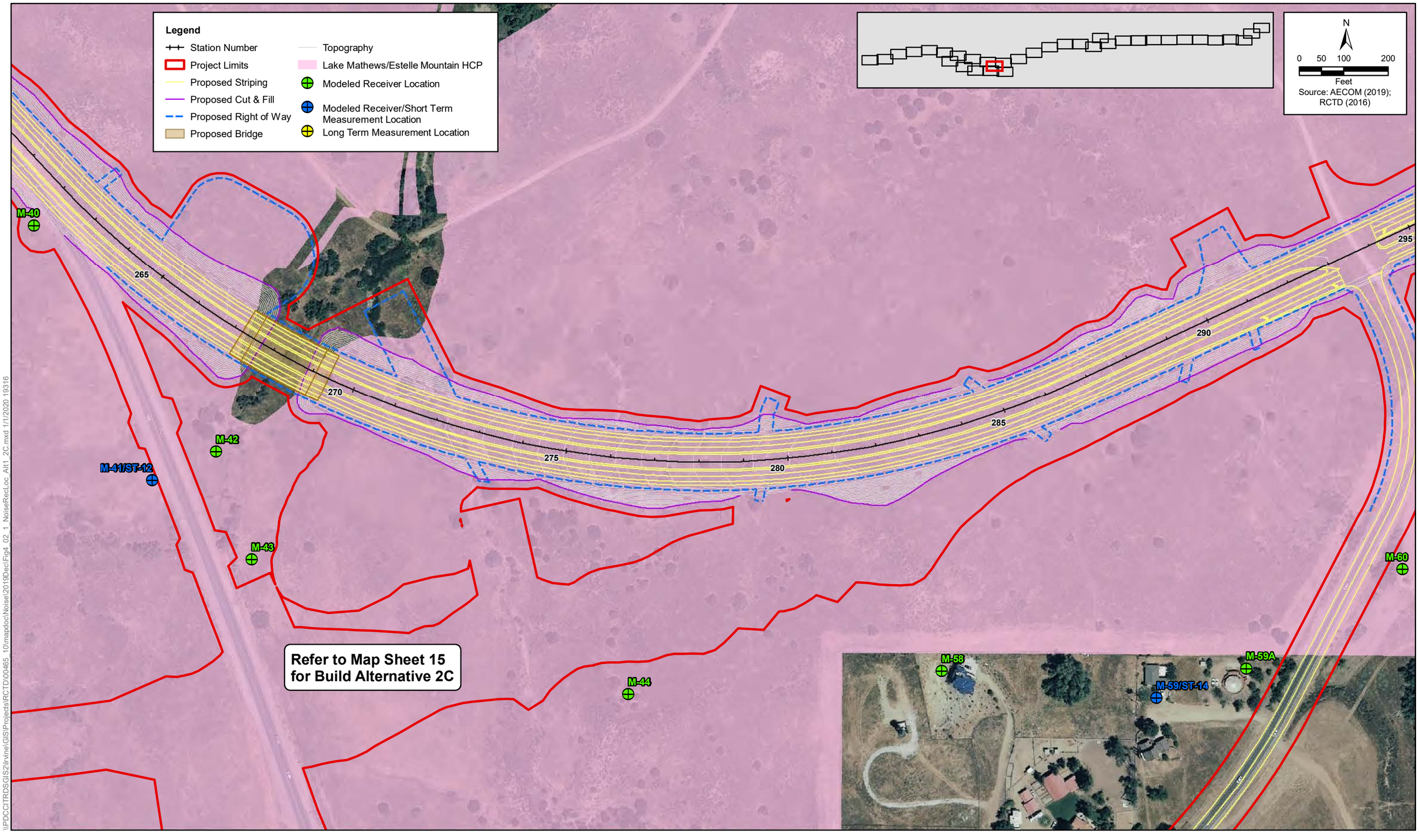

Figure 4.2-1 - Sheet 10 of 36
Build Alternative 1
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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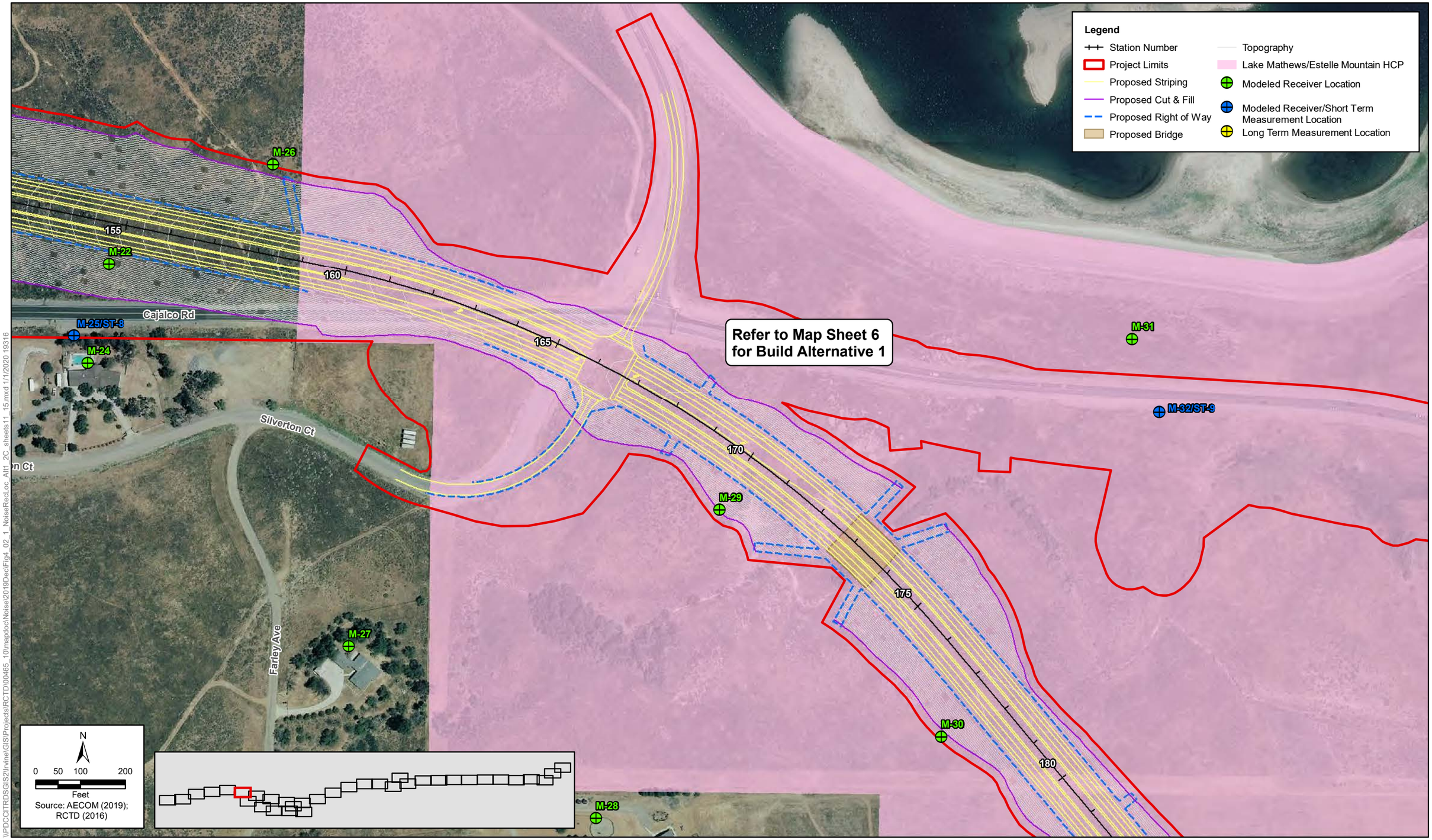

Figure 4.2-1 - Sheet 11 of 36
Build Alternative 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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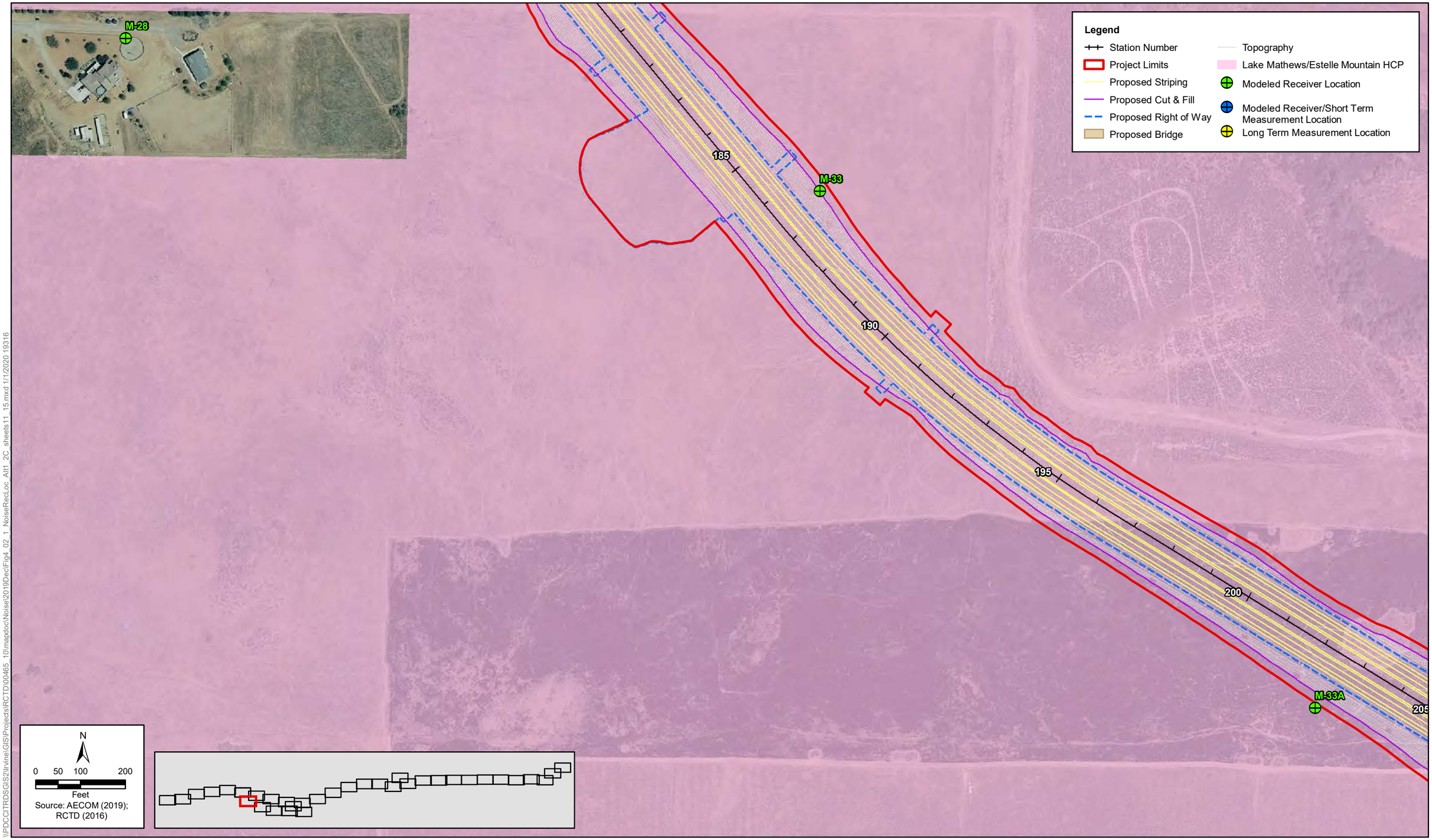

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Figure 4.2-1 - Sheet 12 of 36
Build Alternative 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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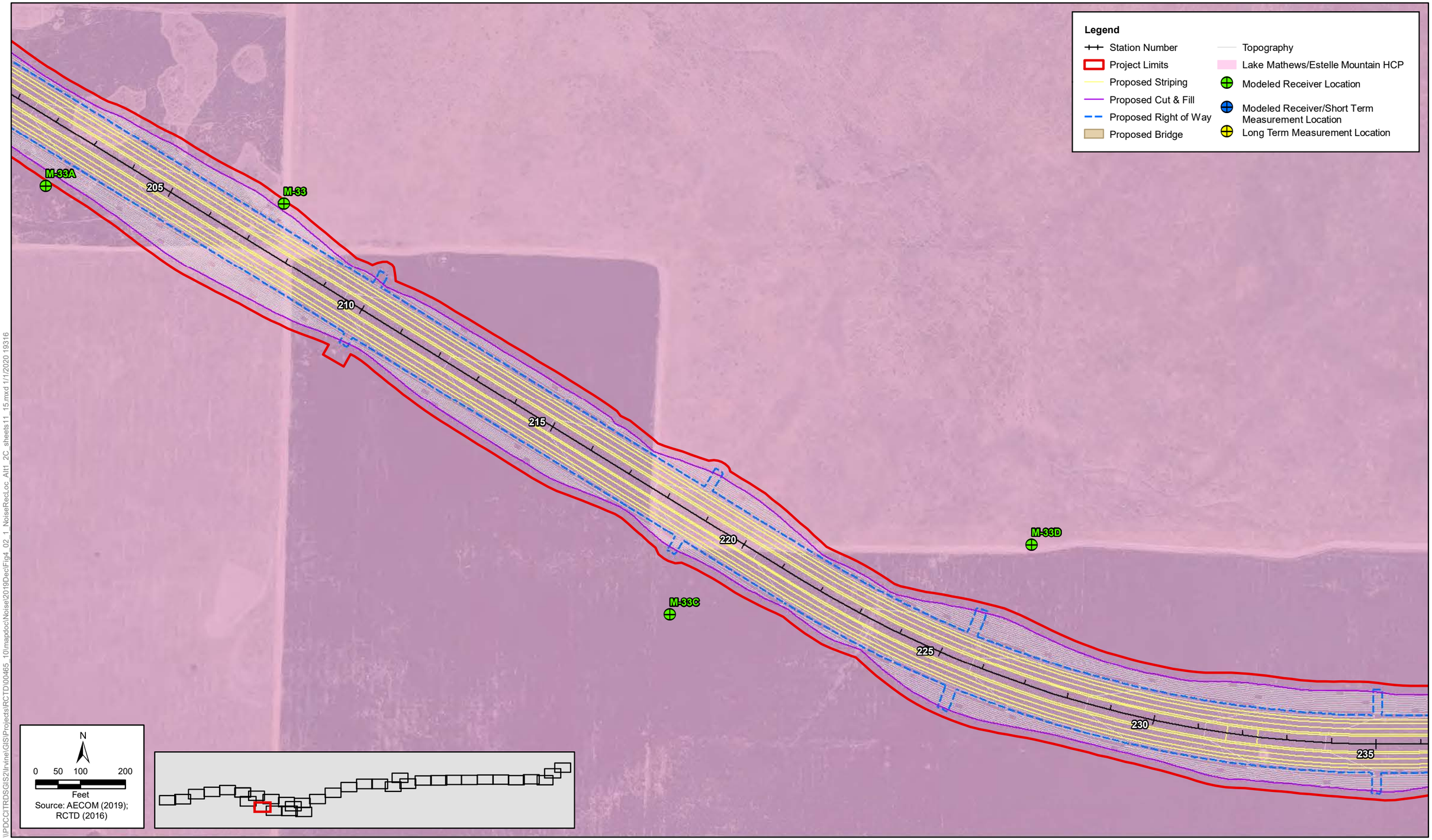

Figure 4.2-1 - Sheet 13 of 36
Build Alternative 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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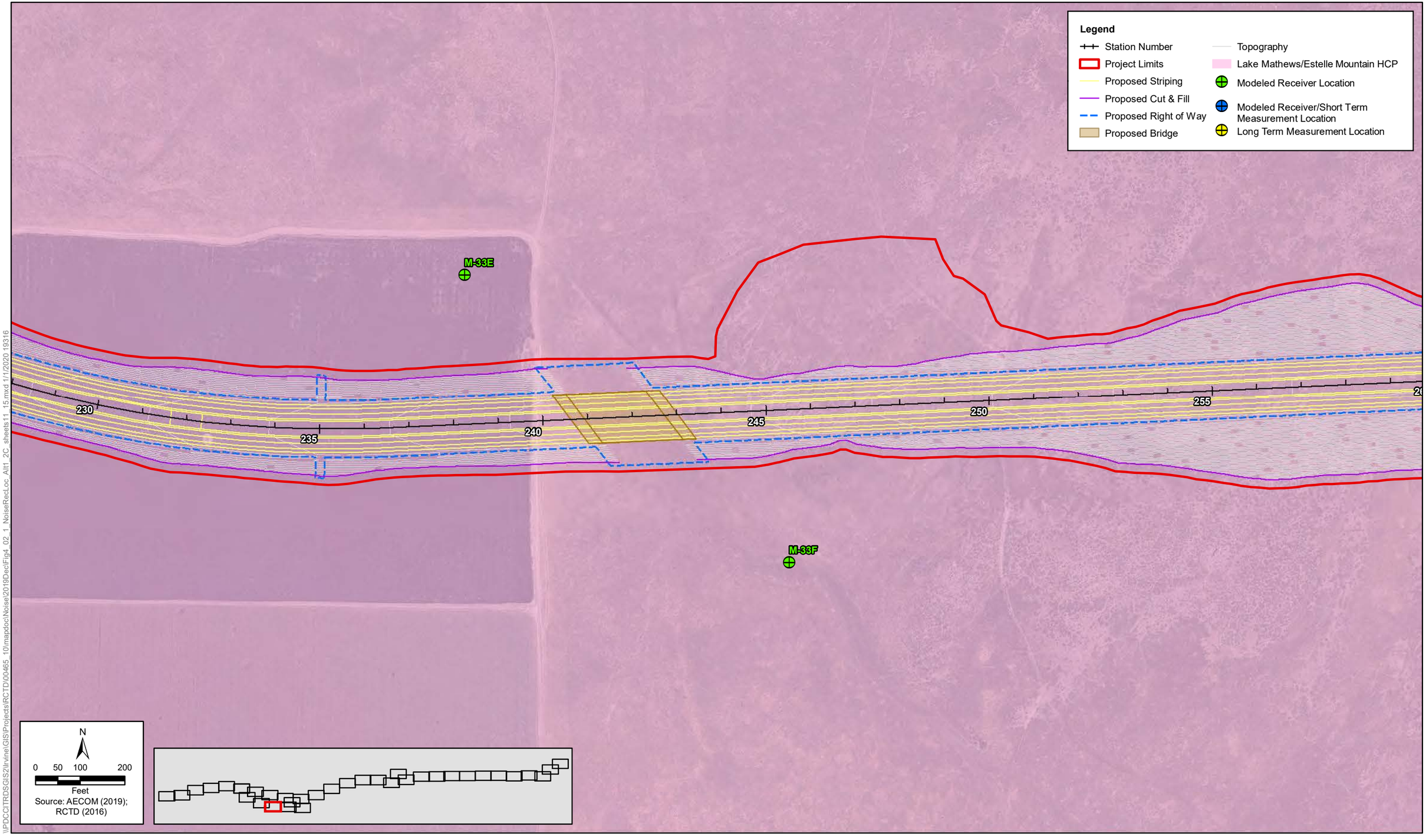

Figure 4.2-1 - Sheet 14 of 36
Build Alternative 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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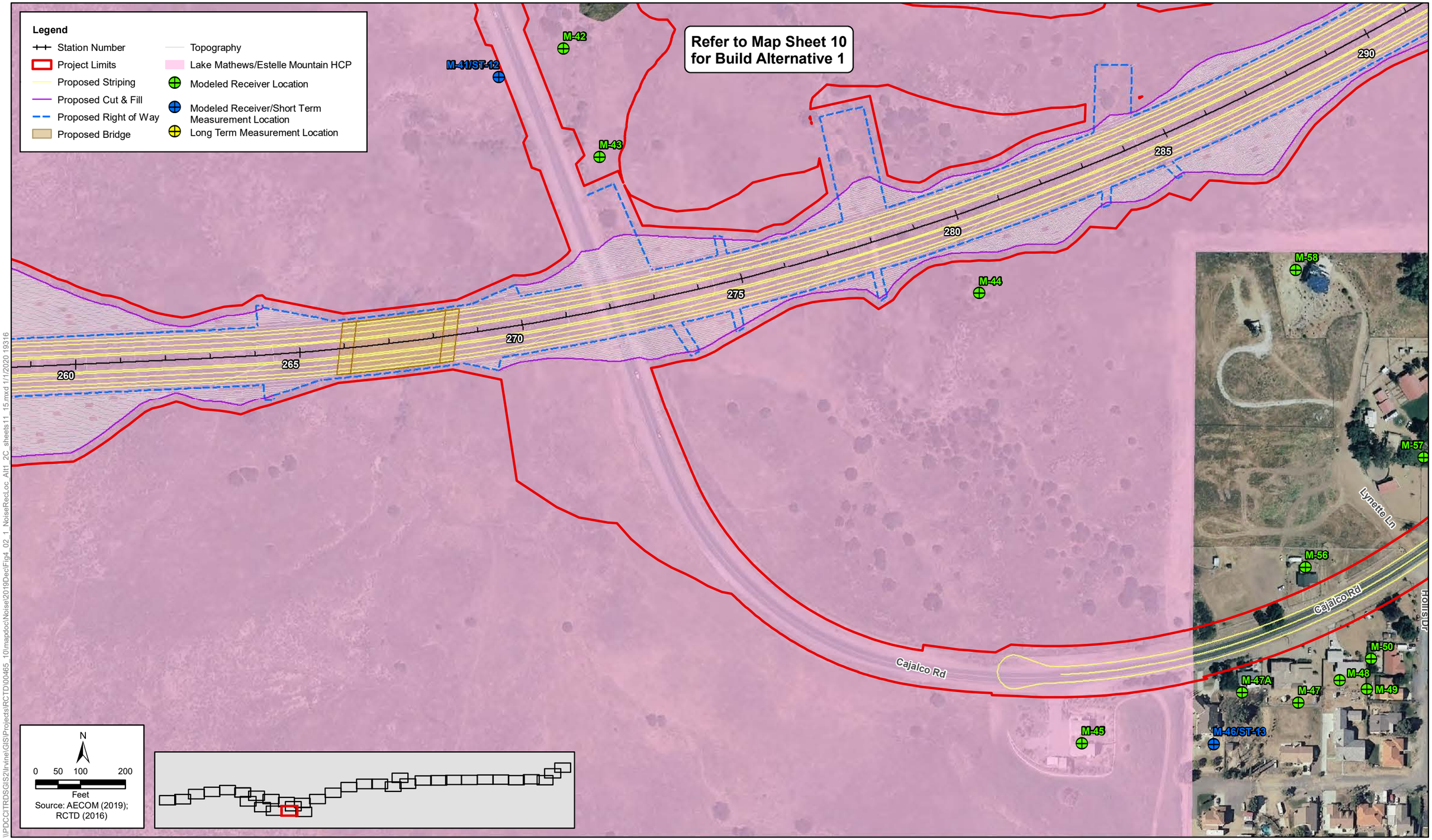

Figure 4.2-1 - Sheet 15 of 36
Build Alternative 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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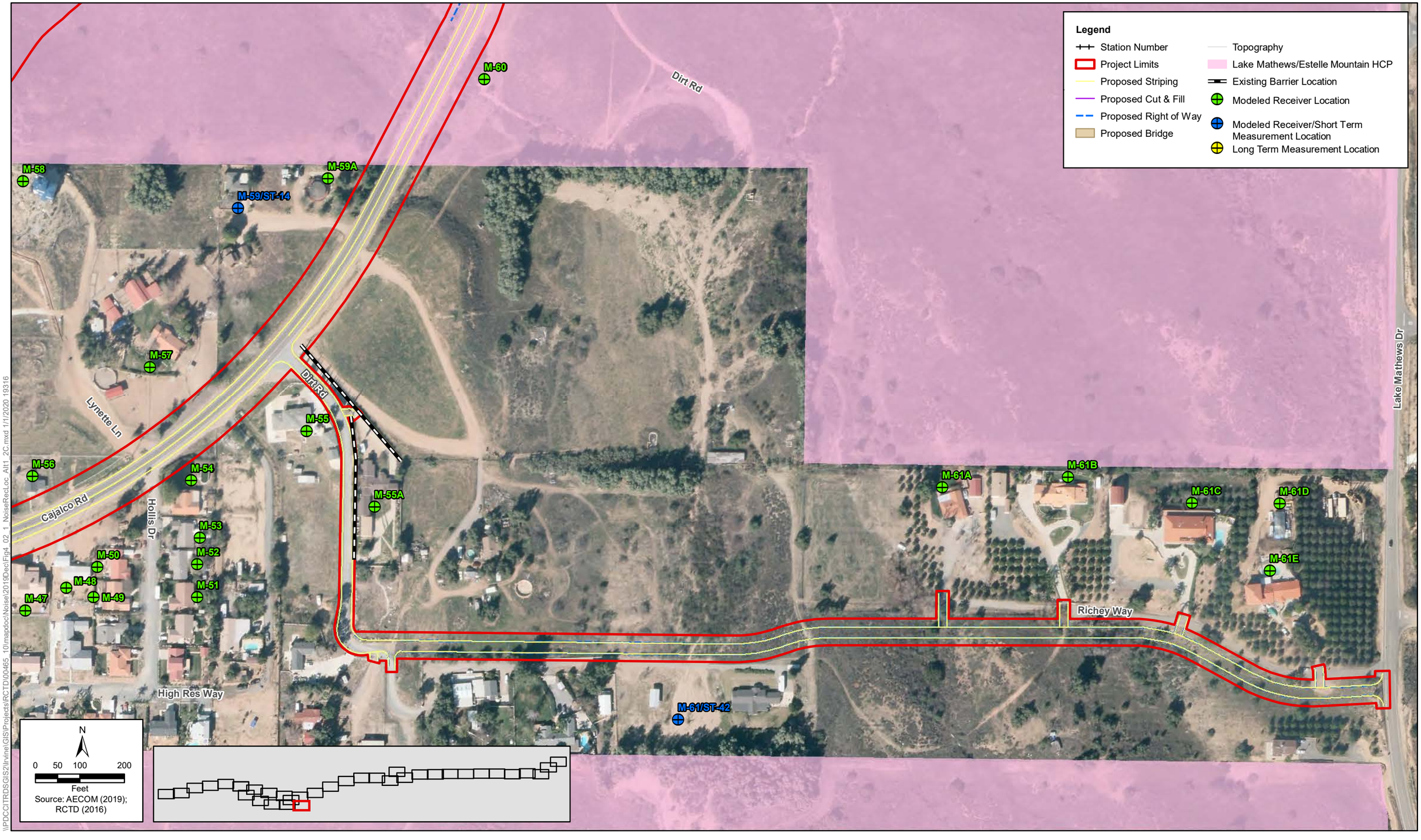

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Figure 4.2-1 - Sheet 16 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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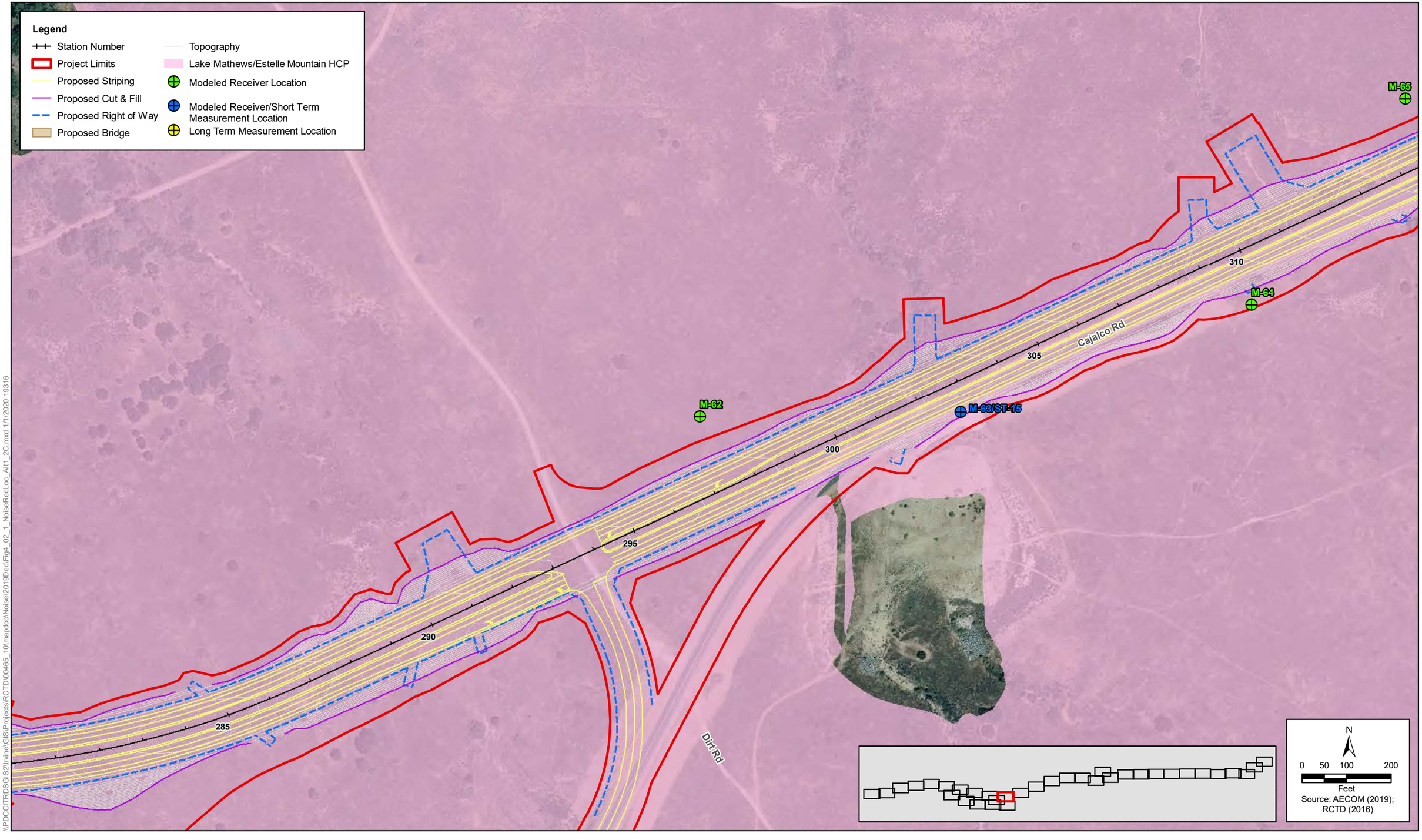

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Figure 4.2-1 - Sheet 17 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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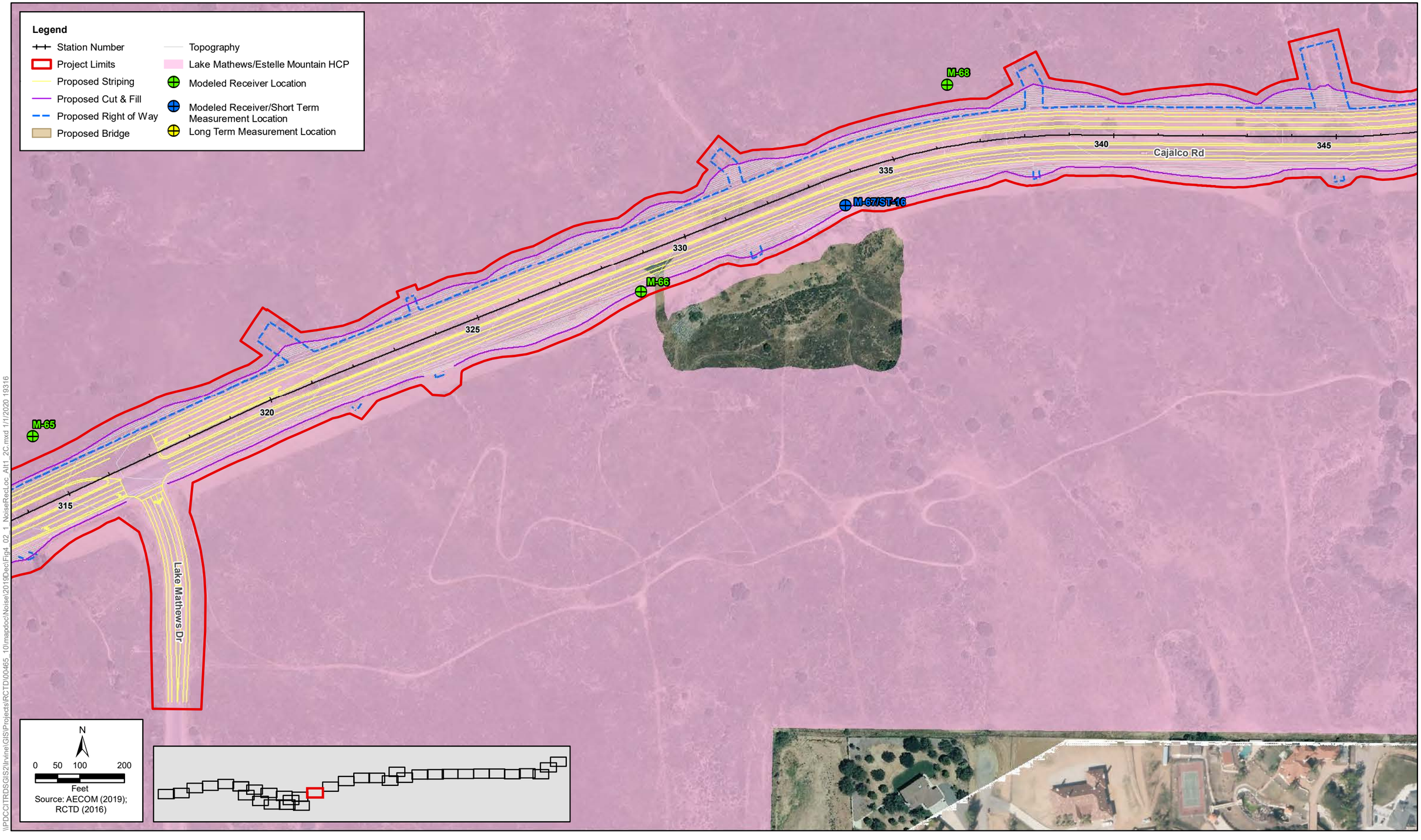

Figure 4.2-1 - Sheet 18 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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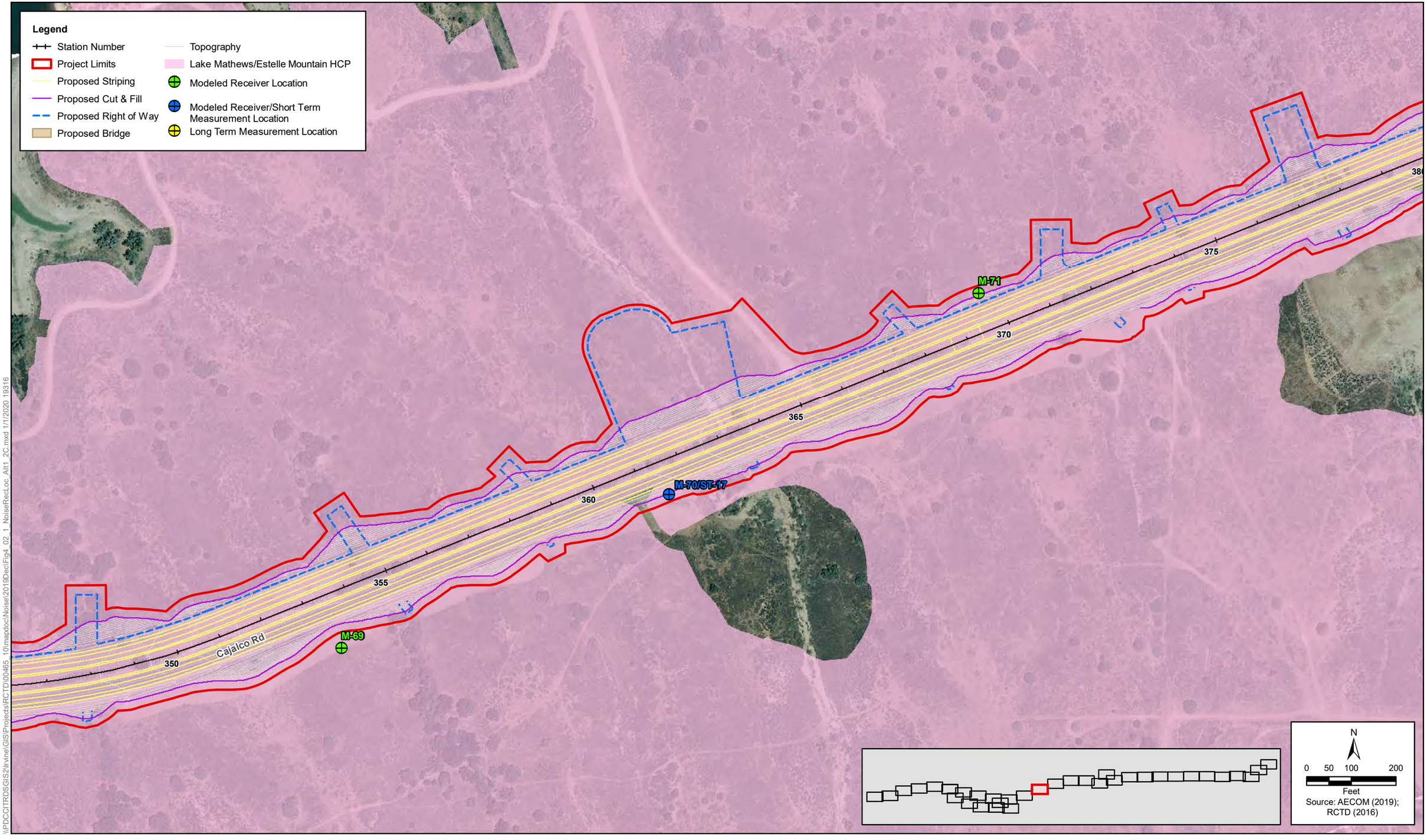

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Figure 4.2-1 - Sheet 19 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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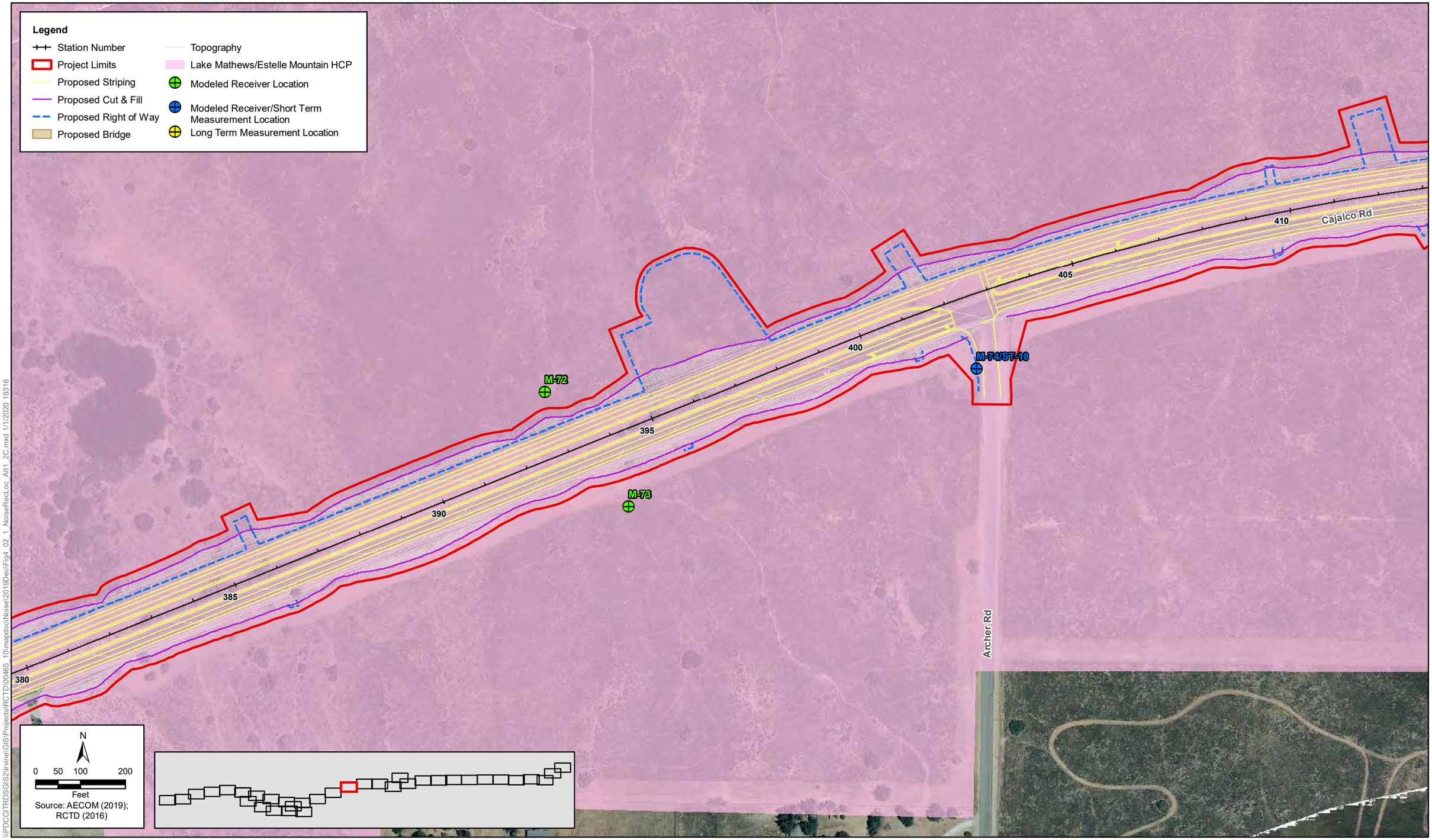

Figure 4.2-1 - Sheet 20 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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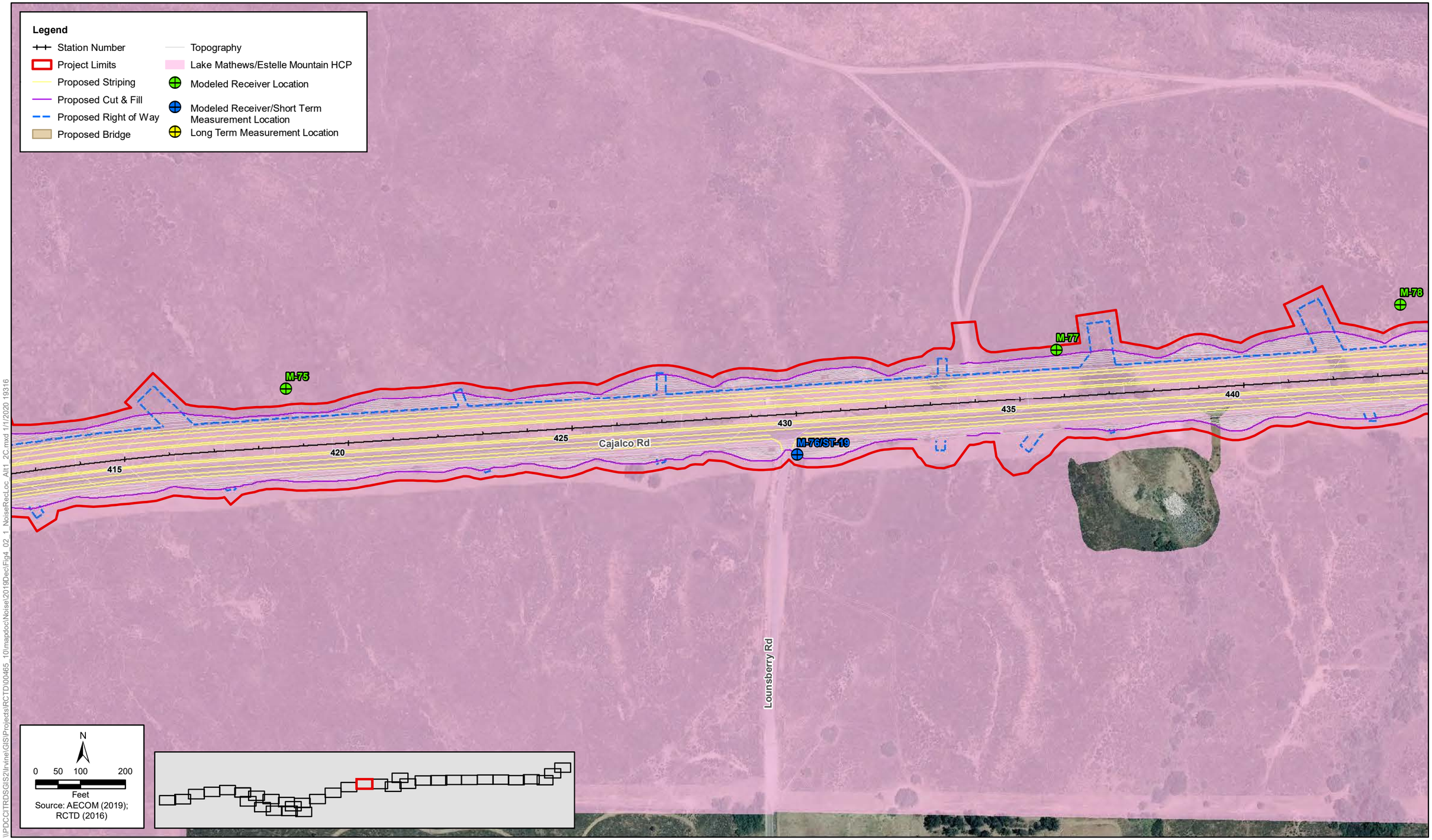

Figure 4.2-1 - Sheet 21 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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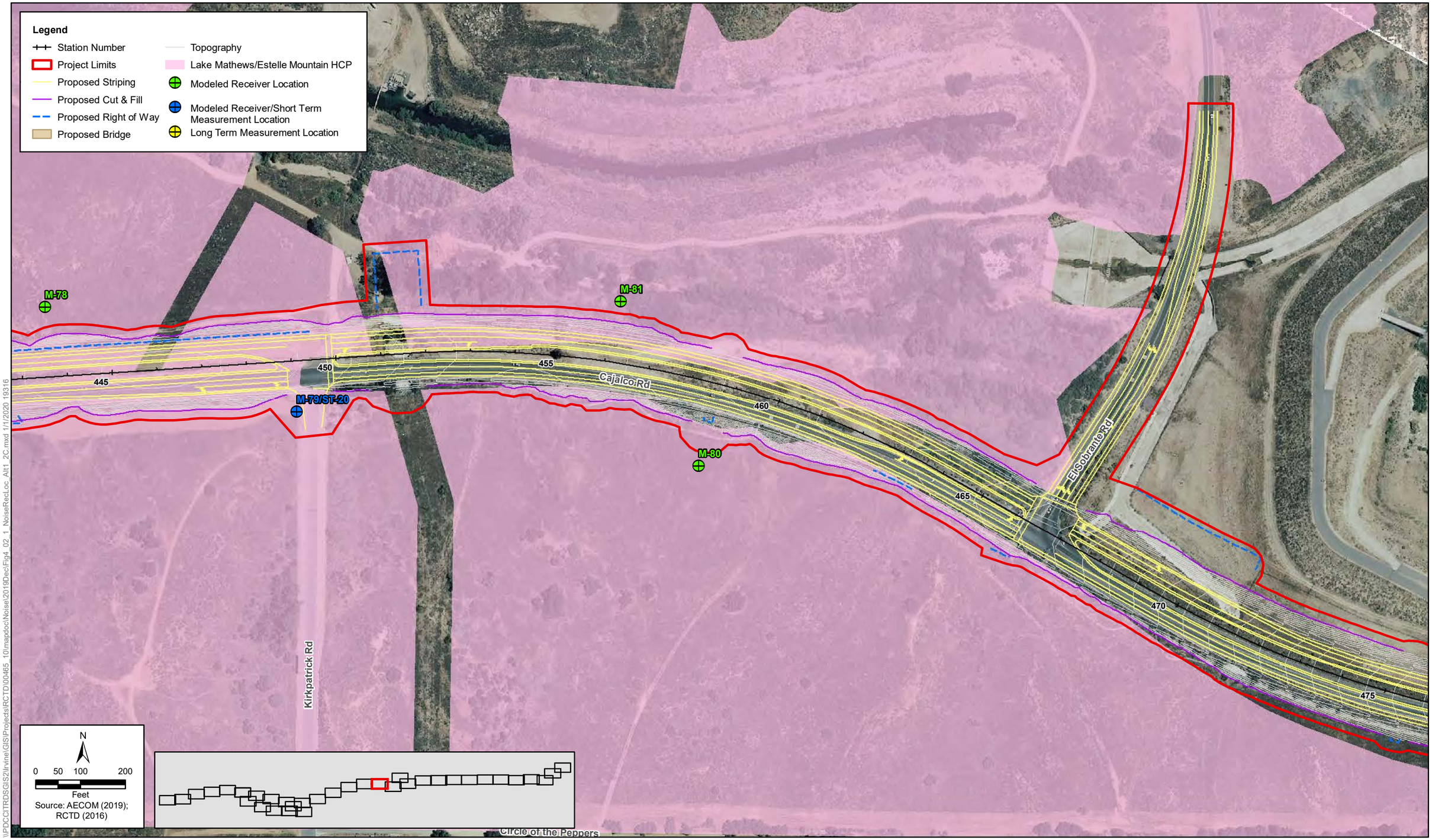

Figure 4.2-1 - Sheet 22 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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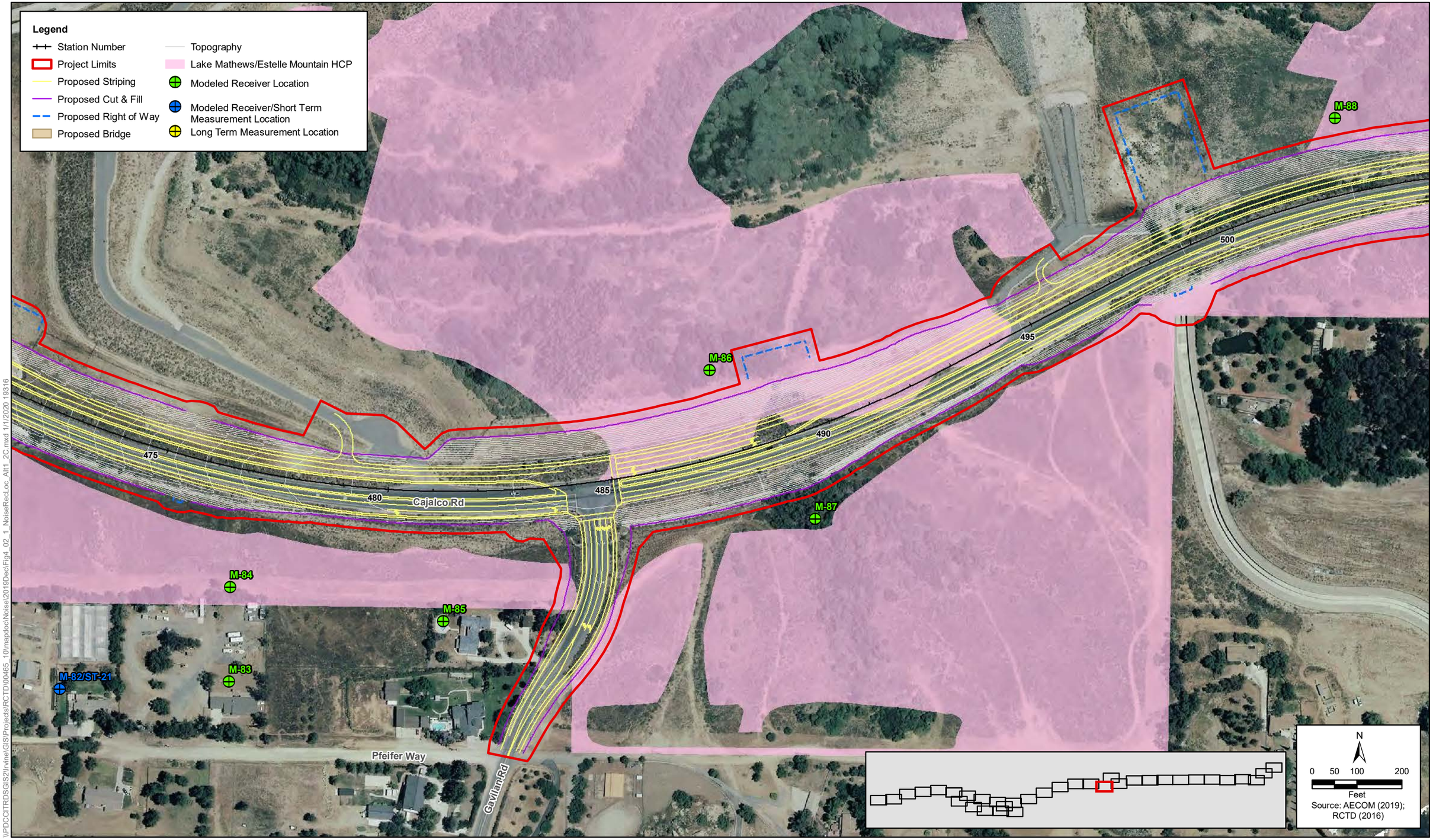

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Figure 4.2-1 - Sheet 23 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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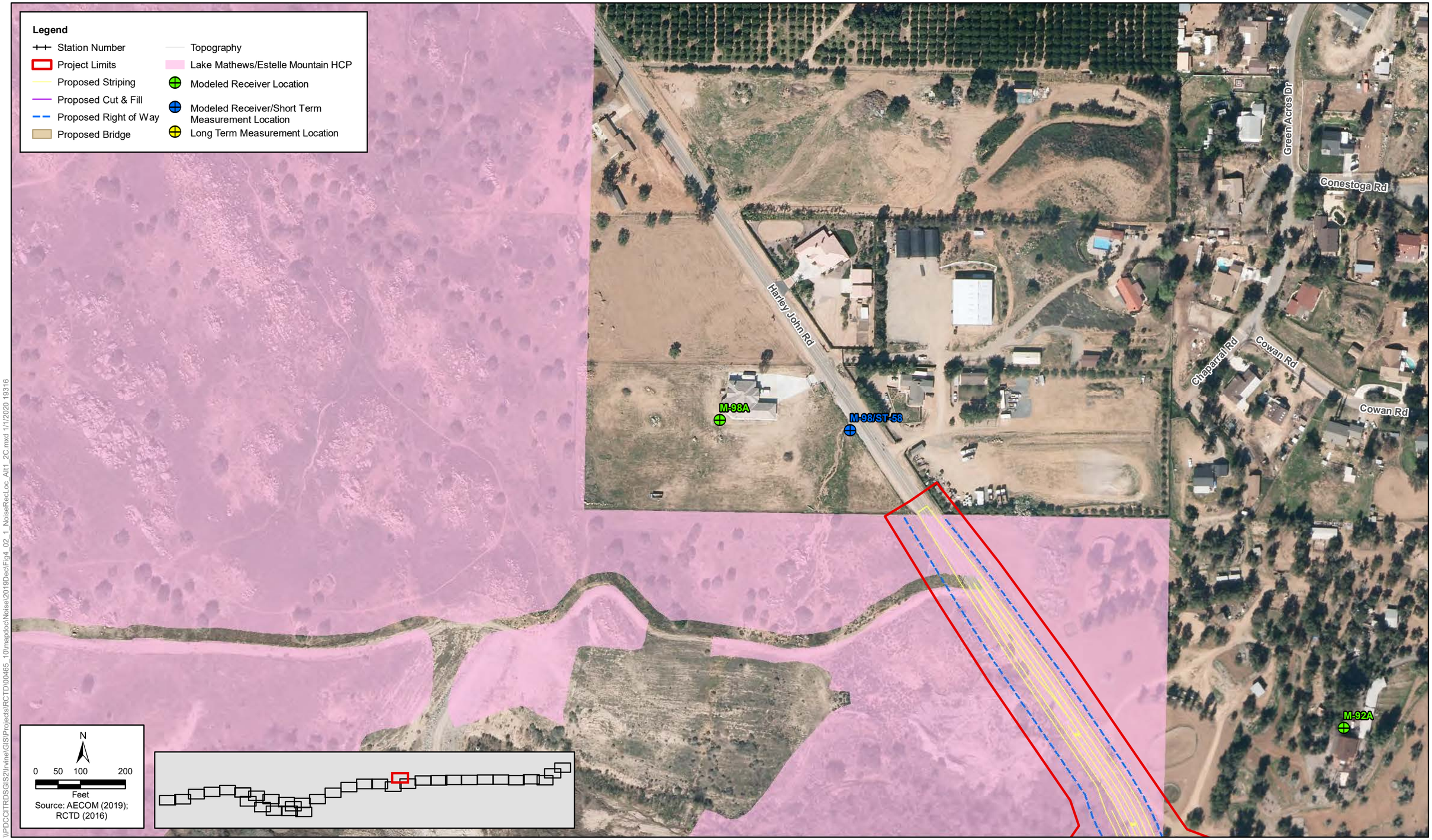

Figure 4.2-1 - Sheet 24 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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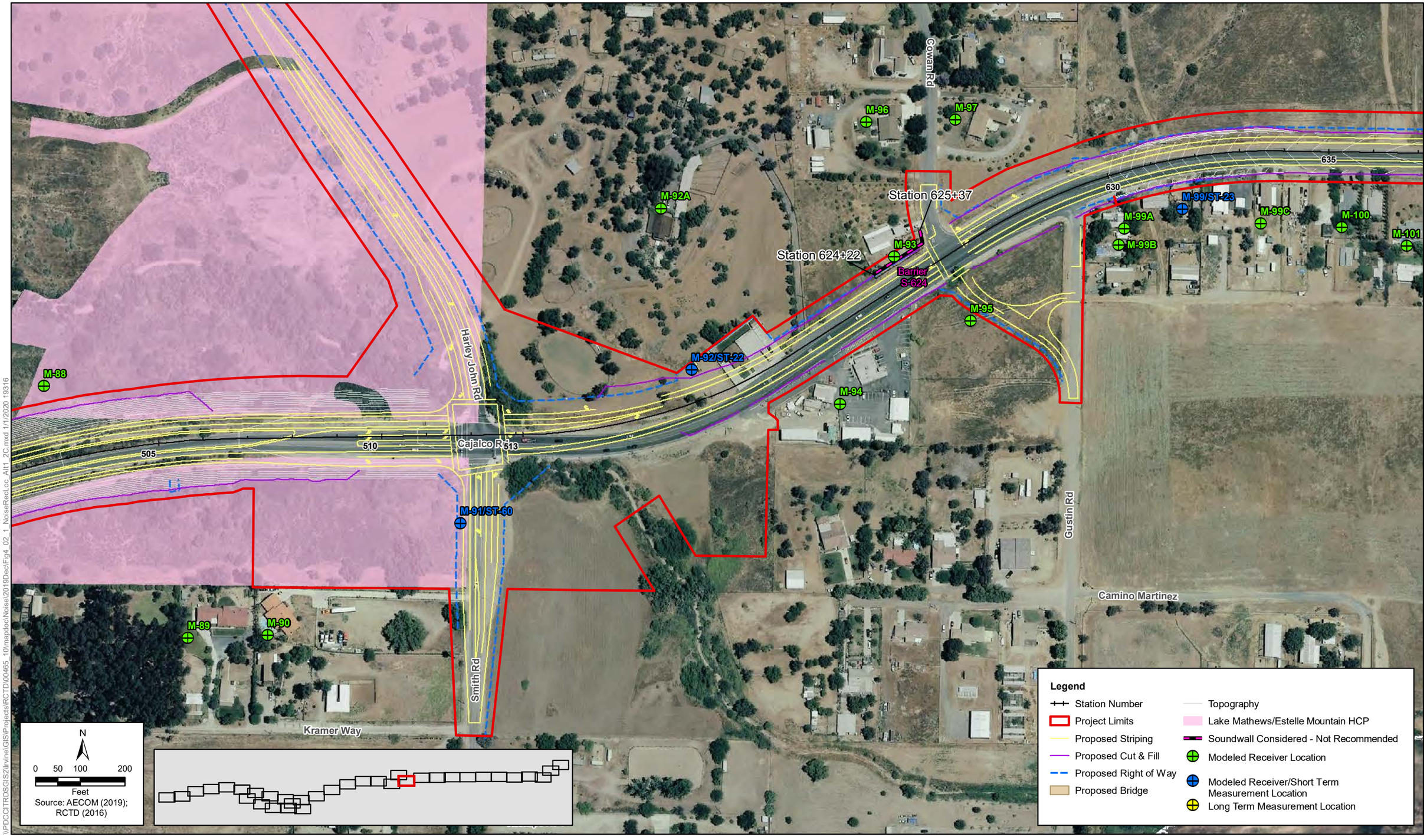

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Figure 4.2-1 - Sheet 25 of 36
Build Alternatives 1 and 2C
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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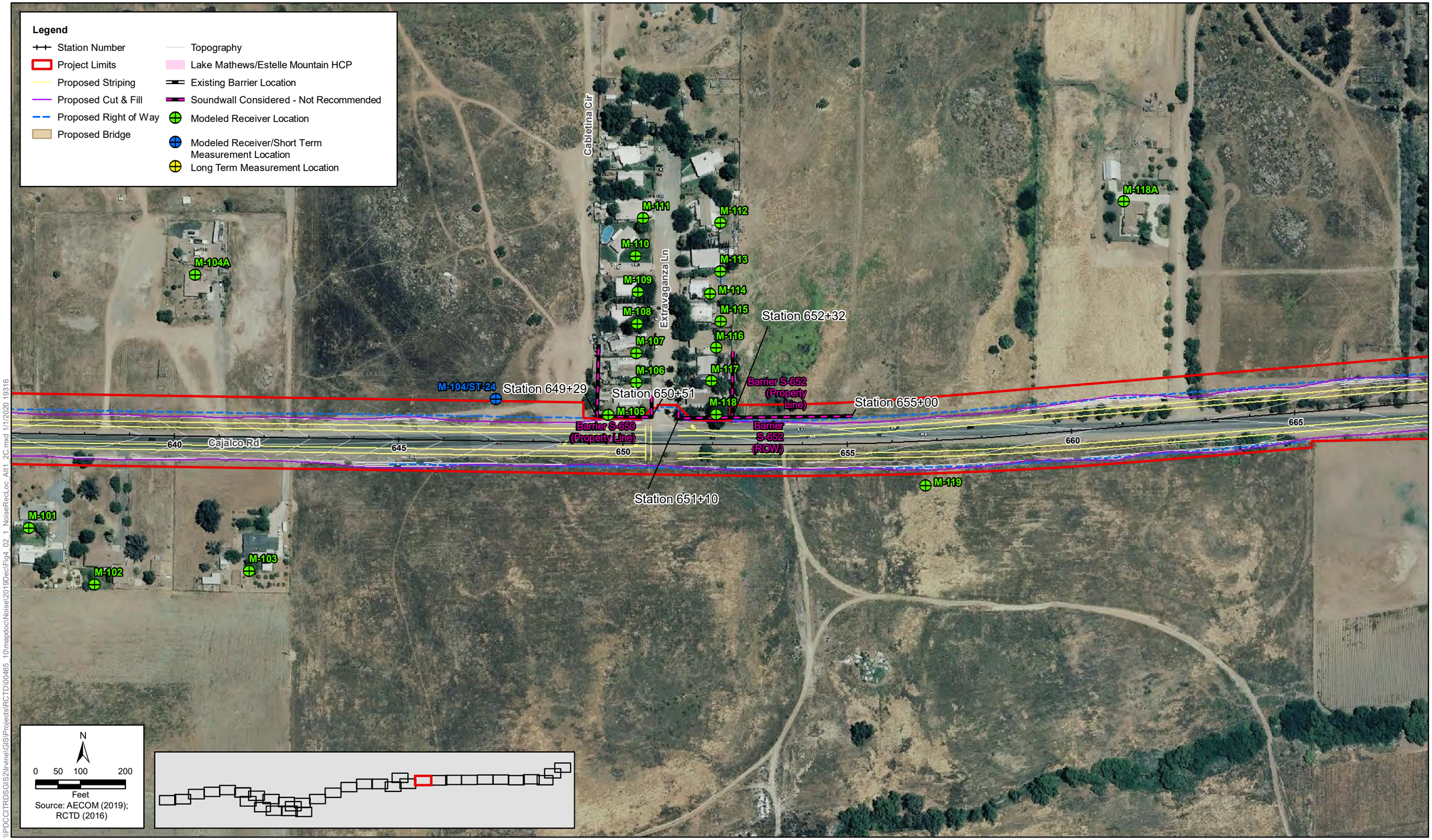

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Figure 4.2-1 - Sheet 26 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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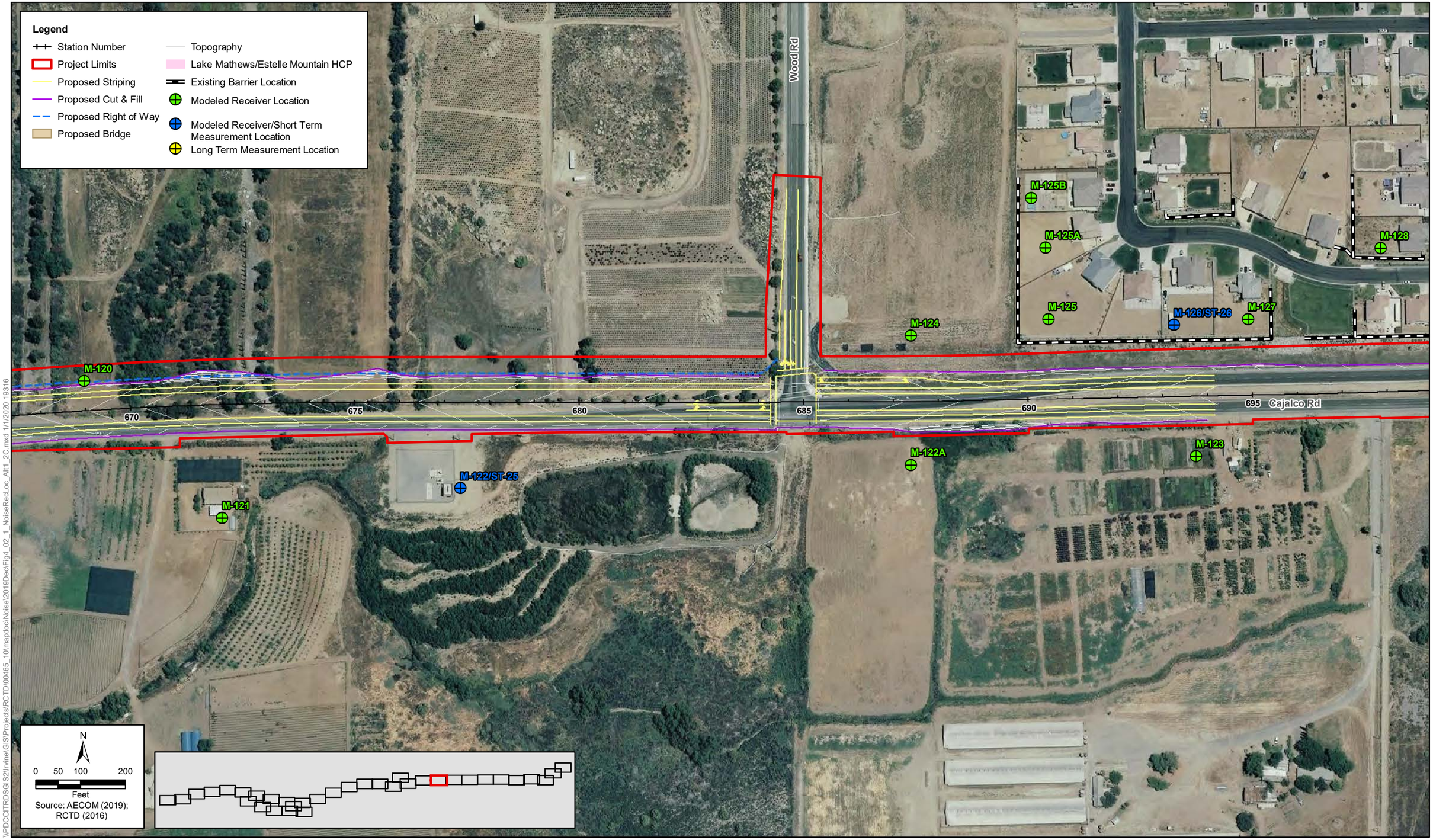

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Figure 4.2-1 - Sheet 27 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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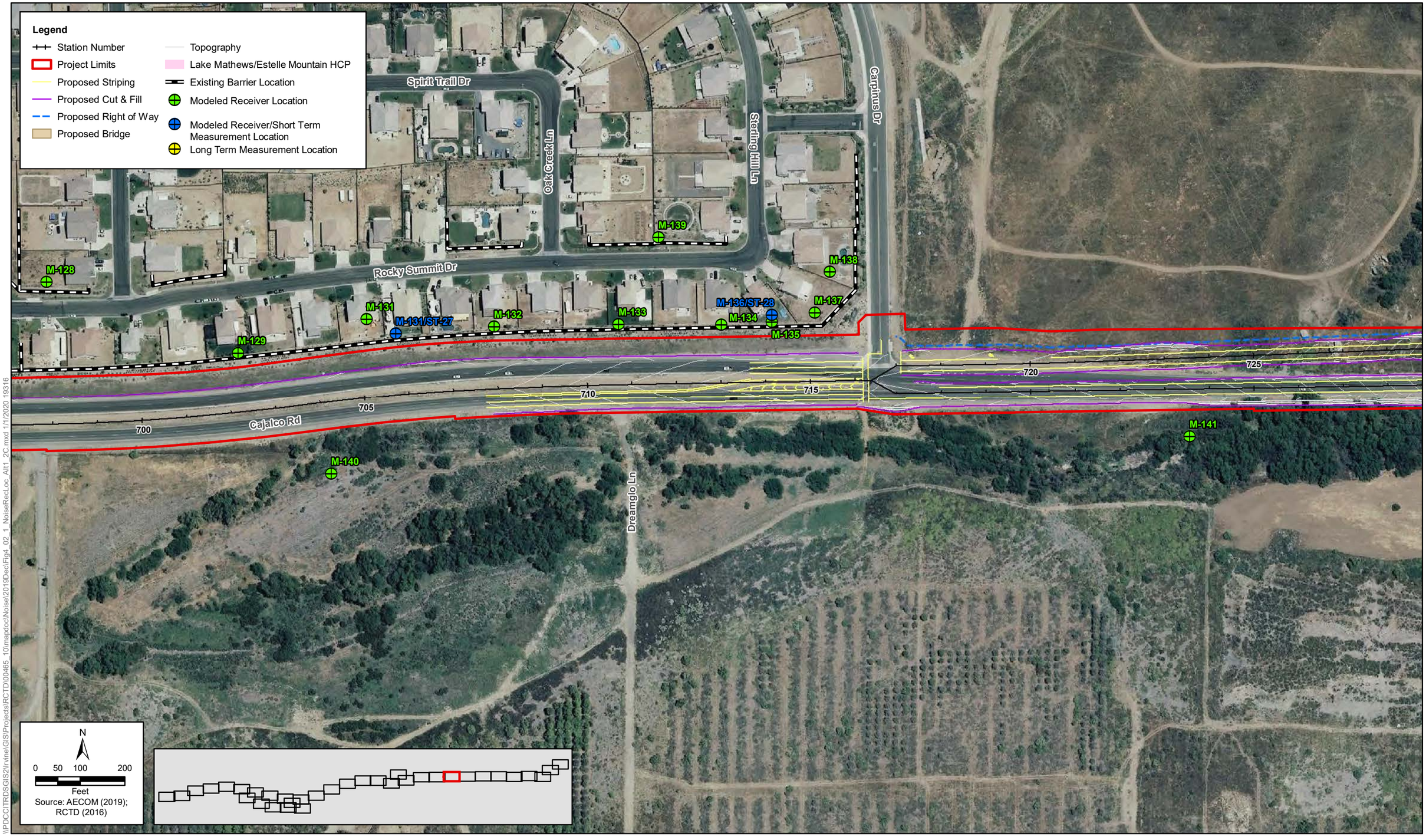

Figure 4.2-1 - Sheet 28 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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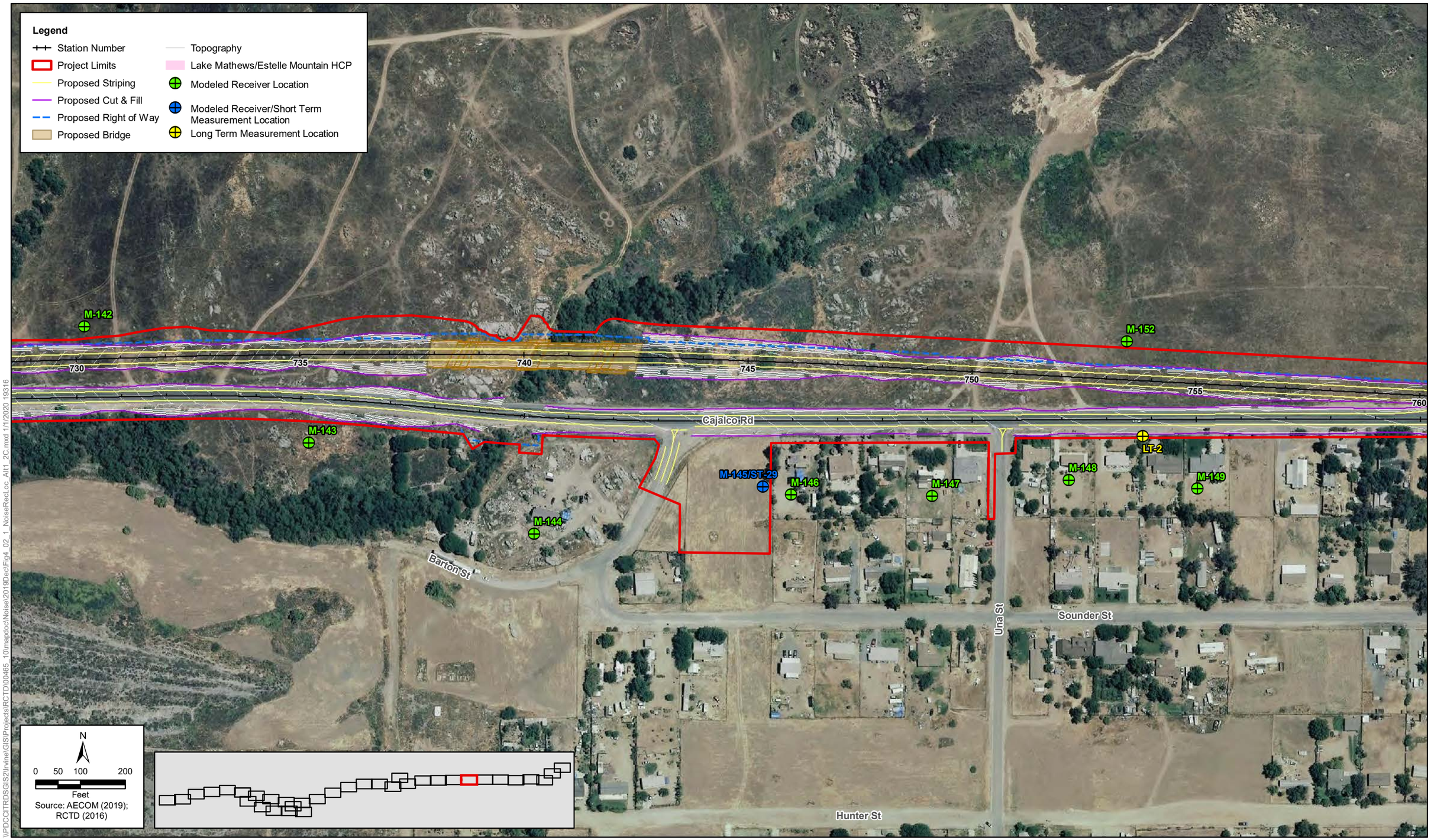

Figure 4.2-1 - Sheet 29 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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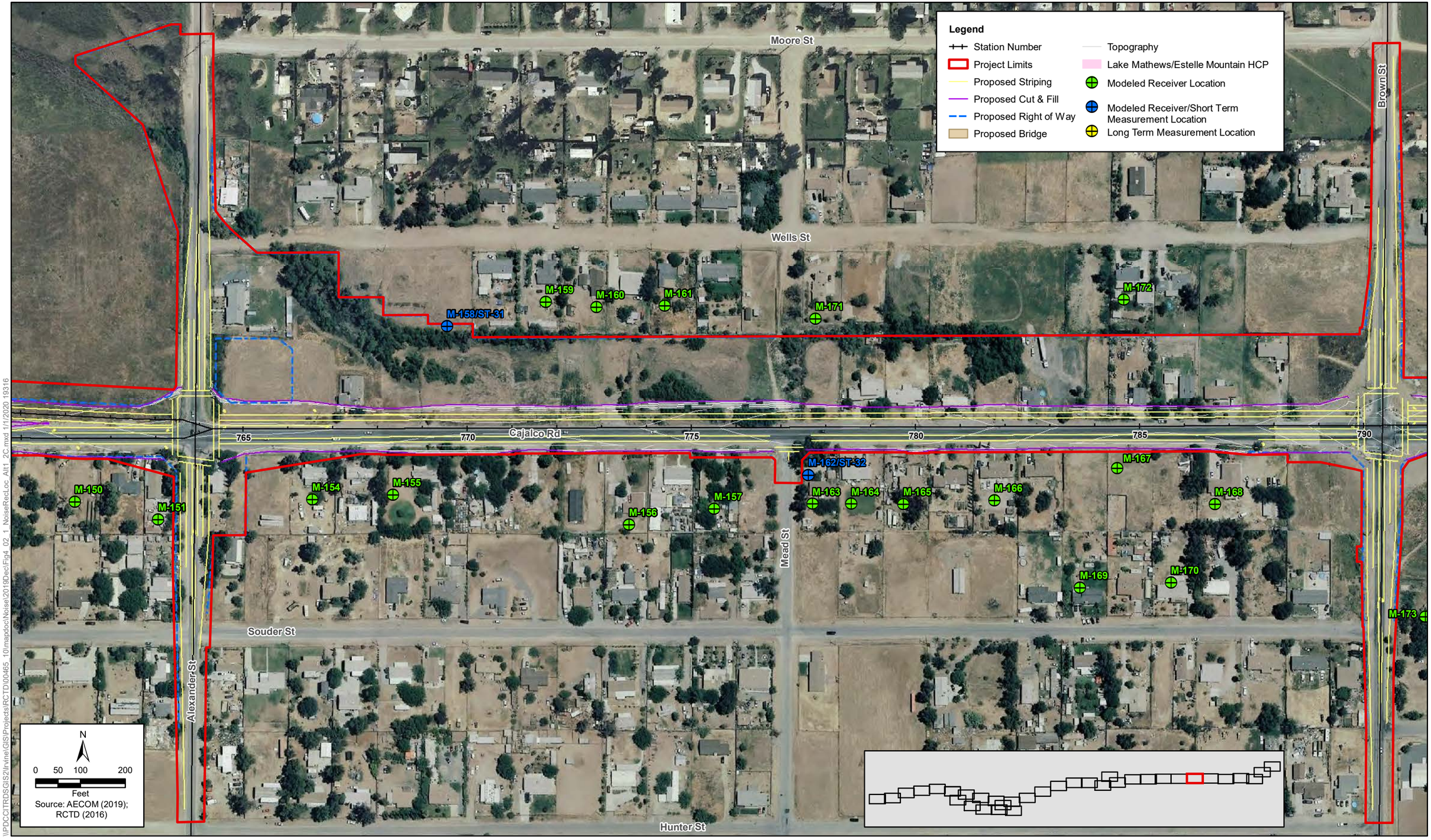

Figure 4.2-1 - Sheet 30 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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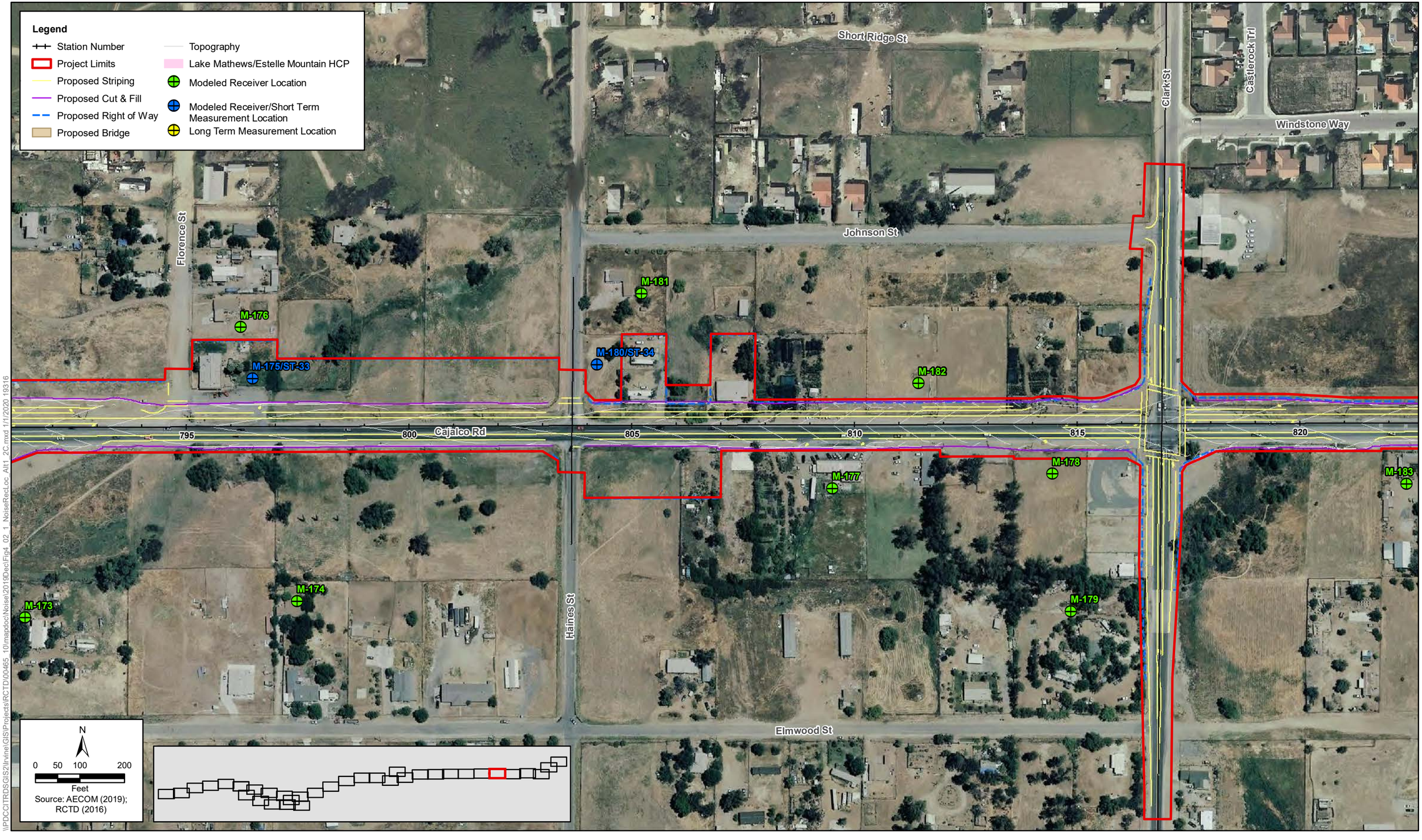

Figure 4.2-1 - Sheet 31 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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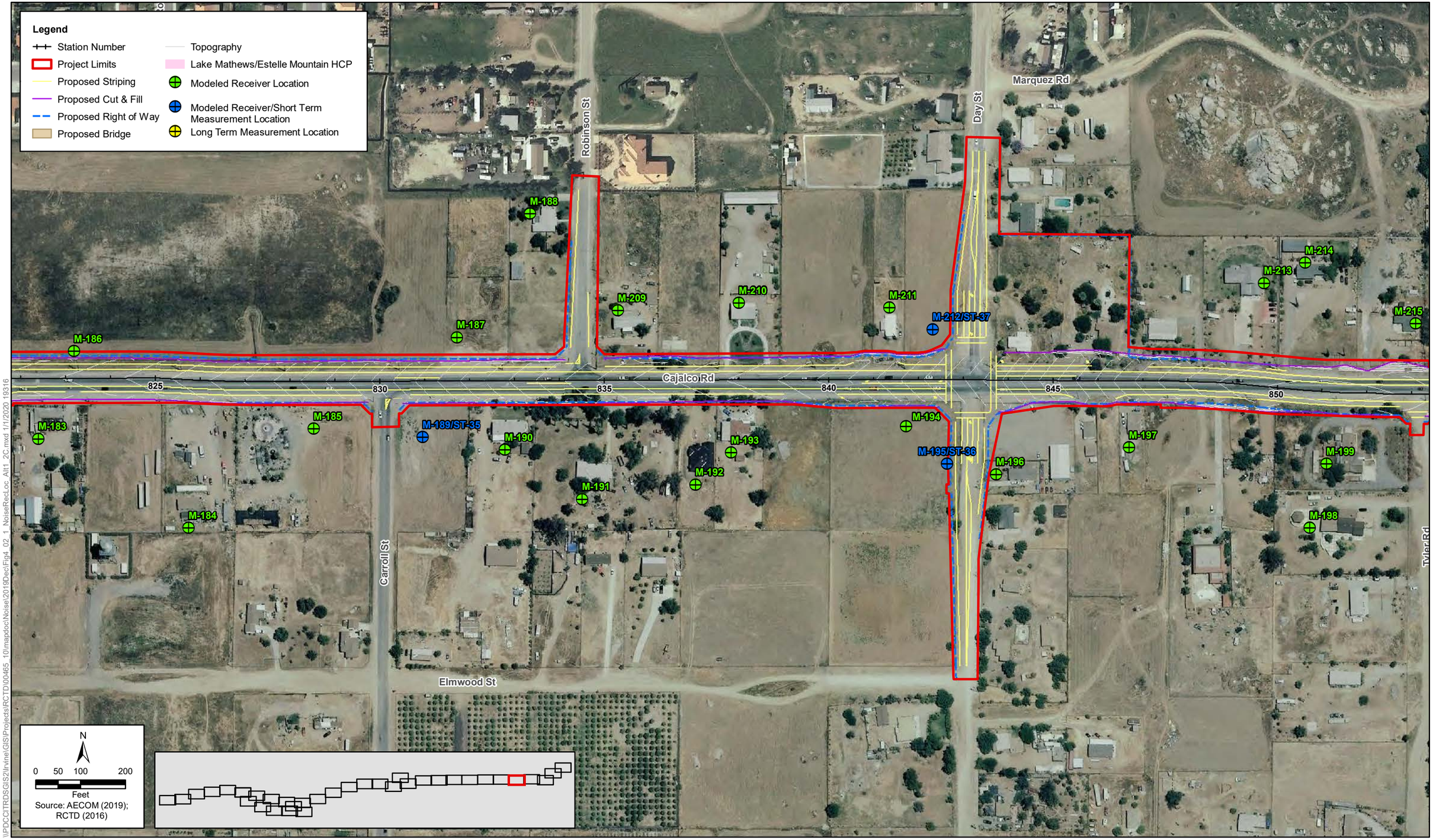

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Figure 4.2-1 - Sheet 32 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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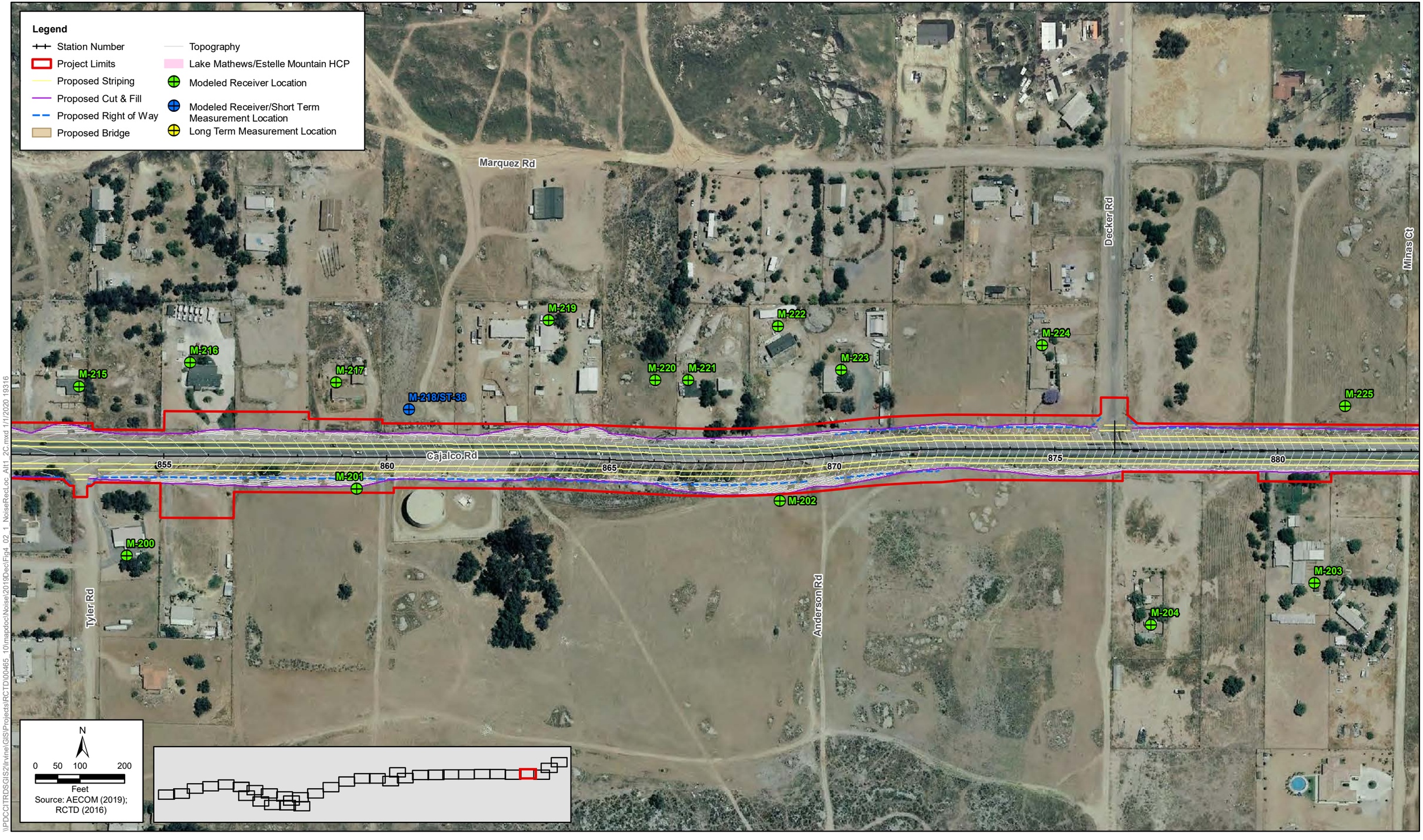

Figure 4.2-1 - Sheet 33 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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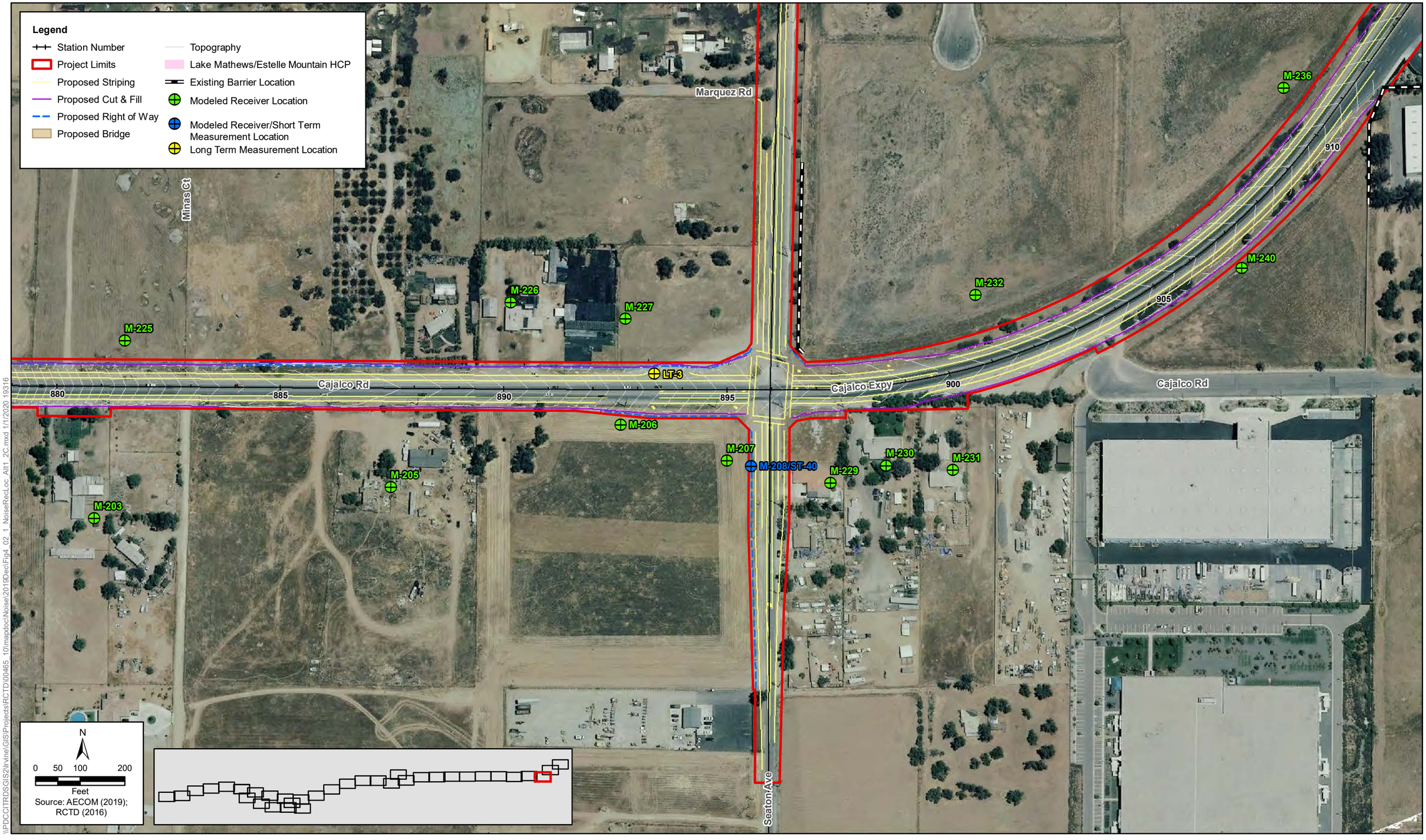

Figure 4.2-1 - Sheet 34 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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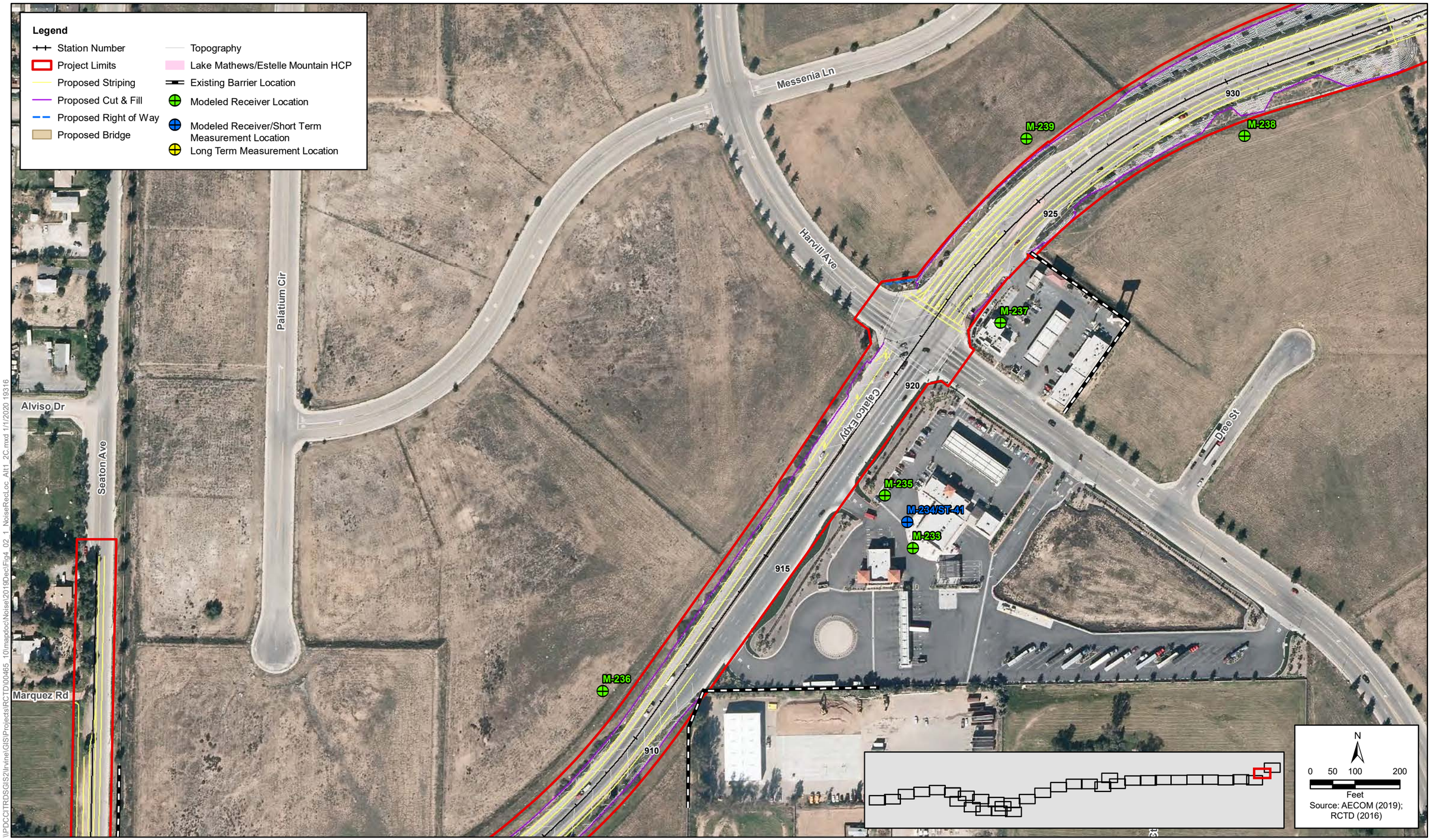

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Figure 4.2-1 - Sheet 35 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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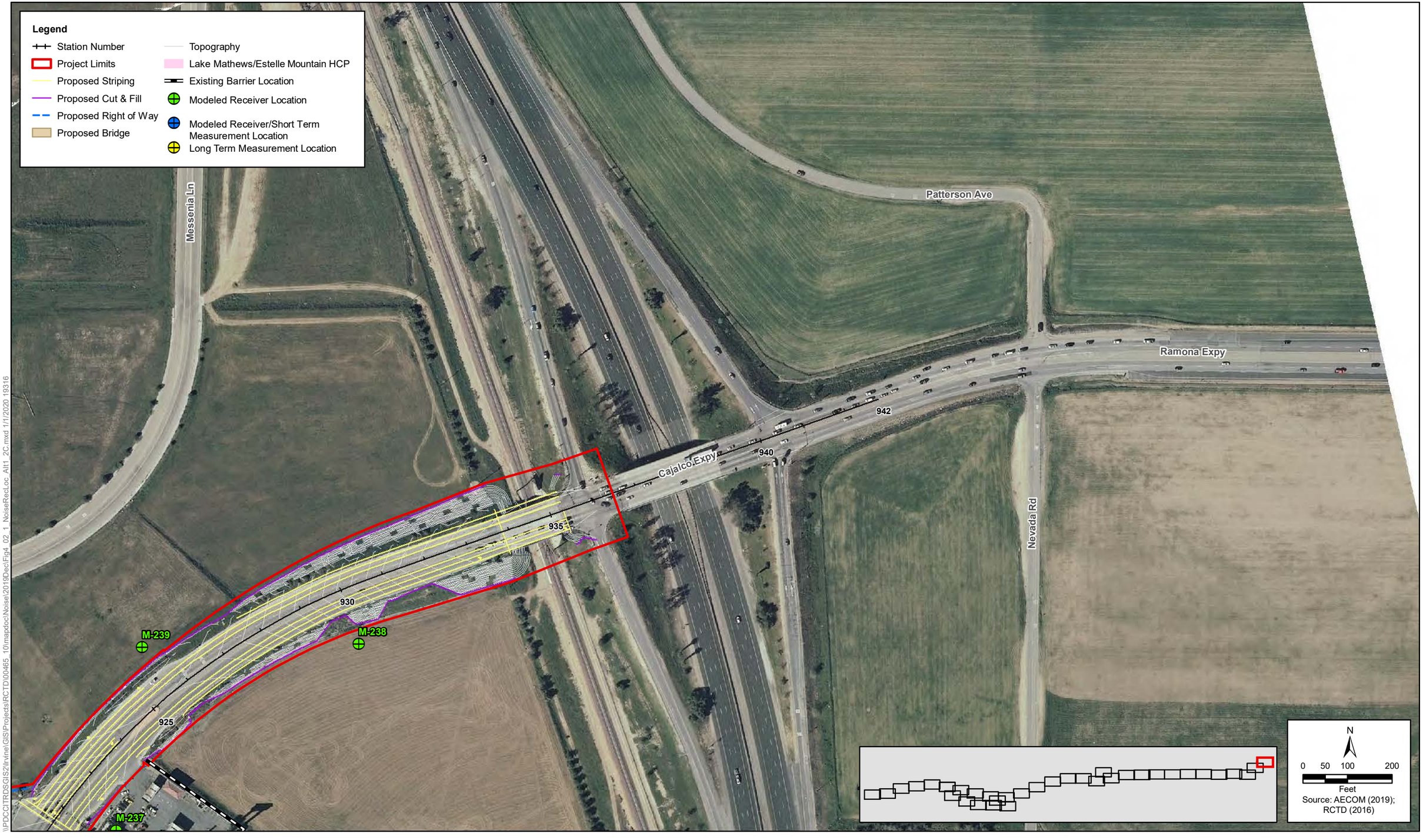

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Figure 4.2-1 - Sheet 36 of 36
Build Alternatives 1, 2C and 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
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Lake Mathews MSHCP (Build Alternatives 1 and 2C)

No Impact

The roadway modifications as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment would not result in any receivers approaching or exceeding the noise abatement criteria for residential land uses within the LM MSHCP area, including the LMR.

Build Alternative 4—El Sobrante Alignment

Potentially Significant Impact

The results of TNM traffic noise modeling were used to determine potential traffic impacts from Build Alternative 4 of the proposed project. The same methodology outlined for Build Alternatives 1 and 2C was used to identify impacts on noise-sensitive receptors within Build Alternative 4. Table 4.2-14 below shows CNEL traffic noise results and changes relative to the existing condition at noise-sensitive land uses for existing and design year for Build Alternative 4.

Table 4.2-14. Modeled Exterior Traffic Noise Levels – Build Alternative 4

	dBA CNEL		Change in the Noise level compared to existing (dB)	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
Receiver	**Existing**	**Build Alt 4**	**Build Alt 4**	**Existing**	**Build Alt 4**
M-4	55	59	4	No	No
M-5	59	63	4	No	No
M-6/ST-2	58	**63**	**5**	No	**Yes**
M-7	53	**61**	**8**	No	**Yes**
M-8	56	**64**	**8**	No	**Yes**
M-9	49	53	4	No	No
M-17A	49	**57**	**8**	No	**Yes**
M-93	**69**	**76**	**7**	**Yes**	**Yes**
M-96	52	**58**	**6**	No	**Yes**
M-97	54	**61**	**7**	No	**Yes**
M-98A	49	**63**	**14**	No	**Yes**
M-99/ST-23	61	**67**	**6**	No	**Yes**
M-99A	49	**58**	**9**	No	**Yes**
M-99B	53	**60**	**7**	No	**Yes**
M-99C	52	**58**	**6**	No	**Yes**
M-100	53	**58**	**5**	No	**Yes**
M-101	44	**50**	**6**	No	**Yes**
M-102	49	**54**	**5**	No	**Yes**

Receiver	dBA CNEL		Change in the Noise level compared to existing (dB)	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Build Alt 4	Build Alt 4	Existing	Build Alt 4
M-103	54	**60**	**6**	No	**Yes**
M-104A	51	**60**	**9**	No	**Yes**
M-105	**71**	**76**	**5**	**Yes**	**Yes**
M-106	**62**	**68**	**6**	No	**Yes**
M-107	58	**64**	**6**	No	**Yes**
M-108	54	**62**	**8**	No	**Yes**
M-109	51	**58**	**7**	No	**Yes**
M-110	50	**58**	**8**	No	**Yes**
M-111	47	**54**	**7**	No	**Yes**
M-112	47	**53**	**6**	No	**Yes**
M-113	51	**58**	**7**	No	**Yes**
M-114	52	**59**	**7**	No	**Yes**
M-115	55	**62**	**7**	No	**Yes**
M-116	58	**63**	**5**	No	**Yes**
M-117	**62**	**66**	**4**	No	**Yes**
M-118	**68**	**71**	**3**	**Yes**	**Yes**
M-118A	50	**57**	**7**	No	**Yes**
M-121	59	63	4	No	No
M-125	53	57	4	No	No
M-125A	49	52	3	No	No
M-125B	47	50	3	No	No
M-126/ST-26	55	58	3	No	No
M-127	54	57	3	No	No
M-128	46	50	4	No	No
M-129	59	62	3	No	No
M-131/ST-27	59	62	3	No	No
M-131A	56	58	2	No	No
M-132	59	62	3	No	No
M-133	59	62	3	No	No
M-134	58	61	3	No	No
M-135	58	62	4	No	No
M-136	58	61	3	No	No
M-137	55	59	4	No	No
M-138	52	55	3	No	No
M-139	46	49	3	No	No
M-144	53	54	1	No	No
M-146	62	62	0	No	No

Receiver	dBA CNEL		Change in the Noise level compared to existing (dB)	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Build Alt 4	Build Alt 4	Existing	Build Alt 4
M-147	55	56	1	No	No
M-148	58	59	1	No	No
M-149	59	60	1	No	No
M-150	57	59	2	No	No
M-151	61	65	4	No	No
M-154	59	63	4	No	No
M-155	61	63	2	No	No
M-156	52	55	3	No	No
M-157	**60**	**65**	**5**	No	**Yes**
M-159	52	**60**	**8**	No	**Yes**
M-160	52	**59**	**7**	No	**Yes**
M-161	52	**60**	**8**	No	**Yes**
M-162	62	65	3	No	No
M-163	55	59	4	No	No
M-164	55	59	4	No	No
M-165	53	57	4	No	No
M-166	57	61	4	No	No
M-168	56	60	4	No	No
M-169	53	**59**	**6**	No	**Yes**
M-170	54	**60**	**6**	No	**Yes**
M-171	51	**58**	**7**	No	**Yes**
M-172	53	**62**	**9**	No	**Yes**
M-173	57	**62**	**5**	No	**Yes**
M-174	53	**60**	**7**	No	**Yes**
M-176	55	**64**	**9**	No	**Yes**
M-179	55	**60**	**5**	No	**Yes**
M-181	53	**61**	**8**	No	**Yes**
M-184	53	57	4	No	No
M-188	50	**55**	**5**	No	**Yes**
M-190	57	59	2	No	No
M-191	53	55	2	No	No
M-192	54	56	2	No	No
M-193	59	63	4	No	No
M-196	**60**	**63**	**3**	No	**Yes**
M-197	59	62	3	No	No
M-198	**54**	**64**	**10**	No	**Yes**
M-199	61	65	4	No	No

Receiver	dBA CNEL		Change in the Noise level compared to existing (dB)	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Build Alt 4	Build Alt 4	Existing	Build Alt 4
M-200	53	55	2	No	No
M-203	54	58	4	No	No
M-204	53	55	2	No	No
M-205	59	62	3	No	No
M-209	57	60	3	No	No
M-210	55	59	4	No	No
M-211	**60**	**63**	**3**	No	**Yes**
M-213	55	59	4	No	No
M-214	49	51	2	No	No
M-215	**60**	**63**	**3**	No	**Yes**
M-216	50	52	2	No	No
M-217	56	60	4	No	No
M-219	53	56	3	No	No
M-221	56	56	0	No	No
M-222	52	56	4	No	No
M-223	59	63	4	No	No
M-224	55	**60**	**5**	No	**Yes**
M-226	54	**60**	**6**	No	**Yes**
M-229	61	63	2	No	No
M-230	57	60	3	No	No
M-231	58	62	4	No	No
M-258	57	62	5	No	No
M-259	47	**53**	**6**	No	**Yes**
M-260/ST-45	59	**64**	**5**	No	**Yes**
M-261	59	**64**	**5**	No	**Yes**
M-262	59	**64**	**5**	No	**Yes**
M-263	60	**64**	**4**	No	**Yes**
M-264	58	**63**	**5**	No	**Yes**
M-265	60	64	4	No	No
M-266	60	64	4	No	No
M-267	59	**64**	**5**	No	**Yes**
M-268	59	**64**	**5**	No	**Yes**
M-269	58	62	4	No	No
M-270/ST-46	58	62	4	No	No
M-271	57	**62**	**5**	No	**Yes**
M-272	58	**63**	**5**	No	**Yes**
M-273	54	58	4	No	No

Receiver	dBA CNEL		Change in the Noise level compared to existing (dB)	Would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?	
	Existing	Build Alt 4	Build Alt 4	Existing	Build Alt 4
M-274	54	58	4	No	No
M-275/ST-47	53	**58**	**5**	No	**Yes**
M-276	59	**64**	**5**	No	**Yes**
M-277	59	**64**	**5**	No	**Yes**
M-278	58	**63**	**5**	No	**Yes**
M-279	59	**64**	**5**	No	**Yes**
M-280/ST-48	59	**65**	**6**	No	**Yes**
M-281	55	**61**	**6**	No	**Yes**
M-282	52	**59**	**7**	No	**Yes**
M-286	49	**59**	**10**	No	**Yes**
M-287	51	**58**	**7**	No	**Yes**
M-292	50	**58**	**8**	No	**Yes**
M-294	38	**44**	**6**	No	**Yes**
M-295	40	**47**	**7**	No	**Yes**
M-298	45	**54**	**9**	No	**Yes**
M-299	49	**58**	**9**	No	**Yes**
M-301	49	**55**	**6**	No	**Yes**
M-302	54	**62**	**8**	No	**Yes**
M-309	49	**56**	**7**	No	**Yes**
M-310/ST-54	48	**53**	**5**	No	**Yes**
M-311	49	**54**	**5**	No	**Yes**
M-312	53	54	1	No	No
M-313	49	51	2	No	No
M-315	47	**53**	**6**	No	**Yes**
M-316/ST-55	44	**49**	**5**	No	**Yes**
M-319/ST-56	57	59	2	No	No

Note: **Bold** noise level indicates that County of Riverside's 65 dBA CNEL planning standard for residential land use is exceeded by 1.5 dB or that an increase of 3 dB or 5 dB was expected due to the project.

