Railroad Avenue Bridge Replacement Project

Natural Environment Study

(Minimal Impacts)

Including Focused Studies for Special Status Species and a Delineation of Federal and State Jurisdictional Water Resources

Unincorporated Riverside County, California

08-RIV-over Fornat Wash (Bridge No. 56C0099; BRLO-5956-[228])
and East Channel Stubbe Wash (Bridge No. 56C0101; BRLO-5956-[229])

February 2020

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February 2020

STATE OF CALIFORNIA
Department of Transportation
Riverside County Transportation Department

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Summary

The County of Riverside (County), in cooperation with California Department of Transportation (Caltrans), is proposing to replace the Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101) on Railroad Avenue. These bridges have been identified as scour critical and structurally deficient bridges along Railroad Avenue near Whitewater in Riverside County, California. The County proposes replacing the existing two 2-lane timber bridges along Railroad Avenue with new 2-lane modern single span bridges with a curb-to-curb roadway width of 32 feet at the same locations. Modern traffic barriers/railings meeting current Caltrans safety design standards would also be constructed.

The project is a covered activity under the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) Volume I, Section 7.3.1.1.

The project was evaluated for over 136 special-status plant and wildlife species. Appendix C provides an analysis of all special-status species with potential to occur. Focused surveys were performed for desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), rare plants, and special-status bats. None of these species were found during focused studies. In addition, a jurisdictional delineation for federal and state waters and streambeds was conducted.

Creosote bush scrub is the only sensitive natural community present within the biological study area (BSA) of Fornat Wash Bridge (#56C0099). The sensitive community within the BSA of East Channel Stubbe Wash Bridge is desert willow-smoketree wash woodland. However, these communities occur outside of the limits of disturbance (LOD). These communities are associated with the CVMSHCP Conservation Area south of the UPRR ROW.

Only one special-status species, loggerhead shrike (*Lanius ludovicianus*; California Species of Special Concern [SSC]), was observed foraging within the BSA of both bridges. No nesting habitat would be affected. No other special-status species were found during focused studies. No federally designated critical habitat is present in the BSAs.

The Fornat Wash Bridge replacement would permanently impact 0.018 acre (144 LF) and temporarily impact 0.118 acre (150 LF) of non-wetland waters of the U.S./State. No federally jurisdictional wetlands would be affected. In addition, permanent impacts would occur on 0.044 acre (144 LF) of CDFW unvegetated streambed, and temporary impacts on 0.062 acre (150 LF) of CDFW unvegetated streambed and 0.003 acre of CDFW riparian.

The East Channel Stubbe Wash Bridge replacement would permanently impact 0.029 acre (125 LF) and temporarily impact 0.136 acre (162 LF) of non-wetland waters of the U.S./State. No federally jurisdictional wetlands would be affected. Permanent impacts would occur on 0.038 acre (125 LF) of CDFW unvegetated streambed, and temporary

impacts on 0.098 acre (162 LF) of CDFW unvegetated streambed. No impacts on CDFW riparian vegetated areas would be affected.

Caltrans has determined, in accordance with Section 7 of FESA, that the proposed replacement of Fornat Wash Bridge and East Channel Stubbe Wash Bridge will have "no effect" on desert tortoise due to the species absence during focused studies. Caltrans has also determined that the replacement of Fornat Wash Bridge will have "no effect" on Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, Coachella Valley fringe-toed lizard, arroyo toad, Coachella Valley milkvetch, slender-horned spineflower, and triple-ribbed milkvetch because these species are absent from the BSA.

The measures provided in Chapter 4 would ensure potential indirect impacts on the Conservation Areas and special-status species that may occur adjacent to the LOD would be avoided and/or minimized.

Table S-1 summarizes the biological resources potentially affected by the proposed project and that require avoidance, minimization, and mitigation measures.

Table S-1. Biological Resources Potentially Affected and Associated Avoidance, Minimization, and Mitigation Measures

Biological Resource	Avoidance/Minimization Measure	Compensatory Mitigation
Natural Communities	**BIO-1** (Temporary Construction Areas within Washes) and **BIO-2** (Best Management Practices)	n/a
Biological Corridors	**BIO-1** (Temporary Construction Areas within Washes) and **BIO-2** (Best Management Practices), and **BIO-3 (**Biological Monitor)	n/a
Waters of the United States/Waters of the State	**BIO-2** (Best Management Practices)	**BIO-4** (Mitigation for Replacement/Restoration of Jurisdictional Waters)
State Streambeds	**BIO-1** and **BIO-2** (Best Management Practices)	**BIO-4** (Mitigation for Replacement/Restoration of Jurisdictional Waters)
Desert Tortoise	**BIO-3** (Biological Monitor), **BIO-5** (Presence/Absence Desert Tortoise Survey), and **BIO-6** (Worker Environmental Awareness Program Training)	n/a
Burrowing Owl	**BIO-7** (Preconstruction Burrowing Owl Survey)	n/a
Special-status Bats	**BIO-8** (Preconstruction Bat Survey and Exclusion)	n/a
Special-status Mammals	**BIO-2** – (Best Management Practices)	n/a
Migratory Birds	**BIO-9** (Preconstruction Survey for Nesting Birds)	n/a

Permits, reviews, and approvals necessary for the proposed project are listed and described in Table S-2.

Table S-2. Permits and Approvals

Agency	Permit/Approval	Status
California Department of Fish and Wildlife	1602 Lake and Streambed Alteration Agreement	Application to be submitted following adoption of the CEQA document
	CVMSHCP Covered Activity (Volume I, Section 7.3.1.1-O&M)	CVMSHCP consistency analysis (refer to Section 5.9) to provide supporting documentation in the CEQA document.
Regional Water Quality Control Board (RWQCB)	CWA Section 401 Water Quality Certification	Application to be submitted following adoption of the CEQA document
U.S. Army Corps of Engineers (USACE)	CWA Section 404 Nationwide Permits	Application to be submitted following adoption of the CEQA document
U.S. Fish and Wildlife Service (USFWS)	CVMSHCP Covered Activity (Volume I, Section 7.3.1.1-O&M)	CVMSHCP consistency analysis (refer to Section 5.9) to provide supporting documentation in the CEQA document.

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List of Abbreviated Terms

ADT	average daily traffic
BMP	Best Management Practices
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFGC	California Fish and Game Code
CFP	California Fully Protected
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CVMSHCP	Coachella Valley Multiple Species Habitat Conservation Plan
CWA	Clear Water Act
East Channel Stubbe Wash Bridge (#56C0101)	Railroad Avenue Bridge over East Channel Stubbe Wash
EBL	Eligible Bridge List
FESA	Endangered Species Act of 1973
Fornat Wash Bridge (#56C0099)	Railroad Avenue Bridge over Fornat Wash
GPS	Global Positioning System
I-10	Interstate 10
IPaC	Information, Planning, and Conservation
JD	jurisdictional delineation
JPR	Joint Project Review
JSA	study area
LOD	limits of disturbance
MBTA	Migratory Bird Treaty Act
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA Fisheries	National Marine Fisheries Service
NWP	Nationwide Permit
POA	Plan of Action
ROW	right of way
SD	Structurally Deficient
SR	Sufficiency Rating

SSC	Species of Special Concern
TCE	temporary construction easement
TMP	Traffic Management Plan
UPRR	Union Pacific Railroad
USFWS	U.S. Fish and Wildlife Service
ZOI	Zone of Influence

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Chapter 1 Introduction

1.1 History

The two existing bridges along Railroad Avenue, constructed in 1934 and widened in 1948, are timber bridges supported on timber cap beams at the bents and abutment seats all on timber pile columns. Current bridge inspection reports prepared by Caltrans in September 2019 determined the two bridges have a low sufficiency ratings. The low sufficiency rating of the proposed bridges is caused by a low superstructure rating, which is caused by visible structural section loss due to decay, splitting, and cracking of the timber stringers. Based on the bridge scour Plan of Action (POA) report submitted to Caltrans by the County in August 2013, extensive scour at the footings has jeopardized the structural stability of the structure, warranting a full bridge replacement.

1.1.1 Project Purpose and Need

Railroad Avenue is an approximately 5-mile stretch of road that runs parallel to Interstate 10 (I-10) and the Union Pacific Railroad (UPRR). It connects the Haugen-Lehmann Way and I-10 at the east end and Main Street and I-10 at the west end. It mostly serves the sparsely populated Cabazon community. The average daily traffic (ADT) volume is approximately 211 vehicles. Periodically, the road carries detoured traffic from the heavily traveled I-10 when the freeway is temporarily closed for construction or emergency incidents. The road also serves as an access route for UPRR and utility maintenance crews. Therefore, it is important to maintain this frontage road in sound condition at all times.

The bridges (Bridge #56C0099 and #56C0101) are listed in the federal Eligible Bridge List (EBL) as "Structurally Deficient (SD)" with a low Sufficiency Rating (SR) between 59.1 and 62.9. A sufficiency rating is essentially an overall rating of a bridge's fitness for the duty that it performs. The rating is based on a bridge's structural evaluation, functional/geometric obsolescence, and its essentiality to the public. A low sufficiency rating may be due to structural defects, narrow lanes, low vertical clearance, or any of many possible issues. A bridge is healthy when its SR is more than 80.0. Bridges with SR equal to or less than 80.0 and more than 50.0 require rehabilitation or widening. When the SR falls less than 50.0, bridge replacement shall be considered for public safety. Although the Railroad Avenue bridges carry a status flag of SD with SR ratings between 50 and 80 (qualifying for major rehabilitation), it was determined that the bridges are well beyond their 50-year service life and it would be more cost-efficient to replace the bridges. Additionally, a scour POA was performed on the bridges by the County in 2013. The POA recommended total replacement of the bridges as the most cost-effective option due to the extent of the scour, structural instability, and deterioration of various timber bridge elements.

1.2 Project Description

The County of Riverside (County), in cooperation with California Department of Transportation (Caltrans), is proposing to replace the following two (2) existing scour critical and structurally deficient bridges along Railroad Avenue near Whitewater in Riverside County, California:

- Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099) (Federal Aid Project No. BRLO-5956 (228) BRLO-5956 (2286) (hereafter referred to as Fornat Wash Bridge (#56C0099))
- Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101) (Federal Aid Project No. BRLO-5956 (229) (hereafter referred to as East Channel Stubbe Wash Bridge (#56C0101)

The existing timber bridges carry two lanes (one lane in each direction) of traffic over Fornat and East Channel Stubbe Washes. The timber bridges are approximately 59 feet long and 32 feet wide from curb-to-curb. The County proposes replacing the existing two 2-lane timber bridges along Railroad Avenue with new 2-lane modern bridges with a curb-to-curb roadway width of 32 feet at the same locations. The bridge locations are depicted in Appendix A, Figures 1 and 2. The project design is show in Figure 3.

The proposed project would replace the existing 2-lane timber bridges with new 2-lane modern bridges. The proposed road width would consist of two, 12-foot-wide travel lanes, one lane in each direction, and a 4-foot-wide shoulder on each side. Modern traffic barriers/railings meeting current Caltrans safety design standards would be constructed. The proposed bridges would be approximately 60 feet long depending on the channel hydraulic capacity and water surface freeboard requirements. Potentially the elevation of Fornat Wash Bridge (#56C0099) may increase, but by no more than two feet to meet freeboard requirements. The East Channel Stubbe Wash Bridge (#56C0101) elevation would remain the same. Additionally, approach roadway improvements would be provided, and channel improvements would be administered to avoid future scour problems[1]. It is envisioned that the channel bottom will remain earthen.

Existing underground utilities along the north side of Railroad Avenue and suspended utilities (a 4-inch gas line and a telephone line) along the north side of the East Channel Stubbe Wash Bridge would be affected by construction and may require relocation.

All construction activities would be conducted within the existing roadway right of way with construction staging and material laydown areas on the roadway itself. Railroad Avenue between the two bridges to be replaced would be closed to continuous traffic during construction. The construction duration will be further determined during the project development. It is envisioned that the two bridges will be constructed one at a time to allow access to UPRR facilities and adjacent utilities from the Haugen-Lehmann Way/I-10 Interchange or the Main Street/I-10 Interchange. A Traffic Management Plan

[1] Channel improvements may include installation of riprap on the slopes and buried riprap covered by native sediment within portions of the earthen bottom.

(TMP) would be prepared to address closure of the road and access to local utilities and properties.

The proposed construction would require a temporary construction easement (TCE) from UPRR for access to the channel bottoms. However, construction activities are expected to stay at least 50 feet from the live rail tracks to eliminate any effects on railroad operations. The Railroad Avenue bridges abut adjacent State Bridges (Br. No. 56-166 and Br. No. 56-168) that carry I-10 traffic over the same washes. Structural modifications to the State Bridges are not anticipated; however, this will be evaluated during design. An encroachment permit from Caltrans District 8 would be obtained prior to construction.

The project is located within the Whitewater, California USGS 7.5-minute quadrangle:

- Fornat Wash Bridge (#56C0099): Section 11 & 12 of Township 35, Range 2 E
- East Channel Stubbe Wash Bridge (#56C0101): Section 8 of Township 35, Range 3 E

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Chapter 2 Study Methods

This section summarizes the regulatory requirements relevant to the proposed project for protecting biological resources and discusses the study methods that were used to evaluate the Biological Study Area (BSA) (Appendix A, Figure 4). The studies required for the proposed project included an initial field reconnaissance and habitat evaluation for special-status species; a delineation of jurisdictional waters, wetlands, and streambeds; and focused surveys for those special-status species with a reasonable potential to occur in the BSA, including special-status plants, burrowing owl (*Athene cunicularia;* California Department of Fish and Wildlife [CDFW] Species of Special Concern [SSC]), desert tortoise (*Gopherus agassizii,* state and federally listed threatened), and special-status bats.

The following subsections provide the basis for these studies and the methods used.

2.1 Regulatory Requirements

Relevant federal, state, and local laws and regulations to protect and/or manage biological resources are as follows.

2.1.1 Federal

- Endangered Species Act of 1973 ([FESA] including designated USFWS critical habitat for listed species)
- Federal Water Pollution Control Act (Clear Water Act [CWA] Sections 401 and 404)
- Migratory Bird Treaty Act (MBTA)
- Executive Order 13112, Invasive Species
- National Environmental Policy Act (NEPA) of 1969

1.1.1 State

- California Environmental Quality Act (CEQA)
- California Department of Transportation, Standard Environmental Reference, Volume 3, Biological Resources
- California Endangered Species Act (CESA)
- California Native Plant Protection Act
- California Fish and Game Code (CFGC), including codes for the state Endangered Species Act (Sections 2080.1 and 2081[b]), those related to the federal MBTA (Sections 3503, 3503.5, 3505, 3800, 3801.6), and those for Lake or Streambed Alteration Agreements (Section 1600 et. Seq.)

- Porter-Cologne Water Quality Act (coordinated with CWA Section 401)

2.1.2 Local

The project sites occur within conservation areas of the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP) (CVAG 2007) and are covered activities under Section 7.3.1. The eastern portion of the BSA at Fornat Wash Bridge (#56C0099) occurs within tribal lands for the Morongo Band of Mission Indians (Tribe). Project activities within these tribal lands are not covered under the CVMSHCP. However, all work proposed will be limited to light grading and staging within the existing paved roadway. Based on coordination with the Tribe, no additional coordination for biological resources is necessary (refer to Section 2.2.6 for a summary of coordination).

2.2 Studies Required

A reconnaissance-level biological study and delineation of jurisdictional waters and streambeds was necessary to satisfy federal, state, and local regulatory requirements. Based on the literature search (Section 2.2.1) and field review (Section 2.2.2) described below, habitat assessments and/or focused studies for the following biological and/or aquatic resources were necessary: burrowing owl, special-status plants, special-status bats, desert tortoise, and jurisdictional waters.

2.2.1 Literature Search

Relevant reference literature and natural resource databases were reviewed for potentially occurring plant and animal species and natural vegetation communities with special regulatory or management status with a reasonable potential to occur within the BSA. This evaluation included a review of the California Natural Diversity Database (CNDDB) (CDFW 2017, 2019), the current CDFW Natural Diversity Database Special Animals List (CDFW 2018a), the current CDFW Endangered, Threatened, and Rare Plants List (CDFW 2017, 2019), California Native Plant Society (CNPS), Sawyer et al. (2019), U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Conservation (IPaC) (USFW 2019) decision support system, and USFWS National Wetlands Inventory (USFWS 2017). A search of the CNDDB (CDFW 2019) and California Native Plant Society (CNPS 2019) was performed September 23, 2019, for the U.S. Geological Survey 7.5-minute topographic Whitewater quadrangle map (U.S. Geological Survey 1967) on which the project is located and the eight surrounding quadrangles (Cabazon, San Gorgonio Mountain, Catclaw Flat, Morongo Valley, Desert Hot Springs, Palm Springs, San Jacinto Peak, and Lake Fulmor). The results of the database search were used to generate a list of special status species and natural vegetation communities potentially occurring in the vicinity of the BSA. An official USFWS species list was obtained on January 27, 2020 (refer to Appendix B). The project occurs outside of the National Marine Fisheries Service (NOAA Fisheries) jurisdiction; therefore, no NOAA

Fisheries species list was acquired. Determinations for likelihood of occurrence were based on presence or suitable habitat, soils, quality of habitat, geographic range, elevation, and species-specific tolerances to disturbances within the BSAs. A complete list of the special status species evaluated for the project is provided in Appendix C.

2.2.2 Field Reviews

Prior to field visits, Google Earth imagery (dated from April 30, 2017 through August 26, 2019) was carefully reviewed at various scales, and a 200-foot-scale (1 inch = 200 feet) aerial photograph of the BSA was obtained. Areas of potential concern were marked on field maps and later investigated in the field.

2.2.3 Survey Methods

A reconnaissance survey of the BSA was performed and the BSA was reviewed for potential sensitive biological and aquatic resources, including general habitat assessments for plant and animals, and natural communities, where access was permitted. Vegetation communities were mapped on an iPad with integrated aerial-base imagery. Areas not legally accessible along the UPRR or Caltrans ROW were inspected with binoculars from adjacent areas.

Common plant species observed in the field were identified by visual characteristics and morphology. Taxonomic nomenclature for plants follows the Jepson Manual: Vascular Plants of California (Baldwin et al. 2012). All plant and animal species observed or detected through sign (i.e., tracks, scat, etc.) were recorded in field notes and are listed in Appendix D. Site photographs of existing conditions are documented in Appendix E. Vegetation communities in the study area were mapped using the California Manual of Vegetation (Sawyer, Keeler-Wolfe, and Evans 2009).

Rare Plant Surveys

A habitat assessment was conducted in May 2017, followed by a special-status plant focused survey with site visits in May, July, and October 2017 in suitable habitat of the BSA. The Guidelines for Conducting and Reporting Botanical Inventories (USFWS 2000) was followed.To ensure each target special-status species was detected during the blooming period, the survey was performed during different survey windows (spring, summer, and fall season) to increase detection of each species. In addition, reference populations were visited to determine whether known populations of target species were in bloom during the survey windows. Several special-status plants were determined to have a potential to occur and the list of these species is included in Appendix C. Vascular plants were identified to genus and species. A complete list of all species observed was recorded in field notes.

Burrowing Owl Surveys

The habitat assessment and focused survey for burrowing owl followed the protocol outlined in the CDFG March 7, 2012, Staff Report on Burrowing Owl Mitigation (CDFG 2012). The habitat evaluation was performed at a cursory level to identify potential habitat at a broad landscape-level with the work performed during the initial reconnaissance survey. The Burrowing Owl Study Area consisted of a 500-ft buffer around the limits of disturbance (LOD), with physical access occurring only within the BSA (300-ft buffer) and a visual (only) assessment with binoculars occurring within an additional 200-foot buffer area due to access restrictions outside of the BSA. Open lands that were sparsely vegetated were considered potentially suitable habitat including potentially suitable burrows that could be used by burrowing owls. All potential burrows were mapped on an aerial map and recorded via Global Positioning System (GPS) using the ArcCollector application on an iPad with Trimble ProXT sub-meter receiver.

Once the habitat evaluation was completed, a focused survey was initiated. The focused survey consisting of four separate site visits spaced at intervals during the protocol survey window from February 15 to July 15. Based on the protocol, the first survey was conducted at each site between February 15th and April 15th, with additional site visits between April 15th and July 15th, all spaced at least three weeks apart, with the last site visit occurring after June 15th. The focused survey was performed within all suitable habitat areas during weather conditions optimal for detecting burrowing owl. Surveys occurred between morning civil twilight to 10:00 am or two hours before sunset until evening civil twilight. The surveys consisted of a pedestrian survey using line transects spaced generally at 30 feet apart within the BSA, adjusting for vegetation height and density. Binoculars were then used to scan all visible areas within the remainder of the Burrowing Owl Study Area (an additional 200-ft buffer area). All burrowing owls or burrowing owl burrows (i.e., burrows with the presence of one or more burrowing owls, pellets, prey remains, whitewash or decoration), or potential burrows that would be suitable for the species were recorded with GPS.

Desert Tortoise Surveys

The focused survey for desert tortoise was performed in May 2017 and followed the USFWS Guidance (USFWS 2010)[2]. A pedestrian survey was conducted throughout the LOD to ensure a 100 percent coverage survey of the LOD. Additional Zone of Influence (ZOI) transects were established at 200, 400, and 600 meter intervals from the perimeter of the project site and surveyed, where legally accessible. All desert tortoise sign (scat, burrows, carcasses) observed were recorded using the USFWS 2010 Desert Tortoise Pre-Project Survey Data Sheets (Appendix F). To ensure the focused surveys are current, the desert tortoise focused survey was repeated in 2019, and followed the most recent USFWS Guidance (USFWS 2018) using the *Small Project Survey* method. A pedestrian

[2] The Desert Tortoise (Mojave Population) Field Manual (*Gopherus agassizii*) (USFWS 2009) was the survey protocol at the time of the 2017 field surveys. The USFWS survey protocol was updated in 2018 and was used for the 2019 surveys.

survey of the BSA was performed and spaced approximately 30-feet apart to allow for 100 percent coverage of the ground surface.

Bat Surveys

A habitat assessment was performed in June 2017 to evaluate the presence of potential bat roosts within the BSA of each bridge. Each bridge was closely reviewed for potential structures and conditions suitable for bat roosts. In July 2017, the focused emergence survey for colonial bats was performed by visually observing bridges at dusk when bats would be emerging from their roosts and foraging. Bat echolocation calls were recorded using Anabat Bat Detection System and analyzed using Sonobat software to identify the bat species in the vicinity of the bridges.

2.2.4 Jurisdictional Delineation

A delineation of federal and state jurisdictional aquatic resources was conducted within the JSA (LOD plus a 100-ft buffer) in March 2019. All potentially jurisdictional aquatic resources were mapped in the field using the ArcCollector application on an iPad and a Trimble ProXT receiver, providing sub-meter accuracy. Due to revisions of the LOD in July 2019 (see limitations below), the study area was expanded and a desktop jurisdictional delineation was performed of a single feature within the western end of Fornat Wash based on review of aerial imagery and Google Earth Pro (2019) Street View application. The complete methodology for the jurisdictional delineation is provided in Appendix G, Jurisdictional Delineation Report.

2.2.5 Personal Survey Dates

Fieldwork was performed from April through October 2017 and February through May 2019. A list of the personnel performing surveys and their qualifications is provided in Appendix H, Table H-1. Survey dates, site conditions, and personnel are provided in Appendix H, Table H-2, and H-3.

2.2.6 Agency Coordination and Professional Contacts

An official USFWS species list was generated for the proposed project on March 18, 2019, and was updated on January 27, 2020 (Appendix B). No additional coordination with the resource agencies has occurred to date.