Table 4.2-14 indicates that traffic noise levels would increase by 1.5 dB or more at three noise-sensitive receivers (M-93, M-105, and M-118) that exceed the County's 65-dBA CNEL level under the existing condition. As these three receivers exceed the 65-dBA CNEL level under the existing condition, it is assumed that the 45-dBA CNEL (interior) level would also be exceeded. Based on the Caltrans Technical Noise Supplement, a light frame building with windows closed would result in a 20-dB exterior to interior transmission loss from the building shell; while this reduction would be substantial, it is assumed that the 45-dBA CNEL (interior) level would still be exceeded for these receivers.

Additionally, three modeled receivers (M-99, M-106, and M-117, with existing noise levels of 61, 62, and 62 dBA CNEL under the existing condition, respectively) are predicted to increase by 3 dB or more. A total of 78 other modeled receivers are predicted to experience increases of 5 dB during the design year (relative to the existing noise level). Figure 4.2-3 shows the location of modeled noise-sensitive receivers throughout Build Alternative 4. Without mitigation, future noise levels in the project area are predicted to exceed the County 65-dBA and 45-dBA CNEL exterior and interior sound levels and the FICON noise level increases (3 and 5 dB) under Build Alternative 4.

Table 4.2-15. Traffic Noise Results after Mitigation (Build Alternative 4)

Receiver	dBA CNEL		Change in Noise Level Compared to Existing (dB)	Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)	After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?
	Existing	Alt 4	Alt 4	--	Alt 4	Alt 4
M-6/ST-2	58	63	5	5	58 [0]	No
M-7	53	61	8	5	56 [3]	No
M-8	56	64	8	5	59 [3]	No
M-17A	49	57	8	5	52 [3]	No
M-93	**69**	**76**	**7**	**5**	**71 [2]**	**Yes**
M-96	52	58	6	5	53 [1]	No
M-97	54	61	7	5	56 [2]	No
M-98A	49	**63**	**14**	**5**	**58 [9]**	**Yes**
M-99/ST-23	61	67	6	5	62 [1]	No
M-99A	49	58	9	5	53 [4]	No
M-99B	53	60	7	5	55 [2]	No
M-99C	52	58	6	5	53 [1]	No
M-100	53	58	5	5	53 [0]	No
M-101	44	50	6	5	45 [1]	No
M-102	49	54	5	5	49 [0]	No
M-103	54	60	6	5	55 [0]	No
M-104A	51	60	9	5	55 [4]	No
M-105	71	76	5	5	71 [0]	No
M-106	62	68	6	5	63 [1]	No
M-107	58	64	6	5	59 [1]	No
M-108	54	62	8	5	57 [3]	No
M-109	51	58	7	5	53 [2]	No
M-110	50	58	8	5	53 [3]	No
M-111	47	54	7	5	49 [2]	No

Receiver	dBA CNEL		Change in Noise Level Compared to Existing (dB)	Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)	After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?
	Existing	Alt 4	Alt 4	--	Alt 4	Alt 4
M-112	47	53	6	5	48 [1]	No
M-113	51	58	7	5	53 [2]	No
M-114	52	59	7	5	54 [2]	No
M-115	55	62	7	5	57 [2]	No
M-116	58	63	5	5	58 [0]	No
M-117	62	66	4	5	61 [-1]	No
M-118	68	71	3	5	66 [-2]	No
M-118A	50	57	7	5	52 [2]	No
M-157	60	65	5	5	60 [0]	No
M-159	52	60	8	5	55 [3]	No
M-160	52	59	7	5	54 [2]	No
M-161	52	60	8	5	55 [3]	No
M-169	53	59	6	5	54 [1]	No
M-170	54	60	6	5	55 [1]	No
M-171	51	58	7	5	52 [2]	No
M-172	53	62	9	5	57 [4]	No
M-173	57	62	5	5	57 [0]	No
M-174	53	60	7	5	55 [2]	No
M-176	55	64	9	5	55 [4]	No
M-179	55	60	5	5	55 [0]	No
M-181	53	61	8	5	56 [3]	No
M-188	50	55	5	5	50 [0]	No
M-196	60	63	3	5	58 [-2]	No
M-198	54	57	3	5	52 [-2]	No
M-199	61	65	4	5	60 [-1]	No

Receiver	dBA CNEL		Change in Noise Level Compared to Existing (dB)	Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)	After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?
	Existing	Alt 4	Alt 4	--	Alt 4	Alt 4
M-211	60	63	3	5	58 [-2]	No
M-215	60	63	3	5	58 [-2]	No
M-224	55	60	5	5	55 [0]	No
M-226	54	60	6	5	55 [1]	No
M-259	47	53	6	5	48 [1]	No
M-260/ST-45	59	64	5	5	59 [0]	No
M-261	59	64	5	5	59 [0]	No
M-262	59	64	5	5	59 [0]	No
M-263	60	64	4	5	59 [-1]	No
M-264	58	63	5	5	58 [0]	No
M-267	59	64	5	5	59 [0]	No
M-268	59	64	5	5	59 [0]	No
M-271	57	62	5	5	57 [0]	No
M-272	58	63	5	5	58 [0]	No
M-275/ST-47	53	58	5	5	53 [0]	No
M-276	59	64	5	5	59 [0]	No
M-277	59	64	5	5	59 [0]	No
M-278	58	63	5	5	58 [0]	No
M-279	59	64	5	5	59 [0]	No
M-280/ST-48	59	65	6	5	60 [1]	No
M-281	55	61	6	5	56 [1]	No
M-282	52	59	7	5	54 [2]	No
M-287	51	58	7	5	53 [2]	No
M-292	50	58	8	5	53 [3]	No
M-294	38	44	6	5	39 [1]	No

Receiver	dBA CNEL		Change in Noise Level Compared to Existing (dB)	Noise Reduction Provided by Rubberized Asphalt (dB)	After Mitigation Traffic Noise Level [Mitigated Change in Noise Level] (dB CNEL)	After mitigation, would the project result in an increase that would exceed 1.5 dB over the 65/45 dBA (Exterior/Interior) CNEL standard, 3 dB between 60 to 65 CNEL, or 5 dB at any noise level?
	Existing	Alt 4	Alt 4	--	Alt 4	Alt 4
M-295	40	47	7	5	42 [2]	No
M-298	45	54	9	5	49 [4]	No
M-299	49	58	9	5	53 [4]	No
M-301	49	55	6	5	50 [1]	No
M-302	54	62	8	5	57 [3]	No
M-309	49	56	7	5	51 [2]	No
M-310/ST-54	48	53	5	5	48 [0]	No
M-311	49	54	5	5	49 [0]	No
M-315	47	53	6	5	48 [1]	No
M-316/ST-55	44	49	5	5	44 [0]	No

Note: **Bold** noise level indicates that County of Riverside's 65-dBA CNEL planning standard for residential land use is exceeded by 1.5 dB or that an increase of 3 dB or 5 dB was expected due to the project after mitigation.

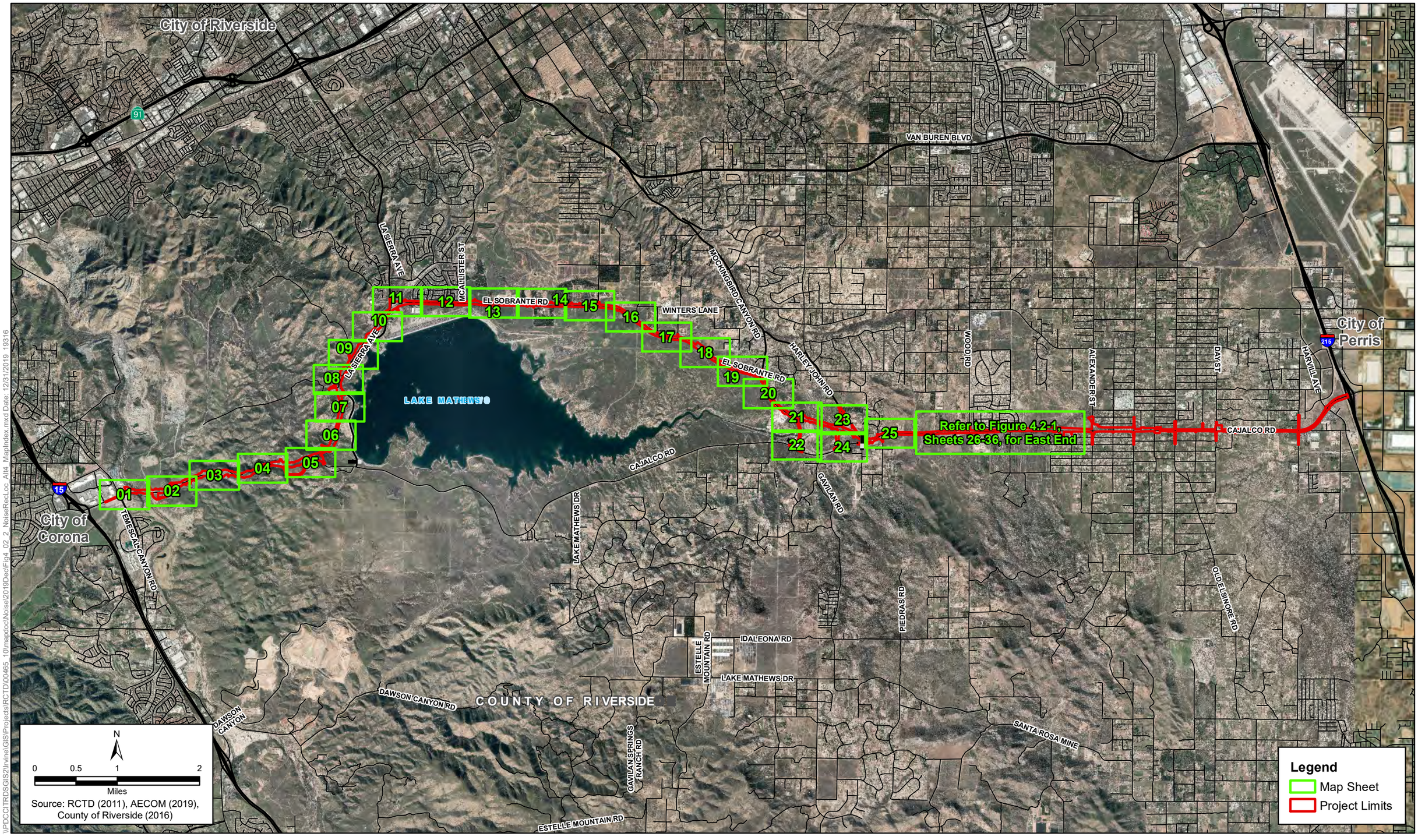

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Figure 4.2-2 - Map Index
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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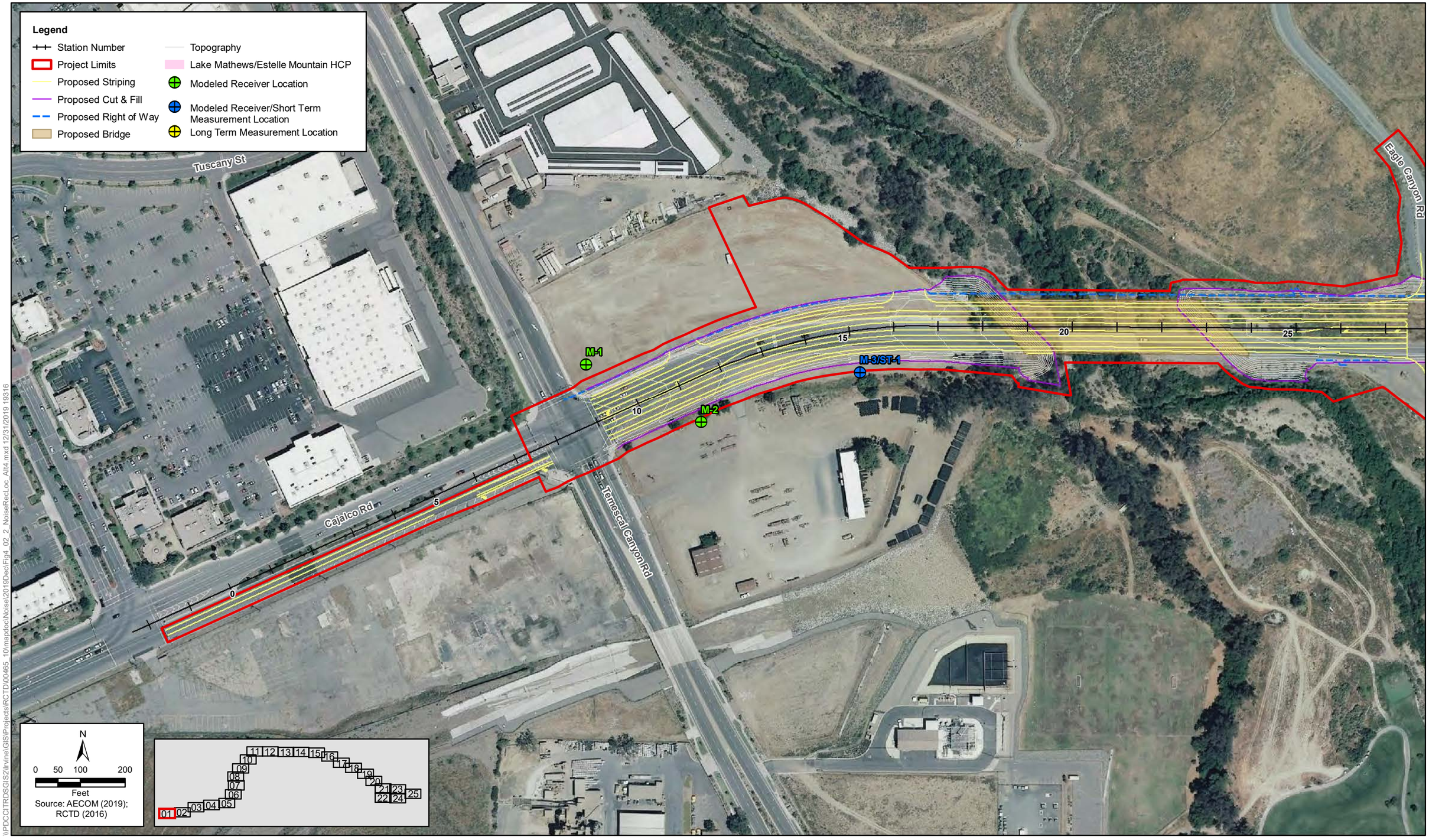

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Figure 4.2-2- Sheet 1 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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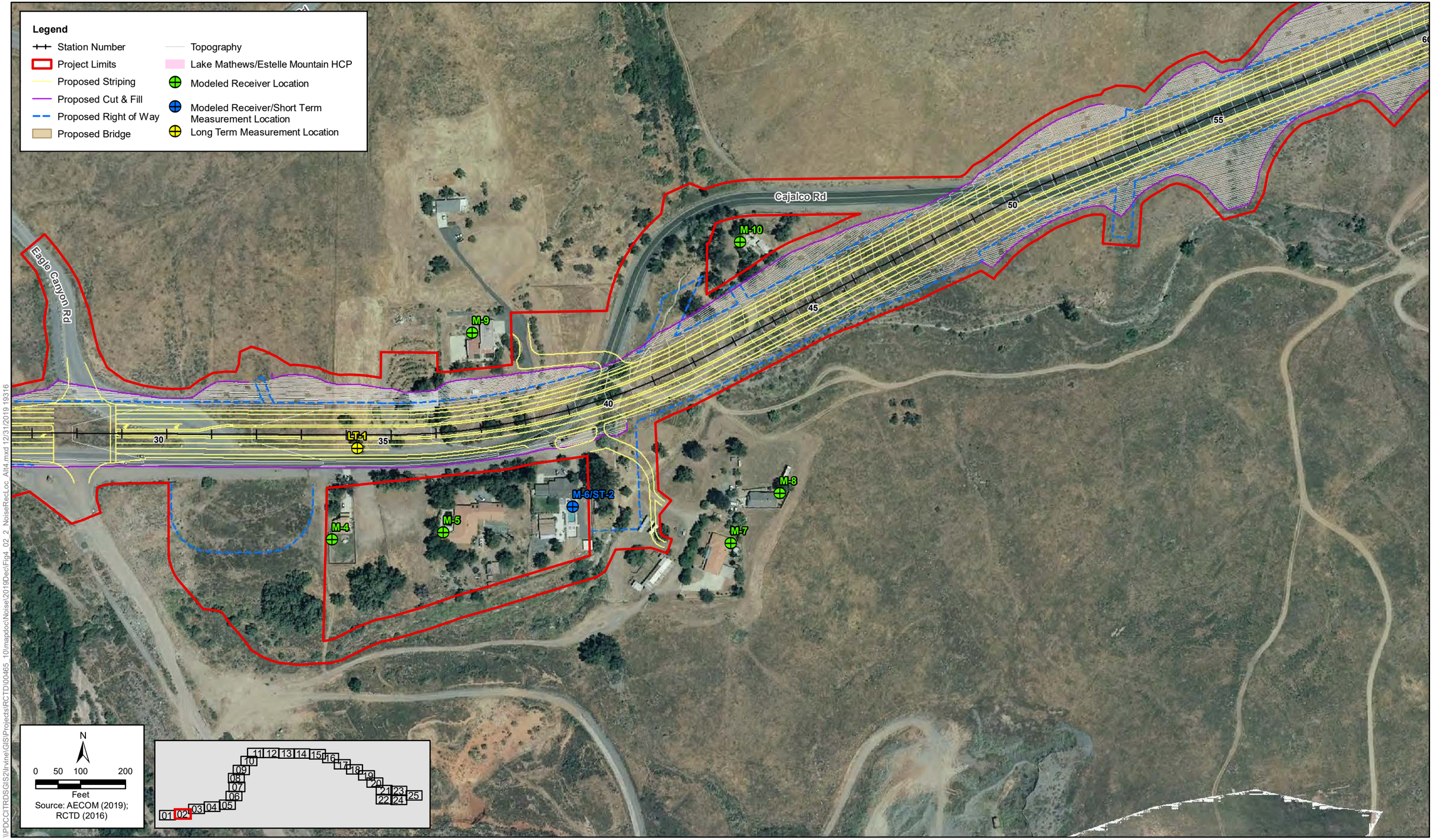

Figure 4.2-2- Sheet 2 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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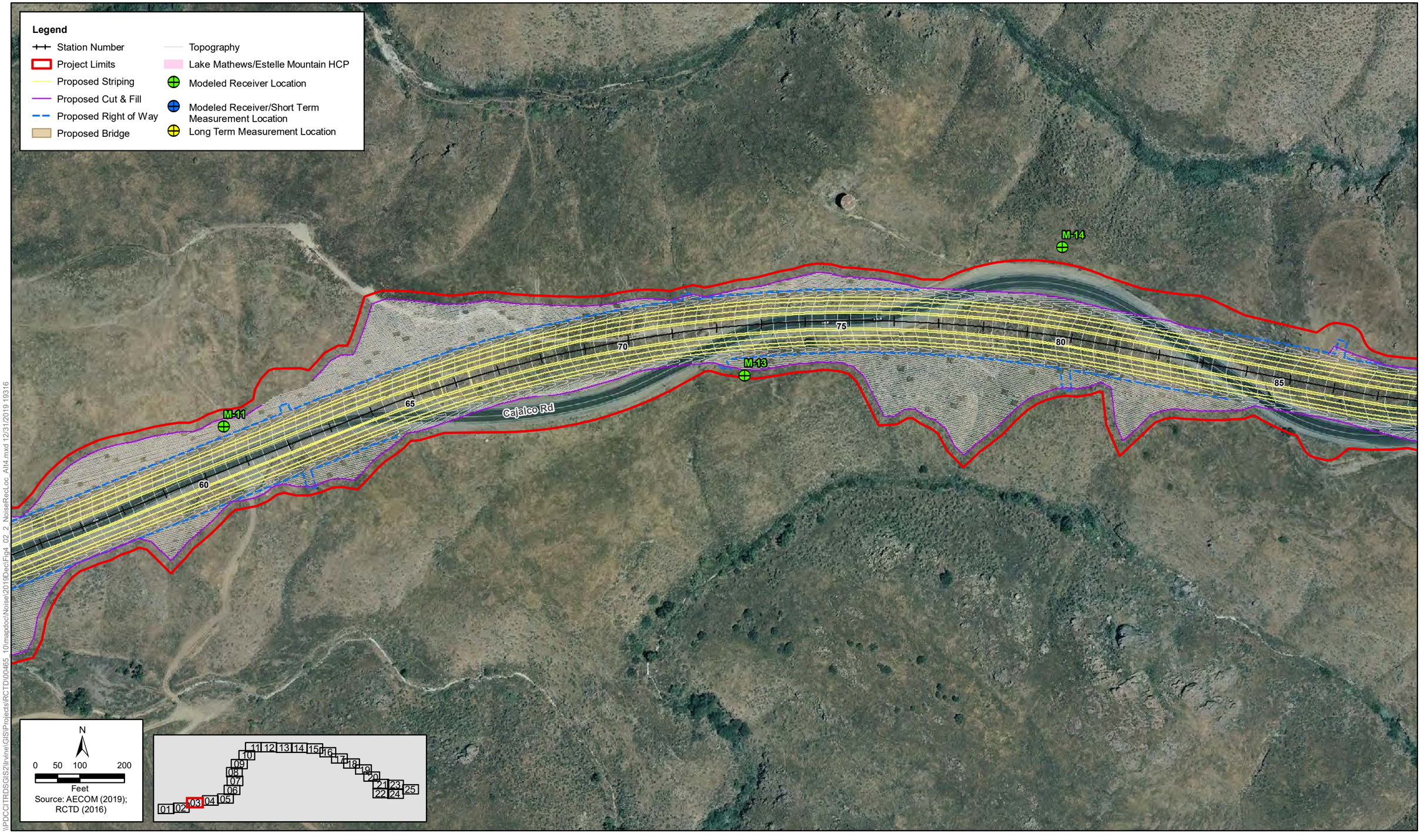

Figure 4.2-2- Sheet 3 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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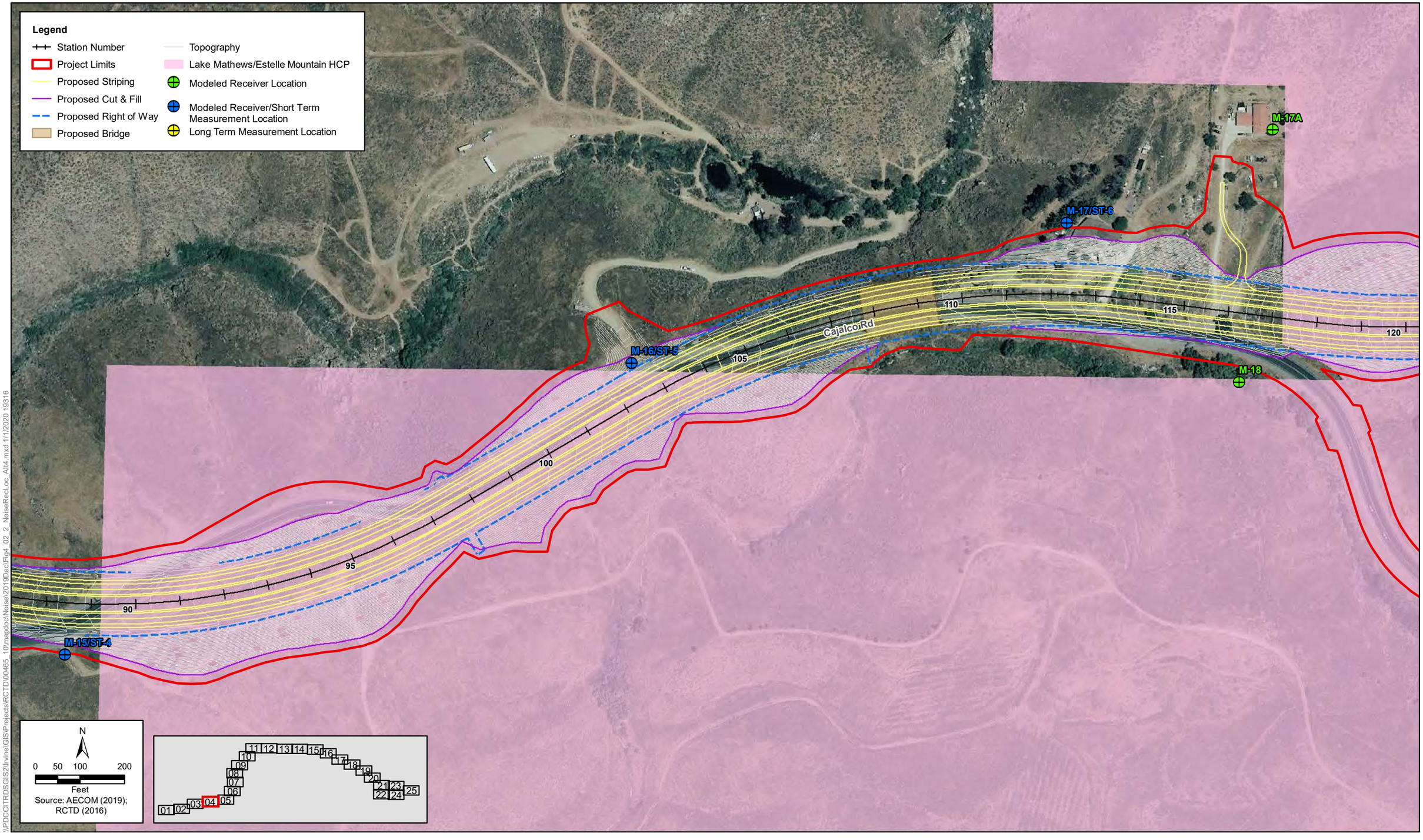

Figure 4.2-2- Sheet 4 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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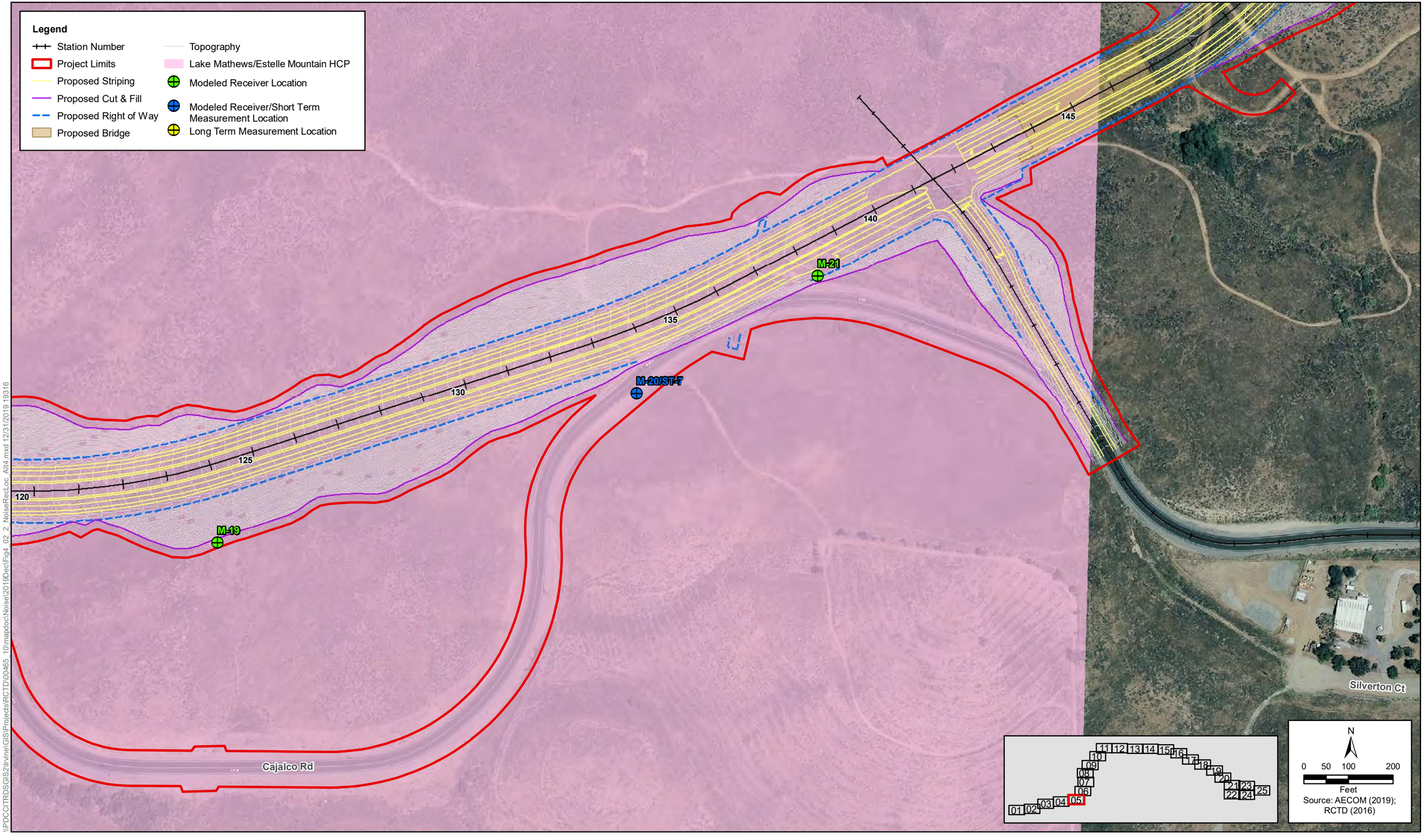

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Figure 4.2-2- Sheet 5 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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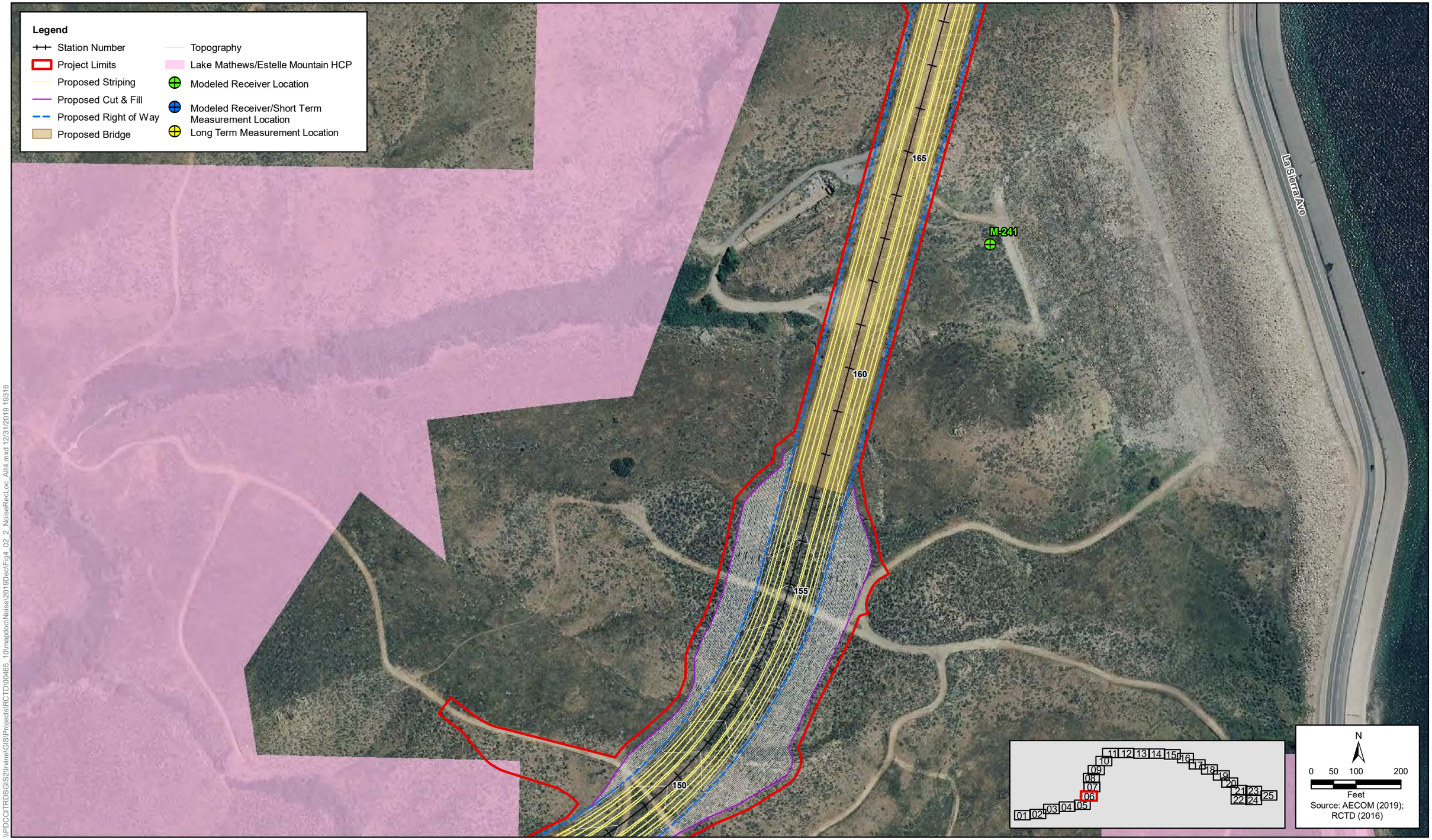

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Figure 4.2-2- Sheet 6 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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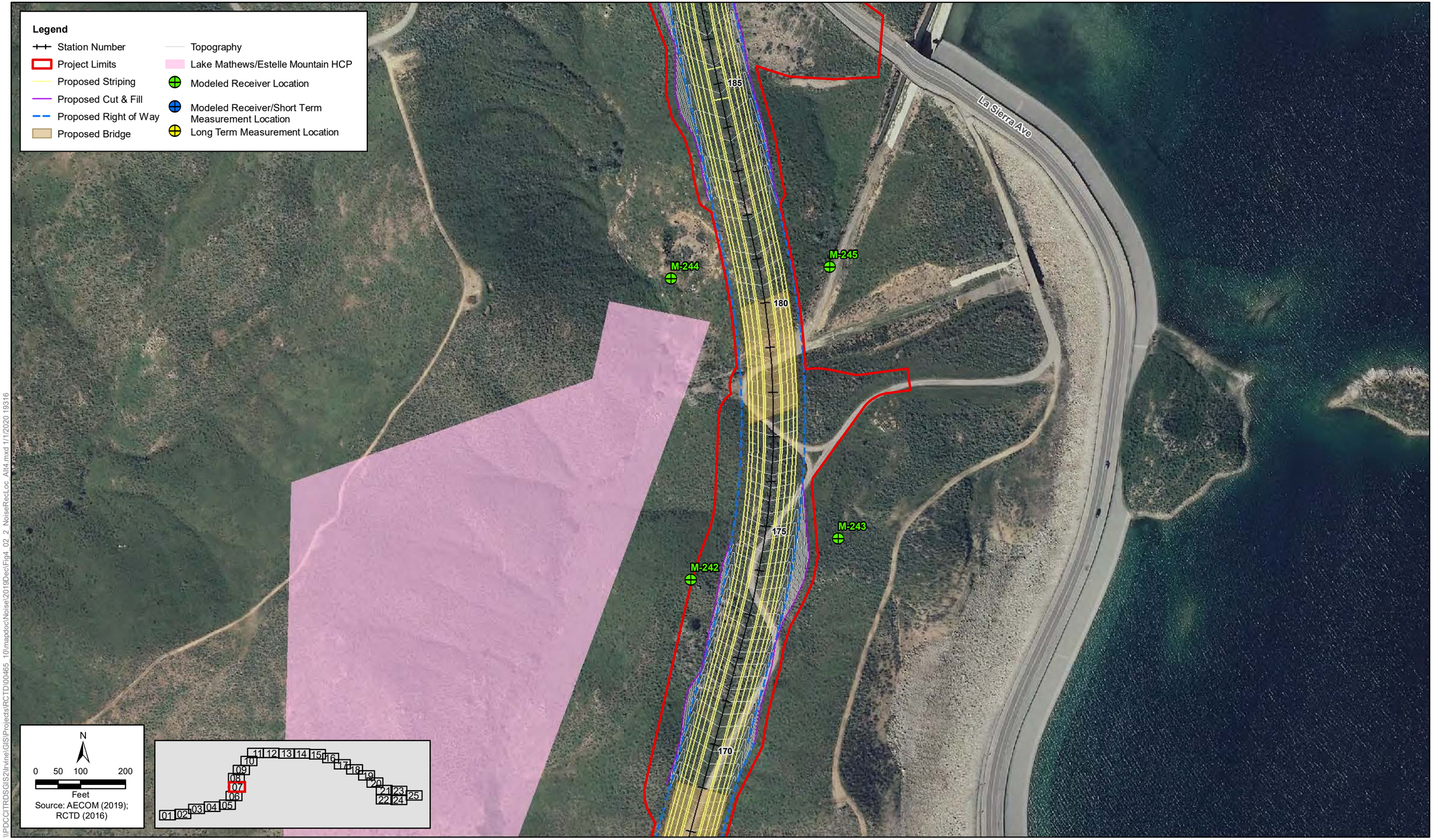

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Figure 4.2-2- Sheet 7 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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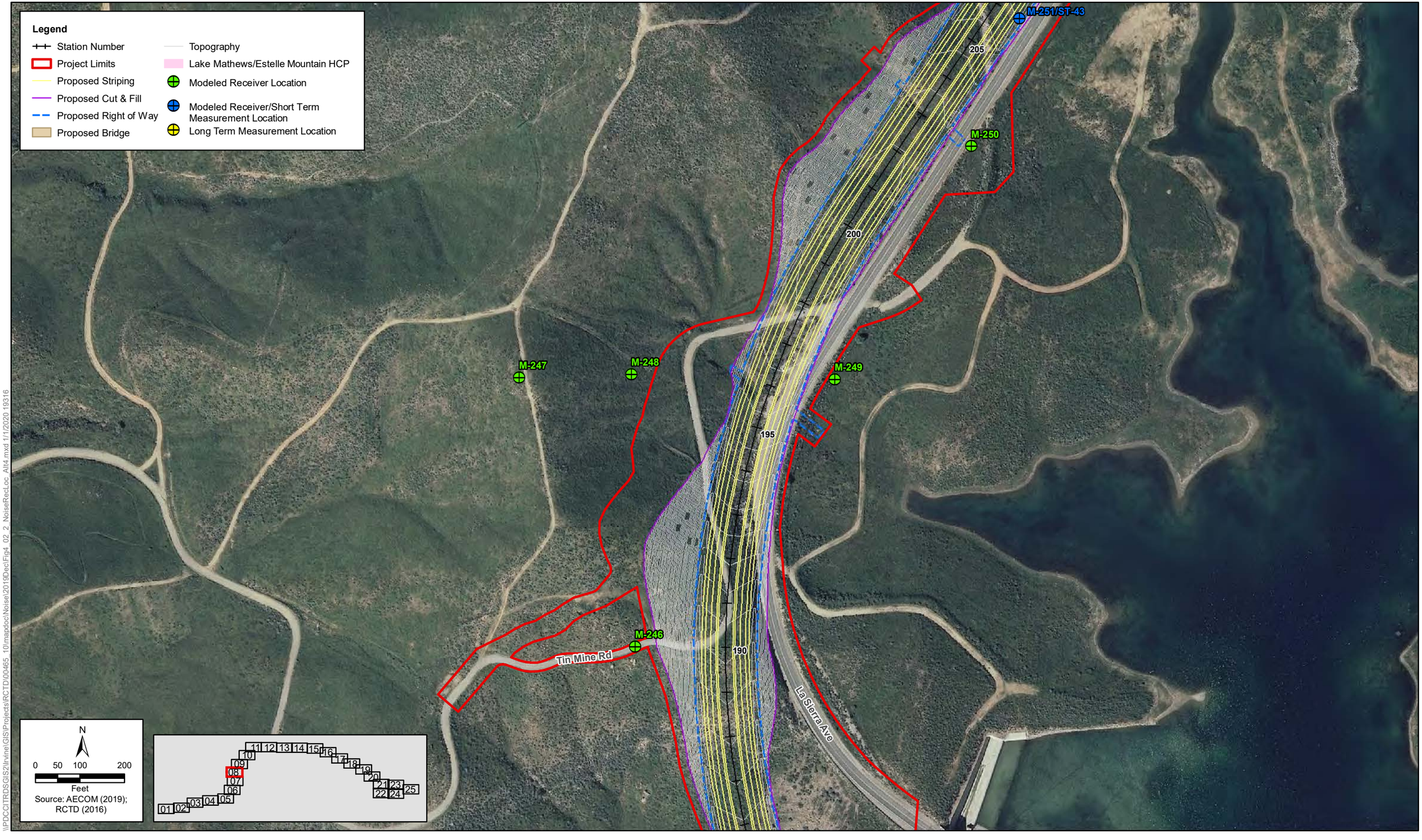

Figure 4.2-2- Sheet 8 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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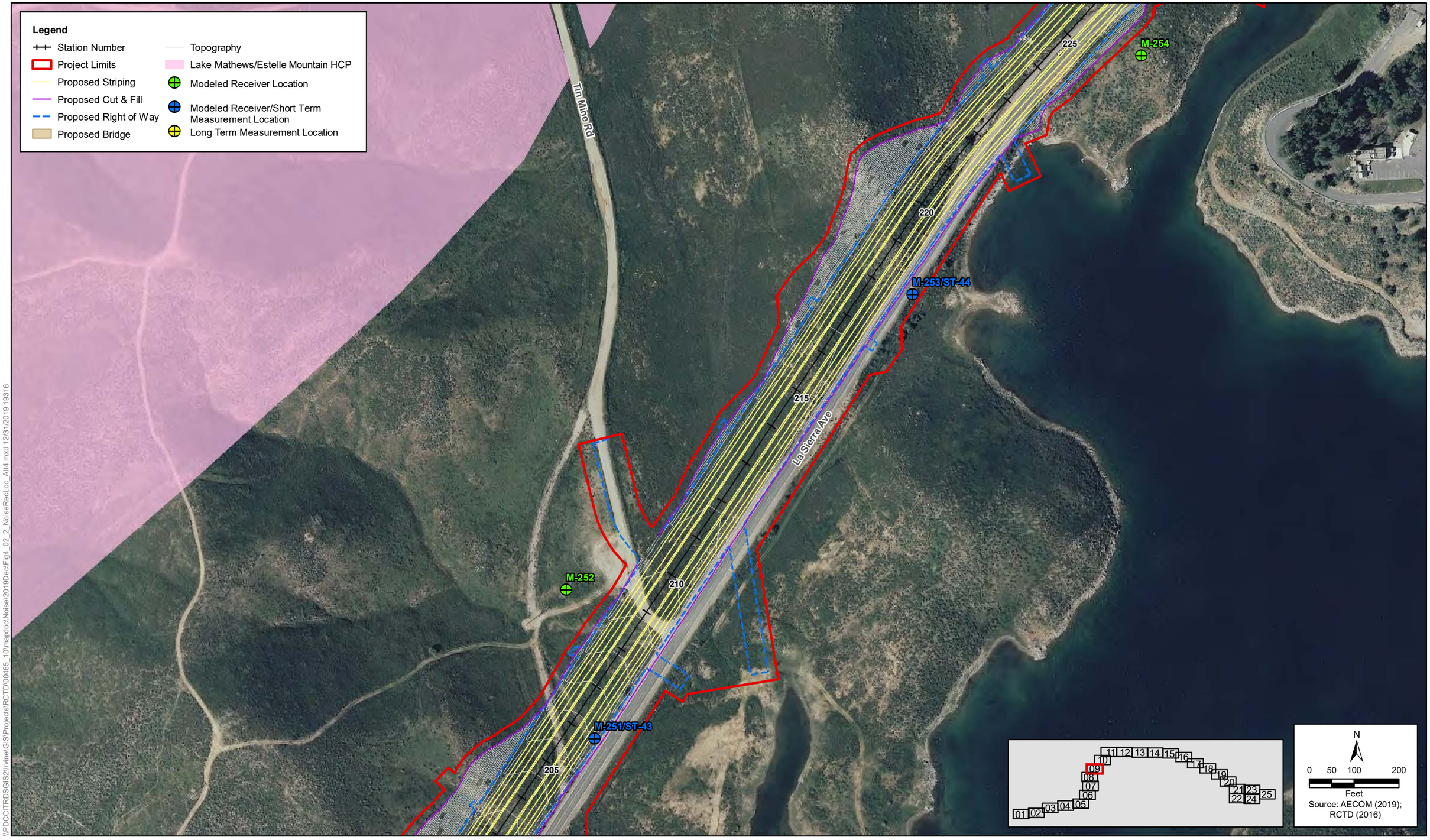

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Figure 4.2-2- Sheet 9 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
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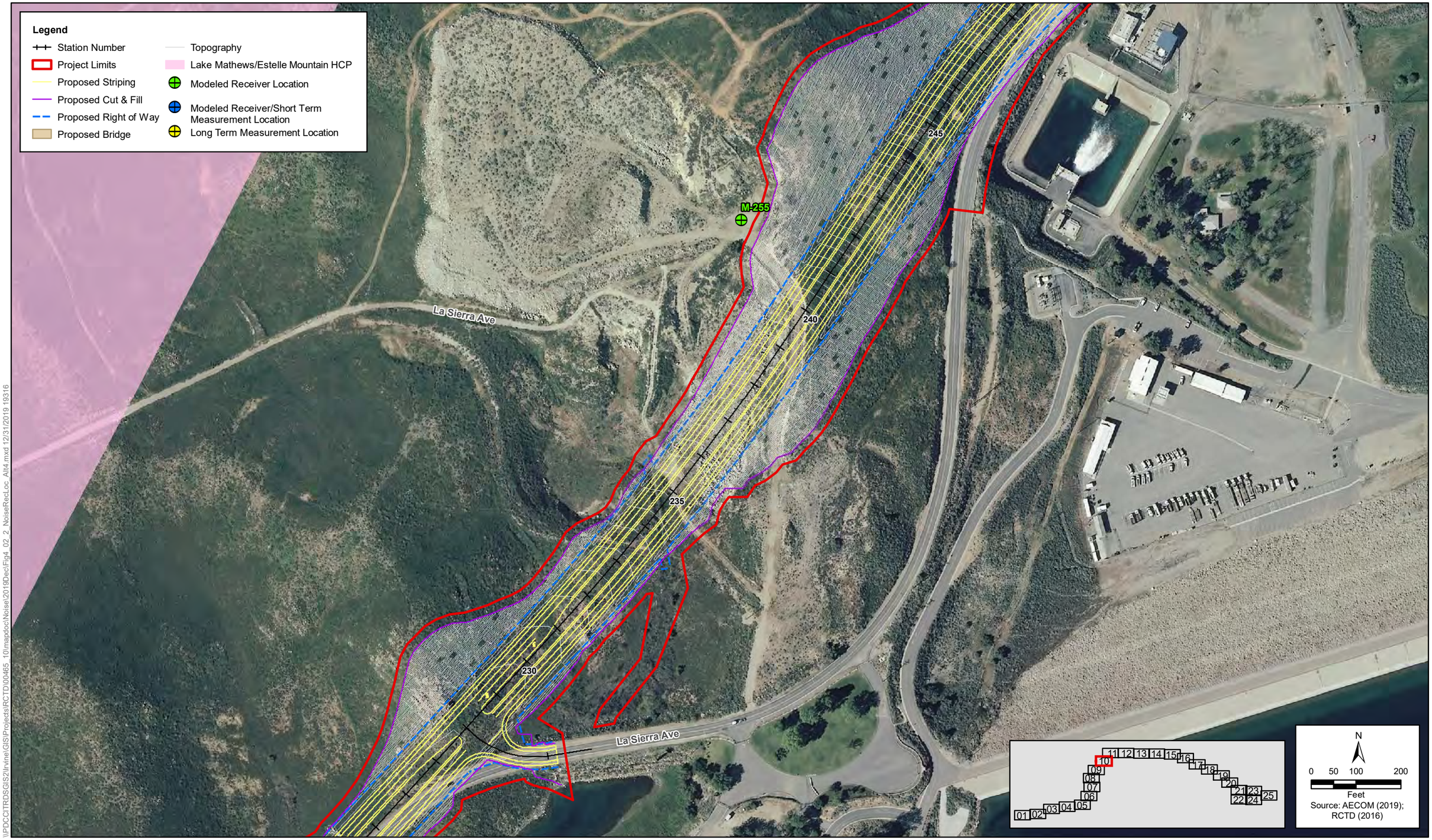

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Figure 4.2-2- Sheet 10 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
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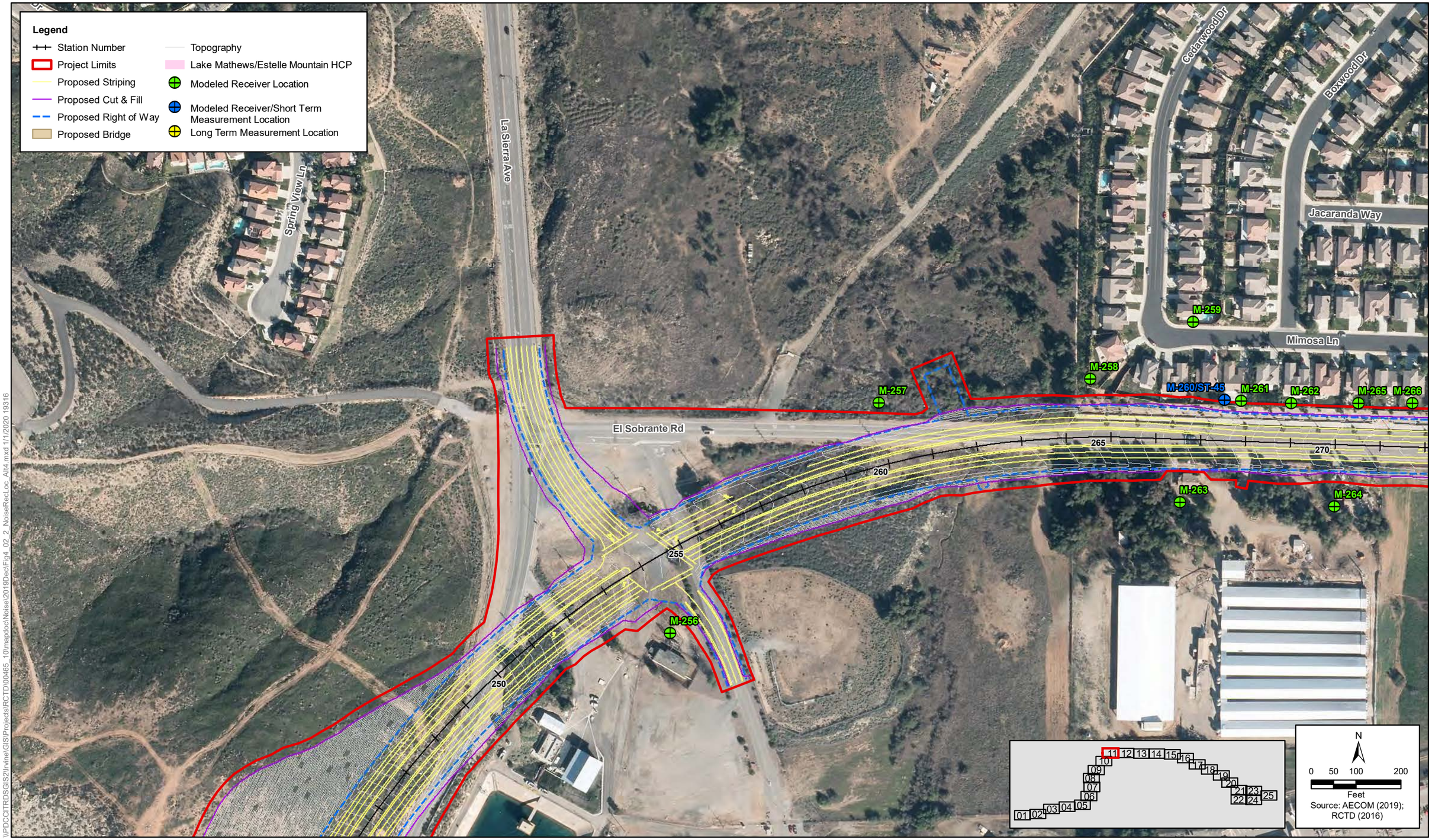

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Figure 4.2-2- Sheet 11 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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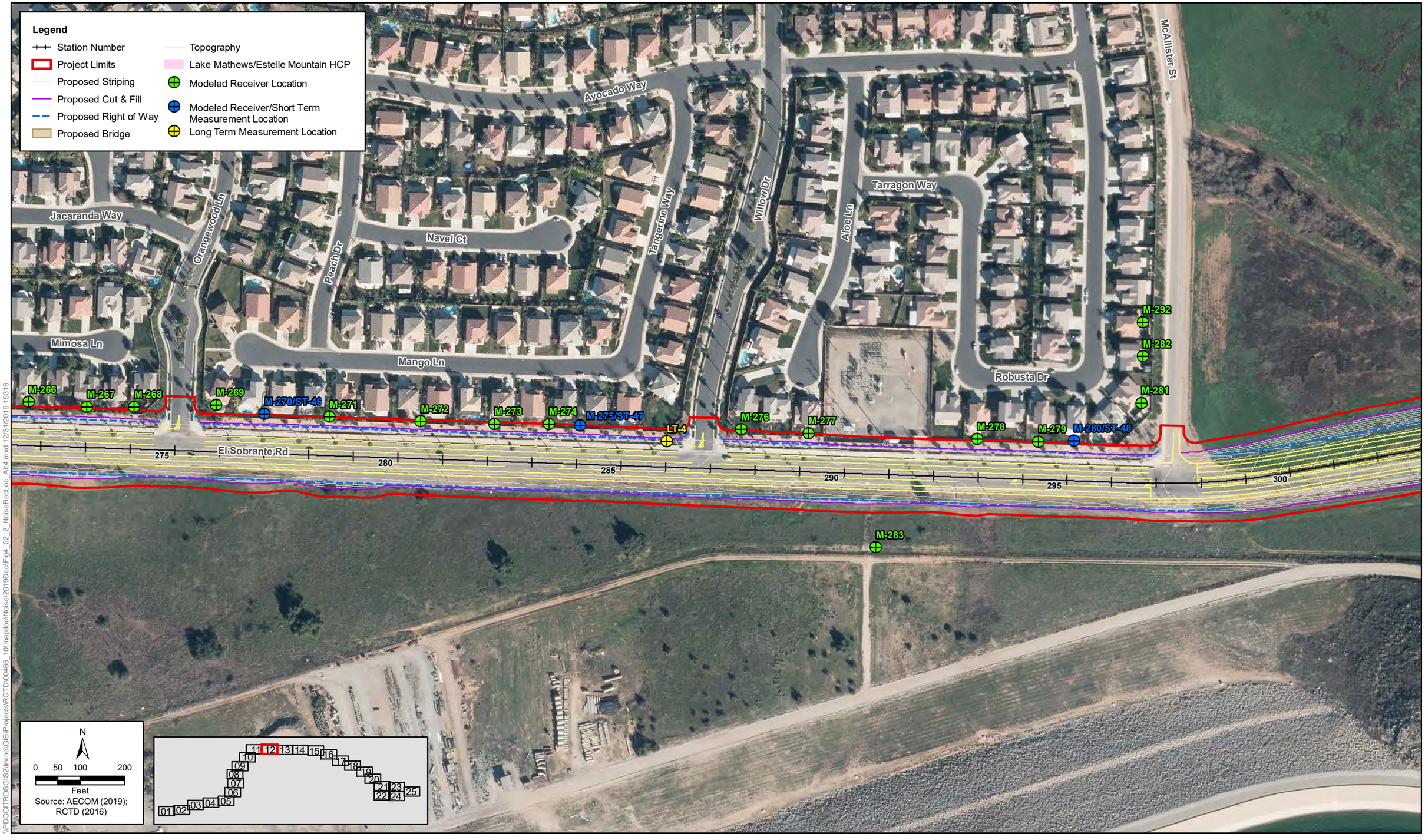

Figure 4.2-2- Sheet 12 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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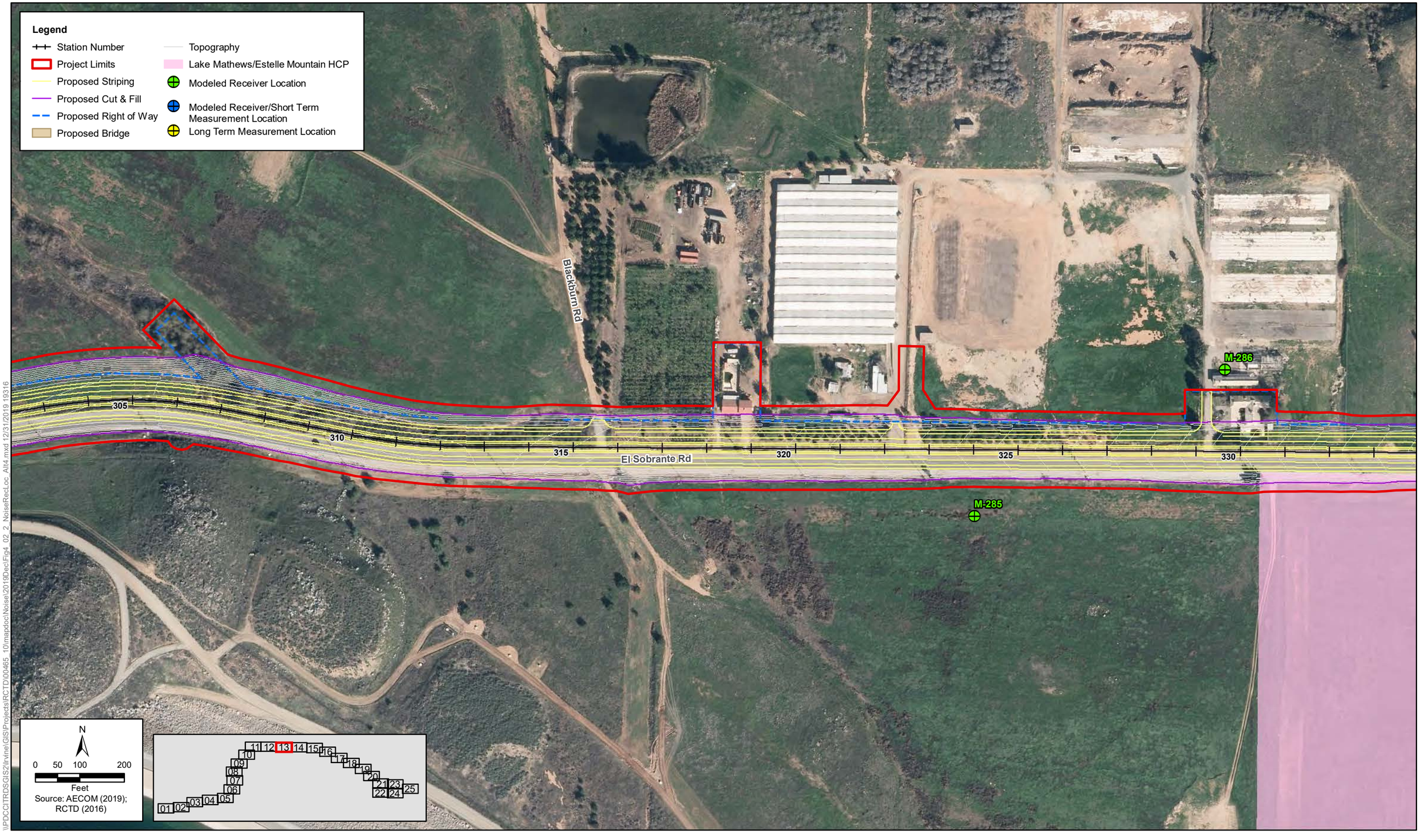

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Figure 4.2-2- Sheet 13 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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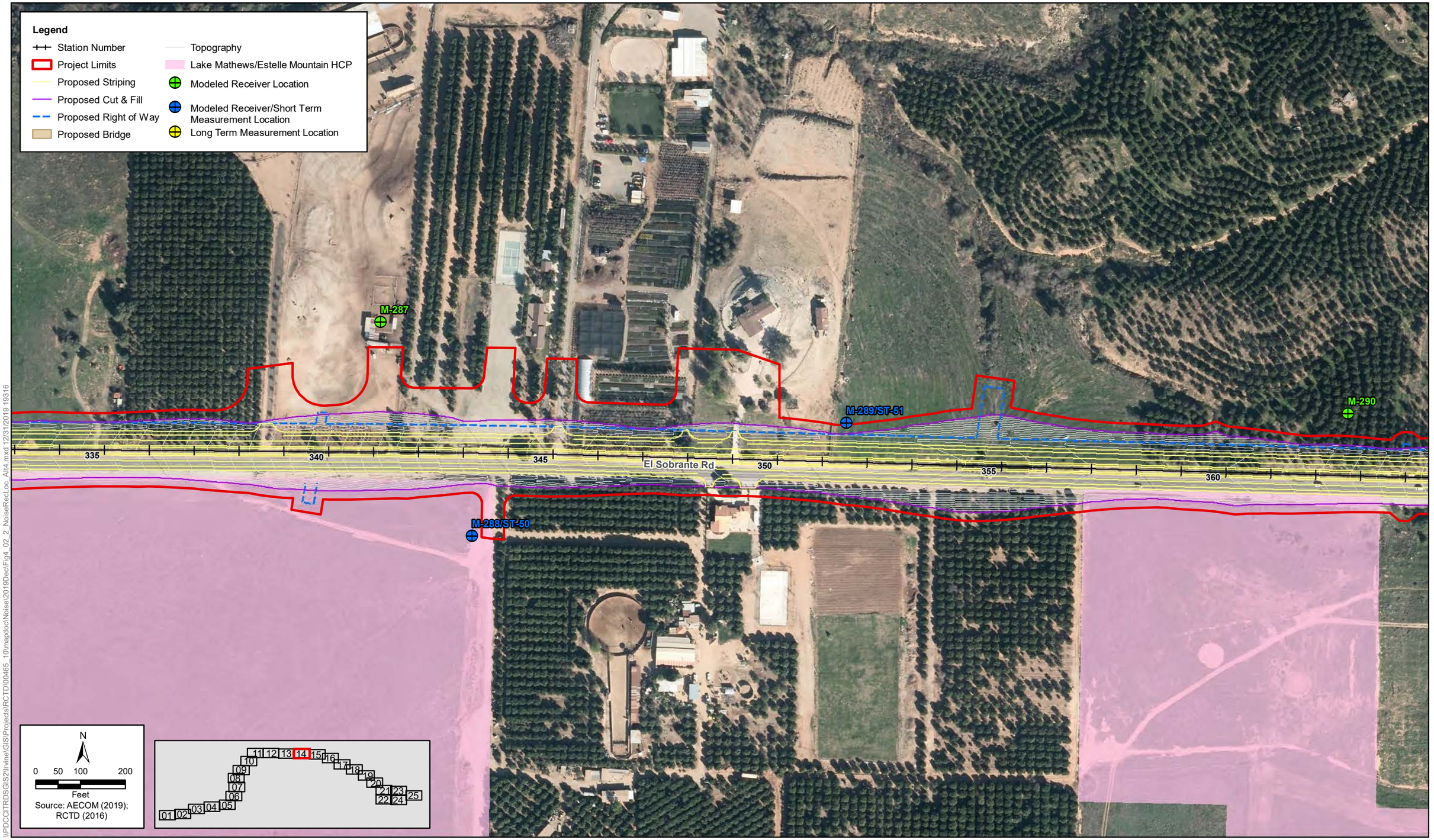

Figure 4.2-2- Sheet 14 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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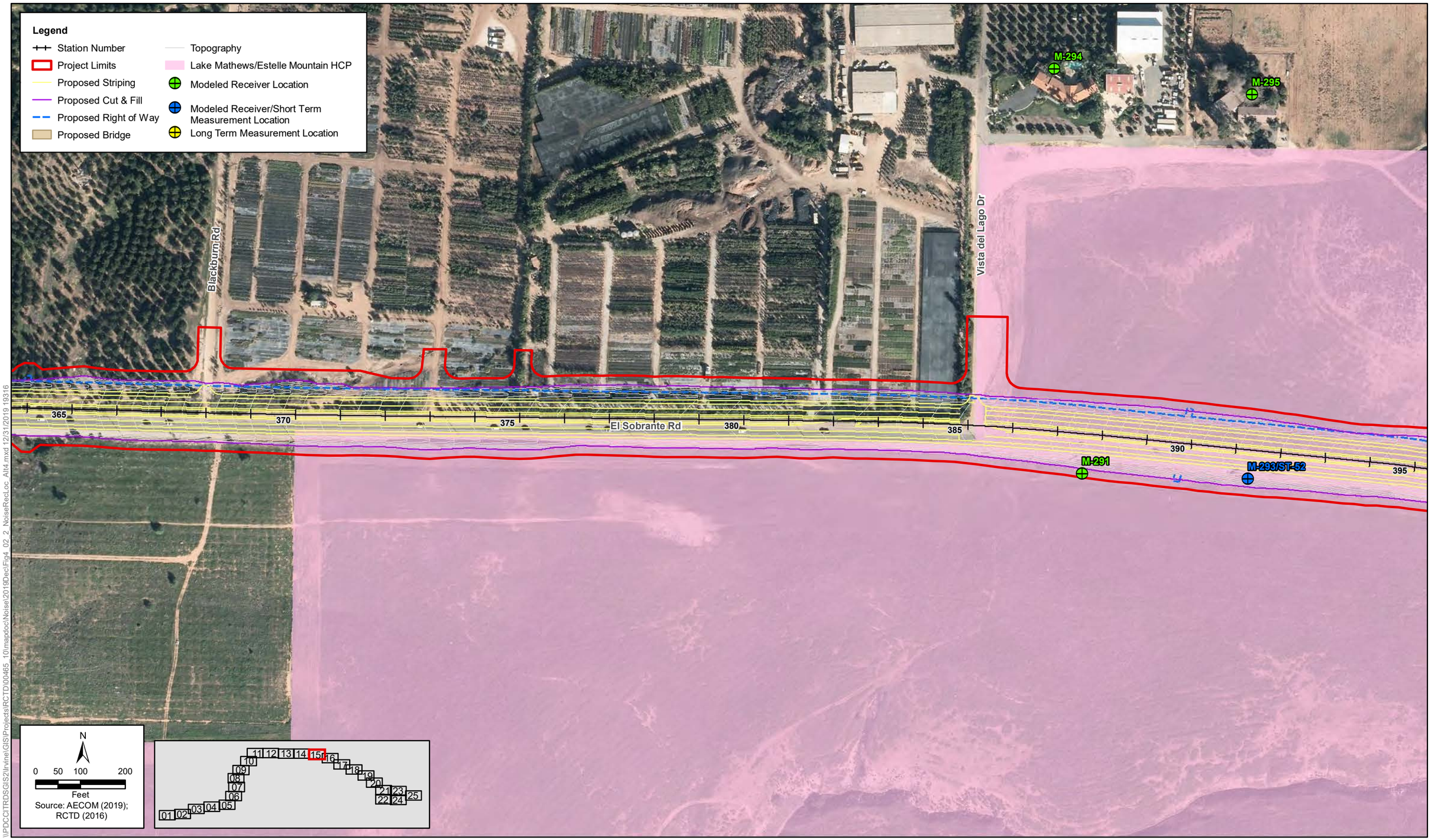

Figure 4.2-2- Sheet 15 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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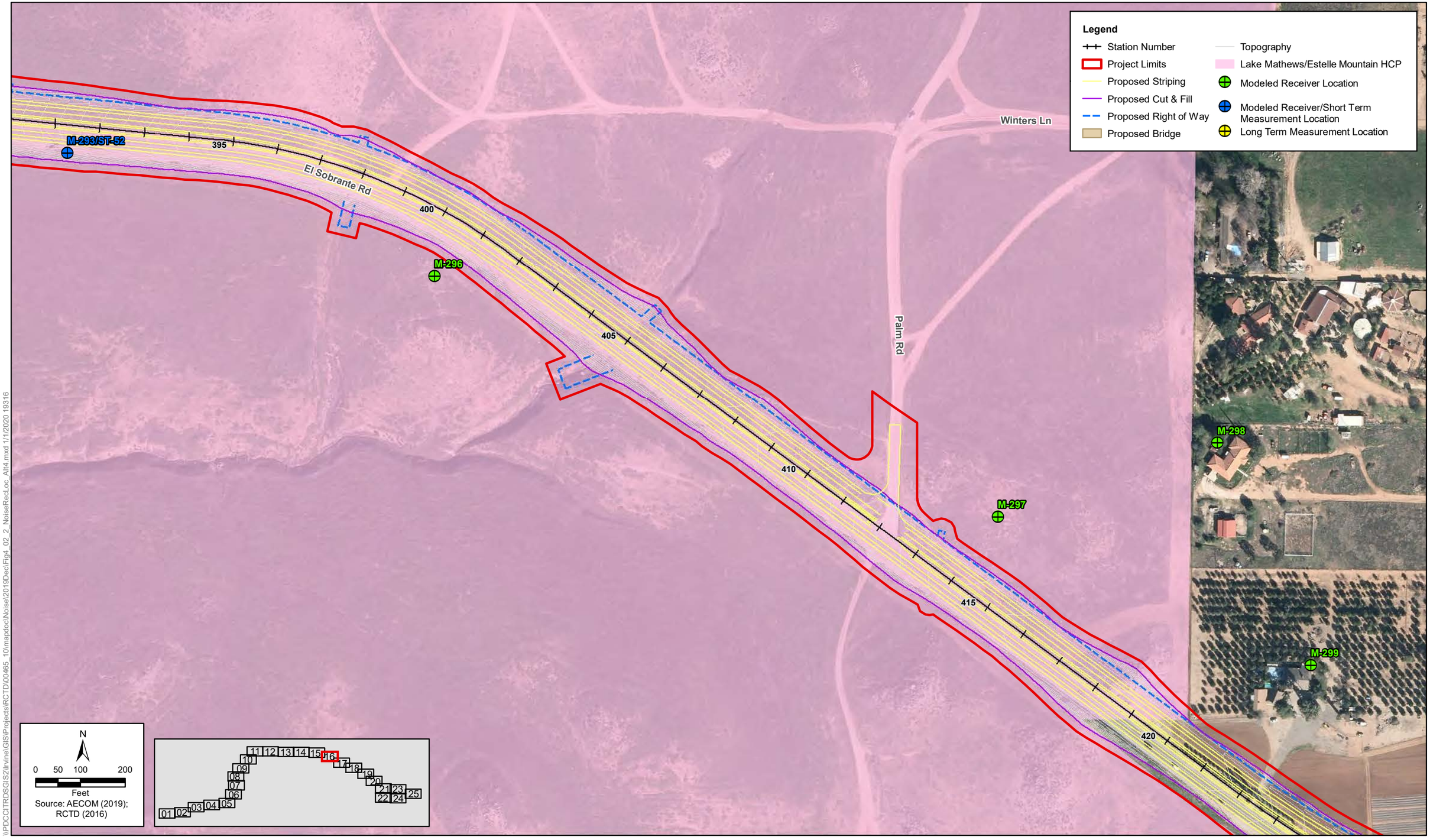

Figure 4.2-2- Sheet 16 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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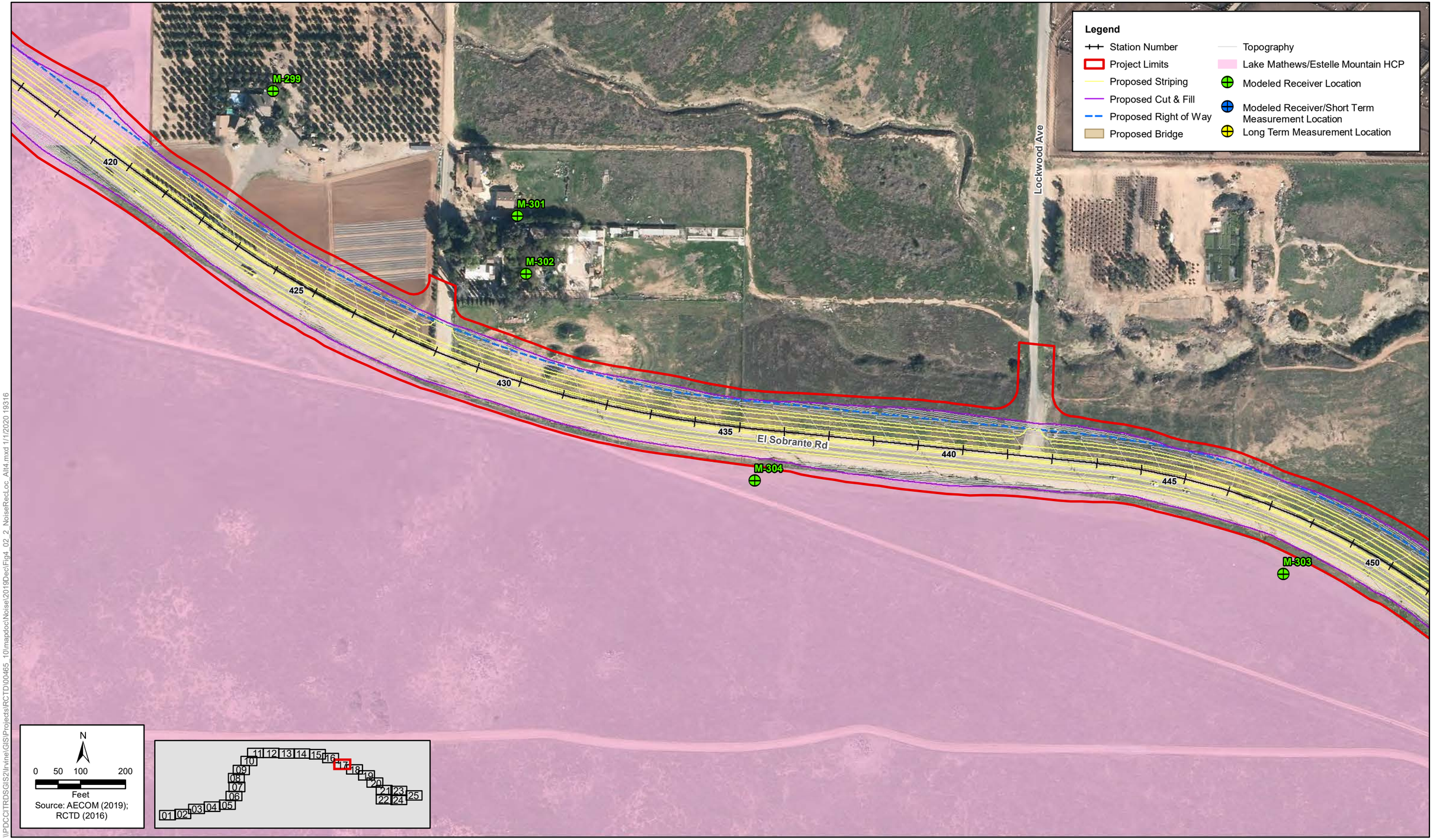

Figure 4.2-2- Sheet 17 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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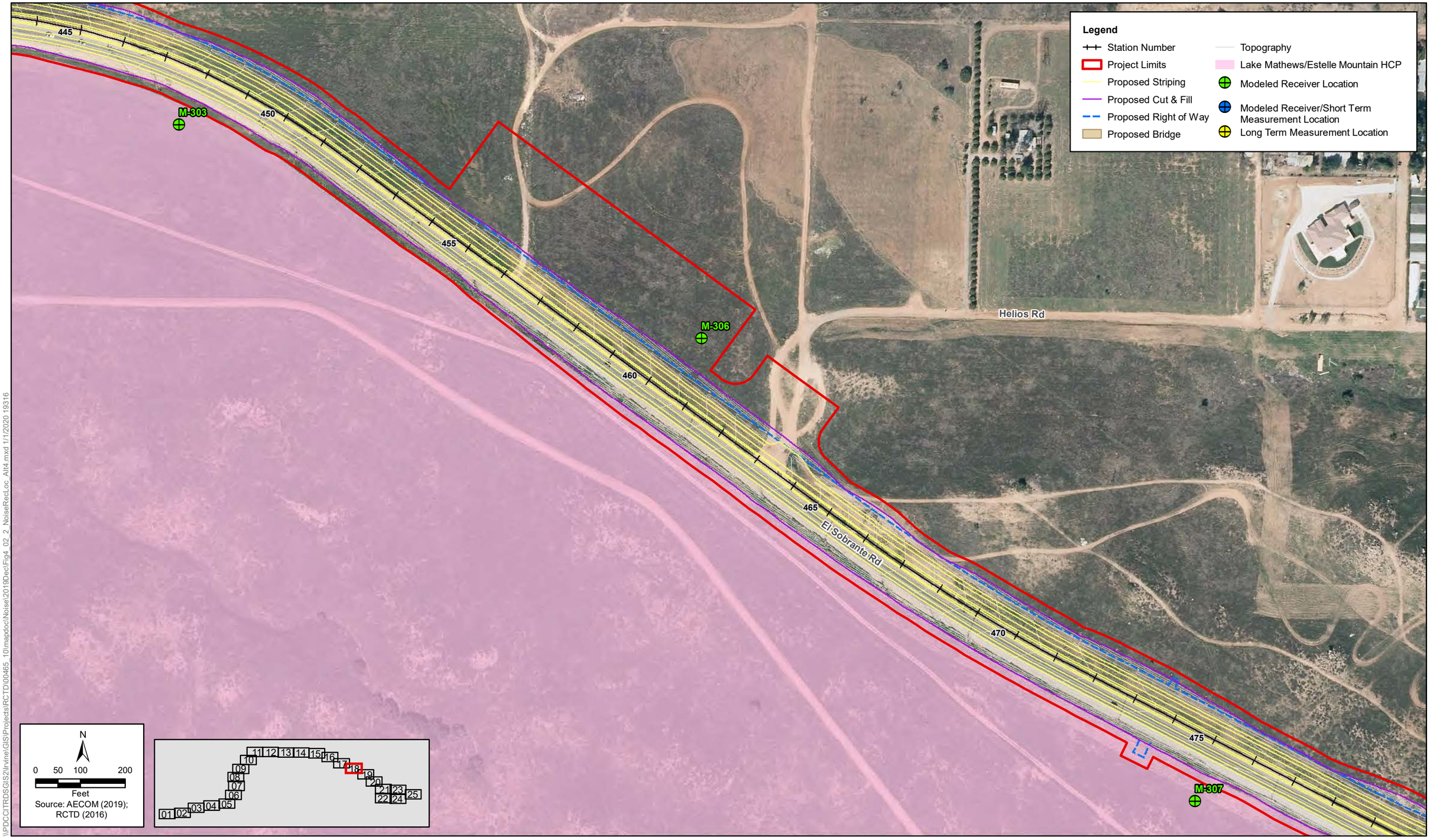

Figure 4.2-2- Sheet 18 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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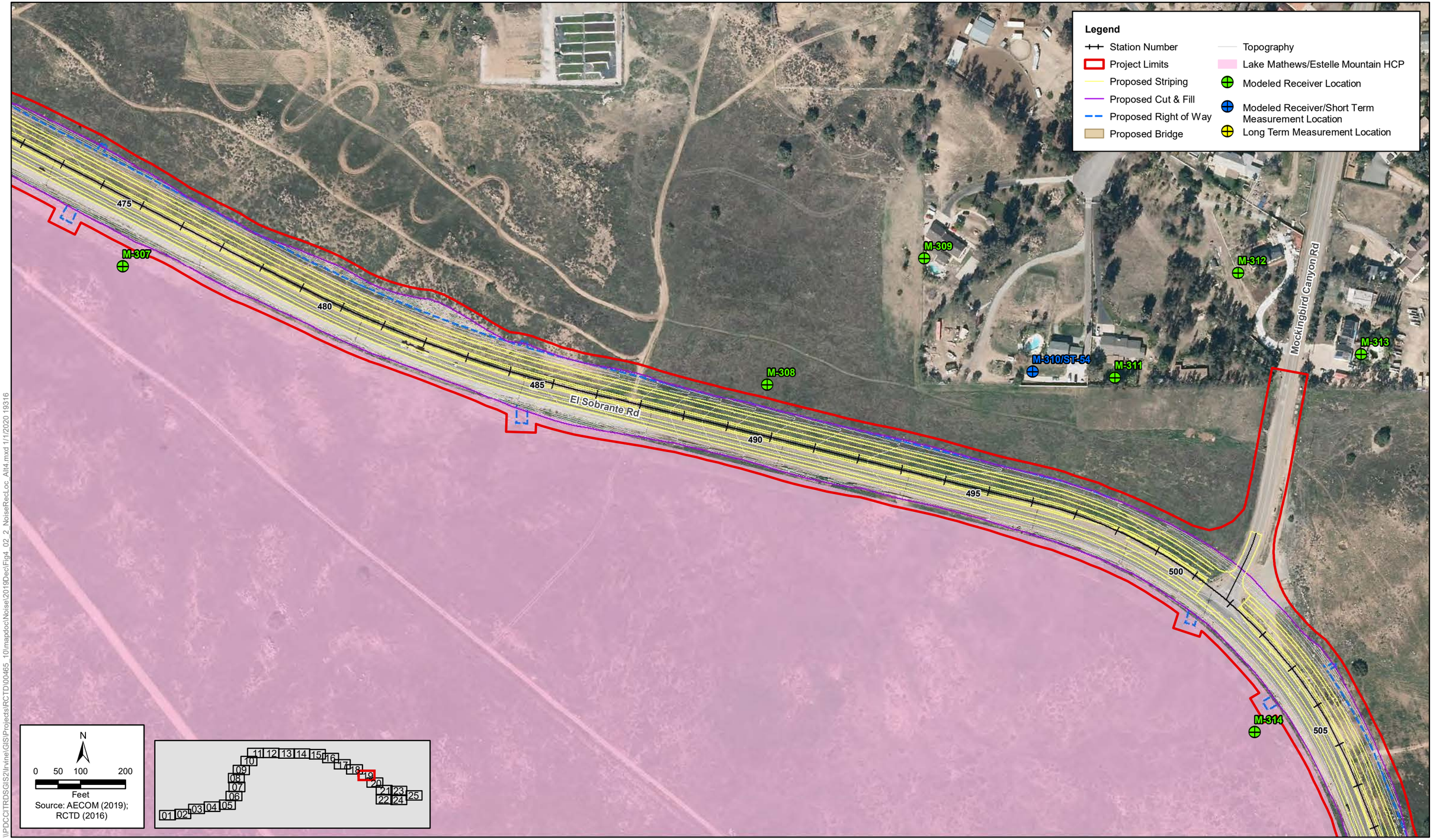

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Figure 4.2-2- Sheet 19 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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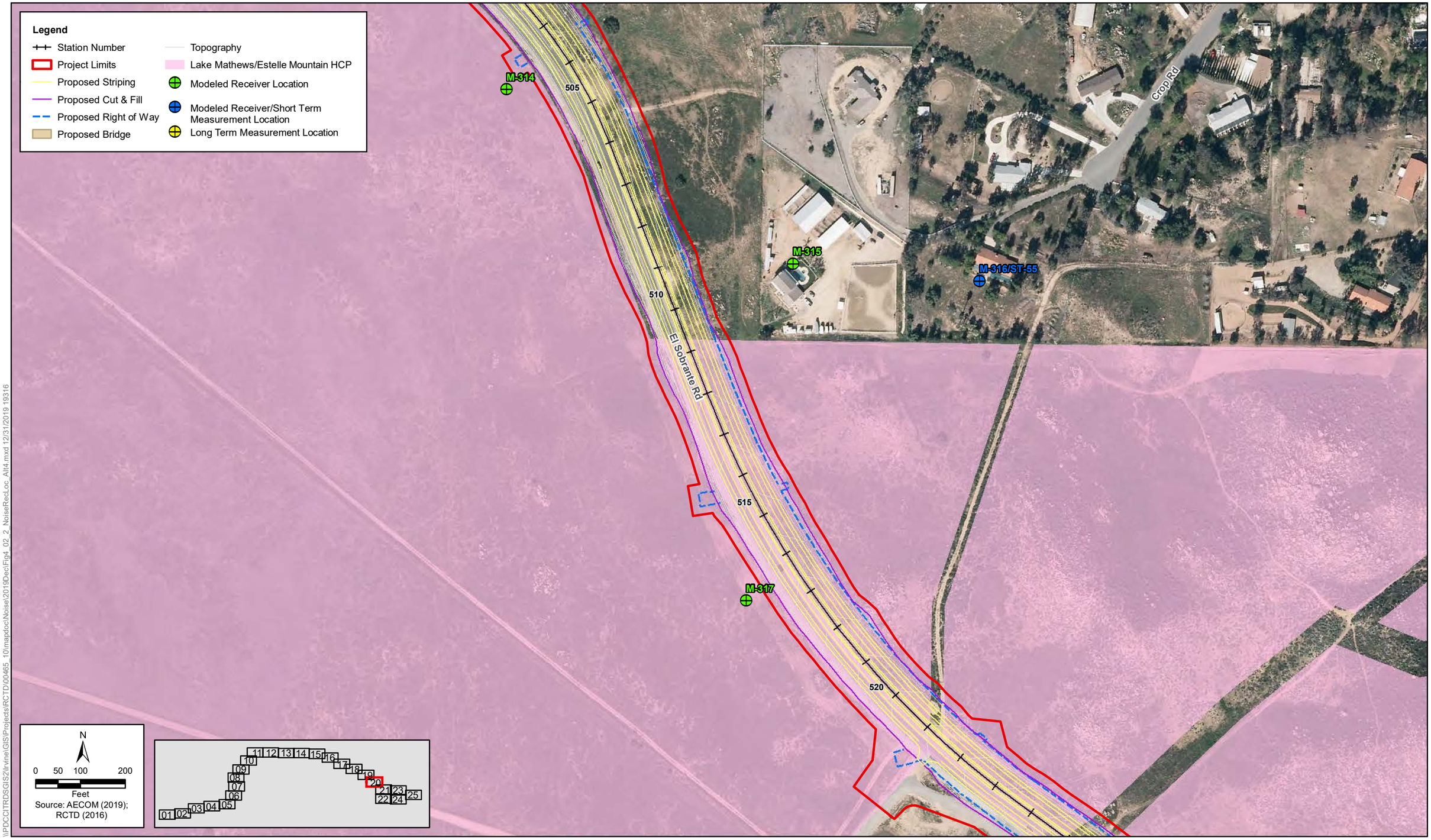

Figure 4.2-2- Sheet 20 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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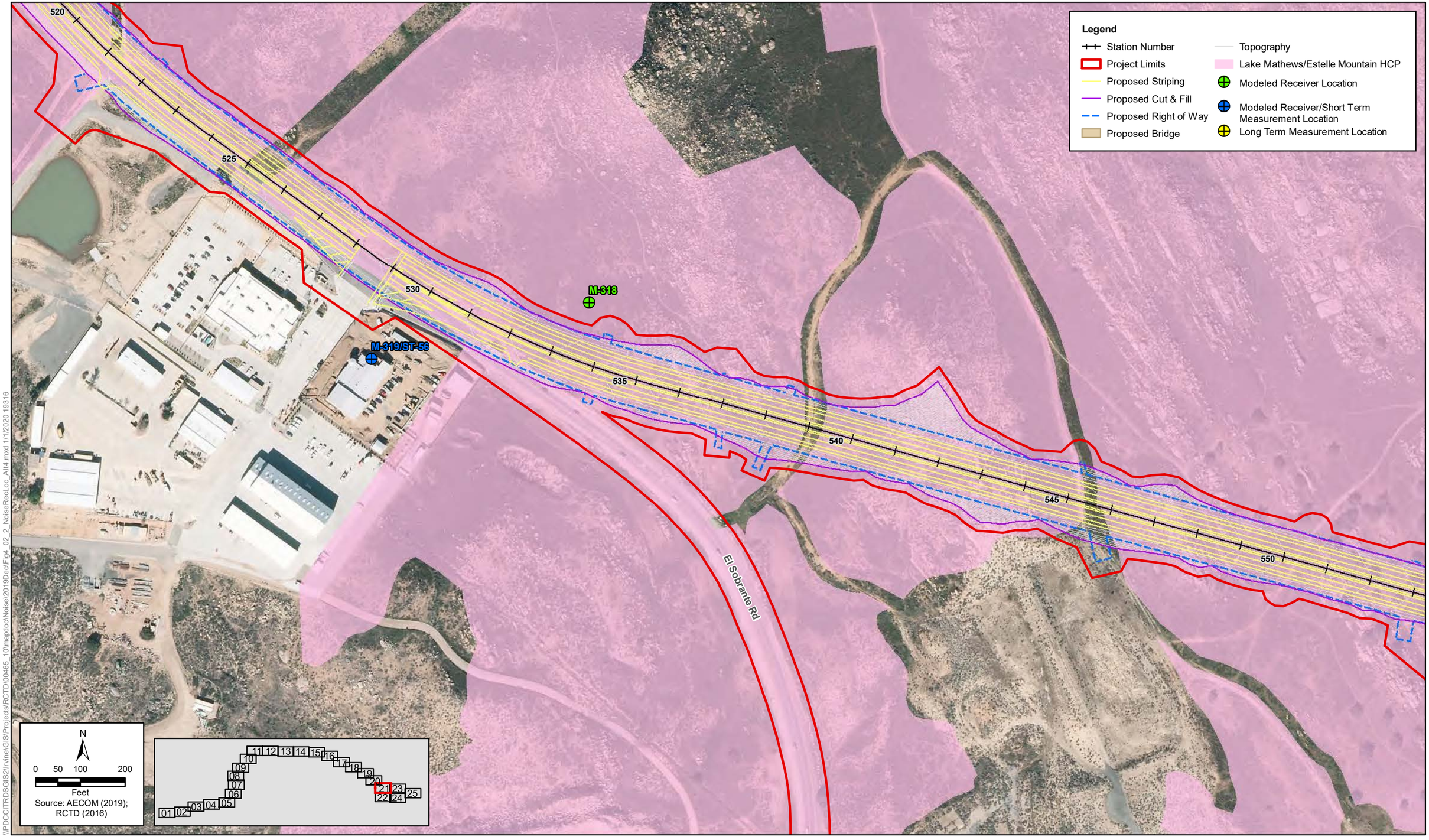

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Figure 4.2-2- Sheet 21 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
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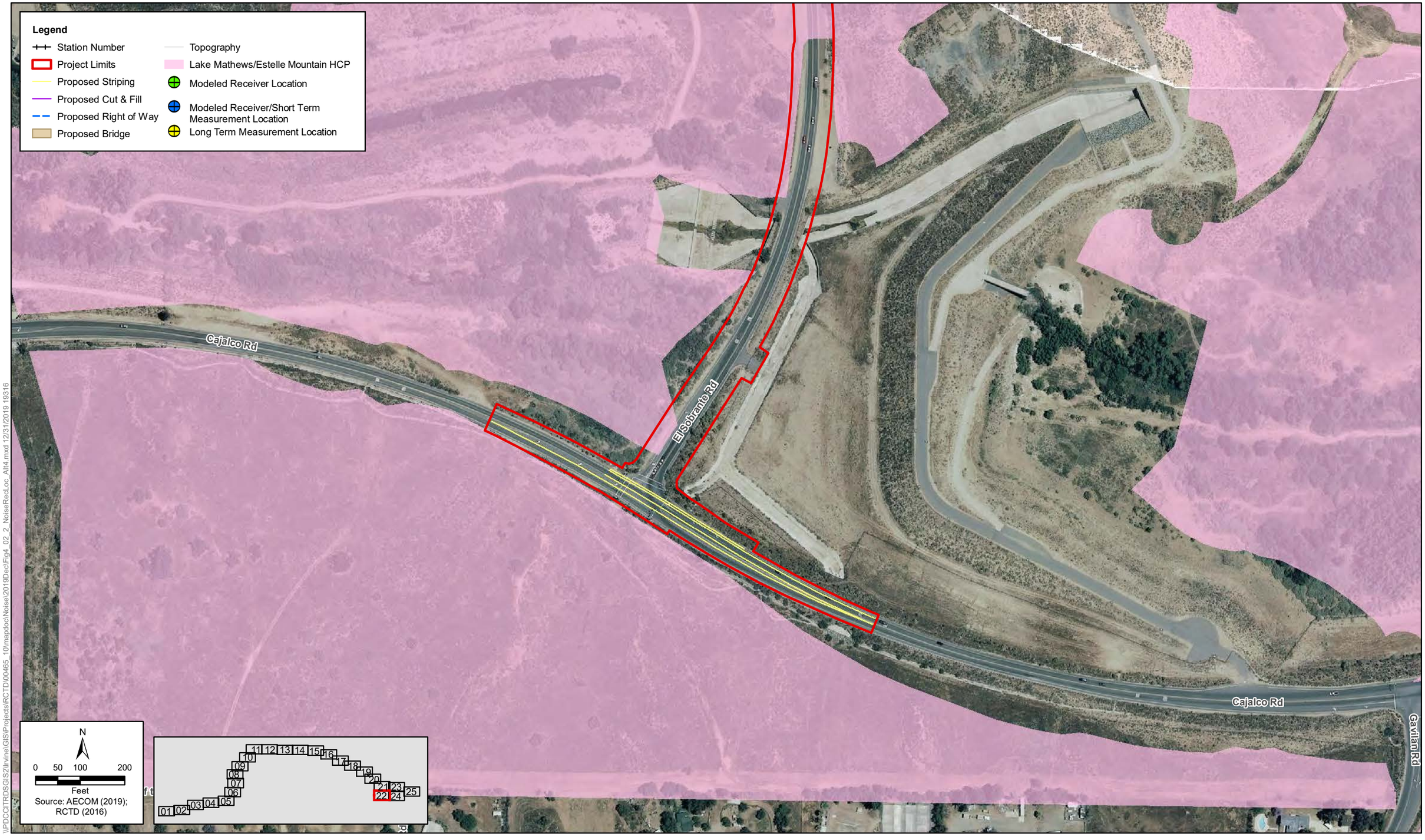

Figure 4.2-2- Sheet 22 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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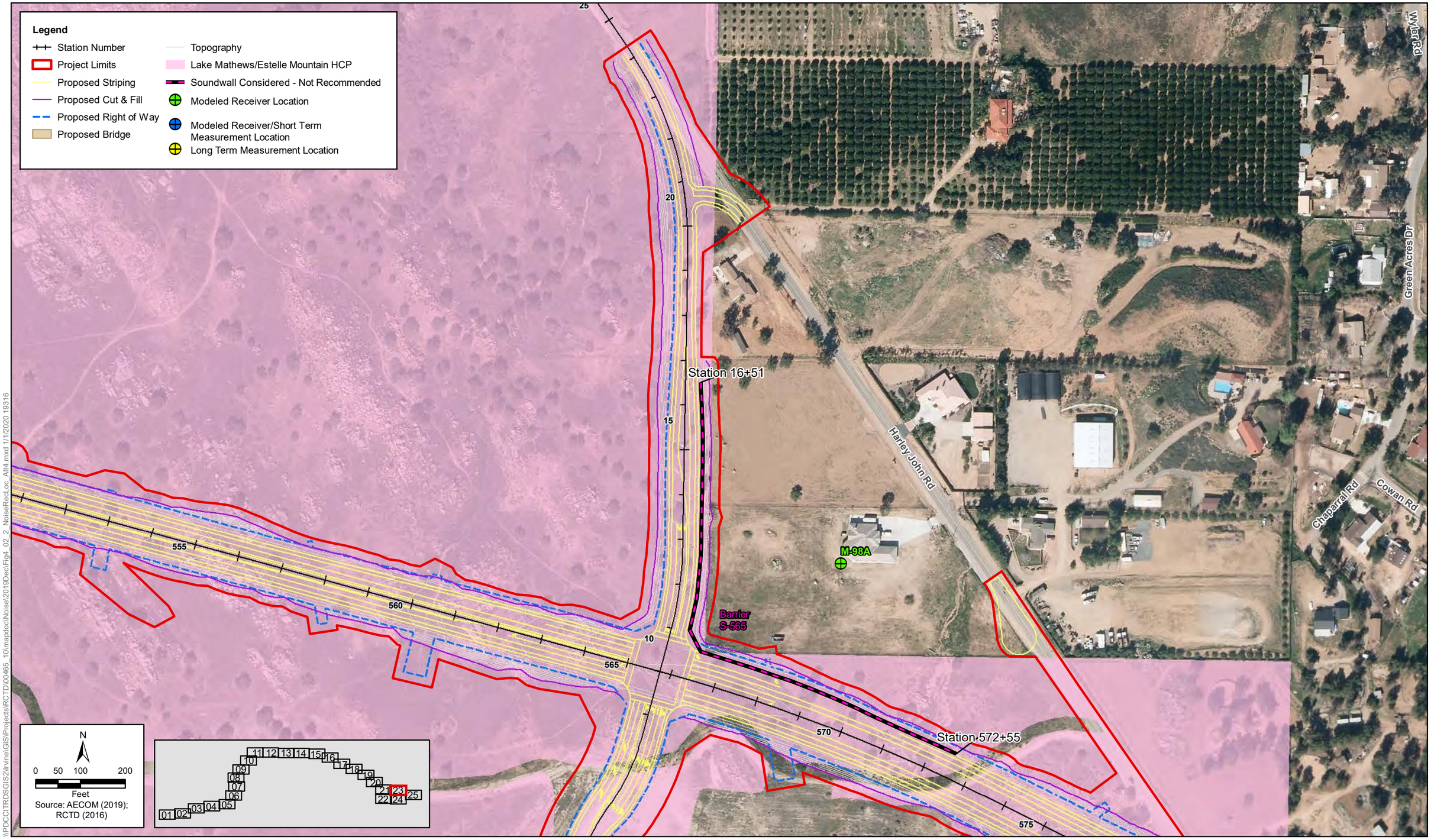

Figure 4.2-2- Sheet 23 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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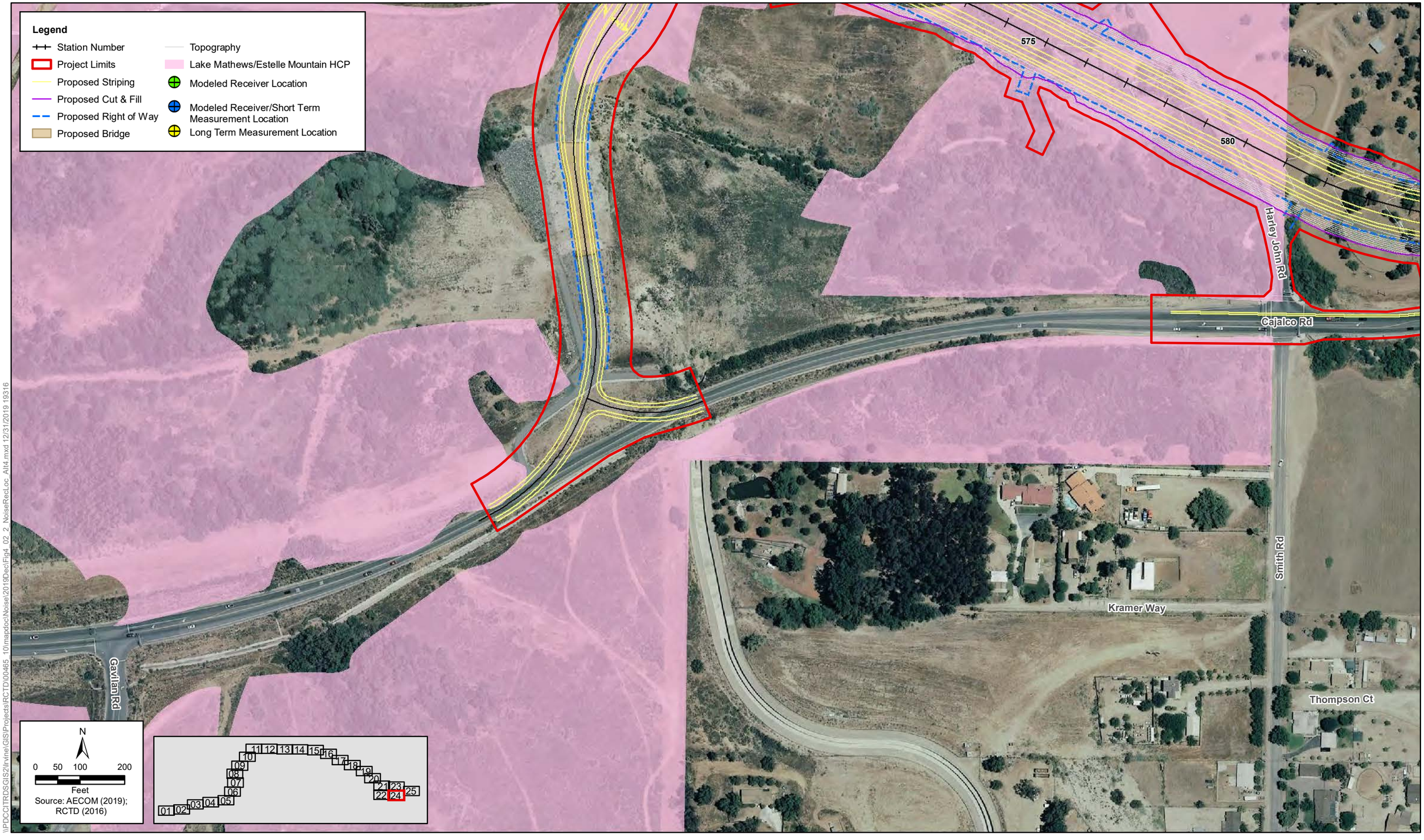

Figure 4.2-2- Sheet 24 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
Cajalco Road Widening and Safety Enhancement Project

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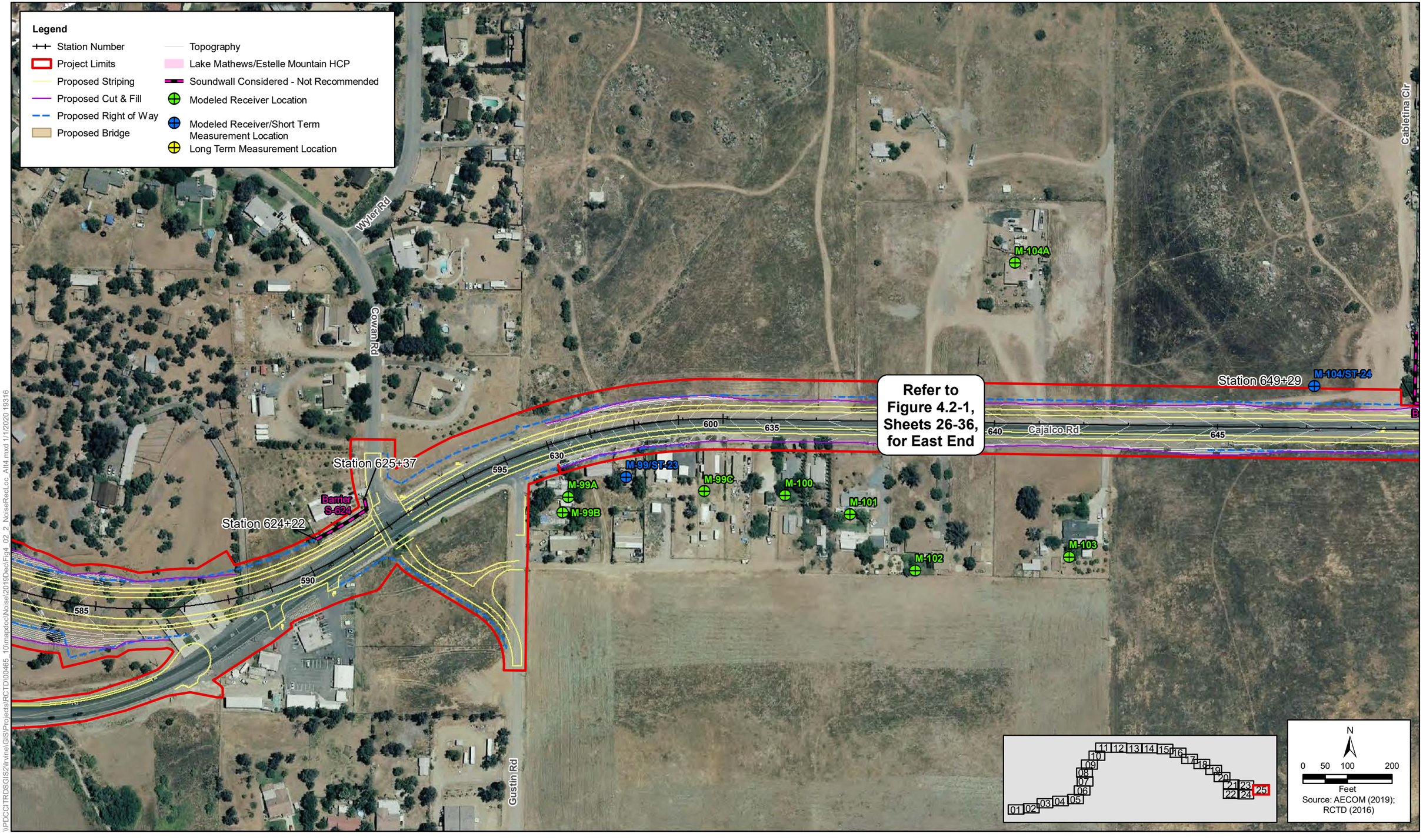

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Figure 4.2-2- Sheet 25 of 25
Build Alternative 4
Noise Measurement and Modeling Locations, and Soundwalls Considered
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As shown in Table 4.2-15, traffic noise increases associated with the proposed project at the six modeled receivers that would exceed the County's 65 CNEL sound level (modeled receivers M-93, M-99, M-105, M-106, M-117, and M-118) would change relative to the existing noise level by 2, 1, 0, 1, -1, and -2 dB, respectively. At these locations, the implementation of rubberized asphalt (**NOI-4**) would reduce traffic noise increases associated with the proposed project to less than the 1.5- and 3-dB increase thresholds.