Marisa Flores (ICF) initially contacted Jim Sullivan (Coachella Valley Associate Governments [CVAG]) via email on April 16, 2019 to determine whether the Covered Activity would be considered Operations and Maintenance and would be exempt from the CVMSHCP Joint Project Review (JPR). Mr. Sullivan (CVAG) confirmed the project would not be required to go through the JPR (Jim Sullivan, personal communication, September 18, 2019) (refer to Appendix B).

Mary Zambon (RCTD) contacted Karen Woodard (Morongo Band of Mission Indians) via email on September 20, 2019, to determine whether the eastern portion of the project staging area at Fornat Wash Bridge (#56C099) occurs within tribal lands. Maps obtained from the Tribe showed these tribal lands overlap with the BSA. A list of species of concern by the Tribe was provided to Marisa Flores (ICF) and included triple-ribbed milkvetch, Coachella Valley fringed-toed lizard, desert tortoise, and burrowing owl. Refer to Section 5.8 for further details.

2.2.7 Limitations That May Influence Results

The LOD of the proposed project sites were not available at the time of the 2017 biological resource studies. Therefore, the study areas for the 2017 focused studies were based on the boundaries of the existing Railroad Avenue bridges over Fornat Wash (Bridge #56C0099) and East Channel Stubbe Wash (Bridge #56C0101) and the respective survey buffers. The BSAs were surveyed to the extent feasible, as some portions were located on private property. The LOD was obtained in 2019, with portions of the LOD extending east and west of the original study areas at each bridge. The areas east and west of the original study areas will be used for project staging and are restricted to the existing ROW of Railroad Avenue which is already routinely disturbed by vehicles accessing the roadway and County maintenance of the ROW. Subsequently, the BSA was extended along the ROW in both directions. Currently, the ROW is frequently accessed and there is no suitable habitat for sensitive biological resources within the ROW, therefore it was determined that no new surveys would be necessary within the extended BSA. The extended BSA is not expected to be a constraint.

Precipitation during the rainy season of late 2016 and early 2017 which preceded the field surveys was well above average and provided optimal conditions for plant growth and food abundance for wildlife. Since 2017 surveys occurred during optimal weather/precipitation conditions and were timed during the period where special-status species would have been detectable, it was determined that focused studies for rare plants, burrowing owl, and bats would not need to be repeated. Therefore, the time since focused studies were performed is not deemed a limitation that would influence the results in this report. The exception to this was focused surveys for desert tortoise, which were repeated using the current 2018 USFWS protocol to ensure surveys remain valid.

Chapter 3 Results: Environmental Setting

The biological and physical conditions within the BSA of the Railroad Avenue Bridges over Fornat Wash (#56C0099) and East Channel Stubbe Wash (#56C0101) have similar physical and biological conditions, with some slight variances. The flora, fauna, and physical conditions of the project sites are typical of the Mojave Desert. The bridges occur on Railroad Avenue and parallel the south side of I-10 and the north side of the UPRR. This section details the physical and biological conditions at each bridge location.

The proposed project sites occur within the boundaries of the CVMSHCP in the Cabazon Conservation Area (Fornat Wash Bridge #56C0099) and the Snow Creek/Windy Point Conservation Area (East Channel Stubbe Wash Bridge # 56C0101) (Appendix A, Figure 5). The project sites are considered covered activities under Section 7.3.1 since they occur within Conservation Areas. A small portion of the BSA for the Railroad Avenue Bridge over Fornat Wash (#56C0099) occurs outside of the Plan Area within Tribe's lands; however the existing paved roadway and County right-of-way does not provide habitat for special-status species, therefore no additional approvals for biological resources would be necessary for the temporary impacts within the Tribes lands.

3.1 Description of the Existing Biological and Physical Conditions

3.1.1 Study Area

The study areas used during the 2017 field studies were based on the existing bridge and a 300-foot buffer because the LOD was not available at the time. In 2019, the project engineers developed the LOD and the final BSA was extended east and west to ensure that it encompassed the entire LOD (Appendix A, Figure 4). The jurisdictional delineation (JD) study area (JSA) includes the limits of disturbance (LOD) plus a 100-foot buffer. The BSA and JSA were developed to ensure that they encompass any changes to the project design.

3.1.2 Physical Conditions

Fornat Wash Bridge (#56C0099)

The Fornat Wash Bridge BSA is located in the San Gorgonio Pass of Morongo Valley within an unincorporated area of Riverside County. General topography of the landscape slopes gently from northwest to southeast. Elevation of the BSA ranges from approximately 1,542 to 1,559 feet above mean sea level. Fornat Wash Bridge is a timber bridge that is approximately 4 feet high, 36 feet wide, and 60 feet long.

Existing land uses are comprised of open space areas to the north and south of bridge with the I-10, UPRR, and local county roads intersecting the open space areas. The LOD occurs within the County road ROW and UPRR ROW. There are low levels of human disturbance, primarily consisting of maintenance activities within the Caltrans, County, and UPRR ROWs. Representative photographs of the BSA can be found in Appendix E.

Soils mapped within the BSA consist of stony and gravelly loamy sands and fine sands. The soils series are Gorgonio gravelly loamy fine sand, Soboba stony loamy sand, Tujunga gravelly loamy sand (USDA/NRCS 2019). Refer to Appendix A, Figure 6, for a map of the soils within the BSA.

Fornat Wash is a tributary of the San Gorgonio River and conveys flows through the San Gorgonio Pass via alluvial deposits between the San Bernardino Mountains and Whitewater River south of the study area. Within the BSA, Fornat Wash is an ephemeral sandy flood control channel (Appendix G).

East Channel Stubbe Wash Bridge (#56C0101)

The BSA of this bridge is located in the San Gorgonio Pass of Morongo Valley within an unincorporated area of Riverside County. General topography of the landscape slopes gently from northwest to southeast. Elevation of the BSA ranges from approximately 1,340 to 1,360 feet above mean sea level. East Channel Stubbe Wash Bridge is a timber bridge that is approximately 25 feet high, 36 feet wide, and 56 feet long.

Existing land uses are comprised of open space areas to the north and south of bridge with the I-10, UPRR, and local county roads intersecting the open space areas. In addition, East Channel Stubbe Wash is part of the Pacific Crest Trail system and is used by hikers and equestrians. There is no statistical data available for frequency of trail use (Pacific Crest Trail Association 2019) through the BSA. Furthermore, full-sized vehicles cross through East Channel Stubbe Wash for access to utilities or maintenance of surrounding infrastructures.

Soils mapped within the BSA consist of fine sands to gravelly loamy sands. The soils series are Carsitas gravelly sand, Myoma fine sand, Tujunga gravelly loamy sand, and riverwash (USDA/NRCS 2019). Refer to Appendix A, Figure 6, for a map of the soils within the BSA.

Stubbe Wash is a tributary of the San Gorgonio River and conveys flows through the San Gorgonio Pass via alluvial deposits between the San Bernardino Mountains and Whitewater River south of the study area. Stubbe Wash splits into west and east channels where it crosses under I-10, Railroad Avenue, and UPRR. Within the BSA, East Channel Stubbe Wash is an ephemeral sandy flood control channel (Appendix G).

3.1.3 Biological Conditions in the Study Area

The biological conditions within the BSAs of the proposed project sites include the vegetation communities, plants, animals, and hydrologic conditions. The jurisdictional delineation report provides additional details for the hydrologic conditions within the BSAs (Appendix G).

The vegetation communities/land use types identified within the BSAs include: narrowleaf goldenbush – bladderpod scrub; creosote bush scrub – brittlebush scrub; disturbed creosote bush – brittlebush scrub; brittlebush scrub; disturbed brittlebush scrub; desert willow – smoketree wash woodland; creosote bush scrub; desert wash; ruderal; and developed/disturbed. These communities are described below:

Narrowleaf Goldenbush – Bladderpod Scrub (*Ericameria linearifolia - Cleome isomeris* Shrubland Alliance*)* is typically dominated by narrowleaf goldenbush (*Ericameria linearifolia*), bladderpod (*Cleome isomeris*) and yellow mock aster (*Eastwoodia elegans*) in the shrub canopy. Other species often found in this community are California buckwheat (*Eriogonum fasciculatum*), golden yarrow (*Eriophyllum confertiflorum*), ephedra (*Ephedra confertiflorum*), winterfat (*Krascheninnikovia lanata*), and may also include emergent trees such as, juniper (*Juniperus californica*) at lower cover. Within the Fornat Wash Bridge (#56C0099) BSA, this community occurs north of I-10 and is dominated by narrowleaf goldenbush and coyote brush (*Baccharis pilularis*). Other species observed were brittlebush (*Encelia farinosa*), telegraph weed (*Heterotheca grandiflora*), and non-native grasses, including ripgut brome (*Bromus diandrus*), Mediterranean grass (*Schismus* sp.), and slender wild oat (*Avena barbata*). The community has been disturbed by maintenance of the Caltrans and County ROW and off-road vehicles.

The **Creosote Bush Scrub (*Larrea tridentata* Shrubland Alliance)** vegetation community is characteristically dominated by creosote bush (*Larrea tridentata*) but may also include other shrubs such as burroweed (*Ambrosia dumosa*), cheesebush (*Ambrosia. salsola*)**,** shadscale (*Atriplex confertifolia*), brickellbush (*Brickellia incana*), and brittlebush (*Encelia farinosa*). The community may also include a low cover of emergent trees such as honey mesquite (*Prosopis glandulosa*) and seasonal annuals or perennial grasses. Within the East Channel Stubbe Wash Bridge (#56C0101) BSA, the vegetation community occurs south of the UPRR ROW. The majority of this community just south of the railroad has been heavily disturbed by maintenance activities and off-road vehicles and is therefore classified as Disturbed Creosote Scrub in Table 3-1.

The **Creosote Bush – Brittlebush Scrub *(Larrea tridentata – Encelia farinosa* Shrubland Alliance)** community is a shrub community characteristically dominated by creosote bush (*Larrea tridentata*), brittlebush (*Encelia farinosa*). Other species that can often be found in this scrub community are desert agave (*Agave deserti*), burroweed (*Ambrosia dumosa*), desert holly (*Atriplex hymenelytra*), sweetbush (*Bebbia juncea*), and desert trumpet (*Eriogonum inflatum*). Within the East Channel Stubbe Wash Bridge (#56C0101) BSA, the community consists of scattered creosote bush, brittlebush, burroweed, goldenbush (*Ericameria linearifolia*), ripgut brome

(*Bromus diandrus*), and Mediterranean grass (*Schismus* sp.). The community occurs south of Railroad Avenue. There are portions within both BSAs that contain this vegetation community but are very disturbed due to vehicle access and maintenance from the ROW. These portions are classified as Disturbed Creosote Bush Scrub – Brittlebush Scrub in Table 3-1.

The **Brittlebush Scrub *(Encelia farinosa Shrubland Alliance)*** community characterizes brittlebush (*Encelia farinosa*) as a dominant or co-dominant species in a shrub community. Other plants which often occur within this shrub community are desert agave, California sagebrush (*Artemisia californica*), teddy bear cholla (*Cylindropuntia bigelovii*), California buckwheat (*Eriogonum fasciculatum*), and thickleaf yerba santa (*Eriodictyon crassifolium)*. The Brittlebush Scrub occurs north of Railroad Avenue. The plants found within this community in the East Channel Stubbe Wash Bridge (#56C0101) BSA are brittlebush, goldenbush, California croton (*Croton californicus*), burroweed, jimsonweed (*Datura wrightii*), and non-native grasses, including ripgut brome and Mediterranean grass. A portion of the East Channel Stubbe Wash Bridge (#56C0101) BSA contains the species listed above as well as more weedy and ruderal species due to maintenance activities and ROW vehicle access. These portions are classified as Disturbed Brittlebush Scrub in Table 3-1.

Desert-willow - Smoketree Wash Woodland *(Chilopsis linearis - Psorothamnus spinosus Woodland Alliance)* is described as having an open to intermittent tree canopy and shrub layer dominated by desert willow (*Chilopsis linearis* ssp. *arcuata*) and smoketree (*Psorothamnus spinosus*) (Sawyer et. al. 2009)). Within the East Channel Stubbe Wash Bridge (#56C0101) BSA, this community occurred in the wash and consisted primarily of desert willow, desert broom (*Baccharis sarothroides*), and scattered brittlebush.

Desert Wash vegetation community occurs within Fornat Wash and East Channel Stubbe Wash. The bottoms of the washes are composed of coarse sandy soils and have no vegetation or are sparsely vegetated with species that occur in the scrub vegetation communities described above. Sporadic desert willows were also found in the wash.

Ruderal areas occur adjacent to the existing roadways in the BSAs and are characterized by frequent disturbances. Vegetation consisted of tumble mustard (*Sisymbrium altissimum*), Athel tamarisk (*Tamarix aphylla*), and nonnative grasses.

The **Developed/Disturbed** land use type was designated for the local dirt roads, existing paved roadways, and UPRR ROW that has been disturbed by maintenance activities. Most ROW areas were unvegetated, and the small amount of vegetation that was present was composed of nonnative species, such as tumble mustard and nonnative grasses.

Further details for the biological conditions within the BSA for each bridge is provided below and summarized in Table 3-1.

Table 3-1. Acreages of Natural Vegetation Communities and Land Cover Types within the Railroad Avenue Bridge BSAs

Vegetation Communities/Land Cover Types	Biological Study Areas (BSA) (acres)	
	Fornat Wash Bridge (# 56C0099)	East Channel Stubbe Wash Bridge (#56C0101)
Vegetation Community		
Narrowleaf Goldenbush – Bladderpod Scrub	0.43	0.00
Disturbed Creosote Bush Scrub	1.37	0.00
Creosote Bush – Brittlebush Scrub	0.00	1.44
Disturbed Creosote Bush-Brittlebush Scrub	0.00	0.003
Brittlebush Scrub	0.00	1.68
Disturbed Brittlebush Scrub	0.00	0.40
Desert-willow – Smoketree Wash Woodland	0.00	0.20
Desert Wash	0.62	0.84
Land Cover Type		
Ruderal	1.46	0.42
Developed/Disturbed	5.49	3.96
Total	9.37	8.94

Fornat Wash Bridge (#56C0099)

There are five vegetation communities/land use types in the BSA: narrowleaf goldenbush – bladderpod scrub, disturbed creosote bush scrub, disturbed creosote bush scrub – brittlebush scrub, desert wash, ruderal, and developed/disturbed areas. Figure 7 (Appendix A) illustrates the location of each vegetation community. Table 3-1 summarizes the vegetation communities and land cover types found within the BSA of Fornat Wash Bridge.

Common wildlife species observed within the BSA of Fornat Wash Bridge were black-tailed gnatcatcher (*Polioptila melanura*), common raven (*Corvus corax*), loggerhead shrike (*Lanius ludovicianus*), rock pigeon (*Columba livia*), black-tailed jackrabbit (*Lepus californicus*), zebra-tailed lizard (*Callisaurus draconoides*), and woodrat (*Neotoma* sp.). All of these species are endemic to the region and relatively common.

East Channel Stubbe Wash Bridge (#56C0101)

There were eight vegetation communities/land use types mapped within the BSA of the East Channel Stubbe Wash Bridge. The vegetation communities are brittlebush scrub, disturbed brittlebush scrub, disturbed creosote bush scrub, desert willow-smoketree wash woodland, desert wash, ruderal, and developed/disturbed. Figure 7 (Appendix A) illustrates the location of each vegetation community. Table 3-1 summarizes the vegetation communities and land cover types found within the BSA of East Channel Stubbe Wash Bridge.

The wildlife species observed within the BSA of East Channel Stubbe Wash Bridge were similar to those observed for Fornat Wash Bridge, including black-tailed gnatcatcher, cactus wren, common raven, loggerhead shrike, rock pigeon, black-tailed jackrabbit,

zebra-tailed lizard, and woodrat. All of these species are endemic to the region and relatively common.

3.1.4 Habitat Connectivity

Regionally, the San Gorgonio River and tributaries associated within the river are valuable biological corridors connecting the San Bernardino Mountains and the San Jacinto Mountains. These biological corridors are also identified by the CVMSHCP within the Conservation Area.

Fornat Wash Bridge (#56C0099)

The CVMSHCP (Volume I, Section 4.3.1) identifies Fornat Wash as an important biological corridor serving the Cabazon Conservation Area. Fornat Wash is a tributary of the San Gorgonio River and provides a biological connection between the San Bernardino Mountains to the north and the San Jacinto Mountains to the south. Although most of the habitat for CVMSHCP covered species occurs within the floodplain of the San Gorgonio River, the CVMSHCP does not identify species core habitat within the undercrossing at Fornat Wash Bridge. There are no known studies conducted for wildlife movement within Fornat Wash.

East Channel Stubbe Wash Bridge (#56C0101)

The CVMSHCP (Volume I, Section 4.3.3) identifies Stubbe Wash as an important biological corridor through the Stubbe and Cottonwood Canyons and Snow Creek/Windy Point Conservation Areas, providing a connection between the areas south and north of the I-10. Stubbe Wash is a tributary of the San Gorgonio River. In addition, the biological corridor provides an avenue of sand transport through Stubbe Wash to the Whitewater River floodplain. Due to the large height and opening of the bridges under the UPRR, Railroad Avenue, and I-10, there are movement opportunities for large mammals, such as mule deer (*Odocoileus hemionus*). This biological corridor may connect populations of desert tortoise occurring north of I-10 to desert tortoise found in the San Jacinto Mountains. In addition, the CVMSHCP identifies Core habitat within the Snow Creek/Windy Point Conservation Area for Coachella Valley milkvetch, Coachella Valley Jerusalem cricket, Palm Springs (Coachella Valley) round-tailed ground squirrel, and Palm Springs pocket mouse within the BSA south of the UPRR ROW. Maintaining the biological corridor would provide important genetic connectivity for numerous species.

3.2 Regional Species and Habitats and Natural Communities of Concern

Based on the CNDDB, CNPS, and USFWS IPaC database queries (California Native Plant Society 2019; California Natural Diversity Database 2019; USFWS 2019), of the 136 special-status species evaluated, it was determined that suitable habitat was present

within the BSA for 19 special-status plants and 22 special-status wildlife species. Six natural communities of concern were evaluated for their potential to occur in the vicinity of the BSA and none were present. Twenty-one of the species in the database queries are also fully covered species under the CVMSHCP. The proposed project occurs outside of the jurisdictional boundaries of National Marine Fisheries Service (NMFS). Species natural life history requirements and an analysis of the likelihood of occurrence for all special status species and natural communities of concern potentially occurring in the region are provided in Appendix C.

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Chapter 4 Results: Biological Resources, Discussion of Impacts & Mitigation

This section describes the results of surveys, project impacts, and the avoidance, minimization, and mitigation requirements for those impacts.

The BSAs were evaluated for anticipated direct and indirect effects on biological resources that may result from permanent and temporary impacts associated with construction of the proposed bridge replacements. Permanent impacts include roadway and shoulder improvements, regrading of slopes, bridge footings, and installation of wingwalls, guardrails, and riprap. Temporary impacts would occur during removal of the existing bridges and bridge replacement, staging areas, and light grading or access for vehicles and personnel within the work area needed to construct the proposed project. All temporary impacts would be returned to original conditions once project construction is complete. Figure 8 in Appendix A illustrates the permanent and temporary impact areas identified for the proposed bridge replacements.

The direct effects described in this section are those effects that can be expected from direct removal of resources and disturbances to the land and would occur within the project LODs. Examples of direct impacts include the mortality of animals and plants, temporarily impacted areas, increased noise levels, and permanent loss of habitat. Indirect effects are those effects that give rise to delayed secondary effects and are further removed in time and/or space. Examples of indirect effects include increased levels of environmental toxins, erosion, and sedimentation affecting downstream areas, edge effects, and invasion by nonnative animals and plants, which stresses or alters competition among natives. Indirect effects can increase mortality, reduce productivity, and/or reduce the functions and values of natural open space for native species.

4.1 Habitats and Natural Communities of Special Concern

Natural communities of special concern are classified as sensitive by CDFW because they have restricted ranges, sustain cumulative losses throughout the region, and potentially support a high number of endemic and/or listed plant and wildlife species. Natural communities of special concern are protected vegetation communities with limited distributions that often support special-status plants or wildlife. In some cases, aquatic resources, such as wetlands and/or waters of the United States and waters of the State and associated riparian vegetation are also considered sensitive due to the rapid and regional decline of these resources. The CVMSHCP has also identified Core Habitat, Essential Ecological Processes, and Biological Corridors and Linkages within the BSA which are important for the conservation of covered species within the Conservation Area (refer to Figure 5 in Appendix A).

4.1.1 Discussion of Natural Communities of Concern

Survey Results

As described in Section 3.1.3, there were three natural vegetation communities and land types (narrowleaf goldenbush-bladderpod scrub, creosote bush scrub, desert wash) present within the BSA of the Fornat Wash Bridge (#56C0099) and six natural vegetation communities (creosote bush-brittlebush scrub, disturbed creosote bush-brittlebush scrub, brittlebush scrub, disturbed brittlebush scrub, desert wash, and desert willow-smoketree wash woodland) identified within the BSA of East Channel Stubbe Wash Bridge. In addition, ruderal and developed/disturbed areas were present within the BSA of both project sites.

The CVMSHCP has identified creosote bush scrub as a conserved natural community within the Cabazon and Snow Creek/Windy Point Conservation Areas (Volume I, Section 4.3.1 and 4.3.3). In addition, the desert willow – smoketree wash woodland alliance is ranked as sensitive on the California Sensitive Natural Communities list.

Project Impacts

The permanent and temporary impacts on the Railroad Avenue Bridges (Bridge #56C0099 and #56C0101) are provided in Table 4-1 and illustrated in Figure 7 in Section 3.1.3. Direct effects on vegetation communities include the direct removal of vegetation within the County and UPRR rights-of-way, and manipulation of soils within the washes during work activities. Construction activities will be limited to the existing road ROW and a temporary construction easement within the UPRR ROW. The bridge replacement project sites are both Covered Activities under the CVMSHCP. No direct impacts would occur on creosote bush scrub or desert willow – smoketree scrub as these communities occur south of the UPRR ROW.

Table 4-1. Temporary and Permanent Impacts on Vegetation Communities and Land Cover Types for the Railroad Avenue Bridges

Vegetation Communities/ Land Cover Types	Fornat Wash Bridge (#56C0099)		East Channel Stubbe Wash Bridge (#56C0101)	
	Permanent (acres)	Temporary (acres)	Permanent (acres)	Temporary (acres)
Narrowleaf Goldenbush – Bladderpod Scrub	0.03	0.10	0.00	0.00
Creosote Bush – Brittlebush Scrub	0.00	0.00	0.00	0.00
Disturbed Creosote Bush-Brittlebush Scrub	0.00	0.00	0.00	0.00
Creosote Bush Scrub[1]	0.00	0.00	0.00	0.00
Disturbed Creosote Bush Scrub[1]	0.00	0.00	0.00	0.00
Brittlebush Scrub	0.00	0.00	0.03	0.18
Disturbed Brittlebush Scrub	0.00	0.00	0.00	0.00
Desert-willow - Smoketree Wash Woodland[2]	0.00	0.00	0.00	0.00
Desert Wash	0.01	0.11	0.02	0.14
Ruderal	<0.01	0.02	0.03	0.04
Developed/Disturbed	0.87	0.55	0.39	0.44
Total	0.91	0.78	0.47	0.80

[1] CVMSHCP vegetation community needed for conservation.
[2] A sensitive natural community.

Construction activities that could potentially cause indirect effects on lands adjacent to the BSAs include potential spread of invasive plant species, increased risk of fire, increased trash, increased dust levels affecting plants, and chemical spills that may affect downstream resources. However, these potential indirect effects are not expected to appreciably affect sensitive vegetation communities (creosote bush scrub within the CVMSHCP Conservation Area or desert willow – smoketree). To ensure construction activities do not have indirect effects on downstream or adjacent resources, the avoidance and minimization measures **BIO-1** will be implemented. The Best Management Practices (**BIO-2**) would ensure the projects are consistent with CVMSHCP.

Avoidance and Minimization Efforts/Compensatory Mitigation

There are no natural vegetation communities of concern or CVMSHCP conserved habitats present that would be affected by the proposed project. Measure **BIO-1** would ensure that all direct effects on undeveloped lands would be returned to pre-project conditions. Measure **BIO-2** would implement BMP to reduce the potential for indirect effects on biological resources adjacent to the proposed project.

> **BIO-1 Temporary Construction Areas within Washes**. Post-construction, all temporary construction areas and the area under the bridge replacement will be returned to preconstruction contours, soils decompacted, and hydroseeded with a native seed mix. Ephemeral washes and their banks will be left with an earthen, sandy bottom. No riprap or other obstructive material will be placed under the new bridges.

BIO-2 Best Management Practices. BMPs will be implemented to reduce impacts on biological and aquatic resources adjacent to the LOD and within the Conservation Area of the CVMSHCP.

- Dust control measures will be implemented to minimized impacts on adjacent vegetation.
- Activities that may produce sparks, including welding or grinding, will use protective gear to reduce fire risks, such as the use of shields and protective mats. Fire suppression capabilities, including extinguishers, shovels, and water tankers, will be available onsite whenever construction occurs during the fire season (as determined by the Riverside County fire department).
- Trash will be stored in closed containers so that it is not readily accessible to wildlife and will be removed from the construction site daily to avoid attracting wildlife to the Project site.
- Project construction will be performed during daylight hours. No nighttime work or night lighting will occur.
- Exotic plant species removed during construction will be properly handled to prevent sprouting or regrowth. No plant species listed in CVMSHCP Volume I, Section 4.5.5 (Table 4-113) will be used.
- Trucks carrying vegetation that will be removed from the project site will be covered and disposed of in accordance with applicable laws and regulations.
- Plans for water pollution and erosion control will be developed and implemented in accordance with Regional Water Quality Control Board (RWQCB) requirements. 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 Caltrans prior to construction. The water pollution and erosion control plan will include the following at a minimum:
    - Ensure no fluids or sediment from construction will enter into ephemeral washes.
    - Sediment and erosion control measures will be implemented until such time soils are determined to be successfully stabilized.
    - No erodible materials will be deposited into watercourses. Brush, loose soils, or other debris material will not be stockpiled within stream channels or on adjacent banks.
    - 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 into ephemeral washes.

- Storage of equipment, fueling, and staging areas will be located on non-sensitive upland sites with minimal risks of direct drainage into watercourses. These designated areas will be located to prevent runoff from entering sensitive habitat, including watercourses. 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 County, USFWS, CDFW, and the RWQCB, and will be cleaned up immediately and contaminated soils removed to approved disposal areas.

4.1.2 Discussion of CVMSHCP Biological Corridors

Survey Results

Fornat Wash Bridge (#56C0099)

The undercrossing at Fornat Wash is identified by the CVMSHCP as a biological corridor (refer to Section 3.1.4 for additional details). The portion of Fornat Wash that occurs within the BSA does not occur within the fluvial sand transport area of the biological corridor within the Cabazon Conservation Area. Although no specific crossing study was conducted for the proposed project, the undercrossing could potentially be used by small and medium wildlife, such as reptiles, small mammals, and coyote. The underpass at Fornat Wash Bridge provides natural sandy bottom, atria (openings in the roof of an underpass), and funnels wildlife to the underpass. This biological corridor does not provide Core Habitat for any CVMSHCP covered species.

East Channel Stubbe Wash Bridge (#56C0101)

East Channel Stubbe Wash Bridge occurs at the northern edge of the Snow Creek/Windy Point Conservation Area and connects to the biological corridor for the Stubbe and Cottonwood Canyons Conservation Area to the north. The biological corridor through the BSA within Stubbe Wash also provides sand transport, an important ecological process, through the San Gorgonio Pass. The East Channel Stubbe Wash Bridge undercrossing is approximately 25 feet high and does not provide live-in habitat for the majority of species due to the high levels of human disturbances (i.e., maintenance within the underpass and recreational use of the Pacific Crest Trail). However, due to the location and large arterials passing through the BSA, the underpass is expected to be used by a variety of species, potentially facilitating movement of species such as bighorn sheep, mule deer, coyote, and desert tortoise between the north and south sides of the I-10.

Although no specific crossing study was conducted for the proposed project, a separate study conducted by the University of Riverside Center for Conservation Biology evaluated the underpass at East Channel Stubbe Wash to determine wildlife movement and usage patterns (Murphey-Mariscal Barrows 2013). East Channel Stubbe Wash

Bridge undercrossing contains features that promote the use of underpasses by wildlife, such as atria, shelter, cover, and natural rocky/sandy substrate. Recreational use of the Pacific Crest Trail through East Channel Stubbe Wash is not expected to appreciably affect wildlife movement through the underpass based on species' crepuscular and nocturnal movement patterns within desert environments (Murphey-Mariscal Barrows 2013).

CVMSHCP core habitat for covered species, such as Coachella Valley milkvetch, Coachella Valley Jerusalem cricket, Palm Springs round-tailed ground squirrel, and Palm Springs pocket mouse occurs within the biological corridor area. However, the CVMSHCP core habitat for these species within the BSA occurs south of the UPRR ROW. Within the BSA, core habitat is expected to be low quality due to existing human disturbances from maintenance and land uses within the underpass and the location of the habitat at the edge of the biological corridor area.

Project Impacts

During construction, there will be an increase of human presence and activities, including removal of the existing bridge and equipment working within Fornat Wash and East Channel Stubbe Wash. Human presence, noise, and vibrations occurring during construction activities will likely deter wildlife usage of the CVMSHCP biological corridors at Fornat Wash and East Channel Stubbe Wash. Wildlife that could normally use the undercrossing at Fornat Wash could potentially use an undercrossing approximately 500 feet to the west. In addition, West Channel Stubbe Wash is approximately 270 feet west of the East Channel Stubbe Wash and could temporarily accommodate wildlife during construction activities. Due to the typical crepuscular and nighttime usage patterns by desert species, the potential direct and indirect effects on biological corridors during construction are anticipated to be minimal. Wildlife is not expected to cross over Railroad Avenue as it directly abuts the 8-lane I-10 which deters wildlife due to constant high traffic volumes.

Construction activities will not impact CVMSHCP core habitat for Coachella Valley milkvetch, Coachella Valley Jerusalem cricket, Palm Springs round-tailed ground squirrel, and Palm Springs pocket mouse, since core habitat for these species occurs on the north side of the I-10 or south side of the UPRR tracks. The project's effect on CVMSHCP biological corridors would occur only during project construction and once the project is completed, the undercrossings at each bridge location will be fully permeable for animal movement. Implementation of avoidance and minimization measures to avoid impacts on CVMSHCP Conservation Areas would reduce the likelihood of impacts on wildlife during construction activities. To ensure potential effects from construction activities are avoided and/or minimized, measures in the following section will be applied.

Avoidance and Minimization Efforts/Compensatory Mitigation

Measure **BIO-1** would ensure that sandy soils within biological corridors are returned to original conditions. Project Best Management Practices (BMPs) described in measure **BIO-2** will reduce the potential effects on wildlife that are potentially using the CVMSHCP biological corridors within the Conservation Area. A biological monitor (**BIO-3**) will ensure the Conservation Areas adjacent to the LOD are not incidentally disturbed.

> **BIO-3 Biological Monitor**. An Approved Biologist will monitor all construction activities during initial ground disturbance. The biologist will ensure that all practicable measures are being employed to avoid incidental disturbance of the CVMSHCP Conservation Area adjacent to the LOD. Once initial ground clearing is completed, ongoing weekly monitoring and reporting will occur throughout the duration of construction activities to ensure BMPs in BIO-2 are implemented.

4.1.3 Discussion of Wetlands and Other Waters

Survey Results

The Jurisdictional Delineation Report (Appendix G; ICF 2019) provides the results of the jurisdictional delineation. All features observed within the study area were delineated with the understanding that a request for a Preliminary Jurisdictional Determination would be submitted for the proposed project sites. 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 jurisdictional WoUS subject to regulation by USACE under Section 404 of the CWA and the RWQCB under Section 401 of the CWA.

Seven aquatic features were delineated within the JSA of each bridge. Each of these features consisted of ephemeral sandy washes or small channels formed by runoff from the roadway. The three primary features that convey flows from north of I-10 south to the San Gorgonio River are Fornat Wash, West Channel Stubbe Wash, and East Channel Stubbe Wash. The remaining small tributary channels convey flows into the primary larger wash features. All seven features are potentially under the jurisdiction of the USACE, RWQCB, and CDFW and are depicted on Figures 9 and 10 in Appendix A. Table 4-2 provides the total jurisdictional aquatic resources under the jurisdiction of USACE, RWQBC, and CDFW.

Table 4-2. Potential USACE, RWQCB, and CDFW Jurisdictional Waters

Railroad Avenue Bridges	USACE/RWQCB		CDFW	
	Non-Wetland Waters of the U.S./State (acres/ linear feet)	Wetland Waters of the U.S./State (acres/ linear feet)	Unvegetated Streambed (acres)	Associated Riparian Vegetation (acres)
Fornat Wash Bridge (#56C0099)	0.44/492	---	0.55/492	0.003
East Channel Stubbe Wash Bridge (#56C0101)	0.67/941	---	0.80/914	---

USACE = U.S. Army Corps of Engineers
RWQCB = Regional Water Quality Control Board
CDFW = California Department of Fish and Wildlife

Project Impacts

Fornat Wash and East Channel Stubbe Wash will be temporarily and permanently directly impacted during removal of the existing bridges and construction of the new bridges. Direct impacts on jurisdictional waters are summarized in Table 4-3 and illustrated in Appendix A, Figures 9 and 10. Specific impacts to each bridge location are discussed in more detail below. Potential indirect effects may also occur within Fornat Wash and East Channel Stubbe Wash from construction activities and after construction is completed. During construction, there is a potential for vehicles and heavy equipment to spread invasive species, increase risk of fire, increase trash and hazardous chemical spills into waterways, and increase sediment input, each of which can contribute to degradation of downstream resources. After is construction is completed, there is a potential for spread of invasive species and increased erosion; however, these effects are anticipated to be short term, and once the impact areas have stabilized, will be the same as existing conditions.

Table 4-3. Direct Impacts on USACE, RWQCB, and CDFW Jurisdictional Waters

Railroad Avenue Bridges	USACE/RWQCB		CDFW			
	Non-Wetland Waters* of the U.S./State (acres/ linear feet)		Unvegetated Streambed (acres/ linear feet)		Associated Riparian Vegetation (acres)	
	Permanent Impact	Temporary Impact	Permanent Impact	Temporary Impact	Permanent Impact	Temporary Impact
Fornat Wash Bridge (#56C0099)	0.018/144	0.118/150	0.021/144	0.158/150	0.000	0.003
East Channel Stubbe Wash Bridge (#56C0101)	0.029/125	0.137/162	0.030/125	0.160/162	0.000	0.000

*No impacts on federally jurisdictional wetlands would occur.

The specific impacts associated with the Fornat Wash Bridge and East Channel Stubbe Channel Bridge LODs are described below.

Fornat Wash Bridge (#56C0099)

Permanent impacts within Fornat Wash include the installation of new bridge footings and riprap. The riprap will be placed on the slopes on the downstream side of the bridge and buried riprap will be placed in a portion of the bed of the wash to reduce erosion on the downstream side of the bridge. The temporary impacts within Fornat Wash will occur during removal of the existing bridge and the work activities necessary to construct the new bridge, including access by construction crews, vehicles, and equipment within the wash. There is also a potential that sediment within Fornat Wash will be compacted during construction which may affect flow rates of the wash.

The direct impacts associated with the replacement of Fornat Wash Bridge (#56C0099) would result in permanent impacts on up to 0.018 acre (144 LF) and temporary impacts on 0.118 acre (150 LF) of non-wetland waters of the U.S./State. No federally jurisdictional wetlands would be affected. Permanent impacts would occur on 0.021 acre (144 LF) of CDFW unvegetated streambed, and temporary impacts on 0.158 acre (150 LF) CDFW unvegetated streambed and 0.003 acre CDFW riparian.

East Channel Stubbe Wash Bridge (#56C0101)

Permanent impacts within East Channel Stubbe Wash are associated with the installation of new bridge footings and riprap. The riprap will be placed on the slopes on the downstream side of the bridges and buried riprap will be placed in a portion of the bed of the wash to reduce erosion on the downstream side of the bridge. The temporary impacts within East Channel Stubbe Wash will occur during removal of the existing bridge and the work activities necessary to construct the new bridge, including access by construction crews, vehicles, and equipment within the wash. There is also a potential that sediment within East Channel Stubbe Wash will be compacted during construction which may affect flow rates of the wash.

Direct impacts associated with the replacement of East Channel Stubbe Wash Bridge (#56C0101) would result in permanent impacts on up to 0.029 acre (125 LF) and temporary impacts on 0.137 acre (162 LF) of non-wetland waters of the U.S./State. No federally jurisdictional wetlands would be affected. In addition, permanent impacts would occur on 0.030 acre (125 LF) of CDFW unvegetated streambed, and temporary impacts on 0.160 acre (162 LF) of CDFW unvegetated streambed. No impacts on CDFW riparian vegetated areas would occur.

Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of measure **BIO-1** will restore all temporarily impacted jurisdictional areas to their original condition and measure **BIO-2** will minimize potential indirect effects on jurisdictional waters downstream of the LODs. Permanent impacts on jurisdictional waters will require compensatory mitigation as described in measure **BIO-4**.

BIO-4 Mitigation for Replacement/Restoration of Jurisdictional Waters. Permanent and temporary impacts from the replacement of Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101) will require compensatory mitigation for jurisdictional waters. Compensation can be a combination of enhancement, restoration, and/or rehabilitation. Compensation can also occur through the purchase of credits through the Coachella Valley Conservation Commission (CVCC) in-lieu fee program or other approved mitigation provider, including federal and state jurisdictional water resources. The temporary impacts will be restored with implementation of **BIO-1**. However, to ensure adequate compensatory mitigation is obtained, final mitigation ratios will be determined after consultation with the USACE, RWQCB, and CDFW.

4.2 Special Status Plant Species

The plants listed are considered to be of special concern based on (1) federal, state, or local laws regulating their development (i.e. listed under CESA or FESA, or a California Rare Plant Rank (CRPR) of 1B, 2B, 3, and 4); (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. Refer to Appendix C for a detailed analysis for all special-status plants with a potential to occur in the BSA.

4.2.1 Discussion of Special-status Plant Species

This section discusses the results of surveys, project impacts on special-status plant species, and avoidance and minimization efforts and compensatory mitigation for special-status plant species with a potential to occur within the BSA.

Survey results

Ninety-one special-status plant species were reviewed for habitat suitability within the BSA. Suitable habitat was present for 19 species: chaparral sand-verbena (*Abronia villosa* var. *aurita*), singlewhorl burrobrush (*Ambrosia mongrya*), Borrego milkvetch (*Astragalus lentiginosus* var. *borreganus*), Coachella Valley milkvetch (*A. lentiginosus* var. *coachellae*), Jaeger's milkvetch (*A. pachypus* var. *jaegeri*), triple-ribbed milkvetch (A. *tricarinatus*), Payson's jewelflower (*Caulanthus simulans*), Parry's spineflower (*Chorizanthe parryi* var. *parryi*), white-bracted spineflower (*C. xanti* var. *leucotheca*), slender-horned spineflower (*Dodecahema leptoceras*), ribbed cryptantha (*Johnstonella costata*), winged cryptantha (*Johnsonella holoptera*), little San Bernardino Mountains linanthus (*Linanthus maculatus* ssp. *maculatus*), spiny-hair blazing star (*Mentzelia tricuspis*), slender cottonheads (*Nemacaulis denudata* var. *gracilis*), desert beardtongue (*Penstemon pseudospectabilis* ssp. *pseudospectabilis*), narrow-leaf sandpaper-plant (*Petalonyx linearis*), Latimer's woodland gila (*Saltugilia latimeri*), and Mecca-aster (*Xylorhiza cognata*). Of these, Coachella Valley milkvetch, triple-ribbed milkvetch, Little San Bernardino Mountains linanthus, Mecca aster, and Orocopia sage are covered under

the CVMSHCP. A focused survey was conducted and no special-status species were found.

As described in section 4.2.1, the BSA of the East Channel Stubbe Wash Bridge occurs within CVMSHCP core habitat for Coachella Valley milkvetch. This species was not observed during focused rare plant surveys. A reference population approximately ¼ mile from the project site and south of the I-10 was reviewed and Coachella Valley milkvetch was observed in bloom during the site visit; thus it was determined the species would be detectable during focused studies. There are no special-status species within the BSA of Fornat Wash Bridge (#56C0099) or East Channel Stubbe Wash Bridge (#56C0101).

Project Impacts

As no special-status plant species were found within the BSA of Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101), no impacts on special-status plants would occur.

Caltrans has determined the proposed project would have a no effect determination on Coachella Valley milkvetch and slender-horned spineflower due to the species' absence during focused studies.

Avoidance and Minimization Efforts/Compensatory Mitigation

No avoidance or minimization measures are required as no impacts on special-status plants are anticipated.

4.3 Special Status Animal Species Occurrences

Animals are considered to be special-status based on (1)) federal, State, or local laws regulating their development (i.e. listed or proposed for listing under State and/or Federal Endangered Species Acts, California Species of Special Concern, or California Fully Protected Species); (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. Forty-five special-status wildlife species were evaluated for habitat suitability within the BSA. One special-status wildlife species was observed: loggerhead shrike (*Lanius ludovicianus*; SSC). Suitable habitat for an additional 15 wildlife species was identified within the BSA: desert tortoise; Coachella Valley Jerusalem Cricket (*Stenopelmatus cahuilaensis;* no status), burrowing owl (SSC), vermilion flycatcher (*Pyrocephalus rubinus,* SSC), yellow warbler (*Setophaga petechia,* SSC), LeConte's thrasher (*Toxostoma lecontei*,SSC), San Diego desert woodrat (*Neotoma lepida intermedia*; SSC), Pallid San Diego pocket mouse (*Chaetodipus fallax pallidus;* SSC), flat-tailed horned lizard (*Phrynosoma mcallii*; SSC), Coachella Valley round-tailed ground squirrel (*Xerospermophilus tereticaudus chlorus*; SSC), Palm Springs pocket mouse (*Perognathus longimembris bangsi*; SSC), desert bighorn sheep (*Ovis canadensis nelsoni*; California Fully Protected [FP]), pocketed free-tailed bat (*Nyctinomops femorosaccus*; SSC), big free-tailed bat (*Nyctinomops macrotis*; SSC),

Townsend's big-eared bat (*Corynorhinus townsendii*; SSC), pallid bat (*Antrozous pallidus*; SSC), and American badger (*Taxidea taxus*; SSC).

Species that are fully covered under the CVMSHCP and do not require additional analysis for the proposed project sites include yellow warbler, LeConte's thrasher, flat-tailed horned lizard, Coachella Valley round-tailed ground squirrel, Palm Springs pocket mouse, desert bighorn sheep, and Coachella Valley Jerusalem cricket; these species are not discussed further. Burrowing owl and desert tortoise are also CVMSHCP covered species; however, focused surveys are required within the Conservation Area.

Suitable habitat occurs within the BSA for a number of species including: desert tortoise (Section 4.3.1), burrowing owl (Section 4.3.2), special-status bats (Section 4.3.3), pallid San Diego pocket mouse (Section 4.3.4), San Diego desert woodrat (Section 4.3.4), and loggerhead shrike (Section 4.3.5). The discussions for these species are provided in Sections 4.3.1 through 4.3.5.

4.3.1 Discussion of Desert Tortoise

Survey Results

Suitable habitat for desert tortoise is present within desert wash and scrub communities in the BSAs. The bridges also occur within CVMSHCP modeled habitat for desert tortoise (refer to Figure 11a/11b). The species was not found during the 2017 or 2019 surveys, therefore it is considered absent from the BSAs. No USFWS critical habitat is present within the BSAs. The LOD and ZOI transects (2017 survey area) and the desert tortoise Action Area (2019 survey area) are mapped for Fornat Wash Bridge (#56C0099) in Figure 11a and for East Channel Stubbe Wash Bridge (#56C0101) in Figure 11b. Observed burrows are mapped within these figures. No burrows were observed during the 2019 focused survey. No desert tortoises or definitive desert tortoise sign was observed during the 2017 and 2019 surveys.

Project Impacts

There would be no direct impact on desert tortoise due to the species absence from the BSAs. No occupied or potential burrows would be affected by the proposed project.

Stubbe Wash has been identified as an CVMSHCP biological corridor. There is also a potential for Fornat Wash to be utilized for animal movement, including for desert tortoise; therefore, there is a potential for individuals to pass through the project sites. Additional details and measures applicable to CVMSHCP biological corridors is provided in Section 4.1.2.

Although potential indirect effects are not expected (due to the species absence), since the project occurs within the species range and desert tortoise may migrate through the area, avoidance and minimization measures will be implemented to ensure construction

activities will avoid impacts on migrating individuals and would ensure the project is consistent with the CVMSHCP.

It is Caltrans determination the project would have a no effect on desert tortoise or desert tortoise critical habitat due to the species absence from the Railroad Avenue Bridges (#56C0099 and #56C0101).

Avoidance and Minimization Efforts/Compensatory Mitigation

Although desert tortoise was not found, the CVMSHCP requires avoidance and minimization measures for Covered Activities within the Conservation Area. Implementation of measures **BIO-5** and **BIO-6** would ensure the project is in compliance with the CVMSHCP. Presence of a biological monitor (**BIO-3**) would also ensure if the species is present in the Conservation Area, no impacts would occur.

> **BIO-5 Presence/Absence Desert Tortoise Survey**. Prior to construction activities, a qualified biologist will perform a presence/absence survey within 100% of project LOD and a 200-foot buffer (or to the property boundary if permission cannot be obtain LOD and 200-ft buffer area for fresh sign of desert tortoise, including living tortoises, tortoise remains, burrows, tracks, scat, or egg shells. The presence/absence survey must be performed between February 15 and October 31. The presence/absence survey is valid for 90 days (or indefinitely if tortoise-proof fencing is installed around the work limits).
>
> - If fresh sign of desert tortoise is found during the presence/absence survey, a preconstruction survey would be performed within the entire work area. The survey will be conducted from February 15 to June 15 or September 1 to October 31, during different tortoise activity periods (morning and afternoon). Tortoise-proof fencing will be installed around the work limits after any individuals are removed from the work area by a qualified biologist. The tortoise fencing will be maintained throughout the duration of construction activities.
> - If no sign is found, a preconstruction clearance survey would not be required within 90 days of the last survey. If project construction has not started within that 90-day period, a new survey presence/absence survey may be necessary.
>
> **BIO-6 Worker Environmental Awareness Program Training**. A worker education program will be developed to avoid potential effects on desert tortoise and other sensitive species (i.e., migratory birds). The training will be performed by a qualified biologist and be given to all construction personnel prior to the start of construction activities. The training will include general behavior and ecology for species of concern, identification of the species, protection measures being implemented for the project, and reporting requirements. The biologist will also describe the work limits within which the project must be accomplished.