Mitigation Measure **NOI-4** (rubberized asphalt) would result in a 5-dB decrease in sound level at receiver M-93. Even with the inclusion of rubberized asphalt, project-related noise increases would result in an overall 2-dB increase, which exceeds the 1.5-dB threshold based on the FICON methodology at modeled receiver M-93. In accordance with Caltrans' *Traffic Noise Analysis Protocol*, noise abatement in the form of a soundwall 10 feet in height (Soundwall S-624) was considered to address noise impacts identified under NEPA at Receiver M-93 (refer to Section 3.15, *Noise and Vibration*, and Sheet 25 of Figure 4.2-3). If included as abatement, Soundwall S-624 would further reduce the noise level at receiver M-93 by 12 dB and result in less-than-significant noise impacts under CEQA. However, because the soundwall would be subject to a survey process (as outlined by the Caltrans Protocol and discussed in Section 3.15, *Noise and Vibration*), it may not be approved for implementation and its construction cannot thus be guaranteed. Furthermore, as discussed above, Mitigation Measure **NOI-4** (rubberized asphalt) would result in a 5-dB reduction without the soundwall; therefore, in consideration of the unknown outcome of the survey process, anticipated cost of the soundwall ($57,866), limited receptor benefit, and the potential for visual impacts associated with soundwalls (see Section 3.7, *Visual/Aesthetics*), Soundwall S-624 is not recommended for addressing impacts identified under CEQA. Therefore, a significant noise impact is identified at Receiver M-93.

Additionally, Mitigation Measure **NOI-4** (rubberized asphalt) would result in a 5-dB decrease in sound level at receiver M-98A. Even with the inclusion of rubberized asphalt, project-related noise increases would result in an overall 9-dB increase, which exceeds the 5-dB threshold based on the FICON methodology at modeled receiver M-98A. In accordance with Caltrans' *Traffic Noise Analysis Protocol*, noise abatement in the form of a soundwall 14 or 16 feet in height (Soundwall S-565) was considered to address noise impacts identified under NEPA at Receiver M-98A (refer to Section 3.15, *Noise and Vibration*, and Sheet 23 of Figure 4.2-3). Soundwall S-565 at height of 14 or 16 feet would further reduce the noise level at receiver M-98A by 7 dB and result in less-than-significant noise impacts under CEQA. However, this soundwall was found not to be reasonable from a cost perspective (costs of $966,191 and $1,050,441, respectively). Therefore, this barrier was not found to be cost effective for one single receiver. Furthermore, as discussed above, Mitigation **NOI-4** (rubberized asphalt) would result in a 5-dB reduction without the soundwall; therefore, in consideration with the anticipated cost of the soundwall ($966,191 and $1,050,441), limited receptor benefit, and the potential for visual impacts associated with soundwalls (see Section 3.7, *Visual/Aesthetics*), Soundwall S-565 is not recommended for addressing impacts identified under CEQA. Therefore, a significant noise impact is identified at Receiver M-98A.

The inclusion of Mitigation Measure **NOI-4** would reduce impacts from operational traffic noise to below the 1.5-, 3-, and 5-dB CNEL thresholds at all locations except two (M-98A and M-93) under Build Alternative 4. Therefore, impacts related to increased noise levels at these two locations would be considered significant under CEQA.

Lake Mathews MSHCP (Build Alternative 4)

No Impact

The roadway modifications as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment would not result in any receiver approaching or exceeding the noise abatement criteria for residential land uses within the LM MSHCP area, including the LMR.

Temporary Impacts

Build Alternatives 1, 2C, and 4

Less than Significant with Mitigation

Construction activities related to development of the project would occur over approximately 4 years. Construction activities would cause short-term elevated noise levels at the surrounding residences. Construction-related noise would occur with the inclusion and use of construction equipment such as concrete mixers, bulldozers, backhoes, and heavy trucks. Table 3.15-10 in Section 3.15, *Noise and Vibration*, shows construction equipment noise levels associated with the project, and these equipment noise levels are also shown below in Table 4.2-16. The noise levels in the table below are the maximum noise levels for construction equipment that would be representative of equipment used on the project site.

Table 4.2-16. Typical Construction Noise Levels

Equipment	L_{max} at 50 feet (dBA, slow)
Air compressor	78
Auger drill rig	84
Backhoe	78
Compactor	83
Concrete mixer truck	79
Concrete pump truck	81
Crane	81
Dozer	82
Dump truck	76
Excavator	81
Front-end loader	79
Generator	81
Grader	85
Impact pile driver	101
Jackhammer	89
Paver	77
Pneumatic tools	85
Rollers	80
Scraper	84
Welder/torch	74

Source: Federal Highway Administration. 2008. *Roadway Construction Noise Model*. Software Version 1.1. See also http://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/rcnm.pdf.

Based on the types of construction activities and equipment required for the proposed project, noise levels at 15 meters (50 feet) from the center of construction activities would generally range from 80 to 85 dBA during peak periods. However, during times when the pile driver is required, maximum noise would be substantially louder, resulting in noise levels up to 101 dBA. Because not all of the equipment would be operating at the same time or for the entire day, the hourly equivalent noise level (Leq[h]) from project construction would be substantially lower than the peak period and the maximum noise levels reflected in Table 4.2-16. In addition, any increase in the background noise level due to project construction would be temporary.

Construction noise would not be in excess of the limits of any applicable noise standards, because construction noise is generally exempt from the County's noise ordinance, provided that construction activities occur during the permitted hours. For construction activities located more than 0.25 mile from an occupied residence, construction noise would be exempt from the noise ordinance at any time of the day. When construction of the project occurs within 0.25 mile of an occupied residence, significant noise impacts would be avoided by the limitation of noise-generating construction activity to within the hours permitted by County of Riverside code (i.e., between the hours of 6:00 p.m. and 6:00 a.m. June through September and 6:00 p.m. and 7:00 a.m. October through May). Additionally, the incorporation of noise control measures as part of Standard Project Measure **PF NOI-5** would be implemented as appropriate to reduce increases in noise during construction, as discussed below. While this measure is not required to mitigate this impact, it would further reduce the effects of noise on nearby residences if included during construction.

- **PF NOI-5:** Construction noise would be temporary and limited to the duration of the construction. The following noise control measures will also be incorporated into the project contract specifications in order to minimize construction noise effects:
  - Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6 p.m. and 6 a.m. during the months of June through September and between the hours of 6 p.m. and 7 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official (County of Riverside Code).
  - All noise-producing project equipment and vehicles using internal combustion engines will be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specifications. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise-control features that are readily available for that type of equipment.
  - To the extent feasible, sound control blankets shall be placed such that the line of sight from ground-level construction equipment and sensitive receptors would be blocked. For example, an 8-foot-high sound control blanket that has a minimum Sound Transmission Class rating of 28 would provide a noise level reduction of 11 A-weighted decibels when the construction equipment is approximately 50 feet from the sound control blanket while the receptor is approximately 10 feet on the other side.

- All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of project activity.
- Electrically powered equipment will be used instead of pneumatic or internal combustion–powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas will be located as far as practicable from noise-sensitive receptors.
- Construction site and access road speed limits will be established and enforced during the construction period.
- The hours of construction, including noisy maintenance activities and all spoils and material transport, will be restricted to the periods and days permitted by the local noise or other applicable ordinance. Noise-producing project activity will comply with local noise control regulations affecting construction activity or obtain exemptions therefrom.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- No project-related public address or music system will be audible at any adjacent receptor.
- All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule. A sign, legible at a distance of 50 feet, shall also be posted at the construction site. All notices and the signs shall indicate the dates and duration of construction activities.
- The onsite construction supervisor will have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner will be established prior to construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

4.2.13(b) Generation of excessive groundborne vibration or groundborne noise levels?

Build Alternatives 1 and 2C

Less than Significant

Any groundborne noise or vibration would be limited to the construction period and would be short in duration. The project would include pavement-breaking construction activities along the existing roadway alignment on Cajalco Road where new pavement would be laid for Alternatives 1 and 2C. Caltrans' *Transportation and Construction Vibration Guidance Manual* states that the typical type of construction equipment involved in laying new pavement produces a peak particle velocity (PPV) of 0.21 PPV inch per second (in/sec) (for vibratory rollers) at a reference distance of 25 feet (Caltrans 2020h). The vibration damage threshold for older residential building is 0.5 PPV. Vibration-sensitive structures that are considered extremely susceptible to vibration damage would not be located within 50 feet of construction activities. Pile driving is proposed at new bridge locations where engineering designs and geotechnical conditions indicate that pile driving is the appropriate construction method. For proposed bridge

locations where engineering designs and geotechnical conditions warrant pile driving, the closest habitable structure would be approximately 310–330 feet from the vibration sources. As such, vibration levels would be on the order of 0.04 PPV in/sec (Caltrans 2020h). No impacts from vibration during construction are predicted at habitable structures. In addition, cast-in-drilled-hole piles, or shallow-spread footings, may be used, depending on engineering designs and geotechnical conditions. These construction techniques would be considerably less vibration intensive (0.089 PPV in/sec), which would further reduce vibration levels.

Significant temporary noise impacts and vibration would be avoided by the limitation of noise-generating construction activity to within the hours permitted by County of Riverside's code (i.e., 6 p.m. and 6 a.m. [when within 0.25 mile of an occupied residence]) (**PF NOI-5**). In addition, Standard Project Measure **PF NOI-5** requires implementation of noise control measures, would be implemented in order to minimize construction noise impacts. This measure, although not required to mitigate vibration impacts, would further reduce the effects of groundborne noise and vibration.

With respect to operations, the proposed project does not involve changes that would result in noticeable increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway when compared to the No-Build Alternative. Once the project is completed, long-term increases in noise levels from use or maintenance of the roadway would be less than significant.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant

The roadway modifications as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment could result in groundborne noise and vibration sources being located closer to noise- and vibration-sensitive receptors within the LM MSHCP area, including the LMR. However, as discussed above, vibration and groundborne noise levels would be well below the threshold of damage. Vibration would also likely be reduced with the incorporation of Standard Project Measure **PF NOI-5**; however, this measure is not required to mitigate vibration impacts.

Build Alternative 4—El Sobrante Alignment

Less than Significant

Any groundborne noise or vibration would be limited to the construction period and would be short in duration. The project would include pavement-breaking construction activities along the existing roadway alignments on Cajalco Road, La Sierra Avenue, and El Sobrante Road, where new pavement would be laid for Build Alternative 4. Caltrans' *Transportation and Construction Vibration Guidance Manual* states that the typical type of construction equipment involved in laying new pavement produces a PPV of 0.21 PPV in/sec (for vibratory rollers) at a reference distance of 25 feet (Caltrans 2020h). The vibration damage threshold for older residential building is 0.5 PPV. Vibration-sensitive structures that are considered extremely susceptible to vibration damage would not be located within 50 feet of construction activities. Pile driving is proposed at new bridge locations where engineering designs and geotechnical conditions indicate that pile driving is the appropriate construction method. For proposed bridge locations where

engineering designs and geotechnical conditions warrant pile driving, the closest habitable structure would be approximately 310–330 feet from the vibration sources. As such, vibration levels would be on the order of 0.04 PPV in/sect (Caltrans 2020h). No impacts from vibration during construction are predicted at habitable structures. In addition, cast-in-drilled-hole piles, or shallow-spread footings, may be used, depending on engineering designs and geotechnical conditions. These construction techniques would be considerably less vibration intensive (0.089 PPV in/sec), which would further reduce vibration levels.

Significant temporary noise impacts and vibration would be avoided by the limitation of noise-generating construction activity to within the hours permitted by County of Riverside's code (i.e., 6 p.m. and 6 a.m. [when within 0.25 mile of an occupied residence]) (**PF NOI-5**). In addition, Standard Project Measure **PF NOI-5** also includes the implementation of noise control measures, would be implemented in order to minimize construction noise impacts. This measure, although not required to mitigate vibration impacts, would further reduce the effects of groundborne noise and vibration.

With respect to operations, the proposed project does not involve changes that would result in noticeable increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway when compared to the No-Build Alternative. Once the project is completed, long-term increases in noise levels from use or maintenance of the roadway would be less than significant.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant

The roadway modifications as a result of the conversion of conservation lands to a transportation facility along the Cajalco Road alignment could result in groundborne noise and vibration sources being located closer to noise- and vibration-sensitive receptors within the LM MSHCP area, including the LMR. However, as discussed above, vibration levels would be well below the threshold of damage and groundborne noise levels would be mitigated by including Standard Project Measure **PF NOI-5**.

4.2.13(c) For a project located within the vicinity of a private airstrip or 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?

Build Alternatives 1, 2C, and 4

No Impact

The eastern end of the proposed project is within the March Air Reserve Base Airport Land Use Compatibility Plan area. However, the proposed project would not result in the exposure of people residing or working in the project area to excessive noise levels associated with the March Air Reserve Base. There would be no impact and no mitigation would be required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

If constructed in the future, the limits of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, or within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, would be outside any airport influence area. There would be no impact and no mitigation would be required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The LM MSHCP and LMR are outside of the boundaries of any airport influence area. There would be no impact and no mitigation would be required.

4.2.14 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☒	☐

The potential for the proposed project to affect population and housing was assessed in Sections 3.1, *Land Use*, 3.3, *Growth*, and 3.4, *Community Impacts*, of this EIR/EIS. The following discussion is also based on information in the *Community Impact Assessment* and *Errata* (Caltrans 2018c, 2021).

4.2.14(a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Build Alternatives 1 and 2C

No Impact

The growth-inducing potential of a project could be considered significant if it influences growth in excess of what is projected in general plans (land use elements) or in forecasts made by regional planning agencies. As detailed in Section 3.3, *Growth*, of this EIR/EIS, Build Alternatives 1 and 2C would include infrastructure improvements to an existing transportation facility, Cajalco Road; improvements would include additional travel lanes that would increase roadway capacity, as well as the addition of traffic flow controls such as center medians and turn lanes, and realignment of sections of the existing Cajalco Road. The proposed project, however, is located in a largely semi-rural, undeveloped part of Riverside County with limited remaining land permitted for development; designated land uses severely limit the amount of development per acre and open space and conservation areas prohibit development. Within the project study area, thousands of acres are committed to conservation under the WRC MSHCP, LM MSHCP, and SKR HCP and would not accommodate development or potential growth-inducing facilities.

Areas of potential growth in the general vicinity of the project were identified using local general plans and County of Riverside land use designations and zoning for Vacant/Undeveloped lands zoned W-2, W-2-10, and W-2-M-1/2, Controlled Development Areas and Controlled Development Areas with Mobile Homes, within a half mile of the project alternatives. The local general plans have identified approximately 3,908.46 acres where growth is anticipated within this half-mile radius of the project (see Table 3.3-2, Areas of Potential Future Growth). Growth that is projected to occur within the project vicinity is anticipated to occur primarily through infill development in designated parts of the county and cities per local land use plans and zoning. In addition, projects that have been planned within the project vicinity have been

identified as well. The areas where projects are planned are consistent with the County's plan for infill and development to occur in undeveloped/vacant lands, and in residential and business/industrial areas (see Figure 3.3-2 in Section 3.3, *Growth*). This indicates that the planned development of the project area would occur regardless of implementation or operation of any of the build alternatives.

Build Alternatives 1 and 2C are intended to alleviate existing patterns of congestion rather than create a new route to an area not currently served by major transportation routes. While the proposed improvements would increase the capacity of Cajalco Road, Build Alternatives 1 and 2C are not expected to substantially influence growth within the region because it is identified in the SCAG RTP/SCS regional projections and would not subject new areas to development that are not currently accessible.

The build alternatives would not be expected to influence the amount, location, and/or distribution of growth in the cities, unincorporated areas, or the portion of Riverside County within the project study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors. There would be no impact and no mitigation is required.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not result in additional growth because accessibility would not change and new roadways would not be constructed in currently undeveloped areas. There would be no impact and no mitigation is required.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements within the LM MSHCP boundary. However, the implementation of roadway improvements within the LM MSHCP boundary would not facilitate or otherwise influence growth, as the LM MSHCP restricts development within its boundaries and lands would continue to be committed to conservation. Therefore, growth is not planned for, nor would it occur within, its boundaries. There would be no impact and no mitigation would be required.

Build Alternative 4—El Sobrante Alignment

No Impact

Build Alternative 4 would result in modifications to accessibility by increasing the capacity of portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road and adding traffic flow controls such as center medians and turn lanes.

Build Alternative 4 has limited potential to influence growth because it is located in an area with limited potential for development due to land use and zoning controls such as county and local city general plan land use designations, development restrictions, lands committed to

conservation, and lands currently or in the process of being developed. Similar to Build Alternatives 1 and 2C, planned development of the project area would occur regardless of implementation or operation of Build Alternative 4. Build Alternative 4 would also not create a new route to an area not currently served by a major transportation route. Similar to Build Alternatives 1 and 2C, Build Alternative 4 is intended to alleviate existing patterns of congestion rather than create a new route to an area not currently served by major transportation routes. While the proposed improvements would increase the capacity of portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road, Build Alternative 4 would not be expected to substantially influence growth within the region because it is identified in the SCAG RTP/SCS regional projections and would not subject new areas to development that are not currently accessible.

Build Alternative 4 would not be expected to influence the amount, location, and/or distribution of growth in the cities, unincorporated areas, or the portion of Riverside County within the project study area because the project would not encourage population density, construction of new housing, or opportunities for capital investment by the public or private sectors. There would be no impact and no mitigation is required.

Future Six-Lane Facility (Build Alternative 4)

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, it is anticipated that operation of the facility would not result in additional growth because accessibility would not change and new roadways would not be constructed in currently undeveloped areas. There would be no impact and no mitigation is required.

Lake Mathews MSHCP (Build Alternative 4)

An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements within the LM MSHCP boundary. However, the implementation of roadway improvements within the LM MSHCP boundary would not facilitate or otherwise influence growth, as the LM MSHCP restricts development within its boundaries and lands would continue to be committed to conservation. Therefore, growth is not planned for, nor would it occur within, its boundaries. There would be no impact and no mitigation is required.

4.2.14(b) Displace substantial numbers of people or housing, necessitating the construction of replacement housing elsewhere?

Build Alternatives 1 and 2C

Less than Significant Impact

As detailed in Section 3.4.2, *Relocations and Real Property Acquisitions*, of Section 3.4, *Community Impacts*, Build Alternatives 1 and 2C would require full acquisition of 18 residential properties and partial acquisition of one residential property with a residential unit, resulting in the displacement and relocation of 62 residents. According to the Draft Relocation Impact Report prepared for the project, a sufficient number of residential replacement properties for both

owner-occupied single-family residences and tenant-occupied single-family residences exists within the affected communities (Caltrans 2018g). Standard Project Measure **PF COM-1**, below, would be implemented for all build alternatives to reduce impacts from property acquisition and relocation. Relocation assistance payments and counseling would be provided to persons in accordance with the Uniform Relocation Act and Real Property Acquisition Policies Act of 1970, as amended, to ensure adequate relocation and decent, safe, and sanitary housing for displaced residents. The County will also assist eligible nonresidential displaces, such as businesses, in locating suitable replacement property, and reimbursement for certain costs involved in relocation. Construction of replacement housing would not be required; therefore, impacts would be less than significant. No mitigation is required.

- **PF COM-1:** As part of project implementation, relocation assistance payments and counseling would be provided by the County of Riverside to persons and businesses in accordance with the Federal Uniform Relocation Assistance and Real Properties Acquisition Policies Act of 1970, as amended (42 United States Code Sections 4601–4655), to ensure adequate relocation and a decent, safe, and sanitary home for displaced residents. The County of Riverside will provide compensation to eligible recipients for property acquisitions. All eligible displacees would be entitled to moving expenses. All benefits and services would be provided equitably to all residential and business displacees without regard to race, color, religion, age, national origins, and disability, as specified under Title VI of the Civil Rights Act of 1964. All relocation activities would be conducted by the implementing agencies in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Relocation resources would be available to all displacees without discrimination.

  In addition, the Nonresidential Relocation Assistance Program provides assistance to businesses, farms, and nonprofit organizations in locating suitable replacement properties and reimbursement for certain costs involved in relocation. The Relocation Assistance Program will provide current lists of properties offered for sale or rent, suitable for a particular business's specific relocation needs. The types of payments available to eligible businesses, farms, and nonprofit organizations are instead of any moving, searching, and reestablishment expenses.

Build Alternative 4—El Sobrante Alignment

Less than Significant Impact

Build Alternative 4 would require the same full acquisition of 18 residential properties as would occur under Build Alternatives 1 and 2C; additional partial acquisition of three residential properties with residential units, however, would result in the displacement and relocation of 69 residents under Build Alternative 4. According to the Draft Relocation Impact Report prepared for the project, a sufficient number of residential replacement properties for both owner-occupied single-family residences and tenant-occupied single-family residences exists within the affected communities. Standard Project Measure **PF COM-1** would be implemented for all build alternatives to reduce impacts from property acquisition and relocation. Construction of replacement housing would not be required; therefore, impacts would be less than significant. No mitigation is required.

4.2.15 Public Services

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

The potential for the proposed project to affect public services was assessed in Sections 3.1, *Land Use*, 3.3, *Growth*, 3.5, *Utilities/Emergency Services*, and 3.4, *Community Impacts*, of this EIR/EIS. The following discussion is also based on information in the *Community Impact Assessment* and *Errata* (Caltrans 2018c, 2021).

4.2.15(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection and/or police protection, schools?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Build Alternatives 1, 2C, and 4 would include infrastructure improvements to existing transportation facilities: Cajalco Road, or a combination of Cajalco Road, La Sierra Avenue, and El Sobrante Road. Improvements would include additional travel lanes that would increase roadway capacity, as well as the addition of traffic flow controls such as center medians and turn lanes, and realignment of sections of existing Cajalco Road. The proposed project includes design measures and other BMPs incorporated into the project to minimize physical impacts (refer to Chapter 2, Section 2.2.1.1, *Common Design Features of the Build Alternatives*).

The nearest recreational facilities to the project are Dos Lagos Golf Course and Manuel L. Real Elementary School, which are approximately 0.1 mile from the project limits. According to the traffic analysis prepared for the project, the proposed project would not result in a substantial

change in traffic or traffic patterns that would affect the primary roadways used for access to the golf course, Temescal Canyon Road, or Manuel L. Real Elementary School (Cajalco Road and Clark Street).

Build Alternatives 1, 2C, and 4 would not involve the construction of any habitable structures, nor would the alternatives induce population growth (see Section 3.3, *Growth*) in the project area. Therefore, additional demand for new or expanded emergency facilities or services, or the need for new or physically altered school facilities, fire protection, police protection, park, or other public facilities, would not occur. As discussed in Section 3.5, *Utilities/Emergency Services*, during construction of the proposed project, temporary detours may be required and could result in delays affecting fire and/or police protection, and school access. However, pedestrian safety and access to Manuel L. Real Elementary School may improve with additional sidewalks and designated bus turnouts proposed along Cajalco Road. The proposed project would include Standard Project Measure **PF LU-1**, which includes a TMP and public awareness campaign that would serve to inform and coordinate with motorists, business owners/operators, residents, elected officials and government agencies, and emergency service providers, regarding construction activities and associated impacts. Refer to Section 3.1, *Land Use*, for Standard Project Measure **PF LU-1**. Impacts would be less than significant; mitigation would not be required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that the change from four to six lanes would enhance emergency response times and would not interfere with school operations. During construction, temporary access impacts may occur and would be addressed with Standard Project Measure **PF LU-1**. Impacts would be less than significant; mitigation would not be required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

As indicated under Build Alternatives 1, 2C, and 4 above, the proposed project would include Standard Project Measure **PF LU-1**, which includes a TMP and public awareness campaign that would serve to inform and coordinate with motorists, business owners/operators, residents, elected officials and government agencies, and emergency service providers regarding construction activities and associated impacts. Refer to Section 3.1, *Land Use*, for Standard Project Measure **PF LU-1**. Impacts would be less than significant; mitigation would not be required.

Parks and/or other public facilities?

Build Alternatives 1, 2C, and 4

No Impact

The nearest parks and community facilities to the proposed project are Charles Meigs (Mead Valley) Community Center and Victoria Grove Park. Build Alternatives 1, 2C, and 4 would not require temporary construction easements within any parks or recreational facilities. While trails or Class I bike paths are not proposed as part of the project, improvements that would support pedestrian, equestrian, and cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue include curb, gutter, and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane. The project would not preclude future consideration of trail and bicycle facilities identified in local plans or interfere with continued use of local, unpaved roadways for equestrian uses.

Construction would also result in intermittent traffic delays under all build alternatives until the project is completed; however, the delays would be temporary and are not anticipated to be substantial enough to affect parks and recreational facilities.

Build Alternatives 1, 2C, and 4 would not involve the construction of any habitable structures, nor would the alternatives induce population growth (see Section 3.3, *Growth*) in the project area. Therefore, additional demand for new or expanded emergency facilities or services, or the need for new or physically altered school facilities, fire protection, police protection, park, or other public facilities, would not occur. Therefore, there would be no impact and mitigation is not required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, demand for new or expanded emergency facilities or services, or the need for new or physically altered school facilities, fire protection, police protection, park, or other public facilities, would not be anticipated. Therefore, there would be no impact and mitigation is not required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As indicated under Build Alternatives 1, 2C, and 4 above, the proposed project would not result in the need for new or physically altered school facilities, fire protection, police protection, park, or other public facilities. Therefore, there would be no impact and mitigation is not required.

4.2.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation	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 proposed project to affect recreation was assessed in Sections 3.1, *Land Use*, 3.3, *Growth*, and 3.4, *Community Impacts*, of this EIR/EIS. The following discussion is also based on information in the *Community Impact Assessment* and *Errata* (Caltrans 2018c, 2021).

4.2.16(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?

Build Alternatives 1, 2C, and 4

No Impact

As discussed in Section 3.3, *Growth*, the proposed project would not be growth inducing, directly increase the number of people in the area, or cause an increase in the use of existing parks or recreational facilities or accelerated deterioration of existing facilities. Therefore, there would be no impact and mitigation is not required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, an increase the use of existing parks or recreational facilities or accelerated deterioration to existing facilities would not be anticipated. Therefore, there would be no impact and mitigation is not required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As indicated under Build Alternatives 1, 2C, and 4 above, the proposed project would not cause an increase the use of existing parks or recreational facilities or accelerated deterioration to existing facilities. Therefore, there would be no impact and mitigation is not required.

4.2.16(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?

Build Alternatives 1, 2C, and 4

No Impact

While trails or Class I bike paths are not proposed as part of the project, improvements that would support pedestrian, equestrian, and cyclist safety along Cajalco Road from Harley John Road to Harvill Avenue include curb, gutter, and 8-foot-wide shoulders that would serve as a combined shoulder/bike lane, consistent with County Class II and III Bikeway designations.[14] The project would not preclude future consideration of trail and bicycle facilities identified in local plans or interfere with continued use of local, unpaved roadways for equestrian uses. As no recreation-designated resources are being constructed as part of this project, there would be no impact and mitigation is not required.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, the construction of recreational facilities would not be included. Therefore, there would be no impact and mitigation is not required.

[14] The County of Riverside defines Class II and Class III Bikeways as follows:
Class II Bikeways, or bike lanes, are intended for preferential use by bicycles, and are provided for within the paved areas of roadways. Bike lane pavement striping and other markings, and bikeway signs are intended to promote an orderly flow of traffic by establishing demarcations between lanes designated for bicycles and lanes designated for motor vehicles. Bike lanes are one-way facilities that follow the flow of motor vehicle movement.
Class III Bikeways, or bike routes, are intended to provide continuity within the bikeways system, usually by connecting discontiguous segments of Class I and Class II Bikeways. Bike routes are shared facilities, either with motor vehicles on roads or with pedestrians on sidewalks, and bicycle usage of the facilities is considered secondary. Bike routes are not marked on pavement but are supported by signs. (County of Riverside 2020.)

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As indicated under Build Alternatives 1, 2C, and 4 above, the proposed project would not include the construction of recreational facilities. Therefore, there would be no impact and mitigation is not required.

4.2.17 Transportation

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☒	☐
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?[15]	☒	☐	☐	☐
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d) Result in inadequate emergency access?	☐	☐	☒	☐

The information presented in this section is based on Sections 3.1 and 3.6 of this EIR/EIS, and the Traffic Operations Analysis Report (Caltrans 2017d).

4.2.17(a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Build Alternatives 1 and 2C

Less than Significant Impact

Americans with Disabilities Act

The proposed project would provide facilities for bicycles and pedestrians in locations where local streets are affected by the construction of the build alternatives. These facilities would be designed consistent with the local general plan Circulation Element and comply with Americans with Disabilities Act (ADA) requirements.

The project would improve pedestrian facilities (sidewalks) by replacing existing facilities that would be removed as part of the project. Bike travel would also be improved by providing bicycle facilities per the local general plan Circulation Element. Bicycle travel is accommodated in the project area through the use of designated bikeways (Class II and Class III) on existing roadways.

[15] NOTE: While public agencies may immediately apply Section 15064.3 of the updated CEQA Guidelines, statewide application is not required until July 1, 2020. In addition, uniform statewide guidance for Caltrans projects is still under development. The project development team may determine the appropriate metric to use to analyze traffic impacts pursuant to Section 15064.3(b).

SCAG 2021 FTIP and 2020 RTP/SCS

Build Alternatives 1 and 2C are consistent with the scope included in the 2021 FTIP under ID RIV090903 (SCAG 2021).[16] In addition, Build Alternatives 1 and 2C would be generally consistent with the project description provided in the 2020–2045 SCAG RTP/SCS as project ID 3A04WT137, because both alternatives include widening Cajalco Road from Temescal Canyon Road to I-215. Build Alternatives 1 and 2C would also be consistent with the goals of the SCAG RTP/SCS because both alternatives would increase the capacity of Cajalco Road, which would improve mobility and accessibility for people and goods in the region. This would increase the roadway's ability to accommodate traffic, which would result in improved travel safety and reliability for all people and goods in the region. These improvements would also help preserve and ensure a sustainable regional transportation system and maximize the productivity of the transportation system.

County of Riverside General Plan

Build Alternatives 1 and 2C would increase the capacity of Cajalco Road, which would accommodate increased concentrations of population and employment activities, improving the efficiency of transportation within Riverside County; however, portions of the build alternatives would be inconsistent with the planned transportation facilities outlined in the Circulation Plan. The General Plan Circulation Element, Figure C-1, classifies Cajalco Road as an Expressway, with a minimum right of way varying in width from 184 feet to 220 feet. The proposed right of way for Cajalco Road varies throughout the project limits.

Between Carpinus Drive and Alexander Street, a new bridge over Cajalco Creek is proposed just west of Barton Street, for Cajalco Road westbound traffic; due to the spacing between the eastbound and westbound lanes at the proposed bridge, the maximum right of way width at this location is anticipated to be approximately 230 feet. While the total roadway right of way width exceeds the width identified for Cajalco Road in the General Plan (220 feet), the wider section of right of way would be necessary to accommodate the proposed bridge while avoiding sensitive resources between the east- and westbound lanes.

Between Temescal Canyon Bridge and Harley John Road, project impacts would extend beyond the proposed 128-foot roadway right of way to accommodate slope easements and appurtenant facilities. This would be consistent with the general plan designation and would not preclude future widening up to 220 feet.

[16] The project is currently described in the 2021 FTIP as "CAJALCO RD. WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON RD. TO HARVILL AVE AND FROM 4 TO 6 LANES FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND A BRIDGE RECONSTRUCTION OVER A WATER CROSSING." The County of Riverside has submitted an amendment that would update the description as follows: "IN RIVERSIDE COUNTY ON CAJALCO RD - WIDENING FROM 2 TO 4 THRU LNS (2 IN EA DIR) FROM TEMESCAL CANYON. BRIDGE/EAGLE CANYON ROAD TO HARVILL AVE AND FROM 4 TO 6 LANES WITH THREE LANES IN THE WESTBOUND DIRECTION FROM TEMESCAL CANYON RD TO TEMESCAL CANYON BRIDGE, THREE LANES IN THE EASTBOUND DIRECTION FROM TEMESCAL CANYON ROAD TO JUST EAST OF EAGLE CANYON ROAD, AND THREE LANES EASTBOUND AND WESTBOUND FROM HARVILL AVE TO I-215, INCLUDING TURN POCKETS AND THE CONSTRUCTION OF NEW, AND RECONSTRUCTION OF EXISTING, BRIDGES AS NEEDED." This amendment will be obtained prior to adoption of the Final Environmental Document.

Both build alternatives also provide for the expansion of the existing transportation network and the development of alternative travel modes, including additional bus turnouts for bus routes.

The proposed project alignment traverses areas where Regional and Community Trails are currently planned as future improvements in the vicinity (Circulation Element Figure C-6) of Build Alternatives 1 and 2C. Development of these trails is not included as part of the defined project right of way; however, these alternatives would not impede implementation of the Comprehensive Trails Plan because neither includes any components that would prevent development of or access to future trails.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

Build Alternatives 1 and 2C would be consistent with the Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans. Only very small portions of the project would be included in the Temescal Canyon Area Plan. Both build alternatives would increase the capacity of Cajalco Road, which would improve level of service (LOS) standards for people and goods in the region over no-project conditions. For example, the number of deficient intersections and freeway segments would be greatest under the No-Build Alternative and decrease under all build alternatives (Caltrans 2017d). In the Temescal Canyon Area Plan, neither build alternative would preclude future construction of a six-lane roadway within this area plan, which would be consistent with Temescal Canyon Area Plan Figure 7 and the functional classifications and standards specified. In the Mead Valley Area Plan, the current design of the build alternatives would not preclude the functional classifications and standards specified in the Mead Valley Area Plan in Figure 8, which specifies Cajalco Road as a 220-foot-wide expressway. Because of this, Build Alternatives 1 and 2C would not interfere with, nor impede, implementation of this area plan.

Cities of Corona and Perris General Plans

Build Alternatives 1 and 2C would be consistent with the Cities of Corona and Perris General Plans. Only very small portions of the project would be included in or adjacent to either the City of Corona or Perris. Even though the build alternatives would be only partially within or adjacent to the cities, the build alternatives would still improve existing transportation infrastructure and increase the capacity of Cajalco Road in or adjacent to both cities, which would enhance both cities' fiscal viability by improving the efficiency of the transportation of goods and services and improve mobility and accessibility and reduce congestion and travel times for people and goods in the region. Both build alternatives would require partial lane closures of Cajalco Road during construction, which could result in delays for emergency service providers who use these roadways. However, the implementation of the TMP (see Standard project Measure **PF LU-1**) would provide construction project information to emergency service providers to ensure adequate service. During operations, conditions along Cajalco Road, including delay and LOS, would improve, which would benefit emergency service providers because Cajalco Road is the most direct route between the Cities of Corona and Perris and the communities in between. Because of this, Build Alternatives 1 and 2C would not interfere with, nor impede, implementation of either city's policies.

Western Riverside County MSHCP

WRC MSHCP Volume I, Figure 7-1, identifies that Riverside County General Plan Circulation Element roadway for Build Alternatives 1 and 2C allow for a 128-foot-wide roadway right of way. While the proposed roadway right of way width for Build Alternatives 1 and 2C within the Criteria Area is 128 feet, project impacts associated with related roadway improvements and/or slope easements and appurtenant facilities are anticipated to extend beyond the 128-foot right of way in limited areas. For this reason, a minor amendment of the WRC MSHCP, as described in Volume I, Section 6.10.2, would be required for Build Alternatives 1 and 2C. As part of the amendment, the County may coordinate with RCA to negotiate an adjustment of right of way for another County facility to accommodate the additional right of way needed for Build Alternatives 1 and 2C.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan (ALUCP) contains no relevant policies; Build Alternatives 1 and 2C would not involve the construction of structures that would have any effect on airport land use or operations.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Under Build Alternatives 1 and 2C, Cajalco Road would be expanded and realigned within the LM MSHCP and LMR; appurtenant facilities including drainage basins, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Less than Significant Impact

SCAG 2021 FTIP and 2020 RTP/SCS

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, the future expansion would not be fully consistent with the scope in the SCAG RTP/SCS because the SCAG RTP/SCS only includes construction of four lanes. However, the Future Six-Lane Facility would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternatives 1 and 2C.

County of Riverside General Plan and Comprehensive Trails Plan

The addition of two lanes, if constructed in the future, would also be consistent with the County of Riverside General Plan and Comprehensive Trails Plan for the same reasons as described for Build Alternatives 1 and 2C. No additional right of way would be anticipated; therefore, the widths of Cajalco Road would be consistent with the General Plan.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

The addition of two lanes, if constructed in the future, would be consistent with the Temescal Canyon Area Plan and Lake Mathews/Woodcrest Area Plan for the same reasons as described for Build Alternatives 1 and 2C. Within the Temescal Canyon Area Plan, two additional lanes within the median of Cajalco Road, if constructed in the future, would be consistent with Temescal Canyon Area Plan Figure 7 and the functional classifications and standards specified, which include construction of a six-lane roadway within this area plan. Median design that would potentially accommodate additional lanes in the future would not extend east of Harley John Road under Build Alternatives 1 and 2C and is thus not anticipated to affect the Mead Valley Area Plan area.

Cities of Corona and Perris General Plans

The addition of two lanes, if constructed in the future, would be consistent with the Corona General Plan for the same reasons as described for Build Alternatives 1 and 2C. The limits of the median design that would accommodate two additional lanes would not be within the Perris General Plan area.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The Future Six-Lane Facility, if constructed, would not occur within the March Air Reserve Base/Inland Port ALUCP area.

Lake Mathews MSHCP

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the LM MSHCP area would be acquired; thus, the two additional travel lanes would be consistent with the LM MSHCP.

Build Alternative 4—El Sobrante Alignment

Less than Significant Impact

Americans with Disabilities Act

The proposed project would provide facilities for bicycles and pedestrians in locations where local streets are affected by the construction of the build alternatives. These facilities would be designed consistent with the local general plan Circulation Element and comply with ADA requirements.

The project would improve pedestrian facilities (sidewalks) by replacing existing facilities that would be removed as part of the project. Bike travel would also be improved by providing bicycle facilities per the local general plan Circulation Element. Bicycle travel is accommodated in the project area through the use of designated bikeways (Class II and Class III) on existing roadways.

SCAG 2021 FTIP and 2020 RTP/SCS

Build Alternative 4 would be partially but not fully consistent with the FTIP. In addition, Build Alternative 4 would be partially but not fully consistent with the scope in the SCAG RTP/SCS. The project description in the SCAG RTP/SCS does not match Build Alternative 4, because the RTP only describes the project as an expansion of Cajalco Road, not La Sierra Avenue or El Sobrante Road. If Build Alternative 4 is selected as the preferred alternative, an amendment to the SCAG RTP/SCS would be required to modify the project description. However, Build Alternative 4 would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternatives 1 and 2C.

County of Riverside General Plan and Comprehensive Trails Plan

Build Alternative 4 would be consistent with the Riverside County Regional Park and Open-Space District Comprehensive Trails Plan for the same reasons as described for Build Alternatives 1 and 2C. Build Alternative 4 would also include modifications to the alignments and roadway widths of La Sierra Avenue and El Sobrante Road. The County General Plan Circulation Element, Figure C-1, classifies La Sierra Avenue and El Sobrante Road as Mountain Arterial (110-foot right of way) and Arterial (128-foot right of way), respectively. The proposed roadway right of way for La Sierra Avenue under Build Alternative 4 would vary between 135 and 145 feet, and the proposed roadway right of way for El Sobrante Road would vary between 120 and 150 feet. Both roadways would also involve project impacts extending beyond the roadway right of way to accommodate slope easements and appurtenant facilities. While the proposed modifications to La Sierra Avenue and El Sobrante Road would be consistent with the number of lanes identified in the County of Riverside General Plan for each type of roadway facility (two to four lanes for Mountain Arterial, and four to six lanes for Arterial), the proposed roadway right of way widths would not be consistent with those identified for their respective facility types.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

Build Alternative 4 would be consistent with the Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans for the same reasons as described for Build Alternatives 1 and 2C. However, under Build Alternative 4, areas between El Sobrante Road and La Sierra Avenue would experience a minor decrease in LOS.

Cities of Corona and Perris General Plans

Build Alternative 4 would be consistent with the Cities of Corona and Perris General Plans for the same reasons as described for Build Alternatives 1 and 2C. This is because the portions of Build Alternative 4 that fall within the Cities of Corona and Perris have the same design as the design for Build Alternatives 1 and 2C.

Western Riverside County MSHCP

WRC MSHCP Volume I, Figure 7-1 identifies the Riverside County General Plan Circulation Element roadway right of way for El Sobrante Road as 196 feet. While the proposed roadway right of way width for Build Alternative 4 is not anticipated to exceed the 196-foot right of way through the Criteria Area, related roadway improvements and/or slope easements and

appurtenant facilities may exceed the 196-foot roadway width in limited areas. Therefore, a minor amendment of the WRC MSHCP, as described in Volume I, Section 6.10.2, may be required for Build Alternative 4. As part of the amendment, the County may coordinate with RCA to negotiate an adjustment of right of way for another County facility to accommodate the additional right of way needed.

Lake Mathews HCP (Build Alternative 4)

Build Alternative 4 would expand and realign La Sierra Avenue and El Sobrante Road within the LM MSHCP and LMR; appurtenant facilities including drainage basins, culverts, bridges, and wildlife crossings would also be constructed. Because the LM MSHCP does not currently accommodate roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements. Build Alternative 4 would also encroach into the LM MSHCP and remove habitat for LM MSHCP target species, which is not currently permissible under the LM MSHCP. Modification of the LM MSHCP and LMR to allow for the proposed project and address areas removed or otherwise affected by Build Alternative 4 will be coordinated between the County and LM MSHCP responsible parties.

Future Six-Lane Facility (Build Alternative 4)

SCAG 2021 FTIP and 2020 RTP/SCS

The construction of two additional travel lanes within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and Harley John Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. However, if the additional lanes are constructed in the future, the future expansion would not be fully consistent with the scope in the SCAG RTP/SCS because the SCAG RTP/SCS only includes construction of four lanes. However, the Future Six-Lane Facility under Build Alternative 4 would be consistent with the goals of the SCAG RTP/SCS for the reasons described above for Build Alternative 4.

County of Riverside General Plan and Comprehensive Trails Plan

The addition of two lanes, if constructed in the future, would be consistent with the County of Riverside General Plan and Comprehensive Trails Plan for the same reasons as described for Build Alternative 4. No new right of way would be anticipated and the widths of Cajalco Road and La Sierra Avenue would be consistent with the general plan.

Temescal Canyon, Lake Mathews/Woodcrest, and Mead Valley Area Plans

The addition of two lanes, if constructed in the future, would be consistent with the Temescal Canyon and Lake Mathews/Woodcrest Area Plan for the same reasons as described for Build Alternative 4. No new right of way would be required, avoiding any additional impacts on farmland.

In the Temescal Canyon Area Plan, two additional lanes within the median of Cajalco Road and La Sierra Avenue, if constructed in the future, would be consistent with Temescal Canyon Area

Plan Figure 7 and the functional classifications and standards specified, which include construction of a six-lane roadway within this area plan.

Median design that would potentially accommodate additional lanes in the future would not extend east of Cowan Road under Build Alternative 4 and is thus not anticipated to affect the Mead Valley Area Plan area.

Cities of Corona and Perris General Plans

The addition of two lanes, if constructed in the future, would be consistent with the Corona General Plan for the same reasons as described for Build Alternative 4. The limits of the median design that would accommodate two additional lanes would not be within the Perris General Plan area.

Western Riverside County MSHCP

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the WRC MSHCP areas would be acquired; thus, the two additional travel lanes would be consistent with Volume I, Figure 7-1, of the WRC MSHCP.

Lake Mathews MSHCP

The addition of two lanes, if constructed in the future, would be expected to be constructed within the median areas of existing roadway right of way and no additional right of way within the LM MSHCP area would be acquired; thus, the two additional travel lanes would be consistent with the LM MSHCP.

March Air Reserve Base/Inland Port Airport Land Use Compatibility Plan

The Future Six-Lane Facility, if constructed, would not occur within the March Air Reserve Base/Inland Port ALUCP area.

4.2.17(b) Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b)?

Build Alternatives 1, 2C, and 4

Potentially Significant Impact

The "Potentially Significant Impact" finding pertains specifically to the proposed project's VMT analysis, as addressed in this section. Findings related to LOS for the forecast year (2044) associated with the build alternatives and No-Build Alternative are also presented following the *Vehicle Miles Traveled Analysis* section, below. Detailed discussion regarding existing year (2014) LOS conditions compared to forecast year (2044) conditions associated with the build alternatives and No-Build Alternative are included in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*.

Vehicle Miles Traveled Analysis

In 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg 2013), which creates a process to change the way transportation impacts are analyzed under CEQA. In December 2018, the California Natural Resources Agency certified and adopted the State CEQA Guidelines updates, including the State CEQA Guidelines section implementing SB 743 (i.e., § 15064.3). SB 743 required the California Governor's Office of Planning and Research to amend the State CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts; auto delay (e.g., LOS) is no longer considered a significant impact under CEQA.[17] The requirements under SB 743 support the State's legislated goals pertaining to climate change (e.g., SB 32 and SB 375).[18]

Pursuant to State CEQA Guidelines Section 15064.3, transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less-than-significant transportation impact. For roadway capacity projects, lead agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. In the absence of specific criteria for determining the significance of transportation impacts under CEQA Section 15064.3(b) for County of Riverside roadway capacity projects, the County has elected to apply the VMT metric as a conservative measure for this project only. The application of VMT as a metric in the determination of level of significance for transportation impacts involving County roadway capacity projects will be considered on a project-by-project basis.

As detailed in Table 4.2-17, below, VMT is forecast to increase by less than 1 percent under Build Alternatives 1, 2C, and 4, as compared to No-Build Alternative conditions in the future year (2044).

Table 4.2-17. Vehicles Miles Traveled – Forecast Year (2044) No-Build Alternative and Build Alternatives 1, 2C, and 4 Conditions

Alternative	AM Peak Hour	PM Peak Hour	Daily
No-Build Alternative	2,861,258	4,859,804	14,659,917
Alternative 1	2,885,200	4,908,555	14,779,906
Alternative 2C	2,873,908	4,894,605	14,721,152
Alternative 4	2,891,390	4,914,059	14,811,302
Source: Caltrans 2017d			

While the build alternatives are forecast to increase VMT by less than 1 percent in the year 2040 as compared to the No-Build Alternative, the VMT analysis includes an assumed future CETAP transportation corridor between I-15 and I-215, separate from the proposed project, that may influence projected future No-Build VMT. As indicated in Tables 3.6-14 and 3.6-24 in Section

[17] SB 743, Chapter 386 (2013): Changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

[18] SB 32, 2016: Chapter 249 (2016), codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.
SB 375, Chapter 728 (2008), Sustainable Communities and Climate Protection: 2008: Current targets for the State's largest MPOs call for a 19 percent reduction in GHG emissions from cars and light trucks from 2005 emissions levels by 2035.

3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, future No-Build traffic conditions are projected to worsen without the separate east-west Community Environmental Transportation Acceptability Process (CETAP) transportation corridor between I-15 and I-215. Please refer to Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, for additional CETAP conditions discussion. Because the VMT estimates developed for the proposed project include the separate CETAP corridor, the VMT data presented in Table 4.2-17 above have been used for the evaluation of project consistency with State CEQA Guidelines Section 15064.3(b).

There are currently no options in place to mitigate the estimated increase in VMT for the build alternatives to a level equal to or lower than estimated No-Build VMT; however, the proposed project includes standard project measures to reduce GHG emissions and climate change impacts from the project, thereby supporting the GHG emissions reduction goals of SB 32, SB 375, and SB 743, that which State CEQA Guidelines Section 15064.3 is intended to achieve.[19] The following standard project measures incorporated into the project meet or exceed measures recommended in the SCAG 2016–2040 Programmatic EIR, and incorporate Best Available Control Technology to minimize GHG emissions: Standard Project Measures **PF LU-1** (TMP), **PF VIS-1** (replanting disturbed areas), **PF VIS-4** (lighting standards), **PF AQ-1** (emissions control), **NC-13 (NES BIO-9)** (reseeding), and **PF SW-1** (waste recycle). In addition to the standard project measures above, Mitigation Measures **GHG-1** (energy-efficient lighting) and **VIS-2** (replace landscaping) would be implemented. Please refer to Sections 3.1, *Land Use*, 3.7, *Visual/Aesthetics*, 3.14, *Air Quality,* 3.17, *Natural Communities*, and 4.2.8, *Greenhouse Gas Emissions*, of this EIR/EIS for the complete measures listed above.

However, even with the incorporation of the standard project measures and mitigation measure listed above, an increase in GHG emissions is projected to occur and the proposed project may not meet the GHG emissions reduction goals that may be achieved through a reduction or absence of VMT increase per State CEQA Guidelines Section 15064.3(b)(2). In the absence of a defined measure of transportation impact other than VMT, the lead agency has determined that the increase in project-related VMT would result in an impact that cannot be mitigated to a level of insignificance.

Level of Service Analysis

Arterial (Roadway Segment) Analysis

As indicated in Table 3.6-32 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, the following study area arterial segments would operate at unacceptable LOS for the No-Build Alternative in the forecast year (2044):

- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road

[19] The Office of Planning and Research shall prepare, develop, and transmit to the Secretary of the Natural Resources Agency for certification and adoption proposed revisions to the guidelines adopted pursuant to Section 21083 establishing criteria for determining the significance of transportation impacts of projects within transit priority areas. Those criteria shall promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. (California Public Resources Code § 21099(b)(1))

- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

As indicated in Table 3.6-13 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, the following arterial segments would operate at an acceptable LOS in the forecast year (2044) under Build Alternatives 1 and 2C (unless otherwise stated):

- Cajalco Road east of Temescal Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive (Build Alternative 1)
- Cajalco Road between Lake Mathews Drive and El Sobrante Road

The following arterial segments would operate at an unacceptable LOS in the forecast year (2044) under Build Alternatives 1 and 2C

- El Sobrante Road east of La Sierra Avenue
- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road
- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

As indicated in Table 3.6-23 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, the following arterial segments would operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternative 4:

- El Sobrante Road between Cajalco Road and Harley John Road
- El Sobrante Road between Harley John Road and Mockingbird Canyon Road
- El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between Gavilan Road and Lake Mathews Drive
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive

The following arterial segments would operate at an unacceptable LOS in the forecast year (2044) under Build Alternative 4:

- Cajalco Road east of El Sobrante Road
- Cajalco Road east of Day Street

Intersection Analysis

Tables 3.6-15 and 3.6-25 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, indicate a total of 24 intersections would operate at an unacceptable LOS in the forecast year (2044) under all build alternatives (unless otherwise stated), as follows:

- I-15 southbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours
- I-15 northbound ramps and Ontario Avenue – LOS F in the AM and PM peak hours
- Bedford Canyon Road and El Cerrito Road – LOS F in the PM peak hour
- Cajalco Road and Bedford Canyon Road – LOS F in the AM peak hour under Build Alternatives 1 and 2C, LOS E in the AM peak hour under Build Alternative 4, and LOS F in the PM peak hour under all Build Alternatives
- Cajalco Road and I-15 southbound ramps – LOS F in the PM peak hour
- Cajalco Road and Temescal Canyon Road – LOS F in the AM and PM peak hours
- I-15 northbound ramps and Weirick Road – LOS F in the AM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under Build Alternative 4
- La Sierra Avenue and Victoria Avenue – LOS F in the AM and PM peak hours
- Gavilan Road and Lake Mathews Drive – LOS F in the PM peak hour
- Alexander Street and Markham Street – LOS E in the AM peak hour and LOS F in the PM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- Clark Street and Cajalco Road – LOS F in the PM peak hour under Build Alternatives 1 and 2C, and LOS E in the AM peak hour and LOS F in the PM peak hour under Build Alternative 4
- Sycamore Canyon Road and SR-60/I-215 southbound ramps – LOS F in the AM and PM peak hours
- SR-60/I-215 northbound ramps and Fair Isle Drive/Box Springs Road – LOS F in the AM and PM peak hours under Build Alternatives 1 and 2C, and LOS F in the AM peak hour and LOS E in the PM peak hour under Build Alternative 4
- Day Street and SR-60 eastbound ramps – LOS F in the PM peak hour
- I-215 ramps and Eucalyptus Avenue – LOS F in the PM peak hour
- I-215 northbound ramps and Alessandro Boulevard – LOS E in the AM peak hour
- I-215 northbound ramps/Old I-215 Frontage Road and Cactus Avenue – LOS F in the AM and PM peak hours
- I-215 northbound ramps and Harley Knox Boulevard – LOS F in the PM peak hour
- I-215 southbound ramps and Cajalco Expressway/Ramona Expressway – LOS F in the AM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway – LOS E in the AM peak hour under all build alternatives, and LOS E in the PM peak hour under Build Alternative 4
- I-215 southbound ramps and Nuevo Road – LOS F in the PM peak hour
- I-215 northbound ramps and Nuevo Road – LOS E in the AM peak hour

- Webster Avenue and Ramona Expressway – LOS E in the AM peak hour under Build Alternatives 1 and 2C and LOS F in the PM peak hour under all build alternatives
- Indian Street and Ramona Expressway – LOS F in the AM peak hour under Build Alternatives 1 and 2C, LOS E in the AM peak hour under Build Alternative 4, and LOS F in the PM peak hour under all build alternatives

An additional nine intersections would operate at an unacceptable LOS in the forecast year (2044) under Build Alternatives 1 and 2C, as follows:

- La Sierra Avenue and El Sobrante Road – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cajalco Road and La Sierra Avenue – LOS F in the PM peak hour
- Harley John Road and Washington Road – LOS E in the PM peak hour
- Cajalco Road and Harley John Road – LOS F in the AM and PM peak hours
- Seaton Avenue and Markham Street – LOS E in the PM peak hour
- Harvill Avenue and Markham Street – LOS E in the PM peak hour
- Harvill Avenue and Placentia Avenue – LOS E in the PM peak hour
- I-215 southbound ramps and Van Buren Boulevard – LOS E in the PM peak hour
- I-215 northbound Frontage Road and Placentia Avenue – LOS E in the PM peak hour

As also shown in Table 3.6-13 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, the following study intersections are projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternatives 1 or 2C in the same year:

- Cajalco Road and La Sierra Avenue in the PM peak hour
- Seaton Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Markham Street in the PM peak hour
- Harvill Avenue and Placentia Avenue in the PM peak hour
- I-215 southbound ramps and Van Buren Boulevard in the PM peak hour
- I-215 northbound Frontage Road and Placentia Avenue in the PM peak hour
- Webster Avenue and Ramona Expressway in the AM peak hour

The following study intersection is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 4 in the same year:

- Clark Street and Cajalco Road in the AM peak hour

The study intersections that are projected to operate at unacceptable LOS under the No-Build Alternative but projected to operate at acceptable LOS under Build Alternatives 1 or 2C are as follows:

- Cajalco Road and Gavilan Road in the PM peak hour
- Seaton Avenue and Cajalco Road in the AM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour
- I-215 northbound ramps and Cajalco Expressway/Ramona Expressway in the PM peak hour

The study intersections that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under Build Alternative 4 are as follows:

- La Sierra Avenue and El Sobrante Road in the AM and PM peak hours
- Cajalco Road and Gavilan Road in the PM peak hour
- Harley John Road and Washington Road in the PM peak hour
- Cajalco Road and Harley John Road in the AM and PM peak hours
- Alexander Street and Markham Street in the AM peak hour
- Clark Street and Cajalco Road in the AM peak hour
- Seaton Avenue and Cajalco Road in the AM peak hour
- Day Street and SR-60 westbound ramps in the PM peak hour

Freeway Analysis

Tables 3.6-16 and 3.6-28 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, indicate the following segments along I-15 and I-215 would operate at an unacceptable LOS in the forecast year (2044) under all build alternative conditions (unless otherwise stated).

I-15 Southbound (2044):

- Westbound SR-91 off-ramp to eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 off-ramp to eastbound SR-91 on-ramp – LOS E in the AM peak hour
- Lane drop to westbound SR-91 on-ramp – LOS E in the AM peak hour
- Magnolia Avenue on-ramp to Ontario Avenue off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, LOS E in the PM peak hour under all Build Alternatives
- Lane addition to CETAP off-ramp – LOS E in the PM peak hour
- Lane drop to Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp to Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Cajalco Road on-ramp to CETAP on-ramp – LOS E in the AM peak hour
- CETAP on-ramp to El Cerrito Road on-ramp – LOS F in the AM and PM peak hours

- El Cerrito Road on-ramp to Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp to lane addition – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue on-ramp to Magnolia Avenue off-ramp – LOS F in the AM peak hour under all build alternatives and LOS E in the PM peak hour under Build Alternatives 1 and 2C
- Magnolia Avenue off-ramp to eastbound Magnolia Avenue on-ramp – LOS F in the AM and PM peak hours
- Eastbound Magnolia Avenue on-ramp to westbound Magnolia Avenue on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- SR-91 off-ramp to westbound SR-91 on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp to eastbound SR-91 on-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Eastbound SR-91 on-ramp to lane drop – LOS F in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the AM peak hour under Build Alternative 4

I-215 Southbound (2044):

- Eastbound SR-60 on-ramp to westbound SR-60 on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Lane drop to Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours
- Eucalyptus Avenue on-ramp to Alessandro Boulevard off-ramp – LOS E in the AM peak hour under all build alternatives, LOS E in the PM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under Build Alternative 4
- Westbound Alessandro Boulevard on-ramp to eastbound Alessandro Boulevard on-ramp – LOS E in the AM and PM peak hours
- Eastbound Cactus Avenue off-ramp to Cactus Avenue on-ramp – LOS E in the PM peak hour under Build Alternative 4
- Cactus Avenue on-ramp to Van Buren Boulevard off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Van Buren Boulevard on-ramp to Harley Knox Boulevard off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under all build alternatives
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- Harley Knox Boulevard on-ramp to Cajalco Expressway off-ramp – LOS E in the AM and PM peak hours

- Cajalco Expressway off-ramp to Cajalco Expressway on-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under all build alternatives
- Cajalco Expressway on-ramp to Mid-County Parkway off-ramp – LOS F in the AM and PM peak hours under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- West Nuevo Road off-ramp to West Nuevo Road on-ramp – LOS E in the PM peak hour under Build Alternatives 1 and 2C

I-215 Northbound (2044):

- Mid-County Parkway westbound on-ramp to Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp to Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard on-ramp to Van Buren Boulevard off-ramp – LOS E in the PM peak hour
- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp – LOS E in the AM peak hour under Build Alternative 4, and LOS E in the PM peak hour under all build alternatives
- Westbound Van Buren Boulevard on-ramp to Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Cactus Avenue off-ramp to eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Cactus Avenue on-ramp to westbound Cactus Avenue on-ramp – LOS E in the PM peak hour
- Eastbound Alessandro Boulevard off-ramp to eastbound Alessandro Boulevard on-ramp – LOS E in the PM peak hour
- Eastbound Alessandro Boulevard on-ramp to Eucalyptus Avenue off-ramp – LOS F in the PM peak hour
- Eucalyptus Avenue off-ramp to Eucalyptus Avenue on-ramp – LOS E in the PM peak hour
- Eucalyptus Avenue on-ramp to SR-60 – LOS F in the PM peak hour

The following segment along I-215 is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternatives 1 and 2C in the same year (there are no such instances along I-15).

I-215 Southbound (2044):

- West Nuevo Road off-ramp to West Nuevo Road on-ramp in the PM peak hour

The following segment along I-215 is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternatives 1, 2C, and 4 in the same year (there are no such instances along I-15).

I-215 Northbound (2044):

- Harley Knox Boulevard off-ramp to Harley Knox Boulevard on-ramp in the PM peak hour

In addition, the segments along I-215 that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under Build Alternatives 1 and 2C are as follows (there are no such instances along I-15).

I-215 Southbound (2044):

- Alessandro Boulevard off-ramp to westbound Alessandro Boulevard on-ramp in the PM peak hour
- Eastbound Cactus Avenue off-ramp to Cactus Avenue on-ramp in the PM peak hour

I-215 Northbound (2044):

- Eastbound Van Buren Boulevard on-ramp to westbound Van Buren Boulevard on-ramp in the AM peak hour

The following segments along I-15 are projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at acceptable LOS under Build Alternative 4 in the same year (there are no such instances along I-15).

I-215 Southbound (2044):

- Magnolia Avenue on-ramp to Ontario Avenue off-ramp in the AM peak hour

I-215 Northbound (2044):

- Ontario Avenue on-ramp to Magnolia Avenue off-ramp in the PM peak hour

Freeway Ramp Level of Service

Tables 3.6-15 and 3.6-25 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, indicate the following freeway ramps along I-15 and I-215 would operate at an unacceptable LOS in the forecast year (2044) under Build Alternatives 1, 2C, or 4 conditions.

I-15 Southbound (2044):

- Eastbound SR-91 off-ramp – LOS F in the AM peak hour and LOS E in the PM peak hour
- Ontario Avenue off-ramp – LOS E in the AM and PM peak hours
- CETAP off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, LOS F in the AM peak hour under Build Alternative 4, and LOS F in the PM peak hour under all build alternatives
- Cajalco Road off-ramp – LOS E in the PM peak hour
- Cajalco Road on-ramp – LOS F in the PM peak hour
- Weirick Road off-ramp – LOS F in the PM peak hour

I-15 Northbound (2044):

- Weirick Road off-ramp – LOS E in the AM peak hour under Build Alternative 4
- CETAP on-ramp – LOS F in the AM and PM peak hours
- El Cerrito Road on-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue off-ramp – LOS F in the AM and PM peak hours
- Ontario Avenue on-ramp – LOS F in the AM peak hour
- Westbound SR-91 on-ramp – LOS F in the AM peak hour under all build alternatives, LOS F in the PM peak hour under Build Alternative 4, and LOS E in the PM peak hour under Build Alternatives 1 and 2C

I-215 Southbound (2044):

- Eucalyptus Avenue on-ramp – LOS E in the AM and PM peak hours
- Alessandro Boulevard off-ramp – LOS E in the AM and PM peak hours
- Cactus Avenue on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM peak hour under all build alternatives, LOS E in the PM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under Build Alternative 4
- Van Buren Boulevard on-ramp – LOS F in the PM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- Harley Knox Boulevard off-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- Cajalco Expressway on-ramp – LOS F in the PM peak hour
- Mid-County Parkway off-ramp – LOS E in the AM peak hour under all build alternatives, LOS F in the PM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4
- Placentia Avenue off-ramp – LOS E in the PM peak hour
- Mid-County Parkway westbound on-ramp – LOS E in the AM and PM peak hours
- Placentia off-ramp – LOS E in the PM peak hour under Build Alternative 4
- Placentia on-ramp – LOS E in the PM peak hour under Build Alternative 4
- West Nuevo Road off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under all build alternatives
- West Nuevo Road on-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under Build Alternative 4

I-215 Northbound (2044):

- West Nuevo Road off-ramp – LOS E in the AM peak hour under Build Alternatives 1 and 2C, and LOS E in the PM peak hour under all build alternatives
- Mid-County Parkway off-ramp – LOS E in the AM and PM peak hours
- Mid-County Parkway westbound on-ramp – LOS E in the PM peak hour
- Cajalco Expressway off-ramp – LOS E in the PM peak hour
- Cajalco Expressway on-ramp – LOS E in the PM peak hour
- Harley Knox Boulevard off-ramp – LOS E in the AM and PM peak hours
- Harley Knox Boulevard on-ramp – LOS F in the PM peak hour
- Van Buren Boulevard off-ramp – LOS E in the AM and PM peak hours
- Eastbound Van Buren Boulevard on-ramp – LOS E in the PM peak hour
- Cactus Avenue off-ramp – LOS E in the AM peak hour and LOS F in the PM peak hour
- Eastbound Cactus Avenue on-ramp – LOS E in the PM peak hour under Build Alternatives 1 and 2C
- East Alessandro Boulevard on-ramp – LOS F in the AM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under all build alternatives
- Eucalyptus Avenue off-ramp – LOS F in the AM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under all build alternatives
- Eucalyptus Avenue on-ramp – LOS F in the AM peak hour under Build Alternatives 1 and 2C, and LOS F in the PM peak hour under all build alternatives

The following ramp along southbound I-215 is projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternatives 1, 2C, and 4 in the same year (there are no such instances along I-15).

I-215 Southbound (2044):

- Placentia off-ramp in the PM peak hour

The following ramps along southbound I-215 are projected to operate at an acceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an unacceptable LOS under Build Alternative 4 in the same year (there are no such instances along I-15).

I-215 Southbound (2044):

- Placentia on-ramp in the PM peak hour

I-215 Northbound (2044):

- Mid-County Parkway westbound on-ramp in the PM peak hour

In addition, the ramps along I-15 and I-215 that are projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at acceptable

LOS under Build Alternatives 1, 2C, and 4 in the same year are as follows (there are no such instances along southbound I-15).

I-15 Northbound (2044):

- Ontario Avenue on-ramp in the PM peak hour

I-215 Southbound (2044):

- Westbound Alessandro Boulevard on-ramp in the PM peak hour

The ramp along I-215 that is projected to operate at unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at acceptable LOS under Build Alternatives 1 and 2C in the same year is as follows (there are no such instances along southbound I-15).

I-15 Northbound (2044):

- Weirick Road off-ramp in the AM peak hour

The ramps along I-15 and I-215 that are projected to operate at an unacceptable LOS under the No-Build Alternative in the forecast year (2044) but projected to operate at an acceptable LOS under Build Alternative 4 in the same year are as follows (there are no such instances along southbound I-15).

I-15 Northbound (2044):

- Ontario Avenue on-ramp in the PM peak hour

I-215 Southbound (2044):

- Westbound Alessandro Boulevard on-ramp in the PM peak hour
- Mid-County Parkway westbound on-ramp in the PM peak hour

I-215 Northbound (2044):

- Cajalco Expressway on-ramp in the AM peak hour
- Harley Knox Boulevard on-ramp in the AM peak hour
- Eastbound Van Buren Boulevard on-ramp in the AM peak hour
- Westbound Van Buren Boulevard on-ramp in the AM and PM peak hours

During the AM peak hour, 17 freeway ramp segments are forecast to operate at an unsatisfactory LOS under 2044 Build Alternatives 1, 2C, and 4 traffic conditions. During the PM peak hour, 37 freeway ramp segments are forecast to operate at an unsatisfactory LOS under 2044 Build Alternatives 1 and 2C traffic conditions and 36 freeway ramp segments are forecast to operate at unsatisfactory LOS under 2044 Build Alternative 4 traffic conditions.

Freeway Weaving Segment Level of Service

Tables 3.6-18 and 3.6-28 in Section 3.6, *Traffic and Transportation/Pedestrian and Bicycle Facilities*, indicate four freeway weaving segments are forecast to operate at unsatisfactory LOS under 2044 Build Alternatives 1, 2C, and 4 conditions during both the AM and PM peak hours.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Between Temescal Canyon Road and Harley John Road, the alignment of Build Alternatives 1, 2C, and 4 travel through the boundaries of the LM MSHCP. The segment of Build Alternatives 1 and 2C within the LM MSHCP between Temescal Canyon Road and El Sobrante Road would operate an acceptable LOS in the forecast year (2044), whereas the segment of Build Alternatives 1 and 2C between El Sobrante Road and Harley John Road within the LM MSHCP would operate at an unacceptable LOS in the forecast year (2044). The segment of Build Alternative 4 within the LM MSHCP would operate at an acceptable LOS in the forecast year (2044), except the segment along Cajalco Road east of El Sobrante Road. In addition, arterial study segments for the future six-lane facility associated with Build Alternatives 1, 2C, and 4 would operate at an acceptable LOS within the LM MSHCP in the forecast year (2044), with exception of the study segment along Cajalco Road east of El Sobrante Road under Build Alternative 4.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

The following arterial segments would operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternatives 1 or 2C (Future Six-Lane Facility):

- Cajalco Road east of Temescal Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive
- Cajalco Road between Lake Mathews Drive and El Sobrante Road
- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road

The following arterial segments would operate at an unacceptable LOS F in the forecast year (2044) with implementation of Build Alternative 1 (Future Six-Lane Facility):

- Cajalco Road between Harley John Road and Day Street
- Cajalco Road east of Day Street

The study arterial segments that are projected to operate at an unacceptable LOS under the No-Build Alternative but projected to operate at an acceptable LOS under the build alternatives are as follows:

- Cajalco Road between El Sobrante Road and Gavilan Road
- Cajalco Road between Gavilan Road and Harley John Road

Future Six-Lane Facility (Build Alternative 4)

The following arterial segments would operate at an acceptable LOS in the forecast year (2044) with implementation of Build Alternative 4 (Future Six-Lane Facility):

- El Sobrante Road between Cajalco Road and Harley John Road
- El Sobrante Road between Harley John Road and Mockingbird Canyon Road

- El Sobrante Road between La Sierra Avenue and Mockingbird Canyon Road
- Cajalco Road between Temescal Canyon Road and La Sierra Avenue
- Cajalco Road between Gavilan Road and Lake Mathews Drive
- Cajalco Road between La Sierra Avenue and Lake Mathews Drive

The following arterial segments would operate at an unacceptable LOS F in the forecast year (2044) with implementation of Build Alternative 4 (Future Six-Lane Facility):

- Cajalco Road east of El Sobrante Road
- Cajalco Road East of Day Street

4.2.17(c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Build Alternatives 1, 2C, and 4

No Impact

Numerous driveways and intersecting cross-streets currently present conflict points that affect safe and efficient operation of Cajalco Road. Between January 2015 and December 2017, 355 collisions occurred on Cajalco Road between Temescal Canyon Road and I-215; of the 355 collisions, seven were fatal and 150 resulted in injury. The majority of collisions occurred along the approximately 6-mile stretch of Cajalco Road between Alexander Street and Harvill Avenue, with 145 collisions over the 3-year period. Compared with the statewide average accident rate for similar facilities, the collision rate of 1.673 per million vehicle miles is higher than the statewide average of 1.163 per million vehicle miles.

The proposed project would improve traffic safety along Cajalco Road (Build Alternatives 1 and 2C), or a combination of Cajalco Road and El Sobrante Road (Build Alternative 4), within the project limits, as it would improve roadway alignment and intersection design. Under any of the build alternatives, the proposed project would not increase hazards because of a design feature or incompatible uses, and instead would reduce hazards. Therefore, there would be no impact.

Lake Mathews HCP (Build Alternatives 1, 2C, and 4)

As discussed above under Build Alternatives 1, 2C, and 4, the proposed project would improve traffic safety through roadway alignment and intersection design improvements. Therefore, there would be no impact related to hazards from a geometric design feature or incompatible uses.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

No Impact

For the future six-lane Cajalco Road facility (Build Alternatives 1, 2C, and 4), construction is not currently proposed as part of the project. However, if constructed in the future, the addition of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road (Build Alternatives 1 and 2C) and within the medians of Cajalco Road

and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road (Build Alternative 4) would be limited to the existing median. Therefore, the future six-lane facility would not result in increased hazards because of a design feature or incompatible uses. Impacts would be less than significant.

Section 2.2.1.1, *Common Features of the Build Alternatives,* of Chapter 2 discusses in detail the safety improvements that would be constructed as part of the proposed project (e.g., traffic signal improvements, installation of medians, realignment of existing roadway curves).

4.2.17(d) d) Result in inadequate emergency access?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

Build Alternatives 1 and 2C would add an alternate access route for residents between Lake Mathews Drive and Dirt Road, increase the capacity of improved roadways, and improve connections with intersecting roadways throughout the project limits, thereby improving emergency access through the project corridor.

Construction activities associated with the build alternatives would result in temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours. Only a few locations would require temporary, localized detours; most areas would maintain two-way traffic throughout construction. In addition, non-fire-related medical emergencies could temporarily increase with the presence of construction workers and heavy machinery during construction of the project. Localized, temporary detours are proposed during replacement of the Temescal Canyon Bridge just east of Temescal Canyon Road, at the intersection of Cajalco Road and Harley John Road to accommodate replacement of a large reinforced concrete box within the roadway, and during construction of the new bridge proposed for westbound lanes west of Barton Street.

A TMP, as described in Standard Project Measure **PF LU-1** (see Section 3.1, *Land Use*), would be prepared for the project and include measures to minimize construction-period traffic and access/circulation impacts, and coordination of detour routes with County sheriff and fire departments and emergency providers. As part of the TMP, temporary detour plans would be prepared for alternative access and route options for local and regional travelers during construction of the project. Final detour routing would be identified during the PS&E/final design phases of the project.

Temporary impacts on traffic and transportation as well as pedestrian and bicycle facilities during construction would be addressed through preparation and use of a TMP and public awareness campaign. Please refer to Section 3.1, *Land Use*, for Standard Project Measure **PF LU-1** (TMP).

Because the project construction activities would be temporary and would be implemented in a manner that minimizes the effects on emergency access, impacts would be less than significant.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to allow for construction of the project within the conservation area. Approval would need to be obtained prior to any construction. As discussed under Build Alternatives 1, 2C, and 4 above, Standard Project Measure **PF LU-1** would be included in the project and impacts on emergency access would not be anticipated.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Less than Significant Impact

For the future six-lane Cajalco Road facility (Build Alternatives 1, 2C, and 4), construction is not currently proposed as part of the project. However, if constructed in the future, it is anticipated that temporary impacts associated with the addition of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road (Build Alternatives 1 and 2C) and within the medians of Cajalco Road and La Sierra Avenue between Temescal Canyon Road and El Sobrante Road (Build Alternative 4) would be limited to the existing median. As part of the TMP, a public awareness campaign, options for lane closures, and alternate route strategies would be included. Emergency access would be accommodated during construction. Therefore, the future six-lane facility would not result in inadequate emergency access, and impacts would be less than significant.

4.2.18 Tribal Cultural Resources

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	Potentially Significant Impact	Less Than Significant with Mitigation	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.	☒	☐	☐	☐

The information and discussion presented in this section on the identification and evaluation of cultural resources, including resources that meet Public Resources Code (PRC) Section 5020.1(k) (local register of historical resources) and/or PRC Section 5024.1 (CRHR) eligibility criteria and their potential for impact, are based on information presented in Sections 3.8, *Cultural Resources* (NEPA), and 4.2.5, *Cultural Resources* (CEQA), of this EIR/EIS. The information is further based on the following studies prepared for the proposed project: *Historic Property Survey Report* (HPSR) (Caltrans 2020a), *Archaeological Survey Report* (ASR) (Caltrans 2020b), *Historical Resources Evaluation Report* (HRER) (Caltrans 2020c), *Archaeological Evaluation Report* (AER) (Caltrans 2020d), and *Finding of Adverse Effect* (Caltrans 2020e).

Effective January 1, 2015, PRC Sections 21074 and 21080.3.1 were established in response to Assembly Bill 52 (Gatto 2014), which added requirements for local agencies to consider and include tribal cultural resources (TCRs) early in the CEQA process with the intent to ensure that local and tribal governments, public agencies, and project proponents would have information available, early in the project planning process, to identify and address potential adverse impacts on TCRs. TCRs are defined by PRC Section 21074(a) as either:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

  (A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

  (B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) 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 Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1

for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

(b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

(c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

Assembly Bill 52 and PRC Sections 21074 (TCRs) and 21080.3.1 (consultation) apply to projects that have a notice of preparation for an EIR or negative declaration or mitigated negative declaration filed on or after July 1, 2015. Because the notice of preparation for the proposed project was filed on September 6, 2011, compliance with Assembly Bill 52 and related PRC Sections 21074 and 21080.3.1 is not required. However, because the proposed project includes federal funding and the preparation of an EIS, coordination with tribal governments, public agencies, and project proponents has been ongoing for the project since 2011 per the requirements established under Section 106 of the National Historic Preservation Act of 1966 and Title 23 USC Section 139 (Efficient environmental reviews for project decisionmaking). This long-term coordination and consultation between the County and tribal governments, public agencies, and project proponents has included opportunities for participating California Native American tribes to provide information concerning the value and significance of resources that may occur within the project area, and is considered sufficient in meeting the requirements of PRC Sections 21074 and 21080.3.1.

Because the project involves resources that would meet "tribal cultural resource" criteria under PRC Section 21074, an evaluation of such resources that also meet PRC Section 5020.1(k) (local register of historical resources) and/or PRC Section 5024.1 (CRHR) eligibility criteria, and their potential for impact, is provided below for the purposes of this project only. Please refer to Sections 3.8, *Cultural Resources* (NEPA), and 4.2.5, *Cultural Resources* (CEQA), and Chapter 5, *Comments and Coordination*, for full discussion of cultural resources, including resources identified, potential impacts, consultation and coordination with participating Native American tribes, and measures to avoid or minimize effects on sensitive cultural resources.

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, that is:

4.2.18(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

4.2.18(b) 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 discussed in Section 4.2.5, *Cultural Resources*, and listed in Table 4.2-18, the following TCPs within the project APE were evaluated for listing in the CRHR, or assumed eligible for listing in the CRHR for the purposes of this project only, and would potentially be affected: Mead Valley PPAD; combined site of CA-RIV-2263, 2264, and 4444; CA-RIV-4403, -4407, -4408, -4409, and -4454; CA-RIV-7843, Loci 816 and Locus 817; CA-RIV-012623; *T u'uv* TCP; *Qax alku Pay mik* TCP; and *Qax alku Kwiimik* TCP, all of which received SHPO concurrence on February 10, 2021. Overall, per its February 17, 2021 Finding of Adverse Effect letter, SHPO determined that while the undertaking will result in effects on the three TCPs, the effects will not be adverse (Polanco 2021b).

Table 4.2-18. Archaeological Resources and Traditional Cultural Properties within the APE

Site	Description	Established Tribal Cultural Value[1]	CRHR / Local Register Eligibility	Tribal Cultural Resource[2]
CA-RIV-3832H	Atchison, Topeka, and Santa Fe railroad grade (archaeological component)	No	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).	No
Mead Valley PPAD	Prehistoric bedrock milling stations within an as-yet undefined larger boundary inclusive of additional likely similar sites outside of the APE	Yes	PPAD assumed eligible under Criteria A/1, B/2, C/3, and D/4 (approved by CSO 7/7/2020). NRHP status for contributing elements described below for each qualifying site.	**Yes**
Combined site of CA-RIV-2263, CA-RIV-2264, and CA-RIV-4444	Prehistoric bedrock milling station, lithic scatter, and reported petroglyph	Yes	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2021).	**Yes**
CA-RIV-4403	Bedrock milling station	Yes	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021) but assumed	**Yes**

Site	Description	Established Tribal Cultural Value[1]	CRHR / Local Register Eligibility	Tribal Cultural Resource[2]
			eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).	
CA-RIV-4407	Bedrock milling station and lithic scatter	Yes	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but assumed eligible as an assumed contributing element to the PPAD under Criterion D/4.	**Yes**
CA-RIV-4408	Bedrock milling station and lithic scatter	Yes	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but eligible as a contributing element to the PPAD under Criterion D/4.	**Yes**
CA-RIV-4409	Bedrock milling station	Yes	Not eligible for listing in the NRHP or CRHR under Criteria A/1, B/2, C/3, and D/4 individually (SHPO concurrence received 2/10/2021), but eligible as a contributing element to the PPAD under Criterion D/4.	**Yes**
CA-RIV-4454	Prehistoric artifact scatter	No	Not eligible for the NRHP/CRHR under any criteria individually but assumed eligible as a contributing element to the PPAD under Criterion D/4 (CSO (CSO approval 7/7/2020).	No
CA-RIV-6623/H	Historic period refuse scatter and imported manos	No	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).	No
CA-RIV-7843, Locus 816	Prehistoric cupule rock, milling features, and lithic scatter	Yes	Eligible for listing in the NRHP/CRHR under Criteria A/1, C/3, and D/4 SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/7/2020).	**Yes**
CA-RIV-7843, Locus 817	Prehistoric milling station and artifact scatter	Yes	Not eligible for listing in the NRHP or CRHR individually (SHPO concurrence received 2/10/2021). Assumed	**Yes**

Site	Description	Established Tribal Cultural Value[1]	CRHR / Local Register Eligibility	Tribal Cultural Resource[2]
			eligible for listing as a locus of CA-RIV-7843 under Criteria D/4 (CSO approval 7/7/2020).	
CA-RIV-012618	Historic period refuse scatter	No	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).	No
CA-RIV-012621	Historic period refuse scatter	No	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).	No
CA-RIV-012622	Historic period refuse scatter	No	Not eligible for the NRHP/CRHR under any criteria (SHPO concurrence received 2/10/2021).	No
CA-RIV-012623	Prehistoric artifact scatter	No	Eligible for listing in the NRHP/CRHR under Criteria D/4 (SHPO concurrence received 2/10/2021); assumed eligible as a contributing element to PPAD under Criterion D/4 (CSO approval 7/72020).	No
'uv Traditional Cultural Property	TCP encompassing vast geographical area. Associated with village and large ceremonial center including more than 30 petroglyphs, and ancient trail.	Yes	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2020).	**Yes**
Qaxáalku Payómik Traditional Cultural Property	TCP encompassing vast geographical area. Village complex associated with resource gathering and Luiseño Creation account.	Yes	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2020).	**Yes**
Qax alku Kw imik Traditional Cultural Property	TCP encompassing vast geographical area. Associated with village complex and large ceremonial center.	Yes	Caltrans assumption of eligibility (NRHP Criteria A, B, C, D) for the purposes of this project only (CSO approval 5/7/2020).	**Yes**

[1] Based on tribal coordination and consultation conducted for the project per Section 106 and USC Section 139. Refer to Section 3.8, *Cultural Resources*, and Chapter 5, *Comments and Coordination*, of this EIR/EIS for further information and details.
[2] Considered TCR for the purposes of this project only.

Build Alternatives 1 and 2C

Potentially Significant Impact

As indicated in Tables 4.2-5 and 4.2-6 in Section 4.2.5, *Cultural Resources*, potentially significant impacts would be anticipated on the Mead Valley PPAD; the combined site of CA-RIV-2263, 2264, and 4444; and on Loci 816 and Locus 817 of CA-RIV-7843, under Build Alternatives 1 and 2C. Less-than-significant impacts with mitigation would be anticipated on the three TCPs (*T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*).

A number of meetings have been held to discuss tribal concerns and consider mitigation. Native American input and information has been used in the development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternatives 1 and 2C. Standard Project Measures **PF CR-1** and **PF CR-2** have also been identified to further reduce impacts on cultural resources (see Section 3.8, *Cultural Resources*). A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS. For the three archaeological resources, while the proposed measures would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on archaeological historical resources that are considered TCRs and/or significant resources pursuant to PRC Section 5024.1(c) would be significant and unavoidable.

Although the outer boundaries of the TCPs are not known, impacts on the TCPs from the project, including ground-disturbing activities associated with development that would affect individual physical components of the TCPs, are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Additionally, even though ground-disturbing activities associated with development would affect individual physical components of the TCPs, their loss would not cause a significant impact on the intangible cultural values held by the Luiseño people and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs. With the implementation of measures developed in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCP TCRs, *T u'uv, Qax alku Pay mik,* and *Qax alku Kw imik,* would be less than significant.

Please refer to Section 3.8, *Cultural Resources*, for full description of Standard Project Measures **PF CR-1** and **PF CR-2**.

Future Six-Lane Facility (Build Alternatives 1 and 2C)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road between Temescal Canyon Road and Harley John Road under Build Alternatives 1 and 2C, for a total of six travel lanes along this segment of Cajalco Road, is not currently proposed as part of the project. If the additional lanes are constructed in the future, it is anticipated that changing the median to travel lanes and installation of a safety barrier would not greatly alter the post-construction conditions of the proposed project beyond what has been analyzed for Build Alternatives 1 and 2C. Measures described above for Build Alternatives 1 and 2C would ensure any impacts on resources considered TCRs and/or significant resources pursuant to PRC Section 5024.1(c) would be less than significant. However**,** if grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternatives 1 and 2C would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 2C, above, even with the incorporation of Measures **PF CR-1** and **PF CR-2**, impacts on archaeological resources that are considered TCRs and/or significant resources would be potentially significant.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant with Mitigation

The LM MSHCP, as it pertains to cultural resources, would remain unchanged. However, under Build Alternatives 1 and 2C, a portion of Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which may result in potential impacts on undiscovered, buried resources considered TCRs and/or significant resources pursuant to PRC Section 5024.1(c) within the LM MSHCP area and LMR. As discussed under Build Alternatives 1 and 2C, above, even with the incorporation of Measures **PF CR-1** and **PF CR-2**, impacts on archaeological resources that are considered TCRs and/or significant resources would be potentially significant. Impacts would be the same for the three TCP TCRs*, T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable.

Build Alternative 4

Potentially Significant Impact

As indicated in Table 4.2-7 in Section 4.2.5, *Cultural Resources*, potentially significant impacts would be anticipated on the Mead Valley PPAD; CA-RIV-4403, -4407, -4408, and -4409; Loci 816 and 817 of CA-RIV-7843; and CA-RIV-012623, under Build Alternative 4. Less-than-significant impacts with mitigation would be anticipated on the three TCPs (*T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*). A number of meetings have been held to discuss tribal concerns and consider mitigation. Native American input and information have been used in the

development of project design options that would minimize impacts on resources, and these design options have been incorporated into Build Alternative 4. Standard Project Measures **PF CR-1** and **PF CR-2** have also been identified to further reduce impacts on cultural resources (see Section 3.8, *Cultural Resources*). A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS. For the three archaeological resources, while the proposed measures would reduce impacts associated with the proposed project, the measures would not fully avoid impacts or reduce impacts to a less-than-significant level. Therefore, the proposed project's impact on the archaeological historical resources that are considered TCRs and/or significant resources pursuant to PRC Section 5024.1(c) would be significant and unavoidable.

Although the outer boundaries of the TCPs are not known, impacts on the TCPs from the project, including ground-disturbing activities associated with development that would affect individual physical components of the TCPs, are not expected to be significant because they affect a minute portion of the overall geographic extent of the TCPs. Additionally, even though ground-disturbing activities associated with development would affect individual physical components of the TCPs, their loss would not cause a significant impact on the intangible cultural values held by the Luiseño people and would not significantly change the integrity of setting, feeling, character, and location of *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik* to the point that they no longer contribute to the significance of the TCPs. With the implementation of the measures in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, the proposed project's impact on the three TCP TCRs*, T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*, would be less than significant. Please refer to Section 3.8, *Cultural Resources*, for full description of Standard Project Measures **PF CR-1** and **CR-2**.

Future Six-Lane Facility (Build Alternative 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road under Build Alternative 4, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If grading, cut, and fill as part of the future six-lane facility are conducted in areas previously undisturbed during implementation of the widening and safety enhancement project, then the analysis and measures described above for Build Alternative 4 would apply and measures and treatment developed in the MOA would be implemented; Standard Project Measures **PF CR-1** and **PF CR-2** would further be employed if applicable. As discussed under Build Alternative 4, above, even with the incorporation of Measures **PF CR-1** and **PF CR-2**, impacts on archaeological resources considered TCRs and/or significant resources would be potentially significant.

Lake Mathews MSHCP (Build Alternative 4)

Potentially Significant Impact

The LM MSHCP, as it pertains to cultural resources, would remain unchanged. However, under Build Alternative 4, portions of Cajalco Road, La Sierra Avenue, and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR; appurtenant facilities including a drainage basin, culverts, bridges and wildlife crossings would also be constructed. A discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed project, which may result in potential impacts on undiscovered, buried resources considered TCRs and/or significant resources pursuant to PRC Section 5024.1(c) within the LM MSHCP area and LMR. Measures to reduce impacts and treatments in the MOA would be implemented if applicable, and Standard Project Measures **PF CR-1** and **CR-2** would be employed if applicable. As discussed under Build Alternative 4, above, even with the incorporation of Measures **PF CR-1** and **PF CR-2**, impacts on archaeological historical resources would be potentially significant. Impacts would be the same for the three TCP TCRs*, T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*.

4.2.19 Utilities and Service Systems

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste disposal goals?	☐	☐	☐	☒
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

The information and analyses in this section are based on Sections 3.3, *Growth*, and 3.5, *Utilities/Emergency Services*, of this EIR/EIS, and the *Community Impact Assessment* and *Errata* (Caltrans 2018c, 2021) and Initial Site Assessment (Caltrans 2020f) prepared for the project.

4.2.19(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electrical power, natural gas, or telecommunications facilities, the construction of which could cause significant environmental effects?

Build Alternatives 1 and 2C

Less than Significant Impact

Under Build Alternatives 1 and 2C, new facilities for onsite drainage would be included as part of the realignment and roadway improvements. However, there would be no impact on any regional facilities. Several utility types would also require relocation, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. While changes in the placement of some utilities would be considered permanent, any effects during their relocation would be temporary and would be rectified once relocations and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated footprint of the project. The incorporation of Standard Project Measure **PF UT-1**, which requires coordination of utilities with all affected agencies, would minimize impacts and avoid significant environmental effects.

Neither of the build alternatives would increase the demand for wastewater treatment, as the project is not growth inducing. Therefore, the project would not exceed wastewater treatment requirements of the RWQCB.

Lake Mathews MSHCP (Build Alternatives 1 and 2C)

Less than Significant Impact

Build Alternatives 1 and 2C include drainage components such as culverts, curb, and gutters that would accommodate drainage and runoff and would not result in additional flooding. Potential utility conflicts in the LM MSHCP area include Western Municipal Water District–operated water pipelines where Cajalco Road intersects Cowan Road and MWD-operated water pipelines where Cajalco Road intersects Gavilan Road and Lake Mathews Drive. All effects on utilities would be temporary and would be rectified when relocations and project construction are complete. Relocated utilities would be relocated on site within the environmentally evaluated limits of disturbance of these build alternatives and, as a result, there would be no permanent impacts on utilities in the project area. Standard Project Measure **PF UT-1** would minimize impacts and avoid significant environmental effects. Additionally, the proposed project would not include any use that would increase demand for wastewater treatment. Therefore, the project, including discretionary action to accommodate the proposed project within the LM MSHCP area, would not exceed wastewater treatment requirements of the RWQCB. Impacts on utilities and public services would be less than significant.

Build Alternative 4—El Sobrante Alignment

Less than Significant Impact

Under Build Alternative 4, several utility types would require relocation, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. Potential utility conflicts and relocations identified through initial coordination with local providers are discussed in Section 3.5, *Utilities/Emergency Services*. Similar to Build Alternatives 1 and 2C, relocated utilities would be relocated on site within the environmentally evaluated limits of disturbance of these build alternatives and, as a result, there would be no permanent impacts on utilities in the project area. The incorporation of Standard Project Measure **PF UT-1**, which requires coordination of utilities with all affected agencies, would minimize impacts and avoid significant environmental effects.

Under Build Alternative 4, new facilities for onsite drainage would be included as part of the realignment and roadway improvements. The existing Cajalco Creek double 9-foot-wide by 5-foot-high reinforced concrete box culvert would remain in place. The existing three 48-inch-diameter culverts under Harley John Road would be removed and Harley John Road would be realigned to the crest of the Cajalco Creek Sediment Basin embankment. There would be no impact on any regional facilities.

Build Alternative 4 would not include any use that would increase demand for wastewater treatment. Therefore, the project would not exceed wastewater treatment requirements of the RWQCB.

Lake Mathews MSHCP (Build Alternative 4)

Less than Significant Impact

Build Alternative 4 would include drainage components such as culverts, curb, and gutters that would accommodate drainage and runoff and would not result in additional flooding. Under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Road would be expanded and realigned within the LM MSHCP area and LMR. Once utility relocations are complete and effects rectified, there would be no permanent impacts. Relocated utilities would be relocated on site within the environmentally evaluated footprint of this project and, as a result, there would be no permanent effects on utilities. Standard Project Measure **PF UT-1** would be included to avoid and further reduce impacts to less-than-significant levels.

Additionally, the project would not include any use that would increase demand for wastewater treatment. Therefore, the project, including discretionary action to accommodate the proposed project within the LM MSHCP area, would not exceed wastewater treatment requirements of the RWQCB. Impacts on utilities and public services would be less than significant.

4.2.19(b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Build Alternatives 1, 2C, and 4

No Impact

Build Alternatives 1, 2C, and 4 would not result in substantial demand for water supplies. Some water would be used during project construction for potable use, dust control, and revegetation, as described in project measures. However, the demand for water during construction and operation of the build alternatives would represent only a very small percentage of total demand for water in the area and would not exceed existing entitlements. The proposed project would not require additional water supply entitlements and resources, as the project is a road improvement project and not a development project. Therefore, existing services would be sufficient and impacts would not occur. No mitigation is required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As described above, the proposed project would not result in substantial demand for water supplies. Some water may be needed during project construction within the LM MSHCP area and LMR for potable use, dust control, and as described in project measures. However, the demand for water during construction and operation of the build alternatives would represent only a very small percentage of total demand for water in the area and would not exceed existing entitlements. Therefore, water supply demand as it relates to the proposed project, including discretionary action to accommodate the proposed project within the LM MSHCP area, would remain unchanged.

4.2.19(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Build Alternatives 1, 2C, and 4

No Impact

As discussed in a) above, the proposed project would require new drainage facilities so that runoff would not result in additional flooding. Therefore, the project would not cause significant environmental effects and impacts would not occur. No mitigation is required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

As discussed in above under Build Alternatives 1, 2C, and 4, the proposed project would require new drainage facilities so that runoff would not result in additional flooding. The proposed project would not include any use that would increase demand for wastewater treatment. Therefore, the project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities that would affect the LM MSHCP.

4.2.19(d) 4.2.19(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste disposal goals?

Build Alternatives 1, 2C, and 4

No Impact

During construction of the proposed project, roadway contouring would involve the removal and replacement of soil, most of which would be reused on site. The amount of exported waste anticipated to be generated for each build alternative is shown in Table 4.2-19, below.

Table 4.2-19. Estimated Exported Waste by Alternative

Build Alternative	Quantity and Type of Earthwork (cubic yards)			
	Excavation	Fill	Imported Borrow	Export Disposal
1	1,859,300 CY	1,859,100 CY		200 CY
2C	2,511,200 CY	2,587,000 CY	75,800 CY	
4	2,855,400 CY	1,243,300 CY		1,612,100 CY

Build Alternative 4 would generate the greatest amount of waste after onsite soils have been replaced. Additional wastes generated during construction would include removed asphalt and limited structures. All wastes would be handled and transported in accordance with Standard Project Measure **PF HAZ-3** (waste handling, transport and disposal), which identifies the applicable federal and state regulations and Caltrans policies regarding the use, storage, handling, disposal, and transport of materials. Furthermore, Standard Project Measure **PF SW-1** would be applied to reduce construction waste:

- **PF SW-1**: Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.

The excess soils anticipated for Build Alternatives 2C and 4 would be transported to the nearby El Sobrante Landfill, and removed asphalt would be transported to All American Asphalt Quarry. The amount of waste materials generated during construction and operation of Build Alternatives 1, 2C, and 4 that would be disposed of in landfills would represent only a very small percentage of the total amount of waste generated in the region and disposed of at the landfills. As a result, the waste generated during construction and operation of the build alternatives would not exceed the permitted capacity at landfills in Riverside County. Therefore, the proposed build alternatives would not result in a change in demand for waste disposal services or resources and no impacts would occur. No mitigation is required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not result in a change in demand for waste disposal services or resources, as the project is a road improvement project and not a development project. Therefore, solid waste associated with the project would not affect the LM MSHCP.

4.2.19(e) Comply with federal, state, and local statutes and regulations related to solid waste?

Build Alternatives 1, 2C, and 4

No Impact

The proposed project is a road improvement project and not a development project; therefore, the project would not result in a change in demand for services or resources, as the project is not growth inducing. Therefore, existing landfill services would be sufficient.

The proposed project would comply with federal, state, and local statutes and regulations related to solid waste. Wastes and petroleum products used during construction would be collected, transported, and removed from the project site in accordance with Resource Conservation and Recovery Act regulations and federal/Occupational Safety and Health Administration standards, including Waste Management and Materials Pollution Control BMPs – Spill Prevention and Control, Materials; and Waste Management BMP, Hazardous Waste Management. All hazardous waste will be stored, transported, and disposed of as required in California Code of Regulations Title 22, Division 4.5; CFR Title 49, Parts 261–263; and Caltrans' SSP 14-11.14 and requirements as stated in Section 7-109, Solid Waste Disposal and Recycling Reporting, of the Caltrans Construction Manual. Impacts would not occur and mitigation would not be required.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not result in a change in demand for waste disposal services or resources, as the project is a road improvement project and not a development project. Therefore, solid waste associated with the project would not affect the LM MSHCP.

4.2.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

This section was prepared using information from Section 3.4, *Community Impacts*, Section 3.9, *Hydrology and Floodplain*, the *Community Impact Assessment* technical report and *Errata* prepared for the project (Caltrans 2018c, 2021), and the County of Riverside General Plan.

4.2.20(a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Build Alternatives 1, 2C, and 4

No Impact

Build Alternatives 1, 2C, and 4 would improve operational performance of primary roadways and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area, thereby improving local access and the delivery of public services (police and fire protection, and emergency medical response). Therefore, the project would not result in the substantial impairment of an emergency response plan or evacuation plan; there would be no impact.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would improve the operational performance of local roadways including access and emergency services within the portion of the project that traverses areas of the LM MSHCP and LMR. Therefore, emergency response or evacuation as it relates to the proposed LM MSHCP discretionary action to accommodate the project would not be substantially impaired.

4.2.20(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Build Alternatives 1, 2C, and 4

No Impact

According to the Temescal Canyon Area Plan and Lake Mathews/Woodcrest Area Plan, Build Alternatives 1, 2C, and 4 are within a State Responsibility Area/Federal Responsibility Area VHFHSZ between just east of Temescal Creek and Carpinus Drive, as related to wildfire susceptibility (County 2016, 2018a, 2018b). At Temescal Creek, the project alignment passes through a limited area zoned LRA VHFHSZ; the alignment of Build Alternative 4 also passes through a limited area of LRA VHFHSZ along the north side of El Sobrante Road, just east of La Sierra Avenue. The proposed project would involve improvements to existing roadways, with some realignments, and related facilities such as bridges, sidewalks, and drainage, and would not include any habitable structures. The proposed project would also increase the capacity of improved roadways and improve connections with intersecting roadways throughout the project limits. Therefore, the proposed project would not be anticipated to exacerbate risk of wildfire and there would be no impact.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would increase the capacity of improved roadways and improve connections with intersecting roadways within the portion of the project that traverses areas of the LM MSHCP and LMR. Therefore, wildfire risk as it relates to the proposed LM MSHCP discretionary action to accommodate the project would not be exacerbated by the project.

4.2.20(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

Build Alternatives 1, 2C, and 4

Less than Significant

The proposed project would involve improvements to existing roadways, with some realignments, and related infrastructure such as bridges, sidewalks, drainage, and utility relocations. Construction or operation of the roadway facilities, including maintenance, would not be anticipated to exacerbate risk of wildfire.

Temporary and permanent impacts on the environment as a result of improvements to existing roadways, with some realignments, and related facilities such as bridges, sidewalks, drainage, and utility relocations associated with the proposed project are addressed under their related sections of this chapter. Standard project measures and features incorporated into the project, including **PF UT-1**, **PF GEO-1** through **PF GEO-5**, **PF HAZ-3** and **PF HAZ-5**, **PF AQ-1**, and **NC-3 (NES BIO-3)**, **NC-5 (NES BIO-5)**, **NC-6 (NES BIO-6)**, **NC-10 (NES BIO-10)**, would

reduce impacts to less-than-significant levels. Please refer to Sections 3.5, *Utilities/Emergency Services*; 3.11, *Geology/ Soils/Seismic/Topography*; 3.13, *Hazardous Waste/Materials*; 3.14, *Air Quality*; and 3.17, *Natural Communities*, for the standard project measures and further discussion.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Less than Significant

The proposed project would involve improvements to existing roadways, with some realignments, and related infrastructure such as bridges, sidewalks, drainage, and utility relocations within the portion of the project that traverses areas of the LM MSHCP and LMR. Construction or operation of the roadway facilities, including maintenance, would not be anticipated to exacerbate risk of wildfire. Temporary and permanent impacts on the environment within areas of the LM MSHCP and LMR as a result of the proposed roadway-related infrastructure improvements would be addressed with the incorporation of standard project measures and features incorporated into the project, specifically **PF UT-1**, **PF GEO-1** through **PF GEO-5**, **PF HAZ-3** and **PF HAZ-5**, **PF AQ-1**, and **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)**, which would reduce impacts to less-than-significant levels. Please refer to Sections 3.5, *Utilities/Emergency Services*; 3.11, *Geology/ Soils/Seismic/Topography*; 3.13, *Hazardous Waste/Materials*; 3.14, *Air Quality*; and 3.17, *Natural Communities*, for the standard project measures and further discussion.

4.2.20(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

Build Alternatives 1, 2C, and 4

No Impact

The majority of the proposed project is situated within FEMA-designated un-shaded Zone X, which indicates minimum flood hazard outside the 500-year flood limits. Portions of the project are also within Zone A, an area subject to inundation by the 100-year flood. The proposed project would not significantly change the existing drainage patterns, affect the Lake Mathews Dam, or increase the potential for dam failure. Through the use of project design features such as detention basins and culverts, 100-year-level storm flows would be conveyed, and would not be expected to result in flooding.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

No Impact

The proposed project would not significantly change existing drainage patterns within areas of the LM MSHCP and LMR, nor would it affect the Lake Mathews Dam or result in increased potential for dam failure. Therefore, exposure of people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes, as they relate to the proposed LM MSHCP discretionary action to accommodate the project, is not anticipated.

4.2.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☒	☐	☐	☐
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☒	☐	☐	☐
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☒	☐	☐	☐

4.2.21(a) 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?

Build Alternatives 1, 2C, and 4

Potentially Significant Impact

As described in Section 4.2.4, *Biological Resources*, Build Alternatives 1, 2C, and 4 have the potential to result in adverse impacts on habitats and natural communities, threatened and endangered species, protected waters, and wildlife movement. With implementation of the avoidance, minimization, and mitigation measures described in Section 4.2.4 and in detail in Sections 3.17 through 3.22, these potential adverse impacts would be mitigated to below a level of significance under CEQA.

As described in Section 4.2.5, *Cultural Resources*, Build Alternatives 1 and 2C would permanently affect four NRHP/CRHR-eligible archaeological properties: combined site of CA-RIV-2263, 2264, and 4444, eligible for the NRHP and CRHR under Criterion D/4; CA-RIV-7843, Locus 816, eligible for listing in the NRHP/CRHR individually under Criteria A/1, C/3,

and D/4 and as a locus of the larger CA-RIV-7843 site that is eligible under Criterion D/4; CA-RIV-7843 Locus 817, eligible for listing in the NRHP/CRHR under Criterion D/4 as a contributing element of CA-RIV-7843; and CA-RIV-012623, eligible for the NRHP and CRHR under Criterion D/4. Build Alternative 4 would also permanently affect four NRHP/CRHR-eligible archaeological properties: the Mead Valley PPAD, assumed eligible for listing in the NRHP/CRHR under Criteria A/1, B/2, C/3, and D/4 for the purposes of this project only; CA-RIV-7843, Locus 816; CA-RIV-7843 Locus 817; and CA-RIV-012623.

All three build alternatives would potentially affect three TCPs, *T u'uv*, *Qax alku Pay mik*, and *Qax alku Kw imik*, for which Caltrans has assumed eligibility for listing in the NRHP under Criteria A, B, C, and D for the purposes of this project only, and are assumed eligible for the CRHR under Criteria 1, 2, 3, and 4. SHPO provided concurrence on the assumptions of eligibility for the sites discussed above in a letter dated February 10, 2021. While measures developed in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2** would reduce impacts associated with the proposed project on the TCPs to a less-than-significant level, the measures would not fully avoid or reduce impacts to a less-than-significant level on the combined site of CA-RIV-2263, 2264, and 4444; to Mead Valley PPAD; to CA-RIV-7843, Locus 816; to CA-RIV-7843, Locus 817; or to CA-RIV-012623. These findings are consistent with the effect determinations of SHPO in its February 17, 2021, Finding of Adverse Effect letter, whereby the undertaking will not result in adverse effects on the three TCPs, but will result in adverse effects on the other resources listed above.

As discussed in Section 3.12, *Paleontology*, and Section 4.2.7, *Geology and Soils*, Build Alternatives 1, 2C, and 4 may directly or indirectly affect unique paleontological resources during construction. Areas along the alignments of the build alternatives have a high level of sensitivity for the presence of paleontological resources. As a result, grading and excavation could adversely affect unknown paleontological resources within sedimentary units that may contain fossils. To reduce impacts on paleontological resources that may be present in the areas proposed for grading and excavation, Mitigation Measure **PAL-1** in Section 3.12, *Paleontology*, requires the preparation during final design and implementation during construction of a detailed Paleontological Mitigation Plan. The actions required in Mitigation Measure **PAL-1** to monitor during construction, collect fossils, document/record those fossils, and curate the fossils in a permanent repository would reduce the adverse impacts of the build alternatives to paleontological resources to below a level of significance under CEQA.

Because the impacts discussed above would potentially result in the permanent loss of biological resources, cultural resources, and paleontological resources, the impacts above would result in irreversible environmental changes to these resources in the project area.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, significant impacts on habitats and natural communities, threatened and endangered

species, protected waters, wildlife movement, and paleontological resources would not be anticipated, as the impacts would occur within areas disturbed and mitigated under the currently proposed project.

Potential impacts involving unanticipated discovery of human remains and/or cultural resources are unlikely, as the additional lanes would occur within areas previously disturbed and mitigated under the currently proposed project.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; under Build Alternative 4, La Sierra Avenue and El Sobrante Road would also be expanded and realigned within the LM MSHCP area and LMR. Appurtenant facilities including a drainage basin, culverts, bridges and wildlife crossings associated with the roadway improvements would also be constructed. An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements.

As described for Build Alternatives 1, 2C, and 4 above, impacts on habitats and natural communities, threatened and endangered species, protected waters, wildlife movement, and paleontological resources within the LM MSHCP area and LMR would be mitigated to below a level of significance under CEQA.

4.2.21(b) 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)?

Build Alternatives 1, 2C, and 4

Less than Significant Impact

As detailed in Section 3.25, *Cumulative Impacts*, and Sections 4.2.1 through 4.2.20, the incorporation of standard project measures into the project would not result in cumulatively considerable effects involving the following resources when combined with past, present, and reasonably foreseeable future projects:

- Air Quality
- Energy
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Utilities and Emergency Services

- Wildfire

Less than Significant with Mitigation

As detailed in Section 3.25, *Cumulative Impacts*, and Sections 4.2.1 through 4.2.20, with implementation of mitigation measures, the project would not result in cumulatively considerable effects involving the following resources when combined with past, present, and reasonably foreseeable future projects:

- Biological Resources (Natural Communities, Wildlife Corridors and Linkages, Plants, Threatened and Endangered Species, Animal Species)
- Geology and Soils (Paleontological Resources)
- Hazards and Hazardous Materials
- Hydrology and Water Quality (flood flows)
- Land Use and Planning

Potentially Significant Impact

As discussed in Section 3.25, *Cumulative Impacts*, and Sections 4.2.2, 4.2.4, 4.2.8, and 4.2.13, the proposed project may contribute to adverse impacts that are not fully mitigated or offset and that were determined to potentially contribute to significant cumulative adverse impacts involving:

- Aesthetics
- Agriculture and Forest Resources (Farmlands)
- Cultural Resources
- Greenhouse Gas Emissions
- Noise
- Biological Resources (Riparian/Riverine, Wetlands and Other Waters)
- Tribal Cultural Resources
- Transportation

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. If the additional lanes are constructed in the future, cumulative impacts on habitats and natural communities, threatened and endangered species, protected waters, wildlife movement, farmland, and noise would not be anticipated, as the impacts would occur within areas disturbed and mitigated under the currently proposed project.