4.3.2 Discussion of Burrowing Owl

The CVMSHCP requires that a habitat assessment is conducted for burrowing owl. If suitable habitat is observed, then focused surveys are required. The following sections present the results of the habitat assessment and focused survey for burrowing owl.

Survey Results

Suitable habitat for burrowing owl is present throughout all undeveloped areas of the BSAs. Four suitable burrows were observed within the Burrowing Owl Study Area of Fornat Wash Bridge and seven suitable burrows were observed within the Burrowing Owl Study Area of East Channel Stubbe Wash Bridge. With the exception of a single burrow located on the south side of Railroad Avenue east of the East Channel Stubbe Wash Bridge LOD, all burrow features mapped within the Burrowing Owl Study Area occurred north of the I-10 or south of the UPRR. There were no burrowing owl or burrowing owl sign (i.e., whitewash, tracks) found during the focused survey.

Project Impacts

No burrowing owls or burrowing owl sign were observed during surveys; therefore no direct impacts are anticipated on burrowing owl. The proposed project would temporarily impact suitable habitat (including suitable burrows) adjacent to the project sites. This species is highly mobile and there is a potential for the species to occur in suitable habitat within or adjacent to the BSA prior to construction. Therefore, there is a potential for indirect effects from project construction to affect owls that may be occupying areas adjacent to the LODs in the future. Specifically, pile-driving activities could generate excessive noise causing burrowing owls to abandon burrows and vibrations that could collapse burrows; construction activities could introduce invasive species and degrade habitat; increased trash could attract predators; and increased dust or risk of fire could further degrade habitat within adjacent areas. Measure identified below would address direct and indirect effects on individuals which may occupy the project sites in the future. Operation of the project would not cause effects that differ from existing conditions.

Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of measure **BIO-7** would ensure full avoidance of potential impacts on burrowing owl that may occur within and adjacent to the LODs. In addition, measure **BIO-2** would minimize the potential indirect effects on burrowing owl. Measure **BIO-6** would incorporate worker education of burrowing owl to ensure there are no impacts on the species. Presence of a biological monitor (**BIO-3**) would also ensure if the species is present in the Conservation Area, no impacts would occur.

> **BIO-7 Preconstruction Burrowing Owl Survey**. A preconstruction burrowing owl survey will be performed within 500-ft of the LOD and any staging areas at least 14 days prior to the initiation of ground disturbance activities. The survey will be performed by a biologist experienced performing surveys for burrowing

owl and species identification. All burrows within the survey area will be examined to determine occupancy by burrowing owl. If the burrow is occupied, it will be flagged or staked, and a 160-foot buffer applied during the non-breeding season (September 1 through March 14) and 250-ft buffer applied during the breeding season (March 15 through August 31). No construction activities will be permitted within the avoidance buffer until the young are no longer dependent on the burrow.

If the burrow is unoccupied, the burrow will be made inaccessible to owls (e.g., one -way doors), and the project may proceed. If either a nesting or escape burrow is occupied, relocation of owls could occur pursuant to CDFW 2012 protocol. A burrow will be considered occupied if at least one burrowing owl has been observed occupying a burrow during the past three years, either through observation during protocol surveys or if records

4.3.3 Discussion of Special-status Bats

Based on the literature review and reconnaissance survey, pocketed free-tailed bat, big free-tailed bat, Townsend's big-eared bat, and pallid bat could potentially occur within the BSA. These bat species are known to roost in crevices within trees, bridges, rock crevices, caves, culverts, and buildings. All of these bats are CDFW Species of Special Concern (SSC).

There are other common species of bats that may have potential to occur, but have no special status. CDFW has increased its requirements on 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. These bat species would benefit from the protective measures identified in this section.

Survey Results

A habitat evaluation was conducted at both Railroad Avenue Bridges (#56C0099 and #56C0101) and adjacent bridges associated with the I-10 and UPRR. Fornat Wash Bridge and East Channel Stubbe Wash Bridge are both timber bridge structures that contain crevices and gaps that are suitable for roosting bats. The adjacent bridges associated with the I-10 and UPRR bridges are both concrete with crevices and imperfections and provide suitable habitat for roosting bats at the bridge abutment joints. No bat sign (i.e. guano, urine) were documented within the two bridges on Railroad Avenue or the adjacent I-10 and UPRR bridges.

Only one species of bat was documented during the acoustic surveys: canyon bat (*Pipistrellus hesperus*). The Mexican free-tailed bat (*Tadarida brasiliensis*) may have also been recorded; however, due to poor audio quality from the noise of I-10, this

species is unconfirmed. These species are common regionally and could potentially roost within the bridges or in rock outcrops occurring in the regional vicinity. No special-status bats were documented during acoustic and emergence surveys; therefore, they are not expected to occur. Based on the results of the habitat evaluation, lack of sign under bridges, and the emergence/acoustic survey, the bridges on Railroad Avenue (Bridge #56C0099 and Bridge #56C0101) are not expected to support large colonial bat roosts, but may provide suitable night or day roosts for individual bats.

Project Impacts

Bridge removal could directly impact non-special-status bats that are potentially using the bridges for day or night roosts. Project construction may also indirectly affect non-special-status bats using the I-10 or UPRR bridges through noise, increased human presence, and vibrations, which may result in bats temporarily leaving their roosts or, if breeding, abandoning their maternity colony. For breeding bats with young, this can cause mortality of young on a large scale. If non-special-status colonial bats are roosting or breeding prior to the removal of the existing Railroad Avenue bridges, these effects could be biologically important to these species based on the limited roost/maternity sites in desert environments and constrain the project due to required compliance with CFGC (Section 4150) and CEQA. However, implementation of measure **BIO-8** would ensure any effects on non-special-status bats during construction of the proposed project sites would be fully avoided and no constraint would be present. No other potential roost sites were present within the BSA.

There is also a potential for the proposed project to temporarily affect foraging habitat during construction activities. Existing foraging habitat is of low quality due to its vicinity to an active railroad and heavy use of I-10. In addition, all suitable habitat will be returned to pre-project conditions. Therefore, impacts on potential bat foraging habitat would not be a constraint.

Avoidance and Minimization Efforts/Compensatory Mitigation

Implementation of measure **BIO-8** will ensure that potential effects on roosting or breeding bats are fully avoided. No compensatory mitigation is required.

> **BIO-8 Preconstruction Bat Survey and Exclusion**. To avoid direct mortality on bats, and their daytime or maternity roosts, a qualified bat biologist will be retained to conduct bat and bat roosting site surveys prior to commencement of potential roost habitat impacts. This preconstruction survey will be conducted within 200 feet of Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101) during the general bat maternity season (April 1- and September 30). The survey will occur at dusk and will include both acoustic data collection and an emergence count. If roosting sites or bats are not found, no further action will be necessary. Otherwise, the following exclusion is applicable:
>
> - *Part A.* If the preconstruction survey finds bats to be roosting and bridge removal is scheduled to occur between October 1 and March 31 (outside of

the maternity season of April 1 through September 30), bats shall be evicted by the methods discussed below. In addition, if bat roosts are found in the bridge and the project may perform work underneath or within 200 feet of the bridge with bats (between April 1 and September 30), the discussion below would also apply.

The eviction of bats shall be conducted using bat exclusion techniques developed by Bat Conservation International (BCI) in consultation with CDFW and under the supervision of a qualified bat biologist. These techniques allow the bats to exit the roosting site but prevent re-entry. This process will include, but not be limited to, the installation of one-way exclusion devices bridge(s). Sealing the bridge at the time of abandonment, where applicable, may prevent the need for the exclusion process. Where exclusionary devices are installed on the bridge, the devices shall remain in place for seven days, at which time the exclusion points and any other potential entrances shall be sealed. A visual inspection of the bridge by a qualified bat biologist will be required prior to bridge removal to verify that all bats have been successfully excluded.

- *Part B.* If the preconstruction survey finds bats to be roosting and bridge removal is scheduled to occur during the maternity season (April 1 through September 30), a qualified bat biologist will monitor the roost to determine if the roost site is a maternal roost. This may be determined by either visual inspection of the roost for bat pups, if possible, or monitoring the roost after the adults leave for the night to listen for bat pups. If the roost is determined to not be a maternal roost, then the bats shall be evicted as described above under *Part A*. If the roost is determined to be a maternal roost, eviction of the maternal roost cannot occur during the nursery season, because bat pups cannot leave the roost until they have reached maturity. Once the maternity season is completed, construction and bridge removal can commence.

4.3.4 Discussion of Special-status Mammals

Survey Results

The BSA provides suitable habitat for pallid San Diego pocket mouse (SSC), San Diego desert woodrat (SSC), Los Angeles pocket mouse (SSC), and American badger (SSC).

Habitat for pallid pocket mouse occurs in arid and semi-arid environments within a variety of vegetation communities, including desert scrub habitats. They are associated with rocky or gravelly sandy soils. The nearest occurrence of pallid pocket mouse was documented in the Whitewater USGS 7.5-minute topographical quadrant in 1938 which overlaps East Channel Stubbe Wash Bridge (#56C0101) and the nearest recent occurrence is from in the Cabazon USGS 7.5-minute topographical quadrant in 2000, approximately one mile to the southwest of Fornat Wash Bridge (#56C099). Pocket mice generally exist at low population levels and are therefore more susceptible to population

losses due to human disturbance. Due to the amount of human disturbance that has existed here for decades, the probability of this species being present is low.

The San Diego desert woodrat is associated with desert scrub, sage scrub, and chaparral vegetation communities. The species builds large stick nests in rock outcrops or shrubs. The nearest occurrence is approximately 0.4 mile to the southwest of East Channel Stubbe Wash Bridge (#56C0101), in the Whitewater USGS 7.5-minute topographical quadrant in 1995. Woodrat (*Neotoma* sp.) middens were documented in the BSA; however, it is unknown whether the nest belonged to the special-status subspecies.

Los Angeles pocket mouse occurs within sandy drainage areas associated with chaparral, sage scrub, desert scrub, grassland, and vernal pools/playas. The BSAs occur just outside of the easternmost documented ranged of this species (CDFW 2018). However, this occurrence is from 1940. Habitat within the BSAs is deemed minimal because potential vibrations from the UPRR and of the degraded habitat within the County and UPRR ROW. The potential for this species to occur is low due to the degraded habitat within the BSAs of the bridges.

American badgers are fossorial, using burrows for dens, escape, and predation. Badgers feed on small vertebrates, especially rodents and are typically found in open grasslands and deserts. The nearest occurrence is approximately 7 miles to the west of Fornat Wash Bridge (#56C0099) in the Beaumont USGS 7.5-minute topographical quadrant in 1908. Another occurrence is 8 miles to the north of East Channel Stubbe Wash Bridge (#56C0101) in the Morongo Valley USGS 7.5-minute topographical quadrant in 1949. American badgers have very large home ranges of up to 2,000 acres and often dig a new den every day. Although this species is highly mobile, it is unlikely that a badger would dig a den within the BSAs due to existing disturbances. There is a potential for the species to move through the BSA areas in the washes.

Project Impacts

The proposed project will remove potential habitat for pallid San Diego pocket mouse, San Diego desert woodrat, Los Angeles pocket mouse, and American badger. Potential direct effects include removal of suitable habitat or removal/disturbance of active burrows from vibrations generated by construction equipment and activities. Construction noise could cause the species to avoid the project sites, vibrations could collapse burrows adjacent to the construction area, and human presence could indirectly affect these small mammals by altering species foraging and breeding behaviors, altering predator-prey interactions, and contributing to edge effects through habitat modifications. However, the potential indirect effects on pallid San Diego pocket mouse, San Diego desert woodrat, and Los Angeles pocket mouse would only be expected to affect a few individuals[3] (if they are present) based on the size of the impact area and existing disturbances and maintenance activities associated with Railroad Avenue, the UPRR, and I-10. Thus, potential effects on a few individuals would not be biologically important and would not

[3] Based on the impact areas of each the bridge LODs, there could be between 1 to 3 individuals affected at each bridge.

constrain the proposed project. American badger is highly sensitive to human disturbance, and construction activities would deter the species from traversing the project sites.

Avoidance and Minimization Efforts/Compensatory Mitigation

Measure **BIO-2** would address any potential indirect effect on sensitive species potentially occurring within the vicinity of the project sites. No compensatory mitigation is required.

4.3.5 Discussion of Migratory Birds

Survey Results

Loggerhead shrike is a CDFW SSC and was incidentally observed foraging within the BSAs; suitable breeding habitat is also present within open areas with scattered tall and shrubby vegetation in the BSA. The BSA lacks suitable nesting habitat for any other special-status birds other than burrowing owl (discussed in Section 4.3.2). There is potential foraging habitat for black swift (*Cypselioides niger*; SSC), golden eagle (*Aquila chrysaetos*; BGEPA and CFP), and vermillion flycatcher (SSC) within the BSA. Refer to Appendix C for details on species requirements.

Suitable habitat is also present for a number of other non-special-status bird species that may nest or forage in the BSAs and are afforded protections under the MBTA and similar provisions of the CFGC. Other birds documented in the BSAs were Gambel's quail (*Callipepla gambelii*), rock pigeon (*Columba livia*), black-tailed gnatcatcher, cactus wren, and common raven (*Corvus corax*). These species are common within the region.

Project Impacts

Although loggerhead shrike was present, there is no suitable nesting habitat for this species that would be directly affected by the proposed project. This is due to the degraded habitat and bridge locations within maintained ROWs. Therefore, an impact on a loggerhead shrike nest is not anticipated. However, there is a potential that construction activities performed during the nesting bird season (generally February 15 through September 15) would disturb other nesting bird protected under the MBTA and similar provisions of the CFGC through direct removal of a nest that would cause nest failure or abandonment. Disturbances (indirect effects) from noise, dust, and vibrations generated by construction activities could also result in nest abandonment within natural habitats adjacent to the impact area. Any direct effects to nesting birds would be mitigated through the implementation of **BIO-9**.

Removal of potential foraging habitat is not expected to affect sensitive birds or raptors. This is due to existing disturbances from traffic, the UPRR, ROW maintenance, and recreational uses already minimizing the potential for sensitive birds to forage within the

LOD. In addition, all lands that provided suitable foraging prior to construction would also be available for foraging once construction is completed.

Avoidance and Minimization Efforts/Compensatory Mitigation

The preconstruction nesting bird survey described in measure **BIO-9** will ensure there are no effects on nesting birds within or adjacent to the Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101) LODs.

> **BIO-9 Preconstruction Survey for Nesting Birds**. If construction activities are initiated during the bird breeding season (defined as February 15 through September 15), a preconstruction survey by a qualified biologist will occur within three days prior to construction activities. The survey will occur within all suitable nesting habitat within the LOD and a 100-foot buffer, as access is allowed. If nesting birds are found at any time, anappropriate buffer will be established around the nest by the qualified biologist until it has been determined that young have fledged or nesting activities have ceased.

Chapter 5 Conclusions & Regulatory Determination

5.1 Federal Endangered Species Act Consultation Summary

Formal consultation under FESA has not been initiated. Caltrans has determined a "No Effect" on all listed species. Therefore, consultation with USFWS is not required.

5.1.1 Fornat Wash Bridge (#56C0099)

Within the BSA of Fornat Wash Bridge (#56C0099), there are eight listed species judged to have a potential to occur based on the USFWS species list generated on January 27, 2020, and the CNDDB (CDFW 2019) and CNPS (2019) database searches. These species are Peninsular bighorn sheep (*Ovis canadensis nelsoni*), least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), Coachella Valley fringe-toed lizard (*Uma inornata*), desert tortoise, arroyo toad (*Anaxyrus californicus*), Coachella Valley milkvetch, slender horned spine-flower (*Dodecahema leptoceras*), and triple-ribbed milkvetch. Of these, suitable habitat is present for desert tortoise, Coachella Valley milkvetch, and slender-horned milkvetch; however, none of these species were documented during focused studies. No federally designated critical habitat for listed species occurs within the BSA. The proposed project is a covered activity under the CVMSHCP and occurs within the Cabazon Conservation Area of the Plan (Appendix A, Figure 4).

Caltrans has determined, in accordance with Section 7 of FESA, that the proposed replacement of Fornat Wash Bridge (#56C0099) will have "no effect" on desert tortoise due to the species absence during focused studies. However, to ensure the project is consistent with the CVMSHCP, avoidance and minimization measures (**BIO-5** and **BIO-6**) for desert tortoise will be required for the proposed project. Refer to Section 5.6 for the CVMSHCP consistency analysis.

Caltrans has also determined that the replacement of Fornat Wash Bridge (#56C0099) will have "no effect" on Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, Coachella Valley fringe-toed lizard, arroyo toad, Coachella Valley milkvetch, slender-horned spineflower, and triple-ribbed milkvetch because these species are absent from the BSA.

This project is located outside of NOAA Fisheries jurisdiction, therefore, a NOAA Fisheries species list is not required and no effects to NOAA Fisheries species are anticipated.

5.1.2 East Channel Stubbe Wash Bridge (#56C0101)

Within the BSA of East Channel Stubbe Wash Bridge (#56C0101), there are eight listed species judged to have a potential to occur based on the USFWS species list generated on January 27,

2020. These species are Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, Coachella Valley fringe-toed lizard, desert tortoise, arroyo toad, Coachella Valley milkvetch, slender horned spine-flower, triple-ribbed milkvetch. Of these, suitable habitat is present for desert tortoise, Coachella Valley milkvetch, and slender-horned spineflower; however, none these species were documented during focused studies. The USFWS had formally designated critical habitat for Coachella Valley milkvetch within the BSA; however, following approval of the CVMSHCP, the critical habitat within the BSA was designated as *excluded*. The proposed project is a covered activity under the CVMSHCP and occurs within the Snow Creek/Windy Point Conservation Area of the Plan (Appendix A, Figures 4).

Caltrans has determined, in accordance with Section 7 of FESA, that the proposed replacement of East Channel Stubbe Wash Bridge (#560101) will have "no effect" on desert tortoise due to the species absence during focused studies and no effect on USFWS desert tortoise critical habitat. However, to ensure the project is consistent with the CVMSHCP, avoidance and minimization measures (**BIO-5** and **BIO-6**) for desert tortoise will be required for the proposed project. Refer to Section 5.6 for the CVMSHCP consistency analysis.

Caltrans has also determined that the replacement of East Channel Stubbe Wash Bridge (#56C0101) will have "no effect" on Peninsular bighorn sheep, least Bell's vireo, southwestern willow flycatcher, Coachella Valley fringe-toed lizard, arroyo toad, Coachella Valley milkvetch, slender-horned spineflower, and triple-ribbed milkvetch because these species are absent from the BSA.

This project is located outside of NOAA Fisheries jurisdiction, therefore a NOAA Fisheries species list is not required, and no effects to NOAA Fisheries species are anticipated.

5.2 Essential Fish Habitat Consultation Summary

The bridge project sites occur outside of the boundaries of the NOAA Fisheries and no Essential Fish Habitat is present. Therefore, no consultation with NOAA is necessary.

5.3 California Endangered Species Act Consultation Summary

No formal consultation under CESA for the proposed project has occurred to date. Consultation will commence once Caltrans approves the NESMI.

There are eight state listed species determined to have a potential to occur in the regional vicinity of the BSA based on the database and literature searches completed for the proposed project sites: Mojave tarplant, slender horned spine-flower, southwestern willow flycatcher, least Bell's vireo, southern mountain yellow-legged frog (*Rana muscosa*), Peninsular bighorn sheep, southern rubber boa (*Charina umbratica*), and desert tortoise. Of these, the project provides suitable habitat for desert tortoise and slender-horned spineflower. Based on the results of the focused surveys, these species are absent from the Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101) BSA. Due to the project sites being located within the

CVMSHCP Conservation Area, avoidance and minimization measures (**BIO-5** and **BIO-6**) for desert tortoise will be required and will ensure the project is consistent with the CVMSHCP. Refer to Section 5.6 for the CVMSHCP consistency analysis.

5.4 Wetlands and Other Waters Coordination Summary

Construction of Fornat Wash Bridge (#56C0099) would have a permanent effect on 0.018 acre (144 LF) and temporary effect on 0.118 acre (150 LF) non-wetland waters of the U.S/State, and East Channel Stubbe Wash Bridge (#56C0101) would have a permanent effect on 0.029 acre (125 LF) and temporary effect on 0.137 acre (162 LF) non-wetland waters of the U.S/State. No wetlands that are under federal jurisdiction are present within either proposed project. The proposed project qualifies for Nationwide Permit (NWP) 14 (*Linear Transportation Projects*). A Streambed Alteration Agreement, as regulated by Section 1600 *et seq*. of the CFGC, would be required for permanent impacts on 0.021 acre (144 LF) unvegetated streambed, temporary impacts on 0.158 acre (150 LF) of unvegetated streambed, and 0.003 acre riparian for Fornat Wash Bridge (#56C0099), and permanent impacts on 0.030 acre (125 LF) and temporary impacts on 0.160 acre (162 LF) of unvegetated streambed for East Channel Stubbe Wash Bridge (#56C0101). No consultation with USACE, RWQCB, or CDFW has occurred to date.

5.5 Invasive Species (Executive Order 13112)

Invasive plants are currently present within the BSAs. All of the project construction will occur within the existing ROW easements for the roadway and railroad. There is a potential for invasive plants to be transported to and from the project site. Because the project LOD's occur along an existing travelled roadway, the operation of the project is not expected to increase the transport of invasive species beyond levels currently present. Implementation of project BMPs and **BIO-2** will reduce the potential spread of invasives during project construction.

5.6 Migratory Bird Treaty Act

Native bird species and their nests are protected under the MBTA. The MBTA states that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, any migratory bird, its eggs, parts, and nests, except as authorized under a valid permit. Implementation of measure **BIO-9** will ensure there are no impacts on nesting birds that would conflict with the federal MBTA.

5.7 California Fish and Game Code (3503, 3503.5, and 3800)

The CFGC protects nesting birds and non-game birds from take or nest destruction. Implementation of measure **BIO-9** will help to avoid any impacts on nesting birds prior to and during construction activities.

5.8 Morongo Band of Mission Indians Tribal Lands

As discussed in Section 2.1.3, Tribal lands occur within the project staging area at the eastern end of the Fornat Wash Bridge (#56C0099) BSA. All potential effects from project staging of equipment and access for vehicles for the construction of the bridge replacements would be restricted to the existing paved roadway of Railroad Avenue. No grading activities of Tribal lands would occur. In addition, no habitat for sensitive species or sensitive biological resources (such as jurisdictional waters) occur within this area.

5.9 Coachella Valley Multiple Species Habitat Conservation Plan

The proposed project is Covered Activities under the CVMSHCP (Plan) (Section 7.3.1.1 of the CVMSHCP) and would be considered Operations and Maintenance "public access facilities." The project also occurs within established Conservation Areas: East Channel Stubbe Wash (Bridge #0056C0101) occurs within the Snow Creek /Windy Point Conservation Area and Fornat Wash Bridge (#0056C0099) occurs within the Cabazon Conservation Area. Based on correspondence with Jim Sullivan (CVAG), although the project occurs within the Conservation Area, since it is considered an Operations and Maintenance project, it is not subject to Joint Project Review.

A portion of the LOD just east of Fornat Wash occurs outside of the Conservation Area; therefore, this area would be covered under Section 7.1 of the Plan. The boundaries of the CVMSHCP are shown on Figure 5. The County improvements to Railroad Avenue do not require avoidance and minimization measures (refer to Table 7-9 of the CVMSHCP Volume I, Section 7.3), however to minimize project impacts within the biological corridors through Fornat Wash and East Channel Stubbe Wash, the project will implement applicable avoidance and minimization measures in CVMSHCP Volume I, Section 4.4 to ensure full consistency with the Plan. This includes implementation of measures **BIO-2**, **BIO-5**, and **BIO-6**. The conservation objectives and required measures for the Cabazon Conservation Area and Snow Creek/Windy Point Conservation Area which are applicable to the proposed project are described in Table 5-1 and 5-2, respectively.

Table 5-1. CVMSHCP Consistency Analysis for Fornat Wash Bridge (#56C0099)

Applicable Conservation Objectives	CVMSHCP Consistency Analysis
Conserve mesquite hummocks natural community and southern sycamore-alder riparian woodland natural community, which provide habitat for riparian birds and other Covered Species. (Conservation Obj. 3)	These natural communities are not present within the BSA.
Conserve Essential Habitat for the Peninsular bighorn sheep. (Conservation Obj. 4)	The project does not occur within Essential Habitat for bighorn sheep.
Maintain the current capacity for fluvial (water-borne) sand transport along the San Gorgonio River and its tributaries. (Conservation Obj. 5)	The project occurs outside of the Essential Ecological Process area for fluvial sand transport. However, once the bridge replacement is complete, Fornat Wash will be maintained with an earthen bottom, and have the same capacity for fluvial sand transport as existing conditions.

Applicable Conservation Objectives	CVMSHCP Consistency Analysis
Maintain functional Biological Corridors under I-10 by conserving the Fornat Wash biological corridor to maintain ecosystem function for Covered Species. Aside from the freeway culvert, which is an unavoidably narrow segment, the biological corridor shall be one mile wide, except where existing uses or Indian reservation lands not subject to the Plan preclude this width, to minimize edge effects. It should also be noted that portions of the corridor cross Indian reservation land, which is not a part of the Plan and over which the Plan exerts no control. (Conservation Obj. 6)	All impacts to the biological corridor through Fornat Wash will be temporary during construction of the project. Land use and maintenance of the Fornat Wash undercrossing will be the same as existing conditions during operation of the project. An earthen bottom will be maintained. Reservation lands for the Morongo tribe occur within the staging area at the east end of the project and are not covered by the propose project. The staging area will occur within the existing paved roadway, which is already maintained by the County.
Required Measures for the Cabazon Conservation Area	**CVMSHCP Consistency Analysis**
The culvert conveying Fornat Wash under I-10 shall be maintained by Caltrans at no less than its current size, with a soft-bottom, to maintain current levels of sand transport and wildlife movement under I-10. (Required Measure 2)	The project would not affect the portion of Fornat Wash under I-10. However, the project has been designed to maintain a soft earthen bottom within Fornat Wash under Railroad Avenue. There are no piers or columns that will be placed within the Fornat Wash.

Applicable Conservation Objectives	CVMSHCP Consistency Analysis
Outside of the fluvial sand transport Essential Ecological Process area, the Permittees shall comply with applicable avoidance, minimization, and mitigation measures described in CVMSHCP Volume I, Section 4.4 and the Land Use Adjacency Guidelines as described in CVMSHCP Volume I, Section 4.5. (Required Measure 3). Indirect effects from project development adjacent to or within the Conservation Area will address edge effects as they relate to Drainage (CVMSHCP Volume I, Section 4.5.1), Toxics ((CVMSHCP Volume I, Section 4.5.2), Lighting (CVMSHCP Volume I, Section 4.5.3), Noise (CVMSHCP Volume I, Section 4.5.4), and Invasives (CVMSHCP Volume I, Section 4.5.5), Barriers (CVMSHCP Volume I, Section 4.5.6), and Grading/Land Development (CVMSHCP Volume I, Section 4.5.7).	The project occurs outside of the Essential Ecological Process area. Measures BIO-2 and BIO-5 through BIO-7 have been incorporated for compliance with CVMSHCP Volume I, Section 4.4 and 4.5). Drainage- The project is being designed to address potential erosion of the bridge, including installation of riprap downstream of the bridge. Measures BIO-2 would ensure Best Management Practices are implemented and would reduce potential degradation of biological resources and habitats within The Conservation Area. Toxics- measure BIO-2 would ensure no toxic chemicals or byproducts that are potentially toxic or could harm wildlife, plants, habitat or water quality would be discharged into the Conservation Area or waterways that drain into the Conservation Area (i.e. Stubbe Wash). Lighting- No lighting is being installed as part of the proposed project. All construction activities will occur during daylight hours. Noise- The project is bordered on the north and south sides by two facilities that already generate high decibel of noise levels on either side of the LOD: the I-10 and the UPRR. Pile driving may be necessary during construction activities, however, the noise/vibrations generated as a result of construction are not expected to be appreciably greater than noise already generated by the I-10 and UPRR. Invasives- Non-native plant species will not be incorporated into the landscape after construction is completed. All temporary disturbance areas will be hydroseeded with native plant mix meeting County/Caltrans standards. Barriers- Modern traffic barriers/railings will be installed on each side of both bridges to meet Caltrans/County safety standards. These barriers would also to discourage access into the Conservation Area from the ROW. Grading/Land Development- Manufactured slopes will not extend into adjacent lands in the Conservation Area; they will be limited to the County ROW.

Table 5-2. CVMSHCP Consistency Analysis for East Channel Stubbe Wash Bridge (#56C0101)

Applicable Conservation Objectives	CVMSHCP Consistency Analysis
Conserve Core Habitat and associated Essential Ecological Processes (as set forth in Conservation Obj. 2a through 2g) for Coachella Valley milkvetch, Coachella Valley giant sand-treader cricket, Coachella Valley Jerusalem cricket, Coachella Valley fringe-toed lizard, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, allowing evolutionary processes and natural population fluctuations to occur. Minimize fragmentation, human-caused disturbance, and edge effects to Core Habitat by conserving contiguous Habitat and effective Linkages between patches of Core Habitat. (Conservation Obj. 2)	The project occurs at the northern edge of Core Habitat for several of the species listed in Conservation Obj. 2a through 2g, however the project site lacks suitable habitat for these species, thus it does not provide Core Habitat for these species. This is due to existing maintenance of Caltrans, County, and UPRR ROWs, and recreational land uses within the undercrossing at East Channel Stubbe Wash. During construction there will be a temporary increase in human disturbance. Once the project is completed, maintenance activities and land uses will remain the same as existing conditions.
Conserve Le Conte's thrasher nesting sites as described in CVMSHCP Volume I, Section 4.4 for avoidance, minimization, and mitigation measures. (Conservation Obj. 3)	There are no potential nesting sites for Le Conte's thrasher (refer to Section 4.3.5).
Conserve individual desert tortoises as described in CVMSHCP Volume I, Section 4.4 for desert tortoise avoidance, minimization, and mitigation measures. (Conservation Obj. 5)	Desert tortoise would not be impacted by the project as it is not present in the BSA. However, since there is potential for desert tortoise to use the biological corridor through East Channel Stubbe Wash, Measures **BIO-3**, **BIO-5**, and **BIO-6**have been incorporated from CVMSHCP Volume I, Section 4.4 to ensure there are no direct effects migrating desert tortoise. Refer to Section 4.3.1 of this document for full details.
Conserve occupied burrowing owl burrows as described in CVMSHCP Volume I, Section 4.4 for burrowing owl avoidance, minimization, and mitigation measures. (Conservation Obj. 6)	Burrowing owl would not be directly affected by the project, however, there is a potential for burrowing owl to occupy the project site or adjacent areas in the future. Measure **BIO-7** has been incorporated from CVMSHCP Volume I, Section 4.4 to ensure full avoidance of potential impacts on burrowing owl. Refer to Section 4.3.2 of this document for full details.
Conserve the Stubbe Canyon Wash Biological Corridor south of the I-10 to maintain potential habitat connectivity for desert tortoise, Coachella Valley round-tailed ground squirrel, and Palm Springs pocket mouse, and to maintain ecosystem function for Covered Species. Aside from the freeway culverts and any Existing Use areas, which are unavoidably narrow segments, the Biological Corridor shall expand to one mile wide to minimized edge effects. (Conservation Obj. 8a)	All impacts to the Biological Corridor will be temporary during construction of the project. Land use and maintenance of East Channel Stubbe Wash undercrossing will be the same as existing conditions during operation of the project. An earthen sandy bottom will be maintained.

Applicable Conservation Objectives	CVMSHCP Consistency Analysis
Required Measures for the Snow Creek/Windy Point Conservation Area	*CVMSHCP Consistency Analysis*
The Permittees shall comply with applicable avoidance, minimization, and mitigation measures described in Section 4.4 and the Land Use Adjacency Guidelines as described in Section 4.5. (Required Measure 2). Indirect effects from project development adjacent to or within the Conservation Area will address edge effects as they relate to Drainage (CVMSHCP Volume I, Section 4.5.1), Toxics ((CVMSHCP Volume I, Section 4.5.2), Lighting (CVMSHCP Volume I, Section 4.5.3), Noise (CVMSHCP Volume I, Section 4.5.4), and Invasives (CVMSHCP Volume I, Section 4.5.5), Barriers (CVMSHCP Volume I, Section 4.5.6), and Grading/Land Development (CVMSHCP Volume I, Section 4.5.7).	Measures BIO-2 and BIO-5 through **BIO-7** have been incorporated to address CVMSHCP Volume I, Section 4.4 and Section 4.5. Drainage – The project is being designed to address potential erosion of the bridge, including installation of riprap downstream of the bridge. Measures BIO-2 would ensure Best Management Practices are implemented and would reduce potential degradation of biological resources and habitats within The Conservation Area. Toxics – measure BIO-2 would ensure no toxic chemicals or byproducts that are potentially toxic or could harm wildlife, plants, habitat or water quality would be discharged into the Conservation Area or waterways that drain into the Conservation Area (i.e. Stubbe Wash). Lighting – No lighting is being installed as part of the proposed project. All construction activities will occur during daylight hours. Noise – The project is bordered on the north and south sides by two facilities that already generate high decibel of noise levels on either side of the LOD: the I-10 and the UPRR. Pile driving may be necessary during construction activities, however, the noise/vibrations generated as a result of construction are not expected to be appreciably greater than noise already generated by the I-10 and UPRR. Invasives- Non-native plant species will not be incorporated into the landscape after construction is completed. All temporary disturbance areas will be hydroseeded with native plant mix meeting County/Caltrans standards. Barriers – Modern traffic barriers/railings will be installed on each side of both bridges to meet Caltrans/County safety standards. These barriers would also to discourage access into the Conservation Area from the ROW. However, public access through the East Channel Stubbe Wash will not be restricted as this serves as a recreational trail. Grading/Land Development – Manufactured slopes will not extend into adjacent lands in the Conservation Area; they will be limited to the County ROW.

Chapter 6 References

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Appendices

- Appendix A – Figures
- Appendix B – Agency Correspondence
- Appendix C – Special Status Species Likelihood Of Occurrence
- Appendix D – Plant And Animal Species Observed/Detected
- Appendix E – Site Photographs
- Appendix F – Desert Tortoise Pre-Project Survey Data Sheets
- Appendix G – Jurisdictional Delineation Report
- Appendix H – Survey Dates and Personnel

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APPENDIX A: FIGURES

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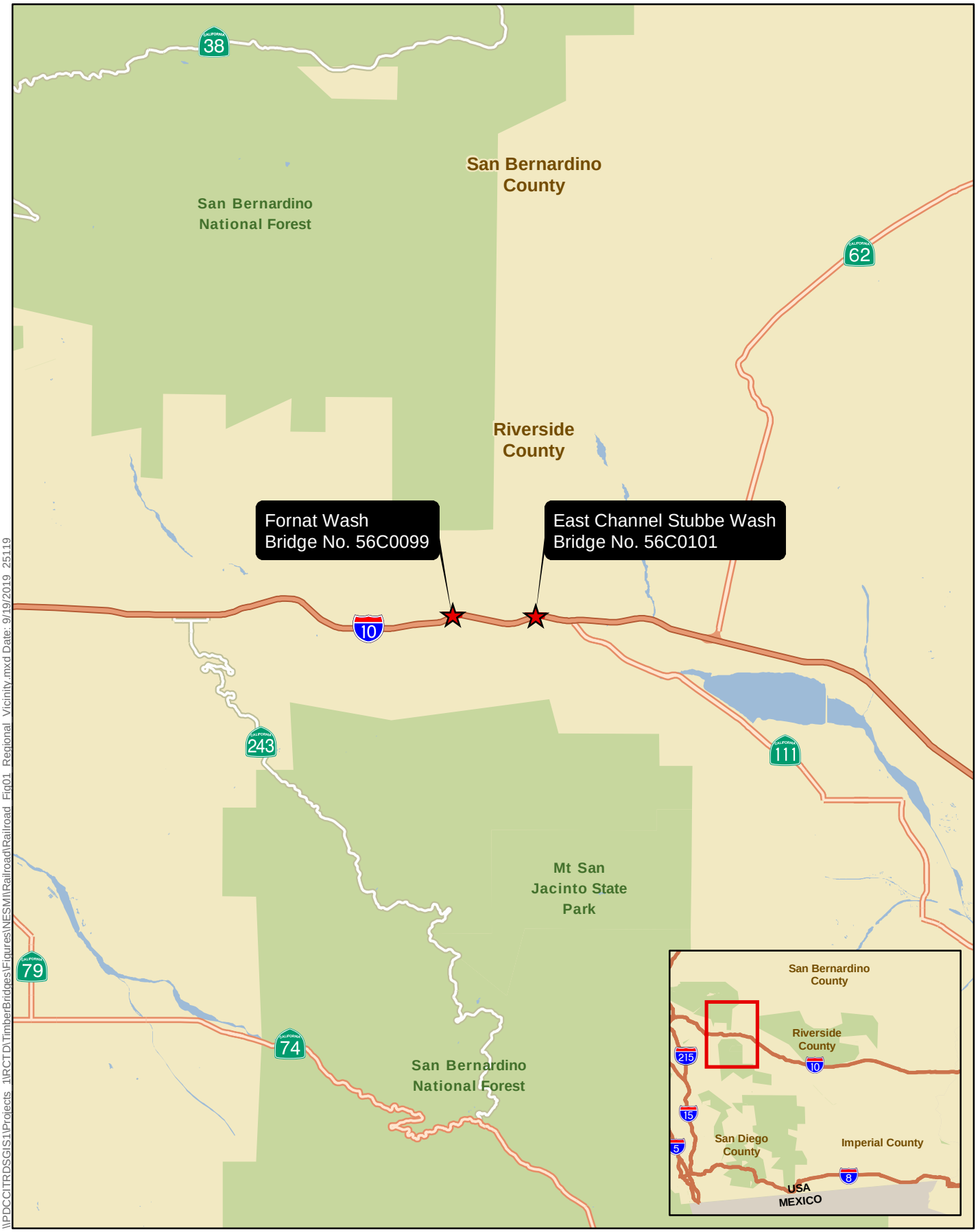

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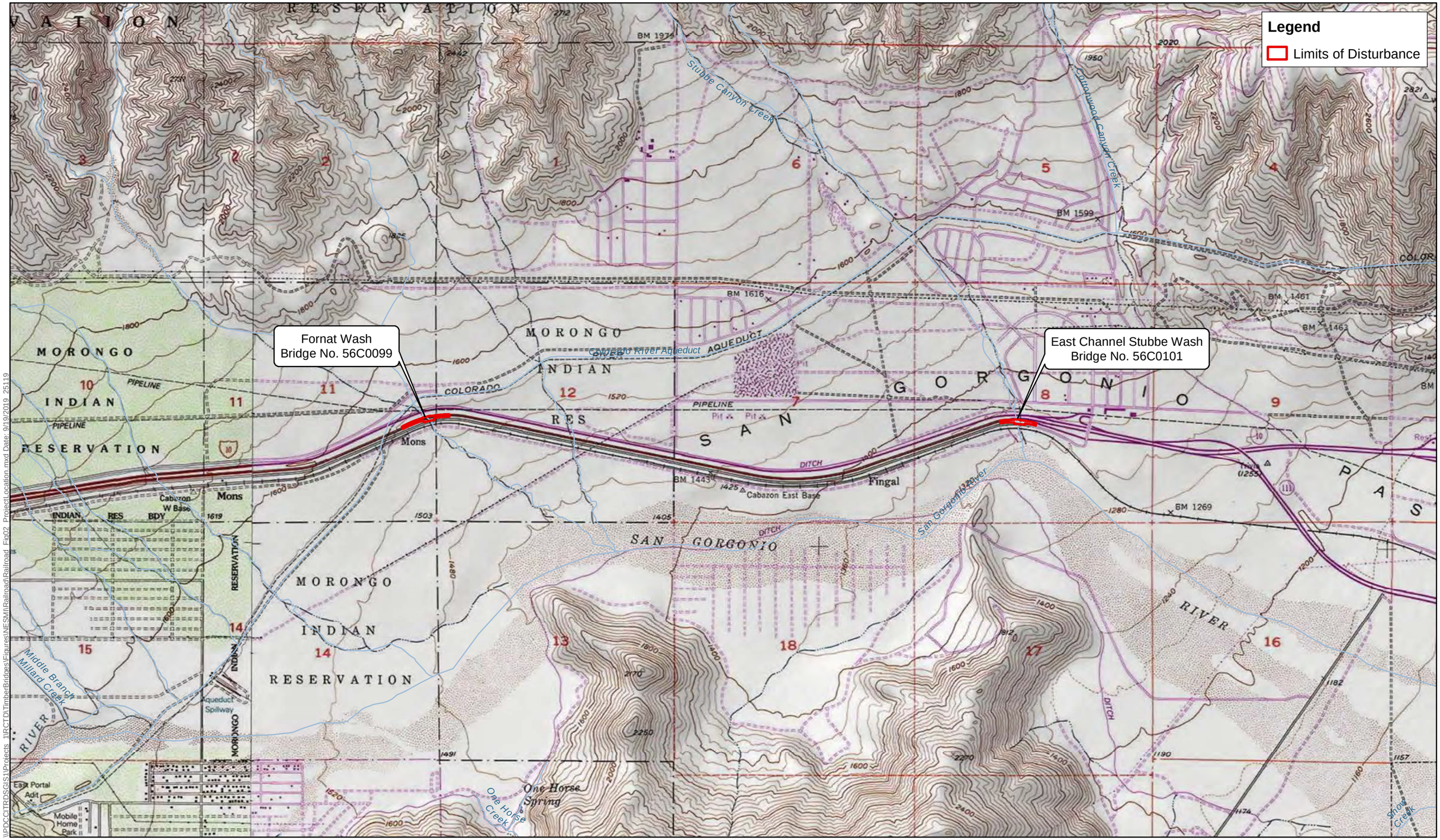
Source: ESRI StreetMap North America (2013)

Figure 1
Regional Vicinity Map
Railroad Avenue Bridge Replacement Projects



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Source: USGS 7.5'
White Water & Cabazon

Figure 2
Project Location
Railroad Avenue Bridge Replacement Projects

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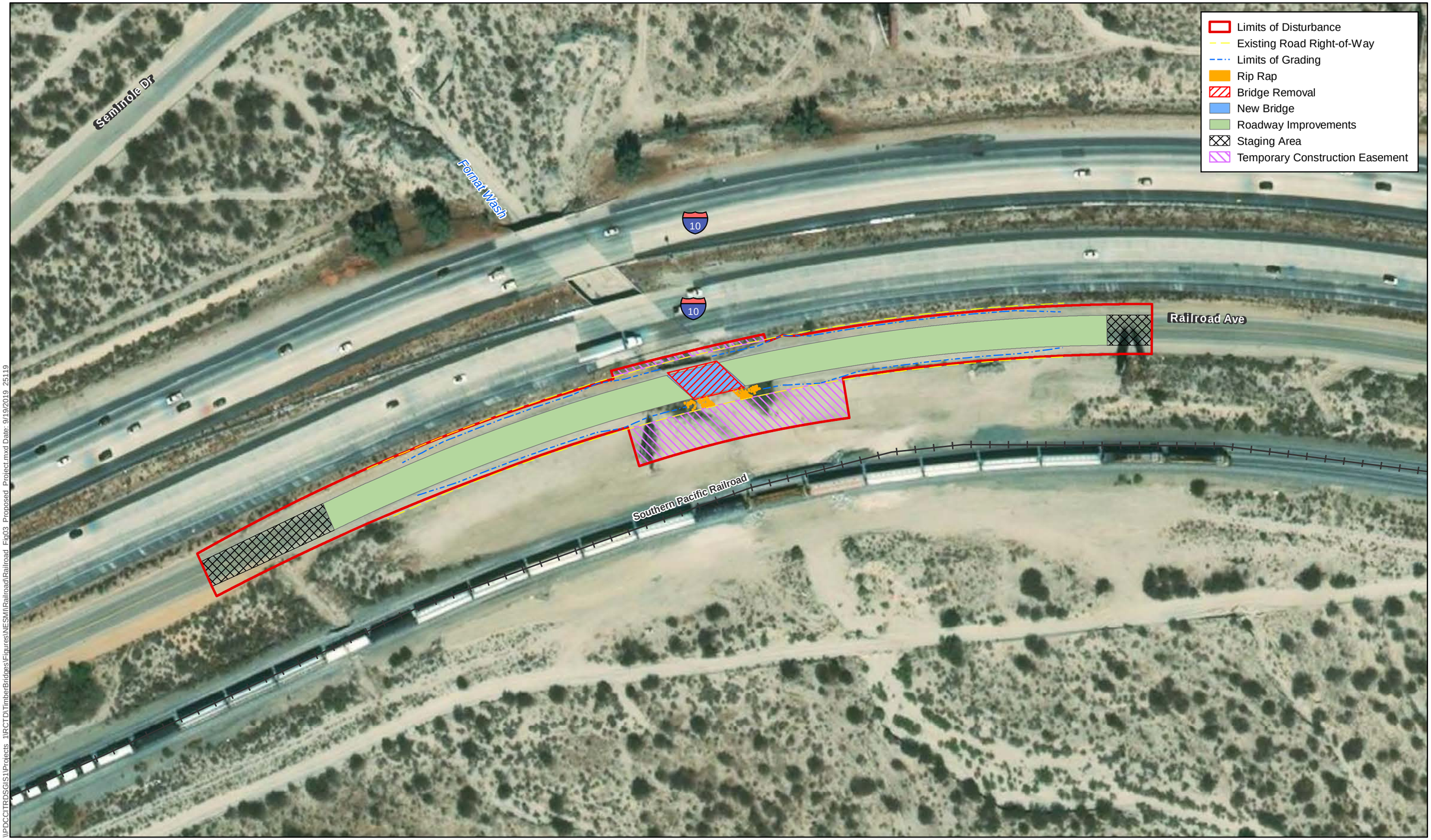
Source: ESRI Imagery (2016)

Figure 3 - Map Index
Proposed Project
Railroad Avenue Bridge Replacement Projects