Potential impacts involving unanticipated discovery of human remains and/or cultural resources are unlikely, as the additional lanes would occur within areas previously disturbed and mitigated under the currently proposed project. Additional excavation at deeper depths may occur for construction of the additional lanes within the median areas; therefore, the potential for unanticipated discovery of human remains or cultural resources exists and may contribute to a cumulatively considerable impact if not fully mitigated.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Road would also be expanded and realigned within the LM MSHCP area and LMR. An appropriate discretionary action coordinated between the County and LM MSHCP responsible parties is proposed as part of the project to accommodate the proposed roadway improvements. Impacts identified for Build Alternatives 1, 2C, and 4, above, would be the same within the portions of the LM MSHCP area and LMR that each build alternative travels through.

4.2.21(c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Build Alternatives 1, 2C, and 4

Potentially Significant Impact

As described in Sections 4.2.1, 4.2.5, and 4.2.23, Build Alternatives 1, 2C, and 4 have the potential to result in substantial adverse effects on human beings, particularly as a result of the significant unavoidable adverse impacts related to aesthetics, cultural resources, greenhouse gases, and noise described earlier. Mitigation measures identified in Sections 3.7, 3.8, 3.15, and 4.2.8 would reduce impacts but not to a less-than-significant level under CEQA.

Future Six-Lane Facility (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

The construction of two additional travel lanes within the median of Cajalco Road, between Temescal Canyon Road and Harley John Road, under Build Alternatives 1 and 2C, or within the medians of Cajalco Road and La Sierra Avenue, between Temescal Canyon Road and El Sobrante Road, for a total of six travel lanes along these segments of Cajalco Road and La Sierra Avenue, is not currently proposed as part of the project. Potential impacts involving unanticipated discovery of human remains and/or cultural resources are unlikely, as the additional lanes would occur within areas previously disturbed and mitigated under the currently proposed project. If the additional lanes are constructed in the future, environmental effects involving aesthetic resources and cultural resources, and subsequent substantial adverse effects on human beings, may not be fully avoided with the incorporation of mitigation.

Lake Mathews MSHCP (Build Alternatives 1, 2C, and 4)

Potentially Significant Impact

Under any of the build alternatives, Cajalco Road would be expanded and realigned within the LM MSHCP area and LMR; under Build Alternative 4, portions of La Sierra Avenue and El Sobrante Road would also be expanded and realigned within the LM MSHCP area and LMR. Because the LM MSHCP does not currently accommodate the roadway improvements or include a prescribed process to allow changes to the plan in response to public safety and/or access needs, an appropriate discretionary action coordinated between the County and LM MSHCP responsible parties would be required to accommodate the proposed roadway improvements. Significant unavoidable adverse impacts related to aesthetics and cultural resources identified for Build Alternatives 1, 2C, and 4, above, would be the same within the portions of the LM MSHCP area and LMR that each build alternative travels through.

4.3 Wildfire

4.3.1 Regulatory Setting

Senate Bill 1241 required the Office of Planning and Research, the Natural Resources Agency, and the California Department of Forestry and Fire Protection to develop amendments to the "CEQA Checklist" for the inclusion of questions related to fire hazard impacts for projects located on lands classified as very high fire hazard severity zones. The 2018 updates to the CEQA Guidelines expanded this to include projects "near" these very high fire hazard severity zones.

4.3.2 Affected Environment

Topographical conditions within the project study area vary, with more substantial changes in elevations occurring along the western half of the project. Highest elevations reach 2,557 feet in the Gavilan Hills area south of Cajalco Road and 1,857 feet at Arlington Mountain northwest of El Sobrante Road. Along the eastern half of the project, slopes are approximately 1.4 percent and generally in a southwest direction along the north side of Cajalco Road, and approximately 1.2 percent in a northern direction south of Cajalco Road.

According to the County of Riverside Temescal Canyon Area Plan and Lake Mathews/ Woodcrest Area Plan, and CAL FIRE VHFHSZ in LRA, Western Riverside County map, Build Alternatives 1, 2C, and 4 are within State Responsibility Area/Federal Responsibility Area High/Very High/Moderate Fire Hazard Severity Zones between just east of Temescal Creek and Carpinus Drive, as related to wildfire susceptibility (CAL FIRE 2009; County 2016, 2018a, 2018b). At Temescal Creek, the project alignment passes through a limited area designated LRA VHFHSZ; the alignment of Build Alternative 4 also passes through a limited LRA VHFHSZ along the north side of El Sobrante Road, just east of La Sierra Avenue (County 2018a).

Fire protection and emergency services are provided by the Riverside County Fire Department (RCFD) and City of Corona Fire Department. The City of Perris has a contract with RCFD for fire and emergency services; there are two fire stations and 14 firefighters assigned to the City of Perris (City of Perris 2018).

Flood hazard areas within the project area include Temescal Creek at the western end of the project, and Cajalco Creek, between Kirkpatrick Road and Clark Street, which are within a Zone A floodplain per FEMA Flood Insurance Rate Maps (FIRMs). Zone A is an area subject to inundation by the 1-percent annual chance (100-year) flood. Refer to Figure 3.9-1 in Section 3.9, *Hydrology and Floodplain*, for mapped floodplain areas.

4.3.3 Environmental Consequences

4.3.3.1 Emergency Access and Response

Build Alternatives 1, 2C, and 4 would improve the operational performance and the local street system by accommodating anticipated increased traffic demand and associated potential congestion from planned development in the area, thereby improving the delivery of public services (police and fire protection and emergency medical response) in the area.

Construction activities associated with the build alternatives would result in temporary, localized, site-specific disruptions to the utilities and emergency services in the project area, primarily related to construction-related traffic changes from trucks and equipment and partial and/or complete street and lane closures, some requiring detours. Only a few locations would require temporary, localized detours; most areas would maintain two-way traffic throughout construction. In addition, non-fire-related medical emergencies could temporarily increase with the presence of construction workers and heavy machinery during construction of the project. Localized, temporary detours are proposed during replacement of the Temescal Canyon Bridge just east of Temescal Canyon Road, at the intersection of Cajalco Road and Harley John Road to accommodate replacement of a large reinforced concrete box within the roadway, and during construction of the new bridge proposed for westbound lanes west of Barton Street.

A TMP, as described in Standard Project Measure PF **LU-1** (see Section 3.1*, Land Use*), would be prepared for the project and include measures to minimize construction-period traffic and access/circulation impacts, and coordination of detour routes with County sheriff and fire departments, and emergency providers. As part of the TMP, temporary detour plans would be prepared for alternative access and route options for local and regional travelers during construction of the project. Final detour routing would be identified during the PS&E/final design phases of the project. Therefore, impacts would be less than significant and mitigation would not be required.

4.3.3.2 Wildfire Risk

Build Alternatives 1, 2C, and 4 would include infrastructure improvements to existing transportation facilities located within mapped fire hazard severity zone areas. Improvements include widened roadway and roadway shoulders, additional travel lanes, center medians, turn lanes, curbs and gutters, and sidewalks, which would increase paved surfaces as well as the capacity of improved roadways, and improve connections with intersecting roadways throughout the project limits. Build Alternatives 1, 2C, and 4 would increase the capacity of improved roadways and improve connections with intersecting roadways throughout the project limits, thereby improving local access and the delivery of public services, including emergency response and fire protection.

An alternate access route for residents between Lake Mathews Drive and Dirt Road is also proposed under Build Alternatives 1 and 2C; no new habitable structures or access to previously inaccessible lands would occur as a result. A section of Cajalco Road would also be realigned east of Lake Mathews Drive through conserved lands managed by MWD under Build Alternatives 1 and 2C. While the realigned roadway would introduce a paved roadway structure through a previously unpaved area, public access to MWD-managed lands would continue to be restricted, limiting risk of undeveloped lands to fire exposure. Furthermore, the widened roadway areas would include wider shoulders and median areas, reducing roadside vegetation, serve as a firebreak, and provide additional areas for emergency response vehicle staging.

Build Alternatives 1, 2C, and 4 would require the relocation of several utilities, including overhead and underground electrical, underground gas, overhead and underground telephone, overhead cable telephone, water, septic tank, petroleum pipeline, and underground fiber optic. Under Build Alternatives 1 and 2C, existing electrical poles/lines along Cajalco Road would be relocated within the project limits as needed to accommodate the roadway widening between

Temescal Canyon Road and Harvill Avenue, with the majority of relocations occurring between Harley John Road and Harvill Avenue. Under Build Alternative 4, electrical poles/lines along Cajalco Road would also be relocated, but only between Temescal Canyon Road and La Sierra Avenue, and Harley John Road and Harvill Avenue, within the project limits as needed. Remaining utility relocations under Build Alternative 4 would occur along La Sierra Avenue and El Sobrante Road within the project limits. At bridge locations under all build alternatives, utilities would be relocated either within the bridge or outside of the new bridge/roadway, as needed, to accommodate the proposed improvements. Utility relocation plans will be prepared in consultation with the affected utility providers/owners for those utilities that will need to be relocated, removed, or protected in place. Utilities would be relocated within the environmentally evaluated footprint of this project in accordance with State law and regulations and County policies. The utility relocation plans will be included in the project specifications. The relocation of utilities would be coordinated between the County, affected agencies, and utility companies. This commitment is included in the project as Standard Project Measure **PF UT-1**; please refer to Section 3.5, *Utilities/Emergency Services*, for **PF UT-1**.

Therefore, for the reasons stated above, potential impacts caused by exacerbated wildfire risk related to emergency access, evacuations, or infrastructure would not occur and there would be no impact.

4.3.3.3 Post-Fire Slope Failure and Flood Risk

Topographical and slope conditions throughout the project vicinity vary, with more prominent slopes located along the western portion of the project, specifically along Cajalco Road between Temescal Creek Bridge and La Sierra Avenue, along La Sierra Avenue between Cajalco Road and El Sobrante Road, and south of El Sobrante Road (Lake Mathews Northern Dam) between La Sierra Avenue and east of McAllister Street. Moderately sloped areas occur along Cajalco Road between La Sierra Avenue and Kirkpatrick Road, decreasing as topographical conditions transition to more rolling and flat areas toward the eastern end of the project.

Build Alternatives 1, 2C, and 4 would require slope cuts and the addition of fill to accommodate a wider roadway profile through steep and moderately steep slope areas, and through undeveloped slope areas. Retaining walls are proposed for steeper areas where embankments are not feasible due to steep slopes. Refer to Figures 2.2-2, 2.2-4, and 2.2-5 in Chapter 2, *Project Alternatives*, for proposed retaining wall locations. Retaining walls and embankments would be constructed in accordance with County and/or Caltrans specifications. Final slope design would be confirmed during final design through Standard Project Measures **PF GEO-1** through **PF GEO-5**, and additional recommendations applied during the PS&E phase.

Build Alternatives 1, 2C, and 4 would encroach into the floodplains at four creek crossing locations: one at Temescal Creek and three along Cajalco Creek. The Temescal Creek floodplain encroachment would occur on the western end of the alignment near Temescal Canyon Road, as shown on Figure 3.9-1, and the three Cajalco Creek encroachments would occur at John Harley Road, west of Alexander Street, and between Alexander Street and Clark Street. Refer to Section 3.9, *Hydrology and Floodplain*, for Figure 3.9-1. Through the use of project design features such as detention basins, culverts, and channels, 100-year storm flows would be conveyed and would not result in any new flooding. Refer to Figures 2.2-2 through 2.2-5 in Chapter 2, *Project Alternatives*, for the locations of proposed basins, culverts, and channels. The culverts and

channels would provide a larger conveyance through this area, which is predicted to lower the water surface, reduce velocities, and eliminate flow over the roadway during a 100-year flood.

Build Alternatives 1, 2C, and 4 would not result in flood-related interruption of emergency services or routes and would improve access throughout the region. In addition, Build Alternatives 1, 2C, and 4 would not increase the risk of flooding. Standard project measures have been incorporated into the project that address slope stability and flood risk hazards. These standard project measures include **PF UT-1** that requires the coordination of utility modifications, including relocations, with providers; **PF GEO-1** through **PF GEO-5** for soil testing and confirmation of excavation and stabilization techniques, and foundation and embankment design, that meet Caltrans and/or County requirements, to avoid risk of post-fire slope failure; **PF HAZ-3** and **PF HAZ-5** for handling and disposal of petroleum, creosote-treated wood, and other flammable waste products; **PF AQ-1** for compliance with vehicle idle regulations and a construction traffic management plan to avoid impeding emergency access; and **NC-3 (NES BIO-3)**, **NC-5 (NES BIO-5)**, **NC-6 (NES BIO-6)**, **NC-10 (NES BIO-10)**, and **NC-13 (NES BIO-9)** for prevention of soil or other disturbance outside the project limits, an erosion control plan, and the return of temporarily disturbed, bare areas to natural contour grades, and hydro-seeded, post-construction. Therefore, with the incorporation of the above standard project measures, the risk of project-related slope or flood-related risks to life or property associated with post-fire conditions would be less than significant. Please refer to Sections 3.5, *Utilities/Emergency Services*; 3.11, *Geology/ Soils/Seismic/Topography*; 3.13, *Hazardous Waste/Materials*; 3.14, *Air Quality*; and 3.17, *Natural Communities*, for the standard project measures and further discussion.

4.3.4 Avoidance, Minimization, and/or Mitigation Measures

Standard project measures and features incorporated into the project, including **PF UT-1**, **PF GEO-1** through **PF GEO-5**, **PF HAZ-3** and **PF HAZ-5**, **PF AQ-1**, and **NC-1 (NES BIO-1)** through **NC-12 (NES BIO-12)**, would reduce impacts to less-than-significant levels. Please refer to Sections 3.5, *Utilities/Emergency Services*; 3.11, *Geology/ Soils/Seismic/Topography*; 3.13, *Hazardous Waste/Materials*; 3.14, *Air Quality*; and 3.17, *Natural Communities*, for the standard project measures and further discussion.

4.4 Climate Change

Climate change refers to long-term changes in temperature, precipitation, wind patterns, and other elements of the earth's climate system. An ever-increasing body of scientific research attributes these climatological changes to greenhouse gas (GHG) emissions, particularly those generated from the production and use of fossil fuels.

While climate change has been a concern for several decades, the establishment of the Intergovernmental Panel on Climate Change (IPCC) by the United Nations and World Meteorological Organization in 1988 led to increased efforts devoted to GHG emissions reduction and climate change research and policy. These efforts are primarily concerned with the emissions of GHGs generated by human activity, including carbon dioxide (CO_2), methane (CH4), nitrous oxide (N_2O), tetrafluoromethane, hexafluoroethane, sulfur hexafluoride (SF6), and various hydrofluorocarbons (HFCs). CO_2 is the most abundant GHG; while it is a naturally occurring component of Earth's atmosphere, fossil-fuel combustion is the main source of additional, human-generated CO_2.

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

4.4.1 Regulatory Setting

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

4.4.1.1 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 (FHWA 2019). This approach encourages planning for sustainable highways by addressing climate risks while balancing environmental, economic, and social values—"the triple bottom line of sustainability" (FHWA n.d.). Program and project elements that foster sustainability and resilience also support economic vitality and global efficiency, increase safety and mobility, enhance the environment, promote energy conservation, and improve the quality of life.

Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects. The most important of these was the Energy Policy and Conservation Act of 1975 (42 USC Section 6201) and Corporate Average Fuel Economy (CAFE) Standards. This act establishes fuel economy standards for on-road motor vehicles sold in the United States. Compliance with federal fuel economy standards is determined through the CAFE program based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States.

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

The U.S. EPA in conjunction with the National Highway Traffic Safety Administration (NHTSA) is responsible for setting GHG emission standards for new cars and light-duty vehicles to significantly increase the fuel economy of all new passenger cars and light trucks sold in the United States. Fuel efficiency standards directly influence GHG emissions.

4.4.1.2 State

California has been innovative and proactive in addressing GHG emissions and climate change by passing multiple Senate and Assembly bills and executive orders (EOs) including, but not limited to, the following:

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

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

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

Senate Bill (SB) 375, Chapter 728, 2008, Sustainable Communities and Climate Protection: This bill requires ARB to set regional emissions reduction targets for passenger vehicles. The

Metropolitan Planning Organization (MPO) for each region must then develop a "Sustainable Communities Strategy" (SCS) that integrates transportation, land-use, and housing policies to plan how it will achieve the emissions target for its region.

SB 391, Chapter 585, 2009, California Transportation Plan: This bill requires the State's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

EO B-16-12 (March 2012) orders State entities under the direction of the Governor, including ARB, the California Energy Commission, and the Public Utilities Commission, to support the rapid commercialization of zero-emission vehicles. It directs these entities to achieve various benchmarks related to zero-emission vehicles.

EO B-30-15 (April 2015) establishes an interim statewide GHG emission reduction target of 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It further orders all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. It also directs ARB to update the Climate Change Scoping Plan to express the 2030 target in terms of million metric tons of carbon dioxide equivalent ($MMTCO_2e$).[20] Finally, it requires the Natural Resources Agency to update the state's climate adaptation strategy, Safeguarding California, every 3 years, and to ensure that its provisions are fully implemented.

SB 32, Chapter 249, 2016, codifies the GHG reduction targets established in EO B-30-15 to achieve a mid-range goal of 40 percent below 1990 levels by 2030.

SB 1386, Chapter 545, 2016, declared "it to be the policy of the state that the protection and management of natural and working lands … is an important strategy in meeting the state's greenhouse gas reduction goals, and would require all state agencies, departments, boards, and commissions to consider this policy when revising, adopting, or establishing policies, regulations, expenditures, or grant criteria relating to the protection and management of natural and working lands."

AB 134, Chapter 254, 2017, allocates Greenhouse Gas Reduction Funds and other sources to various clean vehicle programs, demonstration/pilot projects, clean vehicle rebates and projects, and other emissions-reduction programs statewide.

SB 743, Chapter 386 (September 2013): This bill changes the metric of consideration for transportation impacts pursuant to CEQA from a focus on automobile delay to alternative methods focused on vehicle miles travelled, to promote the state's goals of reducing greenhouse gas emissions and traffic related air pollution and promoting multimodal transportation while balancing the needs of congestion management and safety.

SB 150, Chapter 150, 2017, Regional Transportation Plans: This bill requires ARB to prepare a report that assesses progress made by each metropolitan planning organization in meeting their established regional greenhouse gas emission reduction targets.

[20] GHGs differ in how much heat each trap in the atmosphere (global warming potential, or GWP). CO_2 is the most important GHG, so amounts of other gases are expressed relative to CO_2, using a metric called "carbon dioxide equivalent" (CO_2e). The global warming potential of CO_2 is assigned a value of 1, and the GWP of other gases is assessed as multiples of CO_2.

EO B-55-18 (September 2018) sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

EO N-19-19 (September 2019) advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. It orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs ARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and propose strategies to increase demand for zero-emission vehicles.

4.4.2 Environmental Setting

The proposed project is in a rural area of Riverside County with a sparsely developed road and street network. The project vicinity include commercial and residential developments as well as an aggregate operation near I-15. In the central portion of the alignment, vacant, undeveloped land predominates, with an occasional residence or cluster of residences. In the eastern third of the alignment, Cajalco Road is surrounded by low-density residences. The Riverside County Climate Action Plan (CAP), originally adopted in 2015 and revised in November 2019, provides information on Riverside County GHG Inventory reduction goals, thresholds, policies, guidelines, and implementation programs. In particular, the CAP elaborates on the General Plan goals and policies relative to GHG emissions and provides a specific implementation tool to guide future County decisions.

A GHG emissions inventory estimates the amount of GHGs discharged into the atmosphere by specific sources over a period of time, such as a calendar year. Tracking annual GHG emissions allows countries, states, and smaller jurisdictions to understand how emissions are changing and what actions may be needed to attain emission reduction goals. U.S. EPA is responsible for documenting GHG emissions nationwide, and the ARB does so for the state, as required by H&SC Section 39607.4.

4.4.2.1 National GHG Inventory

The U.S. EPA prepares a national GHG inventory every year and submits it to the United Nations in accordance with the Framework Convention on Climate Change. The inventory provides a comprehensive accounting of all human-produced sources of GHGs in the United States, reporting emissions of CO_2, CH_4, N_2O, HFCs, perfluorocarbons, SF6, and nitrogen trifluoride. It also accounts for emissions of CO_2 that are removed from the atmosphere by "sinks" such as forests, vegetation, and soils that uptake and store CO_2 (carbon sequestration). The 1990–2016 inventory found that of 6,511 MMTCO2e GHG emissions in 2016, 81% consist of CO_2, 10% are CH_4, and 6% are N_2O; the balance consists of fluorinated gases (EPA 2018a). In 2016, GHG emissions from the transportation sector accounted for nearly 28.5% of U.S. GHG emissions.

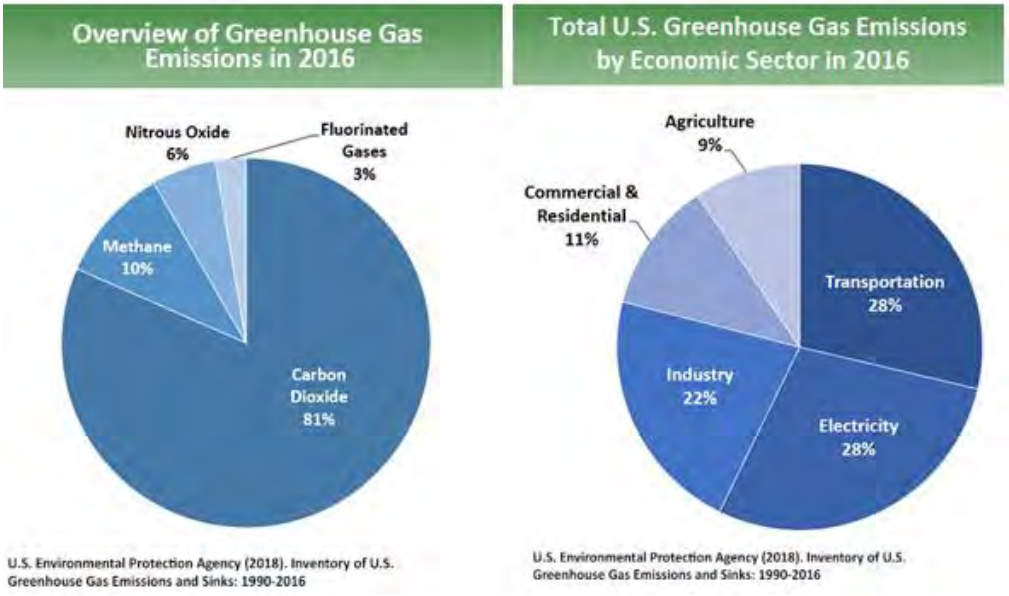

Figure 4.4-1. U.S. 2016 Greenhouse Gas Emissions

4.4.2.2 State GHG Inventory

ARB collects GHG emissions data for transportation, electricity, commercial/residential, industrial, agricultural, and waste management sectors each year. It then summarizes and highlights major annual changes and trends to demonstrate the state's progress in meeting its GHG reduction goals. The 2019 edition of the GHG emissions inventory found total California emissions of 424.1 MMTCO2e for 2017, with the transportation sector responsible for 41% of total GHGs. It also found that overall statewide GHG emissions declined from 2000 to 2017 despite growth in population and state economic output (ARB 2019a).

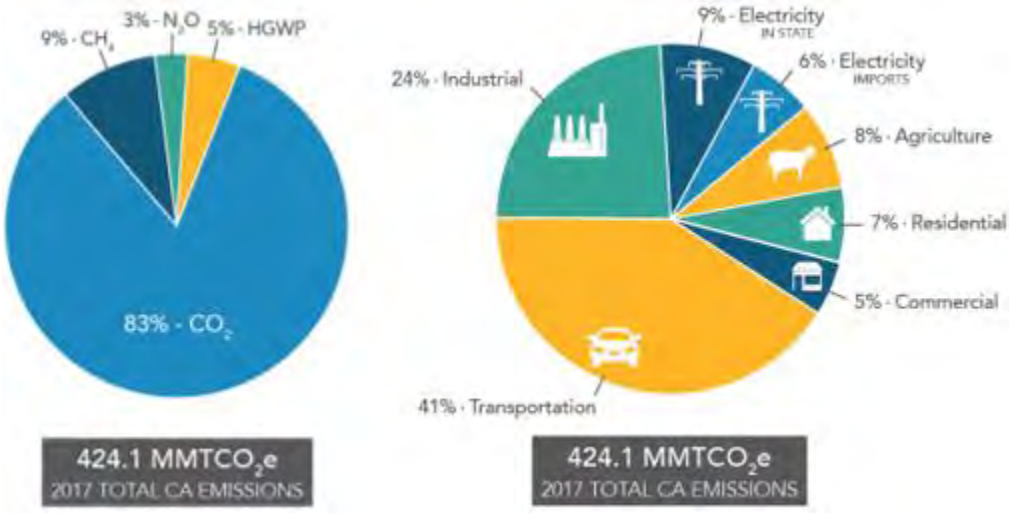

Figure 4.4-2. California 2017 Greenhouse Gas Emissions

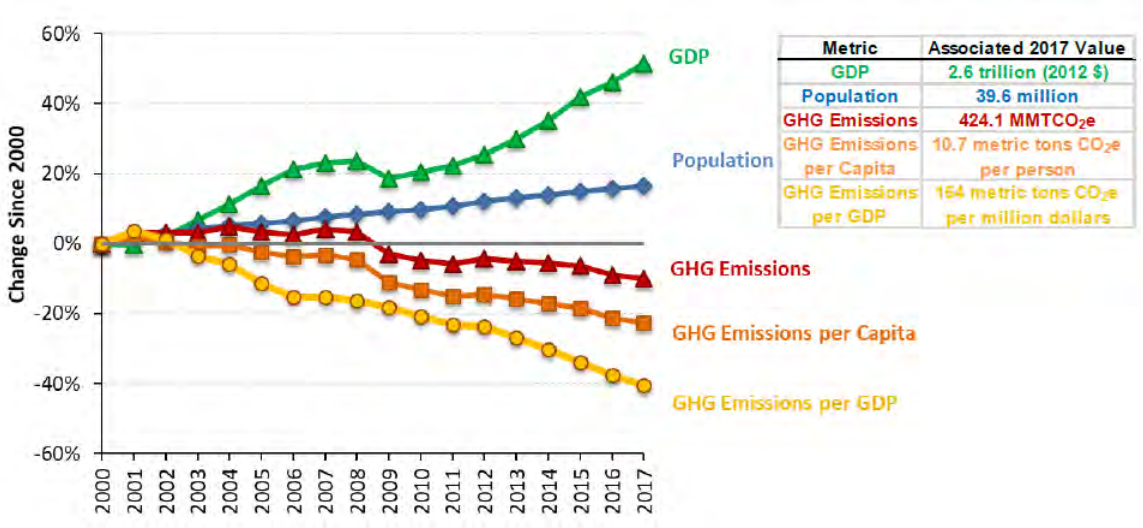

Figure 4.4-3. Change in California GDP, Population, and GHG Emissions since 2000 (*Source*: ARB 2019b)

AB 32 required ARB to develop a Scoping Plan that describes the approach California will take to achieve the goal of reducing GHG emissions to 1990 levels by 2020, and to update it every 5 years. ARB adopted the first scoping plan in 2008. The second updated plan, California's 2017 Climate Change Scoping Plan, adopted on December 14, 2017, reflects the 2030 target established in EO B-30-15 and SB 32. The AB 32 Scoping Plan and the subsequent updates contain the main strategies California will use to reduce GHG emissions.

4.4.2.3 Regional Plans

ARB sets regional targets for California's 18 MPOs to use in their Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) to plan future projects that will cumulatively achieve GHG reduction goals. Targets are set at a percent reduction of passenger vehicle GHG emissions per person from 2005 levels. The proposed project is included within the Southern California Association of Governments (SCAG) MPO. The regional reduction target for the SCAG region is 8 percent and 19 percent for the years 2020 and 2035, respectively (ARB 2019c). Shown below in Table 4.4-1, SCAG and Riverside County policies directed at, or resulting in, the reduction of GHG emissions include the following, among other measures.

Table 4.4-1. Regional and Local Greenhouse Gas Reduction Plans

Title	GHG Reduction Policies or Strategies
Southern California Association of Governments *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (adopted April 2016)	• Encourage bicycle and pedestrian improvements and efficient transportation infrastructure. • Invest in adding capacity and improving critical road conditions. • Invest in long-term emission-reduction investments for trucks and rail. • Implement technology and mobility innovations • Expand regional express lanes.

Title	GHG Reduction Policies or Strategies
County of Riverside Climate Action Plan Update (revised November 2019)	• **Reduction measure R2-T1**: Alternative Transportation Options - provide a comprehensive system of facilities for non-motorized transportation. • **Reduction measure R2-W2**: Exceed water efficiency standards – promote use of recycled water or grey water. • **Reduction measure R2-T4**: Electrify the Fleet – promotion of electric vehicle use. • **Reduction measure R2-S1**: Reduce waste to landfills. • **Reduction measure R2-EE10**: Energy Efficiency Enhancement of Existing and New Infrastructure – use high-efficiency light-emitting diodes (LEDs) for new and retrofitted traffic signals. • **Project feature T1.C**: Roadway improvements including signal synchronization and transportation flow management.
County of Riverside General Plan (July 2018)	**Circulation Element** • **Policy C 1.5**: Evaluate the planned circulation system as needed to enhance the arterial highway network to respond to anticipated growth and mobility needs. • **Policy C 3.12**: Improve highways serving as arterials through mountainous and rural areas to adequately meet travel demands and safety requirements while minimizing the need for excessive cut and fill. • **Policy C 3.13**: Design street intersections, where appropriate, to assure the safe, efficient passage of through traffic and the negotiation of turning movements. • **Policy C 5.2:** Encourage the use of drought-tolerant native plants and the use of recycled water for roadway landscaping. • **Policy C 21.5**: Consider roadway expansion at public expense to relieve congestion only after the determination has been made that TSM measures will not be effective. • **Policy C 21.6**: Install special turning lanes whenever necessary to relieve congestion and improve safety. **Air Quality Element** • **Policy AQ 4.1:** Require the use of all feasible building materials/methods which reduce emissions. • **Policy AQ 5.1**: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills. • **Policy AQ 12.1**: Manage traffic flow through signal synchronization, while coordinating with and permitting the free flow of mass transit vehicles, when possible. • **Policy AQ 14.3**: Monitor traffic and congestion to determine when and where the County needs new transportation facilities to achieve increased mobility efficiency. • **Policy AQ 14.4**: Preserve transportation corridors with high demand potential or regional significance for future expansion to meet project demand. • **Policy AQ 17.6**: Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations. • **Policy AQ 20.14:** Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance 859 and increase use of non-potable water. • **Policy AQ 20.20:** Reduce the amount of solid waste generation by increasing solid waste recycle, maximizing waste diversion, and composting for residential and commercial generators. Reduction in decomposable organic solid waste will reduce the methane emissions at County landfills.

4.4.3 Project Analysis

Because the County is the CEQA lead agency, this evaluation is based on the County's significance thresholds and reflects the County determinations. Caltrans' methods have been applied to this evaluation due to its statewide role in funding and delivering transportation projects, but the County is responsible for CEQA determinations herein.

GHG emissions from transportation projects can be divided into those produced during operation of the SHS and those produced during construction. The primary GHGs produced by the transportation sector are CO_2, CH_4, N_2O, and HFCs. CO_2 emissions are a product of the combustion of petroleum-based products, like gasoline, in internal combustion engines. Relatively small amounts of CH_4 and N_2O are emitted during fuel combustion. In addition, a small amount of HFC emissions are included in the transportation sector.

The CEQA Guidelines generally address greenhouse gas emissions as a cumulative impact due to the global nature of climate change (Pub. Resources Code, § 21083(b)(2)). As the California Supreme Court explained, "because of the global scale of climate change, any one project's contribution is unlikely to be significant by itself." (Cleveland National Forest Foundation v. San Diego Assn. of Governments (2017) 3 Cal.5th 497, 512.) In assessing cumulative impacts, it must be determined if a project's incremental effect is "cumulatively considerable" (CEQA Guidelines Sections 15064(h)(1) and 15130).

To make this determination, the incremental impacts of the project must be compared with the effects of past, current, and probable future projects. Although climate change is ultimately a cumulative impact, not every individual project that emits greenhouse gases must necessarily be found to contribute to a significant cumulative impact on the environment.

4.4.3.1 Operational Emissions

CO_2 accounts for 95 percent of transportation GHG emissions in the U.S. The largest sources of transportation-related GHG emissions are passenger cars and light-duty trucks, including sport utility vehicles, pickup trucks, and minivans. These sources account for over half of the emissions from the sector. The remainder of GHG emissions comes from other modes of transportation, including freight trucks, commercial aircraft, ships, boats, and trains, as well as pipelines and lubricants. Because CO_2 emissions represent the greatest percentage of GHG emissions it has been selected as a proxy within the following analysis for potential climate change impacts generally expected to occur.

The highest levels of CO_2 from mobile sources such as automobiles occur at stop-and-go speeds (0–25 miles per hour) and speeds over 55 miles per hour; the most severe emissions occur from 0–25 miles per hour (see Figure 4.4-4). To the extent that a project relieves congestion by enhancing operations and improving travel times in high-congestion travel corridors, GHG emissions, particularly CO_2, may be reduced.

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

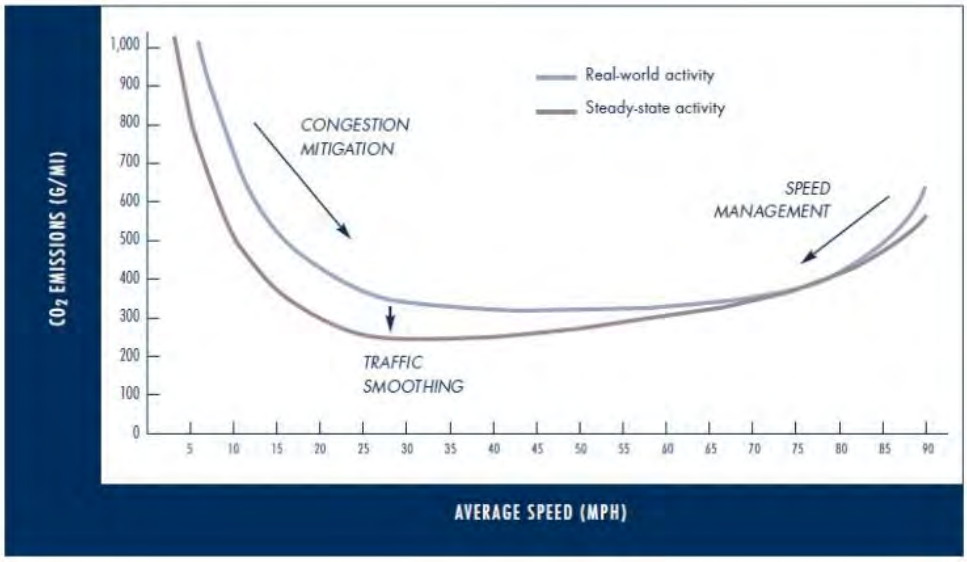

Figure 4.4-4. Possible Use of Traffic Operation Strategies in Reducing On-road CO_2 Emissions (*Source:* Barth and Boriboonsomsin 2010)

The project purpose is to (1) improve the transportation facility to address anticipated growth and mobility needs, (2) improve interregional travel by improving east-west mobility in Riverside County, and (3) improve roadway alignment and intersection design to enhance safety. These capacity enhancements would have some effect on project vicinity VMT, and related GHG emissions, due to trip redistributions. Project vicinity congestion or travel delay would also be affected. The project is identified in the SCAG 2016–2040 and more recent 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and, as such, would assist in meeting the region's SB 375 goals to reduce mobile-source GHG emissions.

4.4.3.2 Quantitative Analysis

The proposed build alternatives would improve traffic conditions during peak travel periods and increase capacity within the project limits. The VMT data shown in Table 4.4-2, along with EMFAC2014 emission rates (within the CT EMFAC model), were used to calculate the CO_2 equivalent (CO_2e)[21] emissions under the Baseline/Existing Year 2014, Opening Year 2024, and Horizon Year 2044 conditions. For purposes of this analysis, CO_2e comprises CO_2 and CH_4.

[21] Carbon dioxide equivalent is a measure used to compare the emissions from various greenhouse gases based upon their global warming potential. For example, the global warming potential for methane over 100 years is 28.

Table 4.4-2. Modeled Annual CO_2 Emissions and Vehicle Miles Traveled – Alternatives 1, 2C, and 4

Year / Alternative	CO_2 Emissions (Metric Tons/Year)	Annual Vehicle Miles Traveled[1]
Existing/Baseline 2014	1,364,951	2,979,123,737
Open to Traffic 2024		
No Build	1,285,751	3,699,198,298
Build Alternative 1	1,294,347	3,751,722,597
Build Alternative 2C	1,301,794	3,771,736,039
Build Alternative 4	1,299,554	3,768,515,922
20-Year Horizon/Design-Year 2044		
No Build	1,365,350	5,086,991,199
Build Alternative 1	1,377,419	5,128,627,382
Build Alternative 2C	1,370,635	5,108,239,744
Build Alternative 4	1,378,941	5,139,521,794
Future Six-Lane Facility (Build Alternative 1/2C)	1,385,029	5,150,625,375
Future Six-Lane Facility (Build Alternative 4)	1,388,430	5,168,198,490

CO_2 = carbon dioxide
Source: EMFAC 2014
[1] Annual vehicle miles traveled (VMT) values derived from Daily VMT values multiplied by 347, per ARB methodology (ARB 2008).

As shown in Table 4.4-2, the modeled CO_2e emissions in the project area under 2014 Existing/Baseline conditions would be approximately 1.36 million metric tons CO_2e per year. In Opening Year 2024, annual emissions from mobile sources operating in the project area[22] would be 1.29 million metric tons CO_2e under the No-Build Alternative, 1.29 million metric tons CO_2e under Build Alternative 1, 1.30 million metric tons CO_2e under Build Alternative 2C, and 1.30 million metric tons CO_2e under Build Alternative 4.

Table 4.4-2 also shows emissions at the 2044 Horizon Year, which are estimated to be 1.37 million metric tons CO2e under the No-Build Alternative, 1.38 million metric tons CO2e under Build Alternative 1, 1.37 million metric tons CO2e under Build Alternative 2C, and 1.38 million metric tons CO2e under Build Alternative 4. When compared to the 2014 Existing/Baseline, GHG emissions at the Horizon Year 2044 would be 0.03 percent higher under the No-Build Alternative, 0.91 percent higher under the Build Alternative 1, 0.42 percent high under Build Alternative 2C, and 1.02 percent higher under Build Alternative 4. Although there would be increases in emissions, the increases would be minimal relative to the greater than 70 percent increases in VMT. The relatively small increases in CO2e over time compared to the percentage increase in VMT is attributable to the projected improvements in vehicle fuel efficiency.

At the 2044 Horizon Year, emissions would increase under the build alternatives when compared with the No-Build Alternative, with annual GHG emissions estimated to increase 0.88 percent under Build Alternative 1, 0.38 percent under Build Alternative 2C, and 0.99 percent under Alternative 4. Such increases are attributable to the greater VMT and changes in the speed profile projected in the project area under each of the build alternatives.

[22] For the purposes of this GHG analysis, the project area is defined as the study region defined in the Traffic Operations Analysis Report, which includes roadway segments generally bounded by I-15 on the west, SR-91 to the north, I-215 to the north and west, and the area immediately south of Cajalco Road on the south.

While CT-EMFAC has a rigorous scientific foundation and has been vetted through multiple stakeholder reviews, its GHG emission rates are based on tailpipe emission test data.[23] Moreover, the model does not account for factors such as the rate of acceleration and vehicle aerodynamics, which influence the amount of emissions generated by a vehicle. GHG emissions quantified using CT-EMFAC are therefore estimates and may not reflect actual physical emissions. Though CT-EMFAC is currently the best available tool for calculating GHG emissions from mobile sources, it is important to note that the GHG results are only useful for a comparison among alternatives.

The County adopted a Climate Action Plan Update in November 2019, which set the goal for Riverside County to reduce GHG emissions to 15 percent below 2008 levels by the year 2020, 49 percent below 2008 levels by 2030, and 83 percent below 2008 levels by 2050. This goal is consistent with the statewide goal identified in AB 32, SB 32, and EO S-3-05. A number of the transportation-related policies are applicable to the proposed project. Many of the policies are statewide policies that would result in GHG reductions in Riverside County, such as the Pavley standards for passenger and light-duty vehicles, the low carbon fuel standard, and electrification of the vehicle fleet. Among the local policies that will be implemented in the study area that would coincide with project implementation are the use of LED bulbs in traffic signals identified in Measure R2-EE10, reduction of waste diverted to landfills identified in Measure R2-S1, reduction of water use identified in Measure R2-W2, and signal synchronization and transportation flow management identified as Reduction Measure T1.C (County 2019g). In addition, the project would be consistent with many of the policies identified in the Riverside County General Plan that have a GHG reduction co-benefit, including those related to improving circulation and relieving congestion, those related to the use of building materials/methods and waste reduction, and those related to reduced water use (County 2018a).

4.4.3.3 Construction Emissions

Construction GHG emissions would result from material processing, on-site construction equipment, and traffic delays due to construction. These emissions will be produced at different levels throughout the construction phase; their frequency and occurrence can be reduced through innovations in plans and specifications and by implementing better traffic management during construction phases. In addition, with innovations such as longer pavement lives, improved traffic management plans, and changes in materials, the GHG emissions produced during construction can be offset to some degree by longer intervals between maintenance and rehabilitation activities.

All construction contracts to be issued by the County will include Caltrans Standard Specifications Section 7-1.02A and 7 1.02C, Emissions Reduction, which require contractors to

[23] This analysis does not currently account for the effects of the US National Highway Traffic Safety Administration and Environmental Protection Agency SAFE (Safer Affordable Fuel-Efficient) Vehicles Rule. Part One revoking California's authority to set its own greenhouse gas emissions standards was published on September 27, 2019 and effective November 26, 2019. The SAFE Vehicles Rule Part 2 would amend existing Corporate Average Fuel Economy (CAFE) and tailpipe carbon dioxide emissions standards for passenger cars and light trucks and establish new standards covering model years 2021 through 2026. The proposal would retain the model year 2020 standards for both programs through model year 2026. Although CARB has not yet provided adjustment factors for greenhouse gas emissions to be utilized in light of the SAFE Rule, modeling these estimates with EMFAC2017 or CT-EMFAC2017 remains the most precise means of estimating future greenhouse gas emissions.

comply with all laws applicable to the project and to certify they are aware of and will comply with all ARB emission reduction regulations; and Section 14-9.02, Air Pollution Control, which requires contractors to comply with all air pollution control rules, regulations, ordinances, and statutes. Certain common regulations, such as equipment idling restrictions, that reduce construction vehicle emissions also help reduce GHG emissions.

4.4.4 CEQA Conclusion

4.4.4.1 Would the Project: Generate Greenhouse Gas Emissions, Either Directly or Indirectly, That May Have a Significant Impact on the Environment?

Build Alternative 1

Shown above in Table 4.4-2, Build Alternative 1 emissions would not exceed Baseline emissions at Opening Year 2024, but they would exceed Baseline emissions during the Horizon Year 2044. As such, project GHG emissions under Build Alternative 1 would be significant.

Build Alternative 2C

Shown above in Table 4.4-2, Build Alternative 2C emissions would not exceed Baseline emissions at Opening Year 2024, but they would exceed Baseline emissions during the Horizon Year 2044. As such, project GHG emissions under Build Alternative 2C would be significant.

Build Alternative 4

Shown above in Table 4.4-2, Build Alternative 4 emissions would not exceed Baseline emissions at Opening Year 2024, but they would exceed Baseline emissions during the Horizon Year 2044. As such, project GHG emissions under Build Alternative 4 would be significant.

Future Six-Lane Facility (Build Alternative 1/2C)

Shown above in Table 4.4-2, Future Six-lane Facility Build Alternative 1/2C emissions would exceed Baseline emissions during the Horizon Year 2044. As such, project GHG emissions under Future Six-lane Facility Build Alternative 1/2C would be significant.

Future Six-Lane Facility (Build Alternative 4)

Shown above in Table 4.4-2, Future Six-lane Facility Build Alternative 4 emissions would exceed Baseline emissions during the Horizon Year 2044. As such, project GHG emissions under Future Six-lane Facility Build Alternative 4 would be significant.

4.4.4.2 Would the Project Conflict with an Applicable Plan, Policy, or Regulation Adopted for the Purpose of Reducing the Emissions of Greenhouse Gas?

Build Alternatives 1, 2C, and 4

Following California's adopted AB 32 GHG reduction target, Riverside County has set a goal to reduce emissions back to 1990 levels by the year 2020. This target was calculated as a

15-percent decrease from 2008 levels, as recommended in the AB 32 Scoping Plan. The estimated community-wide emissions for the year 2020, based on population and housing growth projections associated with the assumptions used in the proposed General Plan Update, are 12,129,497 metric tons of CO_2e. In order to reach the reduction target, Riverside County must offset this growth in emissions and reduce community-wide emissions to 5,960,998 metric tons of CO_2e by the year 2020 (County 2018a).

The onsite construction equipment for the proposed project is anticipated to emit a total of 3,570 metric tons of GHGs during construction. With innovations such as longer pavement lives, improved TMPs, and changes in materials, the GHG emissions produced during construction can be mitigated to some degree by longer intervals between maintenance and rehabilitation events. Compliance with Caltrans Standard Specifications, the SCAQMD Rules and Regulations, and Standard Project Measures **PF LU-1**, **PF VIS-4**, and **PF AQ-1** during construction will minimize construction-related GHG impacts. Please refer to Section 3.1, *Land Use*, for **PF LU-1**; Section 3.7, *Visual/Aesthetics*, for **PF VIS-4**; and Section 3.14, *Air Quality*, for **PF AQ-1**.

The proposed project would address growth and mobility needs as identified in the Riverside County General Plan Circulation Element, Policy C 1.5. The proposed project would not generate new vehicular traffic trips because new homes or businesses will not be constructed as part of the project, and the proposed project is not considered a traffic generator.

The proposed project would result in a slight increase in GHG emissions during construction; however, these emissions are at levels not considered significant for an individual project. In addition, because the proposed project would not generate new traffic, it is anticipated that the proposed project would not result in any increase in operational GHG emissions that would have a significant impact on the environment.

In addition to the application of Standard Project Measures **PF LU-1**, **PF VIS-4**, and **PF AQ-1** during construction, the proposed project would also include Standard Project Measures **PF VIS-1**, **NC-13 (NES BIO-9),** and **PF SW-1**, which would minimize GHG emissions consistent with the measures and goals identified in the Riverside County Climate Action Plan Update, and would therefore be consistent with the plan. As described Section 4.2.3, *Air Quality*, the project is also consistent with the SCAG RTP/SCS. Therefore, the proposed project would not conflict with the applicable plan adopted for the purpose of reducing GHG emissions. Please refer to Section 3.7, *Visual/Aesthetics*, for **PF VIS-1** and **PF VIS-4**; Section 3.14, *Air Quality*, for **PF AQ-1**; Section 3.17, *Natural Communities*, for **NC-13 (NES BIO-9)**; and Section 4.2.8, *Greenhouse Gas Emissions*, for **PF SW-1**.

The proposed project is consistent with, and does not conflict with, any applicable plans, policies, or regulations adopted for the purposes of reducing the emissions of GHGs. No impacts would result.

4.4.5 Greenhouse Gas Reduction Strategies

4.4.5.1 Statewide Efforts

Major sectors of the California economy, including transportation, will need to reduce emissions to meet the 2030 and 2050 GHG emissions targets. Former Governor Edmund G. Brown

promoted GHG reduction goals that involved (1) reducing today's petroleum use in cars and trucks by up to 50 percent; (2) increasing from one-third to 50 percent our electricity derived from renewable sources; (3) doubling the energy efficiency savings achieved at existing buildings and making heating fuels cleaner; (4) reducing the release of methane, black carbon, and other short-lived climate pollutants; (5) managing farms and rangelands, forests, and wetlands so they can store carbon; and (6) periodically updating the state's climate adaptation strategy, Safeguarding California.

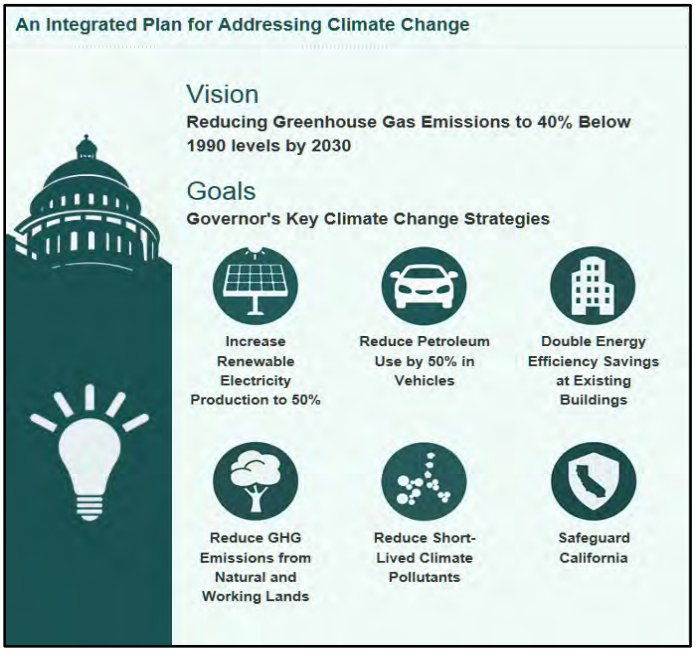

Figure 4.4-5. California Climate Strategy

The transportation sector is integral to the people and economy of California. To achieve GHG emission reduction goals, it is vital that the state build on past successes in reducing criteria and toxic air pollutants from transportation and goods movement. GHG emission reductions will come from cleaner vehicle technologies, lower-carbon fuels, and reduction of vehicle miles traveled (VMT). A key state goal for reducing greenhouse gas emissions is to reduce today's petroleum use in cars and trucks by up to 50 percent by 2030 (State of California 2019).

In addition, SB 1386 (Wolk 2016) established as state policy the protection and management of natural and working lands and requires state agencies to consider that policy in their own decision making. Trees and vegetation on forests, rangelands, farms, and wetlands remove carbon dioxide from the atmosphere through biological processes and sequester the carbon in above- and below-ground matter.

4.4.5.2 Project-Level GHG Reduction Strategies

Given that the finished project is a roadway improvement project, there is a lack of available avenues to fully offset project GHG emission increases. Standard project measures incorporated into the proposed project, such as the use of LED bulbs in place of incandescent bulbs, would consume 10 percent of the electricity of traditional lights, which will also help reduce CO_2 emissions and, subsequently, GHG emissions. Furthermore, the use and maintenance of

construction equipment in accordance with Caltrans' Standard Specifications, Section 14-9.02, ARB commercial vehicle idle regulations, and manufacturers' specifications would reduce GHG emissions from diesel-powered construction vehicles. These standard project measures, as well as Mitigation Measures **GHG-1**, **VIS-2**, and **VIS-8**, align with the measures and strategies outlined in the County of Riverside Climate Action Plan Update (County 2019g) and the SCAG 2016–2040 Programmatic EIR, and they would reduce GHG emissions associated with the proposed project.

The following standard project measures have been incorporated into the project and would reduce GHG emissions and potential climate change impacts from the project. The measures below include measures that meet or exceed measures recommended in the SCAG 2016–2040 Programmatic EIR that incorporate Best Available Control Technology to be employed during project design, construction, and operation as avoidance and minimization measures to minimize GHG emissions, and measures recommended in the SCAG 2016–2040 Programmatic EIR similarly identified to avoid or reduce GHG emissions. These measures include Standard Project Measures **PF LU-1** in Section 3.1, *Land Use*; **PF VIS-1** and **PF VIS-4** in Section 3.7, *Visual/Aesthetics*; **PF AQ-1** in Section 3.14, *Air Quality*; and **NC-13 (NES BIO-9)** in Section 3.17, *Natural Communities*:

- **PF LU-1: Traffic Management Plan,** involves the development of a Traffic Management Plan that will include the following elements: construction staging plans, public awareness campaign, analysis of impacts on traffic, options for lane closures, and alternate route strategies. By reducing delays to motorists in the project vicinity during the construction period, this measure would reduce emissions associated with vehicle idling and congestion.
- **PF VIS-1: Contouring and Replanting Disturbed Areas,** states that, post-construction, any disturbed areas remaining as bare ground will be returned to natural contour grades and hydro-seeded with a County of Riverside–approved native plant seed mix. This seed mix shall not contain any species listed on the California Integrated Pest Council Inventory. Planting will reduce GHG emissions by absorbing greenhouse gases.
- **PF VIS-4: Apply Minimum Lighting Standards,** identifies guidelines for project lighting, including the wattage, amount of lights, and energy efficiency, which would reduce energy use and thereby reduce GHG emissions during long-term operations.
- **PF AQ-1:** The construction contract issued by the County will include California Department of Transportation (Caltrans) construction requirements, as specified in the Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control). The contractor will 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. Exhaust emissions control measures may include, but are not limited to, the following:

    1. General contractors shall maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would have their engines turned off when not in use to reduce vehicle emissions. Construction emissions should be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

2. All equipment shall be properly tuned and maintained in accordance with manufacturer's specifications. The equipment must be checked by an Automotive Service Excellence–certified mechanic and determined to be running in proper condition before it is operated.
3. All on-road and off-road equipment shall comply with California Air Resources Board (ARB) commercial vehicle idle regulations. California Code of Regulations Title 13, Section 2449(d)(3), which was adopted by ARB on June 15, 2008, restricts idling of construction vehicles to no longer than 5 consecutive minutes.
4. Use electricity from power poles, rather than temporary diesel- or gasoline-powered generators, if or where feasible.
5. Use onsite mobile equipment powered by alternative fuel sources (i.e., methanol, natural gas, propane, or butane) as feasible.
6. Use solar-powered signal boards.
7. Develop a construction traffic management plan that includes, but is not limited to: (1) consolidating truck deliveries; (2) providing a rideshare or shuttle service for construction workers; and (3) providing dedicated turn lanes for movement of construction trucks and equipment on and off site.

- **NC-13 (NES BIO-9):** specifies that native plant seed mix will be used following construction, which reduces the water requirements of vegetation. As such, GHG emissions associated with energy needed to transport water would not be required.
- **PF SW-1:** Consistent with Caltrans Standard Specification 14-10, non-hazardous construction-period waste shall be recycled.

In addition to the standard project measures above, Mitigation Measures **GHG-1, VIS-2**, **VIS-8**, **NC-15 (NES BIO-14)** and **WET-1 (NES BIO-14)**, described below, would also be implemented:

- **GHG-1:** The project will incorporate the use of energy efficient lighting, such as light-emitting diode (LED) traffic signals. LED bulbs—or balls, in the stoplight vernacular—consume less electricity than traditional lights, which will also help reduce the project's carbon dioxide emissions.
- **VIS-2: Replace or Relocate Site Features and Landscaping Affected by the Project,** provides that, where appropriate and to the degree possible, landscaping and related appurtenances, such as fencing, privacy walls, and other similar features, removed from private properties as a result of construction will be relocated, replaced, or restored in place and in kind to address visual impacts. Replacement landscaping will provide plants which absorb greenhouse gases.
- **VIS-8: Replace Disturbed Vegetation along Landscaped Freeways**, provides roadside planting, which would reduce GHG by absorbing emissions.
- **NC-15 (NES BIO-14):** Compensation for permanent impacts on riparian-riverine resources will occur as a combination of enhancement, restoration, and/or creation, as long as there is

no net loss of riparian-riverine resources, which will help preserve floral life to help reduce the project's greenhouse gas emissions.

- **WET-1 (NES BIO-14):** Compensation for direct permanent impacts on U.S. Army Corps of Engineers (USACE) wetland and non-wetland waters of the U.S. (WoUS) and California Department of Fish and Wildlife (CDFW) streambed and associated riparian habitat will occur as a combination of enhancement, restoration, and/or creation, at a ratio that achieves no net loss of wetland WoUS, which will help preserve floral life to help reduce the project's greenhouse gas emissions.

4.4.5.3 Adaptation

Reducing GHG emissions is only one part of an approach to address climate change. Caltrans must plan for the effects of climate change on the state's transportation infrastructure and strengthen or protect the facilities from damage. Climate change is expected to produce increased variability in precipitation, rising temperatures, rising sea levels, variability in storm surges and their intensity, and the frequency and intensity of wildfires. Flooding and erosion can damage or wash out roads; longer periods of intense heat can buckle pavement and railroad tracks; storm surges combined with a rising sea level can inundate highways. Wildfire can directly burn facilities and indirectly cause damage when rain falls on denuded slopes that landslide after a fire. Effects will vary by location and may, in the most extreme cases, require that a facility be relocated or redesigned. Accordingly, Caltrans must consider these types of climate stressors in how highways are planned, designed, built, operated, and maintained.

Federal Efforts

Under NEPA assignment, Caltrans is obligated to comply with all applicable federal environmental laws and FHWA NEPA regulations, policies, and guidance.

The U.S. Global Change Research Program (USGCRP) delivers a report to Congress and the president every 4 years, in accordance with the Global Change Research Act of 1990 (15 U.S.C. ch. 56A § 2921 et seq). The Fourth National Climate Assessment, published in 2018, presents the foundational science and the "human welfare, societal, and environmental elements of climate change and variability for 10 regions and 18 national topics, with particular attention paid to observed and projected risks, impacts, consideration of risk reduction, and implications under different mitigation pathways." Chapter 12, "Transportation," presents a key discussion of vulnerability assessments. It notes that "asset owners and operators have increasingly conducted more focused studies of particular assets that consider multiple climate hazards and scenarios in the context of asset-specific information, such as design lifetime" (USGCRP 2018).

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

FHWA order 5520 (Transportation System Preparedness and Resilience to Climate Change and Extreme Weather Events, December 15, 2014) established FHWA policy to strive to identify the risks of climate change and extreme weather events to current and planned transportation

systems. FHWA has developed guidance and tools for transportation planning that foster resilience to climate effects and sustainability at the federal, state, and local levels (FHWA 2019).

State Efforts

Climate change adaptation for transportation infrastructure involves long-term planning and risk management to address vulnerabilities in the transportation system. California's Fourth Climate Change Assessment (2018) is the state's effort to "translate the state of climate science into useful information for action" in a variety of sectors at both statewide and local scales. It adopts the following key terms used widely in climate change analysis and policy documents:

- *Adaptation* to climate change refers to adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.
- *Adaptive capacity* is the "combination of the strengths, attributes, and resources available to an individual, community, society, or organization that can be used to prepare for and undertake actions to reduce adverse impacts, moderate harm, or exploit beneficial opportunities."
- *Exposure* is the presence of people, infrastructure, natural systems, and economic, cultural, and social resources in areas that are subject to harm.
- *Resilience* is the "capacity of any entity – an individual, a community, an organization, or a natural system – to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience." Adaptation actions contribute to increasing resilience, which is a desired outcome or state of being.
- *Sensitivity* is the level to which a species, natural system, or community, government, etc., would be affected by changing climate conditions.
- *Vulnerability* is the "susceptibility to harm from exposure to stresses associated with environmental and social change and from the absence of capacity to adapt." Vulnerability can increase because of physical (built and environmental), social, political, and/or economic factor(s). These factors include, but are not limited to: ethnicity, class, sexual orientation and identification, national origin, and income inequality. Vulnerability is often defined as the combination of sensitivity and adaptive capacity as affected by the level of exposure to changing climate.

Several key state policies have guided climate change adaptation efforts to date. Recent state publications produced in response to these policies draw on these definitions.

EO S-13-08, issued by then-governor Arnold Schwarzenegger in November 2008, focused on sea-level rise and resulted in the *California Climate Adaptation Strategy* (2009), updated in 2014 as *Safeguarding California: Reducing Climate Risk* (Safeguarding California Plan). The Safeguarding California Plan offers policy principles and recommendations and continues to be revised and augmented with sector-specific adaptation strategies, ongoing actions, and next steps for agencies.

EO S-13-08 also led to the publication of a series of sea-level rise assessment reports and associated guidance and policies. These reports formed the foundation of an interim *State of California Sea-Level Rise Interim Guidance Document* (SLR Guidance) in 2010, with instructions for how state agencies could incorporate "sea-level rise (SLR) projections into planning and decision making for projects in California" in a consistent way across agencies. The guidance was revised and augmented in 2013. *Rising Seas in California – An Update on Sea-Level Rise Science* was published in 2017 and its updated projections of sea-level rise and new understanding of processes and potential impacts in California were incorporated into the *State of California Sea-Level Rise Guidance Update* in 2018.

EO B-30-15, signed in April 2015, requires state agencies to factor climate change into all planning and investment decisions. This EO recognizes that effects of climate change other than sea-level rise also threaten California's infrastructure. At the direction of EO B-30-15, the Office of Planning and Research published *Planning and Investing for a Resilient California: A Guidebook for State Agencies* in 2017, to encourage a uniform and systematic approach. Representatives of Caltrans participated in the multi-agency, multidisciplinary technical advisory group that developed this guidance on how to integrate climate change into planning and investment.

AB 2800 (Quirk 2016) created the multidisciplinary Climate-Safe Infrastructure Working Group, which in 2018 released its report, *Paying it Forward: The Path Toward Climate-Safe Infrastructure in California*. The report provides guidance to agencies on how to address the challenges of assessing risk in the face of inherent uncertainties still posed by the best available science on climate change. It also examines how state agencies can use infrastructure planning, design, and implementation processes to address the observed and anticipated climate change impacts.

County of Riverside Adaptation Efforts

County Vulnerability Assessments and Resiliency Strategies

Regional transportation planning agencies, such as the Western Riverside Council of Governments (WRCOG), are developing guidance and tools to support regional efforts to prepare for and mitigate risks associated with climate adaptation and transportation infrastructure. Efforts include conducting vulnerability assessments through collaboration with stakeholders and governmental agencies at the state, regional, and local levels. The guidance and analyses are intended to provide local and regional jurisdictions with tools, methods, and resources to incorporate asset risk into planning processes for sound transportation project prioritization and investment. Provided in the below table is a summary of key guidance documents pertinent to the proposed project in the context of adaptation and resiliency.

Table 4.4-3. Summary of County Adaptation Efforts and Guidance Documents

Guidance Document / Initiative	Summary of Adaptation Approach
Regional Climate Adaptation Toolkit for Transportation Infrastructure ("Resilient IE") https://ca-wrcog.civicplus.com/285/Resilient-IE	Developed collaboratively between WRCOG and the San Bernardino County Transportation Authority (SBCTA) with funding from Caltrans, Resilient IE works to support regional and local efforts to prepare for and mitigate risks associated with climate adaptation on the region's transportation infrastructure, with five primary project components:

Guidance Document / Initiative	Summary of Adaptation Approach
	1. A newly established regional climate collaborative, the Inland Southern California Climate Collaborative (ISC3); 2. Subregional vulnerability assessments and adaptation strategies; 3. City-level, climate-related transportation hazards and evacuation maps; 4. A regionally tailored climate resilient transportation infrastructure guidebook; and 5. A template regional climate adaptation and resiliency element.
Western Riverside Adaptation and Resiliency Strategy https://wrcog.us/DocumentCenter/View/7478/Western-Riverside-Adaptation-and-Resiliency-Strategy_Vulnerability-Assessment	WRCOG's Adaptation and Resiliency Strategy provides a brief overview of expected climate change effects, assets in the subregion that are vulnerable to climate change effects, and adaptation strategies intended to reduce vulnerability and increase resilience. WRCOG identified the following nine priority issues through the vulnerability assessment process: 1. Planning and Emergency Response Frameworks 2. Disadvantaged Communities 3. Public Health 4. Transportation Infrastructure and Operations 5. Resilient Development 6. Water and Energy Resources and Reliability 7. Agriculture 8. Biological Resources 9. Plan Maintenance Key strategies pertinent to the proposed project include the following: • Strategy 4.1: Use the Climate Resilient Transportation Infrastructure Guidebook strategies and design features in transportation infrastructure to improve resiliency to extreme events; • Strategy 4.2: Facilitate coordination of traffic signal systems between adjacent communities; • Strategy 4.6: Ensure redundancy of critical transportation routes to allow for continued access and movement in the event of an emergency; and • Strategy 5.4: Restore riparian corridors, soft-bottomed streambeds, and seasonal flood basins that reduce flood hazards.
Climate Resilient Transportation Infrastructure Guidebook https://wrcog.us/DocumentCenter/View/7230/Climate-Resilient-Transportation-Infrastructure-Guidebook	This guidebook, developed collaboratively between WRCOG and SBCTA as part of the larger Resilient IE effort, provides insights on current policy, procedures, local and regional challenges and solutions, and resilient infrastructure strategies. The guidebook also includes case studies, design examples, and implementation guidance.

Sea Level Rise

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

Floodplains

As further detailed in Section 3.9, *Hydrology and Floodplain*, the proposed project would encroach upon FEMA-designated floodplains. Through the use of project design features such as roadside ditches, detention basins, and culverts, 100-year storm flows would be conveyed, and would not result in flooding. In addition, the Caltrans District 8 *Climate Change Vulnerability Assessment* Technical Report (Caltrans 2019c) indicated that the project study area is projected

to have a minor (0–5 percent) change in precipitation. Therefore, and with incorporation of pertinent project measures (e.g., Mitigation Measure **HYD-1**), the proposed project would not exacerbate or contribute to increased flood magnitude or frequency in combination with climate change.

Wildfire

As further detailed in Section 4.3, *Wildfire*, the proposed project would include infrastructure improvements to existing transportation facilities located within mapped fire hazard severity zone areas. Improvements include widened roadway and roadway shoulders, additional travel lanes, center medians, turn lanes, curbs and gutters, and sidewalks, which would increase paved surfaces as well as the capacity of improved roadways. The proposed project also would increase the capacity of improved roadways and improve connections with intersecting roadways throughout the project limits, thereby improving local access emergency response and fire protection. Furthermore, the widened roadway areas would include wider shoulders and median areas, reducing roadside vegetation, serve as a firebreak, and provide additional areas for emergency response vehicle staging. Finally, incorporation of Standard Project Measure **NC-3 (NES BIO-3)** would help minimize the risk of human-caused wildfires. Therefore, for the reasons stated above, the proposed project would not exacerbate wildfire risk in conjunction with climate change.

4.5 Energy Conservation

The CEQA Guidelines, Appendix F, Energy Conservation, state that EIRs are required to include a discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

The following items required for an energy analysis per the CEQA Guidelines are summarized below, with references to where information may be found in this EIR/EIS:

a) Project Description: Chapter 2, *Project Alternatives*, provides a detailed description of the proposed project and project alternatives. The energy analysis in Sections 3.16 and 4.2.6, *Energy*, includes an analysis of the energy consumed by each build alternative and a discussion of temporary energy needs for construction.

b) Environmental Setting: Section 3.16.2 includes a description of the fuel and natural gas currently consumed within the SCAG region.

c) Environmental Impacts: Sections 3.16.3 and 4.2.6 evaluate potential impacts associated with short-term construction and long-term operational energy consumption.

d) Mitigation Measures: The proposed project would result in a nominal (maximum of 0.36 percent) annual increase in regional energy consumption compared to the No-Build Alternative due to project operation as a result of increased VMT. Standard Project Measures **PF LU-1**, discussed in Section 3.1, *Land Use*; **PF VIS-4** in Section 3.7, *Visual/Aesthetics*; **PF AQ-1** in Section 3.14, *Air Quality*; and **PF SW-1**, discussed in Section 4.2.8, *Greenhouse Gas Emissions,* would reduce impacts related to energy consumption.

e) Alternatives: Sections 3.16.3 and 4.2.6, *Energy*, evaluate the projected long-term energy consumption of each of the build alternatives.

f) Unavoidable Adverse Effects: Implementation of the proposed project would result in a minor increase in operational energy consumption; however, with the implementation of Standard Project Measures **PF LU-1**, **PF VIS-4**, **PF AQ-1**, and **PF SW-1**, the minor adverse effects would not be significant.

g) Irreversible Commitment of Resources: While considerable amounts of fossil fuels would be expended and would not be retrievable, implementation of the proposed project would not commit any future resources that would preempt future energy development or future energy conservation.

h) Short-term Gains versus Long-term Impacts: As discussed in Section 3.16, *Energy*, the proposed project would result in a minor increase in operational energy consumption.

i) Growth-Inducing Effects: The purpose of the proposed project is to address anticipated growth and mobility needs projected for Riverside County; future development in the project area would further be constrained by protected lands with development restrictions.

4.6 Summary of Measures for Impacts under CEQA

The following avoidance, minimization, mitigation, and compensation measures are included in the proposed project to address significant adverse impacts identified for the resources listed in Sections 4.2 through 4.4 of this chapter. The complete text of each measure is provided in the appropriate sections of Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures*.

4.6.1 Aesthetics Measures

Standard Project Measures **PF VIS-1**, **PF VIS-3**, **PF VIS-4**, **PF VIS-5, PF VIS-6**, and **PF VIS-7** listed below, have been incorporated into the project. The incorporation of these measures, in addition to Mitigation Measures **VIS-2** and **VIS-8**, would reduce impacts involving aesthetics to a less-than-significant level for Build Alternatives 1, 2C, and 4. These measures, however, would not fully mitigate significant aesthetics impacts on scenic vistas and public views of nonurbanized areas under Build Alternative 4.

- **PF VIS-1:** Contouring and Replanting Disturbed Areas
- **VIS-2:** Replace or Relocate Site Features and Landscaping Affected by the Project
- **PF VIS-3**: Design Proposed Noise Barriers to Be Visually Consistent with Existing Noise Barriers
- **PF VIS-4:** Apply Minimum Lighting Standards
- **PF VIS-5:** Basin and Flood Control Drainage Facility Treatments
- **PF VIS-6**: Temescal Creek Bridge Design
- **PF VIS-7**: New Bridge Architectural Treatments
- **VIS-8**: Replace Disturbed Vegetation along Landscaped Freeways

4.6.2 Agriculture and Forest Resources Measures

Significant impacts involving the conversion of Prime, Unique, or Statewide Important Farmland, or impacts on forest or timberland resources, have not been identified under CEQA; mitigation would not be required. The proposed project may result in a cumulatively considerable contribution to impacts affecting lands under Williamson Act Contract. The following standard project measure related to farmland and agriculture has been incorporated into the project but would not fully mitigate significant impacts under Build Alternative 4.

- **PF FA-1:** Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway.
- **PF FA-2:** Farmland temporarily affected during construction activities returned to conditions that allow for continued use and function.
- **PF COM-1**: Provide compensation to eligible recipients for property acquisitions
- **PF LU-1**: Traffic Management Plan

4.6.3 Air Quality Measures

Significant impacts have not been identified under CEQA; mitigation would not be required. The following standard project measure related to air quality would be incorporated into the project.

- **PF AQ-1**: Caltrans construction requirements, as specified in Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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.
- **PF AQ-2**: South Coast Air Quality Management District (SCAQMD) Rule 403

4.6.4 Biological Resources Measures

With the implementation of the following avoidance, minimization, and mitigation measures, potential adverse impacts on habitats and natural communities, threatened and endangered species, protected waters, and wildlife movement would be reduced to a less-than-significant level under CEQA. The implementation of these measures would reduce impacts related to conflict with the SKR HCP and LM MSHCP, but impacts would remain significant and unavoidable.

- **NC-1 (NES BIO-1)**: Seasonal Vegetation Clearing Restrictions
- **NC-2 (NES BIO-2)**: Dust Control
- **NC-3 (NES BIO-3)**: Fire Prevention
- **NC-4 (NES BIO-4)**: Environmental Awareness Training
- **NC-5 (NES BIO-5)**: Biological Monitoring
- **NC-6 (NES BIO-6)**: ESA Fencing
- **NC-7 (NES BIO-7)**: Invasive Species Removal

- **NC-8 (NES BIO-8)**: Cleaning Construction Equipment
- **NC-9 (NES BIO-24)**: Disposal of Trash
- **NC-10 (NES BIO-10)**: Water Pollution and Erosion Control Plans
- **NC-11 (NES BIO-11)**: Defining the Limits of Disturbance
- **NC-12 (NES BIO-12)**: Placement of Construction Equipment
- **NC-13 (NES BIO-9)**: Post-construction Hydro-seeding
- **NC-14 (NES BIO-13)**: Preparation of DBESP
- **NC-15 (NES BIO-14)**: Replacement of Riparian/Riverine Resources
- **NC-16 (NES BIO-19)**: Wildlife Fencing Plan
- **NC-17 (NES BIO-17)**: Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31)**: Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15)**: Restoration for Temporary Impacts within the LM MSHCP Area
- **NC-20 (NES BIO-21)**: Replacement of PQP Lands
- **AS-1 (NES BIO-25)**: Burrowing Owl Management Plan
- **AS-2 (NES BIO-16)**: Lighting Restrictions
- **AS-3 (NES BIO-28)**: Preconstruction Wildlife Surveys
- **AS-4 (NES BIO-26)**: Bat Management Plan
- **AS-5 (NES BIO-27)**: Nesting Bird Management Plan
- **AS-6 (NES BIO-29)**: Pet Policy
- **AS-7 (NES BIO-20)**: ESA Fencing
- **TE-1 (NES BIO-18)**: Noise Reduction for Equipment
- **TE-2 (NES BIO-23)**: Replacement of Least Bell's Vireo Habitat
- **TE-3 (NES BIO-30)**: Stephens' Kangaroo Rat Management Plan
- **PF WQ-1:** 401 Certification
- **PF WQ-2:** 404 Permit
- **PF WQ-3**: Post-Construction BMPs
- **PF WQ-4:** Construction SWPPP

4.6.5 Cultural Resources Measures

Significant impacts involving substantial adverse changes in the significance of historical and archaeological resources are anticipated under any of the build alternatives. A Section 106 MOA will be developed for all historic properties that will be affected by the project, and will include

mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. In addition, agencies that are owners of properties that would be affected by the project and that contain historic properties, including MWD, will also be invited to participate in the development of the MOA. Consultation with SHPO, consulting tribes, and other consulting parties will continue through development and finalization of the MOA, which will be completed prior to the Final EIR/EIS. Measures in the MOA and Standard Project Measures **PF CR-1** and **PF CR-2**, listed below, would reduce impacts on TCPs to a less-than-significant level. These measures, however, would not fully mitigate significant impacts identified for other resources eligible for listing in NRHP/CRHR.

- **PF CR-1:** Unanticipated Discoveries
- **PF CR-2:** Discovery of Human Remains

4.6.6 Energy Measures

Significant impacts have not been identified under CEQA; mitigation would not be required. The following measures would decrease energy consumption related to the proposed project:

- **PF LU-1**: Traffic Management Plan
- **PF AQ-1**: Grid-based electricity and/or onsite renewable electricity and/or practical powered generators, construction idle restrictions, and alternative fuels
- **PF VIS-4**: Apply Minimum Lighting Standards
- **PF SW-1**: Recycle non-hazardous construction-period waste

4.6.7 Geology and Soils Measures

Significant impacts involving soils have not been identified under CEQA; mitigation would not be required. Standard Project Measures **PF GEO-1** through **PF GEO-5** listed below have been incorporated into the project. Potentially significant impacts on paleontological resources were identified for all build alternatives; the incorporation of Mitigation Measure **PAL-1** would reduce impacts to a less-than-significant level.

- **PF GEO-1:** Caltrans Standard Specifications Manual, Section 19, "Earthwork."
- **PF GEO-2:** Core Sample Tests
- **PF GEO-3:** Excavation and Stabilization Techniques
- **PF GEO-4:** Backfill Materials
- **PF GEO-5:** Structure Embankment
- **PAL-1:** Paleontological Mitigation Plan

4.6.8 Greenhouse Gas Emissions Measures

The project would result in a slight increase in GHG emissions during construction and it is anticipated that the project would result in minor increases in operational GHG emissions. While it is the County's determination that in the absence of further regulatory or scientific information

related to GHG emissions and CEQA significance, it is too speculative to make a significance determination regarding the project's direct impact and its contribution on the cumulative scale to climate change, Caltrans and the County are firmly committed to implementing measures to help reduce GHG emissions. These measures are outlined in the following section.

- **PF LU-1:** Traffic Management Plan
- **PF AQ-1**: Grid-based electricity and/or onsite renewable electricity and/or practical powered generators, construction idle restrictions, and alternative fuels
- **PF VIS-1**: Contouring and Replanting Disturbed Areas
- **VIS-2**: Replace or Relocate Site Features and Landscaping Affected by the Project
- **PF VIS-4**: Energy-efficient Lighting
- **PF VIS-8**: Replace Disturbed Vegetation along Landscaped Freeways
- **NC-13 (NES BIO-9):** Post-construction Hydroseeding
- **NC-15 (NES BIO-14):** Compensation for permanent impacts on riparian-riverine resources
- **WET-1 (NES BIO-14):** Compensation for direct permanent impacts on wetland and non-wetland waters of the U.S.
- **PF SW-1**: Recycle Non-hazardous Construction-period Waste
- **GHG-1:** Energy-efficient Lighting for Traffic Signals

4.6.9 Hazards and Hazardous Materials Measures

In addition to the incorporation of Standard Project Measures **PF HAZ-2**, **PF HAZ-3**, and **PF HAZ-5**, Mitigation Measures **HAZ-1**, **HAZ-4**, **HAZ-6**, **HAZ-7**, and **HAZ-8** would be applied, reducing potentially significant impacts involving hazardous emissions and/or materials to a less-than-significant level.

- **HAZ-1:** APNs 279-231-004, -006, -011, and 281-140-021 Detailed Site Investigation and Remediation, if appropriate
- **PF HAZ-2:** Health and Safety Plan
- **PF HAZ-3:** Waste Handling, Transport, and Disposal
- **HAZ-4**: APNs 318-061-027 and -030 Coordination, Health and Safety Plan, Soil Management Plan, VOC Monitoring, Groundwater Disposal
- **PF HAZ-5**: Creosote-treated Wood Waste
- **HAZ-6**: Agricultural Land Uses
- **HAZ-7:** Yellow Paint
- **HAZ-8:** Asbestos-Containing Material and Lead-Based Paint

4.6.10 Hydrology and Water Quality Measures and Conditions

Standard Project Measures **PF WQ-1** through **PF WQ-4** listed below have been incorporated into the project. The incorporation of these measures, in addition to Mitigation Measure **HYD-1**, would reduce impacts involving the redirection of flood flows to a less-than-significant level for Build Alternatives 1, 2C, and 4.

- **PF WQ-1:** 401 Certification
- **PF WQ-2:** 404 Permit
- **PF WQ-3**: Post-Construction BMPs
- **PF WQ-4:** Construction SWPPP
- **HYD-1:** Coordination of right of way involving the Cajalco Creek Dam and Detention Basin and Cajalco Creek Sedimentation Basin

4.6.11 Land Use and Planning Measures

Standard Project Measures **PF VIS-4**, **PF FA-1**, **PF AQ-1**, and **PF LU-1** listed below would be incorporated into the project. The incorporation of these measures, in addition to the mitigation measures below, would reduce environmental impacts related to the WRC MSHCP, SKR HCP, and LM MSHCP to a less-than-significant level.

- **PF VIS-4:** Apply Minimum Lighting Standards
- **PF FA-1:** Access to all farmland will be maintained once construction is complete, including to any field remnants that may be cut off by the new roadway.
- **PF FA-2:** Farmland temporarily affected during construction activities returned to conditions that allow for continued use and function.
- **PF AQ-1:** Caltrans construction requirements, as specified in Caltrans' Standard Specifications, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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.
- **PF LU-1:** Traffic Management Plan
- **NC-17 (NES BIO-17)**: Replacement Lands for Permanent Impacts within the LM MSHCP Area
- **NC-18 (NES BIO-31)**: Funding Endowment for the LM MSHCP
- **NC-19 (NES BIO-15)**: Restoration for Temporary Impacts within the LM MSHCP Area
- **NC-20 (NES BIO-21)**: Replacement of PQP Lands

4.6.12 Mineral Resources Measures

Significant impacts have not been identified under CEQA; mitigation would not be required.

4.6.13 Noise Measures

Compliance with Standard Project Measure **PF NOI-5**, listed below, would occur under all build alternatives to reduce temporary increases in noise levels associated with construction to a less-than-significant level. Mitigation Measure **NOI-4** would also be implemented, reducing the potential for project-related noise increases in ambient noise levels to a less-than-significant level under CEQA for Build Alternatives 1 and 2C. The implementation of this measure would reduce impacts related to ambient noise levels under Build Alternative 4; however, the reduction in noise levels would not be reduced to below the threshold of significance at Receivers M-93 and M-98A to a less-than-significant level.

- **NOI-4:** Inclusion of Quiet Pavement
- **PF NOI-5:** Construction Noise Control Measures

4.6.14 Population and Housing Measures

Significant impacts have not been identified under CEQA; mitigation would not be required. Standard Project Measures **PF COM-1** related to population and housing would be incorporated into the project.

- **PF COM-1:** Provide compensation to eligible recipients for property acquisitions

4.6.15 Public Services Measures

Significant impacts have not been identified under CEQA; mitigation would not be required. The following standard measures related to public services would be incorporated into the project.

- **PF LU-1:** Traffic Management Plan
- **PF UT-1:** Coordination of utility relocation work with utility companies to ensure minimum disruption to customers in the service areas during construction

4.6.16 Recreation Measures

Significant impacts have not been identified under CEQA; mitigation would not be required.

4.6.17 Transportation/Traffic Measures

Standard Project Measure **LU-1** (Traffic Management Plan) would minimize impacts during construction to less-than-significant levels. A potentially significant impact is identified for increased VMT under all build alternatives for future 2044 traffic operations. There are currently no options in place to mitigate the increase in VMT associated with the proposed project; however, the following standard project measures and Mitigation Measure **GHG-1** would reduce GHG emissions and climate change impacts of the project, and support GHG emissions reduction goals of SB 32, SB 375, and SB 743.

- **PF LU-1:** Traffic Management Plan
- **PF AQ-1**: Grid-based electricity and/or onsite renewable electricity and/or practical powered generators, construction idle restrictions, and alternative fuels

- **PF VIS-4**: Apply Minimum Lighting Standards
- **NC-13 (NES BIO-9):** Post-construction Hydroseeding
- **PF SW-1**: Recycle Non-hazardous Construction-period Waste
- **GHG-1:** Energy-efficient Lighting for Traffic Signals

4.6.18 Tribal Cultural Properties Measures

Refer to Section 4.6.5, *Cultural Resources*, for related measures.

4.6.19 Utilities and Service Systems Measures

Significant impacts have not been identified under CEQA; mitigation would not be required. The following standard measures related to utilities and service systems would be incorporated into the project.

- **PF UT-1:** Coordination of utility relocation work with utility companies to ensure minimum disruption to customers in the service areas during construction
- **PF LU-1:** Traffic Management Plan

4.6.20 Wildfire Measures

Construction or operation of the proposed project, including maintenance, would not be anticipated to exacerbate risk of wildfire. However, temporary and permanent impacts on the environment as a result of the installation of roads and utility relocations associated with the proposed project may occur. With implementation of the following avoidance, minimization, and mitigation measures and standard project measures, potential adverse impacts on habitats and natural communities, threatened and endangered species, and hazardous emissions and/or materials would be reduced to a less-than-significant level under CEQA.

- **PF UT-1:** Coordination of utility relocation work with utility companies
- **PF GEO-1:** Caltrans Standard Specifications Manual, Section 19, “Earthwork”
- **PF GEO-2:** Core Sample Tests
- **PF GEO-3:** Excavation and Stabilization Techniques
- **PF GEO-4:** Backfill Materials
- **PF GEO-5:** Structure Embankment
- **PF HAZ-3:** Waste Handling, Transport, and Disposal
- **PF HAZ-5:** Creosote-treated Wood Waste
- **PF AQ-1:** Caltrans construction requirements, as specified in Caltrans’ Standard Specifications, Section 14-9.02 (Air Pollution Control), and all air pollution control ordinances and statutes that 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.

- **NC-3 (NES BIO-3)**: Fire Prevention
- **NC-5 (NES BIO-5)**: Biological Monitoring
- **NC-6 (NES BIO-6)**: ESA Fencing
- **NC-10 (NES BIO-10)**: Storm Water Pollution Prevention Plan

Chapter 5. Comments and Coordination

Early and continuing coordination with the general public and appropriate public agencies is an essential part of the environmental process. It helps planners determine the necessary scope of environmental documentation and the level of analysis required, and to identify potential impacts and mitigation measures and related environmental requirements. Agency consultation and public participation for this project have been accomplished through a variety of formal and informal methods, including project development team (PDT) meetings, interagency coordination meetings, interagency consultation, scoping meetings, and public outreach meetings. This chapter summarizes the results of the California Department of Transportation's (Caltrans') efforts to fully identify, address, and resolve project-related issues through early and continuing coordination.

At the beginning of the project approval and environmental document process in 2011, a PDT was established to facilitate the course, development, and completion of preliminary engineering and environmental studies for the project in accordance with all applicable requirements through implementation of a systematic, interdisciplinary approach throughout the project development process. Over the course of project development and environmental study, PDT participation has consistently included environmental and planning staff from Caltrans and the County of Riverside (County), and engineering, traffic, environmental and outreach consultants. Caltrans and County traffic, design, and right of way specialists, Caltrans cultural specialists, and County survey and utilities specialists also engaged in the PDT at different points during the project development process for the Cajalco Road Widening and Safety Enhancement Project. Local district representatives from Riverside County Flood Control and Water Conservation District, Eastern Municipal Water District, and Riverside County Regional Park and Open-Space District also participated in PDT meetings where topics included subjects of interest. The PDT meetings covered a wide range of topics related to the proposed project, including development and evaluation of design alternatives, engineering considerations, environmental considerations, public outreach, the environmental document, and the documentation process.

Coordination among the County, Caltrans, and representatives of applicable regulatory agencies has been ongoing since 2011. As the project has developed, input from the public and various agencies has been critical to the identification of alternatives that County and Caltrans have been able to create in order to construct the least environmentally damaging project and still accomplish the goals of the purpose and need outlined in this document. There have been many personnel at the County, Caltrans, and various agencies who have commented on stages of the development of the project.

5.1 23 USC 139 Efficient Environmental Review

23 United States Code (USC) Section 139, as amended by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users in 2005, Moving Ahead for Progress in the 21st Century in 2012, and Fixing America's Surface Transportation (FAST) Act in 2015, includes a number of provisions designed to make the environmental review process more efficient. The provisions of 23 USC 139 apply to any U.S. Department of Transportation Environmental Impact Statement (EIS) for which the Notice of Intent (NOI) was published in the Federal Register after August 10, 2005, and have been included in the proposed project.

Some provisions of 23 USC 139 established with the passage of the FAST Act, however, apply only to those projects with an NOI published after December 4, 2015. These additional provisions, such as establishment of the coordination plan no later than 90 days after the NOI has been published, and required inclusion of a schedule in the coordination plan that must be concurred upon by the participating agencies, do not apply to the proposed project. The NOI for the proposed project was published in the Federal Register on September 26, 2012.

5.1.1 Coordination Plan

The environmental provisions in 23 USC §139 require that lead agencies establish a plan for coordinating public and agency participation and comment during the environmental review process. A Coordination Plan for the proposed project was developed in July 2012 and included a list of possible agencies, roles and responsibilities, contact information, and milestone schedule. The Coordination Plan has been updated over time in response to agency feedback, changes in contact information, and environmental schedule updates. Updated versions of the Coordination Plan were further redistributed to cooperating and participating agencies for review and input. A copy of the current Coordination Plan is located in Appendix H, *Environmental Review Coordination and Scoping*.

5.1.2 Notice of Initiation

The first step in the 23 USC 139 efficient environmental review process is the notification to the Secretary of Transportation (via the Federal Highway Administration [FHWA]) by the lead agency of the initiation of the review process. 23 USC 139 requires that the project sponsor notify the Secretary of the type of work, termini, length, general location of the proposed project, and anticipated federal approvals/permits. An NOI may be used as this notification as long as it contains the information required pursuant to 23 USC 139 for streamlining purposes. The notification of the initiation of the review process precedes or occurs simultaneously with the publication of the NOI in the Federal Register.

In September 2012, following receipt of comments and agency feedback in response to the Notice of Preparation (NOP) of an Environmental Impact Report (EIR) for the proposed project, an NOI to prepare an EIS was advertised to the public and mailed to elected officials and local, state, and federal agencies having jurisdiction or discretionary approval within the project corridor. The NOI was published in the Federal Register on September 26, 2012; a copy is included on the following page.

Responses to the NOI, including comments submitted during the public scoping meetings, are discussed in Section 5.2.3 of this EIR/EIS. Copies of responses to the NOI from organizations, environmental stakeholder groups, and agencies are included in Appendix H.

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in the **FOR FURTHER INFORMATION CONTACT** section no later than October 12, 2011. Please provide the following information: Full legal name, country of citizenship, and name of your industry association, or applicable affiliation. If you are attending as a public citizen, please indicate so.

The FAA will arrange for teleconference service for individuals wishing to join in by teleconference if we receive notice by October 12, 2011. For persons participating by telephone, please contact Ralen Gao by email or phone for the teleconference call-in number and passcode. Anyone calling from outside the Arlington, VA, metropolitan area will be responsible for paying long-distance charges.

The public must make arrangements by October 12, 2011, to present oral statements at the meeting. Written statements may be presented to the ARAC at any time by providing 25 copies to the person listed in the **FOR FURTHER INFORMATION CONTACT** section or by providing copies at the meeting. Copies of the documents to be presented to ARAC may be made available by contacting the person listed in the **FOR FURTHER INFORMATION CONTACT** section.

If you need assistance or require a reasonable accommodation for the meeting or meeting documents, please contact the person listed in the **FOR FURTHER INFORMATION CONTACT** section. Sign and oral interpretation, as well as a listening device, can be made available if requested 10 calendar days before the meeting.

Issued in Washington, DC on September 20, 2011.

Julie Ann Lynch,

Acting Director, Office of Rulemaking.

[FR Doc. 2012–23709 Filed 9–25–12; 8:45 am]

BILLING CODE 4910–13–P

DEPARTMENT OF TRANSPORTATION

Federal Highway Administration

Environmental Impact Statement: Riverside County, CA; Notice of Intent

AGENCY: Federal Highway Administration (FHWA), DOT.

ACTION: Notice of Intent.

SUMMARY: The FHWA, on behalf of the California Department of Transportation (Caltrans), is issuing this notice to advise the public that an Environmental Impact Statement (EIS) will be prepared for a proposed highway project in Riverside County, California. Caltrans will be responsible for production of the EIS in accordance with assignment of National Environmental Policy Act (NEPA) responsibilities from DOT to Caltrans pursuant to Section 6005 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA–LU, Pub. L. 109–59).

DATES: Comments regarding the proposed action should be provided to Caltrans at the address listed below by no later than October 28, 2012.

FOR FURTHER INFORMATION CONTACT: Aaron Burton, Senior Environmental Planner, Environmental Studies ''B,'' California Department of Transportation, Division of Environmental Planning, 464 West 4th Street, 6th Floor, MS 829, San Bernardino, California 92401–1400; or call (909) 383–2841.

SUPPLEMENTARY INFORMATION: Effective July 1, 2007, the Federal Highway Administration (FHWA) assigned, and the California Department of Transportation (Caltrans) assumed, environmental responsibilities for this project pursuant to 23 U.S.C. 327. Caltrans, as the assignee for NEPA compliance, will prepare an EIS on a proposal for a roadway widening project in Riverside County, California. The proposed project would widen Cajalco Road from two to four lanes between Harvill Avenue at the east end and Temescal Canyon Road at the west end, from four to five lanes between Temescal Wash and Temescal Canyon Road, and from four to six lanes between Interstate 215 (I–215) southbound ramps and Harvill Avenue. The purpose of the proposed project is to: (1) To improve the transportation facility to address anticipated growth and mobility needs, as identified in the County of Riverside General Plan Circulation Element Policy 1.5; (2) provide improved interregional travel by improving east-west mobility in Riverside County; and (3) to improve roadway alignment and intersection design to enhance safety along Cajalco Road. Alternatives under consideration include: (1) Widening existing Cajalco Road with minor alignment changes between I–215 and Temescal Canyon Road; (2) widening existing Cajalco Road between I–215 and Hollis Lane and between east of Eagle Canyon Road and Temescal Canyon Road, along with constructing a new segment of Cajalco Road between Hollis Lane and east of Eagle Canyon Road; and (3) taking no action. The project covers a length of approximately 16 miles. Anticipated federal approvals for the project include Air Quality Conformity, Section 7,Endangered Species Act, consultation for threatened and endangered species, and a Section 404, Clean Water Act individual permit.

Letters describing the proposed action and soliciting comments will be sent to appropriate Federal, State, Participating Agencies, Tribal governments (as determined by the Native American Heritage Commission consultation), and local agencies, and to private organizations and citizens who have previously expressed or are known to have interest in this proposal. The environmental review process is anticipated to be started in late 2012. Public scoping meetings will be held to discuss the alternatives and the potential impacts of the proposed project. In addition, a public hearing will be held. Public notice will be given of the time and place of the meetings and hearing. The EIS will be available for public and agency review and comment prior to the public hearing.

To ensure that the full range of issues related to this proposed action are addressed and all significant issues identified, comments and suggestions are invited from all interested parties. Comments or questions concerning this proposed action and the EIS should be directed to Caltrans at the address provided above.

(Catalog of Federal Domestic Assistance Program Number 20.205, Highway Planning and Construction. The regulations implementing Executive Order 12372 regarding intergovernmental consultation on Federal programs and activities apply to this program.)

Issued on: September 17, 2012.

Rebecca Bennett,

Director, Local Programs, Federal Highway Administration, Sacramento, California.

[FR Doc. 2012–23679 Filed 9–25–12; 8:45 am]

BILLING CODE 4910–22–P

DEPARTMENT OF TRANSPORTATION

Federal Motor Carrier Safety Administration

[Docket No. FMCSA–2012–0048]

Agency Information Collection Activities; Extension of Currently-Approved Information Collection Request: Annual and Quarterly Report of Class I Motor Carriers of Passengers

AGENCY: Federal Motor Carrier Safety Administration (FMCSA), DOT.

ACTION: Notice and request for comments.

SUMMARY: In accordance with the Paperwork Reduction Act of 1995, FMCSA announces its plan to submit the Information Collection Request (ICR) described below to the Office of Management and Budget (OMB) for its

5.1.3 Lead, Cooperating and Participating Agencies

On October 1, 2012, Caltrans entered into a Memorandum of Understanding (MOU) pursuant to 23 USC 327 (NEPA Assignment MOU) with FHWA, assuming FHWA responsibilities under the National Environmental Policy Act (NEPA) and other federal environmental laws. The NEPA Assignment MOU was renewed on December 23, 2016, for a term of 5 years, and Caltrans continues to assume FHWA responsibilities, including NEPA oversight for Local Assistance Projects off of the State Highway System within the State of California.[1] As such, Caltrans is serving as NEPA lead agency for the proposed County project. The County is serving as the California Environmental Quality Act (CEQA) lead agency.

Council on Environmental Quality regulations define cooperating agency status (40 Code of Federal Regulations [CFR] § 1501.6 and 40 CFR § 1508.5) and how that agency should implement the NEPA mandate. Participating agencies are defined in surface transportation law at 23 USC 139. Federal agencies that are responsible for preparing NEPA documents will do so "in cooperation with state and local governments" and other agencies with jurisdiction by law or special areas of expertise (42 USC § 4331(a), and 42 USC § 4332(2)).

A cooperating agency is any federal agency, other than a lead agency, that has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposed project or project alternative (see Section 1508.5, 40 CFR). Any other federal agency with special expertise regarding any environmental issue may be a cooperating agency, and an agency may request to be designated as a cooperating agency. All cooperating agencies are also participating agencies under 23 USC 139.

A participating agency is any federal or non-federal agency (state, federally recognized tribe, regional, and local government agency) that may have an interest in the project. Federal agencies are also required to be participating agencies unless they declare in writing that they have no jurisdiction, expertise, or information, and do not intend to comment on the project. The lead agencies collectively decide which other agencies, in addition to the agencies identified above, to invite to become participating agencies into the 23 USC 139 efficient environmental review process.

Per responses to the Letters of Invitation and consideration of agency involvement in the proposed project, interagency review roles have been established and are identified in Table 5-1 on the following page. All agencies on the list have been requested to comment on key components of the environmental document prior to public circulation.

[1] Exceptions are certain categorical exclusions that FHWA assigned to Caltrans under the 23 USC 326 Categorical Exemption Assignment MOU, projects excluded by definition, and specific project exclusions.

Table 5-1. Cajalco Road Widening Project Agencies and Roles

Agency	Role
California Department of Transportation (Caltrans)	Lead Agency (NEPA)
County of Riverside Transportation Department (County)	Lead Agency (CEQA) / Sponsoring Agency
Regional Water Quality Control Board, Santa Ana Region (RWQCB)	Participating Agency
U.S. Army Corps of Engineers (USACE)	Cooperating Agency Participating Agency
U.S. Environmental Protection Agency (EPA)	Cooperating Agency Participating Agency
Advisory Council on Historic Preservation (ACHP)	Participating Agency
Bureau of Indian Affairs (BIA)	Participating Agency
Bureau of Land Management (BLM)	Participating Agency
Cahuilla Band of Indians[1]	Participating Agency
California Department of Fish and Wildlife (CDFW) [1]	Participating Agency
California Office of Historic Preservation/State Historic Preservation Officer (SHPO) [1]	Participating Agency
California Highway Patrol (CHP) [1]	Participating Agency
City of Riverside[1]	Participating Agency
City of San Jacinto	Participating Agency
Metropolitan Water District of Southern California (MWD)	Participating Agency
Morongo Band of Mission Indians (Morongo) [1]	Participating Agency
Native American Heritage Commission (NAHC)	Participating Agency
Natural Resources Conservation Service (NRCS) [1]	Participating Agency
Office of Environmental Policy and Compliance	Participating Agency
Pechanga Band of Luiseño Mission Indians[1]	Participating Agency
Riverside County Habitat Conservation Agency (RCHCA)	Participating Agency
Riverside County Transportation Commission (RCTC)	Participating Agency
Riverside County Fire Department [1]	Participating Agency
Riverside County Waste Management	Participating Agency
Soboba Band of Luiseño Indians[1]	Participating Agency
U.S. Fish and Wildlife Service (USFWS)	Participating Agency
Western Municipal Water District (WMWD) [1]	Participating Agency
Western Riverside County Regional Conservation Authority (RCA) [1]	Participating Agency

[1] Unclear invitation response or nonresponse; status based on type of response and/or involvement in project.

5.1.3.1 Invitation Process

As early as practicable, the lead agency requests other agencies to be cooperating agencies. The invitation to become a cooperating agency may occur before, or shortly after, the publication of the NOI in the Federal Register. Upon request of the lead agency, any federal agency with jurisdiction by law shall be a cooperating agency. Cooperating agencies are invited to participate in early meetings to discuss issues and alternatives, and to determine the scope of issues that may be involved in the project. Where appropriate, the lead agency should also seek the cooperation of state or local agencies with jurisdiction by law or special expertise.

On October 1, 2012, Letters of Invitation were distributed to the agencies listed in Table 5-2, requesting involvement as cooperating and/or participating agencies. The invitation letters explained the applicability of the efficient environmental review process, provided reason as to why the particular agency may have interest in the project, included a brief description of the

project, summarized the potential responsibilities of the agency, and explained the results of a response or nonresponse by the invited agency. An example copy of the letters distributed to cooperating and/or participating agencies is provided in Appendix H.

Table 5-2. Invited Participating and Cooperating Agencies

Agency	Response	Invitation Type
U.S. Army Corps of Engineers (USACE)	Accept	Cooperating Agency Participating Agency
U.S. Environmental Protection Agency (EPA)	Accept	Cooperating Agency Participating Agency
U.S. Fish and Wildlife Service (USFWS)	Accept	Participating Agency
Regional Water Quality Control Board, Santa Ana Region (RWQCB)	Accept	Participating Agency
California Department of Fish and Wildlife (CDFW)	None	Cooperating Agency Participating Agency
California Office of Historic Preservation/State Historic Preservation Officer (SHPO)	None	Cooperating Agency Participating Agency
Advisory Council on Historic Preservation (ACHP)	Accept	Cooperating Agency Participating Agency
Bureau of Indian Affairs (BIA)	None	Cooperating Agency Participating Agency
Bureau of Land Management (BLM)	Accept	Cooperating Agency Participating Agency
Federal Emergency Management Agency (FEMA)	Decline	Cooperating Agency Participating Agency
Natural Resources Conservation Service (NRCS)	None	Cooperating Agency Participating Agency
Office of Environmental Policy and Compliance	Accept	Cooperating Agency Participating Agency
Cahuilla Band of Indians	None	Participating Agency
California Highway Patrol (CHP)	Unclear[1]	Participating Agency
California Resources Agency (CRA)	None	Participating Agency
City of Corona	None	Participating Agency
City of Perris	None	Participating Agency
City of Riverside	Unclear[1]	Participating Agency
Eastern Municipal Water District (EMWD)	None	Participating Agency
Los Coyotes Band of Mission Indians	None	Participating Agency
March Joint Powers Authority (March JPA)	None	Participating Agency
Metropolitan Water District of Southern California (MWD)	Unclear[1]	Participating Agency
Morongo Band of Mission Indians (Morongo)	None	Participating Agency
Native American Heritage Commission (NAHC)	Accept	Participating Agency
Pala Band of Mission Indians	Decline	Participating Agency
Pauma & Yuma Reservation	None	Participating Agency
Pauma Valley Band of Luiseño Indians	None	Participating Agency
Pechanga Band of Luiseño Mission Indians	Unclear[1]	Participating Agency
Ramona Band of Cahuilla Mission Indians	None	Participating Agency
Riverside County Fire Department	Unclear	Participating Agency
Riverside County Flood Control and Water Conservation District (RCFCWCD)	None	Participating Agency
Riverside County Habitat Conservation Agency (RCHCA)	Accept	Participating Agency
Riverside County Sheriff's Department	Decline	Participating Agency

Agency	Response	Invitation Type
Riverside County Transportation Commission (RCTC)	Accept	Participating Agency
Riverside Transit Agency (RTA)	None	Participating Agency
Riverside County Waste Management	Accept	Participating Agency
Santa Ana Watershed Project Authority (SAWPA)	None	Participating Agency
Santa Rosa Band of Mission Indians	None	Participating Agency
Soboba Band of Luiseño Indians	None	Participating Agency
Southern California Association of Governments (SCAG)	None	Participating Agency
South Coast Air Quality Management District (SCAQMD)	None	Participating Agency
Western Riverside County Regional Conservation Authority (RCA)	None	Participating Agency
Western Municipal Water District (WMWD)	Unclear[1]	Participating Agency
City of San Jacinto	Accept	Participating Agency

[1] Acceptance of role not clearly defined in response.

5.1.3.2 Involvement Opportunities

Agencies that were confirmed as a participating or/and cooperating agency were also sent letters requesting review and comment on the purpose and need, range of alternatives, and methodology for the project. Letters inviting cooperating and participating agencies to comment on the project description and purpose and need for the project were distributed on February 26, 2013. An example copy of the letters and responses received is provided in Appendix H. Letters inviting cooperating and participating agencies to provide input on range of alternatives and methodology were sent on March 19, 2015, and April 3, 2015. An example copy of the letters distributed and copies of the responses received are provided in Appendix H.

A meeting with conference call option was held November 17, 2015, to introduce participating and cooperating agencies to the project team and to one another; confirm feedback received from agencies on the project purpose and need, range of alternatives, and methodologies; and provide project updates. In April 2016, bi-monthly conference calls were established between the lead agencies and participating and cooperating agencies to inform agencies of the status of environmental review, share project updates, and discuss information and related to environmental technical studies and/or specific project topics of interest. Between June 2017 and September 2018, project environmental studies were provided to cooperating and participating agencies per request, for review and comment regarding information related to their areas of expertise or jurisdiction. A summary of this coordination is included in Appendix H. Feedback received on the studies was discussed with the commenting agencies and considered in the environmental studies. Summaries of the coordination involving each environmental study reviewed are provided in Table 5-3, and comments received on the studies are included in Appendix H. Participating and cooperating agency coordination calls continued until mid-2018, when they were placed on hold during preparation of the Draft EIR/EIS.

Beginning on May 7, 2021, the Draft EIR/EIS was provided to cooperating and participating agencies per request, for review and comment regarding information related to their areas of expertise or jurisdiction. On May 24, 2021, the Final NES was provided to cooperating and participating agencies per request. Feedback received on the Draft EIS and Final NES was discussed with the commenting agencies and considered in this Draft EIS. Summaries of the coordination involving the Draft EIS and Final NES are provided in Table 5-3, and comments received on the studies and Draft EIS are included in Appendix H.

Coordination calls are planned to resume following release of the Draft EIR/EIS. A summary of the coordination calls is provided in Table 5-3, below.

Table 5-3. Coordination Calls and Meetings – Participating and Cooperating Agencies

Meeting Date	Meeting Summary
11/17/2015	Meeting/Call: ICF provided an overview of the proposed project and a description of the alternatives. Input was solicited from cooperating and participating agencies on the project description, range of alternatives, and methodologies. ICF provided a description of the alignment and features of Build Alternative 2C. Attendees: Russell Williams, Mary Zambon, and Scott Staley (County of Riverside); Eduardo Moreno-Castaneda (Caltrans); Heather Pert (CDFW); Kevin Porter and Bill Betancur (CHP); Brian Calvert and Keturah Anderson (ICF); Wendy Picht (MWD); Anna Hoover, Ebru T. Ozdil, Paul Macarro, Brenda L. Tomaras, and Shannon (Pechanga Band of Luiseño Mission Indians); Arlee Montalvo (Riverside-Corona Resource Conservation District [RCRCD]); Joe Ontiveros (Soboba Band of Luiseño Indians); Susan A. Meyer Gayagas (USACE); Clifton Meek (EPA); John M. Taylor (USFWS); Tim Hults (City of San Jacinto); Gil Hernandez (City of Riverside); Glenn Robertson (Santa Ana RWQCB); Sergio Felix (WMWD); Princess Hester and Brian Shomo (RCHCA).
4/7/2016	Meeting/Call: ICF provided project overview and a description of the alternatives. Information regarding the project alignments and project description, as well as the current Efficient Environmental Review Coordination Plan, were distributed prior to call. ICF provided a description of the alignment and features of Build Alternative 2C. Attendees: Eduardo (Eddie) Moreno-Castaneda (Caltrans); Heather Pert (CDFW); Kevin Porter (CHP); Brian Calvert and Keturah Anderson (ICF); Wendy Picht (MWD); Anna Hoover, Ebru T. Ozdil, Paul Macarro, Brenda L. Tomaras, and Shannon (Pechanga Band of Luiseño Mission Indians); Arlee Montalvo (RCRCD); Russell Williams, Mary Zambon, and Scott Staley (County of Riverside); Tim Hults (City of San Jacinto); Joe Ontiveros (Soboba Band of Luiseño Indians); Susan A. Meyer Gayagas (USACE); Clifton Meek (EPA); John M. Taylor (USFWS).
6/2/2016	Meeting: ICF provided status updates for the proposed project. There was a discussion on environmental review coordination and the County was to confer with Caltrans to confirm strategies for early involvement in reviews. Attendees: Aaron P. Burton (Caltrans); Heather Pert (CDFW); Kevin Porter (CHP); Brian Calvert and Keturah Anderson (ICF); Heriberto Diaz, Wendy Picht, Diane Doesserich, Paul Norlen, and Lilly Shraibati (MWD); Ebru T. Ozdil and Paul Macarro (Pechanga Band of Luiseño Mission Indians); Arlee Montalvo (RCRCD); Scott Staley and Mary Zambon (County of Riverside); Glenn Robertson (Santa Ana RWQCB); Clifton Meek (EPA).
8/4/2016	Meeting: ICF provided status updates for the proposed project and an overview of the milestone schedule added to the Efficient Environmental Review Coordination Plan. Attendees: Eduardo (Eddie) Moreno-Castaneda (Caltrans); Heather Pert (CDFW); Brian Calvert and Keturah Anderson (ICF); Heriberto Diaz, Wendy Picht, Diane Doesserich, Paul Norlen, Shohreh Zareh, and Minu Sink (MWD); Arlee Montalvo (RCRCD); Scott Staley and Mary Zambon (County of Riverside); Susan A. Meyer Gayagas (USACE); Clifton Meek (EPA).
10/6/2016	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies. In regard to agencies' potential early involvement in reviews, Caltrans indicated a preference for technical studies and the environmental document to undergo a minimum of two reviews by Caltrans prior to dissemination to other agencies. Attendees: Eduardo (Eddie) Moreno-Castaneda (Caltrans); Brian Calvert and Keturah Anderson (ICF); Wendy Picht, Diane Doesserich, Paul Norlen, and Shohreh Zareh (MWD); Arlee Montalvo (RCRCD); Gilbert (Gil) Hernandez (City of Riverside); Mary Zambon (County of Riverside); Susan A. Meyer Gayagas (USACE); Glenn Robertson (Santa Ana RWQCB).