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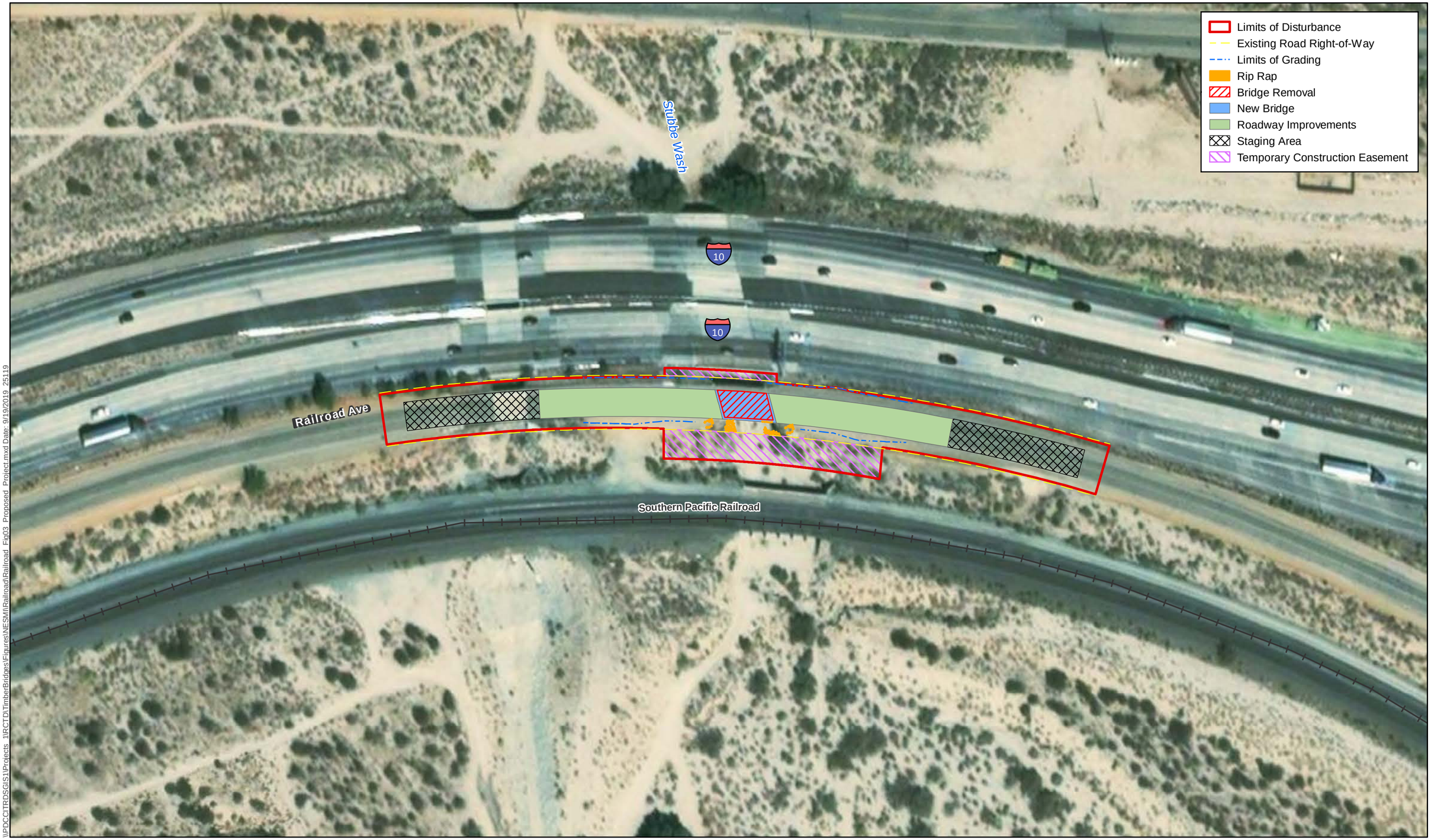
Source: ESRI Imagery (2016)

Figure 3 - Sheet 1
Proposed Project
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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Source: ESRI Imagery (2016)

Figure 3 - Sheet 2
Proposed Project
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects

Source: ESRI Imagery (2016)

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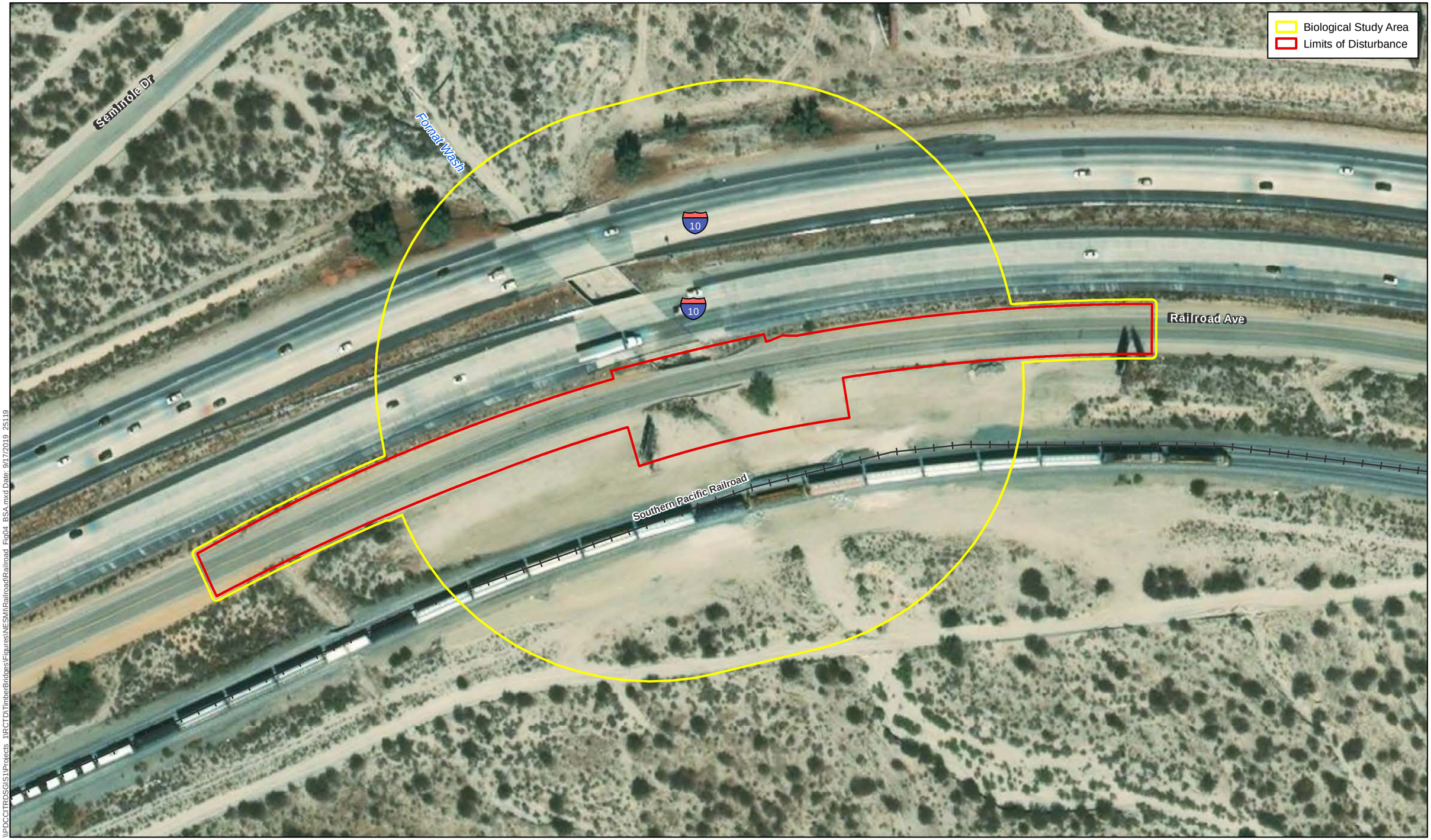
Figure 4 - Map Index
Biological Study Area
Railroad Avenue Bridges Replacement Projects



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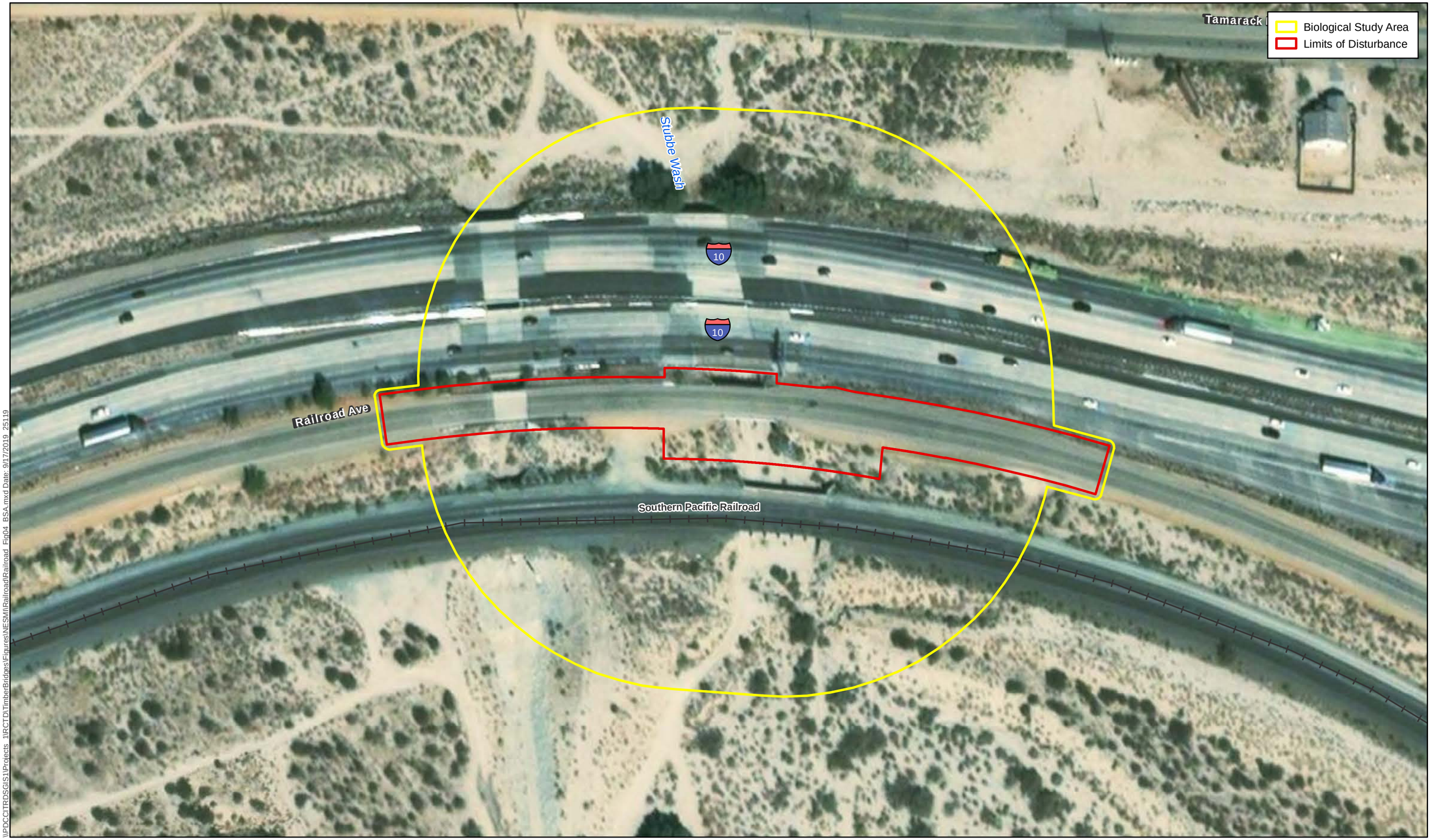
Source: ESRI Imagery (2016)

Figure 4 - Sheet 1
Biological Study Area
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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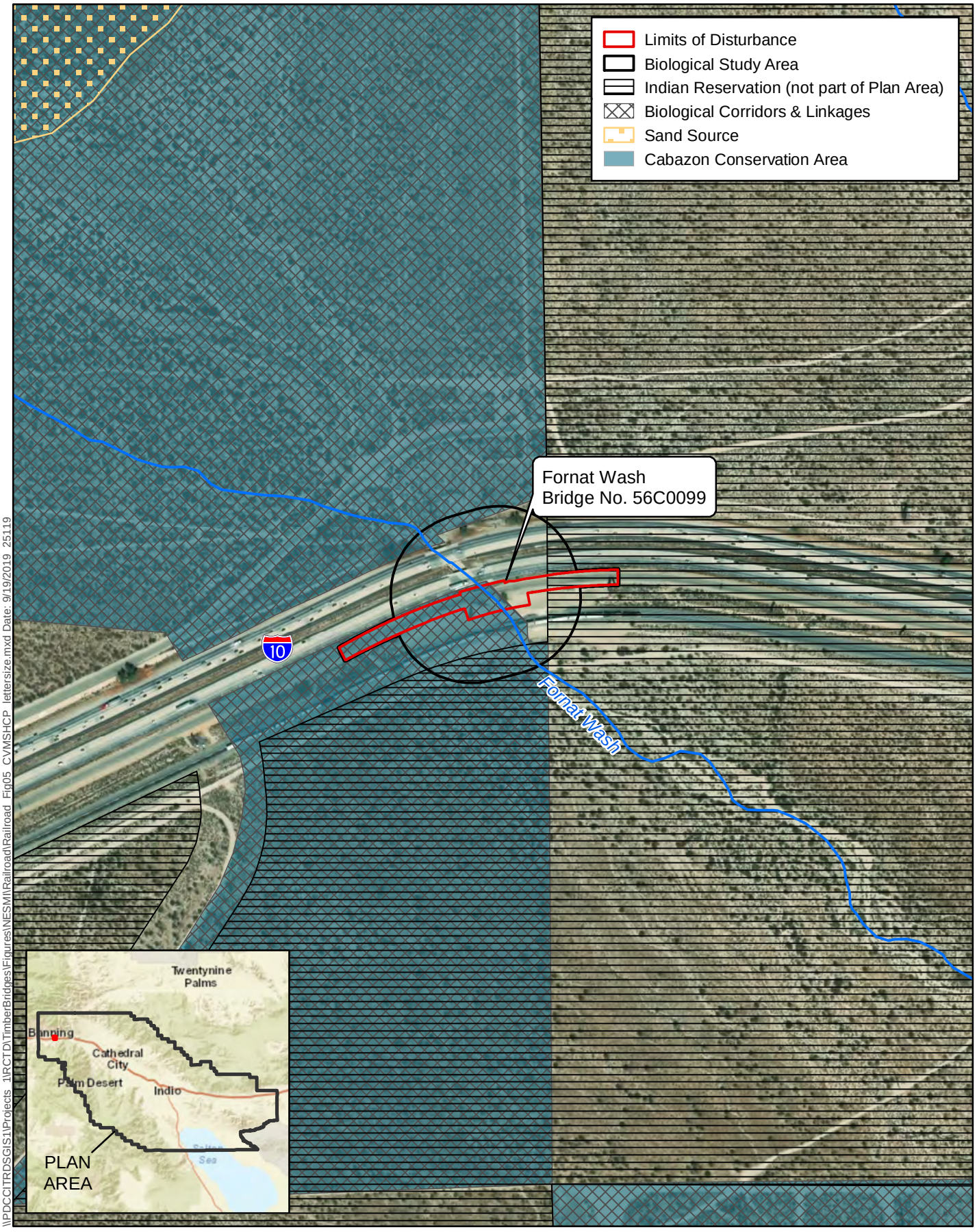
Source: ESRI Imagery (2016)

Figure 4 - Sheet 2
Biological Study Area
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects



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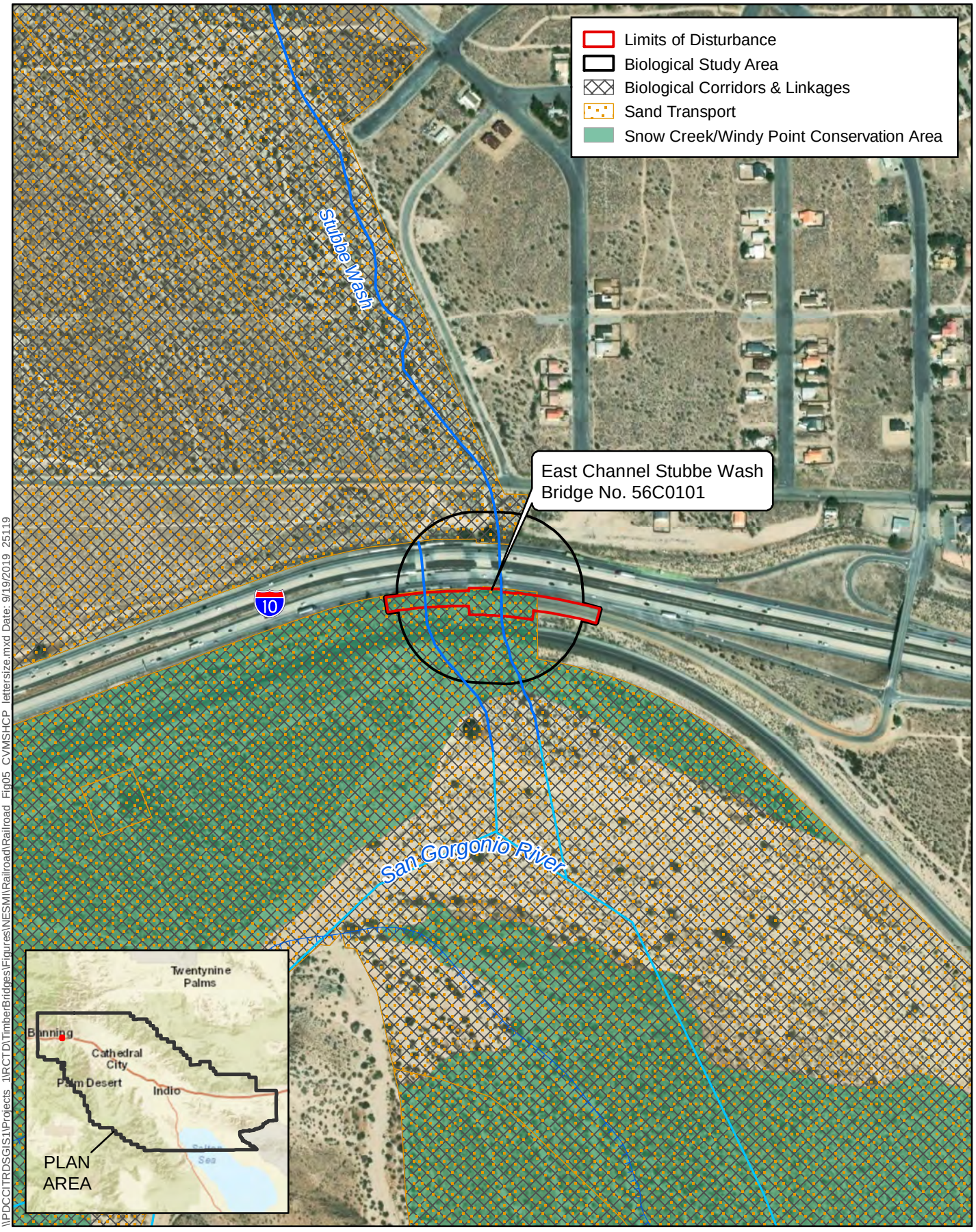
Source: ESRI Imagery (2016); CVAG

Figure 5 - Sheet 1
Coachella Valley Multiple Species Habitat Conservation Plan Area
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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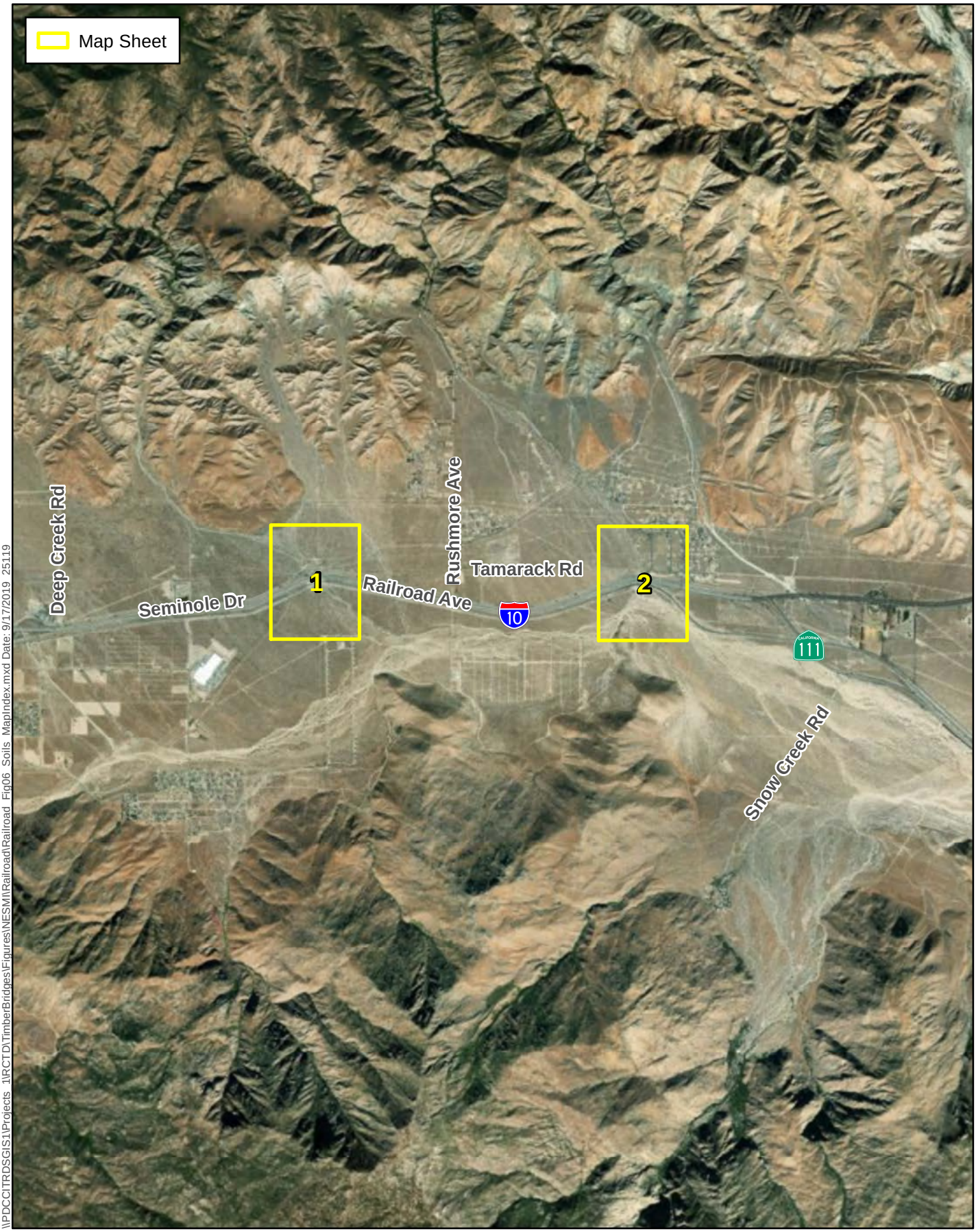
Source: ESRI Imagery (2016); CVAG

Figure 5 - Sheet 2
Coachella Valley Multiple Species Habitat Conservation Plan Area
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects



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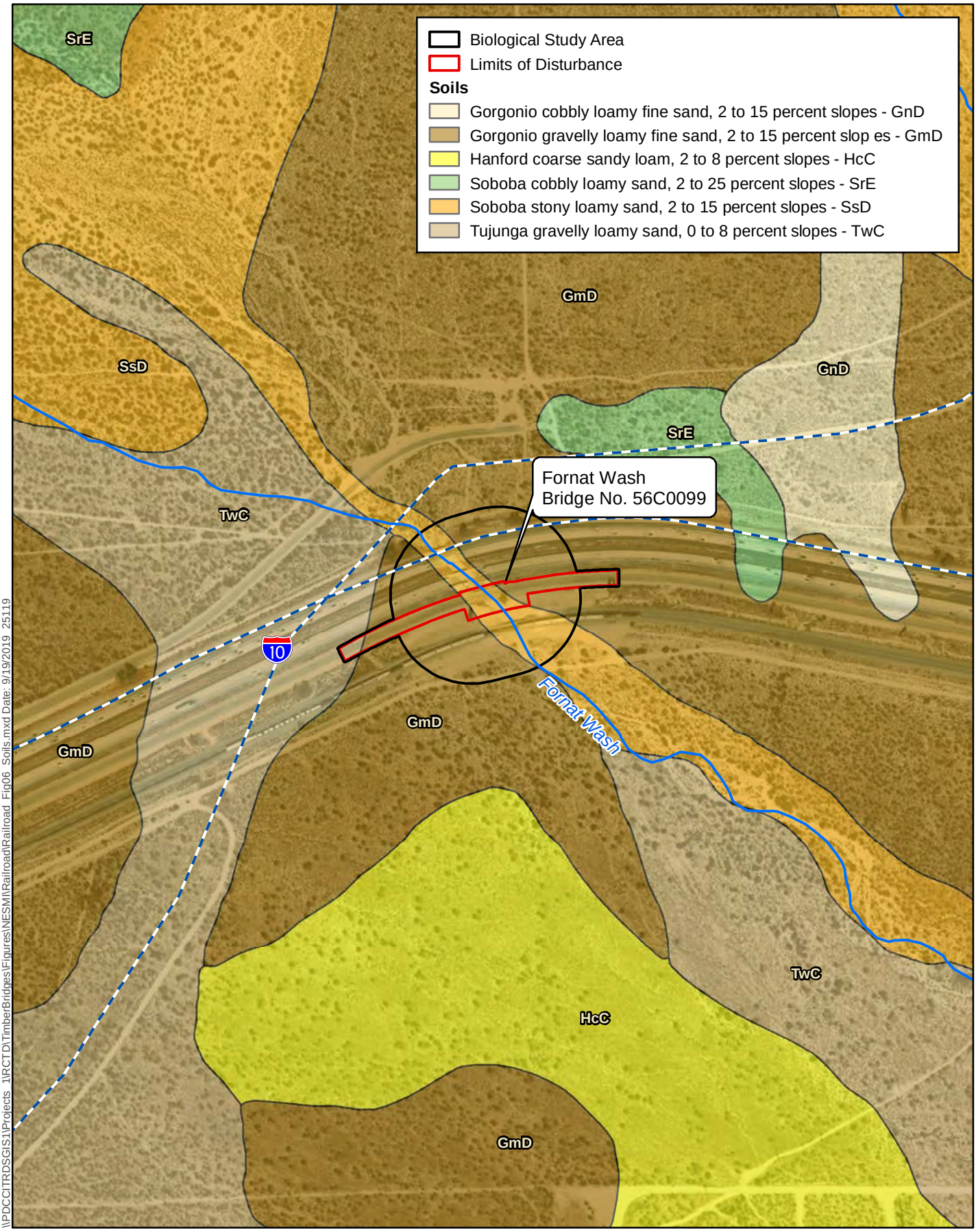
Source: ESRI Imagery (2016)

Figure 6 - Map Index
Soils Map
Railroad Avenue Bridge Replacement Projects



\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig06_Soils.mxd Date: 9/19/2019 25119

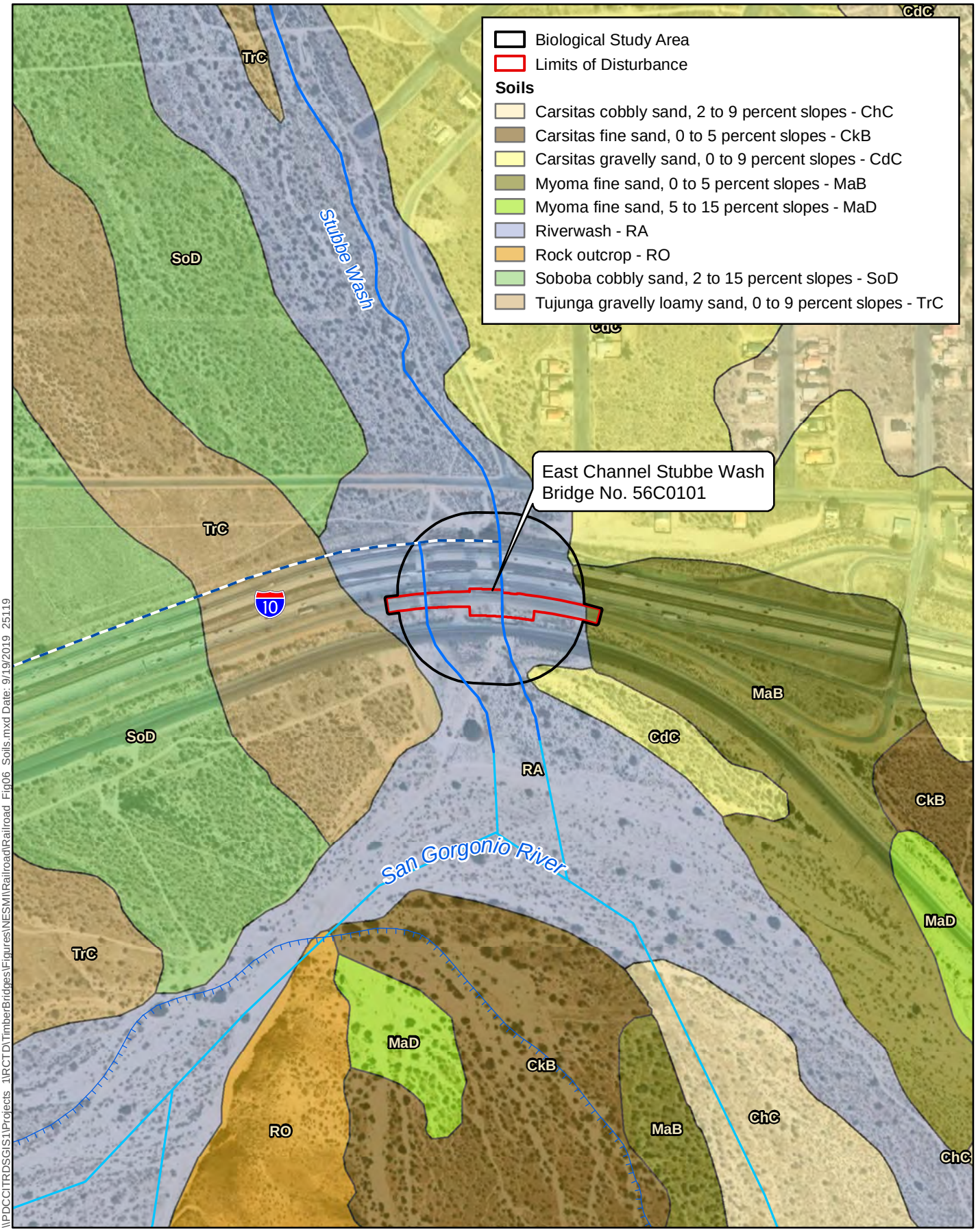
N

0 250 500

Feet

Source: ESRI Imagery (2016); SSURGO

Figure 6 - Sheet 1
Soils Map
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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N

0 250 500

Feet

Source: ESRI Imagery (2016); SSURGO

Figure 6 - Sheet 2
Soils Map
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects

\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig07_Vegetation_MapIndex.mxd Date: 9/18/2019_25119

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Feet

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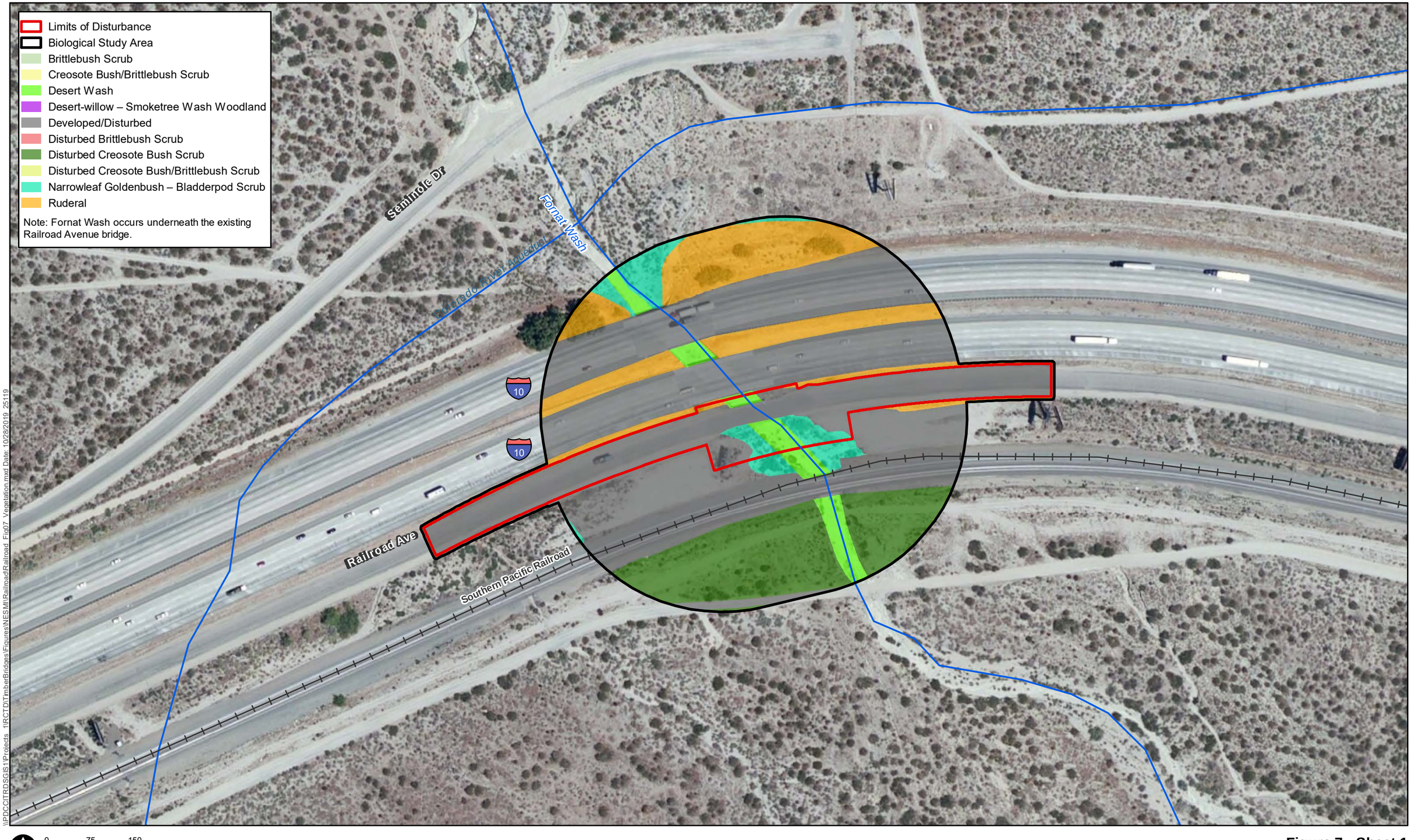
Source: ESRI Imagery (2016)

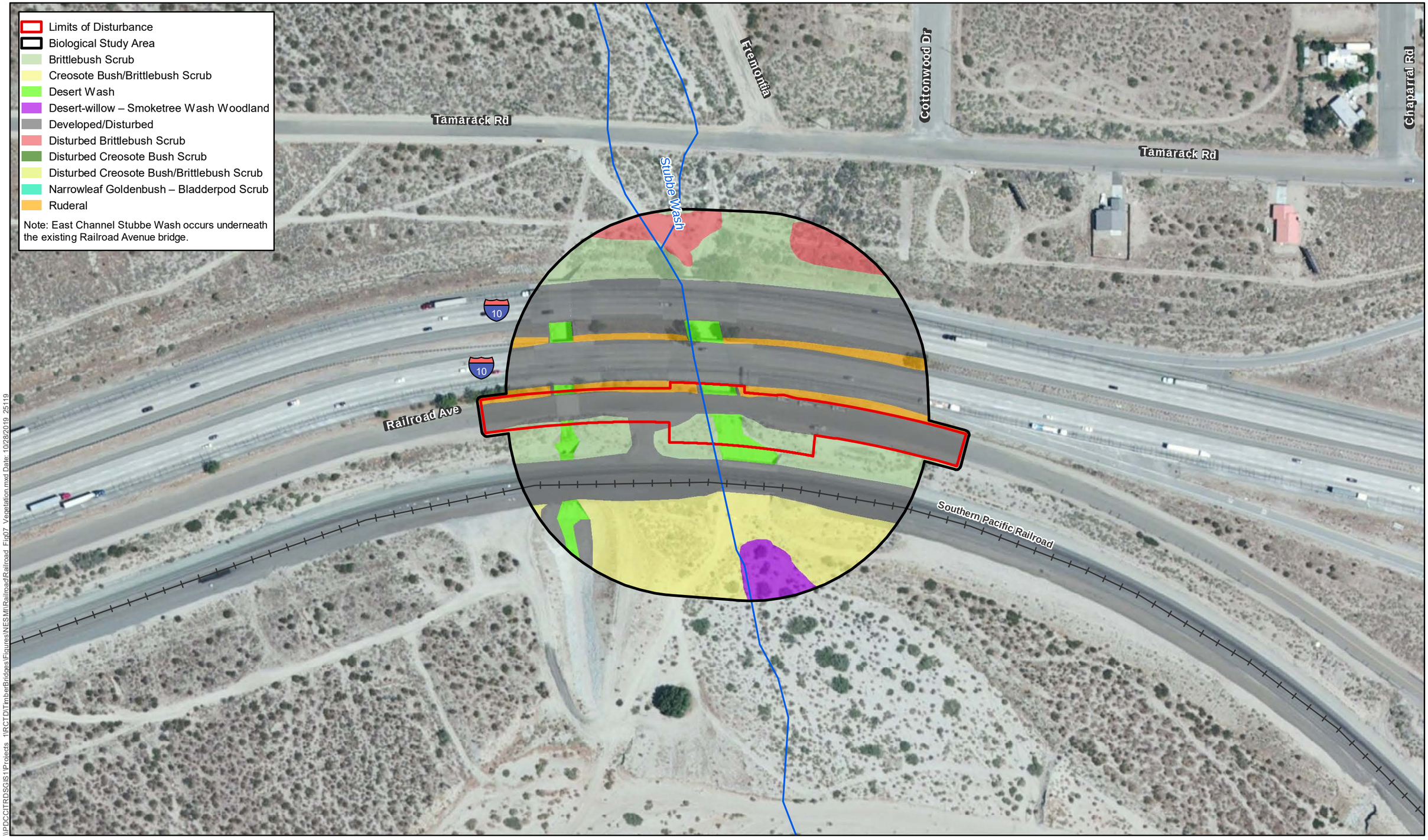
Figure 7 - Map Index
Vegetation Communities/Land Use Types
Railroad Avenue Bridge Replacement Projects



Source: World Imagery (Clarity); ESRI

\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NES\MI\Railroad\Railroad_Fig07_Vegetation.mxd Date: 10/28/2019 25119

Figure 7 - Sheet 1
Vegetation Communities/Land Use Types
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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0 75 150
Feet

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Source: World Imagery (Clarity); ESRI

Figure 7 - Sheet 2
Vegetation Communities/Land Use Types
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects

\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig08_ImpactAreas_MapIndex.mxd Date: 9/19/2019_25119

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Feet

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Source: ESRI Imagery (2016)

Figure 8 - Map Index
Impact Areas
Railroad Avenue Bridge Replacement Projects

\\PDCCITRDSGIS1\Projects_1\RCT\D\TimberBridges\Figures\NESM\Railroad\Railroad_Fig08_ImpactAreas.mxd Date: 9/17/2019 25119

0 50 100
Feet

N

Source: ESRI World Imagery (Clarity): Streetmap

Figure 8 - Sheet 1
Impact Areas
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects

\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig08_ImpactAreas.mxd Date: 9/17/2019 25119

0 50 100
Feet

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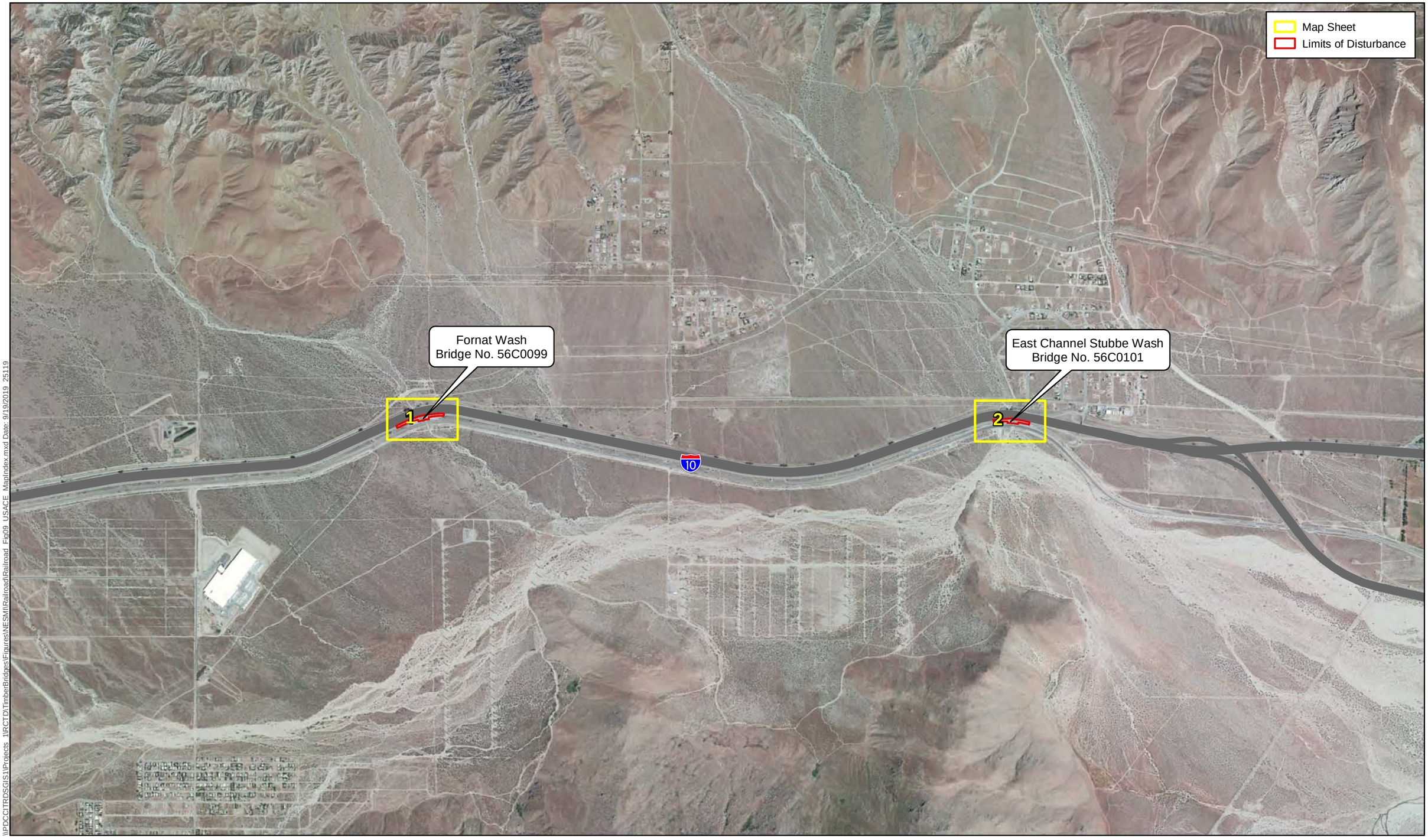
Source: ESRI World Imagery (Clarity): Streetmap

Figure 8 - Sheet 2
Impact Areas
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects



\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESMI\Railroad\Railroad_Fig09_USACE_MapIndex.mxd Date: 9/19/2019_25119

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Feet

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Source: ESRI Imagery (2016)

Figure 9 - Map Index
USACE/RWQCB Jurisdictional Resources Impacts
Railroad Avenue Bridge Replacement Projects

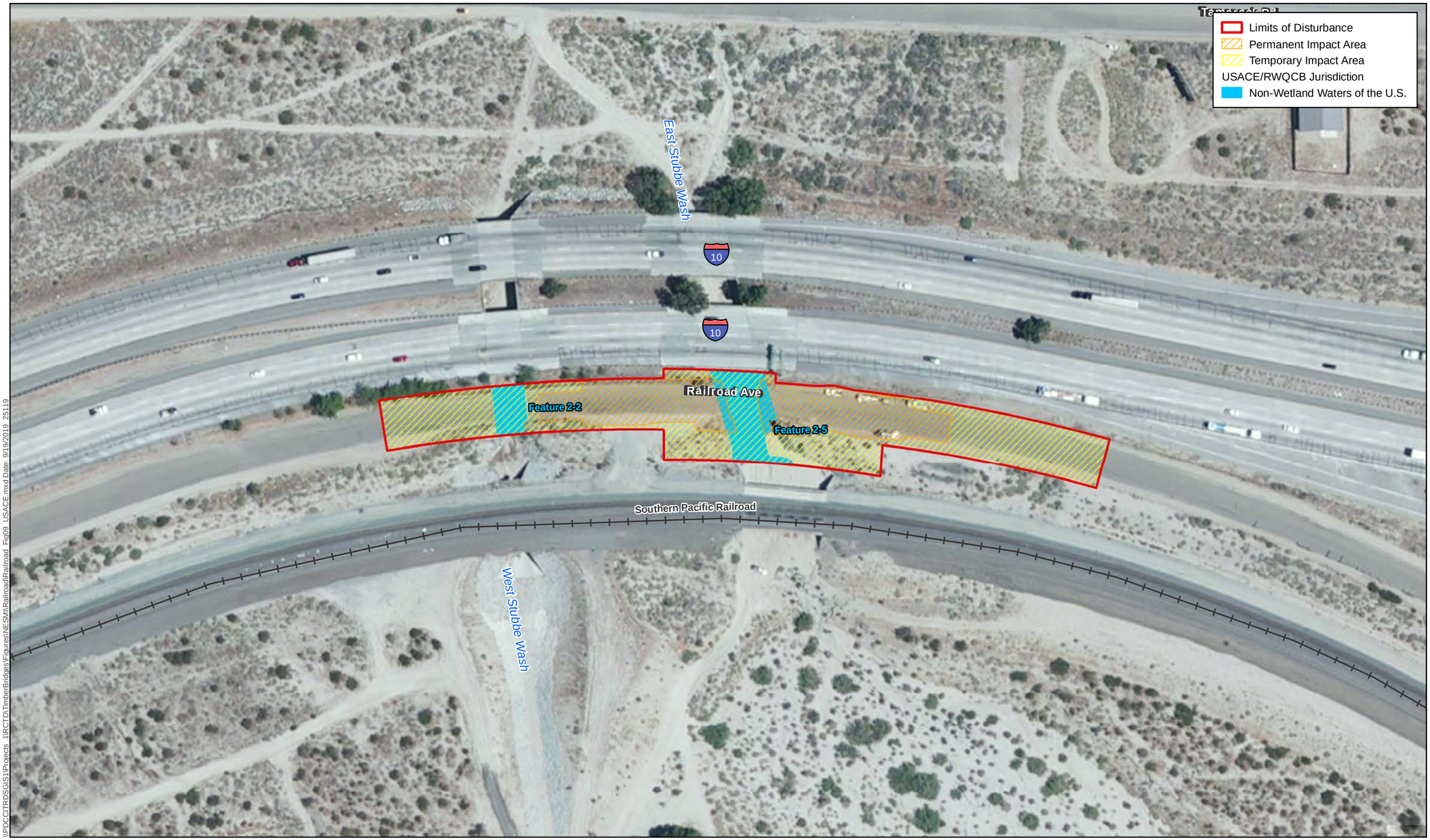
\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridgesFigures\NESM\Railroad\Railroad_Fig09_USACE.mxd Date: 9/19/2019_25119