Meeting Date	Meeting Summary
2/02/2017	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies. In regard to agencies' potential early involvement in reviews, ICF prepared an Input Opportunities Matrix to be distributed to all participating/cooperating agencies to document which technical studies or environmental document sections they desire to review. Attendees: Aaron P. Burton (Caltrans), Kevin Porter (CHP); Brian Calvert and Keturah Anderson (ICF); Wendy Picht and Diane Doesserich (MWD); Ebru T. Ozdil and Paul Macarro (Pechanga Band of Luiseño Mission Indians); Mary Zambon and Scott Staley (County of Riverside); Susan A. Meyer Gayagas (USACE); Glenn Robertson (Santa Ana RWQCB); Clifton Meek (EPA); John M. Taylor (USFWS).
6/01/2017	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies. In regard to agencies' potential early involvement in reviews, ICF distributed an Input Opportunities Matrix on 3/23/2017 to all participating/cooperating agencies. The California Rapid Assessment Method was discussed. Attendees: Aaron P. Burton (Caltrans); Heather Pert and Carly Beck (CDFW); Kevin Porter (CHP); Brian Calvert and Keturah Anderson (ICF); Wendy Picht and Diane Doesserich (MWD); Ebru T. Ozdil, Paul Macarro, Brenda L. Tomaras, and Nicole Corey (Pechanga Band of Luiseño Mission Indians); Arlee Montalvo (RCRCD); Gilbert (Gil) Hernandez (City of Riverside); Scott Staley and Mary Zambon (County of Riverside); Glenn Robertson (Santa Ana RWQCB); Clifton Meek (EPA), John M. Taylor (USFWS); Sergio Felix (WMWD).
9/19/2017	Meeting/Call: Discussed comments received on the Jurisdictional Delineation and Traffic Operations Analysis Report for the Cajalco Road Widening and Safety Enhancement Project from EPA on July 31, 2017. Attendees: Clifton Meek (EPA); Mary Zambon (County of Riverside); Viggen Davidian and Rajat Parashar (Iteris); Brian Calvert and Keturah Anderson (ICF).
9/20/2017	Meeting/Call: Discussed comments received on the Jurisdictional Delineation and Traffic Operations Analysis Report for the Cajalco Road Widening and Safety Enhancement Project from Santa Ana RWQCB on July 31, 2017. Attendees: Glenn Robertson and Jason Bill (Santa Ana RWQCB); Mary Zambon (County of Riverside); Brian Calvert and Keturah Anderson (ICF).
10/5/2017	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies. Revisions to the Input Opportunities Matrix were reviewed. Attendees: Heather Pert (CDFW); Brian Calvert and Keturah Anderson (ICF); Wendy Picht (MWD); Arlee Montalvo (RCRCD); Gilbert (Gil) Hernandez (City of Riverside); Scott Staley and Mary Zambon (County of Riverside); Glenn Robertson (Santa Ana RWQCB); Susan A. Meyer Gayagas (USACE); Clifton Meek (EPA); Sergio Felix (WMWD).
2/1/2018	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies and a description of changes made to Build Alternative 4. Attendees: Aaron P. Burton (Caltrans); Heather Pert (CDFW); Brian Calvert, Keturah Anderson, and Marisa Flores (ICF); Wendy Picht, Kieran M. Callanan, Diane Doesserich, Ken Chung, and Maria Lopez (MWD); Raymond Huaute (Morongo); Ebru T. Ozdil, Paul Macarro, and Molly Earp-Escobar (Pechanga Band of Luiseño Mission Indians); Shelli Lamb (RCRCD); Gilbert (Gil) Hernandez (City of Riverside); Mary Zambon (County of Riverside); Glenn Robertson (Santa Ana RWQCB); Susan A. Meyer Gayagas (USACE); Clifton Meek (EPA); John M. Taylor and Karin Cleary-Rose (USFWS); Sergio Felix (WMWD).
4/5/2018	Meeting/Call: ICF provided status updates for the proposed project, including the progress of technical studies and a description of alternatives. There was a discussion about technical studies undergoing review and the timeline for submittal. Attendees: Aaron P. Burton (Caltrans); Heather Pert (CDFW); Brian Calvert, Keturah Anderson, and Marisa Flores (ICF); Wendy Picht and Diane Doesserich (MWD); Paul Macarro (Pechanga Band of Luiseño Mission Indians); Arlee Montalvo (RCRCD); Gilbert (Gil) Hernandez (City of Riverside), Scott Staley and Mary Zambon (County of Riverside); Glenn Robertson (Santa Ana RWQCB); Clifton Meek (EPA).

Meeting Date	Meeting Summary
8/1/2018	Meeting/Call: Discussed and reviewed the Natural Environment Study (NES). ICF provided an overview of the document format, focused studies, surveys and habitat assessments, modeling, and methods. Agencies present during call provided feedback and recommendations. Attendees: Kieran M. Callanan, Tanya Asef, Alex Marks, and Sean Carlson (MWD); Scott Staley and Mary Zambon (County of Riverside); Clifton Meeks (EPA), Susan Gayagas (USACE); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF); Heather Pert (CDFW); Glenn Robertson (Santa Ana RWQCB); John Taylor (USFWS); Arlee Montalvo (RCRCD).
5/18/2021	Meeting/Call: ICF provided status updates for the proposed project, including the progress of environmental schedule. ICF provided an overview of the document format and responded to inquiries. Agencies present during call provided feedback and recommendations. Attendees: Diane Doesserich, Alex Marks, and Sean Carlson (MWD); Sergio Felix (WMWD); Sarah Stokely (ACHP); Clifton Meeks (EPA); Heather Pert (CDFW); Susan Mayer-Gayagas (USACE); Maher Zaher and Chuck Griffin (Santa Ana RWQCB); Kylie Gallup (RCFCWCD); John Taylor (USFWS); Juan Ochoa (Pechanga); Gilbert Hernandez and Vital Patel (City of Riverside); Shani Pynn (RCRCD); Ryan Ross (County WR); Aaron Burton, Andrew Walters, and Gary Jones (Caltrans); Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF); Greg Hefter and Dat Nguyen (AECOM).
5/26/2021	Meeting/Call: ICF provided status updates for the proposed project, including the progress of environmental schedule and updates to the Final NES. ICF responded to inquiries regarding the Final NES and Draft EIS. Agencies present during call provided feedback and recommendations. Attendees: Alex Marks and Sean Carlson (MWD); John Taylor (USFWS); Adam Fischer and Chuck Griffin (Santa Ana RWQCB); Aaron Burton (Caltrans); Mary Zambon and Mohammed Eissa (County of Riverside); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF).
5/27/2021	Meeting/Call: ICF provided status updates for the proposed project, including the progress of environmental schedule and updates to the Final NES. ICF responded to inquiries regarding the Final NES and Draft EIS. Agencies present during call provided feedback and recommendations. Attendees: Diane Doesserich, Alex Marks, and Sean Carlson (MWD); John Taylor (USFWS); Heather Pert and Carly Beck (CDFW); Chuck Griffin (Santa Ana RWQCB); Aaron Burton (Caltrans); Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF).
6/8/2021	Meeting/Call: ICF provided an overview of the project, status of environmental review, and responded to inquiries. Agencies present during call provided feedback and recommendations. Attendees: Shani Pynn, Kerwin Russell, and Shelli Lamb (RCRCD); Mary Zambon and Mohammed Eissa (County of Riverside); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF).
6/9/2021	Meeting/Call: The Draft EIS and Section 4(f) were discussed. Agencies present during call provided feedback and recommendations. Attendees: John Taylor and Karin Cleary-Rose (USFWS); Carly Beck (CDFW); Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, Marisa Flores, and Greg Hoisington (ICF).

5.1.3.3 Early Identification of Issues

A Preliminary Environmental Study was prepared for the proposed project in 2012, and an Initial Study Checklist (IS) was prepared in 2011. The Preliminary Environmental Study and IS included screening checklists and preliminary assessment of potential environmental issues for the proposed project, including natural, community, cultural, and historic resources in the project area. Based on the Preliminary Environmental Study and IS and agency and community feedback, preparation of an EIS-level environmental document was identified, and the provisions of 23 USC 139 efficient environmental review process initiated.

The IS for the proposed project was also distributed along with the NOP to numerous agencies, organizations, interested groups, and individuals and made available on a website and at local offices for comment during the scoping period. Refer to Section 5.2.1, below, for details.

5.1.4 Permits and Approvals Status

Coordination for the following permits, reviews, and approvals are anticipated prior to project construction unless otherwise indicated.

Table 5-4. Permits and Approvals Needed

Agency	Permit/Approval	Status
U.S. Fish and Wildlife Service (USFWS)	• Section 7 consultation for Threatened and Endangered Species • Section 7 consultation with USACE on Section 404 permit • Joint Project Review (JPR) • Concurrence with County Western Riverside County Multiple Species Habitat Conservation Plan (WRC MSHCP) Consistency Determination • Approval of WRC MSHCP minor amendment • Concurrence with Determination of Biologically Equivalent or Superior Preservation (DBESP) • Equivalency Analysis of Public/Quasi-Public Lands Replacement • Approval of replacement lands pursuant to the Habitat Conservation Plan (HCP) for the Stephens' kangaroo rat (SKR) • Lake Mathews Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (LM MSHCP) discretionary action • Approval of SKR HCP Minor Amendment	1. Section 7 consultations are to be conducted following identification of a Preferred Alternative and preparation of the WRC MSHCP Consistency Determination, which will serve as the Biological Assessment. 2. MSHCP Consistency Determination and DBESP to be prepared and submitted for concurrence following identification of a Locally Preferred Alternative and prior to approval of the Final EIS. 3. The JPR application will be submitted following preparation of the MSHCP Consistency Determination and DBESP. 4. Minor amendment to the WRC MSHCP will be requested by the County EIS Record of Decision (ROD). 5. JPR finding following approval of Minor Amendment, and after EIS ROD. 6. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action, will be requested by the County after the EIS ROD is approved.
United States Army Corps of Engineers (USACE)	Section 404 Permit for fill or dredging waters of the United States	Application to be submitted prior to construction.
California Department of Fish and Wildlife (CDFW)	• Section 1602 Lake and Streambed Alteration Agreement • JPR • Concurrence with County MSHCP Consistency Determination • WRC MSHCP Minor Amendment approval • Approval of replacement lands pursuant to the SKR HCP • DBESP Concurrence • LM MSHCP discretionary action • SKR HCP Minor Amendment approval	1. Section 1602 Notification is to be submitted and agreement obtained prior to the start of construction. 2. MSHCP Consistency Determination and DBESP to be prepared and submitted for concurrence following identification of a Preferred Alternative and prior to certification of the Final EIR. 3. Amendment to the WRC MSHCP to be requested by the County after the Final EIR is certified. 4. Approval of replacement lands pursuant to the SKR HCP, WRC MSHCP minor amendment, and LM MSHCP discretionary action, will be requested by the County after certification of the Final EIR.

Agency	Permit/Approval	Status
California State Water Resources Control Board	• Coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit, Order No. 2009-0009-DWQ) • Water Discharge Permit, approval of NOI to comply with General Construction Activity • National Pollutant Discharge Elimination System (NPDES) Permit	• Following completion of the Final Design phase of the project. • NOI to be submitted prior to construction. • Application to be submitted prior to construction.
Western Riverside County Regional Conservation Authority (RCA)	• Minor Amendment under Section 7.2.2 • Concurrence with County MSHCP Consistency Determination and JPR finding	• Minor amendment to the WRC MSHCP will be requested by the County following approval of a Preferred Alternative. • JPR finding and concurrence with County MSHCP Consistency Determination following approval of Minor Amendment, and prior to EIS ROD.
County of Riverside, Riverside County Habitat Conservation Agency (RCHCA)	• Approval of replacement lands pursuant to the SKR HCP • Section 4(f) consultation • LM MSHCP discretionary action	• Approval of replacement lands pursuant to the SKR HCP will be requested by the County after certification of the Final EIR. • Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.
Regional Water Quality Control Board 8 (RWQCB)	Section 401 Water Quality certification	Application to be submitted prior to construction.
County of Riverside	Temporary construction permits and relinquishment of County right of way to MWD	To be coordinated during Final Design phase of the project.
City of Corona	Approval of encroachment permits and street construction permits, and improvements within public right of way	Actions/permits would be issued prior to start of construction.
Riverside County Flood Control and Water Conservation District (RCFCWCD)	Encroachment permits for improvements affecting RCFCWCD facilities	Application(s) to be submitted prior to construction.
Caltrans, District 8	Encroachment Permit for work within I-215 right of way.	Application to be submitted prior to construction.
Metropolitan Water District of Southern California (MWD)	• LM MSHCP discretionary action • Section 4(f) consultation • Land transfers between MWD and County	• Discretionary action and consultation following approval of Preferred Alternative; land transfers following Final EIR/EIS. • Section 4(f) consultation will be completed prior to completion of the Final EIR/EIS.
Burlington Northern Santa Fe (BNSF)	• Encroachment permit • Required for work performed within railroad right of way	To be acquired prior to any construction activity occurring within BNSF right of way.
California Public Utilities Commission	Compliance with Public Utilities Code Sections 1201 through 1205, for grade separated structure over BNSF rail line	Application to the California Public Utilities Commission to occur during Final Design phase of the project

Agency	Permit/Approval	Status
State Historic Preservation Officer (SHPO)	• Concurrence with agencies' determinations of eligibility and findings of effect • Memorandum of Agreement	• SHPO concurrence with determinations of eligibility and findings of effect confirmed. • Memorandum of Agreement consultation will be completed prior to completion of the Final EIR/EIS.
Participating Native American Tribes	Required consultation under National Historic Preservation Act, Section 106, including (but not limited to): determinations of eligibility, findings of effect, and future work that includes involvement with the Memorandum of Agreement, Archaeological Monitoring Plan, and Data Recovery Plan	Native American consultation for the project is ongoing.

5.2 Scoping Process

5.2.1 Initiation of Scoping

As part of the CEQA and NEPA process, a scoping meeting is required as part of the preparation of an EIR and EIS. An NOP for the EIR and a NOI to prepare an EIS were advertised to the public and mailed to elected officials and local, state, and federal agencies having jurisdiction or discretionary approval within the project corridor in September 2011 and September 2012, respectively. The NOP was received and accepted by the State Clearinghouse on September 6, 2011, and the NOI was published in the Federal Register on September 26, 2012. A copy of the NOP is included on the following page.

The NOP comment period initiated September 6, 2011, and went through to October 21, 2011; the NOI comment period initiated September 26, 2012, and went through to October 28, 2012. Responses to the NOP received from the public, organizations, environmental stakeholder groups, and agencies, including comments submitted during public scoping meetings, are summarized in Table 5-5. Copies of the original responses to the NOP and NOI received from organizations, environmental stakeholder groups, and agencies, are included in Appendix H.

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

Notice of Preparation

September 6, 2011

To: Reviewing Agencies

Re: Cajalco Road Widening and Safety Enhancement Project
SCH# 2011091015

Attached for your review and comment is the Notice of Preparation (NOP) for the Cajalco Road Widening and Safety Enhancement Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Mary Zambon
Riverside County Transportation Department
3525 14th Street
Riverside, CA 92501

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

Document Details Report
State Clearinghouse Data Base

SCH# 2011091015
Project Title Cajalco Road Widening and Safety Enhancement Project
Lead Agency Riverside County

Type NOP Notice of Preparation

Description The County of Riverside (County) is proposing to widen Cajalco Road from two to four lanes between Harvill Avenue to the east and Temescal Canyon Road to the west, and from four to six lanes between Interstate 215 (I-215) southbound ramps and Harvill Avenue. Related proposed improvements include traffic signals, bus turnouts, additional turn lanes, and watercourse crossing and drainage improvements.

Lead Agency Contact

Name Mary Zambon
Agency Riverside County Transportation Department
Phone (951) 955-6759 **Fax**
email
Address 3525 14th Street
City Riverside **State** CA **Zip** 92501

Project Location

County Riverside
City Corona, Perris
Region
Cross Streets Cajalco Road, Temescal Canyon Road, Interstate 215
Lat / Long 33° 49/50' 25.9" N / 117° 30/15' 36.9" W
Parcel No. Multiple
Township 4S **Range** 4,5,6W **Section** Multip **Base** Multiple

Proximity to:

Highways
Airports March ARB, Lk Mathews Air
Railways BNSF
Waterways Lake Mathews
Schools Four schools
Land Use County: C-P-S, M-SC, R-R-1, A-1, I-P, W-1, R-A-1/2, SP, R-A-1, R-T, A-1-5, N-A; Corona: G, M2, CC, A

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Public Services; Recreation/Parks; Schools/Universities; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects

Reviewing Agencies Resources Agency; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Game, Region 6; Native American Heritage Commission; Public Utilities Commission; Caltrans, Division of Aeronautics; California Highway Patrol; Caltrans, District 8; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 8

Date Received 09/06/2011 **Start of Review** 09/06/2011 **End of Review** 10/05/2011

Note: Blanks in data fields result from insufficient information provided by lead agency.

5.2.2 September 2011 CEQA Public Scoping Meetings

Two public scoping meetings were held in September 2011, in conjunction with the CEQA NOP comment period. Meeting locations were selected based on their proximity to the project and local communities, accessibility, room capacity, and availability. The first meeting was held at 6:30 p.m. on Monday, September 26, 2011, at Lake Mathews Elementary School (12252 Blackburn Road, Riverside, CA 92503), and the second was held at 6:30 p.m. on Thursday, September 29, 2011, at Tomas Rivera Middle School (21675 Martin Street, Perris, CA 92570). Notices for the meetings were distributed to agencies, organizations, interested groups, individuals, and residents within 500 feet of the proposed project and were made available on a website and at the County office and local libraries.

Attendees of each scoping meeting had the opportunity to learn about the project and ask questions of representatives from the County involved with the planning process. Attendees were also able to provide input on the proposed alternative alignments and issues to be addressed in the EIR through comment cards made available in English and Spanish at the meetings. A court reporter and Spanish interpreter were present at the public meetings. Verbal comments and comment cards received during the meeting and calls, emails, and comment cards submitted during the public scoping period are summarized in Table 5-5. Transcripts for each meeting are included in Appendix H

Comments received from the public, environmental stakeholder groups, and agencies during the public scoping period included following topics: environmental impacts involving biological resources, cultural resources, air quality, and noise; community impacts involving safety, traffic, property access, and property acquisition; and general project inquiries and comments involving project phasing, project as an economic catalyst, funding equity, information requests, and statements in support of or against project. All comments have been considered and incorporated, as appropriate, into the preliminary engineering and EIR/EIS.

Table 5-5. CEQA Scoping Summary – September 6 through October 21, 2011

Date	Name / Affiliation	Comment Topics and Summary
9/7/11	Debbie & Carl Winzen	*Comment topic:* Traffic, Air Quality, Noise Opposes the project. Concerned with traffic, noise levels, and additional traffic in community using Cajalco Road as a route from Interstate 215 (I-215) to Interstate 15 (I-15).
9/7/11	Kimberlie Gurule, Southern California Edison Mapping Services	*Comment topic:* General/Other Incorrect contact.
9/8/11	Sean Berry, Santa Rosa Historical Mining District & Preservation Society	*Comment topic:* Biological Resources, Cultural Resources Supports Cajalco improvements over Mid-County Parkway (MCP) Project; concerned with biological resources and cultural resources in the area.
9/10/11	Carlene Brown	*Comment topic:* Design/Configuration, Traffic Cajalco Road needs widening and only route would be to stay on Cajalco Road. Should become a major freeway, as the traffic is non-stop. Add shopping center at Harvill Road/Cajalco Road or Alexander Street/Cajalco Road. This is sound reasoning and also would give jobs to hundreds of people.

Date	Name / Affiliation	Comment Topics and Summary
9/12/11	JoAnn McAnlis	*Comment topic:* Property Impacts, Traffic, Safety, Air Quality Flooding/drainage between Seaton & Decker, north side of Cajalco Road. How much property acquisition? Add frontage road to address safety concerns with turning movements and median that stops cars from crossing the road. Truck traffic relative to noise and air quality impacts from diesel emissions.
9/12/11	Margarita Gonzalez	*Comment topic:* Property Impacts, General/Other Property impacts and acquisitions? When is project going to begin? What is available to understand project better? Can information be mailed?
9/13/11	Dan Silver, Executive Director, Endangered Habitats League	*Comment topic:* Environmental Impacts, General/Other In agreement with addressing biological impacts via conformance with the County's WRC MSHCP. County should coordinate with RCTC's MCP Project. Concerns with WRC MSHCP conformance presented in 2009 letter to RCTC regarding the MCP Project apply equally to proposed project. 2010 letter from state and federal wildlife agencies included. Retain Endangered Habitats League on all mailing and distribution lists for project.
9/13/11	Lorraine & Michael Girod	*Comment topic:* General/Other Requests information regarding the public scoping meeting.
9/16/11	Tina McCauslin, Assistant Vice President, David L. Bonuccelli & Associates, Inc.	*Comment topic:* General/Other Represents a property owner; interested in receiving information.
9/20/11	Lauren Millsap	*Comment topic:* Traffic, Noise, Air Quality Traffic study results for proposed project and traffic volume patterns for segments around Lake Mathews. Necessary to widen Cajalco between El Sobrante and Temescal Road? Concerned widening will encourage higher traffic volumes (especially trucks) and increase noise and pollution. It's one thing to widen a road to relieve existing, and mitigate future traffic loads, but this project seems designed to actually encourage more traffic through this remote area.
9/21/11	Nathan Westphal, Board Member, Residents Association of Greater Lake Mathews (RAGLM)	*Comment topic*: Noise Consider rubberized asphalt for the proposed expansion to keep the noise level down. This will help limit the impact on wildlife as well as the community residents.
9/22/11	Joseph Ontiveros, Soboba Band of Luiseño Indians, Soboba Cultural Resources Department	*Comment topic*: Environmental Impacts, Cultural Resources The project area falls within the boundaries of Soboba's Tribal Traditional Use Areas. The land is regarded as highly sensitive to the people of Soboba. Soboba Band of Luiseño Indians is requesting the following: 1. To initiate a consultation with the project developer and land owner. 2. The transfer of information to Soboba regarding the progress of this project should be done as soon as new development occurs. 3. Soboba continues to act as a consulting tribal entity for this project. 4. Requests that Native American monitor(s) from Soboba's Cultural Resources Department to be present during any ground-disturbing proceedings. 5. Requests that proper procedures are taken and requests of the tribe be honored for cultural items, treatment and disposition of remains, coordination with county coroner's office, and non-disclosure of location reburials.
9/25/11	Jane Gustafson	*Comment topic:* General/Other, Traffic, Noise, Air Quality Route has been studied many times at taxpayers' expense; status of eight prior proposed routes? Property impacts and traffic during construction. Property acquisition and displacement concern.

Date	Name / Affiliation	Comment Topics and Summary
9/26/11	Harold Gotts	*Comment topic:* Property Impacts Property impacts including loss of water well/water source, access.
9/26/11	Mrs. Hunt	*Comment topic:* Design/Configuration, Traffic, Noise, Air Quality Semi-truck traffic and associated noise and air quality. Circulation and access for Harley John Road, Cowan Road, and Dustin Road.
9/26/11	David Eakin	*Comment topic:* Design/Configuration, General/Other, Safety, Project Support Project needed for safety. Cajalco Road too dangerous to leave the way it is. Recommends Alternative 2: 1. If Alternative 2 is used, that would divert most of the heavy traffic. Diesel exhaust and auto exhaust would be farther away from the lake and would be better for water purity, water quality. There would be no exhaust running into the lake that way. 2. Most of that land, even though it is pristine and not being used, should be used for an improvement like this. Believes the land that is required for Alternative 2 is not in a wildlife preserve, which means that the existing Cajalco Road would be removed and that land could go back to being part of the immediate preserve surrounding the lake or on the south side of the lake. Only problem is that at the intersection of the existing Cajalco Road and La Sierra an extension of La Sierra Avenue needs to be put in north from the existing intersection to wherever Alternative 2 is so that those by the intersection of Lake Mathews Drive and Cajalco Road would have an easier way of getting into the La Sierra Avenue part of town and back, because Alternative 1 has an intersection at Cajalco Road and La Sierra Avenue but there is no extension of La Sierra Avenue south of the Alternative 2 route.
9/26/11	Debra Smith	*Comment topic:* Design/Configuration Maintain access to La Sierra Avenue.
9/26/11	Tuan and Arlene Van	*Comment topic:* Design/Configuration, Project Support Supports Alternative 1; widen existing road.
9/26/11	Mohammad Ali	*Comment topic:* General/Other, Project Support Supports proposed project; needed and helps commuters.
9/26/11	Teri Bruce	*Comment topic:* Design/Configuration, Project Support Supports Alternative 1: 1. Safer for many children in the neighborhood, including handicapped children. 2. Would like the access to La Sierra Avenue to remain as it is now. 3. Access to homes and neighborhoods would be farther away from the noise of a four-lane highway.
9/26/11	Dyan Pass	*Comment topic:* Property Impacts Concerned about egress and ingress into commercial center. Already have been affected by prior road improvements and hopes that the County will connect and communicate to help keep the business center accessible and not block it off. Has been accessible to community for over 30 years.
9/26/11	Kirk Ramsey	*Comment topic:* Design/Configuration 23570 Cajalco Property is drawn wrong on “Preliminary 9/26/11 Riverside Co Trans Dept – Alternates 1 & 2 – Cajalco Rd Widening & Safety Enhancement Project east end from Harley John Rd. to I-215” map, which makes “proposed right of way” wrong – advise.
9/26/11	Don Hunt	*Comment topic:* Noise and Air Quality A large number of semi-trucks currently rumble down Cajalco Road and that does not fit in a neighborhood environment. Noise and air quality?

Date	Name / Affiliation	Comment Topics and Summary
9/26/11	Leann Kluck	*Comment topic:* Property Impacts, General/Other 1. This project is unnecessary. Use State Route 74 and widen downtown Perris. The Metrolink is being put in there anyway. 2. How many people will lose their homes? 3. How much eminent domain? Current egress safety issues, don't see any way it can be safer with four lanes and 60–65 mile per hour speed.
9/26/11	Lyle Falls	*Comment topic:* Design/Configuration Need 90-degree intersection at Lake Mathews Drive. Prefer Alternative 1
9/26/11	Paula Vice	*Comment topic:* General/Other, Project Support Project needed. Almost been in two head-on collisions due to unsafe passing.
9/26/11	Charles Bruce	*Comment topic:* Design/Configuration, Safety Would like to see Alternative #1. 1. Still have access to La Sierra. 2. Turn existing part of Cajalco Road into private road toward homes. 3. It would be safer for the many children in neighborhood.
9/26/11	Denise Jones	*Comment topic:* Design/Configuration, Noise No light pollution. View of the lake and the city beyond will be greatly affected. How will light pollution be minimized? Supports Alternative 1. 1. Use the contractor from the last road improvement. 2. Provide a map or diagram to scale showing the homes on Descanso that are west of Lake Mathews Drive and the proposed and alternate routes of the widening project. It's difficult to view this on the existing maps at the meeting. What will be the ambient noise levels at this location during peak and nonpeak travel times? Compare that with existing zero noise level and provide that info with Alternatives 1 & 2.
9/26/11	Lanette Bodiford	*Comment topic:* Safety/Noise, Project Support Believes that the widening of Cajalco Road has been needed for some time. The safety measures are also greatly needed. May also be a need for soundwalls in the area due to additional traffic noise. Homes are already subject to substantial noise during high traffic times.
9/26/11	Steve T Adams & Maurice Adams	*Comment topic:* General/Other Keep on Cajalco Project mailing list.
9/26/11	Lanette Bodiford	*Comment topic:* Noise There may be a need for soundwalls in the area due to additional traffic noise. Homes are already subject to substantial noise during high traffic times.
9/27/11	Rick Simmons	*Comment topic:* Traffic, Noise, Property Impacts Lives very close to where the proposed widening is to take place and concerned about the noise pollution, air pollution, safety, and increased traffic it will bring near his house.
9/27/11	Carolyn Schmidt	*Comment topic:* General/Other, Project Support Supports Alternative 1.
9/27/11	Kris Flanigan, Senior Civil Engineer, RCFCWCD	*Comment topic*: General/Other 1. Portions of the proposed project may be within the 100-year Zone A floodplain limits. If the proposed project will affect watercourses that may have floodplain associated with them, the Draft EIR should address potential direct and indirect floodplain impacts. 2. The proposed project is within the Mead Valley and Perris Valley Master Drainage Plans and the Lake Mathews Area Drainage Plan. The Draft EIR should address impacts on these drainage plan facilities within the proposed project area. 3. Any work that involves RCFCWCD right of way, easements, or facilities will require an encroachment and should be coordinated with RCFCWCD.

Date	Name / Affiliation	Comment Topics and Summary
9/28/11	Ian MacMillan, Program Supervisor, CEQA Inter-Governmental Review, SCAQMD	*Comment topic:* Air Quality, General/Other Recommendations regarding the analysis of potential air quality impacts from the proposed project that should be included in the draft CEQA document. Send SCAQMD a copy of the Draft EIR upon its completion, including all appendices or technical documents related to the air quality and greenhouse gas analyses and electronic versions of all air quality modeling and health risk assessment files. These include original emission calculation spreadsheets and modeling files (not Adobe PDF files). Without all files and supporting air quality documentation, SCAQMD will be unable to complete its review of the air quality analysis in a timely manner. Any delays in providing all supporting air quality documentation will require additional time for review beyond the end of the comment period. SCAQMD recommends that the lead agency use the CEQA Air Quality Handbook as guidance when preparing its air quality analysis. The lead agency should identify any potential adverse air quality impacts that could occur from all phases of the project and all air pollutant sources related to the project. Air quality impacts from indirect sources, that is, sources that generate or attract vehicular trips, should be included in the analysis. The SCAQMD requests that the lead agency quantify particulate matter 2.5 microns or less in diameter (PM2.5) emissions and compare the results to the recommended PM2.5 significance thresholds. SCAQMD recommends calculating localized air quality impacts and comparing the results to localized significance thresholds. In the event that the proposed project generates or attracts vehicular trips, especially heavy-duty diesel-fueled vehicles, it is recommended that the lead agency perform a mobile source health risk assessment. In the event that the project generates significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized during project construction and operation to minimize or eliminate significant adverse air quality impacts. Please forward with Draft EIR and all appendices or technical documents related to the air quality and greenhouse gas analysis and electronic versions of all air quality modeling and health risk assessment file permits to SCAQMD directly.
9/28/11	Tim Armstrong, Technical Services-Biologist, Southern California Gas Company	*Comment topic:* General/Other Requests that the County include Southern California Gas Company in the environmental permitting process for the project, if the analysis requires relocation of Southern California Gas Company facilities within the footprint of the project site.
9/28/11	Thomas Molter	*Comment topic:* Design/Configuration, Project Support Supports Options 1 and 2, but prefers Option 1 providing that the existing portion of Cajalco Road from the Forestry Substation include the homes served by Lynette Lane, Hollis Lane, and Dirt Road becomes a private access only roadway for those homes.
9/28/11	Jeff Radway	*Comment topic:* Design/Configuration, Project Support Supports Options 1 and 2, but prefers Option 1 realignments providing that the existing portion of Cajalco Road from the Forestry Substation include the homes served by Lynette Lane, Hollis Lane, and Dirt Road becomes a private access only roadway for those homes. Would like Cajalco Road to go through instead of being a dead end road, which would be better for the Forestry Substation and emergency access and improve access to the new Cajalco Road.
9/29/11	Lee Cussins	*Comment topic: General/Other* Wondering how soon the guidelines will be disseminated? Understood construction would start if project goes in through about 2017. When will it be completed?

Date	Name / Affiliation	Comment Topics and Summary
9/29/11	Efren Arias	*Comment topic:* Safety/Noise Lives just at the corner of Una Street and has seen a lot of accidents. Greatly concerned about traffic accidents, has witnessed fatalities. Will a retaining wall be built for the noise or prevent from cars going inside the houses that are just on the side of the road?
9/29/11	Rose Rico	*Comment topic:* Air Quality, Property Acquisition How will air quality impacts affect health of residents in the years to come once this roadway is built? How will property acquisition work? Will property be purchased or taken away?
9/29/11	Efren Arias	*Comment topic:* Noise Concerned that existing traffic noise with only two lanes will be worse with four or six lanes. Will soundwalls be built to reduce noise?
9/29/11	Edward Avila	*Comment topic*: Utilities Recommends constructing a sewer along Cajalco Road.
9/29/11	Carlotta Fuerstenberg	*Comment topic*: Construction, General/Other Recommends not installing a signal light on Seaton Avenue. Was told that they are doing a bridge to widen it over I-215. Does that mean that they will expedite it, like night work? Were they going to employ night work to rush it?
9/29/11	Rose Rico	*Comment topic*: Flooding, General/Other Wants more information about a box that will divert the flooding in the corner empty vacant area, plus the house across the street. Is there a flood box at the corner of Ramona and Perris Boulevard? Will crosswalks be installed? Will there be detours for the construction coming down? And if there are any, which streets will you use?
9/29/11	Nick Luick	*Comment topic*: General/Other What are the speed limits on comparable roads?
9/29/11	Rose Rico	*Comment topic*: General/Other Requests information on comments opposing the project, the reasons given, and documentation. Are there comparisons to other areas where similar projects have taken place?
9/29/11	Abel Maldonado	*Comment topic*: General/Other Will there be a signal light on Cajalco Road and Alexander?
9/29/11	Abel Maldonado	*Comment topic*: Flooding, General/Other Lives right on the flooding center point on Alexander and Wells. Will something crossing along this property on both sides be installed?
9/29/11	Tim Holmes	*Comment topic:* Design/Configuration Will fencing be put up along areas open where game can cross over, like the Lake Mathews areas, or is that going to be still wide open? The way the road is now, traffic dies down substantially about 10 or 11 p.m., so a lot of game crosses at that time. When you open this up, there is going to be 24-hour traffic.
9/29/11	Unidentified speaker	*Comment topic:* Design/Configuration Will a walkway or sidewalk be installed all the way up to Cajalco Road?
9/29/11	Jennifer (last name unknown)	*Comment topic:* Design/Configuration, Noise What will the speed limit be? Based on some of the area east of Harley John Road, will traffic lights be the same, or will speed limits or number of traffic lights be modified? The speed limit is currently 50 miles per hour (mph), which seems high for a residential area, but widening of the road will cause people to exceed the speed limit, so the speed limit should be reduced. How will traffic noise be reduced? Lives on Cajalco Road, where there is currently a lot of traffic, and the four-lane road is going to increase the amount of traffic noise. A soundwall may add an echo to the valley, which would not reduce the amount of noise.
9/29/11	Unidentified speaker	*Comment topic:* Design/Configuration Will bike lanes and horse trails continue past Mead Valley or are there certain parts of the Cajalco project that will have bike lanes and lanes for horses?

Date	Name / Affiliation	Comment Topics and Summary
9/29/11	Unidentified speaker	*Comment topic:* Air Quality Cars running at freeway speed burn much cleaner than they do at slower speeds. Is a retired mechanic.
9/29/11	Charles Duane Romero	*Comment topic:* General/Other, Project Support Please start construction as soon as possible, as the four lanes will help prevent traffic accidents. Also supports the proposed Shell gas station and 7-Eleven.
9/29/11	Rose Rico	*Comment topic:* General/Other, Design/Configuration Median in certain areas to change to double lines. When will residents be informed of how their properties will be affected?
9/29/11	Joy De Fries	*Comment topic:* General/Other, Project Support Supports the project.
9/29/11	Mike Margis	*Comment topic:* Construction After they widen Cajalco Road, will there be a right of way, an area for cars to pull off the road as needed, and if so how will it be?
9/29/11	Maria Cervantes	*Comment topic:* Design/Configuration Dislikes the raised median; prefers a yellow safety line. Does not want to drive on a back street to get to her property. Likes the four lanes.
9/29/11	Conrado & Santos Martinez	*Comment topic:* General/Other, Project Support Supports project. How it will be constructed and what will happen to those living near the freeway?
9/29/11	Edward Mercado	*Comment topic:* Design/Configuration Suggests putting in a signal at the intersection of Cajalco Road and Seaton Avenue to avoid future accidents.
9/29/11	Ramon Vasquez	*Comment topic:* Property Impacts Prefers the plan that minimizes taking some of his property on Cajalco Road. Proposal 1 would be more efficient on Cajalco Road. His business will be affected if his property is shortened and taken away.
9/30/11	Kerwin Russell, Natural Resources Manager, RCRCD	*Comment topic:* Environmental Impacts, General/Other The project has the potential to affect plants and wildlife under the management of RCRCD. Some of the lands also occur in areas with lands that have been required as mitigation under previous permits and under control of RCRCD. RCRCD is concerned about the loss of mitigated lands and replacement or protection of those lands. The CEQA document should include an alternative analysis that focuses on special survey areas, biological resources, and mitigation measures.
9/30/11	Al Shami, Project Manager, Brownfields and Environmental Restoration Program Department of Toxic Substances Control	*Comment topic:* Hazards, General/Other 1. The EIR should evaluate whether conditions within the project area may pose a threat to human health or the environment. 2. The EIR should identify the mechanism to initiate any required investigation and/or remediation for any site that may be contaminated, and the government agency to provide appropriate regulatory oversight. 3. Any environmental investigations sampling and/or remediation for a site should be conducted under a work plan approved and overseen by a regulatory agency that has jurisdiction to oversee hazardous substance cleanup. 4. If buildings, other structures, or asphalt- or concrete-paved surface areas are planned to be demolished, an investigation should be conducted for the presence of other hazardous chemicals, mercury, and asbestos-containing materials. 5. Future project construction may require soil excavation or filling in certain areas. 6. Human health and the environment of sensitive receptors should be protected during any construction or demolition activities. 7. If it is determined that hazardous wastes are, or will be, generated by the proposed operations, the waste must be managed in accordance with the

Date	Name / Affiliation	Comment Topics and Summary
		California Hazardous Waste Control Law and Hazardous Waste Control Regulations. 8. The Department of Toxic Substances Control can provide cleanup oversight through an Environmental Oversight Agreement for government agencies that are not responsible parties, or a Voluntary Cleanup Agreement for private parties.
10/3/11	James Dailey, Level 3, OSP Engineer So Cal	*Comment topic:* Property Impacts Level 3 has a fiber optic facility on Cajalco Road between Wood and Clark. Level 3 also has a second fiber optic facility crossing Cajalco Road at Temescal Canyon Road. Review As-Builts for potential conflicts. Also, please send a plan set when available.
10/4/11	Jeff Brandt, Senior Environmental Scientist, California Natural Resources Agency, CDFW Inland Desert Region	*Comment topic:* Environmental Impacts The proposed project occurs within the WRC MSHCP and is subject to the provisions and policies of the WRC MSHCP. The County is signatory to the Implementing Agreement and is a Permittee of the WRC MSHCP. Participants in the WRC MSHCP are issued take authorization for covered species. The Draft EIR should include a discussion of the impact of the project on the proposed extension of Core 2 for the WRC MSHCP. The Draft EIR should discuss potential impacts from Alternative 2 on the El Sobrante Landfill HCP and any conserved lands associated with it. The Draft EIR should also discuss any potential impacts on and mitigation for lands already in conservation, or lands serving as mitigation sites for CDFW streambed alteration agreements, RWQCB 401 certification, or USACE 404 permits, as well as lands managed by RCRCD. The project has the potential to affect southern riparian forest, southern willow scrub, mule fat scrub, and Riverside sage scrub. The Draft EIR should focus on the potential adverse impacts of roadways on wildlife, particularly existing wildlife crossings, and measures to mitigate those impacts. CDFW is concerned about the continuing loss of jurisdictional waters of the state and the encroachment of development into areas with native habitat values. The Draft EIR should contain sufficient, specific, and current biological information on the existing habitat and species at the project site; measures to minimize and avoid sensitive biological resources; and mitigation measures to offset the loss of native flora and fauna and state waters. If the project site contains federally or state-listed species, the Draft EIR should include measures to avoid and minimize impacts on these species as well as mitigation measures to compensate for the loss of biological resources. The Draft EIR should not defer impact analysis and mitigation measures to future regulatory discretion actions, such as a Lake or Streambed Alteration Agreement. This project has the potential to have significant environmental impacts on sensitive flora and fauna resources. Therefore, the Draft EIR should include an alternatives analysis that focuses on environmental resources and ways to avoid or minimize impacts on those resources. To enable CDFW staff to adequately review and comment on the proposed project, CDFW suggests that updated biological studies be conducted prior to any environmental or discretionary approvals. The Draft EIR should include any actions or approvals taken by the WRC MSHCP. The following information should be included in any focused biological report: 1. A summary of the structure, purpose, and obligations of the lead agency under the WRC MSHCP and an analysis of the project in relation to the Area Plan and Criteria Cell biological goals and objectives. 2. A complete assessment of the flora and fauna within and adjacent to the project area, with emphasis on identifying endangered, threatened, and locally unique species and sensitive habitats. 3. A thorough discussion of direct, indirect, and cumulative impacts expected to adversely affect biological resources, with specific measures to offset such impacts. 4. A range of alternatives analyzed to ensure that alternatives to the proposed project are fully considered and evaluated.

Date	Name / Affiliation	Comment Topics and Summary
		Although the proposed project is within the WRC MSHCP and could be subject to Section 6.1.2, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, a Lake and Streambed Alteration Agreement Notification is still required by CDFW should the site contain jurisdictional waters. CDFW's criteria for determining the presence of jurisdictional waters are generally more comprehensive than the WRC MSHCP criteria in Section 6.1.2. The Draft EIR should include a jurisdictional delineation if there are impacts on riparian vegetation or state waters. CDFW opposes the elimination of watercourses and/or their channelization or conversion to subsurface drains. All wetlands and watercourses, whether intermittent or perennial, must be retained or mitigated for and provided with substantial setbacks, which preserve the riparian and aquatic values and maintain their value to on-site and off-site wildlife populations.
10/4/11	J. Hill, CA Boulder Springs Holdings, LLC c/o TriMont Real Estate Advisors	*Comment topic:* Property Impacts Both alternatives show a "Staging Area" on the Boulder Springs property at Carpinus and Cajalco Road; opposed to that usage as the owner of the property. Usage could affect development of the larger parcel it is a part of as well as have an environmental impact on the site.
10/5/11	Carolyn Schmidt	*Comment topic:* General/Other, Project Support Supports Option 1.
10/5/11	Lawrence Savedra	*Comment topic:* General/Other Requests to be on the project mailing list.
10/6/11	Sid Woods	*Comment topic:* General/Other, Project Support Wants to see improvements occur and inquired as to the timeframe for construction.
10/7/11	Claudia Naber Amazonia Wildlife	*Comment topic:* Property Impacts, Noise Property will be directly affected. Important that the project team studies noise levels at various times of the day and at various heights of the road. Requests that the road not be raised because it increases the noise level. Supports the no-build option.
10/11/11	Robert Pring	*Comment topic:* Traffic, Project Support Supports Option 1. Access for Hollis Lane area should include turn pockets and traffic signal for safety. Access to La Sierra Avenue must be maintained. Turn pockets should be provided for the businesses at Lake Mathews Store.
10/11/11	Linda Riley	*Comment topic:* Property Impacts The prevailing winds will carry the noise and air pollution directly to the residences of Lake Mathews. Large, growing distribution centers at the eastern end of Cajalco Road and the Moreno Valley area will likely cause Cajalco Road to become a trucking route. Is the County ignoring this problem like it has in Mira Loma? Even though this type of project has been planned for years, it didn't take into consideration the future effects of distribution center development and the thousands of trucks that will be using this route. Distribution centers are not the answer and will only continue the degrading image and path toward low-paying jobs in Riverside. Is this a false fix to the lack of jobs in the area? Until big rigs can run without emissions and noise we need to stop the distribution centers immediately.
10/12/11	Aurora Fong EMWD	*Comment topic:* General/Other Requested information regarding potential impacts on EMWD's aboveground facility at the intersection of Cajalco Road/Clark.
10/13/11	Debbie Duran	*Comment topic:* General/Other Interested in getting more information on the project. Wants to know if there is a website or place to receive more information. Lives right off Cajalco Road, and wants to know how this will be affecting her.

Date	Name / Affiliation	Comment Topics and Summary
10/13/11	Ryan Ross, Planner, Riverside County Waste Management Department	*Comment topic:* Property Impacts Alternative 2 will encroach on land conserved for the El Sobrante Landfill HCP. Any encroachment into HCP lands will require an amendment to the HCP and its Implementing Agreement. The Draft EIR must address potential impacts on El Sobrante Landfill HCP lands as a result of the encroachment of Alternative 2. Recommends Alternative 1 because it avoids the physical impacts on HCP lands.
10/14/11	Ken Gutierrez, AICP, Planning Director, City of Riverside Community Development Department, Planning Division	*Comment topic:* Traffic Although not an active annexation area, the project area is within the City's Southern Sphere of Influence. As such, City staff offers the following comment related to traffic impacts: As indicated in the IS, a traffic analysis using Riverside County Congestion Management Program guidelines will be conducted in conjunction with this project. City staff requests that the City be provided the opportunity to review and comment on the traffic model and trip distribution during the preliminary stages, prior to completion of the traffic analysis and Draft EIR. Furthermore, City staff requests that a copy of the traffic analysis along with the Draft EIR be forwarded to the City as soon as these documents are available so that staff can review them and provide any necessary feedback during the review period.
10/15/11	Mike Record	*Comment topic:* Design/Configuration, Other Opposes the four-lane proposal. Should be six lanes. The San Jacinto Valley will be economically affected for decades. There also should be off-ramps at intersections.
10/15/11	John C. Walter Sr.	*Comment topic:* General/Other Add to Cajalco Project mailing list.
10/16/11	Nancy Urtado	*Comment topic:* Design/Configuration Please consider that in order for the corridor to meet the needs of the Riverside County Integrated Plan (RCIP) and Community and Environmental Transportation Acceptability Process (CETAP), a number of features must be incorporated into the project. These include the following: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per Riverside County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate not less than six lanes of traffic per the County General Plan and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the 2008 County Regional Transportation Improvement Program (RTIP). If the project is developed without these considerations, it will not meet the RCIP and the CETAP goals. Furthermore, it would likely not function as a true regional corridor capable of alleviating the traffic pressures experienced by other east-west corridors. Finally, without these design and construction considerations, economic development opportunities in the San Jacinto Valley, Winchester, Homeland, Romoland, Nuevo, East Lake, Perris, Moreno Valley, and Menifee will be severely affected.
10/17/11	Gus Gonzalez, Associate Planner, City of Riverside Department of Community Development	*Comment topic:* Traffic Impacts City staff requests that the City be provided the opportunity to review and comment on the traffic model and trip distribution during preliminary stages, prior to completion of the traffic analysis and Draft EIR. City staff requests that copies of the traffic analysis and Draft EIR be forwarded to the City so that staff can review them and provide feedback.

Date	Name / Affiliation	Comment Topics and Summary
10/17/11	Anne Absey	*Comment topic*: General/Other Founding director and general manager of Animazonia Wildlife Foundation, a permanent sanctuary for exotic cats and reptiles. The 5-acre facility borders the south side of Cajalco Road, three lots east of the Harley John Road/Cajalco Road intersection. Has some concerns about how this project will affect the sanctuary and the animals and people who live, visit, and work there. Concerns are based on expected effects of the construction and the new road and also past experience from the construction of the flood control channel and the subsequent raising of the Cajalco Road roadbed in the area bordering sanctuary land. Believes the resulting noise, fumes, contamination of the water table, and loss of privacy will be exacerbated by the proposed project. Asks that the following be included in the Draft EIR: 1. Prove that the no-build option will result in more problems than those that will occur if the project continues. 2. Prove that the new road is necessary, taking into account not the development plan that is in place, but a revised development scenario considering the economic meltdown and failure to recover. 3. Prove that the continued housing and development that this road is supposed to facilitate along Cajalco Road is necessary and answer the following questions: • For the housing or development projects that do and would use Cajalco Road as a major ingress/egress, what traffic plan was in place to handle projects that have already been approved and/or started? Why is this not adequate to handle the traffic, especially because there is not full occupancy? • What are the numbers of unimproved lots in the area for which development plans are already in place? How many homes have been started but not finished? • How many homes are for sale but unsold? • How many boarded-up homes in the area? • All this points to the possibility that we really don't need continued expansion and development along Cajalco. 4. Prove that any additional lighting on the project (construction lighting, street lights, and intersection lights) will not negatively affect people, their homes, or animals, especially birds. 5. Prove that traffic patterns will be significantly improved with the new road considering that expansion will not continue as projected in the plans that originally indicated the new road was necessary. 6. Prove that there will be no degradation of the existing water table due to construction-related activities or to the future increase in traffic. MWD indicates that the increase in toxic chemicals in the water table due to the construction of the flood control channel and flood basin is measurable and cannot be cleaned up or mitigated. MWD advised Animazonia not to swim in, irrigate with, or drink the water pumped up from its well into the small pond on the property. What are the expected effects of the project, how will water table pollution be affected, and what will be done to mitigate it? 7. Prove that the land set aside for the SKR HCP in the local area will not be negatively affected by the project and what will be done to mitigate any impact. 8. Prove that existing wild animal and plant species will not be negatively affected by the construction itself or the finished project and what will be done to mitigate it. 9. Prove that the proposed animal corridors will be effective to preserve the quantity and diversity of the wild animal populations in the area. Animal corridors have been proven to be highly unsuccessful in other areas, because predators quickly learn to stalk prey when they emerge from the corridors. 10. Prove that there will be no increase in wildfire danger from the increased traffic, construction vehicles, or any other aspects of the project.

Date	Name / Affiliation	Comment Topics and Summary
		11. Prove that there will be no decrease in air quality along the road and address the air quality for all properties within 0.5 mile of the road both north and south, especially for those who will get the most direct pollution from the vehicles due to prevailing wind direction. Address what will be done to mitigate this. 12. Prove that the increase in air pollution from both the construction and the increased traffic will not harm the health or decrease the quality of life of the people and animals along the road and what steps will be taken to mitigate the harm. Vehicle emissions are a health hazard for people within a certain distance of a roadway. Especially concerned because Animazonia is within 100 feet. 13. Prove that the noise and vibration from both the construction and the final project will not diminish the quality of life or health for those along the project and what steps will be taken to mitigate this. 14. Prove that any soundwalls will not negatively affect the ambiance and rural nature of the area. Address the timing of building soundwalls because they are usually not built until after construction is done and therefore will not provide any protection during construction. 15. Prove that there will not be any reduction in the value of the land or houses along the corridor and address what will be done to mitigate any loss should it occur. 16. Prove that the loss of visual privacy to the residents along the project resulting from higher roadbeds and less protective screening from vegetation will not negatively affect the health, well-being, or property values of those living along the project and what will be done to mitigate this.
10/20/11	Cindy Jones Daverin, Habitat Manager, El Sobrante Landfill	*Comment topic:* Design/Configuration The IS does not mention that Alternative 2 proposes to take land that is part of the El Sobrante Landfill Preserve and does not address this impact. The El Sobrante Landfill has an HCP that was finalized in 2001. A portion of the land proposed to be affected under Alternative 2 is in the El Sobrante Preserve. The El Sobrante Preserve provides habitat for the benefit of 31 sensitive species that are HCP Covered Species. The direct and indirect impacts on the 31 Covered Species, the replacement of El Sobrante HCP mitigation lands, and the costs for amending the El Sobrante HCP would need to be addressed. The costs associated with this would need to be addressed and provided by the project proponent.
10/20/11	Jim Rossi, President, San Jacinto Chamber of Commerce	*Comment topic*: Design/Configuration The San Jacinto Chamber of Commerce feels that the need still exists for a regional transportation corridor between the Corona area and the San Jacinto Valley. However, in order to meet the needs of the RCIP and CETAP and to be a true catalyst of economic development, a number of features must be incorporated into the project. These include the following: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate not less than six lanes of traffic per the County General Plan and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP. If the project is developed without these considerations, it will not meet the RCIP and the CETAP goals. Furthermore, it would likely not function as a true

Date	Name / Affiliation	Comment Topics and Summary
		regional corridor capable of alleviating the traffic pressures experienced by other east-west corridors. Finally, without these design and construction considerations, economic development opportunities in the San Jacinto Valley, Winchester, Homeland, Romoland, Nuevo, East Lake, Perris, Moreno Valley, and Menifee will be severely affected.
10/20/11	City of San Jacinto	Comment topic: Design/Configuration The San Jacinto City Council supports the project subject to the following conditions: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project. 2. Develop phasing that ensures equity in the funding and capacity on the proposed project and MCP project. 3. Design and construct the project so that it can be expanded to accommodate no less than six lanes of traffic. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure traffic can flow without significant impediments and in the most expeditious manner.
10/20/11	Richard Miller, City Clerk, City of San Jacinto	*Comment topic*: General/Other The CETAP as part of the RCIP indicates that there will be such extensive regional traffic that an internal transportation corridor linking the Corona area to the San Jacinto Valley will be necessary. The City Council of the City of San Jacinto supports the proposed project subject to the following conditions: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per Riverside County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate no less than six lanes of traffic per the County General Plan and in conformance with the Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP.
10/20/11	Susan Nash, President, Friends of the Northern San Jacinto Valley	*Comment topic:* General/Other Concerned Caltrans is incorrectly implementing the delegated NEPA responsibilities by proceeding with an Environmental Assessment initially for this project instead of the NEPA-mandated EIS. NEPA clearly requires federal agencies to prepare an EIS for actions “significantly affecting the quality of the human environment.” The County and Caltrans have already made a “significant affect” determination via the CEQA IS that this project will significantly affect the environment, requiring a state-mandated EIR. (CEQA IS is equivalent to the NEPA Environmental Assessment.) Consequently, believes the public will be better served by the actual consultation and cooperation of County, state, and federal agencies implementing these environmental protection laws concurrently rather than consecutively; both CEQA and NEPA recommend and encourage this approach to project environmental review. Final concern is that the Draft EIR/EIS give required consideration to global warming. Climate change and its adverse environmental impacts are accelerating. In what ways will the Cajalco project directly, indirectly, and cumulatively contribute to this adverse environmental impact? How will this project mitigate for this adverse environmental impact?

Date	Name / Affiliation	Comment Topics and Summary
10/20/11	Friends of the Northern San Jacinto Valley	*Comment topic:* Environmental Impacts Concerned about the significant adverse impacts of the Cajalco project's noise and light on sensitive wildlife habitats. Noise and light pollution generated from the new or improved roadway will render WRC MSHCP lands unsuitable for many species, particularly the nocturnal SKR. Complete avoidance of noise and light intrusion onto WRC MSHCP conservation lands is the preferred mitigation for these impacts. Should the new roadway intrude into or be situated adjacent to WRC MSHCP lands, recommend consideration of earthen berms of sufficient stature to prevent unwanted noise and light intrusion into these sensitive wildlife conservation lands.
10/20/11	Ileene Anderson, Biologist/Public Lands Desert Director, Center for Biological Diversity	*Comment topic:* Environmental Impacts A majority of this site falls within the Lake Mathews-Estelle Mountain Reserve. This area is designated as an Important Bird Area, a reserve area for the federally and state-listed as endangered SKR, a reserve established under the LM MSHCP, and is a Core Reserve for the WRC MSHCP. The expansion of Cajalco Road must be carefully designed to avoid sensitive resources, minimize impacts, and substantially mitigate any impacts. In light of the sensitive nature of the proposed project area, not only should an EIR be produced under CEQA, but also an EIS not an Environmental Assessment should be produced under NEPA. Also the lead NEPA agency is unclear and should be clearly stated in the EIS. The conservation organizations request that thorough, seasonal surveys be performed for sensitive plant species and vegetation communities and animal species under the direction and supervision of the land management and resource agencies such as USFWS and CDFW. The conservation organizations request that the vegetation maps be at a large enough scale to be useful for evaluating the impacts. Adequate surveys covering all likely seasons in likely conditions must be implemented. The EIR/EIS must evaluate all direct, indirect, and cumulative impacts on sensitive habitats, including impacts associated with permitted and unpermitted recreational activities, introduction of nonnative plants, introduction of lighting and noise, creation of potential barriers to wildlife connectivity, and loss and disruption of essential habitat due to edge effects.
10/20/11	J. Marconi	*Comment topic:* Design/Configuration 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate not less than six lanes of traffic per the County General Plan and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP.
10/20/11	Robert and Candelaria Chandler	*Comment topic:* Property Impacts, Safety, General/Other House is about 100 feet away from the road and up on a hill; building is on permanent foundation about 50 feet from the road. Driveway is very steep; the 1.1-acre property is multi-level. Concern is driveway approach and ingress. Also concerned that a block/retaining wall will be needed to keep the land from sliding into the new road, especially during heavy rain. Current water lines run parallel with the road and water meter is two lots to the west. Will the water meter be relocated to the front of the property? There is a telephone pole located in the driveway; understand this will be relocated and adjusted. Will street lights be placed along the road as well?

Date	Name / Affiliation	Comment Topics and Summary
		Detailed sketches of the center median and possible turn-outs in the road indicate there will be an opening at Anderson; why not Decker? Have seen more accidents at the Decker intersection. Because there will be a center median in front of the driveway, how will we turn into the driveway going eastbound? The nearest turn-out would be Decker. Informed at the public meeting on September 29 that the speed limit may be raised. Even though the limit is currently posted at 50 mph on Cajalco Road, cars and big rigs drive 60 to 70 mph. Raising the limit would allow them to drive even faster. Property is 1.1 acre. Would the property size be considered? Would property taxes and property value be adjusted or affected? Can and will digital speed limit monitors be placed to inform drivers of their speed? Getting in and out of the driveway is biggest concern. Prevented from turning left toward I-215 by the center median. Inconvenient to always turn right and find another way to turn around to go back to I-215, not to mention the extra gas to always go around the block, which isn't a short or small area. Own two trailers and doing a U-turn at the next intersection (Clark) isn't possible. Will other side roads be paved to allow for this? To turn right and get to I-215, would have to turn right at Clark, then again at Markham, then to Harvill, and go all the way around to get to I-215. Constant back-tracking. Wants to be notified as changes are made to this project.
10/20/11	David L. Kepke	*Comment topic:* Design/Configuration, Project Support Supports option 1, the one that closely follows the existing path and has the bridge that eliminates one of the big curves around the lake. Supports the divided median. Advocates for a horse trail/bike path separate from the highway on the lake side of the highway.
10/20/11	Leslie Dale	*Comment topic:* General/Other, Project Support Supports proposal 1 because it will be the least expensive and best option for stakeholders' tax money.
10/20/11	Nathan	*Comment topic:* General/Other, Environmental Impacts Supports proposal 1 because it has the least impact on the area in the existing spot. Proposal 2 has some big curves that could potentially cause more collisions on an already dangerous road. Also supports a two-lane median, as future expansion would be less intrusive. Would like to see a trail separate from the expressway. Has a concern with potential lighting and would like to see a fully proposed design of potential lighting and the impact it may have on the environment, sensitive habitats, and the community as a whole. What would the zoning be for signage?
10/20/11	Paula Vice	*Comment topic:* General/Other, Project Support Supports the project, mostly for safety reasons. Has had two close calls of being hit head-on due to vehicles passing in unsafe conditions.
10/20/11	Michael Fred Allen	*Comment topic:* General/Other Thinks project team should develop the project with all the considerations necessary to meet the goals of the RCIP and the CETAP.
10/20/11	Matt Davis, Geographic Information Systems (GIS) Specialist, BLM Palm Springs - South Coast Field Office	*Comment topic:* General/Other Requesting GIS files used to create the PDF maps on the project's webpage.

Date	Name / Affiliation	Comment Topics and Summary
10/20/11	Harold Gotts	*Comment topic:* Property Impacts Property will be affected by the present configuration of the roadway. Property owner's water well will be in the area that is required. The driveway to the property will be rendered unusable if entering property from the west. Will have to drive east a quarter of a mile and make a U-turn on this high-speed four-lane highway. Property owner has a 34-foot trailer. This widening would also affect the resident to the west, as the water wells are in the same area. Thinks an alignment to the north of these lots would be a better route.
10/20/11	Susan Sturges, Life Scientist, Region 9, EPA Environmental Review Office	*Comment topic:* General/Other Add to Cajalco Project mailing list.
10/21/11	Linda Riley	*Comment topic:* Property Impacts Supporters of the project are disregarding impacts that would be experienced by those that live facing Cajalco Road. The County has previously referred to Cajalco Road as the future trucking route; the growing numbers of warehouses/ distribution centers going in on the eastern end of Cajalco Road will destroy the clean air and quiet existence. The prevailing winds will carry the traffic fumes and sound straight to homes. Was not aware expansion of Cajalco Road would provide a trucking route to distribution centers. Riverside County planners do not understand or care about how much permanent damage this business will do to Riverside's future and are paving the way to Riverside being viewed as a permanent low wage, polluted area like Mira Loma. Will there ever be a time when the planners will make a decision that will actually benefit existing tax-paying residents over big corporate money?
10/21/11	Anna M. Hoover, Cultural Analysis, Pechanga Band of Luiseño Mission Indians	*Comment topic:* Environmental Impacts, Cultural Resources The Pechanga Band of Luiseño Indians, "the Tribe," requests to be directly notified of all public hearings and scheduled approvals concerning this project. The County, Caltrans, and FHWA must include involvement of and consultation with the Tribe in its environmental review process. The project passes through at least one known Luiseño village complex/archaeological district and potentially several other activity areas. Because the Tribe retains cultural information that archaeologists do not necessarily have access to, it is imperative that the County continues consultation with the Tribe. In order to comply with CEQA, NEPA, and other applicable federal and California laws, it is imperative that the County, Caltrans, and FHWA consult with the Tribe in order to guarantee an adequate basis of knowledge for an appropriate evaluation of the project effects, as well as generating adequate mitigation measures. The Tribe asserts that the project Area of Potential Effects (APE) is part of Luiseño, and therefore the Tribe's, aboriginal territory. The Tribe welcomes the opportunity to meet with the County, Caltrans, and FHWA to further explain and provide documentation concerning its specific cultural affiliation to lands within your jurisdiction. The proposed project and the alternatives are in a highly sensitive region of Luiseño territory and the Tribe knows that subsurface resources will be recovered during ground-disturbing activities. The Tribe has much more information than can be provided in this letter and requests to continue consultation with the County, Caltrans, and FHWA to provide these sensitive and important data. Given the sensitivity of the area, inadvertent discoveries are foreseeable impacts and should be appropriately mitigated for within the confines of the project. The Tribe is not opposed to this project and, in fact, appreciates the improvements that are proposed for Cajalco Road, so long as they do not subvert County conditions of approval and mitigation measures already in place for the protection of certain cultural sites in perpetuity. The Tribe's primary concerns stem from the project's proposed impacts on Native American cultural resources. The Tribe is concerned about both the protection of unique and

Date	Name / Affiliation	Comment Topics and Summary
		irreplaceable cultural resources, such as Luiseño village sites, sacred sites, and archaeological items that would be displaced by ground-disturbing work on the project, and about the proper and lawful treatment of cultural items, Native American human remains, and sacred items likely to be discovered in the course of the work. The Tribe requests to continue to be involved and participate with the County, Caltrans, and FHWA in ensuring that an adequate environmental assessment is completed, and in developing all monitoring and mitigation plans and measures for the duration of the project. In addition, given the sensitivity of the project area, it is the position of the Tribe that Pechanga tribal monitors be required to be present during all ground-disturbing activities conducted in connection with the project, including any archaeological surveys and excavations performed. The Tribe believes that adequate cultural resources assessments and management must always include a component that addresses inadvertent discoveries. The Tribe believes that if human remains are discovered, state law would apply and the mitigation measures for the permit must account for this. The Tribe is requesting further meetings and consultations to develop appropriate mitigation to specifically address impacts on any sites or resources found during the archaeological site assessments. The Tribe asks that, at a minimum, the County include all mitigation from the Boulder Springs Specific Plan and Gavilan Hills Specific Plan regarding the protection and preservation of cultural sites that have the potential to be affected by the project, as well as the following mitigation measures in its environmental assessment documents: MM 1: Prior to beginning project construction, the project applicant shall retain a Riverside County qualified archaeologist. Any newly discovered cultural resource deposits shall be subject to a cultural resources evaluation. MM 2: At least 30 days prior to beginning construction, the project applicant shall contact the Pechanga Tribe to notify the Tribe of grading, excavation, and the monitoring program, and to coordinate between the County and the Tribe to develop a Cultural Resource Treatment and Monitoring Agreement. MM 3: Prior to beginning project construction, the project archaeologist shall file a pre-grading report with the County (if required) to document the proposed methodology for grading activity observation. Tribal monitors shall be allowed to monitor all grading, excavation, and groundbreaking activities, and shall also have the authority to stop and redirect grading activities in consultation with the project archaeologist. MM 4: If human remains are encountered, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. If the Riverside County Coroner determines the remains to be Native American, the NAHC must be contacted within 24 hours. MM 5: The landowner shall relinquish ownership of all cultural resources, including sacred items, burial goods, and all archaeological artifacts that are found on the project site to the appropriate tribe for proper treatment and disposition. MM 6: All sacred sites, should they be encountered within the project area, shall be avoided and preserved as the preferred mitigation, if feasible. MM 7: If inadvertent discoveries of subsurface archaeological/cultural resources are discovered during grading, the developer, the project archaeologist, and the Tribe shall assess the significance of such resources and shall meet and confer regarding the mitigation for such resources. If the developer, the project archaeologist, and the Tribe cannot agree on the significance or the mitigation for such resources, these issues will be presented to the planning director for decision. Notwithstanding any other rights available under the law, the decision of the planning director shall be appealable to the Planning Commission and/or Board of Supervisors. The Tribe reserves the right to fully participate in the environmental review process, as well as to provide further comment of the project's impacts on cultural resources and potential mitigation for such impacts. Furthermore, the

Date	Name / Affiliation	Comment Topics and Summary
		Tribe reserves the right to participate in the regulatory process and provide comment on issues pertaining to the regulatory process and project approval.
10/21/11	Andrew F. Kotyuk	*Comment topic:* Design/Configuration The need still exists for a regional transportation corridor between the Corona area and the San Jacinto Valley. As such, the County has initiated the process to widen Cajalco Road to serve as that facility. In order for that facility to meet the needs of the RCIP and CETAP, and to be a true catalyst of economic development, a number of features must be incorporated into the project. These include the following: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per Riverside County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate not less than six lanes of traffic per the County General Plan and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP. If the project is developed without these considerations, it will not meet the RCIP and the CETAP goals. Furthermore, it would likely not function as a true regional corridor capable of alleviating the traffic pressures experienced by other east-west corridors. Finally, without these design and construction considerations, economic development opportunities in the San Jacinto Valley, Winchester, Homeland, Romoland, Nuevo, East Lake, Perris, Moreno Valley, and Menifee will be severely affected.
10/21/11	Muriel Dufresne	*Comment topic:* Design/Configuration The need still exists for a regional transportation corridor between the Corona area and the San Jacinto Valley. As such, the County has initiated the process to widen Cajalco Road to serve as that facility. In order for that facility to meet the needs of the RCIP and CETAP, and to be a true catalyst of economic development, a number of features must be incorporated into the project. These include the following: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP Project in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate not less than six lanes of traffic per the County General Plan and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP. If the project is developed without these considerations, it will not meet the RCIP and the CETAP goals. Furthermore, it would likely not function as a true regional corridor capable of alleviating the traffic pressures experienced by other east-west corridors. Finally, without these design and construction considerations, economic development opportunities in the San Jacinto Valley, Winchester, Homeland, Romoland, Nuevo, East Lake, Perris, Moreno Valley, and Menifee will be severely affected.

Date	Name / Affiliation	Comment Topics and Summary
10/21/11	Lori M. Stone Executive Director March JPS	*Comment topic:* Design/Configuration The March JPA, in partnership with its member agencies, believes that this project is a key economic catalyst for the future of the San Jacinto Valley and Perris Valley corridors. The widening of Cajalco Road to connect these two valleys will serve to alleviate traffic congestion, increase economic development opportunities, and meet the goals of the RCIP and CETAP. In order to achieve the objectives of the RCIP and CETAP, the March JPA recommends the following features be incorporated into the project: 1. Design and construct the project in a manner that is complementary to and an extension of the MCP Project per County Policy SJVAP 13.1 Hemet to Corona/Lake Elsinore CETAP corridor in accordance with the CETAP Corridors section of the County General Plan Circulation Element. 2. Develop phasing for the proposed project and MCP in such a way that ensures equity in the funding and capacity on each project. 3. Design and construct the project so that it can be expanded to accommodate no less than six lanes of traffic per the County General Plan, and in conformance with Caltrans Highway Design Manual standards. 4. Design and construct the project in recognition that the facility is regional in nature. 5. Design and construct the project to ensure that traffic can flow without significant impediments and in the most expeditious manner per the County RTIP. With inclusion of the above features, the March JPA is confident that this project will be a significant benefit to Perris and San Jacinto Valley, and fully supports the County in its efforts.
10/21/11	Linda Riely	*Comment topic:* Noise, Air Quality The prevailing winds will carry the traffic fumes and sound straight to homes.
10/21/11	John Roth	*Comment topic:* General/Other, Environmental Impacts, Design/Configuration Provided a cover letter and three disks containing comments related to the MCP Project. Believes that some of the alignments are either the same or very similar to the alignments proposed for the expansion of Cajalco Road and many of the comments should be considered for the expansion. General comments: 1. Right of way is expensive and becomes more so over time. Every effort should be made to acquire as much right of way as possible for later expansions as new projects are approved in the Hemet/San Jacinto, Lakeview/Nuevo, and Perris areas. 2. To the maximum extent possible, use the existing Cajalco Road right of way. Repeatedly stressed this point in comments relative to the MCP Project; it makes sense to reduce the economic costs of procuring additional right of way. Alternative 1 of the proposed project is the best because it uses existing right of way and is the shortest distance between I-215 and I-15. A trail adjacent to the road is a dangerous idea and could create additional liability for the County. Recommends working with MWD to secure trail right of way separate from the actual roadbed. Presume that MWD would not want the liability and maintenance of the trail, so the County would have to offer something that showed MWD as a major player in the ongoing development of Riverside County. Any publicity that would be positive for MWD might sway it but negotiations will be very difficult. Recommends four lanes with a two-lane expansion median the entire length of Cajalco Road. The expansion median would serve the purpose of providing additional lanes in the future. It would also provide rationale to change the name of the road from “Cajalco Expressway,” which connotes a sterile strip of asphalt or concrete, to the “Cajalco Parkway.” Naming the three segments of the project could have some value, such as naming the second (middle) section the Metropolitan Parkway to acknowledge MWD’s contribution to the project.

Date	Name / Affiliation	Comment Topics and Summary
10/21/11	Lynn K. & Nancy L. Higbee	*Comment topic:* Environmental Impacts Little concern or attention is paid in the recent NOP for the proposed project to the severe effects this project will have on commenters' rural community. Voluntary lack of street lights currently provides quiet nights and skies dark enough to enjoy the stars. Commenters' quality of life will be destroyed by this project by substantially raising noise levels and adding a tremendous amount of light pollution, adding more stress. Will substantially damage the two reserves it will cut through. This project has nothing to do with traffic or safety on Cajalco Road. It has everything to do with promoting growth in Hemet, Moreno Valley, and San Jacinto and with traffic in the City of Riverside. Cajalco Road was not mentioned in the recent article in the Press-Enterprise listing the most congested roads in Riverside County in need of improvement. State Route 76 in San Diego County and Los Osos Valley Road in San Luis Obispo County have much more traffic than Cajalco Road. When Cajalco Road approaches the traffic load of either of these examples it might warrant consideration for more improvements. There are no traffic jams on Cajalco Road except those caused by semi-trucks, which should be restricted from using it. This project has nothing to do with Cajalco Road and everything to do with State Route 91 because of previous poor planning decisions and the lack of mass transit in this area.
10/21/11	George Hague, Conservation Chair, Sierra Club, Moreno Valley Group	*Comment topic:* Environmental Impacts, Air Quality, Design/Configuration, Other What is the alternative to have a trail for horses near Cajalco Road? Will there be any staging areas provided for horses? How will these proposed trails affect biological resources? The Draft EIR needs to show the best places for trails to help the area remain rural. There needs to be viable over- and undercrossings for both the largest of predators and the smallest of prey. Because most experts believe you cannot have human activity near or intersecting these animal crossings, how can you have trails for humans/horses next to this planned expansion? The Draft EIR needs to show the design of these animal crossings as well as each location for the different designs along the entire Cajalco Road. These same diagrams need to include where the trail system for humans would be located. The document needs to fully analyze the impacts of k-rails, medians, and fencing on the animal populations in the area as well as those who just occasionally move through. The Draft EIR needs to have clear representation of where these k-rails, medians, and fences will be located at different phases of the project along the entire length of Cajalco Road. How will you mitigate for the "dead zones" caused by the expansion of Cajalco Road? These are places that animals try to avoid because of the noise, pollution, vibration, and lights. Some may call these indirect impacts, but the Sierra Club calls them direct impacts caused by the road. How far will these dead zones reach beyond the Cajalco Road expansion right of way and also pavement? Will animals nest in and repopulate these zones? The Draft EIR needs to show the locations of staging areas for construction equipment, supplies, temporary buildings, and building materials and the biological impacts from these staging areas. How will you eliminate light pollution from both overhead lights and traffic? The document needs to explain how this will cause predation of different species such as the SKR. How will the project make up for the increase of predation of this endangered animal by the decades of increased light pollution? Please look into International Dark Sky Standards and try to apply many of those ideas. How and where will you supply viable lands that mitigate for the loss of habitat? Will it be nearby or many miles away? How will the Draft EIR be able to show replacement habitat and will it be at least a two-for-one mitigation? What happens if MWD doesn't open the LM MSHCP? The Sierra Club expects to be notified when they do open the LM MSHCP. The Draft EIR needs to fully explain how the air quality degradation caused by this widening will affect plan and animal life—especially but not limited to those that are threatened/endangered—or it will be inadequate.

Date	Name / Affiliation	Comment Topics and Summary
		The Draft EIR must show where, as well as how, Cajalco Road and the MCP will meet to make for a continuous road. How will I-215 and the Ramona Expressway work with these other two roadways? The analysis of all impacts must be done with the maximum traffic expected on these four roads mentioned above along with those that feed into them. The Irvine-Corona Expressway needs to be factored into the Draft EIR's analysis, because it is in the present Riverside County General Plan and is a logical extension to this expansion. Does this Draft EIR deal with any roadway on the west side of I-15 and if so, why? How will I-15 handle the ultimate widening/improvements of Cajalco Road? The Draft EIR needs to compare the present traffic on I-15 with what will happen between the Cajalco Road connection and State Route 91. How will this project accommodate mass transit and public transportation? Will this be something that is built into the first phases of the project or must we wait many years? How will bicycle lanes be provided and again will they be provided in the first phases? Which roads will be downgraded? Are there any near Lake Mathews that will have fewer lanes and when? What changes to roads that are/will connect to Cajalco Road are being proposed for the General Plan Update that are different than the current Riverside County General Plan? The area in which this widening would take place is mainly rural, but it appears the only way pedestrians will be accommodated is by future development. This will mean much higher density. Is your traffic analysis based on current land zoning or what always happens to rural zoning when roadways like this are built? This rural area has a significant number of horse riders. How will a horse trail next to a six-lane road be viable? Will the horses be able to handle all the noise, lights, vibration, and pollution of this goods movement corridor? How can you prove they will? What is your alternative to having a trail for horses near Cajalco Road? Will there be any staging areas provided for horses? How will these proposed trails affect biological resources? The Draft EIR needs to show the best places for trails to help the area remain rural.
10/21/11	Joseph B. Lewis, Director of Engineering Services, EMWD	*Comment topic:* Design/Configuration EMWD has existing facilities in the area of the proposed project including potable water appurtenances along Cajalco Road west of I-215 to Alexander Street; Clark Street Sewer Lift Station at the intersection of Clark Street and Cajalco Road; Cajalco Tank at 23337 Cajalco Road; and Mead Valley Pump Station at 22555 Cajalco Road. In order to avoid potential conflicts with EMWD's facilities and rights of way EMWD requests that any preliminary engineering design drawings or improvement plans for any activity in the area of EMWD's facilities, pipelines, and rights of way be submitted for EMWD review and written approval. All submitted designs or plans must clearly identify EMWD's existing and planned facilities and rights of way. Contact EMWD to obtain further information regarding EMWD's facilities.
10/21/11	Deirdre West, Manager, Environmental Planning Team, MWD	*Comment topic:* Design/Configuration MWD currently owns and operates several facilities within or in the vicinity of the area described in the NOP-EIR, including Lake Mathews, Cajalco Creek Dam and Detention Basin, Lake Mathews Sediment Basins, Colorado River Aqueduct Val Verde Tunnel, Upper Feeder pipeline, Lower Feeder pipeline, and Lake Perris Bypass pipeline and pump-back facilities. In addition, MWD's approved but not-yet constructed Central Pool Augmentation pipeline and treatment plant are within or adjacent to the boundaries of the proposed area. Furthermore, MWD maintains ownership of and jointly manages the Lake Mathews Multiple Species Reserve and mitigation bank, established and managed under the terms of the LM MSHCP and Cooperative Management Agreement among MWD, CDFW, USFWS, and RCHCA; a Conservation Easement recorded by the County and held by RCHCA; and an underlying MOU among MWD, the California Department of Water Resources, and CDFW. The use of MWD-owned property for the proposed project requires the approval of MWD. For that reason, MWD must be included in the EIR as a Responsible Agency for purposes of CEQA.

Date	Name / Affiliation	Comment Topics and Summary
		MWD recognizes that the proposed project is a distinctly different project than RCTC's MCP Project; however, many of the same issues that were identified for that project would also apply to the proposed project. Similar issues of concern to MWD regarding this project pertain to alignment, design, construction, and operation of a major transportation facility within or adjacent to MWD's property outside the existing Cajalco Road right of way. These issues include but are not limited to: 1. Impacts on LM MSHCP Reserve lands, including direct and indirect impacts on covered species and habitats. 2. Consistency of the project with existing Reserve-related agreements for mitigation banking and long-term protection of sensitive threatened and endangered species. 3. Impacts on the Lake Mathews watershed, specifically impacts on the quality of water entering Lake Mathews. 4. Inclusion of the requirements stated in the Lake Mathews Drainage Water Quality Management Plan, a joint agreement among MWD, the County, and RCFCWCD. 5. Security of MWD land and facilities. 6. Impacts on MWD operational facilities and rights of way. Any proposed use of MWD's Lake Mathews fee property outside the existing Cajalco Road right of way to accommodate the proposed road realignment and widening project will need a formal request for the proposed project. This request should be submitted to Mr. Sherman Hom of our Real Property Development and Management Group, As previously stated, MWD has particular concerns with any project that would adversely affect or encroach upon the LM MSHCP Reserve lands, as these Reserve lands provide the basis for MWD's compliance with the federal and state Endangered Species Acts. MWD advises the County to review and assess the proposed project and legal ramifications associated with modifications to the LM MSHCP and related agreements to fully understand and consider the importance of maintaining the integrity of the Reserve lands and agreements in compliance with federal and state law. The County should note that existing agreements allow only for the addition of species or lands to the LM MSHCP for protection, not for removing or exchanging species or lands. Any changes to the LM MSHCP and related agreements would require the approval of all signatories to those agreements; as such, the County would need to address the plausibility of modifying the LM MSHCP given the constraints outlined in the legal documents that established the Reserve and provide for its current and future management. As a signatory agency and trustee agency for wildlife purposes, CDFW must be included as a Responsible Agency for CEQA purposes, as well as for ensuring compliance with the California Endangered Species Act. MWD also has critical engineering issues related to the protection of its existing facilities and to the operation and maintenance of its water distribution system. MWD has particular concerns over the potential impact from the widening of Cajalco Road on the Cajalco Dam and Detention Basin and Lake Mathews Sediment Basin along Cajalco Road. Changes to the existing Cajalco Road elevation or width can affect the operational requirements of the Cajalco Dam and Detention Basin (including water impound capacity and access for sediment removal and general maintenance), which would be unacceptable. Portions of the Cajalco Dam and Detention Basin are under the jurisdiction of the Division of Safety of Dams. Modifications required by the Division of Safety of Dams may affect the operational requirements of the facility and could be unacceptable. Changes to the drainage system along Cajalco Road could result in flooding on MWD properties, potentially affecting facility operations. Please be advised that extensive engineering and geotechnical work will need to be undertaken to ensure that the location and operation system will not restrict or constrain MWD's ability to maintain, operate, replace, or add facilities along its right of way. Where mitigation of potential impacts on facilities would not be possible, realignment of the project might be required. MWD requests

Date	Name / Affiliation	Comment Topics and Summary
		that its facilities and rights of way be fully shown and identified as MWD's in the EIR and on project plans and that prints of the plans and pertinent environmental documentation be submitted for review and written approval as they pertain to MWD rights of way.
10/24/11	Glenn Robertson, CEQA Coordinator, California RWQCB, Santa Ana Region (8)	*Comment topic:* General/Other RWQCB and staff reviewed and generated some notes on this anticipated highway project and route alternatives (Temescal Canyon, Gavilan Plateau) but will apply them to the next phase of CEQA, the EIR. RWQCB was unable to provide comments during the NOP comment phase that ended October 5. However, RWQCB looks forward to working with the County in the near future on the Cajalco Road EIR, 401 Certification (as stated for the route, including Bridge at Temescal Wash), stormwater runoff permitting, and any other issues.

5.2.3 October 2012 NEPA Public Scoping Meetings

Two NEPA public scoping meetings were held in October 2012 in conjunction with the NEPA NOI scoping period, September 26, 2012, through October 28, 2012. The first meeting was held at 6:00 p.m. on Wednesday, October 24, 2012, at Lake Mathews Elementary School in Riverside, and the second was held at 6:00 p.m. on Thursday, October 25, 2012, at Tomas Rivera Middle School in Perris. In addition to the two NEPA public scoping meetings, Caltrans distributed letters to all cooperating and participating agencies inviting them to attend a meeting on October 24, 2012. The agency scoping meeting was held at 1:00 p.m. on Wednesday, October 24, 2012, at Lake Mathews Fire Station #4 (16453 El Sobrante Road, Riverside, CA 92503). The purpose of the meeting was to discuss the purpose and need and range of alternatives for the project and solicit agency comments. Representatives from the Cities of Perris and San Jacinto, Riverside County Waste Management Department, March JPA, and WMWD were in attendance.

Responses to the NOI, including comments submitted during the public scoping meetings, are summarized in Table 5-6.

Table 5-6. NEPA Scoping Summary – September 26 through October 28, 2012

Date	Name / Affiliation	Comment Topics and Summary
9/26/12	Brett Cochrane	*Comment topic:* General/Other Add to Cajalco Project mailing list.
9/26/12	Nancy Higbee San Bernardino Audubon Society 21230 Onaknoll Drive Perris, CA 92570	*Comment topic:* General/Other Add to Cajalco Project mailing list.
9/26/12	Susan Nash, President Friends of the Northern San Jacinto Valley P.O. Box 4036 Idyllwild, CA	*Comment topic:* General/Other Add to Cajalco Project mailing list.
10/4/12	John H. Semcken, III Vice President Majestic Realty Co. 13191 Crossroads Parkway North, 6th Floor City of Industry, CA 91746	*Comment topic:* General/Other Requested plans for the widening of Cajalco Road leading up to the bridge along the business property; requested information on these improvements.

Date	Name / Affiliation	Comment Topics and Summary
10/5/12	John H. Semcken, III Vice President Majestic Realty Co. 13191 Crossroads Parkway North, 6th Floor City of Industry, CA 91746	*Comment topic:* General/Other Requested current information.
10/5/12	Deirdre West Manager, Environmental Planning Team MWD	*Comment topic:* Environmental Impacts Request that EIS include detailed assessment of direct and indirect impacts on MWD's facilities as a result of the project.
10/6/12	Linda Riley	*Comment topic:* Property Impacts, Environmental Impacts, Noise Concerned about the Cajalco Road trucking route and diesel fumes, particle pollution, and nonstop noise from the big rigs occurring as a result of growth of warehouses and approval of mega warehouses. Feels the public meetings are ineffective, referencing meetings held for the DHL project even though the forms for the warehouse were already poured and public input was disregarded. Feels the County bows to developers and disregards residents.
10/9/12	Robert Howard	*Comment topic:* General/Other Add to Cajalco Project mailing list.
10/12/12	Joseph Forkert for Rosemary Hamill AT&T (Long Distance) Forkert Engineering & Surveying, Inc. 22311 Brookhurst Street, #203 Huntington Beach, CA 92646	*Comment topic:* General/Other, Design/Configuration Possible conflict with the project and Transcontinental Fiber Optic Cable.
10/15/12	John R Burroughs, LEED AP President Majestic Realty Co. 13191 Crossroads Parkway North, 6th Floor City of Industry, CA 91746	*Comment topic:* General/Other Follow-up email regarding John Semcken's request from 10/5/12.
10/24/12	Judy Heilman	*Comment topic:* General/Other Would like to know about the 10/24/12 meeting. Does not want to attend if it is a repeat of information.
10/24/12	Tom Bartels	*Comment topic:* Property Impacts, Traffic Concerned about traffic. What do you do about Dirt Road? There's not enough width.
10/24/12	Grace Ruga	*Comment topic:* Design/Configuration, Noise 1. Green – "Slope Varies" – Please clarify this ambiguous number? How wide and where are these measurements? 2. How is the hugely increased semi-truck traffic being addressed? Witnesses several (six to eight in a row) from 11 p.m. to 4 a.m. any weeknight on El Sobrante Road, La Sierra Avenue, and Cajalco Was told this project was needed to accommodate the increased truck traffic (projected to be second heaviest in the state, next to Harbor Freeway/Long Beach) because of March Air Force Base being turned into an air cargo facility. 3. Sound issues – semi brakes and down-shifting engine noise throw against the hillsides (El Sobrante/Cajalco/Gavilan Road areas).

Date	Name / Affiliation	Comment Topics and Summary
10/24/12	Winsley Hector	*Comment topic:* General/Other, Project Support Supports the project and Alternative 1 and hopes the project will proceed expeditiously. Would appreciate additional widening of El Sobrante Road.
10/24/12	Karla Downing	*Comment topic:* Design/Configuration Please send/email a more detailed map of the section between Temescal Canyon and where Alternatives 1 & 2 split at the west. Owns property near Eagle Canyon Road on Cajalco Road.
10/24/12	Gary Schultz	*Comment topic:* Design/Configuration Please send/email a more detailed map of the section between Temescal Canyon and where Alternatives 1 & 2 split at the west. Owns property near Eagle Canyon Road on Cajalco Road.
10/24/12	Josue M. Anguiano-Vega	*Comment topic:* Property Impacts Feels Alternative 1 makes more sense because it would create the least impact on the protected areas the project crosses. Disappointed the project won't start until 2015.
10/24/12	Serena Burnett Animazonia WildLife Foundation 173250 Kraemer Way Perris, CA 92570	*Comment topic:* Property Impacts, Environmental Impacts, Noise Proposes that the section between Smith Road and Gavilan Hills Road be widened to only 80 feet instead of 120 feet, as this area runs near the wildlife foundation. Any widening should be to the north, away from Animazonia property. Noise is the main issue to be addressed in the EIR. Address wildlife corridors in planning.
10/24/12	Myung Soo Lee	*Comment topic:* Noise, Environmental Impacts, Traffic, Property Impacts Supports Alternative 2 for the following reasons. 1. Alternative 1 would result in loss of part of property 2. Too many collisions 3. Noise 4. Air pollution
10/24/12	Annette Sapiano RAGLM	*Comment topic:* General/Other, Traffic Widening Cajalco Road to facilitate traffic between Orange County & Hemet/San Jacinto, Moreno Valley, etc., would not accomplish anything except more traffic on I-15 regardless of an extra lane or two between Cajalco Road and Ontario Avenue. Having a freeway every few miles parallel to each other is redundant; State Route 74 is better. However, Alternative 1 is less intrusive than Alternative 2.
10/24/12	Bob Pring	*Comment topic:* General/Other Prefers Alternative 1. Appreciates the connection between Dirt Road and Lake Mathews Drive, as it provides an important alternative exit route in case of fire.
10/24/12	John C. Davis	*Comment topic:* General/Other, Traffic, Design/Configuration Has concerns about the newly proposed connection at Lake Mathews Drive. This is a private small driveway that serves four large homes. Does not support making this into a legal size street for fire trucks and more traffic. Suggests moving up the hill and crossing over the vacant land area.

Date	Name / Affiliation	Comment Topics and Summary
10/24/12	Sandra Lee	*Comment topic:* Environmental Impacts, Noise, Traffic, Property Impacts Prefers Alternative 2 for the following reasons: 1. Needs good air due to stage 4 lung cancer 2. Less noise 3. No more car accidents in front of house 4. Property will remain as is
10/24/12	Roberta Reed	*Comment topic:* Traffic, Design/Configuration Traffic study: please consider truck traffic and ingress/egress from mining facilities just north of Temescal Canyon Road (south of Eagle Canyon Road). Please note that Eagle Canyon Road is a private road/private property with access to mine facilities only.
10/24/12	Vern Freeman	*Comment topic:* Design/Configuration Dirt Road is only 30 feet wide vs. 60-foot County standard. Northern area of 13703 Cajalco (JJ Lane) and adjacent 13735 (Schmidt) is a driveway, not a road. There are better options for this fire road with no impact on the local residents.
10/24/12	C. Thorne	*Comment topic:* Design/Configuration, Traffic Eastbound Cajalco Road will be able to turn left on Cowan (to commenter's house) or have to drive down Harley John Road to Scottsdale. Also, would fire trucks be impeded?
10/24/12	Travis Duet K-9 Companies 13703 J.J. Lane Perris, CA 92570	*Comment topic:* Design/Configuration, Property Impacts Dirt Road should not be used in either alternative. It affects pre-existing business that has maintained this road for 20 years.
10/24/12	Abigail Duet K-9 Companies 13703 J.J. Lane Perris, CA 92570	*Comment topic:* Property Impacts It creates a great deal of handicap using Dirt Road because of the business and residents involved. The project would hurt state revenue.
10/24/12	Jeffrey Radway	*Comment topic:* Property Impacts, Design/Configuration Lives on the corner of Cajalco Road & Dirt Road. Having Dirt Road as a second alternate road for the fire department is not good, because after going down the first road they will have to go through the K-9 business facility to continue on. The K-9 facility keeps the road gated and locked outside of business hours. It would be wise to have a second access road on the property east of Dirt Road down through the center, to allow a left turn before approaching the K-9 property. This would make more sense because there is more room to build.
10/24/12	Jerry Grell	*Comment topic:* Design/Configuration Requests extension of the bike path from Smith Road to Wood Road. Many bike races include going up La Sierra Avenue to Cajalco Road and then follow all the way to Wood Road.
10/24/12	Thomas & Pamela Molter	*Comment topic:* Project Support Supports Alternative 1, but does not support the "Design Option" shown in Alternative 1.
10/24/12	Susan Nash, President Friends of the Northern San Jacinto Valley P.O. Box 4036 Idyllwild, CA	*Comment topic:* General/Other, Traffic El Sobrante Road alternative must be discussed in detail; most traffic goes to State Route 91 rather than to I-15.

Date	Name / Affiliation	Comment Topics and Summary
10/25/12	Jane Gustafson	*Comment topic:* General/Other, Traffic Only "study" participants have benefited from development while the residents, commuters, or taxpayers have not over these past 20 years. Deaths, accidents, and 14,000 vehicles daily are supposed to impress the taxpayers but not the decision-makers?
10/25/12	Agapito Ortiz	*Comment topic:* Traffic, Safety, Project Support Supports the project because two-lane roads are needed due to the high number of accidents.
10/25/12	Eulalia Patino	*Comment topic:* Traffic Consider there have been a lot of accidents in the area of Cajalco Road and problems with accumulation of water that sinks on the major part of the streets of Cajalco. Would support the project if it is going to benefit residents.
10/25/12	Martin Alvarado	*Comment topic:* Project Support Supports the improvements to the area.
10/25/12	Raymundo Caballero	*Comment topic:* Traffic, Safety, Project Support Believes that it is a great idea to widen the road, considering that there have been a few accidents from the tight space. Understands that from Extravaganza in to Barton there will be no bike lanes available; recommends bike lanes for children to ride to school, for example, to Citrus Hill High School.
10/25/12	Miriam Cardenas	*Comment topic:* Design/Configuration Would like to know the proximity of the Alternative 2 highway to the El Sobrante wildlife preserve.
10/25/12	Michael Duval	*Comment topic:* Project Support In favor of moving forward. Either alternative is fine.
10/25/12	Maria G. Jimenez	*Comment topic:* General/Other, Traffic Need a signal light or stop sign on Cajalco Road/Alexander due to the high number of accidents.
10/25/12	Soila Trejo	*Comment topic:* Property Impacts, Design/Configuration, Traffic Placing a median on Cajalco Road will limit access to and egress from the commenter's property. Suggests that Marquez Road be paved so commenter can use that alternate route to access property. If Marquez Road cannot be paved, please do not place median.
10/25/12	Steven Trejo	*Comment topic:* Property Impacts, Design/Configuration, Traffic Placing a median will make it very hard to access commenter's property. Has large equipment and it will make it very hard to turn into property heading west; would have to park, block traffic, and open the entrance, which cause a huge problem with traffic. Please do not place median.
10/25/12	Warren Webb	*Comment topic:* Design/Configuration, Traffic Continue bike path (available for horse riders, too) east to Harvill. This is a rural area and still has horse traffic.
10/25/12	Dalton and Dulce Lyons	*Comment topic:* Property Impacts, Traffic Concerned that barber shop business on commenter's property would be affected due to access changes with a center divider.

Date	Name / Affiliation	Comment Topics and Summary
10/25/12	Jo Ann McAnlin	*Comment topic:* Air Quality, Environmental Impacts, Safety 1. Between Seaton and Decker, water backs up on the south side of Cajalco in a field and runs under the road across the front of commenter's property to Seaton. Needs to be addressed 2. Storage of equipment at Seaton/Cajalco is a health hazard for residents already flooded with diesel fumes every morning form the truck stop at Harvill/Cajalco. This is an air pollution problem.
10/25/12	Michelle Randall	*Comment topic:* General/Other Only one alternative is environmentally acceptable. No project alternative is not good. Alternative 2 is not a widening project; re-routing; environmental groups will oppose Alternative 2. Recommends Alternative 1.
10/25/12	Steve Trout	*Comment topic:* Noise, Air Quality, Project Support Looking forward to a safer road, less dust in the air. Hopefully quieter road. Wondering about masonry soundwalls for houses right on the main path. The semi-trucks run well into the night and howl with road noise.
10/25/12	Lee Cussins	*Comment topic:* Property Impacts, Noise, Traffic, Safety, Project Support Long-time resident of home about 0.5 mile north that overlooks Cajalco Road from Alexander to Wood Road. On this stretch there are no street lights and few control signs. Beginning about 3 a.m. hears cars, trucks, and motorcycles speeding to Orange County along with accidents and attendant emergency vehicles. The now-discarded freeway proposal was disliked by everyone, but the accident rate would have been better. Supports the project because of: 1. Improved lighting, road and berm widening, and control signage (speed limit signs and stop lights) 2. The flooding at Brown and Cajalco Road would be eliminated 3. Checkpoints could be legally built in to reduce DUI 4. Businesses would want to locate along a well-lighted and well-policed modern road (as opposed to now when people say "don't go to Mead Valley after dark")
10/25/12	Ralph Hoyte	*Comment topic*: General/Other, Project Support Supports Alternative 2. Requests to be placed on mailing list.
10/25/12	Gabrielle Restivo-Draim Also known as Gabrielle Restivo-DeGange	*Comment topic*: Property Impacts, Design/Configuration, Noise, Traffic, Safety, Environmental Impacts Refer to Section H.2.2.2 of Appendix H, *Environmental Review Coordination and Scoping*, for comment letter submitted at 10/25/12 scoping meeting.
10/26/12	Gabrielle Restivo-Draim Also known as Gabrielle Restivo-DeGange	*Comment topic*: General/Other Correction to earlier reference to 200-foot radius notification; 500 feet.
10/28/12	Judith Murdock	*Comment topic*: Design/Configuration Questioned necessity of project and secondary access between Dirt Road and Lake Mathews Drive for residences in the Hollis Lane/Lynette Lane area.
Comments received outside of NOI scoping period		
7/5/12	Adam Miller	*Comment topic:* General/Other Request to be placed on mailing list.
7/30/12	Gary J Hirdler	*Comment topic:* General/Other Request to be placed on mailing list.

Date	Name / Affiliation	Comment Topics and Summary
9/12/12	Alana Preston	*Comment topic:* General/Other Request to be placed on mailing list.
9/12/12	Keith Osborn, P.E. Principal	*Comment topic:* Design/Configuration Request for horizontal and vertical alignments along with related proposed roadway cross-sections for the portion of this roadway between Wood Road and Alexander Street.
9/20/12	John H. Semcken, III Vice President Majestic Realty Co. 13191 Crossroads Parkway North, 6th Floor City of Industry, CA 91746	*Comment topic:* Design/Configuration Requests copy of plans for the new Cajalco bridge.
10/29/12	Karly Payne, Administrative Assistant, Engineering Dept. Kinder Morgan	*Comment topic:* General/Other Letter stating no conflict. Refer to Section H.2.2.2 of Appendix H, *Environmental Review Coordination and Scoping*.
10/29/12	Debra Smith	*Comment topic:* Property Impacts, Design/Configuration New road should go below (south) of houses at Hollis Lane/Cajalco. Do not put new road between the houses and the lake or it will destroy the little lakeside community. Extend La Sierra Avenue to the new Cajalco Road.
10/30/12	James Dailey, Level 3, OSP Engineer So Cal	*Comment topic:* Design/Configuration Level 3 Communications has underground fiber optic structure on Cajalco Road running from Wood to Clark. Second structure running on Temescal Canyon Road at the Cajalco Road intersection. Once engineering progresses, please re-engage to ensure utility identified on the plans as protected in place.
10/30/12	Kathy Tegeler	*Comment topic:* General/Other Request to be added to mailing list.
10/30/12	Everett Price	*Comment topic:* General/Other Inquired about the Brown Street crossing construction.
10/30/12	Edward Araiza	*Comment topic:* General/Other Request to be added to mailing list.
10/30/12	Edward Cooper, Director, Riverside County Airport Land Use Commission	*Comment topic:* General/Other Riverside County Integrated Project General Plan was consistent with the 1984 Riverside County Airport Land Use Plan in 2003; if the proposed project does not require amendments to the General Plan or Specific Plans, then review by Airport Land Use Commission is not required.
11/1/12	Gail Barton, Principal Planner Brian Shomo, Natural Resources Manager, RCHCA 4080 Lemon Street, 12th Floor, Riverside, CA 92501	*Comment topic*: General/Other Requested that RCHCA become a participating agency on the proposed project. Also indicated that Brian Shomo will be the designated point of contact. He has also provided some broad comments that are consistent with comments that the RCHCA has provided to the County with regard to the project.
11/4/12	Mary Hunt	*Comment topic:* Property Impacts Letter to A. Burton with concerns regarding her property. Refer to Section H.2.2.2 of Appendix H, *Environmental Review Coordination and Scoping*, for full comments.
11/5/12	Dan Silver, Executive Director, Endangered Habitats League	*Comment topic:* Property Impacts, Environmental Impacts, Project Support Comments on the extension of La Sierra Avenue to Alternative 2, which would damage the reserve land, and requests removal of the extension of La Sierra Avenue.

Date	Name / Affiliation	Comment Topics and Summary
11/6/12	Rosalyn Squires, Transmission Pipeline Planning Assistant, Southern California Gas Company	*Comment topic:* General/Other Southern California Gas Company does not operate facilities within the proposed improvement; however, the Northern Distribution Region may have distribution facilities within the construction area.
11/6/12	Susan Nash, President, Friends of the Northern San Jacinto Valley P.O. Box 4036 Idyllwild, CA	*Comment topic:* Environmental Impacts Requests environmental compliance with Section 4(f).
11/7/12	Jane Gustafson	*Comment topic:* General/Other, Property Impacts 1. Maintain current roadbed, as eastbound lanes have fewer homes on north side through Clark to Wood improvement 2. Wood improvement rated 50 mph; reality = 70 mph. How are residents not bought out to cope? Eight-foot berm not sufficient protection for open car door – UPS, FedEx, Dial-A-Ride 3. Mailbox on north side – hazardous crossing 4. Will water meter, gas, fencing, plantings, and property elevation accessibility be adjusted at whose expense?
11/8/12	Ryan Ross, Principal Planner, Riverside County Waste Management Department	*Comment topic:* General/Other Mr. Ross sent letter to D. Bricker comments from Riverside County Waste Management Department. Refer to Section H.3.2 of Appendix H, *Environmental Review Coordination and Scoping*, for letter.
11/8/12	Drew Feldmann San Bernardino Valley Audubon Society P.O. Box 22054 San Bernardino, CA 92423	*Comment topic:* General/Other Request to be added to the mailing list.
11/8/12	Tammy Martin, Engineering Technician, WMWD	*Comment topic:* General/Other Letter explaining appurtenances with water and sewer on Cajalco Road. Included CD of as-built drawings, spreadsheet with numbers of water and sewer pipeline.
11/9/12	Nancy Higbee San Bernardino Audubon Society 21230 Onaknoll Drive Perris, CA 92570	*Comment topic:* Property Impacts, Environmental Impacts, Air Quality, Noise Unacceptable impact on air quality, noise level, darkness of night sky, and two preserves. Prefers the no build alternative or a substantially smaller project with wider shoulders, some passing lanes, right- and left-turn lanes, and widening El Sobrante Road where the traffic really is.
11/9/12	Kyle Smith, MURP, Associate Planner, City of Riverside Community Development Department / Planning Division	*Comment topic:* Environmental Impacts, Traffic City of Riverside has identified issues that need to be addressed in the EIS phase relating to traffic assessment.
11/9/12	Susan Sturges EPA Region 9 Environmental Review Office, Transportation Team 75 Hawthorne Street (CED-2) San Francisco, CA 94105	*Comment topic:* Environmental Impacts Comments on the project. Refer to Section H.3.2 of Appendix H, *Environmental Review Coordination and Scoping*, for full comments.

Date	Name / Affiliation	Comment Topics and Summary
11/9/12	Anna M. Hoover Cultural Analyst Pechanga Band of Luiseno Mission Indians P.O. Box 2183 Temecula, CA 92593	*Comment topic:* Environmental Impacts Tribe is requesting to be involved in the whole NEPA process and must be notified of any public hearings, workshops, and scheduled approvals on project.
11/10/12	Kerry Wheeler	*Comment topic:* General/Other, Design/Configuration, Noise, Traffic, Safety El Sobrante Road should be an alternative. The large expense for a small part of the day only benefits large warehouses. Safety: ban large, heavy trucks except during certain times like 11 p.m.–4 a.m. on all freeways and roads
11/12/12	Aruna Prabhala Staff Attorney Center for Biological Diversity 351 California Street, Suite 600 San Francisco, CA 94104	*Comment topic:* Environmental Impacts, Biological Resources, Air Quality Draft EIS/EIR should fully address and analyze the project's impacts on sensitive species, regional HCPs, greenhouse gas emissions, potential for growth-inducing impacts, cumulative impacts, and all reasonable alternatives.
11/12/12	Miriam Cardenas, Community Relations Specialist Mike Williams, Senior District Manager Waste Management	*Comment topic:* General/Other Refer to Section H.3.2 of Appendix H, *Environmental Review Coordination and Scoping*, for full letter with project comments.
11/13/12	Cecil D. Green	Comment topic: General/Other Request to be added to project mailing list.
11/13/12	George Hague Sierra Club Moreno Valley Group Conservation Chair 26711 Ironwood Avenue Moreno Valley, CA 92555	*Comment topic:* General/Other, Environmental Impacts Draft EIS/EIR for the project needs to answer and address concerns such as to where Cajalco Road and the MCP will meet to make for a continuous road, How will I-215 and the Ramona Expressway work with these other two roadways?
12/4/12	Melissa Arellano	Comment topic: General/Other Request to be added to project mailing list.
12/10/12	Vaughn Jones	*Comment topic:* General/Other, Safety Request to be added to project mailing list. Experienced a serious accident resulting in injuries and persistent pain, and one fatality, due to unsafe speed, wet roadway, and blind curve on Cajalco Road. The accident would not have occurred if Cajalco Road had been widened and straighter, providing more visibility to oncoming traffic.

5.3 Additional Resource Agency Consultation and Coordination

In addition to 23 USC 139 related coordination with participating and cooperation agencies, the County and Caltrans also performed the following consultation and coordination in conjunction with project development.

5.3.1 Western Riverside County Regional Conservation Authority

Coordination with RCA, which includes staff of USFWS, CDFW, and USACE, has been ongoing since project inception in 2011. Because the proposed project involves proposed improvements within Criteria areas and Core Reserves and is seeking coverage under Section 7.2.2 of the WRC MSHCP, the County and Caltrans have sought to consult and coordinate with

RCA to confirm mutual understanding of the plan requirements, solicit input on approaches for meeting plan requirements, and share proposed project alternatives and design options throughout project development. During meetings, the proposed project design and wildlife crossing approach were introduced and reviewed in detail throughout the preliminary design and technical study phase. Agency questions and comments were addressed and incorporated into the project design following each meeting.

A consistency review by RCA, USFWS, and CDFW would be performed to ensure that the project is consistent with the requirements of the plan. Because there is a federal nexus for the project, the consistency review will result in a streamlined biological opinion from USFWS. Formal consultation under Section 7 will not be necessary. There have been numerous agency coordination meetings where USFWS was present.

Table 5-7 below summarizes the coordination meetings with RCA and other agencies regarding the WRC MSHCP.

Table 5-7. WRC MSHCP Coordination Meetings Summary

Meeting Date	Meeting Summary
4/21/2011	Meeting: ICF presented basic elements of proposed project and status of biological surveys. Coverage of the project under the WRC MSHCP was discussed and confirmed by USFWS and all parties agreed that further meetings and coordination would be advantageous. Further review of the LM MSHCP and specific requirements to be anticipated were also discussed as being needed in the future. Attendees: Russell Williams, Scott Staley, and Mary Zambon (County of Riverside); Charles Landry and Laurie Dobson-Correa (RCA); Stephanie Standerfer and Joe Monaco (Dudek); Ken Corey and Karin Cleary-Rose (USFWS); Leslie MacNair (CDFW), Tricia Campbell and Brian Calvert (ICF); Edward Ng, Heng Chow, and Paul Lau (AECOM).
7/21/2011	Meeting: USFWS provided updates on LM MSHCP status and indicated that encroachment into the reserve may require more coordination and may affect the LM MSHCP. USFWS stated that all reserve lands affected by the project will require a 1:1 mitigation ratio and must be adjacent to the existing reserves, and MWD will track all bank credits for LM MSHCP. Group reviewed potential mitigation lands. Attendees: Scott Staley and Mary Zambon (County of Riverside); Charles Landry and Laurie Dobson-Correa (RCA); Stephanie Standerfer and Joe Monaco (Dudek); Karin Cleary-Rose (USFWS); Leslie MacNair (CDFW); Tricia Campbell and Brian Calvert (ICF); Edward Ng and Heng Chow (AECOM).
12/15/2011	Meeting: ICF provided project overview and design options. USFWS discussed take allowances and impact limits and indicated that if take limits were exceeded, Section 7 consultation could be an option. Discussed need for agencies to review impact calculations on Public/Quasi-Public (PQP) and conserved lands. La Sierra Avenue extension option was discussed and USFWS stated that this would not be a Covered Activity under the WRC MSHCP without a major plan amendment. Clarification was also requested regarding the proposed project's inclusion as a Covered Activity under the WRC MSHCP. The Lake Mathews mitigation bank mapping was discussed and requested and it was stated that MWD was aware of the proposed project development and had not indicated an issue with the project. Potential mitigation lands in the area were also discussed and it was indicated that a potential list of mitigation parcels was submitted as part of the MCP review, which the project team confirmed they had on file. Attendees: Scott Staley and Mary Zambon (County of Riverside); Charles Landry and Laurie Dobson-Correa (RCA); Stephanie Standerfer (Dudek); Karin Cleary-Rose (USFWS); David Elms and Heather Pert (CDFW); Keturah Anderson, Tricia Campbell, and Brian Calvert (ICF); Edward Ng and Heng Chow (AECOM).

Meeting Date	Meeting Summary
9/20/2012	Meeting: ICF presented overview of preliminary wildlife crossings, including sizes and dimensions. Discussed need for dual-use culverts that provide a dry crossing to support wildlife movement, that culvert and crossing placement was based on landscape factors such as topography and vegetation, and that WRC MSHCP crossing frequencies/distances would not be exactly met due to topography and habitat suitability conditions determining locations rather than spacing requirements. Also discussed conserved lands impact allowances and documentation, LM MSHCP mitigation bank credit use, and mitigation acquisition, and SKR habitat and movement in the area. The proposed box culvert at Linkage 3 was discussed and the agencies conveyed that a soft bottom was preferred. The engineer stated that this was feasible. All agreed that a field meeting would be needed to review locations of proposed crossings in the field. Discussed proposed WRC MSHCP take allowance methodology, which included the deduction of existing developed lands (e.g., existing Cajalco Road and right of way) from the total permanent impact acreages. Also discussed approaches for restoring areas where roadbed and right of way would be removed so that these impacts would be considered temporary. It was agreed that more discussion on these topics was required at a later date. Discussed LM MSHCP and how to document take and how to acquire mitigation on those lands. All agreed that affected conserved lands will be mitigated at 1:1 to ensure total PQP remains constant and that all impacts on RCHCA and MWD lands had to be mitigated adjacent to existing reserves and that it would be possible to allow adding these lands to the WRC MSHCP conserved lands. It was confirmed that the use of Core/Criteria Refinement would result in a 2:1 replacement for PQP lands and that the County would provide that documentation. Attendees: Scott Staley and Mary Zambon (County of Riverside); Charles Landry and Laurie Dobson-Correa (RCA); Stephanie Standerfer (Dudek); Karin Cleary-Rose (USFWS); Heather Pert (CDFW); Tricia Campbell, Brian Calvert, and Keturah Anderson (ICF); Edward Ng and Heng Chow (AECOM).
11/7/2012	Multi-Agency Field Meeting: Group drove along the existing alignment to review the general area and existing conditions. Discussed preliminary wildlife crossings and project design, crossing placement methodology, movement of deer through the project area including Temescal Wash, and design considering for crossings and culverts, including visibility, maintaining natural drainage flows, and maintaining connectivity of Linkage 3 and a natural bottom at this location. CDFW stated that shading effects from bridge widening would need to be addressed. CDFW also stated that bats would need to be addressed at Temescal Wash Bridge and wondered if bat housing structures would be installed as mitigation. ICF stated that this could be accommodated if bats are present; if not, the bridge would be designed without the structures so as not to encourage bats to use the bridge. RCHCA provided information for SKR habitat quality along Cajalco Road. Attendees: Mary Zambon and Brian Shomo (County of Riverside); Stephanie Standerfer (Dudek); Laurie Dobson-Correa (RCA); Heather Pert and Kim Freeburn (CDFW); Tricia Campbell, Brian Calvert, Keturah Anderson, and Mikael Romich (ICF); Heng Chow (AECOM); John Taylor (USFWS).
2/21/2013	Meeting: Group discussed USFWS email dated 02/19/2013 from Karin Cleary-Rose indicating that the proposed project would be covered under Volume I, Section 7.2.2, of the WRC MSHCP as a non-Community and Environmental Transportation Acceptability Process. County requested this confirmation in a letter dated January 8, 2013. ICF presented concepts of Build Alternatives 1 and 2 and stated that further alternative development was planned. Discussions were held on what aspects of the alternatives would be covered under the WRC MSHCP and what guidelines would be applicable. CDFW requested that the area south of the lake contain larger culvert and movement opportunities for wildlife with earthen bottoms. Discussions also included the survey methods for rare plants and the drought conditions. The agencies confirmed that they would accept surveys for that year but that reference sites needed to be visited and the conditions of those sites disclosed. Attendees: Mary Zambon (County of Riverside); Stephanie Standerfer (Dudek); Laurie Dobson-Correa and Charles Landry (RCA); Karin Cleary-Rose (USFWS); Heather Pert (CDFW); Brian Calvert and Tricia Campbell (ICF); Edward Ng and Heng Chow (AECOM).

Meeting Date	Meeting Summary
3/21/2013	Meeting: ICF confirmed that the team received the USFWS opinion letter from RCA regarding coverage of an El Sobrante Alternative under Volume I, Section 7.2.2, of the WRC MSHCP. Discussed detail of El Sobrante Alternative and coverage under WRC MSHCP, including design and right of way dimensions, incorporation of wildlife crossings, and implications of this alternative on Cajalco Road. ICF requested biological resource documents related to the Eagle Valley project and the team indicated that they did not have any such documents available. Attendees: Mary Zambon and Scott Staley (County of Riverside); Stephanie Standerfer (Dudek/RCA), Laurie Dobson-Correa and Charles Landry (RCA); Karin Cleary-Rose (USFWS); Heather Pert (CDFW); Brian Calvert and Tricia Campbell (ICF).
12/18/2014	Meeting: GLA, ICF, and AECOM discussed conceptual engineering design of project alignments and wildlife crossings, as well as RCHCA management activities and needs. Attendees: M. Zambon (County of Riverside); B. Shomo and Princess Hester (RCHCA); H. Chow and Bill Hagmaier (AECOM); Mike Romich (ICF); Tricia Campbell (GLA).
12/17/2015	Meeting: Discussed proposed project alignment overview, preliminary GIS resistance surface modeling results, MWD fencing issues, Southern California mountain lion status, anticipated conflicts with potential mule deer and mountain lion movement into MWD lands and residential areas (additional depredation permits), proposed crossings for large mammals (Build Alternatives 1 and 2C only), including discussion of minimum structure height and width. Also discussed potential overpass options and the group agreed that an overpass was likely not feasible on either Build Alternative 1 or 2C. Attendees: Mary Zambon and Scott Staley (County of Riverside); Laurie Dobson-Correa, Charles Landry, Noelle Ronan, and Wendy Worthey (RCA), John Taylor and Karin Cleary-Rose (USFWS); Heather Pert (CDFW); Brian Calvert and Shannon Crossen (ICF); Tricia Campbell (Glenn Lukos Associates [GLA]).
1/15/2016	Overpass and Large Crossing Field Meeting: Reviewed potential overpass and large crossing locations on Build Alternatives 1 and 2C at the Lake Mathews Fire Station Community Room. Discussed potential for mule deer and mountain lion movement in project area and reviewed resistance surface modeling results and data layers used, discussed large mammal crossing design standards. After discussion, the group reviewed proposed overpass and large crossing locations in the field. Comments and recommendations were noted and incorporated into crossing design where practicable. Attendees: Mary Zambon (County of Riverside); Laurie Dobson-Correa (RCA); John Taylor (USFWS); Heather Pert, Kevin Brennan, and Chanelle Davis (CDFW); Brian Calvert and Shannon Crossen (ICF), Tricia Campbell (GLA).
2/11/2016	Wildlife Overpass Consideration Meetings: RCHCA, CDFW, and project consultant discussed the potential for a wildlife overpass on the western end of the proposed project. Both agency representatives agreed that an overpass was not suitable at this location and that a larger bridge underpass would be more suitable and feasible. This information was presented to RCA and resource agencies at a meeting on 02/18/16. Attendees: Brian Shomo (RCHCA), Kevin Brennan (CDFW), Tricia Campbell (GLA)
2/18/2016	Meeting: Information from the 2/11/2016 meeting was presented. Discussed project and wildlife crossing design progress to date, mule deer crossing size requirements, reference materials used to date for development of wildlife crossings. Following discussion, an agreement was reached regarding the proposed larger bridge underpass. Attendees: Mary Zambon (County of Riverside), Charles Landry, Noelle Ronan, Laurie Dobson-Correa, and Wendy Worthey (RCA); Karin Cleary-Rose and John Taylor (USFWS); Heather Pert (CDFW), Brian Calvert, Keturah Anderson, and Shannon Crossen (ICF); Tricia Campbell (GLA).
5/19/2016	Meeting: Discussed proposed alignment designs for Build Alternatives 3 and 4 and reviewed proposed wildlife crossing analysis, design, and approach. Presented proposed extra-large and large undercrossings for Build Alternatives 3 and 4. Discussed the WRC MSHCP crossing maximum distance requirements and difficulties in meeting those in some areas due to topography and land use and that a best fit approach with the same total number of crossings was a more feasible and effective approach. Attendees: Mary Zambon (County of Riverside); Noelle Ronan and Laurie Dobson-Correa (RCA); Karin Cleary-Rose and John Taylor (USFWS); Heather Pert (CDFW), Brian Calvert, Shannon Crossen, and Keturah Anderson (ICF); Tricia Campbell (GLA).

Meeting Date	Meeting Summary
6/16/2016	Meeting: Discussed proposed project alternative alignments (Build Alternatives 1, 2C, 3 and 4) and wildlife crossing design progress to date for each project alternative. Reviewed crossing terminology, placement, and design methodology. Attendees: Mary Zambon and Scott Staley (County of Riverside); Charlie Landry (CDFW); Noelle Ronan and Wendy Worth (Dudek/RCA); Laurie Dobson-Correa (RCA); Karin Cleary-Rose and John Taylor (USFWS); Heather Pert (CDFW); Brian Calvert, Shannon Crossen, and Keturah Anderson (ICF); Tricia Campbell (GLA).
7/6/2016	Mule Deer Crossing Field Meeting: Met with CDFW wildlife biologists Kevin Brennan (CDFW) and Dr. Jeff Villepique (mule deer specialist) in the field to review potential locations for mule deer crossings on the western end of the proposed project. Reviewed several sites that had potential for a large underpass to be placed and discussed which location was most viable with respect to biology, land use, and engineering. This information was taken back to the RCA and Agency team and a final extra-large underpass location was determined. Attendees: Dat Nguyen (AECOM); Kevin Brennan and Jeff Villepique (CDFW); Shannon Crossen (ICF); Tricia Campbell (GLA).
7/21/2016	Meeting: Discussed details of proposed project alternative alignments and wildlife crossing design for each project alternative to date. Reviewed crossing placement and design of each crossing for each alternative in detail. Attendees: Heather Pert (CDFW); Mary Zambon and Scott Staley (County of Riverside); Karin Cleary-Rose (USFWS); Tricia Campbell (GLA); Charlie Landry and Laurie Dobson-Correa (RCA); Wendy Worthy and Noelle Ronan (Dudek/RCA); Brian Calvert, Keturah Anderson, and Shannon Crossen (ICF); Dat Nguyen (AECOM).
8/18/2016	Meeting: The County presented the approach and method taken for determining areas subject to Section 1600 of the Fish and Game Code and WRC MSHCP riparian/riverine jurisdiction. Based on this meeting it was agreed by all parties to hold a field meeting. Attendees: Heather Pert (CDFW), Mary Zambon and Scott Staley (County of Riverside); Karin Cleary-Rose (USFWS); Tricia Campbell and Zack West (GLA); Charlie Landry and Laurie Dobson-Correa (RCA); Wendy Worthy and Noelle Ronan (Dudek/RCA); Brian Calvert and Keturah Anderson (ICF).
9/08/2016	Field Meeting: Staff from USFWS, CDFW, RCA, the County, and GLA reviewed a selection of jurisdictional features in the field. Attendees: Heather Pert (CDFW), Mary Zambon and Scott Staley (County of Riverside); Karin Cleary-Rose (USFWS); Tricia Campbell and Zack West (GLA); Charlie Landry and Laurie Dobson-Correa (RCA); Wendy Worthy and Noelle Ronan (Dudek/RCA); Brian Calvert and Keturah Anderson (ICF).
10/20/2016	Meeting: Discussed the results of the field meeting held on 9/8/2016 as well as the methodology for delineation areas subject to Section 1600 of the California Fish and Game Code and WRC MSHCP riparian/riverine resources. Attendees: Heather Pert (CDFW); Mary Zambon (County of Riverside); Karin Cleary-Rose (USFWS); Tricia Campbell (GLA); Charlie Landry and Laurie Dobson-Correa (RCA); Wendy Worthy and Noelle Ronan (Dudek/RCA).
1/29/2018	Field Meeting: Drove the entire project area of all three build alternatives, stopping at select areas of interest to the resource agencies. The focus of the meeting was on jurisdictional water resources. Attendees: Dee Bradshaw and Alexander Marks (MWD); Glenn Robertson (RWQCB); Harry Sandoval and Brian Shomo (RCHCA); Raymond Huaute and Travis Armstrong (Morongo); Heather Pert (CDFW); Clifton Meek (EPA); Paul Macarro, Tony Foussat, and Molly Earp Escobar (Pechanga); Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, and Marisa Flores (ICF).
3/15/2018	Meeting: Discussed revisions to the build alternatives and presented the most current locations of the wildlife crossings, including their types and sizes for agency input. General wildlife movement documentation and approaches used, project wildlife crossing design update, and riparian/riverine methodology. It was agreed that to be sure that the species could utilize small and medium-sized crossings, all small and medium crossings would be doubled in width to increase the openness and potential suitability for SKR movement. Also discussed increasing the size of Crossing #87 to an arch culvert or bridge to span riparian resources. All agreed that RCA would review details of

Meeting Date	Meeting Summary
	provided wildlife crossing data and that we would address any questions at the next meeting in April 2018. Attendees: Heather Pert (CDFW); Mary Zambon (County of Riverside); Karin Cleary-Rose (USFWS); Charlie Landry and Laurie Dobson-Correa (RCA); Wendy Worthy and Noelle Ronan (Dudek/RCA); Brian Calvert, Keturah Anderson, Marisa Flores, and Shannon Crossen (ICF).
4/19/2018	Meeting: Discussed feedback regarding the wildlife crossings design and locations presented to RCA 3/15/2018, as well as minor revisions to Build Alternative 2C, and wildlife fencing design. Discussed recommended bridge design at Crossing #87, east of La Sierra; the definition and treatment of riparian vegetation was also discussed. RCA and Wildlife Agencies provided feedback and confirmed the proposed locations and sizes of all wildlife crossings and agreed with the approach for the identification and treatment of riparian vegetation that will be applied for the project. Attendees: Laurie Dobson-Correa and Charlie Landry (RCA); Wendy Worthy (Dudek/RCA); Karin Cleary-Rose and John Taylor (USFWS); Mary Zambon (County of Riverside); Marisa Flores, Greg Hoisington, Brian Calvert, and Keturah Anderson (ICF).
4/16/2020	Conference Call: The purpose of the meeting was to determine the timing of the Minor Amendment and JPR/Consistency Determination, and verify the WRC MSHCP's relationship to the LM MSHCP. The County provided an update on the status of the environmental document to the RCA and Wildlife Agencies and a timeline for circulation of the draft EIR/EIS. Based on input from the RCA, the Minor Amendment would need to be requested prior to the final environmental document and would need to be completed prior to approval of the JPR. The County also wanted to verify whether the Minor Amendment would require evaluation of all three build alternatives or just the Locally Preferred Alternative. The agencies stated that the County would need to ensure that the alternative selected is included in the evaluation, whether or not it is the Locally Preferred Alternative. The evaluation would have to determine the relationship between impacts and ensuring that measures are incorporated to offset the effects and a strategy under each alternative based on the objectives for each cell and alternative. Attendees: Tricia Campbell (RCA); Wendy Worthy (Dudek/RCA); Karin Cleary-Rose and John Taylor (USFWS); Joanna Gibson (CDFW); Mary Zambon (County of Riverside); Marisa Flores, Brian Calvert, and Keturah Anderson (ICF).

5.3.2 Riverside County Habitat Conservation Authority

RCHCA obtained incidental take permits from USFWS and CDFW for SKR within the SKR HCP area. The purpose of the SKR HCP is to streamline the permitting process for otherwise lawful activities resulting in the incidental take of SKR while also meeting federal Endangered Species Act and California Endangered Species Act requirements without seeking individual permits and agreements with USFWS and CDFW. Conservation goals for SKR were incorporated into the HCP to ensure full mitigation for all SKR-occupied habitat that would be incidentally taken. One of these goals included the acquisition and conservation of SKR habitat within an SKR regional reserve system. The SKR HCP provides take authorization for SKR within its boundaries through the establishment of Core Reserves.

The SKR HCP occurs entirely within the WRC MSHCP area. The SKR HCP establishes conservation of 15,000 acres in Core Reserves within the plan's boundary for SKR. The proposed project would occur in one of the long-term SKR HCP Core Reserve areas, Existing Core C. This Core Reserve was established as part of the SKR HCP and is now managed under the WRC MSHCP Conservation Area, consistent with the SKR HCP and other management agreements for the reserve. Public works projects receive coverage under this HCP for potential take of SKR; however, because the proposed project would affect SKR Core Reserve lands, incidental take of SKR is subject to approval by RCHCA, USFWS, and CDFW, and compensatory mitigation is required that would be reviewed and agreed to with RCHCA,

USFWS, and CDFW. Email correspondence with RCHCA in May 2020 confirmed the need for a Core Reserve Land Disturbance Report, which would be submitted to RCHCA for Board approval. This report would document the impacts on SKR and compensatory mitigation and would ensure consistency with the SKR HCP.

RCHCA also manages the portions of the SKR Core Reserve under MWD ownership (refer to Section 5.3.3.1 for coordination involving MWD reserve lands). Numerous meetings occurred with both RCA and RCHCA to discuss the options for replacement lands and land management criteria that would serve both the WRC MSHCP and SKR HCP requirements. Coordination meetings with RCA regarding replacement lands requirements are described in Table 5-7 in Section 5.3.1. Meetings held specifically with RCHCA for the SKR Core Reserve under its management focused on project design and feasibility of reserve management, as summarized in Table 5-8.

Table 5-8. SKR HCP Coordination Meetings Summary

Meeting Date	Meeting Summary
8/10/2011	Meeting: ICF provided an overview of the proposed project, including project alternatives and where SKR areas would be involved. SKR HCP goals and requirements were discussed as well as RCHCA management needs and project expectations. Next steps for mitigation options and coordination between the County and resources agencies were identified. Attendees: Scott Staley and Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, and Tricia Campbell (ICF); Heng Chow (AECOM); Gail Barton and Brian Shomo (RCHCA).
6/21/2012	Meeting: ICF provided an overview of the proposed project including biological resource studies to date. Also discussed were the survey needs and documentation requirements for the SKR within the Core Reserve lands. Existing information was discussed along with the potential for a trapping study along the entire alignment. It was determined that a 1:1 mitigation ratio would be required regardless of species occupation. Replacement lands for the SKR Core Reserve Area owned by RCHCA could occur adjacent to any of the SKR Core Reserves. Attendees: Gail Barton and Brian Shomo (RCHCA), Brian Calvert, Keturah Anderson, and Tricia Campbell (ICF); Mary Zambon, Juan Perez, Scott Staley, Russell Williams, John Ashlock, Carolyn Syms Luna, Karin Watts-Bazan, and Tiffany North (County of Riverside).
12/18/2014	Meeting: GLA, ICF, and AECOM discussed conceptual engineering design of project alignments and wildlife crossings, as well as RCHCA management activities and needs. Attendees: Mary Zambon (County of Riverside); Brian Shomo and Princess Hester (RCHCA); Heng Chow and Bill Hagmaier (AECOM); Mike Romich (ICF); Tricia Campbell (GLA).
2/11/2016	Wildlife Overpass Consideration Meeting: RCHCA, CDFW, and project consultant had a meeting and discussed the potential for a wildlife overpass on the western end of the proposed project. Both agency representatives agreed that an overpass was not suitable at this location and that a larger bridge underpass would be more suitable and feasible. This information was presented to the RCA and resource agencies at a meeting on 02/18/16. Attendees: Brian Shomo (RCHCA), Kevin Brennan (CDFW), Tricia Campbell (GLA).
2/27/2018	Meeting: Based on feedback from resource agencies and environmental stakeholders, ICF and RCHCA discussed feasibility of various movement studies for SKR. It was determined that a roadkill and camera study would not be cost effective or provide any substantial benefits or insight into the project design because there are already substantial and evenly dispersed wildlife crossings throughout the critical permeability areas. Also discussed potential SKR wildlife crossing simulation study and RCHCA did not feel that this was necessarily warranted. RCHCA suggested small/medium crossings be widened, which may improve usability but all noted that we still do not know what attributes are necessary for crossings designed for this species. All agreed that some level of research would be helpful and that possibly finding an existing culvert in occupied habitat could be more cost effective than conducting a larger controlled experiment. Attendees: Brian Shomo (RCHCA); Shannon Crossen, Marisa Flores, Keturah Anderson, and Brian Calvert (ICF); Mary Zambon (County of Riverside).

5.3.3 Metropolitan Water District of Southern California

5.3.3.1 Lake Mathews MSHCP

The LM MSHCP is a joint conservation effort initiated by MWD and RCHCA in cooperation with USFWS and CDFW. Proposed project impacts on the LMR beyond the existing right of way are not an allowable use or activity under this plan. While the LM MSHCP includes procedures for four types of amendments that facilitate course corrections and other amendments to the LM MSHCP and accompanying agreements, the LM MSHCP does not include a prescribed amendment or process to allow changes to the plan in response to public safety and/or access needs. Thus, an appropriate discretionary action or actions coordinated between the County and LM MSHCP responsible parties are proposed as part of the project to accommodate the proposed roadway improvements, and may include a new LM MSHCP amendment along with the development of procedures for the amendment. Any changes to the LM MSHCP would require consideration and accommodation of the associated federal Endangered Species Act, California Endangered Species Act, and natural community conservation plan permits and agreements. Refer to the introductory discussions in Chapter 3, *Affected Environment, Environmental Consequences, and Avoidance, Minimization, Mitigation Measures*, and Chapter 4, *California Environmental Quality Act Evaluation*, and to discussion of the LM MSHCP and associated plans and agreements in Section 3.1, *Land Use,* of this Draft EIR/EIS.

Coordination efforts involving the proposed project and accommodation of the project by the LM MSHCP and associated agreements have been ongoing since 2011. The discretionary action or actions necessary for accommodation of the project would be pursued by the County; approvals would need to be obtained prior to any construction. It is anticipated that MWD, as the primary managing entity of Lake Mathews and surrounding operations, will be included in the development of procedures for the discretionary action; however, it should be noted that MWD is not a joint project lead or co-sponsor of the project.

A summary of meetings and calls with MWD is provided in Table 5-9. Additional calls involving MWD as a participating agency in the 23 USC 139 (Efficient Environmental Review) process are described in Table 5-3.

Table 5-9. MWD Coordination Meetings Summary

Meeting Date	Meeting Summary
7/14/2011	Meeting: ICF provided an overview of the proposed project, including project alternatives and where MWD areas would be involved. MWD management objectives were discussed, as well as next steps for coordination among the County, resources agencies, and MWD. Attendees: Scott Staley and Mary Zambon (County of Riverside); Brian Calvert and Tricia Campbell (ICF); Edward Ng, Heng Chow, and Mauro Mawawa (AECOM); Jill T. Wicke, Morris Duncan, and John Osornia (MWD).
8/10/2011	Meeting: ICF provided an overview of the proposed project, including project alternatives and where SKR areas would be involved. SKR HCP goals and requirements were discussed as well as RCHCA management needs and project expectations. Next steps for mitigation options and coordination between the County and resources agencies were identified. Attendees: S. Staley and M. Zambon (County of Riverside); B. Calvert, Keturah Anderson, and T. Campbell (ICF); H. Chow (AECOM); Gail Barton and Brian Shomo (RCHCA).

Meeting Date	Meeting Summary
8/30/2012	Meeting: The County provided an overview of the proposed project, including project alternatives, where MWD areas would be involved, and County interest in minimizing adverse effects on the LMR and MWD facilities while seeking opportunities to aid with management improving LMR conditions. The LM MSHCP and associated resource agency interests were discussed, as well as coordination among the County, resources agencies, and MWD. Attendees: Juan C. Perez, M. Zambon, Karin Watts-Bazan, Tiffany North, and G. Barton (County of Riverside); B. Calvert and T. Campbell (ICF); John C. Clairday, Wendy Picht, Kieran Callanan, Joe Vanderhorst, Paul Norlen, Patty Fowler, Lilly Shraibatia, Peter Wiseman, and Clen Boyd (MWD).
2/26/2013	Meeting: ICF provided an overview of the El Sobrante project description. There was a discussion regarding MWD facilities and the LM MSHCP. Action items from the August 2012 meeting were reviewed. Attendees: S. Staley and M. Zambon (County of Riverside); B. Calvert and T. Campbell (ICF); J. C. Clairday, W. Picht, K. Callanan, P. Norlen, Bryan Otake, and Brad Eaton (MWD).
4/4/2013	Call: ICF reviewed the LM MSHCP amendment process and facilitated a discussion between MWD and the County. BBK summarized findings from the Audubon Society Settlement Agreement. ICF then discussed the County's preferred CEQA/NEPA approach to the project. Attendees: S. Staley, M. Zambon, and K. Watts-Bazan (County of Riverside); Michelle Ouellette (BBK); B. Calvert and T. Campbell (ICF); J. C. Clairday, W. Picht, K. Callanan, P. Norlen, P. Wiseman, and B. Otake (MWD).
4/25/2013	Meeting: ICF reviewed the roadbed removal required as part of the proposed project. The Audubon Society Settlement Agreement and the CEQA/NEPA document were both determined to require further discussion. The draft MOU was discussed, and it was stated by BBK that more information from MWD was needed. Attendees: M. Zambon and K. Watts-Bazan (County of Riverside); M. Ouellette (BBK); B. Calvert, K. Anderson, and T. Campbell (ICF); J. C. Clairday, K. Callanan, B. Otake, and B. Eaton (MWD).
5/23/2013	Meeting: An update on the proposed coordination approach was provided, with MWD to review and edit the draft document. An update was also provided on the CEQA/NEPA environmental document. BBK discussed future resource agency coordination on behalf of MWD. The County stated that the RCHCA amendment role and process would be discussed at a later date. Attendees: M. Zambon and K. Watts-Bazan (County of Riverside); M. Ouellette (BBK); B. Calvert, K. Anderson, and T. Campbell (ICF); J. C. Clairday, K. Callanan, B. Otake, and P. Norlen (MWD).
6/26/2013	Meeting: ICF provided overview of the proposed project and discussed La Sierra Avenue and El Sobrante intersections under Build Alternatives 3 and 4. MWD described a proposed Central Pool Augmentation facility that would be constructed by 2040. MWD stated that since it has property ownership, it wanted early involvement with project development and approval of mitigation options. Attendees: W. Picht, K. Callanan, B. Otake (MWD); B. Calvert, K. Anderson, and T. Campbell (ICF).
4/7/2015	Meeting: ICF provided an overview of the proposed project, including project alternatives. AECOM provided details regarding the alignment of each alternative. ICF summarized the environmental documents that are forthcoming including technical studies. Attendees: T. Campbell (GLA); B. Hagmaier and Dat Nguyen (AECOM); J. Clairday, Heriberto "Eddie" Diaz, and P. Norlen (MWD); S. Staley (County of Riverside); W. Picht (MWD); J. Wicke (Jill Wicke Consulting); B. Calvert (ICF).
7/13/2015	Meeting: ICF provided an overview of the proposed project, including coordination history. The County, ICF, and AECOM presented and discussed each of the project alternatives. The County and ICF provided an overview of stakeholder outreach efforts to date. GLA and ICF provided a status summary of the environmental studies in progress and agency coordination efforts. Attendees: S. Staley and M. Zambon (County of Riverside); W. Picht, K. Callanan, H. Diaz, and P. Norlen (MWD); B. Calvert and K. Anderson (ICF); B. Hagmaier (AECOM); J. Wicke (Jill Wicke Consulting).

Meeting Date	Meeting Summary
3/7/2016	Meeting: ICF provided an overview of the project, including a summary of the current alternatives for the project. GLA reviewed biology and the delineation data that had been collected thus far. Attendees: M. Zambon (County of Riverside); Brock Ortega (Dudek/MWD); B. Calvert and K. Anderson (ICF); T. Campbell (GLA).
9/1/2016	Meeting: GLA provided an overview of the level of evaluation performed to date on potential mitigation lands for proposed impacts on reserve lands and presented information on replacement land requirements. Attendees: W. Picht (MWD); B. Calvert and K. Anderson (ICF); T. Campbell (GLA).
1/12/2017	Call: ICF provided an overview of the proposed project, including a current update. The Drainage Water Quality Management Plan was discussed in terms of protection of Lake Mathews water quality, existing and proposed facilities, and project opportunities and constraints. Future MWD facilities planning was discussed with a focus on Alternative 3 and mitigation lands. Engineering, safety, and access plans were reviewed with an emphasis on Alternatives 3 and 4. Lastly, non-governmental organization feedback concerning Lake Mathews was discussed. Attendees: S. Staley and M. Zambon (County of Riverside); W. Picht, Diane Doesserich, K. Callanan, and Rob Bell (MWD); B. Calvert and K. Anderson (ICF); B. Hagmaier and Gary Sjelin (AECOM).
2/22/2017	Meeting: ICF provided an overview of the proposed project. Project opportunities and constraints related to protection of Lake Mathews water quality were discussed. MWD water quality planning and facilities were reviewed, which included a discussion on existing and proposed facilities and the Drainage Water Quality Management Plan. Attendees: S. Staley, M. Zambon, and Claudia Steiding (County of Riverside); Mickey Chadhuri, Ken Chung, K. Callanan, and Maria Lopez (MWD); B. Calvert and K. Anderson (ICF); B. Hagmaier and G. Sjelin (AECOM).
3/1/2017	Field Meeting: The purpose of this meeting was to locate and identify MWD equipment and facilities possibly affected by the Alternative 4 alignment near Lake Mathews Dam. Attendees: K. Chung, K. Callanan, and three other MWD personnel (MWD); Dave McMillan and Tim Rayburn (County of Riverside); D. Nguyen (AECOM).
8/16/2018	Meeting: ICF provided an overview of the proposed project. The requirements and goals of existing MWD/Reserve fencing and proposed wildlife fencing placement were discussed, including challenging locations/options and opportunities for wildlife fencing to supplement or replacement MWD/Reserve fencing. Lastly, MWD access and wildlife fencing was discussed in terms of access gates, fencing/crossing tie-ins, and MWD security. Attendees: M. Zambon (County of Riverside); K. Callanan, Sean Carlson, John Osornia, Tania Asef, and Isaac Fernandez (MWD); B. Calvert, K. Anderson, Shannon Crossen, and Marisa Flores (ICF); Greg Hefter (AECOM).
3/27/2019	Call: Update, EIR/EIS status, timing, entry permits, keep in touch. Attendees: K. Callanan and Lily Shiribati (MWD); B. Calvert, K. Anderson, and M. Flores (ICF).
10/30/2019	Call: Update, EIR/EIS status, LMR Management Plan status/timing, LM MSHCP coordination. Attendees: K. Callanan, S. Carlson, and L. Shiribati (MWD); M. Zambon (County); B. Calvert and M. Flores (ICF).
2/3/2020	Meeting: ICF provided an overview of the proposed project and current updates. Coordination opportunities and constraints involving the LM MSHCP and proposed project were discussed. Attendees: S. Staley, M. Zambon, and Aaron Gettis (County of Riverside); K. Callanan, Sean Carlson, B. Otake, and Alexander Marks (MWD); B. Calvert, K. Anderson, and M. Flores (ICF).

5.3.3.2 Project Design and Lake Mathews Facilities

Because the proposed project would travel through areas managed by MWD, the County has coordinated closely with MWD throughout the project planning and design phase to understand and address MWD's needs involving management and operation of Lake Mathews facilities. Since 2011, information concerning Lake Mathews facility management and operations and the

proposed project has been exchanged between the County and MWD, and discussed throughout the 23 USC 139 coordination process, NOP scoping, and LM MSHCP coordination. In addition to these coordination efforts, the County and MWD have discussed and considered specific design options that may better accommodate facility and operations, including security, dam facilities, maintenance roads, and entrance access and circulation.

In July 2015, MWD presented a letter to the County that outlined engineering and operational concerns regarding specific segments of the proposed project and the accommodation of existing and future, planned MWD facilities. In response to the concerns identified in the letter, project engineers prepared recommended design modifications to accommodate operations and maintenance access needs for the Lake Mathews Dam and other Lake Mathews facilities, including maintenance road access, and redesign of the main MWD entrance at the intersection of El Sobrante Road and La Sierra Avenue. The letter also addressed variations of the segment of Build Alternative 3 within MWD-managed lands west of La Sierra Avenue previously developed in an effort to avoid or otherwise minimize impacts on sensitive conservation areas and MWD facilities discussed with MWD and resource agencies prior to 2015 (refer to Table 5-9). The 2015 letter confirmed that the variations would not fully avoid future facilities planned by MWD and, in November 2016, Build Alternative 3 was eliminated from further consideration.

In November 2016, MWD presented a letter to the County that outlined engineering and operational concerns regarding the alignment of Build Alternative 4 west of Lake Mathews and existing MWD facilities east of Lake Mathews. In response to the concerns identified in the letter, project engineers adjusted the alignment of Alternative 4 east and west of Lake Mathews and added a large, arched bridge to span the Lake Mathews Dam spillway area.

Please refer to Tables 5-3 and 5-9 for meetings with MWD and Appendix H for copies of letters and meeting minutes.

5.3.4 United States Army Corps of Engineers

Coordination with USACE regarding the project has included the sharing of information, methodologies, and draft technical studies under the 23 USC 139 process, as well as the discussion of project details concerning Clean Water Act (CWA) 404 and jurisdictional wetlands.

On November 4, 2015, a meeting was held among USACE and the County, Caltrans, ICF, and GLA. ICF discussed delineation methodology and clarification of aerials and the conditions they showed and from what years they are from. Attendees discussed that some of the project alignment was delineated during the MCP Project but that the data were found insufficient for the current project (prior Arid West delineation method [U.S. Army Corps of Engineers 2008]). All lands were re-delineated and 2010 Ordinary High Water Mark and Arid West data sheets were used. ICF indicated the project would permanently affect fewer than 2 acres of USACE jurisdiction. The draft delineation report was pending, but the schedule was to have the draft jurisdictional delineation submitted to Caltrans District 8 in early to mid-2016 and to USACE mid- to late 2016. USACE stated the new Clean Water Rule would not go into effect for quite some time.

The draft jurisdictional delineation report was distributed to USACE, EPA, CDFW, and RWQCB on June 29, 2017, for review as part of the 23 USC 139 process. Initial comments from

USACE were received on July 31, 2017. The comment period was extended per agency request and closed on April 3, 2018. All comments received were incorporated into the final Jurisdictional Delineation report (Caltrans 2018). The draft NES was also distributed to USACE, USFWS, CDFW, EPA, RWQCB, RCRCD, and MWD for review and to provide initial feedback as part of the 23 USC 139 process. Agency comments were reviewed by the County and addressed directly with the resource agencies, and were incorporated into the Final NES.

The project would encroach into federal waters of the U.S. under all the build alternatives. All features were delineated with the understanding that a request for a Preliminary Jurisdictional Determination would be submitted for the project. As such, all non-wetland water features exhibiting an ordinary high water mark and wetlands meeting the three wetland parameters (hydrophytic vegetation, hydric soils, and hydrology) were analyzed as jurisdictional waters of the U.S. subject to regulation by USACE under Section 404 of the CWA. The project would require acquisition of a CWA Section 404 Nationwide Permits from USACE.

5.3.5 Regional Water Quality Control Board

Coordination with RWQCB regarding the project has included the sharing of information, methodologies, and draft technical studies under the 23 USC 139 process, as well as the discussion of project details concerning water quality and CWA 401 certification. A summary of meetings and correspondence specifically with RWQCB is presented in Table 5-10, below. All other coordination and communications involving RWQCB and the 23 USC 139 process are summarized in Section 5.1 and included in Appendix H.

Table 5-10. RWQCB Coordination Summary

Meeting Date	Meeting Summary
5/25/2017	Meeting: Included RWQCB, the County, ICF, and AECOM. An overview of the proposed project and alternatives and the locations of existing drainage features within the project area were presented to RWQCB. Proposed design features that would accommodate storm flows and support water quality objectives under the County Municipal Separate Storm Sewer System (MS4) Permit and Low-Impact Development (LID) guidance (Cities and County of Riverside 2012) and Transportation Project Guidance (TPG) were discussed. Attendees: Scott Staley, Mary Zambon, and Claudia Steiding (County of Riverside); Adam Fischer and Ray Akhtarshad (RWQCB); Brian Calvert and Keturah Anderson (ICF); Bill Hagmaier and Gary Sjelin (AECOM).
9/20/2017	Call: A call was held among RWQCB, the County, and ICF regarding RWQCB comments on the Jurisdictional Delineation under the 23 USC 139 review process. Proposed Best Management Practices (BMPs) in support of the protection of water quality, as well as the consideration of existing RCRCD mitigation areas north and south of Cajalco Road in the areas of Wood Road and Carpinus Drive, and Temescal Creek, were discussed. Consistency with MWD's Lake Mathews Watershed Drainage Water Quality Management Plan (DWQMP) (John M. Tettemer & Associates, Ltd. 1992), Lake Mathews Watershed Water Quality Improvement Study (WQIS) (Tetra Tech, Inc. 2012), and the RCA WRC MSHCP was also discussed. Recommendations were made to consider the 401 certification application relative to the Cajalco Road Bridge crossing of Temescal Creek and any agreements regarding road bridge impacts in the Temescal Creek/Bedford Canyon Wash confluence made among RCRCD, Caltrans, RCTC, and any other agencies. Attendees: Scott Staley (County of Riverside); Glenn Robertson and Jason Bill (RWQCB) Brian Calvert and Keturah Anderson (ICF).

Meeting Date	Meeting Summary
7/30/2018	Meeting: The results of additional research regarding proposed BMPs, as well as refinements made to the project alignment and design in effort to avoid or otherwise reduce impacts on RCRCD mitigation areas, were discussed. The consideration of alternative BMPs, including integration with BMPs identified in the MWD Lake Mathews Watershed DWQMP and WQIS, and their status and feasibility, were also discussed. Due to low infiltration rates throughout the project alignments, findings of the WQIS, and unknown timing of implementation of remaining facilities identified in the DWQMP, the integration of BMPs beyond those recommended for the project may not be feasible. Attendees: Scott Staley (County of Riverside); Glenn Robertson and Muhammad Bashir (RWQCB); Brian Calvert, Keturah Anderson, and Laura Rocha (ICF); Greg Hefter (AECOM).
8/28/2018	Meeting: Comments presented by RWQCB on the LID, Water Quality Assessment Report, and NES, and proposed responses for addressing comments as part of the 23 USC 139 review process were discussed. The consideration of additional BMP options was revisited and discussed, along with the LID and TPG, and project considerations of the BMPs. The timing of the MS4 permit and 401 certification and benefits of early preparation of the certification application were also discussed. Attendees: Scott Staley, Mary Zambon, and Benji Cho (County of Riverside); Adam Fischer and Glenn Robertson (RWQCB); Brian Calvert, Keturah Anderson, and Laura Rocha (ICF); Greg Hefter (AECOM).

5.3.6 Riverside County Flood Control and Water Conservation District

RCFCWCD acts as technical advisor to the County on flood control, drainage, and drainage water quality issues; administers Area Drainage Plans; and is lead agency and co-permittee with the County and various cities in the NPDES permit issued by the RWQCB regulating municipal stormwater runoff. As a signatory for the Lake Mathews Watershed DWQMP MOU, RCFCWCD is also responsible for constructing, operating, and maintaining DWQMP facilities, and thus has interest in the proposed project and related drainage and/or water quality components.

Coordination with RCFCWCD regarding the project has included the sharing of information, methodologies, and draft technical studies under the 23 USC 139 process, as well as the discussion of project details concerning drainage design and water quality. A summary of meetings and correspondence specifically with RCFCWCD is presented in Table 5-11, below. All other coordination and communications involving RCFCWCD and the 23 USC 139 process are summarized in Section 5.1 and included in Appendix H.

Table 5-11. RCFCWCD Coordination Summary

Meeting Date	Meeting Summary
7/14/2015	Meeting: An overview of the proposed project and alternatives was presented to RCFCWCD along with the locations of existing and proposed drainage features within the project area. Proposed design features that would accommodate storm flows and support water quality objectives under the County MS4 Permit and LID guidance and TPG were discussed. Consistency with MWD's Lake Mathews Watershed DWQMP (John M. Tettemer & Associates, Ltd. 1992) and Lake Mathews Watershed WQIS (Tetra Tech, Inc. 2012) was also discussed. Attendees: Scott Staley (County of Riverside); Edwin Quinonez, Kris Flanigan, Ruben Duran, Juliana Adams, and Joan Valle (RCFCWCD); Brian Calvert and Keturah Anderson (ICF); Dat Nguyen (AECOM).

Meeting Date	Meeting Summary
2/16/2017	Meeting: Project updates were provided to RCFCWCD and drainage design options for the eastern section of the project were discussed. Attendees: Scott Staley and Mary Zambon (County of Riverside); Edwin Quinonez, Kris Flanigan, Ruben Duran, Juliana Adams, and Joan Valle (RCFCWCD); Brian Calvert and Keturah Anderson (ICF); Bill Hagmaier and Gary Sjelin (AECOM).

5.3.7 Riverside-Corona Resource Conservation District

Coordination with RCRCD regarding the project has included the sharing of information, methodologies, and draft technical studies under the 23 USC 139 process, as well as the discussion of project details concerning water quality and CWA 401 certification. A summary of meetings and correspondence specifically with RCRCD is presented in Table 5-12, below. All other coordination and communications involving RCRCD and the 23 USC 139 process are summarized in Section 5.1 and included in Appendix H.

Table 5-12. RCRCD Coordination Summary

Meeting Date	Meeting Summary
12/3/2015	Meeting: An overview of the project was provided to RCRCD and existing mitigation lands under management of RCRCD were discussed. Attendees: Mary Zambon (County of Riverside); Arlee Montalvo (RCRCD), Brian Calvert, Keturah Anderson, and Marisa Flores (ICF).
9/26/2016	Meeting: Existing mitigation lands under management of RCRCD at Temescal Creek and Cajalco Creek were discussed. Design options that would avoid or otherwise minimize impacts were presented for consideration. Attendees: Mary Zambon (County of Riverside); Shelli Lamb and Arlee Montalvo (RCRCD); Brian Calvert and Keturah Anderson (ICF); Tricia Campbell (GLA).
10/3/2018	Meeting: RCRCD comments regarding the NES submitted as part of the 23 USC 139 process. Attendees: Mary Zambon (County of Riverside); Arlee Montalvo (RCRCD); Brian Calvert, Keturah Anderson, and Marisa Flores (ICF).

5.3.8 Native American and Section 106 Coordination

NAHC was contacted by letter on March 29, 2011, requesting information regarding sacred lands and a list of Native American organizations/individuals to contact. The NAHC response received on April 1, 2011, stated that a record search of the Sacred Land Files failed to indicate the presence of Native American cultural resources within 0.5 mile of the project APE, but noted that there are Native American cultural resources in adjacent sections of the Lake Mathews and Steele Peak U.S. Geological Survey 7.5-minute quadrangles. A list of 13 individuals with knowledge of the project area was provided and it was recommended they be contacted. In April 2011, Gary Jones, Caltrans' District 8 Native American Coordinator, reviewed the NAHC list and recommended that changes be made to four contact persons.

Between May 19 and May 27, 2011, letters were sent to representatives of various Native American tribes in accordance with the list of organizations/individuals received from NAHC and recommendations from Gary Jones, Caltrans District 8 Native American Coordinator. Due to

the passage of time and changes to the project description, letters were re-sent to the Native American contacts on May 18, 2016, as well as to additional new contacts identified by the tribes previously contacted. Follow-up emails were sent and phone calls made on June 29, 2016; additional follow-up emails and phone calls for tribes that did not respond to the June 29, 2016, contact attempts were made October 10 and 11, 2016 (refer to Appendix H). Table 5-13 provides a summary of applicable Native American organization contacts and subsequent consultation.

On December 1, 2020, Caltrans consulted with SHPO regarding the determination of National Register of Historic Places (NRHP) eligibility for resources within the project APE. SHPO provided concurrence with Caltrans's determination on February 10, 2021. On February 17, 2021, SHPO concurred with a Finding of Adverse Effect for the proposed project. A Section 106 Memorandum of Agreement (MOA) will be developed for all sites that will be affected by the project, and it will include mitigation measures and treatment for historic properties. The Native American tribes that have been involved in consultation for the Cajalco Road Widening Project will be invited to participate in the development of the MOA. Consultation with the SHPO and consulting tribes will continue through consultation on the MOA, which will be completed prior to the Final EIR/EIS.

In addition to the Section 106 consultation process, the project team met with and discussed the proposed project and area cultural information with local Native American organizations through the 23 USC 139 coordination process and NOI/NOP scoping coordination. This separate coordination is summarized in Table 5-14, *Summary of Additional Native American Coordination*, following Table 5-13.

Table 5-13. Native American Consultation Summary

Native American Group/Individual	Summary of Communications
Agua Caliente Tribe of Cupeño Indians William J. Pink	**5/18/2011:** Initial contact letter sent to William J. Pink via certified mail. No response to the letter was received. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. **6/29/20016:** Follow-up phone call made and email sent to W. Pink regarding questions or comments about the project. W. Pink replied via email, stating there are significant religious sites and quarries along the current route that should be avoided. He expects burials and cremations to be encountered and if they are they should be avoided if possible, and if not possible to be treated in accordance with the law. **7/27/2016:** Email sent to W. Pink requesting clarification of tribal affiliation. **7/31/2016:** Email received from W. Pink confirming tribal affiliation as Cupeño/Luiseño Indian and a member of the Agua Caliente Tribe of Cupeño Indians. No further responses have been received from Agua Caliente Tribe of Cupeño Indians.
Cahuilla Band of Indians Yvonne Markel Luther Salgado Sr., Chairperson Andreas Heredia, Cultural Director Bobby Ray Esparza, Cultural Coordinator	**5/23/2011:** Initial contact letter sent to Yvonne Markel via certified mail. No response to the letter was received. **5/18/2016:** New letter sent to Chairperson Luther Salgado, Senior, due to passage of time and introduction of additional project alternatives. No response to the letter was received. **6/29/2016:** Follow-up phone call made and email sent to L. Salgado Sr. requesting a response if the tribe has information related to the project. **6/30/2016**: Email response received from Cultural Director Andreas Heredia requesting a copy of the letter. Follow up email sent to L. Salgado Sr.

Native American Group/Individual	Summary of Communications
Anthony Madrigal, Senior, Vice President / Tribal Historic Preservation Officer (THPO)	**6/30/2016:** Letter received from A. Heredia, stating that the tribe requests a cultural monitor(s) on site for all ground disturbances. **12/6/2017:** Email sent to A. Heredia regarding review of the Extended Phase I (XPI) Survey proposal and involvement in the survey. An electronic copy of XPI proposal was provided via FTP. An email response was received from Bobby Ray Esparza (Cahuilla) stating that A. Heredia was no longer there, that B. Esparza would be the new Cultural Coordinator/Director for Cahuilla, and Anthony Madrigal, Sr. is the Tribal Historic Preservation Officer. **12/8/2017:** A CD containing the XPI proposal for the project was mailed to B. Esparza. **12/13/2017:** Telephone call made by S. Bryne (ICF) to B. Esparza to discuss meeting to gather the tribe's input on the XPI proposal. B. Esparza suggested a meeting at the tribal office on 12/20/2017. **12/20/2017:** M. Zambon (County) and consultants met at the Cahuilla Tribal office with A. Madrigal and B. Esparza to gather input on the XPI proposal. A. Madrigal and B. Esparza stated that they would like to monitor and that they would have a tribal monitor available. **1/5/2018:** A CD containing the HPSR for the project was mailed to B. Esparza. **3/1/2018:** Email received from B. Esparza inquiring about project updates. Project update provided. **8/15–9/6/2018, 10/18/2018:** Rose Ann Hamilton (Cahuilla) participated as a monitor during XPI survey. **9/10/2018:** Email to B. Esparza from S. Bryne (ICF) inquiring as to positive or negative feedback regarding the monitoring during the XPI. Mr. Esparza responded, stating no negative feedback but inquired as to an update when the project would proceed. **10/9/2018:** Email exchange between B. Esparza and S. Bryne (ICF) regarding coordination of monitoring for one additional day of XPI survey. **10/21/2019:** Caltrans submitted revised Draft HPSR to Cahuilla (attention of A. Madrigal, Sr.) for review. **11/18/2019:** Meeting held at County office regarding comments on HPSR. Attendees: A. Madrigal, Sr., B. Esparza (Cahuilla); Gary Jones (Caltrans); M. Zambon (County of Riverside); and County consultants. Information provided by Cahuilla was considered and addressed in revised cultural reports. **11/19/2020:** A CD containing the HPSR was delivered via mail to the attention of A. Madrigal, Sr. **12/11/2019:** Email to G. Jones (Caltrans) and M. Zambon (County) from B. Esparza regarding comments on HPSR and concern that some destruction to cultural resources would occur under any of the project alternatives. The email further indicated recommendation by THPO for Build Alternative 2C. No further comments have been received from Cahuilla Band of Indians.
Los Coyotes Band of Mission Indians Francine Kupsch, Spokesperson Janice Elzenga	**5/21/2011:** Initial contact letter sent to Francine Kupsch via certified mail. No response to the letter was received. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. No response to the letter was received. **6/29/2016:** Follow-up phone call made and email sent to J. Elzenga requesting a response if the tribe has information related to the project. **10/11/2016:** Follow-up phone call made and email sent to J. Elzenga requesting a response if the tribe has information related to the project. No responses have been received from Los Coyotes Band of Mission Indians.
Morongo Band of Mission Indians Michael Contreras	**5/19/2011:** Initial contact letter sent to M. Contreras via certified mail. No response to the letter was received. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. No response to the letter was received.

Native American Group/Individual	Summary of Communications
Raymond Huaute, Cultural Resource Specialist Travis Armstrong, Tribal Historic Preservation Officer (THPO)	**6/29/2016**: Follow-up phone call made and email sent to M. Contreras requesting a response if the tribe has information related to the project. **10/11/2016:** Follow-up phone call made and email sent to M. Contreras requesting a response if the tribe has information related to the project. **3/9/2017:** Email sent to Raymond Huaute, Cultural Resource Specialist, regarding interest in Section 106 consultation and requesting a response if the tribe has information related to the project. A summary of prior contact efforts with Morongo was provided. R. Huaute responded in an email the same day, requesting copies of cultural reports. He was thusly informed of the status of cultural reports, and that they would be provided when available. **1/6/2018:** Draft HPSR provided to R. Huaute. No comments received. **1/29/2018:** Field meeting with resource agencies, County, and ICF to view drainage features throughout project site. R. Huaute and Travis Armstrong (Morongo) attended. Mr. Huaute and T. Armstrong shared concerns regarding communications with Morongo about the project. It was agreed that Morongo would be involved in monitoring and informed of any changes in project status. **2/5, 2/27/2018:** Follow up email sent to R. Huaute regarding the Morongo monitoring agreement and to review the XPI proposal. A signed monitoring contract was provided by R. Huaute on 2/27/2018. **2/15/2018:** M. Zambon (County) sent R. Huaute a letter and CD containing the XPI proposal for the project. **4/10/2018:** Monitoring agreement for the XPI survey was sent to R. Huaute. No comments received. **6/29/2018:** S. Bryne (ICF) received a voicemail message from T. Armstrong asking to be informed as the project schedule for the XPI survey was developed. **7/2/2018:** S. Bryne left a voicemail for T. Armstrong informing him that he would be apprised of the project schedule when it was available. **7/13/2018:** Executed monitoring agreement received from Alicia Benally (Morongo) via email. **8/15–9/6/2018, 10/18/2018:** D. Hough, A. Lerma, and R. Mathews, Jr. (Morongo) participated as a monitors during XPI survey. **9/10/2018:** Email to A. Benally from S. Bryne (ICF) inquiring as to positive or negative feedback regarding the monitoring during the XPI. No response to the inquiry was received. An additional email inquired if a monitor from the tribe would be available to monitor one additional day for the XPI survey. **10/09 and 10/16/2018**: Email from A. Benally sent to S. Bryne (ICF) indicating that R. Mathews, Jr. may not be available for monitoring. Email from A. Benally to S. Bryne (ICF) indicating monitor would be D. Hough. **10/21/2019:** Caltrans submitted revised Draft HPSR to Morongo (attention of T. Armstrong, THPO) for review. **11/21/2019:** Meeting held at County office regarding comments on HPSR. Attendees: T. Armstrong (Morongo); G. Jones (Caltrans); M. Zambon (County of Riverside); and B. Calvert, Karen Crawford, and K. Anderson (ICF). Mr. Armstrong conveyed appreciation of the County's outreach and inclusion of the tribe in the planning process, and interest in protecting tribal resources without obstructing the project. Additional information discussed was considered and addressed in revised cultural reports. **12/18/2019:** Email received by G. Jones (Caltrans) and M. Zambon (County) from T. Armstrong (Morongo) indicating no further comments on HPSR. No further responses have been received from Morongo Band of Mission Indians.
Pala Band of Mission Indians	**5/19/2011**: Initial contact letter sent to Shasta Gaughen via certified mail. A response to the letter was received in 2012 (below). **10/10/2012:** Letter from S. Gaughen to Deputy District Director David Bricker (Caltrans), indicating deferral to tribes in closer proximity to the project.

Native American Group/Individual	Summary of Communications
Shasta C. Gaughen, PhD, Tribal Historic Preservation Officer	**5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. No response to the letter was received. No further responses have been received from Pala Band of Mission Indians.
Pauma and Yuima Reservation Randall Majel, Chairperson	**5/19/2011:** Initial contact letter sent to Chairman Randall Majel via certified mail. No response to the letter was received. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. No response to the letter was received. **6/29/2016:** Follow-up call made and email sent to R. Majel requesting a response if the tribe has information related to the project. **10/11/2016:** Follow-up phone call made and email sent to R. Majel requesting a response if the tribe has information related to the project. No responses have been received from Pauma and Yuima Reservation.
Pauma Valley Band of Luiseño Indians Bennae Calac, Tribal Council Member Chris Devers, Vice Chairman	**5/19/2011:** Initial contact letter sent to Bennae Calac via certified mail. No response to the letter was received. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. **6/2/2016:** Email received from Chris Devers stating Pauma Band is unaware of specific cultural resources within proposed project area; their concern is the protection and avoidance of cultural sites. Requested to be updated as project progresses. **10/11/2016:** Follow up phone call made and email sent to B. Calac requesting a response if the tribe has information related to the project. No further responses have been received from Pauma Valley Band of Luiseño Indians.
Pechanga Band of Luiseño Mission Indians Anna Hoover, Cultural Analyst Mark Macarro, Chairperson Paul Macarro, Chairperson, Cultural Resource Coordinator Raymond Basquez, Senior, Chairperson Gary Dubois, Tribal Historic Preservation Officer Ebru Ozdil, Cultural Analyst Molly Earp-Escobar, Cultural Resource and Planning Specialist	**5/27/2011:** Initial contact letters sent to M. Macarro, P. Macarro and A. Hoover via certified mail. **6/13/2011:** Letter response received from A. Hoover (Pechanga) addressed to M. Robinson (ICF) requesting government-to-government consultation, and stating that the project is not within reservation lands, but within ancestral territory. The letter further describes prior coordination with the County and interest in protection of sensitive resources. **2/10/2012:** Brenda Tomaras (Tomaras & Ogas) sent an email on behalf of tribe to Mary Zambon (County) requesting project status update. M. Zambon responded to the inquiry with a status update. **10/2/2012:** Email to A. Hoover from K. Anderson (ICF) regarding the proposed project; addressed CEQA and NEPA delegated lead agencies, the County and Caltrans, respectively, seeking to continue consultation with Pechanga regarding the proposed project. **10/3/2012:** Email sent to A. Hoover from K. Anderson (ICF) regarding coordination of October 29, 2012, meeting at Pechanga Cultural Resources facility in Temecula. **10/29/2012:** Russell Williams, Scott Staley and M. Zambon (County), Gary Jones (Caltrans), and County consultants (ICF), met with P. Macarro, A. Hoover, Raymond Basquez, Senior, and Ebru Ozdil (Pechanga), and B. Tomaras (Tomaras & Ogas) at the Pechanga Cultural Resources facility to discuss resources in the project area and bridge design in the Cajalco Creek area. **3/7/2013–3/21/2013:** Email exchange with A. Hoover (Pechanga) regarding coordination of April 16, 2013 meeting. **4/16/2013:** Meeting held at Pechanga Cultural Resources facility with A. Hoover, P. Macarro and E. Ozdil (Pechanga); B. Tomaras (Tomaras & Ogas); G. Jones (Caltrans); M. Zambon, S. Staley, and R. Williams (County); and County consultants (AECOM and ICF). Revised bridge designs for the Cajalco Creek area in response to earlier input from Pechanga were shared and discussed.

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	4/25/2013: Email to A. Hoover, P. Macarro, E. Ozdil, B. Tomaras, G. Jones, M. Zambon, S. Staley, R. Williams, and County consultants regarding field meeting on April 29, 2013. **4/29/3013:** Field meeting held with R. Basquez, Sr., A. Hoover, P. Macarro, and E. Ozdil (Pechanga); G. Jones (Caltrans); B. Tomaras (Tomaras & Ogas); M. Zambon (County); and County consultants (AECOM and ICF). Pechanga shared Cajalco Creek area information and indicated interest in specific features; the County and consultants described what would be proposed by the project for the area, and possible methods for avoiding and minimizing impacts. **5/6/2013:** Field meeting summary distributed to A. Hoover, P. Macarro, E. Ozdil, B. Tomaras, G. Jones, M. Zambon, S. Staley, R. Williams, E. Ng, B. Calvert, and M. Long. **12/18/2013:** Email sent to A. Hoover from M. Zambon regarding additional engineering work to revise the Cajalco Creek bridge conceptual layout. **1/29/2015**: M. Zambon emailed A. Hoover, R. Williams, A. Cannon, P. Macarro, E. Ozdil, G. Jones, and J. Marcinek, and agenda for the February 3, 2015, meeting. **2/3/2015**: M. Zambon (County) met with R. Basquez, Sr., A. Hoover, and E. Ozdil (Pechanga) at the County office to discuss County projects and concerns involving sensitive resources. County consultants (AECOM and ICF) attended. **3/19/2015:** M. Zambon (County) sent a CD containing project information to Pechanga Band of Luiseño Mission Indians containing project information. **5/14/2015:** Email sent to A. Hoover containing Cajalco Creek Bridge design details. **5/28/2015:** M. Zambon (County), G. Jones (Caltrans), K. Anderson and M. Robinson (ICF) met with P. Macarro, A. Hoover, and E. Ozdil (Pechanga) at the Pechanga Cultural Resources facility to discuss resources in the project area and bridge design in the Cajalco Creek area. **6/7/2015:** Email sent to E. Ozdil regarding KMZ and DGN files depicting the Cajalco Creek bridge options. **7/27/2015:** Letter sent to A. Hoover from M. Zambon regarding follow-up information for meeting held 5/28/2015. **5/3/2016:** M. Zambon (County), G. Jones (Caltrans), and County consultants (ICF) met with A. Hoover, E. Ozdil, and P. Macarro (Pechanga) at Pechanga Cultural Resources facility to discuss the project and bridge design in the Cajalco Creek area. **5/17/2016:** Ms. Zambon (County) sent a letter containing a CD with project information to A. Hoover. **5/18/2016:** New letter sent to A. Hoover and P. Macarro (Pechanga) regarding introduction of additional project alternatives. **5/31/2016–11/15/2016:** Email exchanges and phone calls among S. Bryne, A. Hoover, and Tony Foussat (Pechanga) regarding coordination and scheduling of monitoring during field surveys. **6/29/2016:** Follow-up phone call made and email sent requesting a response if the Tribe has additional information related to the project. **6/30/2016:** Email from S. Bryne to A. Hoover confirming letters sent in May to the Native American contacts on the original NAHC list. **10/11/2016:** Follow-up phone calls made and emails sent to P. Macarro and A. Hoover (Pechanga) requesting a response if the tribe has information related to the project. **3/9–3/10/2017:** Email exchange between S. Bryne and T. Foussat regarding coordination and scheduling of monitoring during survey. **3/24/2017:** Email received from E. Ozdil requesting that A. Hoover's email be removed from project correspondence list, as she is no longer with the Pechanga Tribe. **9/15/2017:** M. Zambon (County) sent E. Ozdil a letter with APE map, site information for the Cajalco Creek site area, a map set for each project alternative, and Google Earth files of the project area.

Native American Group/Individual	Summary of Communications
	12/6/2017: Email sent to E. Ozdil regarding review of the XPI proposal and involvement in survey. An electronic copy of the XPI proposal was made available via FTP. The email also requested a meeting with Caltrans, the County, and consultants to discuss details of the proposal and go over questions or concerns. **12/18/2017:** M. Zambon (County) and County consultants (ICF) called E. Ozdil to go through the details of the XPI proposal and to discuss any questions or concerns. E. Ozdil stated that the tribe would like to monitor the excavations and that they would provide a tribal monitor. P. Macarro stated that Cajalco means "Quail Place," and that the Boulder Springs Development had affected the prehistoric sites. P. Macarro stated that ICF should coordinate the monitoring with T. Foussat. **1/5/2018:** Draft HPSR provided to E. Ozdil per request. **1/23/2018:** Email received from M. Earp-Escobar regarding request of complete cultural (XPI) report. In response, clarification was provided clarifying that the full report for archaeological resources was included as an attachment to the draft HPSR provided 1/6/2018. **1/29/2018:** Field meeting with resource agencies, County, and ICF to view drainage features throughout project site. P. Macarro, T. Foussat, and M. Earp-Escobar (Pechanga) attended. **2/14/2018:** Meeting held between Pechanga members, County, Caltrans, and County consultants at Pechanga Cultural Resources facility to discuss the XPI locations, testing approach, coordination and monitoring, and comments on the HPSR. **2/15/2018:** Email follow-up sent to P. Macarro, E. Ozdil, M. Earp-Escobar, and M. Hannah by K. Anderson. M. Earp-Escobar responded with a letter containing comments on HPSR. **3/22/2018:** Email sent to P. Macarro, E. Ozdil, M. Earp-Escobar, M. Hannah, and B. Tomaras regarding follow up on additional resources information discussed at February 14 meeting. **4/12/2018:** Letter received from M. Earp-Escobar regarding Pechanga comments on XPI proposal. **8/15–9/6/2018, 10/18/2018:** C. Schlater and C. Yearyean (Pechanga) participated as a monitors during XPI survey. **9/10/2018:** Email sent to Tina Mendoza inquiring as to positive or negative feedback regarding the monitoring during the XPI. A response to the inquiry was not received. **10/9, 10/16/2018:** Email exchange between County consultants and T. Mendoza regarding availability of a monitor for one additional XPI survey day. **10/21/2019:** Caltrans submitted revised Draft HPSR to Pechanga (attention of E. Ozdil) for review. **10/24/2019:** Additional electronic transmission of Draft HPSR provided to Pechanga per request. **11/7/2019:** Meeting held at Pechanga Cultural Resources facility regarding comments on HPSR and Traditional Cultural Properties (TCPs). Attendees: P. Macarro, E. Ozdil, Michele Fahley, and M. Earp-Escobar (Pechanga Band of Luiseño Mission Indians); G. Jones (Caltrans – via telephone); M. Zambon (County of Riverside); and County consultants (ICF). **11/25/2019:** Letter sent to Pechanga (attention of E. Ozdil) by G. Jones (Caltrans) requesting TCP information for consideration in HPSR. **12/20/2019:** Confidential letter submitted to Caltrans by Pechanga regarding TCPs. **1/23/2020:** Meeting held at Pechanga Cultural Resources facility regarding TCPs. Attendees: P. Macarro, E. Ozdil, and M. Earp-Escobar (Pechanga); G. Jones (Caltrans). Mapping approach for the three newly identified TCPs was discussed and developed. During this meeting it was established that because the TCPs are so large, and due to their sacred aspects, the project would have no adverse effects overall on the TCPs because the project would not affect the region's sacred qualities. It was made clear that the adverse effect of the project was on the archaeological sites only

Native American Group/Individual	Summary of Communications
	and that these effects were dependent on which alternative was chosen to move forward. **2/27–3/2/2020:** Email exchange between G. Jones and E. Ozdil confirming that next review for Pechanga will be to develop mitigation measures during the Memorandum of Agreement process. **2/28/2020:** TCP information letter submitted to Caltrans by Pechanga for consideration and inclusion in HPSR. Information provided in letter was considered and addressed in revised cultural reports.
Ramona Band of Cahuilla Mission Indians John Gomez Jr., Cultural Resources Coordinator Joseph Hamilton, Chairperson	**5/19/2011:** Initial contact letter sent to John Gomez, Junior, via certified mail. **5/18/2016:** New letter sent due to passage of time and introduction of additional project alternatives. **6/29/2016:** Follow-up phone call made to N. Jonnkhoff requesting a response if the tribe has information related to the project. **10/11/2016:** Follow-up phone call made and email sent to J. Hamilton requesting a response if the tribe has information related to the project. **2/9/2017:** Follow-up phone call made to J. Gomez, Jr., requesting a response if the tribe has information related to the project. No further responses have been received from Ramona Band of Cahuilla Mission Indians.
Santa Rosa Band of Cahuilla Indians Steven Estrada, Chairman, Environmental Director Mayme Estrada, Chairperson John Marcus, Vice Chairman	**5/19/2011:** Initial contact letter sent to S. Estrada via certified mail. **5/26/2011:** S. Estrada responded to the letter in an email, stating the Santa Rosa Band of Cahuilla Indians did not have any specific concerns in regard to cultural resources at this time. He further stated, “However, there is potential for unknown cultural resources to be discovered.” He concluded that, “With this said, the Santa Rosa Band of Cahuilla Indians will defer further consultation efforts to the Soboba Band of Luiseno Indians and their Cultural Resources Department. If you have any other questions please contact Mr. Joseph Ontiveros.” **5/18/2016**: New letter sent to M. Estrada due to passage of time and introduction of additional project alternatives. No response to the letter was received. **6/29/2016:** Phone call made and follow-up email sent to M. Estrada requesting a response if the tribe has information related to the project. **6/30/2016:** Letter sent to J. Marcus regarding new project alternatives. **10/11/2016:** Follow-up phone call made and email sent to M. Estrada requesting a response if the tribe has information related to the project. No further responses have been received from Santa Rosa Band of Cahuilla Indians.
Soboba Band of Luiseño Indians Joseph Ontiveros, Director Jessica Valdez	**5/23/2011:** Initial contact letter sent to Joseph Ontiveros via certified mail. No response to the letter was received. **3/19/2015:** M. Zambon (County) sent CD to Soboba Band of Luiseño Indians containing project information. **4/20/2015:** Letter from J. Ontiveros to M. Zambon (County), stating the project is within the Tribal Traditional Use Area and requesting tribal monitoring and a meeting with the County regarding the project. **5/6/2015:** G. Jones (Caltrans), M. Zambon (County), and County consultants (ICF) met with J. Ontiveros (Soboba) to discuss the proposed Cajalco Creek bridge. **5/13/2015:** Email received from J. Ontiveros regarding follow-up to the information requested at May 6, 2015, consultation meeting held at County, concerning the Cajalco Creek Bridge structure for design options. **6/18/2015:** Email from J. Ontiveros to K. Anderson regarding scheduling of field meeting with County and Caltrans July 16, 2015. **7/15/2015:** Email received from J. Ontiveros to M. Zambon confirming change of meeting location to County office.

Native American Group/Individual	Summary of Communications
	7/16/2015: G. Jones (Caltrans), S. Staley (County), B. Calvert and County consultants (AECOM and ICF) met with J. Ontiveros (Soboba) at County offices to discuss the proposed Cajalco Creek bridge. **7/27/2015:** Ms. Zambon (County) emailed a letter with CD containing bridge design information to J. Ontiveros. **11/19/2015:** Email sent to J. Ontiveros confirming field meeting with County and Caltrans on December 3, 2015. **12/3/2015:** G. Jones (Caltrans), M. Zambon (County), County consultants (AECOM and ICF), and Nick Biro (Blue Mtn. Development), met with J. Ontiveros (Soboba) to discuss proposed bridge options in Cajalco Creek area. **5/17/2016**: M. Zambon (County) sent a letter containing a CD with project information to Mr. Ontiveros. **5/18/2016:** New letter sent to J. Ontiveros regarding introduction of additional project alternatives. **5/31, 6/1/2016–11/29/2016:** Telephone and email exchanges between S. Bryne (ICF) and J. Ontiveros regarding coordination and scheduling of monitoring during survey of Cajalco Creek area and various areas of the project. **10/11/2016:** Phone conversation with J. Ontiveros soliciting questions or concerns Soboba may have concerning the project. J. Ontiveros referred ICF to J. Valdez (Soboba) to set up a disclosed consultation as he was out of the country at the time. Email sent to J. Valdez following phone call with J. Ontiveros to set up consultation. J. Valdez stated J. Ontiveros had already been corresponding with S. Bryne (ICF). **10/19/2016:** Email received from J. Valdez stating the project area is considered sensitive and existing sites are in the surrounding area. An in-house database search identified multiple areas of potential impact to be discussed in direct consultation with lead agency. **10/19/2016:** Letter received from J. Ontiveros stating the project is within the Tribal Traditional Use Area, and requests consultation with lead agency, transfer of information to Soboba, and monitor to be present during ground disturbance activities. **11/29/2016:** G. Jones (Caltrans) and M. Zambon (County) met with J. Ontiveros (Soboba) at County offices to discuss the proposed project and Cajalco Road Interim Safety Improvement Project, and documentation of earlier correspondence. **3/9–3/10/2017:** Email exchange between S. Bryne and J. Ontiveros regarding coordination and scheduling of monitoring during survey. **9/15/2017:** M. Zambon (County) sent J. Ontiveros a letter, draft APE map, site information for the Cajalco Creek site area, a map set of each project alternative, and Google Earth files of the project area. **12/6/2017:** Email sent to J. Ontiveros regarding review of the XPI proposal and involvement in the survey. An electronic copy of the XPI document was made available via FTP. The email also requested a meeting with Caltrans, the County, and consultants to discuss details of the proposal and go over any questions or concerns. **12/8/2017:** A CD containing the XPI proposal for the project was mailed to J. Ontiveros. **1/4/2018:** M. Zambon (County) and County consultants (ICF) met with J. Ontiveros at County office to discuss the XPI survey. J. Ontiveros indicated that the tribe would provide a Native American Monitor and would send a monitoring agreement. **1/6/2018:** Draft HPSR sent to J. Ontiveros. No comments received. **1/8/2018:** J. Ontiveros provided draft Cultural Resource Monitoring Agreement. **1/29/2018:** Field meeting with resource agencies, County, and ICF to view drainage features throughout project site. **8/6/2018:** Executed monitoring agreement received via email from J. Valdez (Soboba). **8/15–9/6/2018, 10/18/2018:** T. Arceo and J. Sigler (Soboba) participated as monitors during XPI survey.

Native American Group/Individual	Summary of Communications
	9/10/2018: Email to J. Valdez from S. Bryne (ICF) inquiring as to positive or negative feedback regarding the monitoring during the XPI. A response to the inquiry was not received. **10/9, 10/15/2018:** Email exchange between J. Valdez and S. Bryne (ICF) regarding availability of a monitor for one additional day for the XPI survey. J. Valdez responded that T. Arceo would not be available to monitor but that J. Sigler would be the monitor. **10/21/2019:** Caltrans submitted revised Draft HPSR to Soboba (attention of J. Ontiveros) for review. **11/14/2019:** Meeting held at County office regarding comments on HPSR. Attendees: J. Ontiveros (Soboba); G. Jones (Caltrans); M. Zambon (County); and County consultants (ICF). Information provided by Soboba was considered and addressed in revised cultural reports. **12/16/2019 and 1/9/2020:** Follow up emails sent to J. Ontiveros (Soboba) from M. Zambon (County) regarding comments on HPSR. No further comments provided.

Table 5-14. Summary of Additional Native American Coordination

Native American Group/Individual	Summary of Communications
Agua Caliente Tribe of *Cupeño* Indians William J. Pink	**9/7/2011**: NOP sent to Willie J. Pink; NOP included notice of public scoping meeting and copy of IS.
Cahuilla Band of Indians Yvonne Markel Anthony Madrigal, Sr, Tribal Historic Preservation Officer BobbyRay Esparza, Cultural Coordinator	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe by Deputy District Director D. Bricker (Caltrans), per 23 USC 139 (Efficient Environmental Review). **2/26/2013**: Letter of opportunity to comment on project description and purpose and need sent to tribe per 23 USC 139 (Efficient Environmental Review). **2/6/2019:** Email regarding status of 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **8/6/2019:** Email with status update regarding 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **5/3/2021:** Solicitation of interest to review Draft EIS per 23 USC 139 (Efficient Environmental Review) sent to Cahuilla by K. Anderson (ICF). **5/17/2021**: Request to hold a focused call received from BobbyRay Esparza (Cahuilla). Email containing SharePoint link for Draft EIS and download instructions sent to Anthony Madrigal Senior and BobbyRay Esparza (Cahuilla) by K. Anderson (ICF). Email reminder to submit comments on the Draft EIS by 6/9/2021 sent to A. Madrigal Sr and B. Esparza (Cahuilla) by K. Anderson (ICF). Email invitation to participate in 5/18/2021 focused call regarding Draft EIS sent to A. Madrigal Sr. and B. Esparza by K. Anderson. **5/21/2021**: Email containing SharePoint link for Final HPSR and download instructions sent to A. Madrigal Sr. and B. Esparza by K. Anderson (ICF). **6/2/2021**: Email with meeting date and time options sent to A. Madrigal Sr. and B. Esparza by K. Anderson (ICF). Email reminder sent to B. Esparza requesting receipt of comments on Draft EIS by 6/92021 by K. Anderson (ICF). **6/3/2021**: Email with additional meeting date and time options sent to A. Madrigal Sr. and B. Esparza by K. Anderson (ICF).

Native American Group/Individual	Summary of Communications
Los Coyotes Band of Mission Indians Francine Kupsch, Spokesperson	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review).
Morongo Band of Mission Indians Michael Contreras, Cultural Heritage Programs Raymond Huaute, Cultural Resource Specialist Ann Brierty	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review). **3/23/2017:** Email from K. Anderson (ICF) canceling the 4/6/2017 bi-monthly conference call (Efficient Environmental Review) due to minimal changes and requesting response to input opportunities matrix. **1/29/2018**: Email with meeting minutes for 10/5/2017 bi-monthly conference call held regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for 2/1/2018 bi-monthly conference call, sent to Raymond Huaute (Morongo) by K. Anderson (ICF). **2/1/2018**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **2/27/2018**: Email with meeting minutes for bi-monthly conference call held 2/2/2018 regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for the 4/5/2018 Bi-monthly conference call, sent to R. Huaute (Morongo) by K. Anderson (ICF). **2/6/2019:** Email regarding status of 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **8/6/2019:** Email with status update regarding 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **5/3/2021:** Solicitation of interest to review Draft EIS per 23 USC 139 (Efficient Environmental Review) sent to Morongo by K. Anderson (ICF). **5/20/2021:** Email reminder for submittal of comments on Draft EIS by 6/9/2021 sent to Ann Brierty and THPO email address by K. Anderson (ICF). **5/21/2021:** Email containing SharePoint link for Final HPSR and download instructions sent to A. Brierty and THPO email address by K. Anderson (ICF).
Pala Band of Mission Indians Shasta C. Gaughen, PhD, Tribal Historic Preservation Officer	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **9/16/2011**: S. Gaughen responded to S. Staley (County) re: NOP—deferred to local tribes. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review). **10/10/2012**: Letter from S. Gaughen (Pala) to Deputy District Director D. Bricker (Caltrans) indicating deferral to tribes in closer proximity to the project.
Pauma and Yuima Reservation Randall Majel, Chairperson	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review). **6/29/2016**: Follow-up email sent regarding questions or comments about the project.
Pauma Valley Band of Luiseño Indians Bennae Calac, Tribal Council Member	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review).
Pechanga Band of Luiseño Mission Indians	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP.

Native American Group/Individual	Summary of Communications
Anna Hoover, Cultural Analyst Mark Macarro, Chairperson Paul Macarro, Chairperson, Cultural Coordinator Ebru Ozdil, Cultural Analyst Juan Ochoa, Asst Tribal Historic Preservation Officer	**10/21/2011**: Letter from A. Hoover (Pechanga) to M. Zambon (County) with comments concerning project area and requesting government-to-government consultation. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review). **11/9/2012**: Letter from A. Hoover (Pechanga) to A. Burton (Caltrans) regarding invitation to become participating agency and response to NOP. **2/26/2013**: Letter of opportunity to comment on project description and purpose and need sent to tribe per 23 USC 139 (Efficient Environmental Review). **3/27/2013**: Letter from A. Hoover (Pechanga) to A. Burton (Caltrans) regarding comments on project purpose and need, and request for detailed project maps. **3/11/2014**: County quarterly project coordination meeting held at County office. Active County projects, including Cajalco Road Widening Project, were discussed. **3/12/2015**: Letter of opportunity to provide input on range of alternatives and methodology sent to tribe per 23 USC 139 (Efficient Environmental Review). **5/5/2015**: County quarterly project coordination meeting held at County office. Active County projects, including Cajalco Road Widening Project, were discussed. **8/4/2015**: County quarterly project coordination meeting held at County office. Active County projects, including Cajalco Road Widening Project, were discussed. **4/7/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **6/2/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **6/16/2016**: Email exchange between T. Foussat (Pechanga) and S. Bryne (ICF) stating that T. Foussat will be the contact person for monitor scheduling and serve as the tribal representative for the project. **8/4/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **10/6/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **2/2/2017**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **6/1/2017**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **1/29/2018**: Email with meeting minutes for 10/5/2017 bi-monthly conference call held regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for 2/1/2018 Bi-monthly conference call, sent to E. Ozdil, P. Macarro, and T. Foussat (Pechanga) by K. Anderson (ICF). **2/1/2018**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **2/27/2018**: Email with meeting minutes for bi-monthly conference call held 2/2/2018 regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for the 4/5/2018 Bi-monthly conference call, sent to E. Ozdil, P. Macarro, and T. Foussat (Pechanga) by K. Anderson (ICF). **4/5/2018**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **2/6/2019:** Email regarding status of 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **8/6/2019:** Email with status update regarding 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **5/3/2021**: Solicitation of interest to review Draft EIS per 23 USC 139 (Efficient Environmental Review) sent to P. Macarro, E. Ozdil, Tina Thompson Mendoza, and Tony Foussat (Pechanga) by K. Anderson (ICF).

Native American Group/Individual	Summary of Communications
	5/4/2021: Email confirming interest in reviewing Draft EIS received by K. Anderson (ICF) from E. Ozdil (Pechanga). **5/6/2021:** Email containing SharePoint link for Draft EIS and download instructions sent to E. Ozdil and Michele Fahley (Pechanga) by K. Anderson (ICF). **5/10/2021:** Second email containing SharePoint link for Draft EIS and download instructions sent to E. Ozdil and Michele Fahley (Pechanga) by K. Anderson (ICF). **5/12/2021**: Invitation to participate in 5/18/2021 focused call regarding Draft EIS sent to E. Ozdil, T. Mendoza, and M. Fahley (Pechanga) by K. Anderson (ICF). **5/17/2021**: Second invitation to participate in focused call regarding Draft EIS sent to E. Ozdil, T. Mendoza, and Michele Fahley (Pechanga) by K. Anderson (ICF). **5/21/2021:** Email containing SharePoint link for Final HPSR and download instructions sent to Pechanga by K. Anderson (ICF). **6/2/2021**: Email reminder sent to Pechanga requesting receipt of comments on Draft EIS by 6/9/2021 by K. Anderson (ICF).
Ramona Band of Cahuilla Mission Indians John Gomez Jr., Cultural Resources Coordinator	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review).
Santa Rosa Band of Cahuilla Indians Steven Estrada, Chairman, Environmental Director	**9/7/2011**: NOP sent to Tribe; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent to tribe per 23 USC 139 (Efficient Environmental Review).
Soboba Band of Luiseño Indians Joseph Ontiveros, Director	**9/7/2011**: NOP sent to tribe; notice of public scoping meeting and copy of IS included with NOP. **9/22/2011**: Letter from J. Ontiveros (Soboba) to M. Zambon (County) responding to NOP—government-to-government consultation requested. **10/1/2012**: Letter of invitation to become a participating agency sent to J. Ontiveros (Soboba) by Deputy District Director D. Bricker (Caltrans). **4/23/2015**: Email from J. Ontiveros to M. Zambon regarding meeting scheduled 5/6/2016. **4/7/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **6/2/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **8/4/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **10/6/2016**: Bi-monthly conference call held regarding proposed project with participating agencies per 23 USC 139 (Efficient Environmental Review). **1/29/2018**: Email with meeting minutes for 10/5/2017 bi-monthly conference call held regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for 2/1/2018 bi-monthly conference call, sent to J. Ontiveros (Soboba) by K. Anderson (ICF). **2/27/2018**: Email with meeting minutes for bi-monthly conference call held 2/2/2018 regarding the proposed project and participating agencies coordination per 23 USC 139 (Efficient Environmental Review), and agenda for the 4/5/2018 bi-monthly conference call, sent to J. Ontiveros (Soboba) by K. Anderson (ICF). **2/6/2019:** Email regarding status of 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF). **8/6/2019:** Email with status update regarding 23 USC 139 (Efficient Environmental Review) coordination distributed to all participating agencies by K. Anderson (ICF).

Native American Group/Individual	Summary of Communications
	5/3/2021: Solicitation of interest to review Draft EIS per 23 USC 139 (Efficient Environmental Review) sent to J. Ontiveros (Soboba) by K. Anderson (ICF). **5/21/2021:** Email containing SharePoint link for Final HPSR and download instructions sent to J. Ontiveros by K. Anderson (ICF).
NAHC Dave Singleton	**3/29/2011**: Contacted NAHC for file search. **4/1/2011**: NAHC responded. **9/7/2011**: NOP sent; notice of public scoping meeting and copy of IS included with NOP. **10/1/2012**: Letter of Invitation to become a participating agency on the project sent from Deputy District Director D. Bricker, per 23 USC 139 (Efficient Environmental Review). **10/8/2012**: Letter from D. Singleton (NAHC) to Deputy District Director D. Bricker (Caltrans) accepting participating agency status on the project.

The following coordination has also occurred to address cultural resources pursuant to Section 106 of the National Historic Preservation Act:

- On July 11, 2012, and February 15, 2019, letters were sent to the following government agencies and consulting and interested parties who may have knowledge about historic properties in the area. In the letters, information was requested regarding historic buildings, districts, sites, objects, and archaeological sites of significance within the project area. Updated letters were sent on February 15, 2019, due to passage of time and introduction of additional project alternatives; the letter included project information updates and solicitation of information concerning cultural resources and interest in consultation.
  - City of Corona Planning Department
  - City of Perris Planning Department
  - City of Riverside Cultural Heritage Board
  - Corona Historic Preservation Society
  - March JPA
  - Hemet-San Jacinto Genealogical Society
  - Jurupa Mountain Cultural Center
  - Lake Elsinore Historical Society
  - Mission Inn Museum and Foundation
  - Norco Historical Society
  - Orange Empire Railway Museum
  - Perris Valley Historical Museum Association, Perris Valley Museum
  - Riverside County Planning Department
  - Riverside County Historical Commission
  - Riverside County Transportation and Land Management Agency

- Riverside County Mexican American Historical Society
- Riverside Genealogical Society
- Riverside Historical Society
- Riverside Land Conservancy
- Santa Rosa Mining District & Preservation Society
- Sherman Indian Museum
- Winchester Historical Society of Pleasant Valley

On April 12, 2019, Sean Berry of Santa Rosa Mining District & Preservation Society spoke with a project architectural historian. Berry discussed potential historic sites outside of the APE, including the location of Mulholland Tunnel (outside of the APE), and potential locations of the Butterfield Stage Route.

On July 15, 2019, telephone calls were made and/or emails were sent to the remaining 15 local preservation consulting parties. As of February 10, 2020, five responses were received: an email dated July 15, 2019, from Wes Speake from the Corona Historic Preservation Society; a phone call on July 16, 2019, from Ruth Atkins from the Lake Elsinore Historical Society; an email dated July 16, 2019, from Nicole Padron from the Rivers & Lands Conservancy; an email dated July 18, 2019, from Lina Salinas Thompson from the Riverside Country Mexican American Historical Society; and an email dated July 21, 2019, from Lisa Baker from the Hemet San Jacinto Genealogical Society. None of these responses identified resources in or near the APE.

5.3.9 Transportation Conformity Working Group

At the May 23, 2017, meeting with SCAG's Transportation Conformity Working Group (TCWG), it was determined that the proposed project is not a project of air quality concern (POAQC). TCWG meeting information is included in Appendix G of the EIR/EIS.

PM Hot Spot Analysis Project Lists

Review of PM Hot Spot Interagency Review Forms

May, 2017	Determination
LATP17M014 May 2017	Not a POAQC – Hot Spot Analysis Not Required
SCAG015 May 2017	Not a POAQC – Hot Spot Analysis Not Required
RIV071388 May 2017	Not a POAQC – Hot Spot Analysis Not Required
[illegible]	Not a POAQC – Hot Spot Analysis Not Required
RIV111203 May 2017	Not a POAQC – Hot Spot Analysis Not Required

5.4 Additional Public Participation

5.4.1 Public Outreach

Public meetings have been held over the course of the project from 2011 to 2018, including the public scoping meetings discussed in Sections 5.2.2 and 5.2.3. Table 5-15, below, lists all the public meetings held to date.

Table 5-15. Public Outreach Meetings

Date	Meeting	Location
9/26/2011	Public Scoping Meeting #1	Lake Mathews Elementary School 12252 Blackburn Road, Riverside, CA 92503
9/29/2011	Public Scoping Meeting #2	Tomas Rivera Middle School 21675 Martin Street, Perris, CA 92570
10/19/2011	RAGLM	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92503
1/12/2012	Greater Lake Mathews Rural Trails Association	Kountry Folks Homestyle Restaurant 3653 La Sierra Avenue, Riverside, CA 92505
1/26/2012	Greater Lake Mathews Rural Trails Association	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92503
7/18/2012	RAGLM	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92517
9/12/2012	Mead Valley Municipal Advisory Council Meeting	Tomas Rivera Middle School 21675 Martin Street, Perris, CA 92570
10/11/2012	Woodcrest Municipal Advisory Council Meeting	Woodcrest Library 16625 Krameria Avenue, Perris, CA 92504
10/17/2012	Mead Valley Municipal Advisory Council Meeting	Mead Valley Library 21580 Oakwood Street, Riverside, CA 92570
10/24/2012	NEPA Public Scoping Meeting #1	Lake Mathews Elementary School 12252 Blackburn Road, Riverside, CA 92503
10/25/2012	NEPA Public Scoping Meeting #2	Tomas Rivera Middle School 21675 Martin Street, Perris, CA 92570
10/13/2013	Mead Valley Town Hall Meeting	Mead Valley Community Center 16453 El Sobrante Road, Riverside, CA
10/16/2013	RAGLM	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92503
11/14/2013	Woodcrest Town Hall Meeting	Woodcrest Elementary School 16940 Krameria Avenue, Riverside, CA 92504
3/12/2014	Temescal Valley Town Hall Meeting	Temescal Valley Elementary School 22950 Claystone Avenue, Corona, CA 92504
7/14/2015	La Sierra/Lake Mathews Town Hall Meeting	Lake Mathews Elementary School 12252 Blackburn Road, Riverside, CA 92503
8/5/2015	Mead Valley Town Hall Meeting	Mead Valley Community Center 21091 Rider Street, Perris, CA 92570
11/12/2015	Woodcrest Town Hall Meeting	Woodcrest Elementary School 16940 Krameria Avenue, Riverside, CA 92504
1/20/2016	RAGLM	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92517
8/3/2016	Mead Valley Municipal Advisory Council Meeting	Mead Valley Community Center 21091 Rider Street, Perris, CA 92570
11/10/2016	Woodcrest Town Hall Meeting	Woodcrest Elementary School 16940 Krameria Avenue, Riverside, CA 92504
4/19/2017	RAGLM	Lake Mathews Fire Station #4 16453 El Sobrante Road, Riverside, CA 92503

Meetings were held with six community-based organizations, which provided members the opportunity to express concerns and provide input about the proposed project. Project information was also available at multiple Riverside County Town Hall meetings held in the area.

Information regarding the project was also made available to the public outside of meetings. The County created a webpage (http://rcprojects.org/cajalco/), which is currently active, that contains details about the Cajalco Road Widening and Safety Enhancement Project. The following information was made available on the webpage: the IS, the NOP, the project alternatives, figures of the proposed alignment, a project overview, presentations provided at public meetings, project contacts, and comment submission form.

5.4.2 Environmental Stakeholder Groups

Based on responses to the NOI and NOP received from environmental stakeholder groups, focused meetings were held in 2011, 2017, and 2018 to discuss environmental concerns noted in the responses involving wildlife movement, species protection, and consistency with transportation planning. A summary of the meetings held is provided in Table 5-16, below. Complete meeting summaries are included in Appendix H.

Table 5-16. Environmental Stakeholder Coordination Meetings Summary

Meeting Date	Meeting Summary
9/22/2011	Meeting: An overview of the proposed project was presented and project background and need were discussed. Environmental concerns regarding the proposed project, project area, and prior projects were shared by participants and discussed. Next steps in the development and environmental assessment of the proposed project and continuing opportunities for input and coordination with stakeholder groups were identified. Attendees: Susan Nash and Tom Paulek (Friends of the Northern San Jacinto Valley); George Hague (Sierra Club); Len Nunney (Friends of the Riverside Hills); Drew Feldman; Arlee Montalvo (RCRCD); Michael Fitts; Gaston Roucg; Juan Perez, Scott Staley, and Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, and Tricia Campbell (ICF); Ed Ng (AECOM).
9/27/2012	Meeting: An overview of the proposed project and updates since the stakeholders meeting in 2011 was presented. Follow-up information regarding wildlife movement, crossing opportunities, and group input on project components to facilitate safe crossings, including roadway design, fencing, and crossing design, were discussed. Concerns regarding impacts on existing conservation lands and proposed mitigation were also discussed. Next steps in the environmental assessment of the proposed project and continuing opportunities for input and coordination with stakeholder groups were identified. Attendees: Susan Nash and Tom Paulek (Friends of the Northern San Jacinto Valley); George Hague (Sierra Club); Len Nunney (Friends of the Riverside Hills); Arlee Montalvo (RCRCD); Dan Silver (Endangered Habitats League); Juan Perez, Scott Staley, and Mary Zambon (County of Riverside); Brian Calvert, Keturah Anderson, and Tricia Campbell (ICF); Ed Ng (AECOM).
5/10/2017	Meeting: An overview of the proposed project, including project alternatives, was presented and project components were discussed. Biological research and studies conducted to date concerning wildlife movement and crossing design were also discussed. Reopening of the LM MSHCP and the steps involved were discussed, as well as next steps for the consideration of input and continuing coordination with stakeholder groups, resources agencies, and MWD. Attendees: Kate Kramer (California Native Plant Society-Riverside San Bernardino Chapter [CNPS]); Ilene Anderson (Center for Biological Diversity); Susan Nash and Tom Paulek (Friends of the Northern San Jacinto Valley); Nancy Higbee (San Bernardino Valley Audubon Society); George Hague (Sierra Club); Len Nunney (Friends of the Riverside Hills); Aaron Burton (Caltrans); Juan Perez, Patty Romo, Russell Williams, Scott Staley, Mary Zambon, and Michael

Meeting Date	Meeting Summary
	Maldonado (County of Riverside); Diane Doesserich and Wendy Picht (MWD); Brian Calvert and Keturah Anderson (ICF); Tricia Campbell (GLA).
4/30/2018	Meeting: The County provided updates regarding the status of project development and environmental assessment, as well as the consideration of prior input in the design and placement of wildlife crossings. Next steps in the availability of the Draft EIR/EIS and opportunities for input were identified. Attendees: Dan Silver (Endangered Habitats League); Kate Kramer (CNPS); Ilene Anderson (Center for Biological Diversity); Susan Nash and Tom Paulek (Friends of the Northern San Jacinto Valley); Nancy Higbee (San Bernardino Valley Audubon Society); George Hague (Sierra Club); Len Nunney (Friends of the Riverside Hills); Kathleen Dale; Aaron Burton (Caltrans); Juan Perez, Patty Romo, Russell Williams, Scott Staley, and Mary Zambon (County of Riverside); Sean Carlson and Alex Marks (MWD); Brian Calvert, Keturah Anderson, Marisa Flores, Shannon Crossen, and Greg Hoisington (ICF).
6/7/2021	Meeting: The County provided updates regarding the status of project development and environmental reviews, as well as the consideration of prior input in the design and placement of wildlife crossings. Next steps in the availability of the Draft EIR/EIS and opportunities for input were identified. Attendees: Kate Kramer (CNPS); Ilene Anderson (Center for Biological Diversity); Susan Nash and Tom Paulek (Friends of the Northern San Jacinto Valley); Nancy Higbee (San Bernardino Valley Audubon Society); George Hague (Sierra Club); Len Nunney (Friends of the Riverside Hills); Dan Silver (Endangered Habitats League); Arlee Montalvo (CNPS); Aaron Burton (Caltrans); Juan Perez, Mark Lancaster, Russell Williams, Mary Zambon, and Mojahed Salama (County of Riverside); Diane Doesserich, Sean Carlson, and Alex Marks (MWD); Brian Calvert, Keturah Anderson, Marisa Flores, Shannon Crossen, and Greg Hoisington (ICF); Greg Hefter and Dat Nguyen (AECOM).

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Chapter 7. Distribution List

This Draft Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) will be distributed to the State, regional, and local agencies listed in this section. Distribution of the Draft EIR/EIS may be by hard copy, electronic media, reference to the Web site in which the document is available, or a combination of these. In addition, a Notice of Availability of the Draft EIR/EIS will be published in local English and Spanish newspapers on December 3, 2021. The document will also be available for public view at: www.rcprojects.org/cajalco-road-widening.

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Omar Zaki Commissioner	City of Riverside Planning Commission 3900 Main Street Riverside, CA 92522
Sean Mill Commissioner	City of Riverside Planning Commission 3900 Main Street Riverside, CA 92522
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Brady McCarron Commissioner	City of Perris Planning Commission 101 North D Street Perris, CA 92570
Richard Kirby Commissioner	City of Riverside Planning Commission 3900 Main Street Riverside, CA 92522
Kris Martinez Public Works Director	City of Riverside 3900 Main Street Riverside, CA 92522
Ivan Marin Commissioner	City of Perris Planning Commission 101 North D Street Perris, CA 92570
Kerry Parker Commissioner	City of Riverside Planning Commission 3900 Main Street Riverside, CA 92522
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7.5 Tribal Groups

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Ebru T. Ozdil	Pechanga Band of Luiseno Mission Indians P.O. Box 1477 Temecula, CA 92593
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Francine Kupsch Spokesperson	Los Coyotes Band of Mission Indians P.O. Box 189 Warner, CA 92086
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7.6 Religious Institutions, Interested Groups, Organizations, and Individuals

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Gary Schultz	18882 Sunnyview Circle Yorba Linda, CA 92886
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Abigail Duet	K-9 Companies 13703 J.J. Lane Perris, CA 92570
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Thomas & Pamela Molter	20698 Lynette Lane Perris, CA 92570
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Eulalia Patino	21190 Elmwood Street Perris, CA 92570
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Store Manager	Acai Republic 2225 Eagle Glen Parkway, #B-104 Corona, CA 92883
Store Manager	Hair by Jenn Cota 2225 Eagle Glen Parkway, #105 Corona, CA 92883

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Manager	Sun Nails 2279 Eagle Glen Parkway, #102 Corona, CA 92883
Manager	Fantastic Sam's 2279 Eagle Glen Parkway, #103 Corona, CA 92883
Restaurant Manager	New York Pizza Department & Bagels 2279 Eagle Glen Parkway, #105 Corona, CA 92883
Store Manager	Subway 2279 Eagle Glen Parkway, #106 Corona, CA 92883
Restaurant	Tokai Sushi 2279 Eagle Glen Parkway, #107 Corona, CA 92883
Manager	Animal Hospital of Eagle Glen 2279 Eagle Glen Parkway, #108 Corona, CA 92883
Manager	Pediatric Partners 2279 Eagle Glen Parkway, #110 Corona, CA 92883
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Manager	Marshall's 2459 Tuscany Street Corona, CA 92881
Store Manager	Barnes and Noble 2470 Tuscany Street, #101 Corona, CA 92881
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Manager	King's Fish House 2530 Tuscany Street Corona, CA 92881
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Manager	Navy Federal Credit Union 2620 Tuscany Street, #101 Corona, CA 92881
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Store Manager	Jamba Juice 2620 Tuscany Street, #106 Corona, CA 92881
Store Manager	Cold Stone Creamery 2630 Tuscany Street #101 Corona, CA 92881
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Store Manager	2690 Tuscany Street, #110 Corona, CA 92881

Manager	Starlight Dos Lagos 2710 Lakeshore Drive Corona, CA 92883
Restaurant Manager	Miguel's California Mexican Cocina 2715 Lakeshore Drive Corona, CA 92883
Gena Elliott	Miguel's California Mexican Cocina 2715 Lakeshore Drive Corona, CA 92883
Restaurant Manager	TAPS Fish House & Brewery 2745 Lakeshore Drive Corona, CA 92883
Manager	2765 Lakeshore Drive Corona, CA 92883
Manager	The Princeton Company 2780 Cabot Drive #160 Corona, CA 92883
Manager	Stay Connected 2780 Cabot Drive, #140 Corona, CA 92883
Store Manager	Cavallini Boutique 2780 Cabot Drive, #170 Corona, CA 92883
Store Manager	Sunglass Hut 2780 Cabot Drive #135 Corona, CA 92882
Store Manager	Mon Esprit Aveda 2780 Cabot Drive #B-105 Corona, CA 92883
Liz Brock	Coldwater Creek 2780 Cabot Drive, #101 Corona, CA 92883
Store Manager	Pinkberry 2795 Cabot Drive, #103 Corona, CA 92883
Manager	All Star Drafts Sports Bar & Grill 2785 Cabot Drive, #110 Corona, CA 92883
Manager	2780 Cabot Drive, #110 Corona, CA 92883
Store Manager	Macro Revive 2780 Cabot Drive, #120 Corona, CA 92883
Store Manager	278 Cabot Drive, #125 Corona, CA 92883
Manager	Arbi Jewelers 2795 Cabot Drive, #6-120 Corona, CA 92883 arbijewelers@gmail.com
Store Manager	Infinity Hair Studio 2795 Cabot Drive, #105 Corona, CA 92883
Manager	2780 Cabot Drive, #140 Corona, CA 92883

Manager	No Borders Brazilian Jiu-Jitsu 2780 Cabot Drive, #165 Corona, CA 92883
Store Manager	Thai Lotus 2795 Cabot Drive, #170 Corona, CA 92883
Manager	Crown & Stache Barber Company 2780 Cabot Drive, #5-150 Corona, CA 92883
Store Manager	Burning Desire Cigar Lounge 2790 Cabot Drive, #5-125 Corona, CA 92883
Store Manager	Aspire Body Enhancements 2790 Cabot Drive, #A-145 Corona, CA 92883
Store Manager	Lee Spa Nails 2790 Cabot Drive, #A-155 Corona, CA 92883
Manager	Dos Lagos Dental 2790 Cabot Drive, #A-160 Corona, CA 92883
Vacant	Beverly Hills Bridal Exchange 2780 Cabot Drive, #B-101 Corona, CA 92883
Marie Navarro	Brighton Collectibles 2780 Cabot Drive, #5-130 Corona, CA 92883
Joella Sullivan or Store Manager	Brighton Collectibles 2780 Cabot Drive, #5-130 Corona, CA 92883
Manager	Dos Lagos Management Office 2780 Cabot Drive Corona, CA 92883
Manager	Allstate Insurance 2790 Cabot Drive, #B-150 Corona, CA 92883
Manager	278 Cabot Drive, #B-160 Corona, CA 92883
Manager	2780 Cabot Drive, #B-170 Corona, CA 92883
Manager	2780 Cabot Drive, #D-150 Corona, CA 92883
Store Manager	Daniel's Jewelers 2785 Cabot Drive, #120 Corona, CA 92883
Store Manager	Home Design Furnishings 2785 Cabot Drive, # 125 Corona, CA 92883
Restaurant Manager	Duomo Pizza Factory 2785 Cabot Drive, #115 Corona, CA 92883
Manager	Reign Training Facility 2785 Cabot Drive, #135 Corona, CA 92883

Store Manager	Iplayology 2785 Cabot Drive, #145 Corona, CA 92883
Store Manager	Beautiful Body & Beyond 2785 Cabot Drive, #152 Corona, CA 92883
Manager	Stone Church Brewing 2785 Cabot Drive, #160 Corona, CA 92883
Store Manager	Papaya 2785 Cabot Drive, #175 Corona, CA 92883
Manager	Float State 2785 Cabot Drive, #7-125 Corona, CA 92883
Store Manager	Windsor Fashions 2785 Cabot Drive, #C-140 Corona, CA 92883
Store Manager	Loft 2785 Cabot Drive, #C-145 Corona, CA 92883
Manager	2785 Cabot Drive, #C-150 Corona, CA 92883
Restaurant Manager	RA Sushi 2785 Cabot Drive, #D-101 Corona, CA 92883
Store Manager	Rocky Mountain Chocolate Factory 2785 Cabot Drive, #D-105 Corona, CA 92883
Store Manager	Sleep Number 2785 Cabot Drive, #D-130 Corona, CA 92883
Manager	2785 Cabot Drive, #D-150 Corona, CA 92883
Manager	2785 Cabot Drive, #D-160 Corona, CA 92883-7388
Store Manager	Z Gallerie 2785 Cabot Drive, #D-165 Corona, CA 92883
Manager	2785 Cabot Drive, #D-170 Corona, CA 92883-7388
Store Manager	Papaya 2785 Cabot Drive, #D-175 Corona, CA 92883
Restaurant Manager	Wood Ranch BBQ & Grill 2785 Lakeshore Drive Corona, CA 92883
Store Manager	Brace Yourself 2790 Cabot Drive Corona, CA 92883
Manager	Studio Salon Suites 2790 Cabot Drive Corona, CA 92883

Store Manager	Cursive 2790 Cabot Drive, # 4-115 Corona, CA 92883
Store Manager	Burning Desire Cigar Lounge 2790 Cabot Drive, #125 Corona, CA 92883
Manager	Direct Home Lending 2790 Cabot Drive, #136 Corona, CA 92883
Manager	Re/Max Real Estate 2790 Cabot Drive, #130-140 Corona, CA 92883
Manager	Club Pilates Corona 2790 Cabot Drive, #4-137 Corona, CA 92883
Store Manager	2790 Cabot Drive, #A-101 Corona, CA 92883
Store Manager	Express 2790 Cabot Drive, #A-105 Corona, CA 92883
Store Manager	Bath and Body Works 2790 Cabot Drive, #A-110 Corona, CA 92883
Store Manager	2790 Cabot Drive, #A-120 Corona, CA 92883
Store Manager	Brighton 2790 Cabot Drive, #A-130 Corona, CA 92883
Chan Lee, OD, FAAO Store Manager	Optique Optometry 2790 Cabot Drive, #A-135 Corona, CA 92883
Manager	2790 Cabot Drive, #A-138 Corona, CA 92883
Store Manager	Sumthin Savvy Boutique & Beauty Bar 2790 Cabot Drive, #A-145 Corona, CA 92883
Manager	Trader Joe's 2790 Cabot Drive, #A-165 Corona, CA 92883
Store Manager	Loft 2795 Cabot Drive, #145 Corona, CA 92883
Store Manager	Soccer Warehouse 2795 Cabot Drive, #6-150 Corona, CA 92883
Restaurant Manager	Thai Lotus Restaurant 2795 Cabot Drive Corona, CA 92883
Store Manager	2795 Cabot Drive Corona, CA 92883
Manager	2795 Cabot Drive #C-175 Corona, CA 92883
Restaurant Manager	BACO Wind and Grill 2795 Cabot Drive, #180 Corona, CA 92883

Restaurant Manager	Fatburger & Buffalo's 2795 Cabot Drive, #6-102 Corona, CA 92883
Store Manager	Dry Clean Factory 2795 Cabot Drive, #6-106 Corona, CA 92883
Manager	FutureLine 2795 Cabot Drive, #6-115 Corona, CA 92883
Manager	Crème de la Crème Bakery 2795 Cabot Drive, #C-101 Corona, CA 92883
Store Manager	Bath and Body Works 2795 Cabot Drive, #C-110 Corona, CA 92883
Manager	Cursive 2795 Cabot Drive, #C-115 Corona, CA 92883
Manager	2795 Cabot Drive, #C-120 Corona, CA 92883
Manager	2795 Cabot Drive, #C-125 Corona, CA 92883
Restaurant Manager	T.G.I. Friday's 2795 Cabot Drive, #C-155 Corona, CA 92881
Manager	2795 Cabot Drive, #C-180 Corona, CA 92883
Manager	Happy Taxi 316 North Grant Avenue Corona, CA 92882
Store Manager	Famous Footwear 3335 Grand Oaks Corona, CA 92881
Armonado	Brown Shoe Company (Famous Footwear) 3335 Grand Oaks Corona, CA 92881
Manager	3347 Grand Oaks Corona, CA 92881
Store Manager	THAIRapy Salon & Blow Dry Bar 3359 Grand Oaks Corona, CA 92881
Store Manager	Palm Beach Tan 3359 Grand Oaks, #101 Corona, CA 92883
Manager	3359 Grand Oaks, #104 Corona, CA 92881-4641
Manager	Ink Brows & Lashes 3359 Grand Oaks, #106 Corona, CA 92881
Store Manager	3383 Grand Oaks Corona, CA 92881
Store Manager	Elements Store 3383 Grand Oaks, #101 Corona, CA 92881

Manager	3383 Grand Oaks, #102 Corona, CA 92881
Store Manager	Carter's/Oshkosh B'gosh 3383 Tuscany Street, #104 Corona, CA 92881
Store Manager	Tilly's 3417 Grand Oaks, #101 Corona, CA 92881
Store Manager	Old Navy 3417 Grand Oaks, #102 Corona, CA 92881
Store Manager	Active 3431 Grand Oaks, #101 Corona, CA 92881
Manager	Wescom Credit Union 3431 Grand Oaks, #102 Corona, CA 92881
Manager	3439 Grand Oaks Corona, CA 92881
Store Manager	Michaels Store #4712 3469 Grand Oaks Corona, CA 92881
Store Manager	Petco 3485 Grand Oaks Corona, CA 92881
Store Manager	Wendy's 3515 Grand Oaks Corona, CA 92881-4634
Manager	3520 Grand Oaks Corona, CA 92881
Restaurant Manager	Rock & Brews Restaurant 3550 Grand Oaks Corona, CA 92281
Store Manager	Jerome's Furniture 3615 Grand Oaks, #C-1 Corona, CA 92881
Store Manager	Beverages and More 3643 Grand Oaks Corona, CA 92881
Paul	Material Transport 3725 Temescal Canyon Road Corona, CA 92878-0578
Juan North	Material Transport 3725 Temescal Canyon Road Corona, CA 92878-0578
Manager	Current Occupant 3811 Bedford Canyon Road, #101 Corona, CA 92883
Jimmy Pham	Eagle Glen Dental Group 3811 Bedford Canyon Road, #105 Corona, CA 92883
Manager	3811 Bedford Canyon Road, #107 Corona, CA 92883
Manager	3811 Bedford Canyon Road, #108 Corona, CA 92883

Store Manager	Sunrise Grind 3833 Bedford Canyon Road, #103 Corona, CA 92883
Tony Lieu Manager	Eagle Glen Optometry 3833 Bedford Canyon Road, #C-101 Corona, CA 92883
Vic Ortiz	Ortiz Chiropractor 3833 Bedford Canyon Road, #C-102 Corona, CA 92883
Restaurant Manager	Jack in the Box 3855 Bedford Canyon Road Corona, CA 92883
Sergio Sicre	Quikrete Companies 3940 Temescal Canyon Road Corona, CA 92883
Manager	Dos Lagos Golf Course 4507 Cabot Drive Corona, CA 92883-4620
Dan Hicks	Roberts 9001 Cajalco Road Corona, CA 92883
Manager	Circle K 19248 Harvill Avenue Perris, CA 92570
Manager	Jack in the Box 19248 Harvill Avenue, Bldg. 8 Perris, CA 92570
Manager	76 Station 19248 Harvill Avenue Perris, CA 92570
Manager	Castrol Premium Lube Express 23261 Cajalco Expressway Perris, CA 92571
Manager	Splash Express Perris 23261 Cajalco Expressway Perris, CA 92571
Manager	Riverside County Travel Zone 23261 Cajalco Expressway Perris, CA 92571
Manager	Ecology Recycling 23332 Cajalco Road Perris, CA 92570
Manager	CAT Scale 23261A Cajalco Road Perris, CA 92570
Manager	Genesis Supreme RV Inc. 23129 Cajalco Road Perris, CA 92570
Manager	Tacos de C.O. Estilo Sonora 23085 Cajalco Road Perris, CA 92570
Manager	Mariscos Urupan Mobil 23113 Cajalco Road Perris, CA 92570

Manager	Gopher Protocol Inc. 23129 Cajalco Road Perris, CA 92570
Manager	Lalo's Transport 23051 Cajalco Road Perris, CA 92570
Manager	Tacos Lucaz 19498 Seaton Avenue Perris, CA 92570
Manager	Pupuseria LA 503 Cajalco Road and Seaton Avenue Perris, CA 92570
Manager	Cal Stress Free Moving 19600 Seaton Avenue Perris, CA 92570
Manager	Craneology Inc. 19641 Seaton Avenue Perris, CA 92570
Manager	Loch Ness Heavy Equipment & Truck Repair 22900 Cajalco Road Perris, CA 92570
Manager	Boris Tires 19505 Day Street Perris, CA 92570
Manager	GG Brothers Hydro 22080 Cajalco Road Perris, CA 92570
Manager	Cajalco Beauty Salon 22128 Cajalco Road Perris, CA 92570
Manager	Perris Valley Feed 21962 Cajalco Road Perris, CA 92570
Manager	Mead Valley Feed 21623 Cajalco Road Perris, CA 92570
Manager	Uptown Market & Liquor 21381 Cajalco Road Perris, CA 92570
Manager	Tacos Jimenez 20845 Cajalco Road Perris, CA 92570
Manager	Mead Valley Market 21110 Cajalco Road Perris, CA 92570
Manager	Circle K 19470 Brown Street Perris, CA 92570
Manager	Phillips 66 19470 Brown Street Perris, CA 92570
Manager	Lake Mathews Feed & Pet Supply 17679 Cajalco Road Perris, CA 92570

Manager	Riverside Archers Cajalco Road Corona, 92881
Manager	Taquero Mucho 8590 Cajalco Road Corona, CA 92881
Manager	Prinsco Corona 8513 Cajalco Road Corona, CA 92881
Manager	Circle K 8590 Cajalco Road Corona, CA 92881
Manager	Farmer Boys 23190 Cajalco Road Perris, CA 92570
Travis Duet	K-9 Companions 13703 J.J. Lane Perris, CA 92570
Manager	Jack in the Box 19248 Harvill Avenue, Bldg 8 Perris, CA 92570
Manager	Palm Plantation 13440 Cajalco Road Perris, CA 92570
Manager	Arco Travel Zone Center 23261 Cajalco Road Perris, CA 92570
Manager	GoneStraw Farms 13456 El Sobrante Road Riverside, CA 92503
Manager	Rancho Dos Pinos 13710 El Sobrante Road Riverside, CA 92503
Robertson's Corona Quarry	8846 Cajalco Road Corona, CA 92882

7.8 Education

Wendy Numata Principal	Columbia Elementary School 21350 Rider Street Perris, CA 92570 wnumata@valverde.edu
Tom Strickland Principal	Saint James Catholic School 250 West 3rd Street Perris, CA 92570
Justin Tucker Associate Professor	California State University Fullerton P.O. Box 6848 Fullerton, CA 92834 justintucker@fullerton.edu
Michael McCormick Superintendent	Val Verde Unified School District 975 West Morgan Street Perris, CA 92571 mmccormick@valverde.edu

Kristal Subia Principal	Tomas Rivera Middle School 21675 Martin Street Perris, CA 92570 ksubia@valverde.edu
Andrew Roberts Principal	El Cerrito Middle School 7610 El Cerrito Road Corona, CA 92881 aroberts@cnusd.k12.ca.us
Sarah Allen Principal	Citrus Hill High School 18150 Wood Road Perris, CA 92570 sallen@ valverde.edu
Jean Marie Frey Superintendent	Perris Elementary School District 143 East 1st Street Perris, CA 92570 frey@perrisesd.org
Stacy Strawderman	Val Verde Unified School District 975 West Morgan Street Perris, CA 92570 sstrawderman@valverde.edu
Dr. Sam Buenrostro, Ed.D. Superintendent	Corona-Norco Unified School District 2820 Clark Avenue Norco, CA 92860 sbuenrostro@cnusd.k12.ca.us

7.9 Elected Officials

Tony Daddario Council Member	City of Corona 400 South Vicentia Avenue Corona, CA 92882
Jacque Casillas Mayor	City of Corona 400 South Vicentia Avenue Corona, CA 92882
Ronaldo Fierro Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Jim Perry Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
David Starr Rabb Mayor Pro Tem	City of Perris 101 North D Street Perris, CA 92570
Malcolm Corona Council Member	City of Perris 101 North D Street Perris, CA 92570
Marisela Nava Council Member	City of Perris 101 North D Street Perris, CA 92570
Chuck Conder Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Rita Rogers Council Member	City of Perris 101 North D Street Perris, CA 92570

Erin Edwards Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Clarissa Cervantes Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Gaby Plascencia Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Jim Steiner Council Member	City of Corona 400 South Vicentia Avenue Corona, CA 92882
Wes Speake Vice Mayor	City of Corona 400 South Vicentia Avenue Corona, CA 92882
Phil Ayala Council Member	City of San Jacinto 595 South San Jacinto Avenue San Jacinto, CA 92583
Alonzo Ledezma Mayor	City of San Jacinto 595 South San Jacinto Avenue San Jacinto, CA 92583
Steve Hemenway Council Member	City of Riverside 3900 Main Street Riverside, CA 92522
Alex Padilla Senator	U.S. Senate 11845 West Olympic Boulevard, #1250W Los Angeles, CA 90064
V. Manuel Perez Supervisor, District 4	Riverside County Board of Supervisors 4080 Lemon Street, 5th Floor Riverside, CA 92502
Chuck Washington Supervisor, District 3	Riverside County Board of Supervisors 4080 Lemon Street, 5th Floor Riverside, CA 92502
Jose Medina Assembly Member	California State Assembly, District 61 1223 University Avenue, Room 230 Riverside, CA 92507
Michael Vargas Mayor	City of Perris 101 North D Street Perris, CA 92570
Jeremy Smith Council Member	City of Canyon Lake 31516 Railroad Canyon Road Canyon Lake, CA 92587
Ben Benoit Mayor Pro Tem	City of Wildomar 23873 Clinton Keith Road, #201 Wildomar, CA 92595
Maryann Edwards Mayor	City of Temecula 41000 Main Street Temecula, CA 92589
Matt Rahn Mayor Pro Tem	City of Temecula 41000 Main Street Temecula, CA 92589
Patricia Lock Dawson Mayor	City of Riverside 3900 Main Street Riverside, CA 92522

Ted Weill Mayor	City of Rancho Mirage 69-825 Highway 111 Rancho Mirage, CA 92270
Linda Molina Mayor Pro Tem	City of Calimesa 908 Park Avenue Calimesa, CA 92320
Joseph DeConinck Council Member	City of Blythe 235 North Broadway Street Blythe, CA 92225
Steven Hernandez Mayor	City of Coachella 53990 Enterprise Way Coachella, CA 92236
Scott Matas Mayor	City of Desert Hot Springs 11-999 Palm Drive Desert Hot Springs, CA 92240
Bob Magee Mayor	City of Lake Elsinore 130 South Main Street Lake Elsinore, CA 92530
Jan Harnik Mayor Pro Tem	City of Palm Desert 73510 Fred Waring Drive Palm Desert, CA 92260
Crystal Ruiz Mayor Pro Tem	City of San Jacinto 595 South San Jacinto Avenue San Jacinto, CA 92583
Tom Richins Council Member	City of Corona 400 South Vicentia Avenue Corona, CA 92882
Lloyd White Mayor Pro Tem	City of Beaumont 550 East 6th Street Beaumont, CA 92223
Lisa Middleton Mayor Pro Tem	City of Palm Springs 3200 Tahquitz Canyon Way Palm Springs, CA 92262
Raymond Gregory Mayor	City of Cathedral City 68700 Avenida Lalo Guerrero Cathedral City, CA 92234
Clint Lorimore Mayor Pro Tem	City of Eastvale 12363 Limonite Avenue, #910 Eastvale, CA 91752-3686
Linda Krupa Council Member	City of Hemet 445 East Florida Avenue Hemet, CA 92543
Dana Reed Mayor Pro Tem	City of Indian Wells 44-950 Eldorado Drive Indian Wells, CA 92210
Scott Vinton Mayor	City of Murrieta One Town Square Murrieta, CA 92562
Kyle Pingree Council Member	City of Banning 99 East Ramsey Street Banning, CA 92220
Ted Hoffman Council Member	City of Norco 2870 Clark Avenue Norco, CA 92860-1169

Yxstian Gutierrez Mayor	City of Moreno Valley 14177 Frederick Street Moreno Valley, CA 92553
Bill Zimmerman Mayor	City of Menifee 29844 Haun Road Menifee, CA 92586
Brian Berkson Council Member	City of Jurupa Valley 8930 Limonite Avenue Jurupa Valley, CA 92509
Waymond Fermon Mayor Pro Tem	City of Indio 100 Civic Center Mall Indio, CA 92201
Kathleen Fitzpatrick Council Member	City of La Quinta 78495 Calle Tampico La Quinta, CA 92253

7.10 Emergency Responders

Matt Sims Chief of Police	City of Perris Police Department 137 North Perris Boulevard Perris, CA 92570
Michael Moore Fire Chief	City of Riverside Fire Dept. 3900 Main Street Riverside, CA
Anita Ward	Riverside County Dept., El Cerrito 2300 Market Street, #150 Riverside, CA 92501
John Salisbury Police Chief Moreno Valley Station Sheriff	Riverside County Sheriff's Department 22850 Calle San Juan De Los Lagos Moreno Valley, CA 92552-0805 MVPD@moval.org
Justin McGough Battalion Chief	City of Perris Fire Department 210 West San Jacinto Avenue Perris, CA 92570
Andrew Elia Lake Elsinore Station Sheriff	Riverside County Sheriff's Department 333 Limited Avenue Lake Elsinore, CA 92530
Eddie J. Pust Chief of Police	City of Hemet Police Department 450 East Latham Avenue Hemet, CA 92543
Amanda L. Ray Commissioner	California Highway Patrol 601 North 7th Street Sacramento, CA 95811
Chad Bianco Sheriff	Riverside County Sheriff's Department 4095 Lemon Street Riverside, CA 92501
Robert Newman Police Chief	City of Corona Police Dept. 400 South Vicentia Avenue Corona, CA 92882
George Gradias Fire Captain	Riverside County Fire Dept. 1511 Hamner Avenue Norco, CA 91760

Bruce Barton Director	County of Riverside Emergency Management Department 450 E Alessandro Boulevard Riverside, CA 92508
Larry V. Gonzalez Chief of Police	City of Riverside Police Department 4102 Orange Street Riverside, CA 92501 rpdchiefonline@RiversideCA.gov
	California Highway Patrol 847 East Brier Drive San Bernardino, CA 92408
Battalion Chief	Lake Mathews Fire Station #4 16453 El Sobrante Road Riverside, CA 92503
Brian Young Fire Chief	City of Corona Fire Dept. 400 South Vicentia Avenue Corona, CA 92882
Shawn Newman Fire Chief	County of Riverside Fire Dept. 2300 Market Street, Suite 150 Riverside, CA 92501

7.11 Libraries

Karen Snider Branch Manager	Mead Valley Library 21580 Oakwood Street Perris, CA 92570
Connie Rynning Library Manager	Woodcrest Library 16625 Krameria Avenue Riverside, CA 92504
Elizabeth Ram Library Manager	El Cerrito Branch Library 7581 Rudell Road Corona, CA 92881

7.12 Media

Jose Fuentes	La Prensa 1825 Chicago Avenue, #100 Riverside, CA 92507
Pam Bonds Account Executive	CBS Riverside 900 East Washington Street, #315 Colton, CA 92324
	Sentinel Weekly News 1307-C West 6th Street, #139 Corona, CA 92882
Cy Garrett	Inland Valley News Talese@InlandValleyNews.com cjg951@gmail.com
Suzie Morris General Manager / Controller	The Black Voice News 1201 University Avenue, #210 Riverside, CA 92507 info@blackvoicenews.com suzie@voicemediaventures.com

David Downey Staff Writer	The Press Enterprise ddowney@scng.com

7.13 Project Team - Non Agency

Keturah Anderson	ICF 49 Discovery, #250 Irvine, CA 92618
Viggen Davidian, P.E.	Iteris 801 South Grand Avenue, #530 Los Angeles, CA 90017-4633
Elsa Argomaniz	Arellano Associates 5851 Pine Avenue, #A Chino Hills, CA 91709
Chester Britt	Arellano Associates 5851 Pine Avenue, #A Chino Hills, CA 91709
Brian Calvert	ICF 49 Discovery, #250 Irvine, CA 92618
Greg Hefter	AECOM 999 Town & Country Road Orange, CA 92868

7.14 Property Owners Located within 0.25-Mile Radius

Cajalco Road Dev Corona	1370 Jet Stream Drive #100 Henderson, NV 89052
Walker Kellogue Strangis	1208 S Cloverdale Avenue Los Angeles, CA 90019
Southern California Edison Co	PO Box 800 Rosemead, CA 91770
Metropolitan Water District	PO Box 54153 Los Angeles, CA 90054
Silverstrand Homes	PO Box 696 Hermosa Beach, CA 90254
Marco Antonio Martinez	10480 Cajalco Road Corona, CA 92881
John Keshishian	10470 Cajalco Road Corona, CA 92881
Western Riverside County Reg Con Authority	3133 Mission Inn Avenue Riverside, CA 92507
Sam Chebeir	988 Villa Montes Circle Corona, CA 92879
Castle & Cooke Corona Crossings	10000 Stockdale Highway Bakersfield, CA 93311
Gold Coast Properties CA 1	16155 SW 117 Avenue #B Miami, FL 33177
Vistas Mountain	PO Box 3479 Rancho Cucamonga, CA 92729

Marketplace Bedford	5780 Fleet Street #225 Carlsbad, CA 92008
Riverside County Transportation Commission	PO Box 12008 Riverside, CA 92502
City of Corona	PO Box 940 Corona, CA 92878
Arantine Hills Holdings Lp	85 Enterprise #450 Aliso Viejo, CA 92656
Gibbel Brothers Inc	3490 Piedmont Road #1300 Atlanta, GA 30305
Vi Kingreg	17600 Newhope Street Fountain Valley, CA 92708
Lagos Office Dos	4160 Temescal Canyon Corona, CA 92883
Griffco Land	2518 N Santiago Boulevard Orange, CA 92867
Riverside Corona Resource Conservation Dist	4500 Glenwood Drive Riverside, CA 92501
Castle & Cooke Corona Crossings	1235 N Loop Houston, TX 77008
Target Corp	1000 Nicollet Mall #12 Minneapolis, MN 55403
Arb Inc	26000 Commercentre Drive El Toro, CA 92630
Sitework Dev Co	1632 Railroad Street Corona, CA 92880
Circle K Stores Inc	255 E Rincon Street #100 Corona, CA 92879
Western Riverside County Regional	3403 Tenth Street #320 Riverside, CA 92501
Canyon Rv Temescal	4010 W Chandler Santa Ana, CA 92704
Elsinore Valley Municipal Water Dist	31315 Chaney Street Lake Elsinore, CA 92530
EVMVD	PO Box 3000 Lake Elsinore, CA 92531
Real Prop Chandler	4010 W Chandler Avenue Santa Ana, CA 92704
Minnesota Mining & Manufacturing Co	3 M Center St Paul, MN 55144
Minnesota Mining & Manuf Co	PO Box 33441 St Paul, MN 55133
Boral Resources Inc	3520 Piedmont Road #410 Atlanta, GA 30305
Bernice Conder	24201 Briones Drive Laguna Niguel, CA 92677
Richard F Wales	21632 Montbury Drive Lake Forest, CA 92630
Jerry William Roberts	520 Crane Street #D Lake Elsinore, CA 92530
Boral Resources Inc	3520 Piedmont Road Atlanta, GA 30305

Robert M Levinson	256 Novara Drive Long Beach, CA 90803
Southern Calif Edison Co	2131 Walnut Grove 2nd Floor Rosemead, CA 91770
Gerhard L Schultz	18882 Sunnyview Circle Yorba Linda, CA 92886
Ralph D Harris	4242 Spring Street #54 La Mesa, CA 91941
Athorn Saraneyawongse	14035 Saddle Ridge Road Sylmar, CA 91342
Harold F & Jennifer M Gotts	9076 Cajalco Corona, CA 92881 gottmaze@hotmail.com
Harold F Gotts	9076 Cajalco Road Corona, CA 92881
Allen R Stevens	180 E Edmundson No #2 Morgan Hill, CA 95037
Michael Girod	624 S Bel Aire Drive Burbank, CA 91501
David P Burch	4817 2nd Avenue Los Angeles, CA 90043
Weldon Andrew Page	2301 E Santa Fe #5 Fullerton, CA 92831
Alvin Sawyer	635 N Virgil Avenue Los Angeles, CA 90004
Kristin Karin Schultz	32404 Outrigger Way Laguna Niguel, CA 92677
Edgar R Weisman	245 S Webster Independence, CA 93526
Robert Gregory	4328 Corona Avenue Norco, CA 92860
Robert M Moore	15 Arbor Drive Chico, CA 95926
Richard Holthausen	20354 Runnymede Street Winnetka, CA 91306
Dominique Bidegaray	PO Box 7804 Riverside, CA 92513
Barry S Rosen	PO Box 4624 Valley Village, CA 91617
Sabrina Alfonso	5965 Meadow Brook Lane Riverside, CA 92501
Beatric K Simon	3145 Silverado Drive Los Angeles, CA 90039
Allen Marian B Estate of	200 N Swall Drive #509 Beverly Hills, CA 90211
Barbara Ann Smith	PO Box 1493 Oakley, CA 94561
Julie Chapman	5200 Irvine Boulevard #246 Irvine, CA 92620
William Neely Zincke	1036 El Dorado Drive Fullerton, CA 92835
John R Green	20177 Princeton Avenue Riverside, CA 92507

Wynema Bonham	100 Lindsey Barron No #121 Newnan, GA 30263
R L Atkinson	PO Box 1828 Nipomo, CA 93444
Roy A Howard	3563 Lillian Street Riverside, CA 92504
Joseph Bender	9070 Cajalco Road Corona, CA 92881
County of Riverside	PO Box 1180 Riverside, CA 92502
Cajalco Road Quarry	PO Box 3600 Corona, CA 92878
Felicidad G Lao	6385 Brookdale Drive Carmel, CA 93923
Troy D Sweet	2904 Coral Street Corona, CA 92882
David Jacob Arakelian	515 Traverse Drive Costa Mesa, CA 92626
Chris Willson	9069 Cajalco Road Corona, CA 92881
Grat Jmt Dt	20742 Hillsdale Road Riverside, CA 92508
Danny Arthur Aguilar	9175 Cajalco Road Corona, CA 92881
Danny Arthur Aguilar	9107 Cajalco Road Corona, CA 92881
Neil Dilello	5342 Running Fawn Court Rancho Cucamonga, CA 91737
Janale M Liston Pontious	9099 Cajalco Road Corona, CA 92881
David R Trevarthen	7413 E Buell Street Downey, CA 90241
Cid El	PO Box 5264 Laguna Beach, CA 92652
Tom Franchina	32511 Sea Island Drive Dana Point, CA 92629
Jose Eisma	29697 Castlewood Drive Menifee, CA 92584
Seyed Jamal Nasrabadi	1208 Tesoro Way Corona, CA 92880
Jamal Mousavi	718 Sycamore Avenue #154 Vista, CA 92083
Tahereh S Morad	4727 Cardena Plz Yorba Linda, CA 92886
Corine A Lucardie	7661 Pasito Avenue Rancho Cucamonga, CA 91730
Jerome Johnson	49628 Pacino Street Indio, CA 92201
Cajalco Road Dev Corona	211 W Rincon Street #108 Corona, CA 92880
Epifanio Perez	13631 Annandale Drive #6g Seal Beach, CA 90740

Hoyte Family Trust Est 8/16/2002	1434 White Holly Drive Corona, CA 92881
Bishop Protestant Episcopal Church L A	PO Box 512164 Los Angeles, CA 90051
Donna M Turner	15735 S Visalia Avenue Rch Dominguez, CA 90220
Frank J Ornelas	8100 Bridle Path Riverside, CA 92509
Martha Diane Grodeman	1248 E Belmont Avenue Phoenix, AZ 85020
Paula L Lynch	1131 23rd Road Grand Junction, CO 81505
Lydia E Contreras	12055 Diego Court Moreno Valley, CA 92557
Quarry Cajalco Road	1350 Jet Stream Drive #100 Henderson, NV 89052
Maizland Olga M Estate of	32662 Kentucky Street Yucaipa, CA 92399
David Scolaro	20930 Verta Street Perris, CA 92570
Daniel K Musetti	PO Box 0009 Homeland, CA 92548
Robert R Briseno	1635 2nd Street La Verne, CA 91750
Quarry Cajalco Road	200 S Main Street #200 Corona, CA 92882
Pamela H Stephens	552 Tumblecreek Ter Fallbrook, CA 92028
Riverside County Habitat Cons Agency	4080 Lemon Street Riverside, CA 92501
Lopez Miranda J Revocable Trust	20075 Layton Street Corona, CA 92881
Southern California Mahavir Jain Mission	20216 Farley Avenue Corona, CA 92881
Michael C Travers	20240 Farley Avenue Corona, CA 92881
Antonio Paredes	11126 Silverton Court Corona, CA 92881
Virginia Morrow	14166 Grande Vista Drive Lake Mathews, CA 92570
Sino American Buddhist Cultural Center Inc	12110 Pomering Road Downey, CA 90242
Hector Romo	15150 Shelton Perris, CA 92570
Graham Sirwin Walker	15434 Shelton Drive Perris, CA 92570
Rachel R Jones	15450 Shelton Drive Perris, CA 92570
Wanda L Beebe	15480 Shelton Drive Perris, CA 92570
Alberto Garcia	5223 N Homerest Avenue Azusa, CA 91702

Doug Delia	16111 Cajalco Road Perris, CA 92570
Douglas E Williams	16203 Baltra Drive Perris, CA 92570
Alice Marie Kirkpatrick	19880 Kirkpatrick Road Perris, CA 92570
Ryan E Highstreet	19800 Kirkpatrick Road Perris, CA 92570
Maria Sandoval	19820 Kirkpatrick Road Perris, CA 92570
Mary M Records	19840 Kirkpatrick Road Perris, CA 92570
EriCA Hnatek Mitchell	19881 Athenon Avenue Perris, CA 92570
Luis Jimenez	20560 Emelita Street Perris, CA 92570
Daniel W Hippert	16420 Amalfi Drive Perris, CA 92570
Ruga Joseph & Grace Revocable Living Trust Dtd 08/20	16725 Pfeifer Way Perris, CA 92570
Juan Valdez	21986 Jean Street Perris, CA 92670
Cynthia Delgado	19802 Kirkpatrick Road Perris, CA 92570
David R Hedges	19830 Kirkpatrick Road Perris, CA 92570
David A Brazz	19901 Gavilan Road Perris, CA 92570
William Alan Pezzuto	19835 Gavilan Road Perris, CA 92570
Stella M Spraggins	27840 Mount Rainier Way Yorba Linda, CA 92887
Christie Thomas James Revocable Trust Dtd 10/17/2018	16800 Pfeifer Way Perris, CA 92570
Sheila Matheny	19820 Banbury Cross Road Perris, CA 92570
Jaime Ruiz	16895 Pfeifer Way Perris, CA 92570
Carl G Winzen	16985 Pfeifer Way Perris, CA 92570
Ignacio Vazquez Ruiz	19951 Gavilan Road Perris, CA 92570
Vicente Raygoza	16897 Pfeifer Way Perris, CA 92570
Tobias S Sanders	19390 Harley John Road Riverside, CA 92504
Oscar Gutierrez	17662 Cajalco Road Perris, CA 92570
Hussein Mohammed Berri	28 Scenic Bluff Newport Beach, CA 92657
Vito Berardini	P O Box 489 Perris, CA 92572

Phuong Mai Nguyen	14291 Euclid Street Garden Grove, CA 92843
Adel Salem	19415 Harley John Road Riverside, CA 92504
Zahur Ahmad	PO Box 760 Arcadia, CA 90702
Michael D Butcher	17400 Kramer Way Perris, CA 92570
Marcelino Ulloa	19685 Smith Street Perris, CA 92570
Juan Flores	19709 Smith Road Perris, CA 92750
Claudia Naber	19711 Smith Road Perris, CA 92570
Riverside County Flood & Water Conv Dist	1995 Market Street Riverside, CA 92501
Valenzuela David S Living Trust U/A Dtd 9/20/2019	19970 Gavilan Road Perris, CA 92570
Richard Scott Hoag	19950 Gavilan Road Perris, CA 92570
Glenda Bayly	17025 Pfeifer Way Perris, CA 92570
Jeffrey Roberts	17075 Pfeifer Way Perris, CA 92570
Taylor R Sterner	19815 Smith Road Perris, CA 92570
William James Deatherage	19825 Smith Road Perris, CA 92570
Felipe Farias	19817 Smith Road Perris, CA 92570
David Madrigal	19931 Smith Road Perris, CA 92570
Rhino Enterprises	5225 Canyon Crest Drive #7 Riverside, CA 92506
Melchor Ramirez	19755 Smith Road Perris, CA 92570
Lori Miser	12200 Magnolia Avenue Riverside, CA 92503
Harbhajan Randhawa	19831 Smith Road Perris, CA 92570
David Madrigal	19897 Smith Road Perris, CA 92570
Mathew Square Lake	2045 Compton Avenue #203 Corona, CA 92881
Dyan Poss	17679 Cajalco Road Perris, CA 92570
Hani M Alihassan	11537 E 216th Street Lakewood, CA 90715
Oscar Gutierrez	23475 Marshall Street Perris, CA 92570
Hsu Patrick Wensung Living Trust 1996 Dated 07/01/19	12660 Valley View Lane Redlands, CA 92373

Judy Quattlebaum	19700 Gustin Road Perris, CA 92570
County of Riverside	3403 10th Street #400 Riverside, CA 92501
Janet S Cook	17612 Camino Martinez Perris, CA 92570
Terri L Axsom	25216 Lemongrass Street Corona, CA 92883
Matthew Clark	17630 Camino Martinez Perris, CA 92570
Denise C Lanigan	17640 Camino Martinez Perris, CA 92570
Simon Salazar	17611 Camino Martinez Perris, CA 92570
Mary Carmel Kaneski	17621 Camino Martinez Perris, CA 92570
Paul N Bollinger	17366 Camino Martinez Perris, CA 92570
Rodney W Barth	17645 Camino Martinez Perris, CA 92570
Elois Crooks	2164 Crockett Drive Corinth, TX 76210
Licea Living Trust Dated 03/17/2010	17644 Scottsdale Road Riverside, CA 92504
Schoonderwoerd Family Trust Dtd 7/1/20	7047 Snapdragon Drive Carlsbad, CA 92011
Wulfrano Frias	458 N Citrus Street Orange, CA 92868
Manuel Gurrola	19560 Gustin Road Perris, CA 92570
Donald Edward Jones	17817 Cajalco Road Perris, CA 92570
Torres J Guadalupe	17831 Cajalco Road Perris, CA 92570
Samuel Mora Nolasco	17885 Cajalco Road Perris, CA 92570
David Mendez	17895 Cajalco Road Perris, CA 92570
Saul Linares Arriaga	27969 Monroe Avenue Sun City, CA 92585
Daniel Frank Getz	17911 Cajalco Road Perris, CA 92570
Adam Miller	17941 Cajalco Road Perris, CA 92570
George A Mieldazis	17981 Cajalco Road Perris, CA 92570
Delatorre Family Trust Dated 08/19/1993	16670 Catalonia Drive Riverside, CA 92504
Delia Ellinger	19770 Smith Road Perris, CA 92570
Gerald C Grell	19828 Smith Road Perris, CA 92570

Maria De Lourdes Gomez	19843 Gustin Road Perris, CA 92570
Jerry A Gonzalez	19795 Gustin Road Perris, CA 92570
Charles Thompson	19790 Smith Road Perris, CA 92570
John T Huffman	17535 Thompson Court Perris, CA 92570
Michael Dean Clantz	19469 Cowan Road Perris, CA 92570
Donald A Hunt	19435 Cowan Road Perris, CA 92570
Mark F Randall	19401 Cowan Road Perris, CA 92570
Gary D Jackson	19353 Cowan Road Perris, CA 92570
Terry L Shaw	19303 Cowan Road Perris, CA 92570
Nick Luick	19030 State Street Corona, CA 92881
Brandon D Hemborg	19456 Green Acres Drive Perris, CA 92570
Patrick Joseph Brown	19496 Green Acres Drive Perris, CA 92570
Gutterud Star Family Trust Dated 08/19/2020	19301 Green Acres Drive Perris, CA 92570
James Dortch	17650 Conestoga Road Perris, CA 92570
Barbara L Mathews	17700 Conestoga Road Perris, CA 92570
Kathleen Tracy	17645 Conestoga Road Perris, CA 92570
Devon M Munoz	19276 Green Acres Drive Perris, CA 92570
Christopher M Wiest	19366 Green Acres Drive Perris, CA 92570
Mario Vizcarra	19280 Cowan Road Perris, CA 92570
Christy L Brown Anderson	19330 Cowan Road Perris, CA 92570
George M Foos	19445 Wyler Road Perris, CA 92570
Patricio J Ramirez	19415 Wyler Road Perris, CA 92570
Robert E Holmes	231 E Alessandro No A356 Riverside, CA 92508
Charles Gordon Thorne	19338 Wyler Road Perris, CA 92570
Joseph R Rosas	19352 Wyler Road Perris, CA 92570
Juan Munoz	19376 Wyler Road Perris, CA 92570

Bonnie J Wise	19402 Wyler Road Perris, CA 92570
Steven M Downs	19426 Wyler Road Perris, CA 92570
Paul Neal Cosores	19450 Wyler Road Perris, CA 92570
Suzanne M Azevedo	19368 Cowan Road Perris, CA 92570
Jared Colton Johnson	19434 Cowan Road Perris, CA 92570
Juan Luna	19450 Cowan Road Perris, CA 92570
Richard R Hedrick	13770 Richey Drive Perris, CA 92570
Richard R Hedrick	13770 Richey Way Perris, CA 92570
Pamela Brummet	11465 Muscatel Avenue Hesperia, CA 92344
Diane C Doty	32700 Coastsite Drive #105 Rancho Palos Verde, CA 90275
Lolita H Terrell	PO Box 361034 Los Angeles, CA 90036
Gary J & Tracey E Hirdler	21556 Skyhill Place Perris, CA 92570 coasthwy1@aol.com
Rafael Frausto	13515 Cajalco Road Perris, CA 92570
John E Bowles	3205 Saratoga Avenue Lake Havasu City, AZ 86406
Gregrey Giguere	13735 J And J Lane Perris, CA 92570
Thomas F Bartels	13531 Cajalco Road Perris, CA 92570
Jeffrey W Radway	13521 Cajalco Road Perris, CA 92570
Larry P Gilmore	20805 Dirt Road Perris, CA 92570
Murdock Trust Dtd 6/2/2020	13535 Cajalco Road Perris, CA 92570
Laura Lee Gwin	13703 Cajalco Road Perris, CA 92570
Smith Debra A Living Trust	20700 Onaknoll Drive Perris, CA 92570
Carmen P Boctor	13385 Cajalco Road Perris, CA 92570
Stephen Baumann	13391 Cajalco Road Perris, CA 92570
Kathleen J Yugo	13404 High Res Way Perris, CA 92570
Darren Friedl	13425 Cajalco Road Perris, CA 92570
Duane Howard	1710 Maxwell Lane #C Corona, CA 92881

Lauren Penrhyn Millsap	13440 High Res Way Perris, CA 92570 lmillsap1@yahoo.com
Charles E Ball	20835 Hollis Lane Perris, CA 92570
Nash Munoz	20823 Hollis Lane Perris, CA 92570
Glenn Mitchell Light	19980 Lakeridge Drive Perris, CA 92570
Deborah Jean Murataya	20789 Hollis Lane Perris, CA 92570
James W Fitzgerald	20760 Hollis Lane Perris, CA 92570
Dana S Plumley	10994 Buckingham Way Montclair, CA 91763
Ellen Kay Meryweather	20792 Hollis Lane Perris, CA 92570
Shirley M Mcgraw	20802 Hollis Drive Perris, CA 92570
Robyn A Souder	20822 Hollis Lane Perris, CA 92570
Kenneth W Riding	13475 High Res Way Perris, CA 92570
Jimmy R Combs	13467 High Res Way Perris, CA 92570
John Michael Ferguson	13463 High Res Way Perris, CA 92570
Roberto Cruz	13451 High Res Way Perris, CA 92570
Randolph Perea	13469 High Res Way Perris, CA 92570
Terrance O Whaley	13395 Cajalco Road Perris, CA 92570
Robert L Pring	13387 Cajalco Road Perris, CA 92570
Thomas E Molter	20698 Lynette Lane Perris, CA 92570
Jerry L Rotz	2274 Avenida Del Vista Corona, CA 92882
Steven R Maystrovich	2450 Lassalette Court Riverside, CA 92503
Donald M Chun	20677 Lynette Lane Perris, CA 92570
Esequiel Estrella	20836 Hollis Drive Perris, CA 92570
Jerry Jetton	20395 Somma Drive Perris, CA 92570
Michelle Smith	20400 Somma Drive Perris, CA 92570
Home Expo Financial Inc	23580 Alessandro Boulevard #98 Moreno Valley, CA 92552
Isam Qubain	5273 E Lomita Orange, CA 92869

Jeffrey K Scholz	14790 Wendell Park Drive Perris, CA 92570
Jila Y Siyani	23140 Park Sorrento Calabasas, CA 91302
Lewis Felicie R Family Trust Dated 11/1/2018	7500 E Boulders Pkwy #3 Scottsdale, AZ 85266
Ronald A Musser	14715 Kimdale Drive Perris, CA 92570
Sheng Wu John Chen	15696 Wendel Park Drive Perris, CA 92570
Helen P Cherry	15691 Wendell Park Drive Perris, CA 92570
Jose Manuel Ceja	15740 Wendel Park Drive Perris, CA 92570
Mehdi M Motazedian	15737 Wendel Park Drive Perris, CA 92570
Olga Slack	19950 Onaknoll Drive Perris, CA 92570
Zhi Hua Yin	1057 E Comstock Avenue Glendora, CA 91741
Lawrence E Morrow	14166 Grande Vista Avenue Perris, CA 92570
Arturo Perez	14391 Rosewood Circle Tustin, CA 92780
Nancy N Ngugi	15425 Shelton Drive Perris, CA 92570
Michael D Sullivan	15435 Shelton Drive Perris, CA 92570
Jason H Mernick	15445 Shelton Drive Perris, CA 92570
Diane Falconer	15455 Shelton Drive Perris, CA 92570
Teodorico O Albis	15485 Shelton Drive Perris, CA 92570
Pablo Rios	20040 Gavilan Road Perris, CA 92570
Charles H Pearson	17075 Multiview Perris, CA 92570
Del Mar Partners Inc	18685 Main Street Huntington Beach, CA 92648
I Sakioka Family	PO Box 11080 Westminster, CA 92685
Michael Curfman	18630 Newman Avenue Riverside, CA 92508
Miguel A Gaona	18294 Cajalco Road Perris, CA 92570
Marion V Snow	18100 Cajalco Road Perris, CA 92570
Mesa Indian	341 W 2nd Street #1 San Bernardino, CA 92401
Sylvia Carreon	18194 Cajalco Road Perris, CA 92570

Group Bei	5753 G Santa Ana Canyon Road #538 Anaheim, CA 92807
Yiwen Zhao	15550 Ocana Lane Moreno Valley, CA 92551
Phillip Norris	18180 Cajalco Road Perris, CA 92570
Reynaldo Saucedo	18164 Cajalco Road Perris, CA 92570
Cesar Rodriguez	20885 Souder Street Perris, CA 92570
Mark H White	17555 Calle Del Corral Riverside, CA 92504
Juan R Romero	2509 9th Street Riverside, CA 92507
Rolando G Garcia	18200 Cajalco Road Perris, CA 92570
Rocio Ramirez	18178 Cajalco Road Perris, CA 92570
Judith D Dean	18174 Cajalco Road Perris, CA 92570
M & Lk Prop	23517 Big Tee Drive Canyon Lake, CA 92587
Richard A Whitehead	17639 Log Hill Drive Riverside, CA 92504
Martha Rochin	18220 Cajalco Road Perris, CA 92570
Raymundo Caballeca	18286 Cajalco Road Perris, CA 92570
David Chavez	18282 Extravaganza Lane Perris, CA 92570
Western Municipal Water Dist	PO Box 5286 Riverside, CA 92517
Lake Hills Maintenance Corp	31608 Railroad Canyon Road Canyon Lake, CA 92587
Verly S Schwartzenberger	17722 Streamside Lane Riverside, CA 92503
Linda Francis Davis	17832 Spring Hill Way Riverside, CA 92503
Adan Castaneda Eufracio	17842 Spring Hill Way Riverside, CA 92503
Huynh Nhung Thi & Dac Xuan Le Family Trust Dtd 1/17/	2539 Amelia Earhart Avenue Sacramento, CA 95834
Daniel Hernandez	17862 Spring Hill Way Riverside, CA 92503
Brandon Fry	17872 Spring Hill Way Riverside, CA 92503
Scott A Emory	17882 Spring Hill Way Riverside, CA 92503
Robert Gyulnazaryan	17892 Spring Hill Way Riverside, CA 92503
Family Trust of Mony Mark Arthur Dtd 04/17/18	17860 Spring View Lane Riverside, CA 92503

Frank G Martinez	17870 Spring View Lane Riverside, CA 92503
George F Dickerman	17880 Spring View Lane Riverside, CA 92503
Ralph Grimke	17890 Spring View Lane Riverside, CA 92503
Eric G Henderson	17900 Spring View Lane Riverside, CA 92503
Victor Cornejo	17910 Spring View Lane Riverside, CA 92503
Wendy Lopez	17920 Spring View Lane Riverside, CA 92503
Carlos M Zermeno	17930 Spring View Lane Riverside, CA 92503
Jaswant Rama	17940 Spring View Lane Riverside, CA 92503
Matthew Scott Bienduga	17950 Spring View Lane Riverside, CA 92503
Louie L Merced	17960 Spring View Lane Riverside, CA 92503
Rajesh Ralli	17970 Spring View Lane Riverside, CA 92503
Laurie M Hobbie	17980 Spring View Lane Riverside, CA 92503
Abel Zamora	17963 Spring View Lane Riverside, CA 92503
Ryan Matthew Bennett	17943 Spring View Lane Riverside, CA 92503
Saem Lee	17933 Spring View Lane Riverside, CA 92503
Judith A Drew	17923 Spring View Lane Riverside, CA 92503
Ileana M Mora	17913 Spring View Lane Riverside, CA 92503
Kerri Henderson	17903 Spring View Lane Riverside, CA 92503
Thomas F Robinson	17883 Spring View Lane Riverside, CA 92503
Alfredo A Garcia	17879 Spring Hill Way Riverside, CA 92503
Rosemary Arreguin	17869 Spring Hill Way Riverside, CA 92503
Sheldon L Zell	17859 Spring Hill Way Riverside, CA 92503
Hernandez Richard & Carole Living Trust Dated 8/16/2	3936 Madrona Road Riverside, CA 92504
Mark A Recktenwald	17839 Spring Hill Way Riverside, CA 92503
Gysbert C Domensino	17829 Spring Hill Way Riverside, CA 92503
Thomas C Yost	17855 Spring Park Place Riverside, CA 92503

Brandon Lopez	17845 Spring Park Place Riverside, CA 92503
Kac Revocable Trust Dated 3/7/2019	17835 Spring Park Place Riverside, CA 92503
Smith Madison Living Trust Dated 10/17/2018	17860 Vista Del Lago Riverside, CA 92504
Hai Do	1121 W Memory Lane Santa Ana, CA 92706
Jose Chavez	1707 E Carson Street Carson, CA 90745
H Takenaga Farms Inc	17241 Vista Del Lago Riverside, CA 92505
Holcomb Family Trust 5/15/18	17850 Vista Del Lago Riverside, CA 92503
Kevin Thanh Doan	PO Box 8338 Huntington Beach, CA 92615
Evergrowing Nursery Inc	3410 La Sierra Avenue Riverside, CA 92503
Ranch Lake	11611 San Vicente Boulevard Los Angeles, CA 90049
Dor Wil Assoc	9622 James Circle Villa Park, CA 92667
Dorsey Family Groves	17853 Santiago #10728 Villa Park, CA 92861
Michael Gregory Amsbry	136 Vesta Street Reno, NV 89502
El Sobrante Rj	PO Box 9 San Juan Capo, CA 92693
San Juan Inv North Dmb	28811 Ortega Highway San Juan Capo, CA 92675
Arlene V Hughes	5869 Springhill Drive Albany Oreg, ON 97321
Cofradia La	15320 E Placid Drive La Mirada, CA 90638
Holdings Sobrante	20335 Via Tarragona Yorba Linda, CA 92887
William R Cramer	PO Box 1987 Perris, CA 92572
Bros Cramer	PO Box 18929 Anaheim, CA 92817
Panayiotis Katelaris	13220 El Sobrante Road Riverside, CA 92503
Miguel Reynoso Gonzalez	P O Box 1449 Anaheim, CA 92815
Javier Reyes	5159 E Crescent Drive Anaheim, CA 92807
Chavez 2004 Family Trust Dated 1/22/04	1847 Descanso Drive La Habra Heights, CA 90631
Barbara J Krause	4282 Ford Place Riverside, CA 92505
Medina Family Trust Dtd 7/13/2002	12235 El Sobrante Road Riverside, CA 92503

Yapy Inv Partners	4097 Trail Creek Road Riverside, CA 92505
Lawrence Vargas	17760 La Sierra Avenue Riverside, CA 92503
Victoria Grove Community Association	PO Box 1117 Corona, CA 92878
Gratius Lemuel Ford	PO Box 70680 Riverside, CA 92513
Matthew Pendleton	17922 Orangewood Lane Riverside, CA 92503
Cesar H Jimenez	17910 Orangewood Lane Riverside, CA 92503
Alonzo Winston	17898 Orangewood Lane Riverside, CA 92503
Amin Seirafi	17886 Orangewood Lane Riverside, CA 92503
Daren L Johnson	17862 Orangewood Lane Riverside, CA 92503
Tiffany Hang	17850 Orangewood Lane Riverside, CA 92503
Jorge Torres	17838 Orangewood Lane Riverside, CA 92503
Lena Meeks Coleman	17826 Orangewood Lane Riverside, CA 92503
Jess Y Torre	17814 Orangewood Lane Riverside, CA 92503
Jessie E Norton	17802 Orangewood Lane Riverside, CA 92503
Randal G Cook	17790 Orangewood Lane Riverside, CA 92503
Jason Rossi	17778 Orangewood Lane Riverside, CA 92503
Agustin Garcia	17766 Orangewood Lane Riverside, CA 92503
Anita Many	17722 Cedarwood Drive Riverside, CA 92503
John H Corrow	17734 Cedarwood Drive Riverside, CA 92503
Thomas R Berry	17746 Cedarwood Drive Riverside, CA 92503
Richard Hart	17758 Cedarwood Drive Riverside, CA 92503
Lin Yi-Anne Living Trust Dtd 5/7/2020	35 Saint Tropez Court Danville, CA 94506
Ruth Ann Sierk	17771 Boxwood Drive Riverside, CA 92503
Alfonso Lizarraga	17759 Boxwood Drive Riverside, CA 92503
Sandy Rivas	17747 Boxwood Drive Riverside, CA 92503
Mohammad Tahir Ayub	17756 Boxwood Drive Riverside, CA 92503

John Walker	17768 Boxwood Drive Riverside, CA 92503
Terence Quilatan	17780 Boxwood Drive Riverside, CA 92503
Kirt J Huff	17792 Boxwood Drive Riverside, CA 92503
Bill Lindsay	17804 Boxwood Drive Riverside, CA 92503
Robert J Helliar	17816 Boxwood Drive Riverside, CA 92503
Antonio B Islas	12366 Jacaranda Way Riverside, CA 92503
Ragi Sadek	12378 Jacaranda Way Riverside, CA 92503
Erik Angle	PO Box 52770 Irvine, CA 92619
Victor L Schmitz	12402 Jacaranda Way Riverside, CA 92503
Linda L Tomlinson	17887 Grandis Court Riverside, CA 92503
Darren Eugene Brandow	17875 Grandis Court Riverside, CA 92503
Steven T Waddell	17863 Grandis Court Riverside, CA 92503
Richard M Martinez	17872 Grandis Court Riverside, CA 92503
Julius R Patterson	17884 Grandis Court Riverside, CA 92503
Robert A Williams	17896 Grandis Court Riverside, CA 92503
Aaron R Martinez	17908 Grandis Court Riverside, CA 92503
Todd Joseph Conger	17913 Orangewood Lane Riverside, CA 92503
Edwin Giovanni Santos	17901 Orangewood Lane Riverside, CA 92503
Heather RebecCA Zirwas	17889 Orangewood Lane Riverside, CA 92503
David J Hissen	17877 Orangewood Lane Riverside, CA 92503
John M Castro	17865 Orangewood Lane Riverside, CA 92503
Alfonso C Reyes	17841 Orangewood Lane Riverside, CA 92503
Michael D Franklin	17829 Orangewood Lane Riverside, CA 92503
Michelle L Preuss	17817 Orangewood Lane Riverside, CA 92503
Jeffrey S Johnson	12429 Jacaranda Way Riverside, CA 92503
James R Moore	12417 Jacaranda Way Riverside, CA 92503

Christopher D Radovich	12405 Jacaranda Way Riverside, CA 92503
Michael Delatorre	12393 Jacaranda Way Riverside, CA 92503
Roderick G Estrada	12381 Jacaranda Way Riverside, CA 92503
Pham & Cody Living Trust Dated 05/28/2020	18250 Lakepointe Drive Riverside, CA 92503
Carlos Ricardo Sosa	19247 Mountain Shadow Lane Perris, CA 92570
Michael Jones	12386 Mimosa Lane Riverside, CA 92503
Matthew Allen Gay	12398 Mimosa Lane Riverside, CA 92503
Daniel Sweiss	22586 Secret Way Corona, CA 92883
Michael Newman	12422 Mimosa Lane Riverside, CA 92503
Timothy V Schons	12434 Mimosa Lane Riverside, CA 92503
Nicholas Luttrell	12437 Mimosa Lane Riverside, CA 92503
John A Prehodick	12425 Mimosa Lane Riverside, CA 92503
Miguel Gutierrez	12413 Mimosa Lane Riverside, CA 92503
Noel Goin	12401 Mimosa Lane Riverside, CA 92503
Sharen Lim Misa	12389 Mimosa Lane Riverside, CA 92503
Carolina Abkarian	12377 Mimosa Lane Riverside, CA 92503
Victoria Grove Maintenance Assn	11830 Pierce Street #300 Riverside, CA 92505
Victoria Grove Maintenance Assn	7 Upper Newport #100 Newport Beach, CA 92660
Victoria Grove Maintenance Assn	7 Upper Newport Place #100 Newport Beach, CA 92660
Ddjc	271 Cabra Drive Walnut, CA 91789
BianCA Ivascu	12543 Bougainvillea Way Riverside, CA 92503
Arturo Gomez	12531 Bougainvillea Way Riverside, CA 92503
Brett Sydney Thomas	12519 Bougainvillea Way Riverside, CA 92503
Bill R Kirk	12507 Bougainvillea Way Riverside, CA 92503
John Vasconcellos	12495 Bougainvillea Way Riverside, CA 92503
Kyle Vo	13533 Walnutwood Lane Germantown, MD 20874

Higuchi Revocable Trust Dated 4/24/2020	12504 Bougainvillea Way Riverside, CA 92503
Mauricio A Mata Ramirez	12528 Bougainvillea Way Riverside, CA 92503
Jose L Trejo	12540 Bougainvillea Way Riverside, CA 92503
Kenneth Ford	12675 Bougainvillea Way Riverside, CA 92503
Bert B Haloviak	12663 Bougainvillea Way Riverside, CA 92503
Sally D Gomez	12651 Bougainvillea Way Riverside, CA 92503
Kenneth Howard Dabney	12639 Bougainvillea Way Riverside, CA 92503
Richard S Martin	12627 Bougainvillea Way Riverside, CA 92503
Marissa T Moran	950 N Duesenberg Drive #14 Ontario, CA 91764
David Won Kwak	12603 Bougainvillea Way Riverside, CA 92503
Kyle D Richards	12591 Bougainvillea Way Riverside, CA 92503
Samson Negash	12579 Bougainvillea Way Riverside, CA 92503
Janine Huong Thi Nguyen	12567 Bougainvillea Way Riverside, CA 92503
Rodney B Royster	12564 Bougainvillea Way Riverside, CA 92503
Eric Cruz	12576 Bougainvillea Way Riverside, CA 92503
Tiffany Rioux	12588 Bougainvillea Way Riverside, CA 92503
Shawn Sousa	12600 Bougainvillea Way Riverside, CA 92503
Adele C Frazier	3297 Spectrum Irvine, CA 92618
Katherine A Jankowski	12624 Bougainvillea Way Riverside, CA 92503
Darin Faircloth	12648 Bougainvillea Way Riverside, CA 92503
Shawn Woodruff	12660 Bougainvillea Way Riverside, CA 92503
Michael Gutierrez	17733 Willow Drive Riverside, CA 92503
Christian J Saravia	12607 Orange Blossom Lane Riverside, CA 92503
Scott Leslie Field	12595 Orange Blossom Lane Riverside, CA 92503
Joanne Lee Hulett	12583 Orange Blossom Lane Riverside, CA 92503
James Welton	12571 Orange Blossom Lane Riverside, CA 92503

Charles Alexandre	12559 Orange Blossom Lane Riverside, CA 92503
Shea Homes Ltd Partnership	2 Ada No #200 Irvine, CA 92618
Eduardo C Polizzo	12043 Abington Street Riverside, CA 92503
Frank M Phan	17782 Cedarwood Drive Riverside, CA 92503
Jennifer M Varela	17794 Cedarwood Drive Riverside, CA 92503
Steven Burrell	17806 Cedarwood Drive Riverside, CA 92503
Heather M Ramirez	17818 Cedarwood Drive Riverside, CA 92503
Just Melanie LLC	2175 Sampson Avenue #111 Corona, CA 92876
Amanda Hallgren	17842 Cedarwood Drive Riverside, CA 92503
Nikko Davenport	17854 Cedarwood Drive Riverside, CA 92503
Walter E Chavez	17866 Cedarwood Drive Riverside, CA 92503
John A White	17878 Cedarwood Drive Riverside, CA 92503
Chapman & Dewinter Living Trust Dated 01/25/2019	18054 Shady Side Lane Riverside, CA 92504
Willia Jasper Nelson	14204 Pintail Loop Corona, CA 92880
Zay Yar Soe	6025 E Brighton Lane Anaheim, CA 92807
Rody Riad	17938 Cedarwood Drive Riverside, CA 92503
Barry Chenault	17950 Cedarwood Drive Riverside, CA 92503
Aaron Michael Leon Glines	17962 Cedarwood Drive Riverside, CA 92503
Denny Mannavong	17963 Boxwood Drive Riverside, CA 92503
Steven Michael Rudd	17951 Boxwood Drive Riverside, CA 92503
Noel Lopez	17939 Boxwood Drive Riverside, CA 92503
Robert E Beckwith	17927 Boxwood Drive Riverside, CA 92503
Brant D Mitchell	17915 Boxwood Drive Riverside, CA 92503
Daniel Allen Thomas	17891 Boxwood Drive Riverside, CA 92503
Leobardo Armenta	17879 Boxwood Drive Riverside, CA 92503
Joseph Davila	17867 Boxwood Drive Riverside, CA 92503

Mark Stiglbauer	17855 Boxwood Drive Riverside, CA 92503
Mckellips & Piao Family Living Trust U/A Dtd 7/29/20	17843 Boxwood Drive Riverside, CA 92503
Garey L Painter	17831 Boxwood Drive Riverside, CA 92503
Timothy L Richards	17819 Boxwood Drive Riverside, CA 92503
Michael M Curtiss	17807 Boxwood Drive Riverside, CA 92503
Amy J Chong	17795 Boxwood Drive Riverside, CA 92503
Jane Porras Gutierrez	17828 Boxwood Drive Riverside, CA 92503
Emir Torres	17840 Boxwood Drive Riverside, CA 92503
Donald E Moore	17852 Boxwood Drive Riverside, CA 92503
John Rodriguez	17864 Boxwood Drive Riverside, CA 92503
Melvin Peters	17912 Boxwood Drive Riverside, CA 92503
Ken Kellner	12357 Jacaranda Way Riverside, CA 92503
Ramon Duran	12345 Jacaranda Way Riverside, CA 92503
Nicoleta Popa	12350 Mimosa Lane Riverside, CA 92503
Alan Colon	12362 Mimosa Lane Riverside, CA 92503
Abdul Hadi Arghandehwal	16192 Getting Sun Circle Riverside, CA 92503
Eduardo Sotelo	23679 Calabasas Road #768 Calabasas, CA 91302
Raleigh J Prewitt	12341 Mimosa Lane Riverside, CA 92503
Alberto Hernandez	12329 Mimosa Lane Riverside, CA 92503
Sean F Walsh	12317 Mimosa Lane Riverside, CA 92503
Brian F Aleman	12293 Mimosa Lane Riverside, CA 92503
Merlin W Clarke	12281 Mimosa Lane Riverside, CA 92503
Timothy Connolly	12269 Mimosa Lane Riverside, CA 92503
Brenda L Jerez Aguilar	17965 Cedarwood Drive Riverside, CA 92503
Michelle L Cosby	17953 Cedarwood Drive Riverside, CA 92503
James D Sherow	17941 Cedarwood Drive Riverside, CA 92503

Jeremy Thomas	17929 Cedarwood Drive Riverside, CA 92503
Connie K Blake	17917 Cedarwood Drive Riverside, CA 92503
Kelly W Stankus	17905 Cedarwood Drive Riverside, CA 92503
Sung Keun Ryu	17893 Cedarwood Drive Riverside, CA 92503
Mohamed Abu Hussin	17881 Cedarwood Drive Riverside, CA 92503
Johnny Mar	17869 Cedarwood Drive Riverside, CA 92503
Paul S Fountain	17857 Cedarwood Drive Riverside, CA 92503
Alberto R Felipe	17845 Cedarwood Drive Riverside, CA 92503
Anamaida Lerma	17833 Cedarwood Drive Riverside, CA 92503
Glenis Marie Berry	17821 Cedarwood Drive Riverside, CA 92503
Mark R Ropele	17809 Cedarwood Drive Riverside, CA 92503
Bunchin Mey	17797 Cedarwood Drive Riverside, CA 92503
Jason N Halcon	17785 Cedarwood Drive Riverside, CA 92503
Lora A Mittleider	17773 Cedarwood Drive Riverside, CA 92503
Brett Randall Brown	17761 Cedarwood Drive Riverside, CA 92503
Shea Homes Ltd Partnership	1250 Corona Pointe #600 Corona, CA 92879
Janine L Gass	17711 Fan Palm Lane Riverside, CA 92503
Saul H Perches	17723 Fan Palm Lane Riverside, CA 92503
Avo Payassian	17735 Fan Palm Riverside, CA 92503
Jenus Benggon	17747 Fan Palm Lane Riverside, CA 92503
Paul M Ziembowicz	17759 Fan Palm Lane Riverside, CA 92503
Elder Frances Jaunita Revocable Living Trust Dated 1	17771 Fan Palm Lane Riverside, CA 92503
Steliga Family Trust Dated 08-03-1995	17783 Fan Palm Lane Riverside, CA 92503
Santos A Arzaga	17791 Robusta Drive Riverside, CA 92503
Apolonio G Ogas	17803 Robusta Drive Riverside, CA 92503
Rita G Liquete	17827 Robusta Drive Riverside, CA 92503

RebecCA Castillo	12776 Avocado Way Riverside, CA 92503
Michael Calaguas	17627 Fan Palm Lane Riverside, CA 92503
Antonio Reyes	12752 Avocado Way Riverside, CA 92503
Kyongnam Baek	12740 Avocado Way Riverside, CA 92503
Joseph A Yutanco	12728 Avocado Way Riverside, CA 92503
Ting-Wei Chang	12716 Avocado Way Riverside, CA 92503
Kwan Young Kim	9594 Estrella Hills Riverside, CA 92508
Clementina Linfoot	12731 Avocado Way Riverside, CA 92503
Lujan Family Trust Dtd 8/21/20	12743 Avocado Way Riverside, CA 92503
Richard K Bui	12755 Avocado Way Riverside, CA 92503
Hueina S Hung	12767 Avocado Way Riverside, CA 92503
Omar Assali	16850 Hazelwood Drive Riverside, CA 92503
Charles T Mayfield	17836 Robusta Drive Riverside, CA 92503
Dimitri Irn Washington	17812 Robusta Drive Riverside, CA 92503
Virgil A Giles	17800 Robusta Drive Riverside, CA 92503
Fatoumata S Darboe	17788 Robusta Drive Riverside, CA 92503
Allan W Sims	17764 Robusta Drive Riverside, CA 92503
Darla F Wagner	17755 Robusta Drive Riverside, CA 92503
Thompson Living Trust U/A Dated 10/22/2019	17780 Fan Palm Lane Riverside, CA 92503
Eric Le	17740 Fan Palm Lane Riverside, CA 92503
Steven Chor	17882 Tangerine Way Riverside, CA 92503
Michael E Jones	17894 Tangerine Way Riverside, CA 92503
Leeann Contreras	17906 Tangerine Way Riverside, CA 92503
Lisa A Bringhurst	17918 Tangerine Way Riverside, CA 92503
Cynthia Rodriguez	17930 Tangerine Way Riverside, CA 92503
Ryan Croley	17942 Tangerine Way Riverside, CA 92503

Thuy D Mai	17954 Tangerine Way Riverside, CA 92503
Gary J Kuzas	17966 Tangerine Way Riverside, CA 92503
Rajnikant Bhakta	17978 Tangerine Way Riverside, CA 92503
Eduardo Gonzalez	17990 Tangerine Way Riverside, CA 92503
Tom Alcala	12617 Mango Lane Riverside, CA 92503
Yvonne Knight	2837 Sandberg Street Riverside, CA 92506
Dave R AbarCA John	12593 Mango Lane Riverside, CA 92503
Dolores M Casino	12581 Mango Lane Riverside, CA 92503
Jeffrey Bryon Adcox	12569 Mango Lane Riverside, CA 92503
Adam James Clark	12557 Mango Lane Riverside, CA 92503
Chester W Bock	12545 Mango Lane Riverside, CA 92503
Karamjeet Singh Arneja	12533 Mango Lane Riverside, CA 92503
Michael F Aquino	12521 Mango Lane Riverside, CA 92503
Carlos Casas	12509 Mango Lane Riverside, CA 92503
Luis F Guerrero	12497 Mango Lane Riverside, CA 92503
Darius R Fatakia	7330 E Kite Drive Anaheim, CA 92808
Alexander L Acosta	12473 Mango Lane Riverside, CA 92503
Ha Van Luong	12461 Mango Lane Riverside, CA 92503
Zamudio Jorge Hernandez	12458 Mango Lane Riverside, CA 92503
Hugo Farias	12470 Mango Lane Riverside, CA 92503
Rosalinda A Goh	12482 Mango Lane Riverside, CA 92503
Frandsen Bank & Trust	100 N Minnesota Street New Ulm, MN 56073
Robert Owen	12561 Navel Court Riverside, CA 92503
Michael D Cooke	12549 Navel Court Riverside, CA 92503
Kimberly Smith	12537 Navel Court Riverside, CA 92503
Otjen Family Living Trust U/A Dtd 8/25/20	12525 Navel Court Riverside, CA 92503

Mikhail Family Trust	12513 Navel Court Riverside, CA 92503
Rock Chia-Yuan Tsang	12506 Mango Lane Riverside, CA 92503
RebecCA A Yu	16278 Avenida San Miguel La Mirada, CA 90638
John Joseph Raspudic	12530 Mango Lane Riverside, CA 92503
Alejandro Gomez	12542 Mango Lane Riverside, CA 92503
Generoso P Jacinto	12554 Mango Lane Riverside, CA 92503
George N Mukora	12566 Mango Lane Riverside, CA 92503
Tishawn D Young	12578 Mango Lane Riverside, CA 92503
Robert Berry Holland	12590 Mango Lane Riverside, CA 92503
Nicole Delgado Giron	12602 Mango Lane Riverside, CA 92503
Wl Victoria Grove Assoc	19520 Jamboree #400 Irvine, CA 92612
Carlos R Galdamez	17945 Peach Drive Riverside, CA 92503
John Troncoso	17933 Peach Drive Riverside, CA 92503
Roberto Jimenez	17921 Peach Drive Riverside, CA 92503
Matthew T Jones	17909 Peach Drive Riverside, CA 92503
Sawsan Baskharoon	17897 Peach Drive Riverside, CA 92503
Ding Family Living Trust Dtd 9/11/2020	17885 Peach Drive Riverside, CA 92503
Gloria Y Lopez Hicks	17888 Peach Drive Riverside, CA 92503
Delesandro P Dean	17900 Peach Drive Riverside, CA 92503
Ryohei Brian Imai	12522 Navel Court Riverside, CA 92503
Rojas Frank & Tran Family Trust Dated 5/6/2020	12534 Navel Court Riverside, CA 92503
Kevin Michael Johnson	12546 Navel Court Riverside, CA 92503
Warren S Yoshida	451 Lawton Place Hayward, CA 94544
Fernando P Villalpando	12570 Navel Court Riverside, CA 92503
Rudolph Valadez	12582 Navel Court Riverside, CA 92503
Julio A Ramirez	12594 Navel Court Riverside, CA 92503

Nashwa T Abdelmaseh	12585 Navel Court Riverside, CA 92503
Mario Camacho	17959 Tangerine Way Riverside, CA 92503
Gerald Ronald Matranga	17947 Tangerine Way Riverside, CA 92503
Rakesh Damani	1407 El Mirador Drive Fullerton, CA 92835
Louise Lo	17923 Tangerine Way Riverside, CA 92503
Shoaib F Bhatti	17911 Tangerine Way Riverside, CA 92503
Meenu Verma	12623 Avocado Way Riverside, CA 92503
Christopher J D Sharpe	12611 Avocado Way Riverside, CA 92503
Larry Ford Popp	6469 Highway 33 Choudrant, LA 71227
Odnalor Jose Coronado Zenarosa	12587 Avocado Way Riverside, CA 92503
Lazaro J Valenzuela	12575 Avocado Way Riverside, CA 92503
Michael J Hiller	12563 Avocado Way Riverside, CA 92503
James K Adair	12551 Avocado Way Riverside, CA 92503
David H Sledge	4512 Queen Angel Court Las Vegas, NV 89110
Apoorva Bhaskerrai Joshipura	12488 Avocado Way Riverside, CA 92503
Curtis B White	12500 Avocado Way Riverside, CA 92503
Joe Jaime	12512 Avocado Way Riverside, CA 92503
Mark A Mejia	12524 Avocado Way Riverside, CA 92503
Gabriel E Martinez	12548 Avocado Way Riverside, CA 92503
Godofredo C Magno	12560 Avocado Way Riverside, CA 92503
Adam Salazar	12572 Avocado Way Riverside, CA 92503
Dwight D Lee	12584 Avocado Way Riverside, CA 92503
Eric A Keen	12596 Avocado Way Riverside, CA 92503
Janos Smit Karako	12608 Avocado Way Riverside, CA 92503
Caron M Isaac	12620 Avocado Way Riverside, CA 92503
David M Schulz	12632 Avocado Way Riverside, CA 92503

Brian A Parham	12644 Avocado Way Riverside, CA 92503
Maria A Quintans	12656 Avocado Way Riverside, CA 92503
Ruben S Velazquez	17865 Aloe Lane Riverside, CA 92503
Mary M Berg	10281 Capri Drive Alta Loma, CA 91737
Darwan Surjani	17889 Aloe Lane Riverside, CA 92503
Brian Radovich	17905 Aloe Lane Riverside, CA 92503
Scott K Davis	17925 Aloe Lane Riverside, CA 92503
James F Figg	17937 Aloe Lane Riverside, CA 92503
Tai Bui	17949 Aloe Lane Riverside, CA 92503
Robert O Beck	17961 Aloe Lane Riverside, CA 92503
Jennifer K L Meloni	17973 Aloe Lane Riverside, CA 92503
Carlos Gutierrez	17985 Aloe Lane Riverside, CA 92503
Saul E Arellano	17997 Aloe Lane Riverside, CA 92503
Mashruf Shemol Ahmed	1007 S Cedar Avenue Fullerton, CA 92833
Russell A Bergman	17934 Aloe Lane Riverside, CA 92503
Todd Skalicky	17922 Aloe Lane Riverside, CA 92503
Abraham Said	17910 Aloe Lane Riverside, CA 92503
Robert E Lettice	12774 Tarragon Way Riverside, CA 92503
Carey Perkins	12786 Tarragon Way Riverside, CA 92503
Sinclair R Alfonso	12798 Tarragon Way Riverside, CA 92503
Aaron Cooksey	12810 Tarragon Way Riverside, CA 92503
Mohammad I Hossain	12822 Tarragon Way Riverside, CA 92503
Jose J Menjivar	12834 Tarragon Way Riverside, CA 92503
Catarino S Roa	12846 Tarragon Way Riverside, CA 92503
Gerald L Leslie	17931 Robusta Drive Riverside, CA 92503
Kimberly G Kimura	17921 Robusta Drive Riverside, CA 92503

Francisco J Regalado	17911 Robusta Drive Riverside, CA 92503
2013 1 Ih Borrower	1717 Main Street #2000 Dallas, TX 75201
Shannon Sidney	17891 Robusta Drive Riverside, CA 92503
Derek J Hamilton	17881 Robusta Drive Riverside, CA 92503
Jose L Gamez	17871 Robusta Drive Riverside, CA 92503
Giannette Makboul	17861 Robusta Drive Riverside, CA 92503
Jonathan E Osbrink	17851 Robusta Drive Riverside, CA 92503
Lloyd Poole	17846 Robusta Drive Riverside, CA 92503
Mafe W T Trinidad	17856 Robusta Drive Riverside, CA 92503
Gerardo Cardenas	17866 Robusta Drive Riverside, CA 92503
Nicolas J Clark	17876 Robusta Drive Riverside, CA 92503
Bridget J Becker	1149 Carter Lane Corona, CA 92881
Kevin C Navarro	17896 Robusta Drive Riverside, CA 92503
Andres Perez	17906 Robusta Drive Riverside, CA 92503
Nicole R Wilder	17916 Robusta Drive Riverside, CA 92503
Jeffrey W Manchester	17926 Robusta Drive Riverside, CA 92503
Bart Wayne Darnell	17936 Robusta Drive Riverside, CA 92503
Enrique Guerrero	17946 Robusta Drive Riverside, CA 92503
Ernest Santana	17956 Robusta Drive Riverside, CA 92503
Emanuel Stanciu	17966 Robusta Drive Riverside, CA 92503
Carlos A Franquez	17976 Robusta Drive Riverside, CA 92503
Mark D Parker	17986 Robusta Drive Riverside, CA 92503
Fassler Trust	2341 Red Oak Drive Santa Rosa, CA 95403
Jerry W Post	12843 Tarragon Way Riverside, CA 92503
Alex Bonales	12831 Tarragon Way Riverside, CA 92503
Zachary Toomey	12819 Tarragon Way Riverside, CA 92503

Mohammad A Al Khalaileh	12807 Tarragon Way Riverside, CA 92503
Amador Gomez	12795 Tarragon Way Riverside, CA 92503
Lourdes Gaitan Chumacero	17913 Aloe Lane Riverside, CA 92503
JessiCA Lynn Brett	12726 Tarragon Way Riverside, CA 92503
Robert A Wilson	12738 Tarragon Way Riverside, CA 92503
Lee Dorothy T Living Trust Dated 5/29/2019	12750 Tarragon Way Riverside, CA 92503
Mario Camacho	12762 Tarragon Way Riverside, CA 92503
Nestor Nidome	617 S Filmore Avenue Rialto, CA 92376
Wmwd	450 E Alessandra Boulevard Riverside, CA 92508
Gary B Hill	PO Box 79181 Corona, CA 92877
Six Okie	15650 Lake Terrace Drive Lake Elsinore, CA 92530
Riverside Jongs	12697 El Sobrante Road Riverside, CA 92503
Lake Ranch Funding Colfin	515 S Flower Street #44th Los Angeles, CA 90071
Bunke Rodney & Naomi G Survivors Family Trust	18041 Lockwood Avenue Riverside, CA 92503
Hector R Gonzalez	2740 Terraza Place Fullerton, CA 92835
Bonnelyn Cole	18185 Lockwood Avenue Riverside, CA 92504
Douglas L Brown	14870 El Sobrante Road Riverside, CA 92503
Bunke Rodney & Naomi Family Trust Dtd 04/06/99	508 Overland Circle Jefferson, CO 80456
Hein Hettinga	PO Box 51630 Irvine, CA 92619
Jaime Carlos	9301 Remington Avenue Chino, CA 91710
Eric Bunke	15010 El Sobrante Road Riverside, CA 92503
Sohra Salman	6667 Lake Springs Street Mira Loma, CA 91752
Roger O Schafer	5602 Club View Drive Yorba Linda, CA 92686
Group Friendly	6160 Golden Trails Avenue Rancho Cucamonga, CA 91739
Leonor C Macias	15891 Bryant Road Riverside, CA 92504
Mccall Leon R Living Trust Dtd 9/12/2006	PO Box 345 Azusa, CA 91702

Mel Vandermolen	8768 Luxury Court Corona, CA 92883
Do & Children Family Trust	3017 Gage Avenue El Monte, CA 91731
Jeronimo Nava	17810 Nandina Avenue Riverside, CA 92504
Patricia Jo Bryant	18411 Centaur Road Riverside, CA 92504
Robert P Korb	6604 E La Cumbre Drive Orange, CA 92869
Group Friendly	14939 Meadows Way Corona, CA 92880
David R Smith	1165 Via Blairo Circle Corona, CA 92879
Manuel D Villalobos	15891 A Bryant Road Riverside, CA 92504
Justin Chien	2880 Woodbridge Court Diamond Bar, CA 91765
Anthony Campanella	38 Harbor Sight Drive Rolling Hills Est, CA 90274
Tommy R Dunford	18915 Crop Court Riverside, CA 92504
Marie L Hart	18923 Crop Road Riverside, CA 92504
David Farley Wood	8571 Bedford Motor Way Corona, CA 92883
Calvin Tan	19196 Hastings Street Rowland Heights, CA 91748
Jianwen Xu	18515 Halter Lane Riverside, CA 92504
Kenneth Renken	18525 Halter Lane Riverside, CA 92504
Rachel Maldonado	19220 Harley John Road Riverside, CA 92504
David Allen	19281 Harley John Road Riverside, CA 92504
Let Prop Jo	776 Highridge Street Riverside, CA 92506
Terrie A Purcell	19041 Harley John Road Riverside, CA 92504
Miguel A Herrera	19071 Harley John Road Riverside, CA 92504
Harley John Iseminger	17249 Twyla Jane Lane Riverside, CA 92504
Ronald D Wilson	4211 Crestview Drive Norco, CA 92860
Russell Allen Crha	19510 Van Buren Boulevard Riverside, CA 92506
Carlos Roberto Sermeno	19892 Smith Road Perris, CA 92570
Carmen E Mota	10573 Morning Glory Fountain Valley, CA 92708

Dale E Drysdale	16290 Quarter Horse Road Riverside, CA 92504
Jason Todd Guthrie	16250 Quarter Horse Road Riverside, CA 92504
Sergio Delacruz	18570 Halter Lane Riverside, CA 92504
Jorge Macias	16220 Quarter Horse Road Riverside, CA 92504
Dennis R Wooldridge	16202 Quarter Horse Road Riverside, CA 92504
David L King	16180 Quarter Horse Road Riverside, CA 92504
Vince Viernes	16189 Quarter Horse Road Riverside, CA 92504
James C Bateman	16197 Quarter Horse Road Riverside, CA 92504
Michael T Collins	16207 Quarter Horse Road Riverside, CA 92504
Arisia Tapocik	16251 Quarter Horse Road Riverside, CA 92504
Jose Z Martinez	18726 Mockingbird Canyon R Riverside, CA 92504
John D Schaffler	18678 Mockingbird Canyon R Riverside, CA 92504
Sharene M Greer	18636 Mockingbird Canyon R Riverside, CA 92504
Enrique Diaz	16375 Fox Glen Road Riverside, CA 92504
Derek D Falk	18643 Sussex Road Riverside, CA 92504
John E Kiser	18693 Sussex Road Riverside, CA 92504
Armando Mendez	18733 Sussex Road Riverside, CA 92504
Renfro Robert D & Sandra L Living Trust of 1999	16490 Equestrian Lane Riverside, CA 92504
Ronald Noguera	16444 Equestrian Lane Riverside, CA 92504
Ronald B Kneale	16449 Equestrian Lane Riverside, CA 92504
Stephen Varner	16473 Equestrian Lane Riverside, CA 92504
Michael Bruno Calabretta	18823 Crop Road Riverside, CA 92504
Morris Walter G & Patricia A Morris Family Trust 1/1	18861 Crop Road Riverside, CA 92504
Matthew E Hair	18907 Crop Road Riverside, CA 92505
Selby Warren James & Helene Anita Family Trust Dtd 7	18931 Crop Road Riverside, CA 92504
Kurt C Voss	18934 Crop Road Riverside, CA 92504

Paul Healey	18850 Crop Road Riverside, CA 92504
Eduardo Martinez	18903 Harness Road Riverside, CA 92504
Porfirio N Pena	18931 Harness Road Riverside, CA 92504
Paula Jentile	19269 Green Acres Drive Perris, CA 92570
Mark A Tyler	19237 Green Acres Drive Perris, CA 92570
Brian H Bonnett	19205 Green Acres Drive Perris, CA 92570
Valerie Lane Starck	19175 Wyler Road Perris, CA 92570
Raul Ruiz	19109 Wyler Road Perris, CA 92570
Harris Warren D & Kimberly G Harris Rev Trust Dated	17600 Conestoga Road Perris, CA 92570
Carolyn L Pike	18556 Oak Park Drive Riverside, CA 92504
Timothy L Mccarter	18931 Chickory Drive Riverside, CA 92504
David Villa	18959 Chickory Drive Riverside, CA 92504
John Scott Coleman	18942 Chickory Drive Riverside, CA 92504
Judy Graham	20751 Lake Mathews Drive Perris, CA 92570
Salvador Robles	20855 Lake Mathews Drive Perris, CA 92570
Deena Bennett	13880 Richey Drive Perris, CA 92570
Allan Wayne Porch	13900 Richey Way Perris, CA 92570
David V Eakin	13833 Cajalco Road Perris, CA 92570
David V Eakin	21023 Lake Mathews Lane Perris, CA 92570
Sergio F Mendez	16522 Ridge Field Drive Riverside, CA 92503
Grant V May	14095 Grande Vista Avenue Perris, CA 92570
Tuan Van	PO Box 78915 Corona, CA 92877
Takako T Kawahara	15200 Via Barranca Perris, CA 92570
Steven A Markusic	14251 Alva Place Perris, CA 92570
Susan Hedge	20965 Lakeridge Drive Perris, CA 92570
Laird Townsend	20925 Lakeridge Drive Perris, CA 92570

Vincent Chung	513 Camino De Gloria Walnut, CA 91789
Construction Bx	11671 Sterling Avenue #K Riverside, CA 92503
Lumpkin Wallace W Family Trust	825 W 23rd Street Los Angeles, CA 90007
Steven Brown	14010 Scenic View Road Perris, CA 92570
Patrick L Huston	14080 Scenic View Road Perris, CA 92570
Tor Kristian Hemborg	14160 Scenic View Road Perris, CA 92570
Jose G Flores	14240 Scenic View Road Perris, CA 92570
Raymond G Villegas	14241 Scenic View Road Perris, CA 92570
Jeffrey S Spencer	14161 Scenic View Road Perris, CA 92570
Clarence Harold Swegheimer	14081 Scenic View Road Perris, CA 92570
Baljeet Singh Aujla	14011 Scenic View Road Perris, CA 92570
Mark Olguin	14020 Eagle View Road Perris, CA 92570
John C Davis	14070 Eagle View Road Perris, CA 92570
Nadeem A Syed	14150 Eagle View Road Perris, CA 92570
Michael Mitchell	14151 Eagle View Drive Perris, CA 92570
Josefina M Bartolome	14071 Eagle View Road Perris, CA 92570
Byong I Choung	14021 Eagle View Road Perris, CA 92570
Spv Jkv	450 Newport Center Drive #20 Newport Beach, CA 92660
Joseph W Gisler	21099 Lakeridge Drive Perris, CA 92570
Guadalupe Madrigal	21089 Lakeridge Drive Perris, CA 92570
Kawahara Mitsuo By-Pass Trust Dtd 8 20 1988	1236 Orange Grove Avenue South Pasadena, CA 91030
David G Robin	17834 Gustin Lane Perris, CA 92570
Peter Meine	17828 Gustin Lane Perris, CA 92570
Robert V Mccoy	19800 Gustin Lane Perris, CA 92570
Michael L Kopenhefer	19808 Gustin Road Perris, CA 92570
Dora Leah Popp	PO Box 4492 Riverside, CA 92514

Rosalina Alvarado	2020 Peachtree Drive Perris, CA 92571
Jose Jimenez	19881 Gustin Road Perris, CA 92570
Daniel A Martinez	19940 Smith Road Perris, CA 92570
Vivian L Smith	19946 Smith Road Perris, CA 92570
Christopher A Maat	19287 Wyler Road Perris, CA 92570
Donald J Lomprey	19245 Wyler Road Perris, CA 92570
Greg Heck	19156 Mcguire Road Perris, CA 92570
Jon R Franklin	19300 Wyler Road Perris, CA 92570
Janice A Perry	19326 Wyler Road Perris, CA 92570
Majestic Freeway Business Center	13191 Crossroads N 6th Fl City of Industry, CA 91746
Majestic Freeway Business Center	13191 Crossroads Pkwy La Puente, CA 91746
State of Calif	464 W Fourth Street San Bernardino, CA 92401
State of Calif	PO Box 231 San Bernardino, CA 92403
Ferguson Enterprises LLC	PO Box 71970 Phoenix, AZ 85050
Morrison Gayle Pope Trust Dtd 06/05/2013	602 W Jonquil Road Santa Ana, CA 92706
Optimus Owner LLC	PO Box 847 Carlsbad, CA 92018
Optimus Building Corp	629 Dufranc Avenue Sebastopol, CA 95472
Majestic Freeway Business Center	13191 Crossroads N 5th Fl City of Industry, CA 91746
Angela Danciu	2239 Meyer Place Costa Mesa, CA 92627
Helena I Arrieta	1598 W 5th Street San Bernardino, CA 92411
David Aguilar	PO Box 927 Perris, CA 92570
Jose G Dominguez	4807 S Vermont Avenue Los Angeles, CA 90037
Eduardo Aguilar	28774 Bruce Avenue Riverside, CA 92503
Adrian J Guevara	22298 Alviso Drive Perris, CA 92570
David Zepeda	2097 E Washington #1e Colton, CA 92324
Ismael A Perez	935 W Stanford Santa Ana, CA 92707

Juan Oropeza Gomez	22100 Alviso Road Perris, CA 92570
Mary J Ardis	19200 Day Street Perris, CA 92570
Jose Rodriguez	22010 Alviso Drive Perris, CA 92570
Gladys Hylton	19280 Day Street Perris, CA 92570
Jess E Christian	16485 Everetts Way Riverside, CA 92504
Cathexis	700 W E Street #4103 San Diego, CA 92101
Ivan Ramirez Rios	13526 Robyn Court Garden Grove, CA 92843
Maria De Jesus Mueller	PO Box 1616 Perris, CA 92572
Gerardo Gomez Rosales	22325 Alviso Street Perris, CA 92570
Miguel Angel Zuniga	1315 S Gamsey Street Santa Ana, CA 92707
Alejandro Collazo	13112 Stanton Santa Ana, CA 92705
Jose Chavez Del Toro	3715 Mountain Avenue San Bernardino, CA 92404
Chau Ngoc Lam	9851 Bolsa Avenue #32 Westminster, CA 92683
Pedro Bello Navarrete	11695 Pampus Drive Mira Loma, CA 91752
Margie L Gray	710 N Northwood Avenue Compton, CA 90220
Frank O Fox	217 Cedar Street #209 Sandpoint, ID 83864
Adam Cory Wright	22810 Dracaea Avenue Moreno Valley, CA 92553
Sandra G Lopez	24680 Bamboo Court Moreno Valley, CA 92553
Gonzalo Estrada	25938 Camino Rosada Moreno Valley, CA 92551
Robert L Davies	19360 Day Street Perris, CA 92570
Francisco D Olivares	19400 Day Street Perris, CA 92570
Berki Edward 2014 Living Trust Dtd 6/22/2014	1370 N La Cadena Drive Colton, CA 92324
Global Az Investing Corp	3870 La Sierra Avenue #374 Riverside, CA 92505
Erick Garcia	22080 Cajalco Road Perris, CA 92570
Dulce Maria Lyons	22120 Cajalco Road Perris, CA 92570
Javier G Chavez	PO Box 702 Temecula, CA 92593

Jesus M Lopez	21170 Oakwood Perris, CA 92570
Jidui Abbas Hatim Al	1128 Starbright Circle Corona, CA 92882
Raul L Sanchez	22211 Marquez Road Perris, CA 92570
Joaquin Marquez	22220 Cajalco Road Perris, CA 92570
Robert T Trejo	22260 Cajalco Road Perris, CA 92570
William Aguirre	12041 Patton Road Downey, CA 90242
Nicolasa P Griego	2878 Duffy Street San Bernardino, CA 92407
MoniCA Sicairos Lomeli	22330 Cajalco Road Perris, CA 92570
Juan Carlos Duenas	11068 Debra Way Moreno Valley, CA 92557
Rico Quiroga	2851 S La Cadena Drive #263 Colton, CA 92324
Janice C Renteria Pmb 450	231 E Alessandro Boulevard #A Riverside, CA 92508
Margarito M Lara	22460 Cajalco Road Perris, CA 92570
Rosa Maria Servin	22490 Cajalco Road Perris, CA 92570
Pamela Jo Crane	1958 Mount Verdugo Lane Perris, CA 92571
Alejandro C Guzman	22261 Alviso Drive Perris, CA 92570
Cesar Garcia	19320 Day Street Perris, CA 92570
Martin Garcia Arenas	6869 Coolidge Avenue Riverside, CA 92506
Robert A Chandler	22370 Cajalco Road Perris, CA 92570
Jesse R Granados	5017 W 16th Street Santa Ana, CA 92703
Jose Luis Campos	22285 Marquez Road Perris, CA 92570
Iglesia Cristiana Ebenezer Pentecostes Inc	22160 Cajalco Road Perris, CA 92570
Frank J Garcia	18671 Haines Street Perris, CA 92570
Johnny Armendariz	22290 Cajalco Road Perris, CA 92570
Gregorio Ojeda Ricardez	22521 Alviso Street Perris, CA 92570
Santiago Flores	PO Box 1073 Perris, CA 92572
Richard Stanko	PO Box 521 Perris, CA 92570

Ann S Mcanlis Jo	22820 Cajalco Road Perris, CA 92570
Velia Mendoza	22744 Marquez Road Perris, CA 92570
Othon Arellano	22700 Marquez Road Perris, CA 92570
Octavio S Sotelo	20210 E Dickson Court Walnut, CA 91789
Wench Larry Guy Living Trust Dated 8/5/2019	22570 Marquez Road Perris, CA 92570
Nicanor N Hernandez Nieto	22540 Marquez Road Perris, CA 92570
Janice Renteria	231 E Alessandro Ste A #450 Riverside, CA 92508
Riad Abdallah Jadallah	19383 Aspenleaf Drive Perris, CA 92570
Garza Rod & BlanCA Family Trust	19679 Arroyo Crossing Drive City of Industry, CA 91789
Esmeralda Avalos	27534 Van Buren Avenue Menifee, CA 92585
Community Assn of Perris Calif Inc	PO Box 1659 Perris, CA 92572
David M Little	PO Box 128 Yerington, NV 89447
Kyle C Brown	22840 Cajalco Road Perris, CA 92570
Teresa Nuno	28040 Kalmia Avenue Moreno Valley, CA 92555
Luis A Haros	15675 Granada Drive Moreno Valley, CA 92551
Maria Florinda Herrera	21261 Salter Road Perris, CA 92570
Leanna Kluck	22530 Cajalco Road Perris, CA 92570
Steven E Pulcheon	28248 Tower View Court Romoland, CA 92585
Jorge Tapia	22920 Cajalco Road Perris, CA 92570
Karen Ann Kelley	2555 Alpine Road Upland, CA 91784
Jose M Castaneda	980 W 17th Street #A Santa Ana, CA 92706
Sandoval J Guadalupe	3096 Kerry Street San Bernardino, CA 92407
Luis T Barba	10600 Cook Avenue Riverside, CA 92505
Araceli Barba Delacruz	5155 Emerald Cove San Diego, CA 92154
Marco Moreno	15200 Carretera Drive Whittier, CA 90605
Marco Moreno	8301 Michigan Avenue Whittier, CA 90605

Marco Moreno	15200 Carretera Drive Whittier, CA 90605
Fuerstenberg Carlotta Trust	19355 Seaton Street Perris, CA 92570
Southeastern Calif Conf of Seventh Day Adv	PO Box 79990 Riverside, CA 92513
Mary Lou Sotelo	20210 Dickson Court Walnut, CA 91789
Vincent Cortez	22681 Alviso Drive Perris, CA 92570
Delia Arzate	PO Box 1164 Perris, CA 92570
Elena Morales	22731 Alviso Drive Perris, CA 92570
Gary Allen Benedict	19341 Decker Road Perris, CA 92570
Miguel Garica	21530 Marae Road Perris, CA 92570
Manuel Valenzuela	22105 Cajalco Road Perris, CA 92570
Shree Prop Inc	904 Silver Spur #479 Rolling Hills, CA 90274
Ipolito Ramos Rojas	18166 Rose Avenue Bloomington, CA 92316
Evencio Rodriguez	3456 Temescal Avenue Norco, CA 92860
Jaswinder Kaur	19414 Robinson Street Perris, CA 92570
Birk M Woods	PO Box 1525 Perris, CA 92572
Virda O Hockenhull	7600 Ambergate Place Riverside, CA 92504
Brad Lincoln	7512 E Big Canyon Drive Anaheim, CA 92808
Gustavo Gonzalez	19630 Day Street Perris, CA 92570
Rigoberto Campos	587 Pomona Bloomington, CA 92316
Enrique Gutierrez	PO Box 99 Perris, CA 92572
Earl Nordquist	10 Via Azur Rancho Santa Margarita, CA 92688
Jose F Melendrez	19690 Hookenhull Street Perris, CA 92570
Luis Rivera	24255 Ankerton Drive Lake Forest, CA 92630
Giovani Diaz	19724 Day Street Perris, CA 92570
Juan Hugo Medina Sanchez	2637 W Juniper Street #3 Santa Ana, CA 92704
Jacqueline Aguilera	19725 Tyler Street Perris, CA 92570

Roblez Family Revocable Trust Dtd 06/25/92	31090 E Sunset Drive Redlands, CA 92373
Mohamed Ougzin	820 Canary Drive Suisun City, CA 94585
Albert W Ellis	22185 Cajalco Road Perris, CA 92570
Antonio Morales	22191 Cajalco Road Perris, CA 92570
Shree Prop Inc	23441 Golden Springs #346 Diamond Bar, CA 91765
Rider Seaton Partners	2 Park Plaza #700 Irvine, CA 92614
Edward Bell	PO Box 2146 Inglewood, CA 90305
Valerie C Gilabert	19670 Tyler Road Perris, CA 92570
Eastern Municipal Water Dist	PO Box 8300 Perris, CA 92572
Aida Alsayeh	19511 Tyler Road Perris, CA 92570
Salvador Hernandez	19553 Tyler Road Perris, CA 92570
Jose Antonio Aquino	19595 Tyler Road Perris, CA 92570
Rigoberto Montellano	19655 Tyler Road Perris, CA 92570
Krishna Land LLC	23535 Palomino Drive #371 Diamond Bar, CA 91765
EriCA Regulsky	1287 Weber Street Pomona, CA 91768
Ismael Valenzuela	19712 Day Street Perris, CA 92570
Jose Castillo	19700 Day Street Perris, CA 92570
Serafin Aleman	31231 Highway 74 Homeland, CA 92548
Shree Prop Inc	23535 Palomino Drive #346 Rolling Hills, CA 90274
Jorge L Hurtado	11364 Jamaica Street Cypress, CA 90630
Leon Bruce Evans	966 W Pine Street #B Upland, CA 91786
Donavon D Ritz	480 E Main Street Riverside, CA 92507
Stephens Tommy Estate of	4120 Walnut Avenue Long Beach, CA 90807
Henrietta L Stephens	22775 Cajalco Road Perris, CA 92570
Daniel Duenas	19655 Camino Del Sol Perris, CA 92570
Elva Martinez	PO Box 1651 Riverside, CA 92502

Man Kam Chow	2181 Turnbull Canyon Road Hacienda Heights, CA 91745
Paz Trevino	19641 Seaton Avenue Perris, CA 92570
Vasilios Rigas	30 Point Loma Drive Corona Del Mar, CA 92625
Dorothy Roque	3524 Myrtle Avenue Long Beach, CA 90807
Carlos Daniel Sanchez	19701 Seaton Avenue Perris, CA 92570
James C Porras	20180 Oleander Avenue Perris, CA 92570
Floyd H Norris	137 N Larchmont Boulevard Los Angeles, CA 90004
Stephen T Adams	26 S Arch Street Janesville, WI 53548
Savannah Tedesco	19754 Anderson Road Perris, CA 92570
De La Cruz Family Trust Dated 9/24/2019	22655 Cajalco Road Perris, CA 92570
Felipe R Alvarez	3708 W 118th Street Hawthorne, CA 90250
Bartley Family Trust Dtd 10/9/98	3553 Hugo Street San Diego, CA 92108
Barragan Family Revoc Living Trust Dtd 10/05/2018	PO Box 33483 Riverside, CA 92519
Sen Buddhist Temple Huong	19865 Seaton Avenue Perris, CA 92570
Logistics Vii Knox	3501 Jamboree Road #230 Newport Beach, CA 92660
Kavianna Inc	10759 Saffron Street Fontana, CA 92337
Charles B Siroonian	14150 Vine Place Cerritos, CA 90703
William John Warner	1573 Jameson Court Riverside, CA 92507
Paul N Warner	PO Box 1381 Moreno Valley, CA 92556
Hall Jam	7879 Pine Crest Drive Riverside, CA 92506
Fayez Sedrak	19248 Harvill Avenue Perris, CA 92570
Pinnacle Real Estate Holdings	23261 Cajalco Expr Perris, CA 92571
Rg Val Verde Riv Co	1271 Avenue of Americas New York, NY 10020
Riverside Hhi	3800 Orange Street #250 Riverside, CA 92501
Fayez Sedrak	2337 Norco Drive Norco, CA 92860
Sue Swoffer Ward	6254 Parima Street Long Beach, CA 90803

Chen Richard M Living Trust Dtd 3/30/2020 & Any Amen	1209 Gold Flower Road Carlsbad, CA 92011
Glenn L Rowley	11401 Pettit Moreno Valley, CA 92555
Feron Wf	620 Arrow Highway La Verne, CA 91753
I 215 At Ramona	2600 E Southlake 120 #371 Southlake, TX 76092
Vch No 1	1000 Pioneer Way El Cajon, CA 92020
Heriberto Puente	23083 Cajalco Road Perris, CA 92570
Renouf Jack R Trust Dated 03/31/89	PO Box 549 Santa Clara, UT 84765
Barbara Cloyd	32294 Corte Las Cruces Temecula, CA 92592
Helen I Toth	19543 Patterson Avenue Perris, CA 92570
Prop Sifeth	5672 Altadena Court Rancho Cucamonga, CA 91739
Vg Trust Established 03/21/1983	3000 Tyler Street Riverside, CA 92503
Eduardo Martin Mercado	23051 Cajalco Road Perris, CA 92570
Rodrigo Aguilar	23451 Cajalco Road Perris, CA 92570
Christopher J Powers	305 N Chicago Avenue Bolivar, MO 65613
David M Fann	PO Box 292728 Phelan, CA 92329
Vicente Cervantes	9031 Olive Street Bellflower, CA 90706
Der Bao Chen	23161 Bouquet Canyon Mission Viejo, CA 92692
Group Bei	5753 G Santa Ana Canyon Road Anaheim, CA 92807
Alejandro Sierra	3332 Ironwood Court Perris, CA 92571
Raymundo Guevara	19580 Seaton Avenue Perris, CA 92570
Vanagan Holdings Inc	7411 Vantage Way Delta, BC, Canada, V4G 1C9
Maricopa Inv Premier	17705 S Main Street Gardena, CA 90248
Supreme	23129 Cajalco Road Perris, CA 92570
Riverside Sponsor Archivio	6641 W Broad Street #101 Richmond, VA 23230
Oliver M Storsteen	16815 S Broadway Street Gardena, CA 90248
Belia Moore	30152 La Puerta Drive Homeland, CA 92548

Thelma C Gonzalez	PO Box 551 Corona, CA 92882
Maxwell C Wood	5133 Rose Moss Street North Las Vegas, NV 89031
Victor Mendez	22740 Alviso Road Perris, CA 92599
Jerry C Compton	22700 Alviso Drive Perris, CA 92570
Richard A Aguilera	PO Box 533 Stanton, CA 90680
Jose H Salgado	11862 Santa Rosalia Stanton, CA 90680
Manuel L Silva	19201 Seaton Avenue Perris, CA 92570
Theresa Lynn Cavin	22890 Alviso Road Perris, CA 92570
Marcelo Perez	792 Arboles Court Perris, CA 92571
Fausto Santillan	22870 Alviso Road Perris, CA 92570
Alejandro Cepedo	22850 Alviso Drive Perris, CA 92570
Felipe Cano	7785 Whitewood Drive Fontana, CA 92336
Victor Manuel Estrada	22810 Alviso Drive Perris, CA 92570
Melody Kizler	22307 Black Gum Street Moreno Valley, CA 92553
Theresa L Gavin	25355 Winner Romoland, CA 92585
Maria Gonzalez	40460 Poppy Drive Hemet, CA 92544
Anselmo Moreno	1098 Sharon Drive Salinas, CA 93905
Maria Del Robles	21430 Dawes Street Perris, CA 92570
Steven C Beam	2717 7th Avenue #5 Los Angeles, CA 90018
Eliazar Morales	21400 Dawes Street Perris, CA 92570
Francisco Duran	18734 Jersey Drive Artesia, CA 90701
Reyna Campos	21376 Kinney Street Perris, CA 92570
Jose Gaudiana	21330 Dawes Street Perris, CA 92570
Magdalena Segura	21310 Dawes Street Perris, CA 92570
Rigoberto Gonzalez	21294 Dawes Street Perris, CA 92570
Carlos Valdez	11705 Clark Street Moreno Valley, CA 92557

Juan D Mendez Mares	19230 Haines Street Perris, CA 92570
Wilmer E Johnson	9135 Owari Lane Riverside, CA 92508
Henry Ruiz	21007 Hicks Street Perris, CA 92570
Guillen J Trinidad	176 Alabaster Loop Perris, CA 92570
Larios L & M Living Trust Dtd 04/11/2020	21065 Hicks Street Perris, CA 92570
Harris Alfred D Revocable Living Trust U/A Dated 02/	21075 Hicks Street Perris, CA 92570
Harris Alfred D Revocable Living Trust Dated 02/02/2	21085 Hicks Street Perris, CA 92570
Robert Vicuna	14171 Brenan Way Santa Ana, CA 92705
Jorge Chavez Reyes	21149 Hicks Street Perris, CA 92570
Victor A Heredia	21161 Hicks Street Perris, CA 92570
Francisco Perez Cossyleon	9424 Cormorant Circle Fountain Valley, CA 92708
Cynthia V Hinds	3289 Woodbine Street Los Angeles, CA 90064
Rosaura Chavez	21200 Dawes Street Perris, CA 92570
Jose T Navarro	18677 Mesa Drive Villa Park, CA 92861
Raul Ochoa	21168 Dawes Street Perris, CA 92570
Hermilo Perez	19211 Stroh Avenue Corona, CA 92881
Juan Torres	21124 Dawes Street Perris, CA 92570
Ricardo Ciriani	3364 Punta Alta No #1f Laguna Woods, CA 92637
Victor Manuel Montejano	8815 Morninglight Circle Riverside, CA 92508
Rosario L Herrera	21034 Dawes Street Perris, CA 92570
Felipe L Talavera	11224 Bromont Avenue Pacoima, CA 91331
Home Expo Financial Inc	23580 Alessandro No #9818 Moreno Valley, CA 92552
Maria D Escalante	19292 Brown Street Perris, CA 92570
Jose A Aguilar	17443 Krameria Avenue Riverside, CA 92504
Jose Luis Mendoza	19378 Brown Street Perris, CA 92570
Arturo E Pavez	655 Valleywood Circle Corona, CA 92879

Eduardo Martin Nicolas	19433 Florence Street Perris, CA 92570
Domingo Bojorquez Gerardo	19431 Florence Street Perris, CA 92570
Christopher P Dsilva	22842 Grand Terrace Grand Terrace, CA 92313
Jose Luis Lozano	9363 Magnolia Avenue Riverside, CA 92503
Zoria Diesha Hill	17183 Alameda Drive Perris, CA 92570
Ruben Menchaca	21534 Martin Street Perris, CA 92570
Cruz C Castro	19278 Florence Street Perris, CA 92570
Alfredo R Castro	2018 Willowbrook Lane Perris, CA 92571
Arnoldo Diaz	103011 San Miguel Avenue South Gate, CA 90280
Antonio C Hernandez	19320 Florence Street Perris, CA 92570
Jesus Diaz	19354 Florence Street Perris, CA 92570
Luisa Contreras	19380 Florence Street Perris, CA 92570
Ruben R Placito	19390 Florence Street Perris, CA 92570
Javier Sanchez	19410 Florence Street Perris, CA 92570
Prop Ramuni	21700 Markham Street Perris, CA 92570
Vicente Caldera	19430 Florence Street Perris, CA 92570
Tulsi R Savani	2606 Blaze Trl Diamond Bar, CA 91765
Arturo Cervantes	21165 Dawes Street Perris, CA 92570
Sara E Johnson	4655 Minnier Avenue #47b Riverside, CA 92505
Ruben Valencia	33282 Lazurite Way Menifee, CA 92584
George Mccord	4071 E Platt Avenue Lynwood, CA 90262
Jonathan Lageman	4123 Richmond Avenue El Monte, CA 91732
Brenda Hurd	PO Box 7731 Moreno Valley, CA 92552
Tom Millender	3946 Welland Avenue Los Angeles, CA 90008
Subtera Inv Inc	19414 Robinson Perris, CA 92570
Saul Orozco	8032 Milna Avenue Whittier, CA 90606

Nora M Campos	2268 Colgate Drive Costa Mesa, CA 92627
Eva Orozco	21381 Dawes Street Perris, CA 92570
David Orozco	21401 Dawes Street Perris, CA 92570
Victor Maldonado	21411 Dawes Street Perris, CA 92570
Jose Caridad	21429 Dawes Street Perris, CA 92570
Denise P Dominguez	21443 Dawes Street Perris, CA 92570
Jose R Deleon	21465 Dawes Street Perris, CA 92570
Renee E Cannon	21489 Dawes Street Perris, CA 92570
Alejandro Heredia Ibarra	19311 Clark Street Perris, CA 92570
Steven Navarro	21492 Shortridge Avenue Perris, CA 92570
Manuel G Bravo	14928 De Soto Place Moreno Valley, CA 92553
Arturo Villalobos	21440 Shortridge Street Perris, CA 92570
Ralph Harvey	8843 S Wilton Place Los Angeles, CA 90047
Ricardo Reveles	21370 Shortridge Avenue Perris, CA 92570
Carlos Ibarra	20901 Old Elsinor Road Perris, CA 92570
Jamill Montoya	3380 La Sierra No #10414 Riverside, CA 92503
Rogelio Lopez Perez	21292 Shortridge Street Perris, CA 92570
Antonio Patino	21280 Shortridge Avenue Perris, CA 92570
Carlos Estrada	19320 Haines Street Perris, CA 92570
James Steven Roman	19280 Haines Street Perris, CA 92570
Ismael Huerta Torres	19260 Haines Street Perris, CA 92570
Stephany G Olea Angelito	21293 Dawes Street Perris, CA 92570
Johnny W Dilldine	19360 Haines Street Perris, CA 92570
Douglas A Davila	21275 Shortridge Avenue Perris, CA 92570
Dorothy L Delcoure	15868 Golden Star Avenue Riverside, CA 92506
JCA Trust Dated 4/28/2017	549 Coudures Way Perris, CA 92571

Juan Ramon Trejo	6130 Camino Real No #79 Riverside, CA 92507
Sonia Aguirre	18562 E Ranch Road Queen Creek, AZ 85142
Teresa Ruvalcaba	2344 Sunnysands Drive Perris, CA 92570
Alex Guardado	962 S Vine Rialto, CA 92316
Benjamin Valadez	3705 Blair Street Corona, CA 92879
Delfino Mireles	21435 Shortridge Avenue Perris, CA 92570
Joseph T Stover	3040 Gilmer Avenue Winston Salem, NC 27105
Marvin Rocael Jose Zacarias	19361 Clark Street Perris, CA 92570
Antonio Garcia	19390 Haines Street Perris, CA 92570
James Martinez	52 Laumer Avenue San Jose, CA 95127
Maria C Lopez	21292 Johnson Avenue Perris, CA 92570
Gerardo Hernandez Perez	21334 Johnson Street Perris, CA 92570
Ricardo Alvarado	4271 Stonewall Drive Riverside, CA 92505
Manuel P Gomez Jose	286 E Nuevo Road Perris, CA 92571
Chester William Howze	11655 S Alabama Avenue Los Angeles, CA 90059
Edward J Egan	19430 Haines Street Perris, CA 92570
Antonio Garcia	1076 13th Street Richmond, CA 94801
Jose Luis Salazar	3063 Jacinta Drive Perris, CA 92571
Ramon Vasquez	2771 W Madison Circle Anaheim, CA 92801
Amin Jadallah	21760 Corso Alto Road Nuevo, CA 92567
Luz Maria Delgado	21350 Johnson Avenue Perris, CA 92570
Robert L Kozel	1353 Pepper Tree Drive Hemet, CA 92545
Most Wishful St James Lodge Af & Am Inc	PO Box 742 Perris, CA 92572
Daniel Quintero	21827 Oakwood Street Perris, CA 92570
Gods Harvest Church of God In Christ	26313 Barbados Lane Moreno Valley, CA 92555
Miranda Family Holdings	126 N Carmelita Street Hemet, CA 92543

Susan Lee	633 Oak Tree Street Fullerton, CA 92835
Thomas L Wang	4961 Paseo Segovia Irvine, CA 92603
Val Verde Unified School Dist	21705 Martin Street Perris, CA 92570
Rogelio Ramirez	19193 Robinson Street Perris, CA 92570
Espiridion Ramirez	19205 Robinson Street Perris, CA 92570
Roberto Clark	19247 Robinson Street Perris, CA 92570
Maria E Diaz Ramirez	19291 Robinson Street Perris, CA 92570
Frank S Robles	213 St Andrew Santa Ana, CA 92707
Vicente Sanchez Cortez	19335 Robinson Street Perris, CA 92570
Luis Morales	19367 Robinson Street Perris, CA 92570
Nellie Ponce Munoz	19401 Robinson Street Perris, CA 92570
David P Munoz	19510 Van Buren Boulevard #177 Riverside, CA 92508
Cao Rong	PO Box 3272 City of Industry, CA 91744
William Valov	2339 Montera Hacienda Heights, CA 91745
Manuel Puente	1828 Peeler Street Corona, CA 92882
MoniCA K Townsend	21858 Cajalco Road Perris, CA 92570
Edgar Frausto	21131 Ellis Avenue Perris, CA 92570
Aldo P Melendrez	21912 Cajalco Road Perris, CA 92570
Austreberto Lopez	21573 Burch Street Perris, CA 92570
Jose Maya	276 Yosemite Avenue Perris, CA 92570
Arturo Tapia	19280 Robinson Street Perris, CA 92570
Pat Manuel Jesus & Nilda Crisanta Family Trust Dated	19241 Silver Summit Circle Perris, CA 92570
Salvador Lopez	2090 Starfire Drive Perris, CA 92571
Carlos Pico Hernandez	11241 Westfall Lane Riverside, CA 92505
John Clayton Sistar	4814 Challen Avenue Riverside, CA 92508
Linda Ann Thomas	255 Fonzie Avenue Imperial, CA 92251

James Feliciano	19255 Day Street Perris, CA 92570
Francisco Nevarez	19315 Day Street Perris, CA 92570
Fred Curry	2908 W 83rd Street Inglewood, CA 90305
Miguel Castillo	20610 Verta Street Perris, CA 92570
Ignacio Mendez	19373 Day Street Perris, CA 92570
Jessie Fernandez	19387 Day Street Perris, CA 92570
Mark Ramirez	19411 Day Street Perris, CA 92570
Harris Roy & Rita Family Living Trust Dated 6/18/201	6728 S Sherbourne Drive Los Angeles, CA 90056
Allison Denise Petts	Churchdown Glos Gl3 Inx United
Jaime C Vizcaino	7031 36th Street Riverside, CA 92509
County of Riverside Transportation Dept	4080 Lemon Street #8th Riverside, CA 92501
Pedro Mejia	28171 Cajalco Road Perris, CA 92570
Rosa Bribiesca	21805 Cajalco Road Perris, CA 92570
Isidoro Verdin	68 Ensenada Drive Perris, CA 92571
Cesar Covarrubias	10671 Orange Park Boulevard Orange, CA 92869
Nelida Vargas	75 W Nuevo Road #E201 Perris, CA 92571
Mario Cuaya-Fabian	PO Box 1413 Perris, CA 92572
Luz Margarita Garcia	18260 Cedar Street Perris, CA 92570
Ramon Gomez Bautista	21620 Bailly Street Perris, CA 92570
Ngoc My Thai	14381 Lyndon Lane Garden Grove, CA 92843
Carlos Hernandez	21735 Elmwood Street Perris, CA 92570
Carlos Hernandez	2088 Orchard Drive Perris, CA 92571
Diego Quintanar	2934 Indian Avenue Perris, CA 92571
Francisco Morales Morales	3854 Dwiggins Street Los Angeles, CA 90063
Antonio Pineda	21640 Oakwood Street Perris, CA 92570
Jesus Franco	21670 Oakwood Street Perris, CA 92570

Carlos Hernandez	19725 Carroll Street Perris, CA 92570
Ausencio Monge	7872 Ladoga Place Riverside, CA 92509
Ui Hong Kang	11321 Felson Street Cerritos, CA 90703
Robert L Jones	20725 Londelius Street Canoga Park, CA 91306
Guadalupe Marez	21950 Oakwood Street Perris, CA 92570
Alden Barry Roberts	21573 Elmwood Street Perris, CA 92570
Adel Issa Batarseh	16412 Orangehaven Lane Riverside, CA 92503
Derek Marquez	18753 Malkoha Street Perris, CA 92570
Deemarco	887 Pamcey Ter Riverside, CA 92506
Pti Us Towers Ii	1001 Yamato Road #105 Boca Raton, FL 33431
Lewis S White	11174 S Street Los Angeles, CA 90047
Rosendo Ramirez	21590 Elmwood Street Perris, CA 92570
Francisco Rodriguez Ramirez	2054 Dayflower Court Perris, CA 92571
Cesar Meza	21740 Elmwood Street Perris, CA 92570
Marie Surrell	21730 Elmwood Street Lake Mathews, CA 92570
Taiseer Harb	26035 Scott Road Menifee, CA 92584
Carlos Arce Moran	1370 Villa Street Riverside, CA 92507
Sameh Abdelmalek	3343 Deputy Evans Drive Norco, CA 92860
Eleazar Ramos	17945 Wildwood Creek Road Riverside, CA 92504
General Telephone Co of Calif	PO Box 152206 Irving, TX 75015
Fernando B Bernabe	19580 Clark Street Perris, CA 92570
Joaquin Bautista	1594 Ranch Street Perris, CA 92571
Jorge Lujano	20739 Verta Street Perris, CA 92570
Armando Aguilar Benitez	12070 Casa Linda Court Moreno Valley, CA 92555
William Ray Creech	PO Box 582 Patton, CA 92369
Emanuel Cardenas Soto	390 W 10th Street Perris, CA 92570

Henry Artis	317 W 7th Street Perris, CA 92570
Carlin Goode	PO Box 8052 Moreno Valley, CA 92553
Rolando Flores	21431 Oakwood Street Perris, CA 92570
Jose Armando Almanza	21400 Oakwood Street Perris, CA 92570
Jose F Rodriguez	21330 Oakwood Street Perris, CA 92570
Kevin Isaac Bello	21290 Oakwood Street Perris, CA 92570
Conrad Thuy	9781 Garrett Circle Huntington Beach, CA 92646
Vallejo Candelrio Torres & Maria Reyna Garcia De Tor	8981 California Avenue Riverside, CA 92503
Calle Ocho Prop Management Inc	21347 Elmwood Street Perris, CA 92570
Carl Jay Colson	21375 Elmwood Street Perris, CA 92570
Savedra Lawrence & Prapaporn Family Trust Dated 10/3	21427 Elmwood Street Perris, CA 92570
Ismael Cano	21431 Elmwood Street Perris, CA 92570
Armando Torres	21457 Elm Wood Street Perris, CA 92570
Jose M Covarrubias	15534 Three Palm Street Hacienda Heights, CA 91745
Jesus Beltran Nieto	20355 Cajalco Road Perris, CA 92570
Robert V Lange	42814 Beeman Drive Murrieta, CA 92562
Manuel Martinez	21841 Oleander Avenue Perris, CA 92570
Salvador G Garcia	19720 Brown Street Perris, CA 92570
Juan Garcia	21111 Elmwood Street Perris, CA 92570
Juan Garcia	609 S Newell Avenue Fullerton, CA 92832
Jesus Cortez	21170 Oakwood Street Perris, CA 92570
Maryann R Powell	21186 Oakwood Perris, CA 92570
John F Vansanford	21200 Oakwood Street Perris, CA 92570
Florencio Soto	21230 Oakwood Street Perris, CA 92570
Claudette C Walter	PO Box 864 Perris, CA 92572
Mario Patino	21190 Elmwood Street Perris, CA 92570

Jesus Isidoro Flores	21180 Elmwood Street Perris, CA 92570
Cayetano U Urrea	21138 Elmwood Street Perris, CA 92570
Julia B Sanchez	21145 River Street Perris, CA 92570
Cora L Buckley	19600 Brown Street Perris, CA 92570
Jay D Vanhouten	279 C Avenue Coronado, CA 92118
Felipe Reyes	21235 Elmwood Street Perris, CA 92570
Tina Chester	26194 Brandywind Drive Sun City, CA 92586
Rodriguez Family Trust Dtd 6/27/2020	810 S Sycamore Street Santa Ana, CA 92701
Delores Edith Shivers	PO Box 674 Perris, CA 92572
Michael F Haddadin	5575 Blue Ridge Drive Yorba Linda, CA 92887
Andres Torres	18373 Brown Street Perris, CA 92570
Riverside County Economic Dev Agency	3403 Tenth Street #400 Riverside, CA 92501
Yolanda Pimental Ruelas	21115 Oakwood Street Perris, CA 92570
Jose Joaquin Gonzalez	1315 Addison Way Perris, CA 92571
Ricardo M Torres Banuelas	11175 S Monitor Avenue Los Angeles, CA 90059
Juan Jose Perez	1509 Jadestone Lane Corona, CA 92882
Mauro Arevalo	21191 Oakwood Street Perris, CA 92570
Robert Lopez	184 Phillips Road Pomona, CA 91766
Lynell Bonilla	13926 S Central Avenue Compton, CA 90222
Lucas R Guzman	1488 Strawberry Drive Perris, CA 92571
Florencio R Lopez	21341 Oakwood Street Perris, CA 92570
Rigoberto Sandoval	21355 Oakwood Street Perris, CA 92570
Gustavo Carrillo	21369 Oakwood Street Perris, CA 92570
Amin A Jadallah	21760 Corso Altoro Nuevo, CA 92567
David Contreras	13652 Don Julian Road La Puente, CA 91746
Alberto Prado	702 E Nutwood Street Inglewood, CA 90301

Ricardo Gonzalez	19808 Clark Street Perris, CA 92570
Lawrence Deshawn Lucy	21609 Oakwood Street Perris, CA 92570
Michael S Rodriguez	2153 Medical Center Drive Perris, CA 92571
Maria Melgoza Devaldez	21633 Oakwood Street Perris, CA 92570
Alicia Burgueno Murillo	21685 Oakwood Street Perris, CA 92570
Mauricio Puebla	3329 Dwight Avenue Riverside, CA 92507
Andrea Vallejo	21571 Oakwood Street Perris, CA 92570
Nikolas John Tejeda	19808 Carroll Street Perris, CA 92570
Bennie Benton	1318 E Gladwick Street Carson, CA 90746
George A Williams	19770 Carroll Street Perris, CA 92570
Lessly Huerta	11214 Atlantic Avenue Lynwood, CA 90262
Miguel Diaz	22640 Ellis Avenue Perris, CA 92570
Francisco Perez	21980 Palm Lane Perris, CA 92570
Maria A Andrino	19254 Summerwind Trl Perris, CA 92570
Jesus R Angulo	19264 Summerwind Trl Perris, CA 92570
Ismael Delgadillo Delgadillo	19274 Summerwind Trl Perris, CA 92570
Antonio Soria	19284 Summerwind Trl Perris, CA 92570
Jose Perez	19294 Summerwind Trl Perris, CA 92570
Maria Dejesus Lopez	19304 Summerwind Trl Perris, CA 92570
Jose Alfredo Valdez	19314 Summerwind Trl Perris, CA 92570
Melissa A Arellano	19324 Summerwind Trl Perris, CA 92570
Juan Plaza	19334 Summerwind Trl Perris, CA 92570
Sergio Ramirez	19344 Summerwind Trl Perris, CA 92570
Dorsey R Boyd	19354 Summerwind Trl Perris, CA 92570
Edward R Mcmickle	17803 Seven Springs Way Riverside, CA 92504
Joanna Esquibel	20880 Park Hill Drive Perris, CA 92570

Horacio Garcia	21685 Windstone Way Perris, CA 92570
Diana Lorenzana	21665 Windstone Way Perris, CA 92570
Carlos Arana	21655 Windstone Way Perris, CA 92570
Davy Ranjel	21645 Windstone Way Perris, CA 92570
Luis Serrato	21635 Windstone Way Perris, CA 92570
Albert John	21615 Windstone Way Perris, CA 92570
Timothy Holmes	21605 Windstone Way Perris, CA 92570
Robert Gallegos	21595 Windstone Way Perris, CA 92570
Paulletta Jean Martin	2106 Alfalfadale Road Perris, CA 92571
Jatinder Singh Dhillon	24045 Esmeralda Court Wildomar, CA 92595
Ruby Benavidez	21565 Windstone Way Perris, CA 92570
Ricardo Arroyo Banda	19275 Castlerock Trl Perris, CA 92570
Lillian F Marrujo	21545 Windstone Way Perris, CA 92570
Jesus Rene Cardenas	21535 Windstone Way Perris, CA 92570
V & L Partnership	27557 Patti Lane Romoland, CA 92585
Maria Sanchez	19259 Summerwind Trl Perris, CA 92570
Fermin Bahena	19269 Summerwind Trl Perris, CA 92570
Edvin A Franco	19289 Summerwind Trl Perris, CA 92570
Natalia C Sanchez	19299 Summerwind Trl Perris, CA 92570
Armando Adame	19309 Summerwind Trl Perris, CA 92570
Carlos R Gonzalez	19319 Summerwind Trl Perris, CA 92570
Demetrio G Esparza	19329 Summerwind Trl Perris, CA 92570
Srps Lp	8665 E Hartford Drive #200 Scottsdale, Az 85255
Felipe Dejesus Torres	19349 Summerwind Trl Perris, CA 92570
Luisa Reyes	19359 Summerwind Trl Perris, CA 92570
Jose A Gonzalez	19349 Silver Summit Circle Perris, CA 92570

Marisela Serrano	19342 Winter Rock Court Perris, CA 92570
Robert Mcmickle	19332 Winter Rock Court Perris, CA 92570
James M Barclay	19322 Winter Rock Court Perris, CA 92570
Maria De Carrillo	19312 Winter Rock Court Perris, CA 92570
Dennis Fite	19302 Winter Rock Court Perris, CA 92570
Walter Macias	19317 Winter Rock Court Perris, CA 92570
Ricardo Mosqueda	19327 Winter Rock Court Perris, CA 92570
Julio A Contreras	19337 Winter Rock Court Perris, CA 92570
Jose A Gonzalez	19352 Winter Rock Court Perris, CA 92570
Dimas L Solares Salazar	19357 Winter Rock Court Perris, CA 92570
Munoz Gustavo Macias	21608 Windstone Way Perris, CA 92570
Rodolfo Orozco	21598 Windstone Way Perris, CA 92570
Linda L Peters	21588 Windstone Way Perris, CA 92570
Arely G Prado	21578 Windstone Way Perris, CA 92570
Ernesto Verdin	21568 Windstone Way Perris, CA 92570
Roman Perez Velazquez	21558 Windstone Way Perris, CA 92570
Valentin Ortega	21548 Windstone Way Perris, CA 92570
Dolores Bribiesca	21543 Foxwood Court Perris, CA 92570
Robert K Den Hoed	21553 Foxwood Court Perris, CA 92570
Salomon Roman	21563 Foxwoodct Perris, CA 92570
Maurilio Flores	21573 Foxwood Court Perris, CA 92570
Salvador Rico	21583 Foxwood Court Perris, CA 92570
Bobby C Richardson	21593 Foxwood Court Perris, CA 92570
Mario Morales	21600 Foxwood Court Perris, CA 92570
Demetrio M Martinez	21590 Foxwood Court Perris, CA 92570
Jose Luis Martinez	20462 Rider Street Perris, CA 92570

Martin Negrete	21570 Foxwood Court Perris, CA 92570
Manuel Garcia	21560 Foxwood Court Perris, CA 92570
Shaun Trafton	21550 Foxwood Court Perris, CA 92570
Lynda N Owen	21540 Foxwood Court Perris, CA 92570
Patrick James Williams	19290 Castlerock Trl Perris, CA 92570
Jacob Henderson	19295 Castlerock Trl Perris, CA 92570
Sixto Gutierrez	19305 Castlerock Trl Perris, CA 92570
Chester J Rosczewski	19315 Castlerock Trl Perris, CA 92570
Javier Benavidez	19325 Castlerock Trl Perris, CA 92570
Jose R Gallardo	19335 Castlerock Trl Perris, CA 92570
Efrain Navarrete	19345 Castlerock Trl Perris, CA 92570
Hugo O Castaneda	19355 Castlerock Trl Perris, CA 92570
Rodriguez Jose & Sonia M Ortega Trust 11/30/2018	19285 Castlerock Trl Perris, CA 92570
Jose Jaimes	19270 Castlerock Trl Perris, CA 92570
Stephen Brockington	21571 Dawes Street Perris, CA 92570
Camilo Flores	21581 Dawes Street Perris, CA 92570
Ofelia Garcia	21591 Dawes Street Perris, CA 92570
Jesus Lopez	21601 Dawes Street Perris, CA 92570
Antonio Hernandez	21611 Dawes Street Perris, CA 92570
Luis Reyes	21621 Dawes Street Perris, CA 92570
Esveyde Vasquez	21631 Dawes Street Perris, CA 92570
Lorena Hernandez Rangel	21641 Dawes Street Perris, CA 92570
Salvador Mora Quijas	21651 Dawes Street Perris, CA 92570
Cpre Perris 22	18301 Von Karman #580 Irvine, CA 92612
Maria Gonzalez	19267 Spring Rock Court Perris, CA 92570
Roberto Ramirez	19257 Spring Rock Court Perris, CA 92570

Paul Garcia	3329 W 190th Street Torrance, CA 90504
Javier Gonzalez	19237 Spring Rock Court Perris, CA 92570
Charanpreet Singh	1540 E Canfield Lane #11 Anaheim, CA 92805
Israel Leon	19242 Spring Rock Court Perris, CA 92570
Andrea S Canas	19252 Spring Rock Court Perris, CA 92570
Francisco Arciniega Llamas	19262 Spring Rock Court Perris, CA 92570
Genus L P	12671 High Bluff No #150 San Diego, CA 92130
Braulio Cortez	20515 Burns Street Perris, CA 92570
Maribel Tovar	20551 Burns Street Perris, CA 92570
BlanCA Villa Rocha	7731 Nut Grove Avenue Eastvale, CA 92880
Valenzuela Family Trust Dtd 5/21/2019	20565 Burns Street Perris, CA 92570
Ana Karen Elejandre	1809 Yucateca Street Perris, CA 92570
Cruz R Hinojosa Francisco	20619 Burns Street Perris, CA 92570
Guadalupe Felix	20633 Burns Street Perris, CA 92570
Emmanuel Saucedo	20671 Burns Street Perris, CA 92570
Sergio Duran Macias	20691 Burns Street Perris, CA 92570
Emilio Lopez Vargas	20690 Moore Street Perris, CA 92570
Jody D Ford	20670 Moore Street Perris, CA 92570
Leonardo Rocha	20656 Moore Street Perris, CA 92570
Starlite Mgmt Ii Ltd Partnership	4900 Santa Anita Avenue El Monte, CA 91731
Ana M Torres Desalas	20650 Moore Street Perris, CA 92570
Jaime Chavez	20620 Moore Street Perris, CA 92570
Polo Jesus Fernandez	20600 Moore Street Perris, CA 92570
Jose Aguilar	20580 Moore Street Perris, CA 92570
Jesus Zepeda	20570 Moore Street Perris, CA 92570
Marco Rocha	212 W 93rd Street Los Angeles, CA 90003

Norma AngeliCA Me Garcia	20540 Moore Street Perris, CA 92570
Bruce Bagby	20520 Moore Street Perris, CA 92570
Ruth Jones	20720 Moore Street Perris, CA 92570
Lucia Melgoza	20740 Moore Street Perris, CA 92570
Fransisco Gonzalez	20761 Burns Street Perris, CA 92570
Victor H Saravia	20801 Burns Street Perris, CA 92570
FrancisCA Villasenor Parado	20875 Clark Street Perris, CA 92570
Castro Reynaldo Revocable Trust Dated 11/21/2019	22485 Rios Avenue Perris, CA 92570
Victor Rotger	20875 Burns Street Perris, CA 92570
Marcos Antonio Torres	20518 Burns Street Perris, CA 92570
Mona L Lamb Cotton	16306 Haskins Lane Carson, CA 90746
Juan Valdez	21450 Via Liago Drive Perris, CA 92570
Ramiro Velasco Arias	20950 Moore Street Perris, CA 92570
Juana Velasquez	20920 Moore Street Perris, CA 92570
Mario Reveles	20910 Moore Street Perris, CA 92570
Luis A Sotolopez	20900 Moore Street Perris, CA 92570
Samuel Mejia	20890 Moore Street Perris, CA 92570
Luis Eduardo Solares	20876 Moore Street Perris, CA 92570
Anita N Plant	20862 Moore Street Perris, CA 92570
Terrance Dean Lewis	20840 Moore Street Perris, CA 92570
Alicia Valdez	PO Box 722 Cornville, CA 86325
Jose S Gutierrez	20802 Moore Street Perris, CA 92570
Saul Rodriguez	20788 Moore Street Perris, CA 92570
Jesus Venegas	20760 Moore Street Perris, CA 92570
Raul Estrada Hernandez	20930 Moore Street Perris, CA 92570
Stephen Berger	19291 Brown Street Perris, CA 92570

Rodolfo S Ruvalcaba	3477 Grant Street Corona, CA 92879
Arturo Barrientos	20795 Moore Street Perris, CA 92570
Fernando Camarena	20805 Moore Street Perris, CA 92570
Juan Valenzuela Gastelum	20881 Moore Street Perris, CA 92570
Jose Urena	2132 S Vine Avenue Ontario, CA 91762
Filiberto Mendoza	3420 Glasgow Circle Riverside, CA 92503
Natalia Garcia	20901 Moore Street Perris, CA 92570
Dwight D Moore	24292 Virginia Lane Moreno Valley, CA 92553
Rafael Barron	25696 W Lynne Lane Buckeye, AZ 85326
Rafael Barron	12730 W Sweetwater Avenue El Mirage, AZ 85335
Bertha A Fraire	3770 Windsong Street Corona, CA 92879
Jose Manuel Diaz	20936 Wells Street Perris, CA 92570
Teresa I Zermeno	20916 Wells Street Perris, CA 92570
Agapito Ortiz	20902 Wells Street Perris, CA 92570
Matilde Arroyo	2324 E Katella Avenue Orange, CA 92867
Marco A Rosales	1074 Bunting Way Perris, CA 92571
Jose L Lopez	345 E Holly Street Rialto, CA 92376
Frances Rosales	20802 Wells Street Perris, CA 92570
Douglas E Garcia	20780 Wells Street Perris, CA 92570
Ayesa Ruiz Caridad	20760 Wells Street Perris, CA 92570
Cl Inv Co	PO Box 2793 Riverside, CA 92502
Rocio Cantabrana	PO Box 726 Perris, CA 92572
Gonzales Francisco 2020 Living Trust Dated 1/9/2020	1687 Benton Way Perris, CA 92571
Armando Delacruz	20875 Moore Street Perris, CA 92570
Mae M Kidd	PO Box 303 Pomona, CA 91769
Benigno Moctezuma Garcia	21671 Markham Street Perris, CA 92570

Ana L Morales	1941 Murrieta Road Perris, CA 92571
Alix Soriano Salvador	701 E Chestnut No C Santa Ana, CA 92701
Cesar Vargas	20901 Wells Street Perris, CA 92570
Mateo Eulalia Felipe	20915 Wells Street Perris, CA 92570
Dedeaux Gilbert Estate of	3770 N El Camino Drive San Bernardino, CA 92404
Christine J White	320 W Bennett Street Compton, CA 90220
Patel Kaushik & Lata Living Trust Dated 5/24/2005	1645 Alamitos Circle Corona, CA 92881
Maria De La Cruz Gonzalez	20950 Cajalco Road Perris, CA 92570
Helen M Aldridge	20934 Cajalco Road Perris, CA 92570
Silvino Bravo Urias	20914 Cajalco Road Perris, CA 92570
Jaime Esparza	21590 Nancest Perris, CA 92570
Alix Soriano Salvador	521 S Lyon Street #13 Santa Ana, CA 92701
Donald Wimmer	701 Nw A Street Grants Pass, OR 97526
Mario Romero	916 S Taylor Ontario, CA 91761
Alma Lourdes Escobedo	7101 Rosecrans Avenue #192 Paramount, CA 90723
Esmeralda V Camacho	20794 Cajalco Road Perris, CA 92570
Vicente Pereda	19431 Dry Gulch Road Corona, CA 92881
Arturo Salgado	4561 W 167th Street Lawndale, CA 90260
Seferino C Villa	11323 Wright Road Lynwood, CA 90262
Albert Saparzadeh	1601 Belouite #7 Los Angeles, CA 90025
William Guy Foster	26301 Amanda Street Hemet, CA 92545
Ivan Arango	20559 Moore Street Perris, CA 92570
Victor Villegas	20573 Moore Street Perris, CA 92570
Steve Guzman	20585 Moore Street Perris, CA 92570
Don Benny	20605 Moore Street Perris, CA 92570
Antonino Cabrera	20621 Moore Street Perris, CA 92570

Calixto Villarreal	20635 Moore Street Perris, CA 92570
Salvador A Ordaz	20655 Moore Street Perris, CA 92570
Moises Alvarez	20675 Moore Street Perris, CA 92570
Maira Esquivel	20705 Moore Street Perris, CA 92570
Martin Corona Cortez	20727 Moore Street Perris, CA 92570
Alanis Bernabe Morones	20745 Moore Street Perris, CA 92570
Jose Caton	20700 Wells Street Perris, CA 92570
Juan Miranda Diaz	20682 Wells Street Perris, CA 92570
Antonio Valdez	20668 Wells Street Perris, CA 92570
Sarai Villalobos	20650 Wells Street Perris, CA 92570
Rick L Bodiford	20630 Wells Street Perris, CA 92570
Virginia L Lheureux	20610 Wells Street Perris, CA 92570
Maria Gonzalez	20590 Wells Street Perris, CA 92570
Lorena Perez	20570 Wells Street Perris, CA 92570
Mark S Hollock	20546 Wells Street Perris, CA 92570
Jaime M Macias	1058 W Olive Street Corona, CA 92882
Alberto Hernandez	20740 Wells Street Perris, CA 92570
Maria M Rodriguez	20736 Wells Street Perris, CA 92570
Rodrigo Jimenez	19440 Alexander Street Perris, CA 92570
Efren Aguirre	20564 Cajalco Road Perris, CA 92570
Roberto Rodriguez	5551 Central Avenue Riverside, CA 92504
Vanya Munoz	20585 Wells Street Perris, CA 92570
Julio Cesar Vega Irra	1306 S Maple Street Santa Ana, CA 92707
Jorge Guerrero	21784 Nance Street Perris, CA 92570
Manuel M Gonzalez	20641 Wells Street Perris, CA 92570
Angel Serrato	28875 Stone Lane Menifee, CA 92585

Gabriela Moreno	3501 Shelley Way Riverside, CA 92503
Viotti Gloria G Living Trust Dated 03/13/2019	20701 Wells Street Perris, CA 92570
Felix Camarena	20723 Wells Street Perris, CA 92570
Gustavo Camarena	3446 Ranch Street Perris, CA 92571
Phil J Messina	6465 Shady Valley Lane Anaheim Hills, CA 92807
Jamal Jamil Khoury	7749 Calle Besca Rancho Cucamonga, CA 91730
Uriel Ayon	18192 Alexander Street Perris, CA 92570
Audel Gonzalez Rivera	12465 Fallingleaf Street Garden Grove, CA 92840
Alejandro R Almada	PO Box 254 Norco, CA 92860
Gary Allen	750 S Lincoln Avenue #104 Corona, CA 92882
Michael Margis	22215 Norma Street Perris, CA 92570
Rosa Otero	PO Box 1116 Perris, CA 92572
Logi H Chavez	1001 E Street Santa Ana, CA 92707
Salvador Barajas Bonilla	1900 Rancho Frontera E68 Calexico, CA 92231
Jack A Kister	9549 Shoshone Northridge, CA 91325
Francisco Moralez Ramirez	20195 Cajalco Road Perris, CA 92570
Guadalupe Alvarez	20211 Cajalco Road Perris, CA 92570
Robert R Cervantes	20221 Cajalco Road Perris, CA 92570
Arnulfo Ruiz	212 E Williams Street Barstow, CA 92311
Jose Manzo Orozco	20245 Cajalco Road Perris, CA 92570
Sandra Figueroa Figueroa	19565 Una Street Perris, CA 92570
Marco A Frias	18777 9th Street Bloomington, CA 92316
Jorge Flores	20200 Souder Street Perris, CA 92570
Carlos Arzate	20190 Souder Street Perris, CA 92570
Alfredo Vega	20180 Souder Street Perris, CA 92570
Sergio F Rangel	20735 Verta Street Perris, CA 92570

Thomas A Chillquist	26620 Se 167th Place Kent, WA 98042
Lynne M Gardner	20137 Souder Street Perris, CA 92570
Logistics Placentia	280 Newport Center Drive #24 Newport Beach, CA 92660
Carlos Vega	6943 Elmwood Crest San Antonio, TX 78233
Maria Castro	20185 Souder Street Perris, CA 92570
Johnnie Johnson	20239 Souder Street Perris, CA 92570
Lola Johnson	832 S D Street #218 Perris, CA 92570
Joel Rojas	21714 Perry Street Perris, CA 92570
Edwin Delvalle	20040 Hunter Street Perris, CA 92570
Johana Cardenas-Hernandez	20095 Souder Street Perris, CA 92570
S W Frost	624 Maryanna Lane Monrovia, CA 91016
Miguel Aguilar	25780 Brodiaea Avenue Moreno Valley, CA 92553
Ramon B Rocha	PO Box 861 Mira Loma, CA 91752
Efren Vasquez	20088 Hunter Street Perris, CA 92570
Ernesto Guzmaro Valencia Carrasco	26508 Primrose Way Moreno Valley, CA 92555
Martha Catalina Barthel	20200 Hunter Street Perris, CA 92570
Yojana Barraza	15054 Batton Street Moreno Valley, CA 92551
Alejandro Villarreal	20045 Hunter Street Perris, CA 92570
Kewal Krishan Kanda	11433 Arlee Avenue Norwalk, CA 90650
Roza Gomez	20085 Hunter Street Perris, CA 92570
Elizabeth Jane Adams	743 E Meda Avenue Glendora, CA 91741
Pablo Ortega	9696 Big Creek Drive Moreno Valley, CA 92557
FrancisCA Barragan	20179 Hunter Street Perris, CA 92570
Porter Lilly	20191 Hunter Street Perris, CA 92570
Channing W Jung	20227 Hunter Street Perris, CA 92570
Isain R Lopez	20237 Hunter Street Perris, CA 92570

Isidro Sagrero Quiroz	14935 White Box Lane Moreno Valley, CA 92555
Gwendolyn Randolph	6013 Bedford Street Los Angeles, CA 90056
Juan Berumen	20230 Mural Street Perris, CA 92570
Josefina Napoles	18761 El Carmen Orange, CA 92869
Christopher Fountain	20190 Mural Street Perris, CA 92570
Rogelio Carmona Gijon	20180 Mural Street Perris, CA 92570
Fidencio Benitez	20170 Mural Street Perris, CA 92570
Rodolfo C Cortez	2613 N Deodar Street Santa Ana, CA 92705
Benjamin T Honbo	20130 Mural Street Perris, CA 92570
Alfred Reed	13248 Beach Street Cerritos, CA 90701
Filiberto Ramirez	20070 Mural Street Perris, CA 92570
Carlos Vega	521 W Hillsdale Street Inglewood, CA 90302
Raul Gonzalez	20030 Mural Street Perris, CA 92570
Bobby Sims	19796 Barton Street Perris, CA 92570
Jorge Rodriguez	24682 Monte Royale Street Laguna Hills, CA 92653
Arturo Rodriguez Garcia	20063 Mural Street Perris, CA 92570
Guillermina Gonzalez Martinez	21740 Martin Street Perris, CA 92570
Michael Belson	20121 Mural Street Perris, CA 92570
Juan Hugo Medina Sanchez	2637 W Juniper Avenue #13 Santa Ana, CA 92704
Daniel Delgado	20137 Mural Street Perris, CA 92570
John Camacho	20159 Mural Street Perris, CA 92570
Taylor Revocable Trust Dtd 4/29/1994 As Amended	20171 Mural Street Perris, CA 92570
Jason R Midyett	20187 Mural Street Perris, CA 92570
Carlos Vargas	20219 Mural Street Perris, CA 92570
Patricia Lynn Frazier	20241 Mural Street Perris, CA 92570
Henderson Henry Hodgens	17675 Poquito Lane Perris, CA 92570

Azad Hackett	19801 Una Street Perris, CA 92570
Maria De Los Angeles Gonzalez	28640 Memory Lane Winchester, CA 92596
Raul Aldaz	PO Box 6302 Whittier, CA 90609
Alejandro Heredia	2494 Pleasant Colony Street Perris, CA 92571
Jose Martinez	20116 Myron Street Perris, CA 92570
Nathaniel Crawford	20090 Myron Street Perris, CA 92570
Ramon Benavides	20086 Myron Street Perris, CA 92570
Horacio Marchan	4621 Merrill Avenue Riverside, CA 92506
Icisie Sims	P O Box 1431 Perris, CA 92572
Jeffery E Sims	19800 Barton Street Perris, CA 92570
Trinidad Alfaro	20150 Myron Street Perris, CA 92570
Charles Coleman	20255 Hunter Street Perris, CA 92570
Alejandra Zambrano	21660 Perry Street Perris, CA 92570
Ryan D Mcelroy	20301 Hunter Street Perris, CA 92570
Lorenzo Taylor	20320 Mural Street Perris, CA 92570
Miguel Ruan	22480 Lopez Road Perris, CA 92570
Fabiola Margarita Ruan	22419 Lopez Road Perris, CA 92570
Mccormack Alvertia J Estate of	1285 E Washington Avenue #8 El Cajon, CA 92019
Maria Hernandez	20425 Hunter Street Perris, CA 92570
Goodlaw David P Family Trust Dated 05/30/2019	910 E Cedar Avenue Burbank, CA 91501
Bonifacio Martinez	20462 Mural Street Perris, CA 92570
Ignacio Juarez	20440 Mural Street Perris, CA 92570
Jose Leopoldo Olvera	20436 Mural Street Perris, CA 92570
Antonio Garcia	8660 Redwood Avenue Fontana, CA 92335
Maria Elena Valencia	20413 Verta Street Perris, CA 92570
Joseph Andrade	20380 Mural Street Perris, CA 92570

Ricardo Israel Gomez	20362 Mural Street Perris, CA 92570
Mario Cueva	16055 Peninsula Court Moreno Valley, CA 92551
Leandro MenchaCA Reveles	20300 Mural Street Perris, CA 92570
Riafec	PO Box 2204 Perris, CA 92572
Roger Dalefrank Smith	20272 Mural Street Perris, CA 92570
Oscar Perez	20262 Mural Street Perris, CA 92570
Lopez Marco Antonio & Lilia T Living Trust Dated 8/6	20255 Mural Street Perris, CA 92570
Juan Zaragoza Mendoza	20277 Mural Street Perris, CA 92570
Maudie Jones	20301 Mural Street Perris, CA 92570
Francisco Javier Soto Gomez	2021 Murrieta Road Perris, CA 92571
Jimmie Jones	6212 S Hoover Street #116 Los Angeles, CA 90044
Carlos Vega	5943 Elmwood Crest San Antonio, TX 78233
Ramiro Coria	20371 Mural Street Perris, CA 92570
Federico Navarro	20383 Mural Street Perris, CA 92570
Raul Alvarez Castaneda	20395 Mural Street Perris, CA 92570
Wilbert W Hills	20415 Mural Street Perris, CA 92570
Aquilina N Zurita Lopez	20435 Mural Street Perris, CA 92570
Maria C Martinez	13525 Markdale Avenue Norwalk, CA 90650
Varazana Jones	19765 Alexander Street Perris, CA 92570
Clarice H Simon	20434 Myron Street Perris, CA 92570
Jesus J Hernandez	20360 Myron Street Perris, CA 92570
Plummer Family Trust Dtd 9/13/2019	20340 Myron Street Perris, CA 92570
Mary Araujo	20310 Myron Street Perris, CA 92570
Ramon Solis	20280 Myron Street Perris, CA 92570
Gregorio Martinez	20253 Cajalco Street Perris, CA 92570
Holdings Jys	909 E Norwood Place Alhambra, CA 91801

Rene G Martinez	20295 Cajalco Road Perris, CA 92570
Rene Ayala Ocampo	20337 Cajalco Road Perris, CA 92570
Jacqueline Adkins	20401 Cajalco Road Perris, CA 92570
Roberto Servillon	20415 Cajalco Road Perris, CA 92570
Alfonso Velasco	20433 Cajalco Road Perris, CA 92570
Gonzalez Cecilia Living Trust Dated 05/14/2019	25308 Delphinium Street Moreno Valley, CA 92553
Sayra Vega	20475 Cajalco Road Perris, CA 92570
Jesus Roman	20495 Cajalco Road Perris, CA 92570
Benedicto Molina	20348 Souder Street Perris, CA 92570
Aureliano L Cervantes	20342 Souder Street Perris, CA 92570
Jose Morones	20352 Souder Street Perris, CA 92570
Roger D Dempsey	20385 Cajalco Road Perris, CA 92570
Uberous Inc	4195 Chino Hills Pkwy #53 Chino Hills, CA 91709
Ana Gomez	19515 Alexander Street Perris, CA 92570
Vernon Alan Seibel	20360 Souder Street Perris, CA 92570
Rivera Teodulfo Morga	20580 Myron Street Perris, CA 92570
Javier M Rivera	20260 Brown Street Perris, CA 92570
Jose L Soto	20412 Souder Street Perris, CA 92570
Bonifacio Sanchez	20430 Souder Street Perris, CA 92570
Isabel Orozco	20440 Souder Street Perris, CA 92570
Sandy Ray Wilson	20265 Souder Street Perris, CA 92570
Cirilo Miguel Gonzalez	20285 Souder Street Perris, CA 92570
Mercedes Bonola	20301 Souder Street Perris, CA 92570
Dwight Timmons	20317 Souder Street Perris, CA 92570
Rochel Timmons	PO Box 1261 Perris, CA 92572
Tracy Kemp	2222 W 74th Street Los Angeles, CA 90043

Marlene Alvarez	5220 Borland Avenue Los Angeles, CA 90032
Kenneth S Miller	20435 Souder Street Perris, CA 92570
Jose Luis Ortega	20481 Souder Street Perris, CA 92570
Jose Pulido	19601 Alexander Street Perris, CA 92570
Edwin Vaultz	6275 Mosley Avenue Los Angeles, CA 90056
Juliana Ayala Ortega	20422 Hunter Street Perris, CA 92570
Juan M Ortega	20441 Souder Street Perris, CA 92570
Robert H Feaster	20570 Mural Street Perris, CA 92570
Nathaniel T Owens	PO Box 2715 Beverly Hills, CA 90213
Kent William Lewis	5625 Laredo Road Riverside, CA 92506
Guadalupe Farfan	18720 Boulder Avenue Riverside, CA 92508
Maria Ortega	20432 Hunter Street Perris, CA 92570
Esther Alicia Avila Beltran	14281 Chantry Drive Moreno Valley, CA 92553
Seledonio Rodriguez	7602 Wilcox Avenue Cudahy, CA 90201
Emigdio O Lazaro Perez	223 N Laurel Street #A Santa Ana, CA 92703
Robert Walter	32391 Ortega Way Lake Elsinore, CA 92530
Robert Ray Walter	20645 Cajalco Road Perris, CA 92570
Francisco Samayoa	17640 Palm Road Riverside, CA 92503
Atiliano Zeballos	20659 Cajalco Road Perris, CA 92570
Betty M Shirey	18770 Cable Lane Perris, CA 92570
Socorro Nava	9239 Whiting Way Riverside, CA 92508
Octavio Figueroa	1184 4th Street Norco, CA 92860
Vito Daniel Berardini	20820 Thomas Lane Perris, CA 92570
Manuela Rivera	13892 Anita Place Garden Grove, CA 92843
Edgar Oswaldo Carrascosa	20700 Souder Street Perris, CA 92570
Victor Arreola	2334 Stony Brook Way Perris, CA 92571

Elline Sweeney	20660 Souder Street Perris, CA 92570
United Ch of The Living God	PO Box 55752 Riverside, CA 92517
Norma Hernandez	20610 Souder Street Perris, CA 92570
Mayra S Gallegos	20580 Souder Street Perris, CA 92570
Rudolph Conriquez	PO Box 1599 Perris, CA 92572
Tracy M Kearin	628 S Ardmore No #6 Los Angeles, CA 90005
Manuel Chavez Morales	19560 Alexander Street Perris, CA 92570
Rose M Rico	20560 Souder Street Perris, CA 92570
Samuel Contreras	20662 Souder Street Perris, CA 92570
Ignacio Garcia	20555 Cajalco Road Perris, CA 92570
John Ashraf	3095 Armstrong Drive Corona, CA 92881
Jose M Vasquez	20673 Cajalco Road Perris, CA 92570
Antonio Cerda	20515 Souder Street Perris, CA 92570
Javier Castellanos Carrillo	20535 Souder Street Perris, CA 92570
Roverto A Cervantes	20555 Souder Street Perris, CA 92570
Jose De Jesus Camarena	20565 Souder Street Perris, CA 92570
Marco A Romero Jimenez	20575 Souder Street Perris, CA 92570
Javier Villalpando	24085 Stonebridge Court Moreno Valley, CA 92551
Guillermina Ortega Victoria	20625 Souder Street Perris, CA 92570
Eva Novoa	20635 Souder Street Perris, CA 92570
Dakota Dunes Inc	77933 Las Montanas No #101 Palm Desert, CA 92211
Ricky L Stobaugh	20661 Souder Street Perris, CA 92570
Adrian Vega	20683 Souder Street Perris, CA 92570
Mario G Laurian Montes	20705 Souder Street Perris, CA 92570
Mary H Gutierrez	20723 Souder Street Perris, CA 92570
Jesus Perez Gutierrez	20743 Souder Street Perris, CA 92570

Joaquin Meza	34548 County Line Road Yucaipa, CA 92399
Mary A Evans Borrell	19635 Mead Street Perris, CA 92570
Mario Delariva	20700 Hunter Street Perris, CA 92570
Popper Joseph & Dana Trust Dated 2/21/2019	PO Box 55129 Riverside, CA 92517
Maria C Carrillo	1502 Cheshire Drive Perris, CA 92571
Hector M Gamez	20628 Hunter Street Perris, CA 92570
Eliseo Duarte Martinez	20580 Hunter Street Perris, CA 92570
Juan M Cortes	19610 Alexander Street Perris, CA 92570
Francisco Dominguez	20552 Hunter Street Perris, CA 92570
Benjamin Hernandez	3562 Churchill Lane Perris, CA 92571
Alfonso Espinosa	20680 Hunter Street Perris, CA 92570
Araceli R Gamboa	20602 Hunter Street Perris, CA 92570
Mario A Lomeli	1567 W Chateau Avenue Anaheim, CA 92802
Juan Jose Flores	20740 Hunter Street Perris, CA 92570
Ivory Joe Kelly	PO Box 18238 Los Angeles, CA 90018
Ivory Joe Kelly	6017 Wall Street Los Angeles, CA 90003
Martha A Vizcarra	2440 Glenbush Circle Corona, CA 92882
Guadalupe Ortiz	20645 Hunter Street Perris, CA 92570
Jorge Navarro	20685 Hunter Street Perris, CA 92570
Victor Resendiz	20697 Hunter Street Perris, CA 92570
Antonio Arceo Farias	20717 Hunter Street Perris, CA 92570
Eddie Shepherd	3503 Linden Avenue Long Beach, CA 90807
Maria Socorro Rodriguez	20743 Hunter Street Perris, CA 92570
Juan Carlos Pine Penaloza	5955 Jones Avenue Riverside, CA 92505
Luz Rodriquez	20740 Mural Street Perris, CA 92570
Gomez Francisco J Del Real	20712 Mural Street Perris, CA 92570

Christopher R Gryniuk	33655 Bayport Way Dana Point, CA 92629
Rita Y Pearson	20646 Mural Street Perris, CA 92570
Ann Roberts	PO Box 854 Perris, CA 92570
Rose Carter	20560 Mural Street Perris, CA 92570
Adriana Yanez	14337 Chantry Drive Moreno Valley, CA 92553
Charles Andrew Pehkonen	20530 Mural Street Perris, CA 92570
Rgc Family Inv Corp	PO Box 12335 Prescott, AZ 86304
Gutierrez Antonio Tellez	3608 E Almond Avenue Orange, CA 92869
Javier Corona	20571 Mural Street Perris, CA 92570
Juan Radilla Radilla	20569 Mural Street Perris, CA 92570
Arturo Martinez	20601 Mural Street Perris, CA 92570
Manuel Vega	20645 Mural Street Perris, CA 92570
Mateo FrancisCA Salgado	20681 Mural Street Perris, CA 92570
Arturo Vitela	831 Amadova Drive Perris, CA 92571
Ezequiel Luna	20705 Mural Street Perris, CA 92570
Lauro Alamo	20715 Mural Street Perris, CA 92570
Vicente Cardenas	12439 Menlo Avenue Hawthorne, CA 90250
Lee Frances Porter	3169 Centurion Place Ontario, CA 91761
Louis Michael Anderson	20724 Myron Street Perris, CA 92570
Angel Murillo	20710 Myron Street Perris, CA 92570
Inocencio Vasquez	20700 Myron Street Perris, CA 92570
Mando Lopez	20680 Myron Street Perris, CA 92570
Adan Deloza	20652 Myron Street Perris, CA 92570
Juan Cortes	20620 Myron Street Perris, CA 92570
VeroniCA Herrera	20600 Myron Street Perris, CA 92570
Neforia R Thompson	2029 E Kemper Avenue Santa Ana, CA 92705

Margarita Villanueva	20554 Myron Street Perris, CA 92570
Cynthia J Gregory	634 Arliss Street Riverside, CA 92507
Patricia A Thomas	20532 Myron Street Perris, CA 92570
Hurtado Maria Rosario Separate Prop Family Trust	19810 Alexander Street Perris, CA 92570
Baltazar Arreola	20572 Myron Street Perris, CA 92570
Arturo E Zarraga	20775 Verta Street Perris, CA 92570
Richard Marquez	20755 Hunter Street Perris, CA 92570
Herculana Isabel Delfin	20765 Hunter Street Perris, CA 92570
Bible Way Missionary Baptist Church	PO Box 247 Perris, CA 92572
Donaldo F Reyes	20885 Hunter Street Perris, CA 92570
Vicente Amador Avila	20920 Mural Street Perris, CA 92570
Willie J Perry	1331 W Brazil Street Compton, CA 90220
Raul Jara	20870 Mural Street Perris, CA 92570
Alfonso B Perez	20866 Mural Street Perris, CA 92570
Rafael Hernandez	20858 Mural Street Perris, CA 92570
Alfonso Gonzalez	20846 Mural Street Perris, CA 92570
Ramon Sanchez	20834 Mural Street Perris, CA 92570
Ignacio Salgado	20820 Mural Street Perris, CA 92570
Yolanda Alvarez	1349 Bottlebrush Street Corona, CA 92882
Leonard Mcneal	19685 Brown Street Perris, CA 92570
Tam Huynh	13131 Kerry Street Garden Grove, CA 92844
Rosalva Munoz	20971 Hunter Street Perris, CA 92570
Michael Shane Mcnair	20955 Hunter Street Perris, CA 92570
Daniel Lopez	20775 Hunter Street Perris, CA 92570
Aldegundo Machuca	656 Beach Street Costa Mesa, CA 92627
Maurilio Z Valencia	20805 Hunter Street Perris, CA 92570

Abel Casillas	20944 Mural Street Perris, CA 92570
Roberto Serrato	20934 Mural Street Perris, CA 92570
Romelio Ruiz	28488 Eagle Street Moreno Valley, CA 92555
Jesus Martinez	20795 Hunter Street Perris, CA 92570
David Sandoval	20831 Mural Street Perris, CA 92570
Guadalupe C Vazquez	20845 Mural Street Perris, CA 92570
Roberto Nunez	20865 Mural Street Perris, CA 92570
Felix D Diaz	20883 Mural Street Perris, CA 92570
Victor Arreola	20995 Mural Street Perris, CA 92571
Milton Aron Magana Valdovinos	20964 Myron Street Perris, CA 92570
Arcadio Ramirez	20920 Myron Street Perris, CA 92570
Miguel V Carmona	11945 Eucalyptus Avenue Hawthorne, CA 90250
Michael V Vielma	20870 Myron Street Perris, CA 92570
Julio Pineda	1070 Mildred Street La Verne, CA 91750
Mauricio Samayoa	20850 Myron Street Perris, CA 92570
Jose Serrato	20760 Myron Street Perris, CA 92570
David Frias	20790 Myron Street Perris, CA 92570
Jesus Garcia	20810 Myron Street Perris, CA 92570
Maria Guadalupe Cuevas Menchaca	20953 Mural Street Perris, CA 92570
Uriel Mondragon	20939 Mural Street Perris, CA 92570
John J Harris	1322 Del Mar Avenue Vallejo, CA 94589
Gutierrez Jose Trust Dtd 3/5/2020	5019 Wimmer Avenue Baldwin Park, CA 91706
Jose M Flores	20897 Mural Street Perris, CA 92570
Everardo Reyes	20990 Myron Street Perris, CA 92570
Ann O Cardenas	20874 Myron Street Perris, CA 92570
Tiffany T Thavisay	20880 Myron Street Perris, CA 92570

Cordero Family Ltd Partnership	3533 Sierra Avenue Norco, CA 92860
Eusebio Mendez Mejia	15412 Elmcroft Avenue Norwalk, CA 90650
Cerda Felipe Hernandez	3750 Harrison Street Riverside, CA 92503
Jose R Sanchez	20931 Cajalco Road Perris, CA 92570
California Cash For Homes Inc	7641 Nancy Lane Streetanton, CA 90680
Jesus M Figueroa Gutierrez	18565 Brown Street Perris, CA 92570
Micaela Razo	20970 Souder Street Perris, CA 92570
Dudley Frances Estate of	834 W 133 Road Street Compton, CA 90222
Renee A Harrison	20932 Souder Street Perris, CA 92570
Pioquinto Rodriguez	20914 Souder Street Perris, CA 92570
Omar E Zelaya	20900 Souder Street Perris, CA 92570
Francisco Sotello Marquez	20884 Souder Street Perris, CA 92570
Abel Martinez Sanchez	20870 Souder Street Perris, CA 92570
Ramon Mendoza	21445 Old Elsinore Road Perris, CA 92570
Mario Jesus Leyva Espinosa	507 OrCA Avenue Perris, CA 92571
Maria G Rangel	20830 Souder Street Perris, CA 92570
Joseph Trout	22450 Fawnridge Drive Palm Springs, CA 92262
Jessie M Vick	8839 S Menlo Los Angeles, CA 90044
Jose J Rodriguez	20761 Cajalco Road Perris, CA 92570
Ramon Montano	23760 Trudy Street Perris, CA 92570
Jane Gustafson	20815 Cajalco Road Perris, CA 92570
Crispin Rosales	20835 Cajalco Road Perris, CA 92570
Jose M Diaz	5564 Sweet Gum Court Chino Hills, CA 91709
Kelvin Y Yee	1450 Old Mill Road San Marino, CA 91108
Lee Joseph K & Susie S Living Trust Dtd 10/7/2013	1822 E Route 66 Glendora, CA 91740
Tomasa Gonzalez	734 Harbor Street San Jacinto, CA 92583

Raul Vega	20881 Souder Street Perris, CA 92570
Elease C Tyiska Tucker	20851 Fox Street Perris, CA 92570
Nazario Rodriguez	20919 Souder Street Perris, CA 92570
Nelida Cabrera Mendoza	20935 Souder Street Perris, CA 92570
Francisco Aldaz	20979 Souder Street Perris, CA 92570
Lorenzo Corona Garcia	20985 Souder Street Perris, CA 92570
Franciso Pacheco	20950 Hunter Street Perris, CA 92570
Juan Rios	20880 Hunter Street Perris, CA 92570
Bruno Vargas	20087 Mural Street Perris, CA 92570
Rubizelda E Guzman Martinez	19604 Mead Street Perris, CA 92570
Elfira R Item	20830 Hunter Street Perris, CA 92570
Hout Chhun	12395 Champlain Street Moreno Valley, CA 92557
Nancy Bracamontes	20932 Hunter Street Perris, CA 92570
Timothy Howard Archer	28579 Connecticut Drive Canyon Lake, CA 92587
Maria Bertha Sanchez	20870 Hunter Street Perris, CA 92570
Mayra Barragan	11557 Humber Drive Eastvale, CA 91752
Khanh Joseph Kim Vu	13312 Amarillo Drive Westminster, CA 92683
Sebastian Sanchez	20758 Arruda Court Perris, CA 92570
Salvador Munguia	417 S Associated Road #212 Brea, CA 92821
Inv Group Sjt	1340 Reynolds Avenue Irvine, CA 92614
Inv Group Sjt	1340 Reynolds No #116-4 Irvine, CA 92614
Tuan Pham Nguyen	13632 Taft Street Garden Grove, CA 92843
Jose Ayala	556 E Navilla Place Covina, CA 91723
Robert G Jones	6961 Via Angelina Huntington Beach, CA 92647
Huang Ching Chih Lee	808 Novelda Road Alhambra, CA 91801
Rye M Waunell	18318 Cajalco Road Perris, CA 92570

T A Perris	19057 Colima Road Rowland Heights, CA 91748
Sand Haven Pines Inc	18800 Cajalco Road Perris, CA 92570
Usasia International Inc	9580 Garden Grove No #300 Garden Grove, CA 92844
Val Verde Unified School Dist	975 W Morgan Street Perris, CA 92571
Boulder Springs Retail Center	PO Box 1958 Corona, CA 92878
Aaron Carpio	19175 Hawkhill Avenue Perris, CA 92570
Arturo Sanchez	19395 Copper Ridge Street Perris, CA 92570
Luis F Alcantar	19377 Copper Ridge Street Perris, CA 92570
Benito Soto	19359 Copper Ridge Street Perris, CA 92570
John J Cabral	19341 Copper Ridge Street Perris, CA 92570
Jose Plasencia	19323 Copper Ridge Street Perris, CA 92570
Donald Emer Peck	19305 Copper Ridge Street Perris, CA 92570
Hung Van Nguyen	6772 Stillbrook Way Eastvale, CA 92880
Gina Marie Alfalla	19160 Cole Avenue Perris, CA 92570
Fatrice Gilkey	19178 Cole Avenue Perris, CA 92570
Gonzalo Rojas	19196 Cole Avenue Perris, CA 92570
James Darby	19467 Copper Ridge Street Perris, CA 92570
Steven Atencio	19449 Copper Ridge Street Perris, CA 92570
Eugene M Dent	19431 Copper Ridge Street Perris, CA 92570
Gilbert Castillo	19413 Copper Ridge Street Perris, CA 92570
Maria Quartana	19336 Sterling Hill Lane Perris, CA 92570
Daniel Urtez	19318 Sterling Hill Lane Perris, CA 92570
Gregory S Blum	19300 Sterling Hill Lane Perris, CA 92570
Fabian Solano	19282 Sterling Hill Lane Perris, CA 92570
Wayne Yung Ho Lin	19264 Sterling Hill Lane Perris, CA 92570
Birgilio Carvajal	19246 Sterling Hill Lane Perris, CA 92570

Daniel J Brazeal	19228 Sterling Hill Lane Perris, CA 92570
Halina Hy	19210 Sterling Hill Lane Perris, CA 92570
BianCA Ramirez	19192 Sterling Hill Lane Perris, CA 92570
Benjamin Campuzano	19174 Sterling Hill Lane Perris, CA 92570
Janet E Thompson	19169 Sterling Hill Lane Perris, CA 92570
Bergman Family Trust Dtd 1/9/2020 & Any Amendments T	19205 Sterling Hill Lane Perris, CA 92570
Julian Leyva	19223 Sterling Hill Lane Perris, CA 92570
Salvador T Gonzalez	18825 Malkoha Street Perris, CA 92570
Guerrero Claudia Arroyo	19295 Sterling Hill Lane Perris, CA 92570
Ryan M Venegas	19331 Sterling Hill Lane Perris, CA 92570
Justin Hill	19367 Sterling Hill Lane Perris, CA 92570
Danny Bruce Hudson	19385 Sterling Hill Lane Perris, CA 92570
Leonardo Elizondo	19403 Sterling Hill Lane Perris, CA 92570
David L Harris	19394 Oak Creek Lane Perris, CA 92570
Barbara Joanne Rogan	19376 Oak Creek Lane Perris, CA 92570
Gray Steven & Gerrylynn Family Trust	19358 Oak Creek Lane Perris, CA 92570
Juan Sandoval	19340 Oak Creek Lane Perris, CA 92570
Albert Hicks	19322 Oak Creek Lane Perris, CA 92570
Jason C Kralovic	19432 Spirit Trail Drive Perris, CA 92570
Reynalda Bodnar	19414 Spirit Trail Drive Perris, CA 92570
Warner Karon Lee Pierce	19427 Spirit Trail Drive Perris, CA 92570
Salvador Gonzalez	19371 Oak Creek Lane Perris, CA 92570
Robert Joel Perry	19389 Oak Creek Lane Perris, CA 92570
Vohs & Harrison Family Trust Dtd 8/28/03	19425 Rocky Summit Drive Perris, CA 92570
Luis Castillo	19443 Rocky Summit Drive Perris, CA 92570
Barbara K Colyar	19461 Rocky Summit Drive Perris, CA 92570

Don E Johnson	19479 Rocky Summit Drive Perris, CA 92570
Cynthia Claybon	19497 Rocky Summit Drive Perris, CA 92570
Patricia G Bernardo	19515 Rocky Summit Drive Perris, CA 92570
Jesus Leon Martin	19533 Rocky Summit Drive Perris, CA 92570
Marcia S Bowie	19551 Rocky Summit Drive Perris, CA 92570
Thomas Eldred	19569 Rocky Summit Drive Perris, CA 92570
Tomazic Victoria Louise Estate of	9445 Summerwood Lane Yorba Linda, CA 92886
Pedro Espinoza	19390 Sterling Hill Lane Perris, CA 92570
Teddy Lloyd	19372 Sterling Hill Lane Perris, CA 92570
Timothy Elenbaas	19156 Sterling Hill Lane Perris, CA 92570
Rodrigo Cuen	19138 Sterling Hill Lane Perris, CA 92570
Laurie Sabo	19120 Sterling Hill Lane Perris, CA 92570
Patricia L Prosser	19115 Sterling Hill Lane Perris, CA 92570
Malachi Woods	19133 Sterling Hill Perris, CA 92570
Eric D Shelton	19151 Sterling Hill Perris, CA 92570
Dave Ungerer	19396 Spirit Trail Drive Perris, CA 92570
Mark B Thrash	19378 Spirit Trail Drive Perris, CA 92570
Billy W Ingram	19247 Red Rock Street Perris, CA 92570
Jesse Egner	19265 Red Rock Street Perris, CA 92570
Andrea L Cirota	19283 Red Rock Street Perris, CA 92570
Phillip J Olivier	19301 Red Rock Street Perris, CA 92570
Richard Tankersley	19319 Red Rock Street Perris, CA 92570
Jaime Ramirez	19337 Red Rock Street Perris, CA 92570
Yolanda A Minor	19355 Red Rock Street Perris, CA 92570
Josh James Biesiada	19373 Spirit Trail Drive Perris, CA 92570
Joseph T Castellanos	19391 Spirit Trail Drive Perris, CA 92570

Klc Image Management Services Company	19409 Spirit Trail Drive Perris, CA 92570
Edgar Sandoval	19412 Rocky Summit Drive Perris, CA 92570
Bhasker Patel	19394 Rocky Summit Drive Perris, CA 92570
Christy Swetnam	19376 Rocky Summit Drive Perris, CA 92570
Sergio A Camacho	19358 Rocky Summit Drive Perris, CA 92570
Christine Eulee Chang	19340 Rocky Summit Drive Perris, CA 92570
Brandon E Labuda	19263 Rocky Summit Drive Perris, CA 92570
Carl L Judie	19281 Rocky Summit Drive Perris, CA 92570
Sergio Perez	19299 Rocky Summit Drive Perris, CA 92570
Eric Wright	19317 Rocky Summit Drive Perris, CA 92570
Joseph Currier	19335 Rocky Summit Drive Perris, CA 92570
Tara Arrey	19353 Rocky Summit Drive Perris, CA 92570
Chad Edward Reitan	19371 Rocky Summit Drive Perris, CA 92570
Francisco A Maradiaga	19389 Rocky Summit Drive Perris, CA 92570
Bettye Thornton	19407 Rocky Summit Drive Perris, CA 92570
Raymond R Leon Guerrero	19244 Aspenleaf Drive Perris, CA 92570
Peter Morales	19262 Aspenleaf Drive Perris, CA 92570
Joe Santamaria	19280 Aspenleaf Drive Perris, CA 92570
Shon Schlafer	19298 Aspenleaf Drive Perris, CA 92570
Ronald Carlson	19316 Aspenleaf Drive Perris, CA 92570
Armon Zolfaghari	19334 Aspenleaf Drive Perris, CA 92570
Garcia Family Trust Dated 11/19/2018	19352 Aspenleaf Drive Perris, CA 92570
Glen Cruz Martinez	19370 Aspenleaf Drive Perris, CA 92570
Raul E Brizuelas	12772 Date Palm Circle Riverside, CA 92503
Donald P Finewood	19406 Aspenleaf Drive Perris, CA 92570
Richard B Brown	16101 Washington Street Riverside, CA 92504

Severo A Cabrera	19401 Aspenleaf Drive Perris, CA 92570
Richard L Wheeler	19271 Bridlewood Road Perris, CA 92570
Joe Rosales	19253 Bridlewood Road Perris, CA 92570
Ronald S Johnson	19235 Bridlewood Road Perris, CA 92570
Daniel R Mcpherson	19217 Bridlewood Road Perris, CA 92570
Colleen Kiemele	19199 Bridlewood Road Perris, CA 92570
Jerry & Julia Builders	PO Box 1136 Lake Elsinore, CA 92531
Roberto F Quiroz	19222 Bridlewood Road Perris, CA 92570
Bryce Wesley Carlson	19240 Bridlewood Road Perris, CA 92570
Steven T Trejo	19258 Bridlewood Road Perris, CA 92570
Raymond J Romero	19295 Silver Summit Circle Perris, CA 92570
Lucrecia Moreno	19277 Silver Summit Circle Perris, CA 92570
Edward J Gomez	19259 Silver Summit Circle Perris, CA 92570
Erik Jacobus	19223 Silver Summit Circle Perris, CA 92570
Joaquin Aguilar	19238 Silver Summit Circle Perris, CA 92570
Goddard Keith D & Ellen D Goddard Family Living Trus	19256 Silver Summit Circle Perris, CA 92570
Calvin Wing Li	19274 Silver Summit Circle Perris, CA 92570
Christopher Mirabal	19292 Silver Summit Circle Perris, CA 92570
Matt J Mccarthy	19310 Silver Summit Circle Perris, CA 92570
Robert L Early	19193 Mountain Shadow Lane Perris, CA 92570
Jonathan James Roberts	19211 Mountain Shadow Lane Perris, CA 92570
Antonio Cardella	19229 Mountain Shadow Lane Perris, CA 92570
Boulder Springs Community Assn	800 N Haven Avenue #300 Ontario, CA 91764
Joshua Alaniz	19108 Mountain Shadow Lane Perris, CA 92570
Sterlon Sims	19126 Mountain Shadow Lane Perris, CA 92570
Antonio Silva Prieto	16577 Multiview Drive Lake Mathews, CA 92570

Carmen Cabote	19162 Mountain Shadow Lane Perris, CA 92570
Edmundo Felicisimo Oreta	19180 Mountain Shadow Lane Perris, CA 92570
Luis F Espinoza	19198 Mountain Shadow Lane Perris, CA 92570
Ruban T Garcia	19216 Mountain Shadow Lane Perris, CA 92570
Arturo Espinoza	19234 Mountain Shadow Lane Perris, CA 92570
Kristina Brandel	19252 Mountain Shadow Lane Perris, CA 92570
Kathy Boyer	19313 Silver Summit Circle Perris, CA 92570
Janiece Edwa	19331 Silver Summit Circle Perris, CA 92570
David West	19367 Silver Summit Circle Perris, CA 92570
Jason Hand	19385 Silver Summit Circle Perris, CA 92570
Erisa Rodriguez	19173 Rocky Summit Drive Perris, CA 92570
Antonio A Simoes	19191 Rocky Summit Drive Perris, CA 92570
Lydia Gonzalez	19209 Rocky Summit Drive Perris, CA 92570
Jesus Salvador Melgoza	19227 Rocky Summit Drive Perris, CA 92570
Rudolfo Trevino	19181 Bridlewood Road Perris, CA 92570
Jason Gardner	19364 Silver Summit Circle Perris, CA 92570
Ryan Jason Roques	19382 Silver Summit Circle Perris, CA 92570
Manuel O Ojeda	19224 Rocky Summit Drive Perris, CA 92570
Victor Diaz	19242 Rocky Summit Drive Perris, CA 92570
Owner	Palm Plantation 3723 Mears Avenue Riverside, CA 92509

7.15 Occupants within 0.25-Mile Radius

Owner Or Current Resident	2437 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2279 Eagle Glen Parkway Corona, CA 92883
Owner Or Current Resident	2261 Eagle Glen Parkway Corona, CA 92883
Owner Or Current Resident	2550 Cajalco Road Corona, CA 92882

Owner Or Current Resident	3940 Temescal Canyon Road Corona, CA 92883
Owner Or Current Resident	3955 Temescal Canyon Road Corona, CA 92883
Owner Or Current Resident	4507 Cabot Drive Corona, CA 92883
Owner Or Current Resident	3335 Grand Oaks Corona, CA 92881
Owner Or Current Resident	3431 Grand Oaks Corona, CA 92881
Owner Or Current Resident	3685 Grand Oaks Corona, CA 92881
Owner Or Current Resident	3591 Grand Oaks Avenue Corona, CA 92881
Owner Or Current Resident	3579 Grand Oaks Avenue Corona, CA 92881
Owner Or Current Resident	3555 Grand Oaks Street Corona, CA 92881
Owner Or Current Resident	3515 Grand Oaks Boulevard Corona, CA 92881
Owner Or Current Resident	3550 Grand Oaks Corona, CA 92881
Owner Or Current Resident	2690 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2570 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2540 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2530 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2520 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2630 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2620 Cajalco Road Corona, CA 92881
Owner Or Current Resident	2563 Tuscany Street Corona, CA 92881
Owner Or Current Resident	2615 Tuscany Street Corona, CA 92881
Owner Or Current Resident	3615 Grand Oaks Corona, CA 92881
Owner Or Current Resident	3710 Temescal Canyon Road Corona, CA 92883
Owner Or Current Resident	20330 Temescal Canyon Road Corona, CA 92881
Owner Or Current Resident	8590 Cajalco Road Corona, CA 92882
Owner Or Current Resident	20240 Temescal Canyon Road Corona, CA 92881
Owner Or Current Resident	20310 Temescal Canyon Road Corona, CA 92881

Owner Or Current Resident	8850 Cajalco Road Corona, CA 92881
Owner Or Current Resident	9080 Cajalco Road Corona, CA 92881
Owner Or Current Resident	9041 Cajalco Road Corona, CA 92881
Owner Or Current Resident	9013 Cajalco Road Corona, CA 92881
Owner Or Current Resident	20239 Farley Avenue Corona, CA 92881
Owner Or Current Resident	15150 Shelton Road Perris, CA 92570
Owner Or Current Resident	16312 Baltra Drive Perris, CA 92570
Owner Or Current Resident	19420 Amalfi Drive Perris, CA 92570
Owner Or Current Resident	16577 Cajalco Road Perris, CA 92570
Owner Or Current Resident	16820 Pfeifer Way Perris, CA 92570
Owner Or Current Resident	16807 Pfeifer Way Perris, CA 92570
Owner Or Current Resident	17770 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19410 Harley John Road Riverside, CA 92504
Owner Or Current Resident	17940 Cajalco Road Perris, CA 92570
Owner Or Current Resident	17898 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19960 Gavilan Road Perris, CA 92570
Owner Or Current Resident	19829 Smith Road Perris, CA 92570
Owner Or Current Resident	17260 Pfeifer Way Perris, CA 92570
Owner Or Current Resident	19985 Smith Road Perris, CA 92570
Owner Or Current Resident	19690 Smith Road Perris, CA 92570
Owner Or Current Resident	19780 Gustin Road Perris, CA 92570
Owner Or Current Resident	17620 Camino Martinez Perris, CA 92570
Owner Or Current Resident	17633 Camino Martinez Perris, CA 92570
Owner Or Current Resident	19582 Gustin Road Perris, CA 92570
Owner Or Current Resident	19590 Gustin Road Perris, CA 92570
Owner Or Current Resident	19600 Gustin Road Perris, CA 92570

Owner Or Current Resident	17789 Cajalco Road Perris, CA 92570
Owner Or Current Resident	17801 Cajalco Road Perris, CA 92570
Owner Or Current Resident	17853 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19610 Gustin Road Perris, CA 92570
Lowell F & Marilyn J Stake	17805 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19845 Gustin Road Perris, CA 92570
Owner Or Current Resident	19267 Cowan Road Perris, CA 92570
Owner Or Current Resident	19388 Wyler Road Perris, CA 92570
Owner Or Current Resident	13580 Cajalco Road Perris, CA 92570
Owner Or Current Resident	13570 Cajalco Road Perris, CA 92570
Owner Or Current Resident	13586 Cajalco Road Perris, CA 92570
Owner Or Current Resident	13539 Cajalco Road Perris, CA 92570
Owner Or Current Resident	13735 13735 J Lane Perris, CA 92570
Owner Or Current Resident	13440 Cajalco Road Perris, CA 92570
Owner Or Current Resident	13445 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20801 Hollis Lane Perris, CA 92570
Owner Or Current Resident	20776 Hollis Lane Perris, CA 92570
Owner Or Current Resident	20802 Hollis Lane Perris, CA 92570
Owner Or Current Resident	20675 Lynette Lane Perris, CA 92570
Owner Or Current Resident	20695 Lynette Lane Perris, CA 92570
Owner Or Current Resident	20423 Onaknoll Drive Perris, CA 92570
Owner Or Current Resident	14791 Wendell Park Drive Perris, CA 92570
Owner Or Current Resident	15696 Wendell Park Drive Perris, CA 92570
Owner Or Current Resident	15740 Wendell Park Drive Perris, CA 92570
Owner Or Current Resident	15737 Wendell Park Drive Perris, CA 92570
Owner Or Current Resident	15421 Shelton Drive Perris, CA 92570

Owner Or Current Resident	15415 Shelton Drive Perris, CA 92570
Owner Or Current Resident	20250 Emelita Street Perris, CA 92570
Owner Or Current Resident	18298 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18300 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19391 Extravaganza Lane Perris, CA 92570
Owner Or Current Resident	18186 Extravaganza Lane Perris, CA 92570
Owner Or Current Resident	18184 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18160 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18276 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18260 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18210 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18168 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18270 Cajalco Road Perris, CA 92570
Owner Or Current Resident	17852 Spring Hill Way Riverside, CA 92503
Owner Or Current Resident	17849 Spring Hill Way Riverside, CA 92503
Owner Or Current Resident	17860 Vista Del Lago Drive Riverside, CA 92503
Owner Or Current Resident	17980 Vista Del Lago Drive Riverside, CA 92503
Owner Or Current Resident	17850 Vista Del Lago Drive Riverside, CA 92503
Owner Or Current Resident	14170 El Sobrante Road A Riverside, CA 92503
Owner Or Current Resident	14250 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	17875 Vista Del Lago Drive Riverside, CA 92503
Owner Or Current Resident	13100 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	13560 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	13456 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	13300 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	13850 El Sobrante Road Riverside, CA 92503

Owner Or Current Resident	13710 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	17934 Orangewood Lane Riverside, CA 92503
Owner Or Current Resident	17783 Boxwood Drive Riverside, CA 92503
Owner Or Current Resident	12390 Jacaranda Way Riverside, CA 92503
Owner Or Current Resident	12369 Jacaranda Way Riverside, CA 92503
Owner Or Current Resident	12374 Mimosa Lane Riverside, CA 92503
Owner Or Current Resident	12410 Mimosa Lane Riverside, CA 92503
Owner Or Current Resident	12555 Bougainvillea Way Riverside, CA 92503
Owner Or Current Resident	12483 Bougainvillea Way Riverside, CA 92503
Owner Or Current Resident	12615 Bougainvillea Way Riverside, CA 92503
Owner Or Current Resident	12612 Bougainvillea Way Riverside, CA 92503
Owner Or Current Resident	12607 Orangeblossom Lane Riverside, CA 92503
Owner Or Current Resident	12595 Orangeblossom Lane Riverside, CA 92503
Owner Or Current Resident	12583 Orangeblossom Lane Riverside, CA 92503
Owner Or Current Resident	12571 Orangeblossom Lane Riverside, CA 92503
Owner Or Current Resident	12559 Orangeblossom Lane Riverside, CA 92503
Owner Or Current Resident	17770 Cedarwood Drive Riverside, CA 92503
Owner Or Current Resident	17830 Cedarwood Drive Riverside, CA 92503
Owner Or Current Resident	17890 Cedarwood Drive Riverside, CA 92503
Owner Or Current Resident	17914 Cedarwood Drive Riverside, CA 92503
Owner Or Current Resident	17926 Cedarwood Drive Riverside, CA 92503
Owner Or Current Resident	12365 Mimosa Lane Riverside, CA 92503
Owner Or Current Resident	12353 Mimosa Lane Riverside, CA 92503
Owner Or Current Resident	12305 Mimosa Lane Riverside, CA 92503
Owner Or Current Resident	17700 Willow Drive Riverside, CA 92503
Owner Or Current Resident	17735 Fan Palm Lane Riverside, CA 92503

Owner Or Current Resident	12764 Avocado Way Riverside, CA 92503
Owner Or Current Resident	12704 Avocado Way Riverside, CA 92503
Owner Or Current Resident	12779 Avocado Way Riverside, CA 92503
Owner Or Current Resident	17701 Mcallister Street Riverside, CA 92503
Owner Or Current Resident	12605 Mango Lane Riverside, CA 92503
Owner Or Current Resident	12485 Mango Lane Riverside, CA 92503
Owner Or Current Resident	12573 Navel Court Riverside, CA 92503
Owner Or Current Resident	12518 Mango Lane Riverside, CA 92503
Owner Or Current Resident	17999 Willow Drive Riverside, CA 92503
Owner Or Current Resident	17997 Willow Drive Riverside, CA 92503
Owner Or Current Resident	17996 Willow Drive Riverside, CA 92503
Owner Or Current Resident	17998 Willow Drive Riverside, CA 92503
Owner Or Current Resident	12558 Navel Court Riverside, CA 92503
Owner Or Current Resident	17935 Tangerine Way Riverside, CA 92503
Owner Or Current Resident	12599 Avocado Way Riverside, CA 92503
Owner Or Current Resident	12539 Avocado Way Riverside, CA 92503
Owner Or Current Resident	12536 Avocado Way Riverside, CA 92503
Owner Or Current Resident	17877 Aloe Lane Riverside, CA 92503
Owner Or Current Resident	17948 Aloe Lane Riverside, CA 92503
Owner Or Current Resident	17901 Robusta Drive Riverside, CA 92503
Owner Or Current Resident	17886 Robusta Drive Riverside, CA 92503
Owner Or Current Resident	17996 Robusta Drive Riverside, CA 92503
Owner Or Current Resident	12698 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	12800 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	17885 Mc Allister Street Riverside, CA 92503
Owner Or Current Resident	20351 Farley Avenue Corona, CA 92881

Owner Or Current Resident	12667 El Sobrante Road Corona, CA 92879
Owner Or Current Resident	13599 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	13509 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	18105 Lockwood Avenue Riverside, CA 92503
Owner Or Current Resident	15020 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	15250 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	15016 El Sobrante Road Riverside, CA 92503
Owner Or Current Resident	15899 Bryant Road Riverside, CA 92504
Owner Or Current Resident	18475 Centaur Road Riverside, CA 92504
Owner Or Current Resident	19300 Harley John Road Riverside, CA 92504
Owner Or Current Resident	19046 Harley John Road Riverside, CA 92504
Owner Or Current Resident	19020 Harley John Road Riverside, CA 92504
Owner Or Current Resident	19025 Harley John Road Riverside, CA 92504
Owner Or Current Resident	19350 Harley John Road Riverside, CA 92504
Owner Or Current Resident	18726 Mockingbird Canyon Road Riverside, CA 92504
Owner Or Current Resident	18678 Mockingbird Canyon Road Riverside, CA 92504
Owner Or Current Resident	18636 Mockingbird Canyon Road Riverside, CA 92504
Owner Or Current Resident	11801 Cajalco Road Corona, CA 92881
Owner Or Current Resident	14155 Grande Vista Avenue Perris, CA 92570
Owner Or Current Resident	14041 Grande Vista Avenue Perris, CA 92570
Owner Or Current Resident	20883 Lakeridge Drive Perris, CA 92570
Owner Or Current Resident	20841 Lakeridge Drive Perris, CA 92570
Owner Or Current Resident	14265 Alva Place Perris, CA 92570
Owner Or Current Resident	19865 Gustin Road Perris, CA 92570
Owner Or Current Resident	19871 Gustin Road Perris, CA 92570
Owner Or Current Resident	19901 Gustin Road Perris, CA 92570

Owner Or Current Resident	4150 Patterson Avenue Perris, CA 92571
Owner Or Current Resident	18810 Harvill Avenue Perris, CA 92570
Owner Or Current Resident	22450 Alviso Road Perris, CA 92570
Owner Or Current Resident	22200 Alviso Drive Perris, CA 92570
Owner Or Current Resident	22160 Alviso Road Perris, CA 92570
Owner Or Current Resident	22201 Alviso Road Perris, CA 92570
Owner Or Current Resident	22337 Alviso Road Perris, CA 92570
Owner Or Current Resident	22198 Marquez Road Perris, CA 92570
Owner Or Current Resident	22024 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22050 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22153 Marquez Road Perris, CA 92570
Owner Or Current Resident	22445 Marquez Road Perris, CA 92570
Owner Or Current Resident	22265 Alviso Road Perris, CA 92570
Owner Or Current Resident	19340 Day Street Perris, CA 92570
Owner Or Current Resident	22375 Marquez Road Perris, CA 92570
Owner Or Current Resident	22265 Marquez Road Perris, CA 92570
Owner Or Current Resident	22180 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22565 Alviso Road Perris, CA 92570
Owner Or Current Resident	22585 Alviso Road Perris, CA 92570
Owner Or Current Resident	22600 Marquez Avenue Perris, CA 92570
Owner Or Current Resident	22525 Marquez Road Perris, CA 92570
Owner Or Current Resident	22549 Marquez Road Perris, CA 92570
Owner Or Current Resident	19451 Marquez Road Perris, CA 92570
Owner Or Current Resident	19421 Decker Road Perris, CA 92570
Owner Or Current Resident	22700 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22810 Cajalco Road Perris, CA 92570

Owner Or Current Resident	19451 Decker Road Perris, CA 92570
Owner Or Current Resident	22900 Marquez Road Perris, CA 92570
Owner Or Current Resident	22910 Marquez Road Perris, CA 92570
Owner Or Current Resident	19351 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	22701 Olvisa Drive Perris, CA 92570
Owner Or Current Resident	22640 Marquez Road Perris, CA 92570
Owner Or Current Resident	22779 Alviso Drive Perris, CA 92570
Owner Or Current Resident	22095 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22099 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22115 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22113 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19540 Day Street Perris, CA 92570
Owner Or Current Resident	19576 Day Street Perris, CA 92570
Owner Or Current Resident	19620 Day Street Perris, CA 92570
Owner Or Current Resident	19680 Day Street Perris, CA 92570
Owner Or Current Resident	19682 Day Street Perris, CA 92570
Owner Or Current Resident	19690 Day Street Perris, CA 92570
Owner Or Current Resident	19730 Day Street Perris, CA 92570
Owner Or Current Resident	22175 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19671 Tyler Road Perris, CA 92570
Owner Or Current Resident	19508 Day Street Perris, CA 92570
Owner Or Current Resident	22675 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22695 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22697 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22765 Cajalco Road Perris, CA 92570
Owner Or Current Resident	22687 Cajalco Road Perris, CA 92570

Owner Or Current Resident	19671 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	19683 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	22761 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23320 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23330 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19052 Harvill Avenue Perris, CA 92570
Owner Or Current Resident	19295 Harvill Avenue Perris, CA 92570
Owner Or Current Resident	23261 Cajalco Expy Perris, CA 92570
Owner Or Current Resident	23190 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19055 Messenia Lane Perris, CA 92570
Owner Or Current Resident	19103 Messenia Lane Perris, CA 92570
Owner Or Current Resident	23332 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19310 Harvill Avenue Perris, CA 92570
Owner Or Current Resident	19126 Messenia Lane Perris, CA 92570
Owner Or Current Resident	19050 Messenia Lane Perris, CA 92570
Owner Or Current Resident	19319 Harvill Avenue Perris, CA
Owner Or Current Resident	3715 Highway 215 Perris, CA 92570
Owner Or Current Resident	23113 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23447 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19654 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	23455 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23459 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23453 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23471 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23473 Cajalco Road Perris, CA 92570
Owner Or Current Resident	23031 Cajalco Road Perris, CA 92570

Owner Or Current Resident	19600 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	23123 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19765 Patterson Avenue Perris, CA 92570
Owner Or Current Resident	19542 Patterson Avenue Perris, CA 92570
Owner Or Current Resident	22542 Alviso Road Perris, CA 92570
Owner Or Current Resident	22680 Alviso Drive Perris, CA 92570
Owner Or Current Resident	19225 Decker Road Perris, CA 92570
Owner Or Current Resident	22900 Alviso Street Perris, CA 92570
Owner Or Current Resident	19249 Seaton Avenue Perris, CA 92570
Owner Or Current Resident	22830 Alviso Drive Perris, CA 92570
Owner Or Current Resident	22800 Alviso Road Perris, CA 92570
Owner Or Current Resident	22880 Alviso Road Perris, CA 92570
Owner Or Current Resident	21470 Dawes Street Perris, CA 92570
Owner Or Current Resident	21450 Dawes Street Perris, CA 92570
Owner Or Current Resident	21274 Dawes Street Perris, CA 92570
Owner Or Current Resident	19199 Clark Street Perris, CA 92570
Owner Or Current Resident	21031 Hicks Street Perris, CA 92570
Owner Or Current Resident	21133 Hicks Street Perris, CA 92570
Owner Or Current Resident	21183 Hicks Street Perris, CA 92570
Owner Or Current Resident	21205 Hicks Street Perris, CA 92570
Owner Or Current Resident	21222 Dawes Street Perris, CA 92570
Owner Or Current Resident	21182 Dawes Street Perris, CA 92570
Owner Or Current Resident	21146 Dawes Street Perris, CA 92570
Owner Or Current Resident	21094 Dawes Street Perris, CA 92570
Owner Or Current Resident	21074 Dawes Street Perris, CA 92570
Owner Or Current Resident	21054 Dawes Street Perris, CA 92570

Owner Or Current Resident	19230 Brown Street Perris, CA 92570
Owner Or Current Resident	19260 Brown Street Perris, CA 92570
Owner Or Current Resident	19410 Brown Street Perris, CA 92570
Owner Or Current Resident	19395 Florence Street Perris, CA 92570
Owner Or Current Resident	19375 Florence Street Perris, CA 92570
Owner Or Current Resident	19293 Florence Street Perris, CA 92570
Owner Or Current Resident	19283 Florence Street Perris, CA 92570
Owner Or Current Resident	19470 Brown Street Perris, CA 92570
Owner Or Current Resident	19260 Florence Street Perris, CA 92570
Owner Or Current Resident	19294 Florence Street Perris, CA 92570
Owner Or Current Resident	19308 Florence Street Perris, CA 92570
Owner Or Current Resident	21110 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19440 Florence Street Perris, CA 92570
Owner Or Current Resident	21166 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19265 Haines Street Perris, CA 92570
Owner Or Current Resident	19285 Haines Street Perris, CA 92570
Owner Or Current Resident	19425 Haines Street Perris, CA 92570
Owner Or Current Resident	21492 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21480 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21440 Short Ridge Street Perris, CA 92570
Owner Or Current Resident	21370 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21292 Short Ridge Street Perris, CA 92570
Owner Or Current Resident	21280 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21275 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21385 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21423 Short Ridge Avenue Perris, CA 92570

Owner Or Current Resident	21435 Short Ridge Avenue Perris, CA 92570
Owner Or Current Resident	21291 Johnson Avenue Perris, CA 92570
Owner Or Current Resident	21258 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21274 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21314 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19391 Clark Street Perris, CA 92570
Owner Or Current Resident	21370 Johnson Avenue Perris, CA 92570
Owner Or Current Resident	21400 Johnson Avenue Perris, CA 92570
Owner Or Current Resident	19150 Clark Street Perris, CA 92570
Owner Or Current Resident	19367 Robinson Street Perris, CA 92570
Owner Or Current Resident	19421 Robinson Street Perris, CA 92570
Owner Or Current Resident	21820 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21860 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19410 Robinson Street Perris, CA 92570
Owner Or Current Resident	19300 Robinson Street Perris, CA 92570
Owner Or Current Resident	19256 Robinson Street Perris, CA 92570
Owner Or Current Resident	19232 Robinson Street Perris, CA 92570
Owner Or Current Resident	19201 Day Street Perris, CA 92570
Owner Or Current Resident	19215 Day Street Perris, CA 92570
Owner Or Current Resident	19361 Day Street Perris, CA 92570
Owner Or Current Resident	18166 Andrea Court Perris, CA 92570
Owner Or Current Resident	21962 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21871 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21909 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21885 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21804 Elmwood Street Perris, CA 92570

Owner Or Current Resident	21870 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21920 Elmwood Street Perris, CA 92570
Owner Or Current Resident	19641 Day Street Perris, CA 92570
Owner Or Current Resident	19670 Clark Street Perris, CA 92570
Owner Or Current Resident	21624 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21870 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21623 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21705 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21650 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21508 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21321 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21381 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21430 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21414 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21400 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21284 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21272 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21419 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21425 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21311 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21403 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21457 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21487 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21165 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21205 Cajalco Road Perris, CA 92570
Owner Or Current Resident	21120 Oakwood Street Perris, CA 92570

Owner Or Current Resident	21131 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21186 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21210 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21170 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21169 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21025 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21055 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21081 Elmwood Street Perris, CA 92570
Owner Or Current Resident	21129 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21145 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21175 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21221 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21259 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21298 Pinewood Street Perris, CA 92570
Owner Or Current Resident	19763 Clark Street Perris, CA 92570
Owner Or Current Resident	21297 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21591 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21621 Oakwood Street Perris, CA 92570
Owner Or Current Resident	21851 Oakwood Street Perris, CA 92570
Owner Or Current Resident	19364 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19374 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	21675 Windstone Way Perris, CA 92570
Owner Or Current Resident	21625 Windstone Way Perris, CA 92570
Owner Or Current Resident	21585 Windstone Way Perris, CA 92570
Owner Or Current Resident	21575 Windstone Way Perris, CA 92570
Owner Or Current Resident	21555 Windstone Way Perris, CA 92570

Owner Or Current Resident	21525 Windstone Way Perris, CA 92570
Owner Or Current Resident	19339 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19347 Winter Rock Court Perris, CA 92570
Owner Or Current Resident	21563 Foxwood Court Perris, CA 92570
Owner Or Current Resident	21580 Foxwood Court Perris, CA 92570
Owner Or Current Resident	21661 Dawes Street Perris, CA 92570
Owner Or Current Resident	19247 Spring Rock Court Perris, CA 92570
Owner Or Current Resident	19232 Spring Rock Court Perris, CA 92570
Owner Or Current Resident	19249 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19239 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19229 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19234 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	19244 Summerwind Trl Perris, CA 92570
Owner Or Current Resident	20605 Burns Street Perris, CA 92570
Owner Or Current Resident	20657 Burns Street Perris, CA 92570
Owner Or Current Resident	20745 Burns Street Perris, CA 92570
Owner Or Current Resident	20642 Moore Street Perris, CA 92570
Owner Or Current Resident	20556 Moore Street Perris, CA 92570
Owner Or Current Resident	20785 Burns Street Perris, CA 92570
Owner Or Current Resident	20819 Burns Street Perris, CA 92570
Owner Or Current Resident	20835 Burns Street Perris, CA 92570
Owner Or Current Resident	20893 Burns Street Perris, CA 92570
Owner Or Current Resident	20929 Burns Street Perris, CA 92570
Owner Or Current Resident	20959 Burns Street Perris, CA 92570
Owner Or Current Resident	20971 Burns Street Perris, CA 92570
Owner Or Current Resident	20812 Moore Street Perris, CA 92570

Owner Or Current Resident	20775 Moore Street Perris, CA 92570
Owner Or Current Resident	20887 Moore Street Perris, CA 92570
Owner Or Current Resident	20893 Moore Street Perris, CA 92570
Owner Or Current Resident	20970 Wells Street Perris, CA 92570
Owner Or Current Resident	20960 Wells Street Perris, CA 92570
Owner Or Current Resident	20856 Wells Street Perris, CA 92570
Owner Or Current Resident	20838 Wells Street Perris, CA 92570
Owner Or Current Resident	19411 Brown Street Perris, CA 92570
Owner Or Current Resident	20819 Moore Street Perris, CA 92570
Owner Or Current Resident	20857 Wells Street Perris, CA 92570
Owner Or Current Resident	20900 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20858 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20810 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20780 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20764 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19444 Mead Street Perris, CA 92570
Owner Or Current Resident	20525 Moore Street Perris, CA 92570
Owner Or Current Resident	20541 Moore Street Perris, CA 92570
Owner Or Current Resident	19410 Alexander Street Perris, CA 92570
Owner Or Current Resident	20625 Wells Street Perris, CA 92570
Owner Or Current Resident	20657 Wells Street Perris, CA 92570
Owner Or Current Resident	20685 Wells Street Perris, CA 92570
Owner Or Current Resident	20680 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20572 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20050 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20231 Cajalco Road Perris, CA 92570

Owner Or Current Resident	20240 Souder Street Perris, CA 92570
Owner Or Current Resident	20120 Souder Street Perris, CA 92570
Owner Or Current Resident	20115 Souder Street Perris, CA 92570
Owner Or Current Resident	20175 Souder Street Perris, CA 92570
Owner Or Current Resident	20195 Souder Street Perris, CA 92570
Owner Or Current Resident	20245 Souder Street Perris, CA 92570
Owner Or Current Resident	20100 Hunter Street Perris, CA 92570
Owner Or Current Resident	20015 Hunter Street Perris, CA 92570
Owner Or Current Resident	20025 Hunter Street Perris, CA 92570
Owner Or Current Resident	20155 Hunter Street Perris, CA 92570
Owner Or Current Resident	20245 Hunter Street Perris, CA 92570
Owner Or Current Resident	19740 Barton Street Perris, CA 92570
Owner Or Current Resident	20031 Mural Street Perris, CA 92570
Owner Or Current Resident	19785 Una Street Perris, CA 92570
Owner Or Current Resident	20230 Myron Street Perris, CA 92570
Owner Or Current Resident	20204 Myron Street Perris, CA 92570
Owner Or Current Resident	20136 Myron Street Perris, CA 92570
Owner Or Current Resident	20082 Myron Street Perris, CA 92570
Owner Or Current Resident	20285 Hunter Drive Perris, CA 92570
Owner Or Current Resident	20365 Hunter Street Perris, CA 92570
Owner Or Current Resident	20385 Hunter Street Perris, CA 92570
Owner Or Current Resident	20395 Hunter Street Perris, CA 92570
Owner Or Current Resident	20445 Hunter Street Perris, CA 92570
Owner Or Current Resident	20451 Hunter Street Perris, CA 92570
Owner Or Current Resident	20455 Hunter Street Perris, CA 92570
Owner Or Current Resident	19665 Alexander Street Perris, CA 92570

Owner Or Current Resident	19735 Alexander Street Perris, CA 92570
Owner Or Current Resident	20410 Mural Street Perris, CA 92570
Owner Or Current Resident	20340 Mural Street Perris, CA 92570
Owner Or Current Resident	20290 Mural Street Perris, CA 92570
Owner Or Current Resident	20321 Mural Street Perris, CA 92570
Owner Or Current Resident	20361 Mural Street Perris, CA 92570
Owner Or Current Resident	20447 Mural Street Perris, CA 92570
Owner Or Current Resident	20414 Myron Street Perris, CA 92570
Owner Or Current Resident	20394 Myron Street Perris, CA 92570
Owner Or Current Resident	20376 Myron Street Perris, CA 92570
Owner Or Current Resident	20260 Myron Street Perris, CA 92570
Owner Or Current Resident	20443 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20358 Souder Street Perris, CA 92570
Owner Or Current Resident	20470 Souder Street Perris, CA 92570
Owner Or Current Resident	20380 Souder Street Perris, CA 92570
Owner Or Current Resident	20400 Souder Street Perris, CA 92570
Owner Or Current Resident	20275 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20333 Souder Street Perris, CA 92570
Owner Or Current Resident	20361 Souder Street Perris, CA 92570
Owner Or Current Resident	20421 Souder Street Perris, CA 92570
Owner Or Current Resident	20505 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20551 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20601 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20655 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20701 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20721 Cajalco Road Perris, CA 92570

Owner Or Current Resident	20738 Souder Street Perris, CA 92570
Owner Or Current Resident	20720 Souder Street Perris, CA 92570
Owner Or Current Resident	20687 Souder Street Perris, CA 92570
Owner Or Current Resident	20630 Souder Street Perris, CA 92570
Owner Or Current Resident	20581 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20599 Souder Street Perris, CA 92570
Owner Or Current Resident	20611 Souder Street Perris, CA 92570
Owner Or Current Resident	19613 Mead Street Perris, CA 92570
Owner Or Current Resident	19616 Alexander Street Perris, CA 92570
Owner Or Current Resident	20560 Hunter Street Perris, CA 92570
Owner Or Current Resident	20522 Hunter Street Perris, CA 92570
Owner Or Current Resident	20532 Hunter Street Perris, CA 92570
Owner Or Current Resident	20642 Hunter Street Perris, CA 92570
Owner Or Current Resident	20521 Hunter Street Perris, CA 92570
Owner Or Current Resident	20541 Hunter Street Perris, CA 92570
Owner Or Current Resident	20728 Mural Street Perris, CA 92570
Owner Or Current Resident	20600 Mural Street Perris, CA 92570
Owner Or Current Resident	20550 Mural Street Perris, CA 92570
Owner Or Current Resident	19720 Alexander Street Perris, CA 92570
Owner Or Current Resident	20559 Mural Street Perris, CA 92570
Owner Or Current Resident	20665 Mural Street Perris, CA 92570
Owner Or Current Resident	20685 Mural Street Perris, CA 92570
Owner Or Current Resident	20741 Mural Street Perris, CA 92570
Owner Or Current Resident	20744 Myron Street Perris, CA 92570
Owner Or Current Resident	20576 Myron Street Perris, CA 92570
Owner Or Current Resident	20535 Mural Street Perris, CA 92570

Owner Or Current Resident	19760 Alexander Street Perris, CA 92570
Owner Or Current Resident	20566 Myron Street Perris, CA 92570
Owner Or Current Resident	20871 Hunter Street Perris, CA 92570
Owner Or Current Resident	20905 Hunter Street Perris, CA 92570
Owner Or Current Resident	20970 Mural Street Perris, CA 92570
Owner Or Current Resident	20886 Mural Street Perris, CA 92570
Owner Or Current Resident	20790 Mural Street Perris, CA 92570
Owner Or Current Resident	20785 Hunter Street Perris, CA 92570
Owner Or Current Resident	20811 Mural Street Perris, CA 92570
Owner Or Current Resident	20900 Myron Street Perris, CA 92570
Owner Or Current Resident	20925 Mural Street Perris, CA 92570
Owner Or Current Resident	20911 Mural Street Perris, CA 92570
Owner Or Current Resident	20980 Myron Street Perris, CA 92570
Owner Or Current Resident	20861 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20895 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19565 Brown Street Perris, CA 92570
Owner Or Current Resident	20950 Souder Street Perris, CA 92570
Owner Or Current Resident	20842 Souder Street Perris, CA 92570
Owner Or Current Resident	20824 Souder Street Perris, CA 92570
Owner Or Current Resident	20775 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20795 Cajalco Road Perris, CA 92570
Owner Or Current Resident	20845 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19580 Mead Street Perris, CA 92570
Owner Or Current Resident	20811 Souder Street Perris, CA 92570
Owner Or Current Resident	20865 Souder Street Perris, CA 92570
Owner Or Current Resident	20875 Souder Street Perris, CA 92570

Owner Or Current Resident	20957 Souder Street Perris, CA 92570
Owner Or Current Resident	20940 Hunter Street Perris, CA 92570
Owner Or Current Resident	20850 Hunter Street Perris, CA 92570
Owner Or Current Resident	20960 Hunter Street Perris, CA 92570
Owner Or Current Resident	20980 Burns Street Perris, CA 92570
Owner Or Current Resident	18255 Avenue D Perris, CA 92570
Owner Or Current Resident	18310 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18780 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19255 Wood Road Perris, CA 92570
Owner Or Current Resident	18550 Cajalco Road Perris, CA 92570
Owner Or Current Resident	18591 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19203 Cajalco Road Perris, CA 92570
Owner Or Current Resident	19287 Copper Ridge Street Perris, CA 92570
Owner Or Current Resident	19259 Sterling Hill Lane Perris, CA 92570
Owner Or Current Resident	19408 Sterling Hill Drive Perris, CA 92570
Owner Or Current Resident	19133 Sterling Hill Lane Perris, CA 92570
Owner Or Current Resident	19151 Sterling Hill Lane Perris, CA 92570
Owner Or Current Resident	19388 Aspenleaf Drive Perris, CA 92570
Owner Or Current Resident	19419 Aspenleaf Drive Perris, CA 92570
Owner Or Current Resident	19204 Bridlewood Road Perris, CA 92570
Owner Or Current Resident	19144 Mountain Shadow Lane Perris, CA 92570
Current Resident	17810 Park Vista Court Riverside, CA 92503
Current Resident	17817 Park Vista Court Riverside, CA 92503
Current Resident	17820 Park Vista Court Riverside, CA 92503
Current Resident	17827 Park Vista Court Riverside, CA 92503
Current Resident	17830 Park Vista Court Riverside, CA 92503

Current Resident	17837 Park Vista Court Riverside, CA 92503
Current Resident	17840 Park Vista Court Riverside, CA 92503
Current Resident	17847 Park Vista Court Riverside, CA 92503
Current Resident	17850 Park Vista Court Riverside, CA 92503
Current Resident	17857 Park Vista Court Riverside, CA 92503
Current Resident	17860 Park Vista Court Riverside, CA 92503
Current Resident	17867 Park Vista Court Riverside, CA 92503
Current Resident	17870 Park Vista Court Riverside, CA 92503
Current Resident	17877 Park Vista Court Riverside, CA 92503
Current Resident	17887 Park Vista Court Riverside, CA 92503
Current Resident	17890 Park Vista Court Riverside, CA 92503
Current Resident	17801 Morning Rock Circle Riverside, CA 92503
Current Resident	17804 Morning Rock Circle Riverside, CA 92503
Current Resident	17811 Morning Rock Circle Riverside, CA 92503
Current Resident	17814 Morning Rock Circle Riverside, CA 92503
Current Resident	17821 Morning Rock Circle Riverside, CA 92503
Current Resident	17824 Morning Rock Circle Riverside, CA 92503
Current Resident	17831 Morning Rock Circle Riverside, CA 92503
Current Resident	17841 Morning Rock Circle Riverside, CA 92503
Current Resident	17851 Morning Rock Circle Riverside, CA 92503
Current Resident	17854 Morning Rock Circle Riverside, CA 92503
Current Resident	17861 Morning Rock Circle Riverside, CA 92503
Current Resident	17871 Morning Rock Circle Riverside, CA 92503
Current Resident	17881 Morning Rock Circle Riverside, CA 92503
Current Resident	17891 Morning Rock Circle Riverside, CA 92503
Current Resident	17901 Morning Rock Circle Riverside, CA 92503

Current Resident	17805 Spring Park Place Riverside, CA 92503
Current Resident	17815 Spring Park Place Riverside, CA 92503
Current Resident	17825 Spring Park Place Riverside, CA 92503
Current Resident	17679 Streamside Lane Riverside, CA 92503
Current Resident	17680 Streamside Lane Riverside, CA 92503
Current Resident	17685 Streamside Lane Riverside, CA 92503
Current Resident	17686 Streamside Lane Riverside, CA 92503
Current Resident	17667 Streamside Lane Riverside, CA 92503
Current Resident	17668 Streamside Lane Riverside, CA 92503
Current Resident	17673 Streamside Lane Riverside, CA 92503
Current Resident	17674 Streamside Lane Riverside, CA 92503
Current Resident	17691 Streamside Lane Riverside, CA 92503
Current Resident	17692 Streamside Lane Riverside, CA 92503
Current Resident	17697 Streamside Lane Riverside, CA 92503
Current Resident	17698 Streamside Lane Riverside, CA 92503
Current Resident	17703 Streamside Lane Riverside, CA 92503
Current Resident	17704 Streamside Lane Riverside, CA 92503
Current Resident	17715 Streamside Lane Riverside, CA 92503
Current Resident	17710 Streamside Lane Riverside, CA 92503
Business Owner Or Occupant	18250 La Sierra Avenue Riverside, CA 92503
Business Owner Or Occupant	16451 El Sobrante Road Riverside, CA 92503
Business Owner Or Occupant	16453 El Sobrante Road Riverside, CA 92503
Current Resident	15260 El Sobrante Road Riverside, CA 92503
Current Resident	15544 El Sobrante Road Riverside, CA 92503
Current Resident	17675 Vista Del Lago Drive Riverside, CA 92503
Current Resident	14170 El Sobrante Road Apt B Riverside, CA 92503

Current Resident	14170 El Sobrante Road Apt A Riverside, CA 92503
Current Resident	14196 El Sobrante Road Riverside, CA 92503
Current Resident	13780 El Sobrante Road Riverside, CA 92503
Current Resident	13650 El Sobrante Road Riverside, CA 92503
Current Resident	17737 Cedarwood Drive Riverside, CA 92503
Current Resident	17749 Cedarwood Drive Riverside, CA 92503
Current Resident	17730 Orangewood Lane Riverside, CA 92503
Current Resident	17742 Orangewood Lane Riverside, CA 92503
Current Resident	17754 Orangewood Lane Riverside, CA 92503
Current Resident	17740 Robusta Drive Riverside, CA 92503
Current Resident	17752 Robusta Drive Riverside, CA 92503
Current Resident	17728 Robusta Drive Riverside, CA 92503
Current Resident	17687 Fan Palm Lane Riverside, CA 92503
Current Resident	17699 Fan Palm Lane Riverside, CA 92503
Current Resident	17651 Fan Palm Lane Riverside, CA 92503
Current Resident	17660 Fan Palm Lane Riverside, CA 92503
Current Resident	17663 Fan Palm Lane Riverside, CA 92503
Current Resident	17672 Fan Palm Lane Riverside, CA 92503
Current Resident	17675 Fan Palm Lane Riverside, CA 92503
Current Resident	12732 Palmetto Court Riverside, CA 92503
Current Resident	12735 Palmetto Court Riverside, CA 92503
Current Resident	12744 Palmetto Court Riverside, CA 92503
Current Resident	12759 Palmetto Court Riverside, CA 92503
Current Resident	12768 Palmetto Court Riverside, CA 92503
Current Resident	12771 Palmetto Court Riverside, CA 92503
Current Resident	12780 Palmetto Court Riverside, CA 92503

Current Resident	17603 Fan Palm Lane Riverside, CA 92503
Current Resident	17615 Fan Palm Lane Riverside, CA 92503
Current Resident	17639 Fan Palm Lane Riverside, CA 92503
Current Resident	17648 Fan Palm Lane Riverside, CA 92503
Current Resident	17704 Robusta Drive Riverside, CA 92503
Current Resident	17716 Robusta Drive Riverside, CA 92503
Current Resident	17709 Willow Drive Riverside, CA 92503
Current Resident	17721 Willow Drive Riverside, CA 92503
Current Resident	12523 Orangeblossom Lane Riverside, CA 92503
Current Resident	12532 Orangeblossom Lane Riverside, CA 92503
Current Resident	12535 Orangeblossom Lane Riverside, CA 92503
Current Resident	12568 Orangeblossom Lane Riverside, CA 92503
Current Resident	12580 Orangeblossom Lane Riverside, CA 92503
Current Resident	12592 Orangeblossom Lane Riverside, CA 92503
Current Resident	12520 Orangeblossom Lane Riverside, CA 92503
Current Resident	19550 Harley John Road Riverside, CA 92504
Current Resident	18903 Chickory Drive Riverside, CA 92504
Current Resident	18493 Halter Lane Riverside, CA 92504
Current Resident	18520 Halter Lane Riverside, CA 92504
Current Resident	18429 Mockingbird Canyon Road Riverside, CA 92504
Current Resident	18463 Mockingbird Canyon Road Riverside, CA 92504
Current Resident	18495 Mockingbird Canyon Road Riverside, CA 92504
Current Resident	16449 Fox Glen Road Riverside, CA 92504
Current Resident	16563 Fox Glen Road Riverside, CA 92504
Current Resident	16633 Fox Glen Road Riverside, CA 92504
Current Resident	16639 Fox Glen Road Riverside, CA 92504

Current Resident	16745 Fox Glen Road Riverside, CA 92504
Current Resident	16761 Fox Glen Road Riverside, CA 92504
Current Resident	16817 Fox Glen Road Riverside, CA 92504
Current Resident	18690 Sussex Road Riverside, CA 92504
Current Resident	18648 Sussex Road Riverside, CA 92504
Current Resident	18612 Sussex Road Riverside, CA 92504
Current Resident	18915 Crop Road Riverside, CA 92504
Current Resident	16478 Fox Glen Road Riverside, CA 92504
Current Resident	16418 Fox Glen Road Riverside, CA 92504
Current Resident	16398 Fox Glen Road Riverside, CA 92504
Current Resident	18510 Mockingbird Canyon Road Riverside, CA 92504
Current Resident	21625 Pinewood Street Perris, CA 92570
Current Resident	21675 Pinewood Street Perris, CA 92570
Current Resident	21948 Pinewood Street Perris, CA 92570
Current Resident	21920 Pinewood Street Perris, CA 92570
Current Resident	21900 Pinewood Street Perris, CA 92570
Current Resident	21670 Pinewood Street Perris, CA 92570
Current Resident	21590 Pinewood Street Perris, CA 92570
Business Owner Or Occupant	21510 Pinewood Street Perris, CA 92570
Current Resident	21370 Pinewood Street Perris, CA 92570
Current Resident	19845 Clark Street Perris, CA 92570
Current Resident	13225 Cajalco Road Perris, CA 92570
Current Resident	13245 Cajalco Road Perris, CA 92570
Current Resident	20789 Hollis Drive Perris, CA 92570
Current Resident	20801 Hollis Drive Perris, CA 92570
Current Resident	20823 Hollis Drive Perris, CA 92570

Current Resident	20835 Hollis Drive Perris, CA 92570
Current Resident	13387 High Res Way Perris, CA 92570
Current Resident	13395 High Res Way Perris, CA 92570
Current Resident	20822 Hollis Drive Perris, CA 92570
Current Resident	20792 Hollis Drive Perris, CA 92570
Current Resident	20776 Hollis Drive Perris, CA 92570
Current Resident	20760 Hollis Drive Perris, CA 92570
Current Resident	13703 J J Lane Perris, CA 92570
Current Resident	13735 J J Lane Perris, CA 92570
Current Resident	14185 Grande Vista Avenue Perris, CA 92570
Current Resident	14176 Grande Vista Avenue Perris, CA 92570
Current Resident	14151 Eagle View Road Perris, CA 92570
Current Resident	13880 Richey Way Perris, CA 92570
Current Resident	21023 Lake Mathews Drive Perris, CA 92570
Current Resident	23563 Arculeo Road Perris, CA 92570
Current Resident	20960 Lakeridge Drive Perris, CA 92570
Current Resident	20880 Lakeridge Drive Perris, CA 92570
Current Resident	20800 Lakeridge Drive Perris, CA 92570
Current Resident	20777 Lakeridge Drive Perris, CA 92570
Current Resident	20707 Lakeridge Drive Perris, CA 92570
Current Resident	14810 Wendell Park Drive Perris, CA 92570
Current Resident	15445 Shelton Road Perris, CA 92570
Current Resident	15455 Shelton Road Perris, CA 92570
Current Resident	15480 Shelton Road Perris, CA 92570
Current Resident	15425 Shelton Road Perris, CA 92570
Current Resident	15450 Shelton Road Perris, CA 92570

Current Resident	15485 Shelton Road Perris, CA 92570
Current Resident	15434 Shelton Road Perris, CA 92570
Current Resident	15435 Shelton Road Perris, CA 92570
Current Resident	15421 Shelton Road Perris, CA 92570
Business Owner Or Occupant	23325 Cajalco Road Perris, CA 92570
Business Owner Or Occupant	19248a Harvill Avenue Perris, CA 92570
Business Owner Or Occupant	19248b Harvill Avenue Perris, CA 92570
Business Owner Or Occupant	19248c Harvill Avenue Perris, CA 92570
Business Owner Or Occupant	23261 Cajalco Road Perris, CA 92570
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Current Resident	19202 Spring Rock Court Perris, CA 92570
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Business Owner Or Occupant	17679 Cajalco Road Ste A Perris, CA 92570
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Business Owner Or Occupant	2650 Tuscany Street Corona, CA 92881
Business Owner Or Occupant	3347 Grand Oaks Corona, CA 92881
Business Owner Or Occupant	3431 Grand Oaks Ste 102 Corona, CA 92881
Business Owner Or Occupant	3431 Grand Oaks Ste 101 Corona, CA 92881
Business Owner Or Occupant	3515 Grand Oaks Corona, CA 92881
Business Owner Or Occupant	3579 Grand Oaks Corona, CA 92881
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Business Owner Or Occupant	3580 Grand Oaks Ste 101 Corona, CA 92881
Business Owner Or Occupant	3580 Grand Oaks Ste 107 Corona, CA 92881
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Business Owner Or Occupant	3665 Grand Oaks Ste 101 Corona, CA 92881
Business Owner Or Occupant	3665 Grand Oaks Ste 102 Corona, CA 92881
Business Owner Or Occupant	3665 Grand Oaks Ste 103 Corona, CA 92881
Business Owner Or Occupant	9001 Cajalco Road Corona, CA 92881
Current Resident	11263 Farley Avenue Corona, CA 92881
Current Resident	11253 Farley Avenue Corona, CA 92881
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Business Owner Or Occupant	3700 Temescal Canyon Road Corona, CA 92883
Current Resident	2945 Breezy Meadow Circle Corona, CA 92883
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Current Resident	2933 Breezy Meadow Circle Corona, CA 92883
Current Resident	2939 Breezy Meadow Circle Corona, CA 92883

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Business Owner Or Occupant	3745 Temescal Canyon Road Corona, CA 92883
Business Owner Or Occupant	3725 Temescal Canyon Road Corona, CA 92883
Current Resident	16727 Pienza Court Riverside, CA 92503
Current Resident	16740 Pienza Court Riverside, CA 92503
Current Resident	16751 Pienza Court Riverside, CA 92503
Current Resident	16764 Pienza Court Riverside, CA 92503
Current Resident	16775 Pienza Court Riverside, CA 92503

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