0 50 100
Feet

N

Source: ESRI Imagery (2016)

Figure 9 - Sheet 1
USACE/RWQCB Jurisdictional Resources Impacts
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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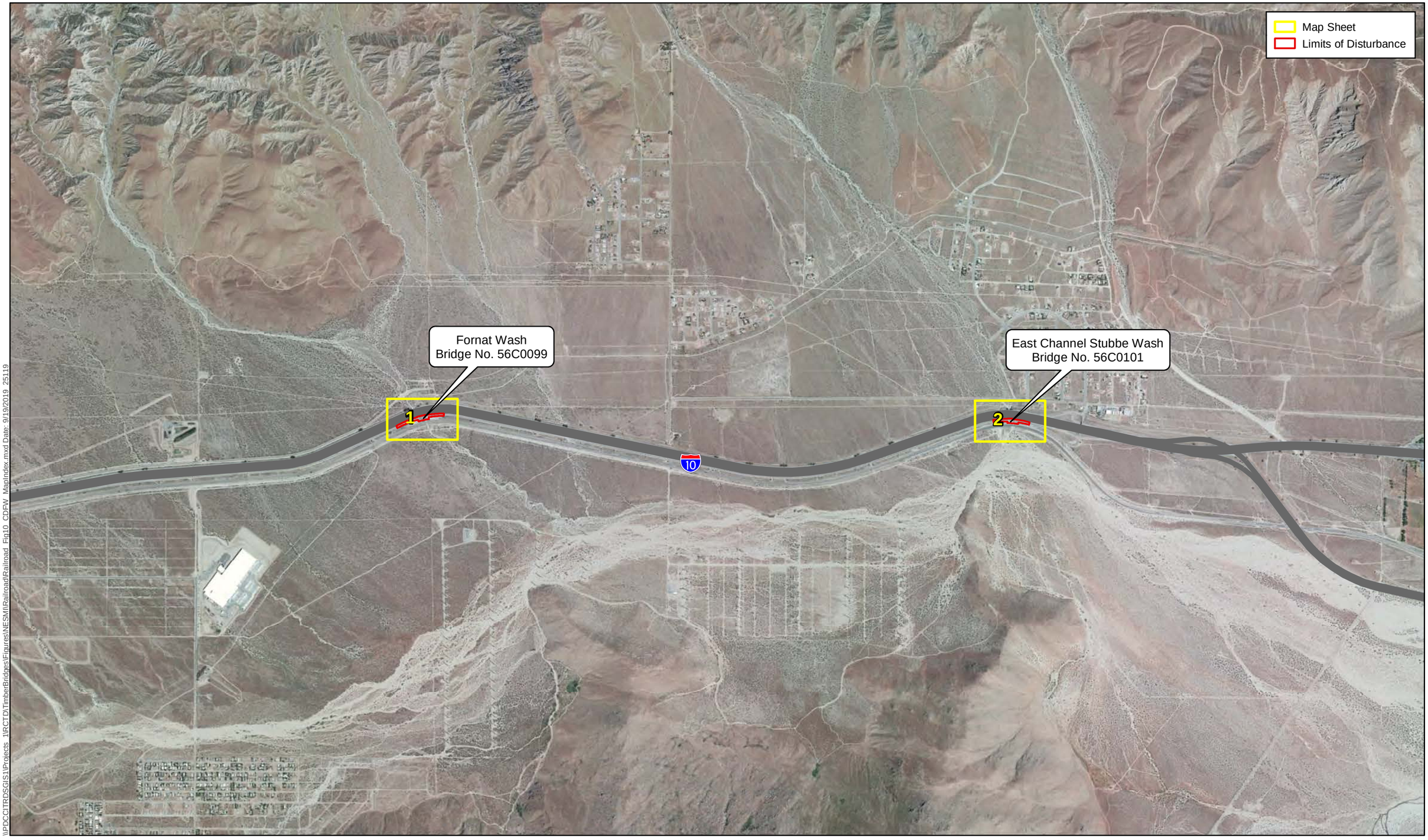
0 50 100
Feet

N

Source: ESRI Imagery (2016)

Figure 9 - Sheet 2
USACE/RWQCB Jurisdictional Resources Impacts
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects



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Feet

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Source: ESRI Imagery (2016)

Figure 10 - Map Index
CDFW Jurisdictional Results
Railroad Avenue Bridge Replacement Projects

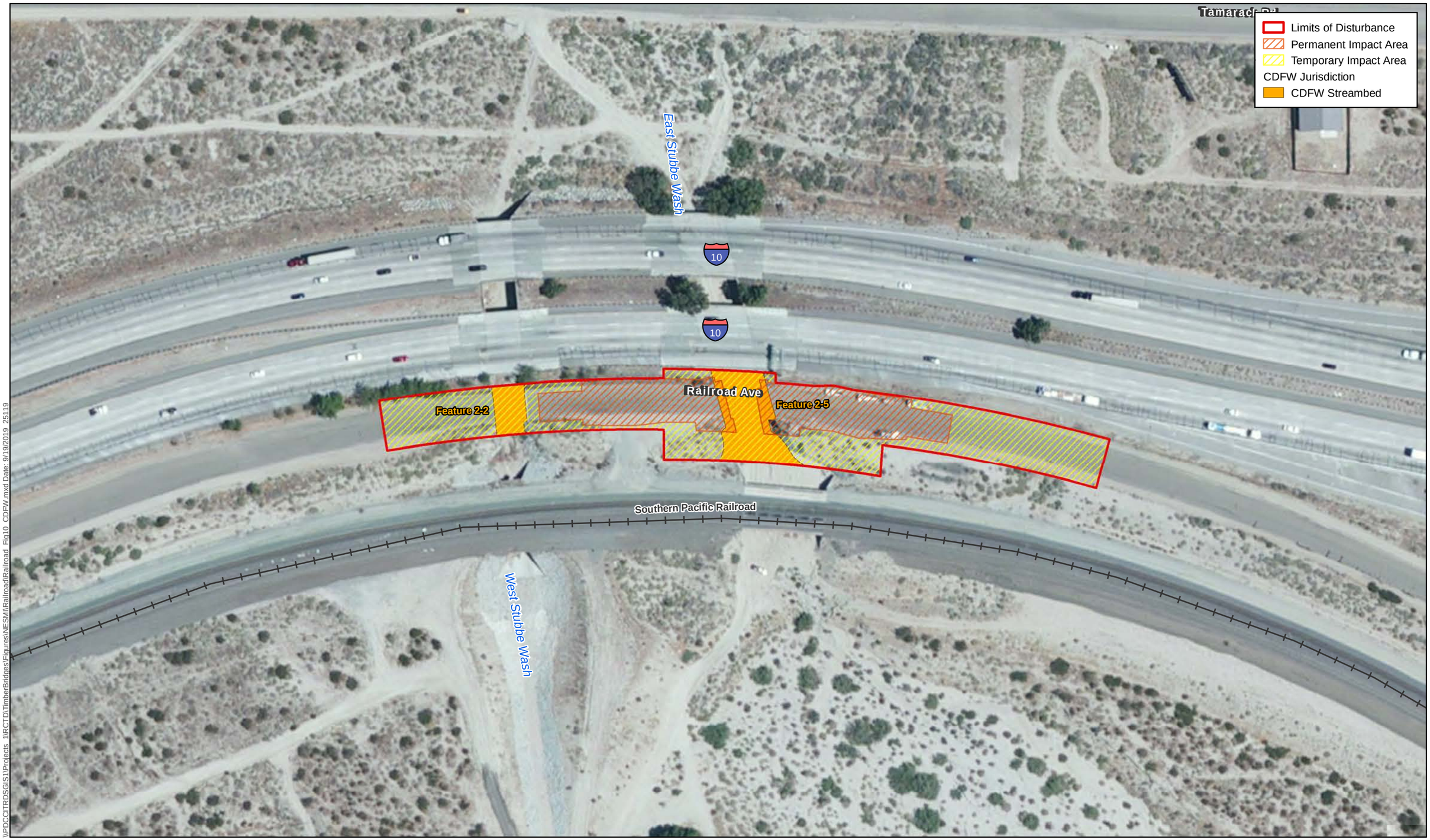
\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridgesFigures\NESM\Railroad\Railroad_Fig10_CDFW.mxd Date: 9/19/2019 25119

0 50 100
Feet

N

Source: ESRI Imagery (2016)

Figure 10 - Sheet 1
CDFW Jurisdictional Resources Impacts
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



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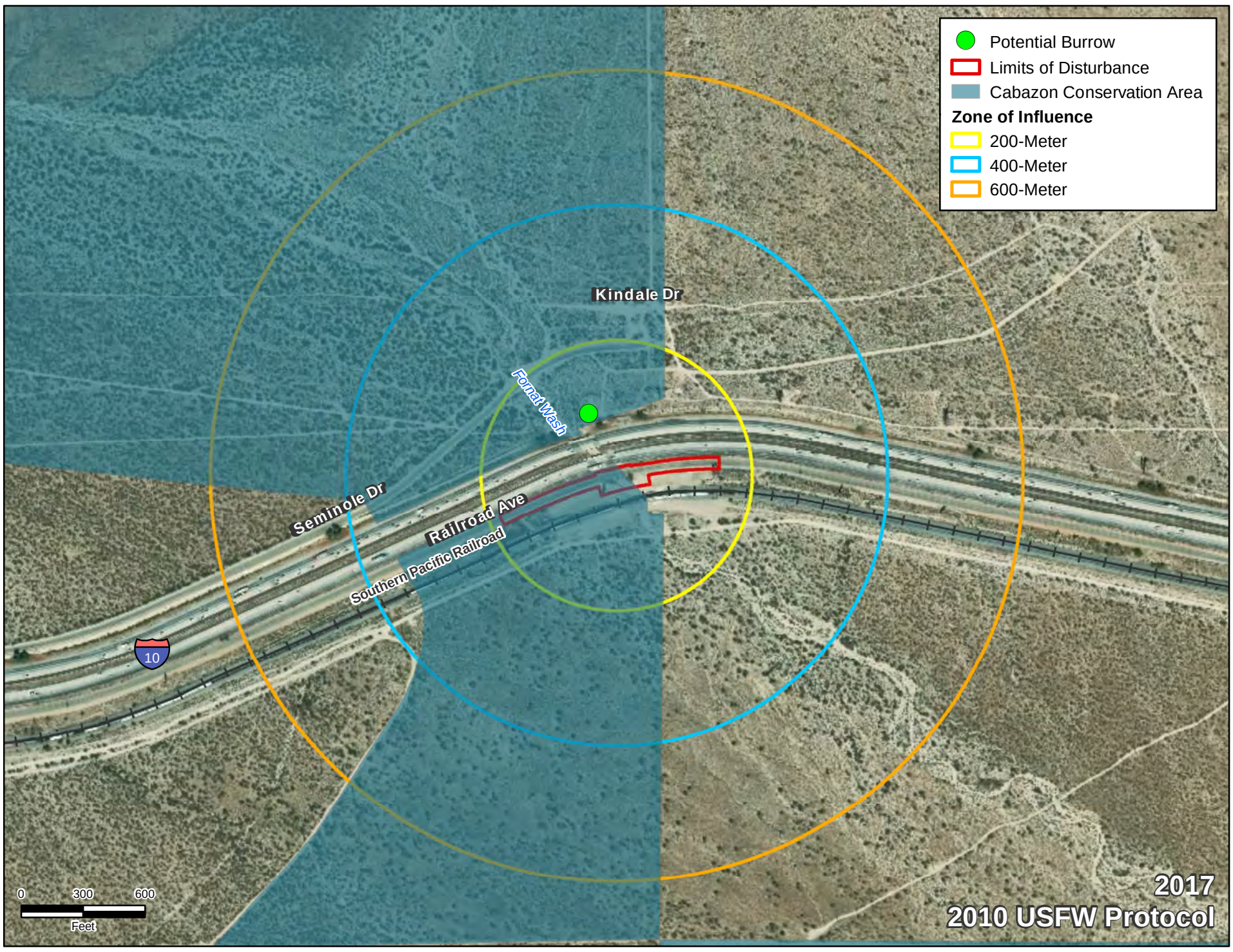
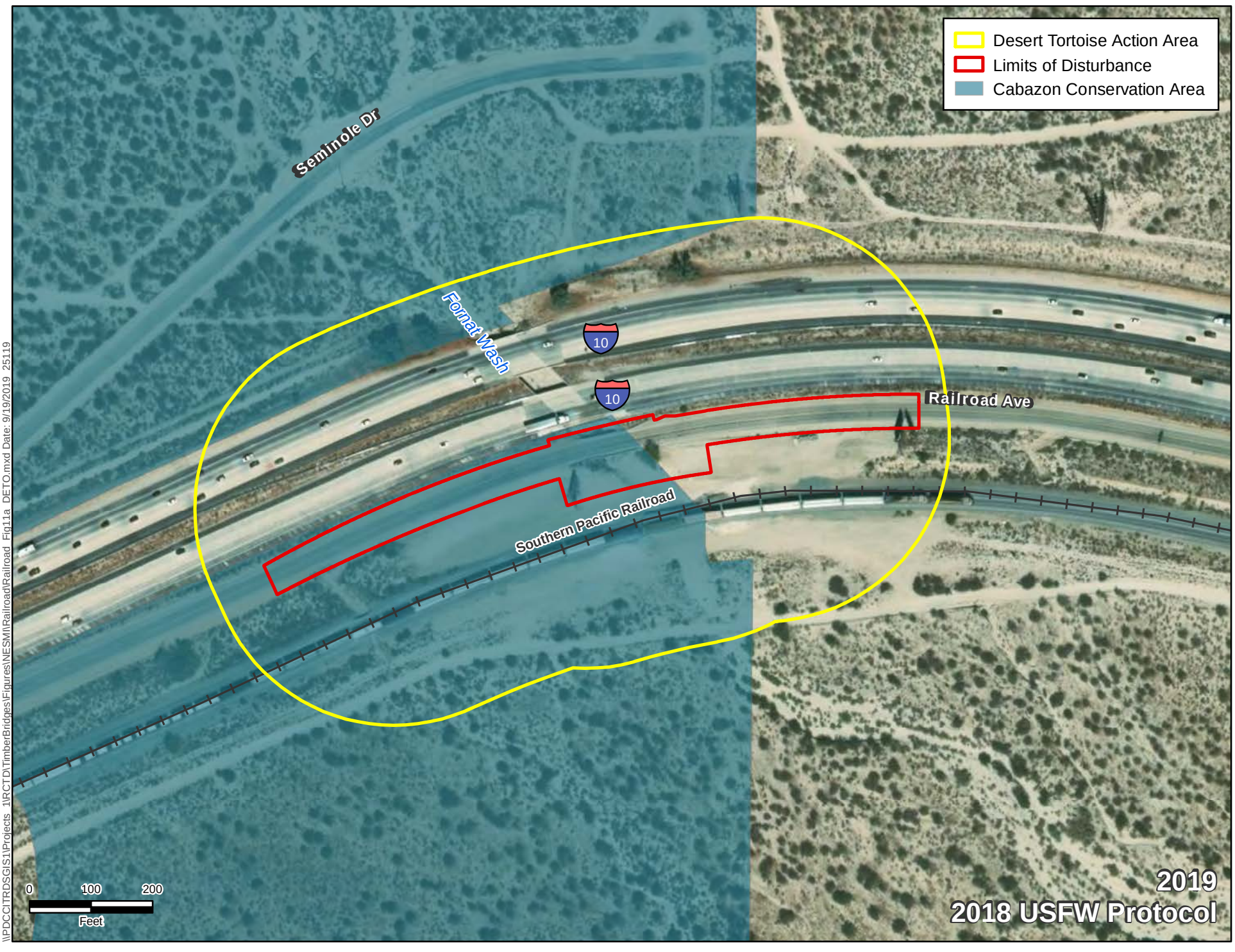
Source: ESRI Imagery (2016)

Figure 10 - Sheet 2
CDFW Jurisdictional Resources Impacts
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects





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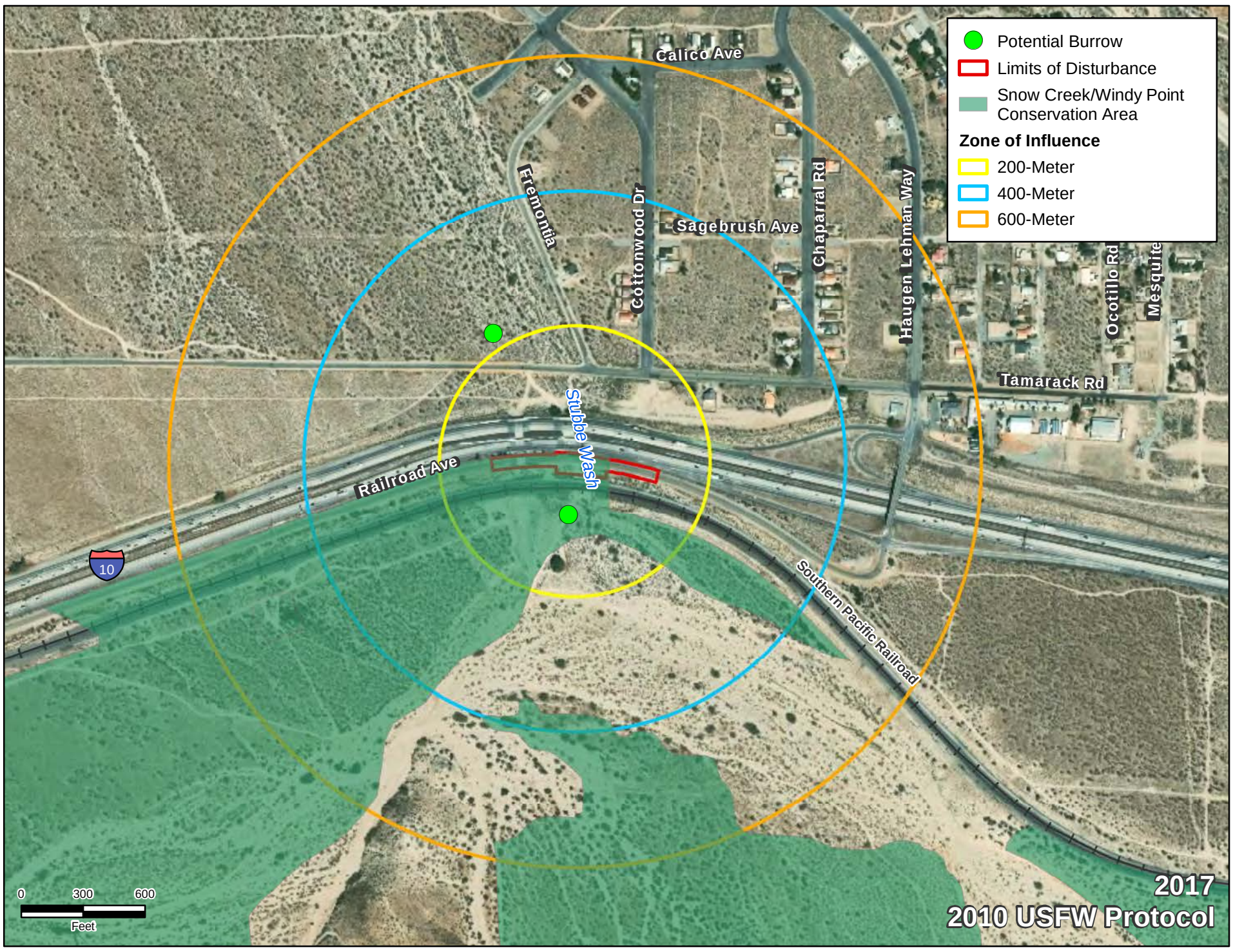
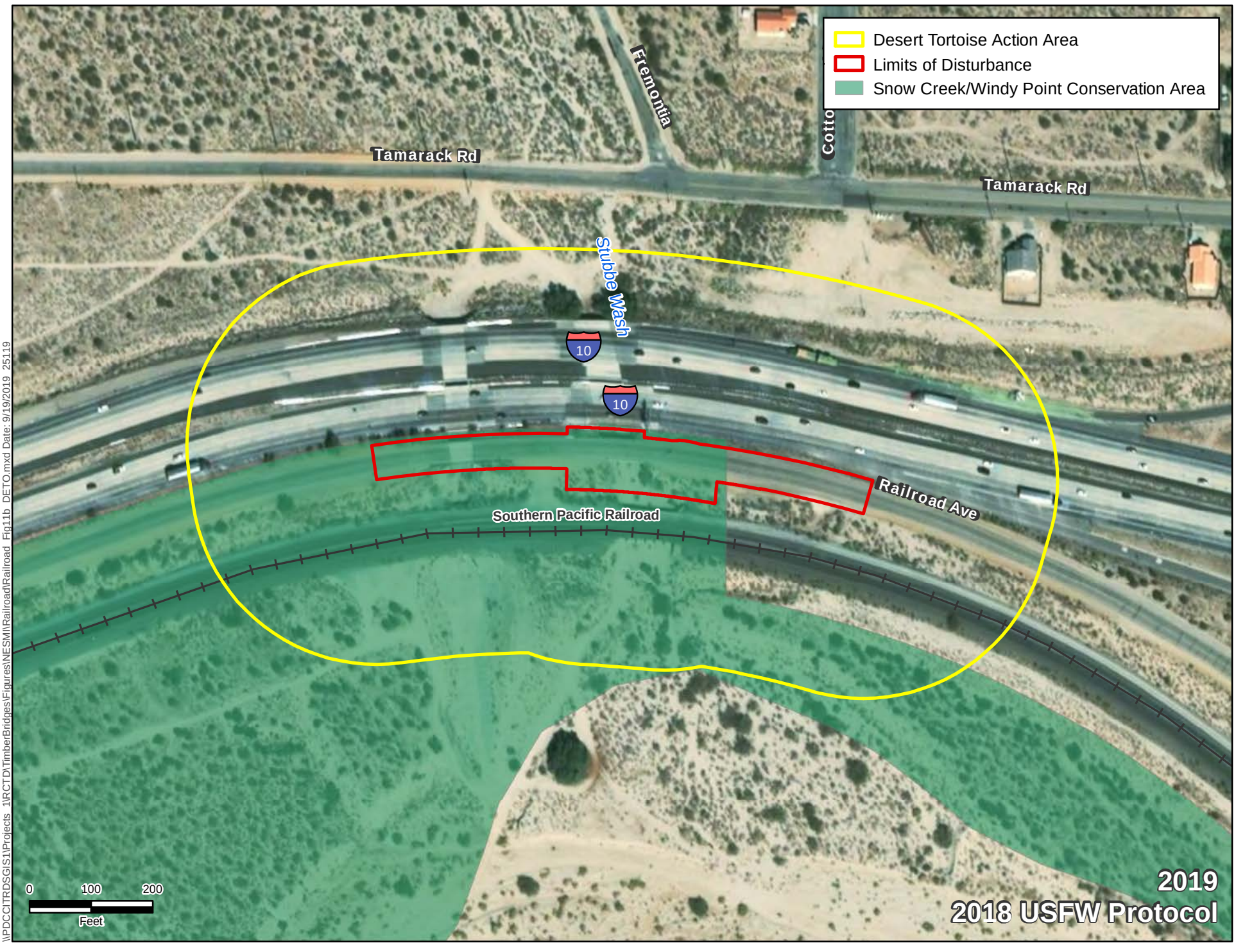
N

Source: ESRI Imagery (2016); CVAG

Figure 11a
2017/2019 Desert Tortoise Survey Results
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



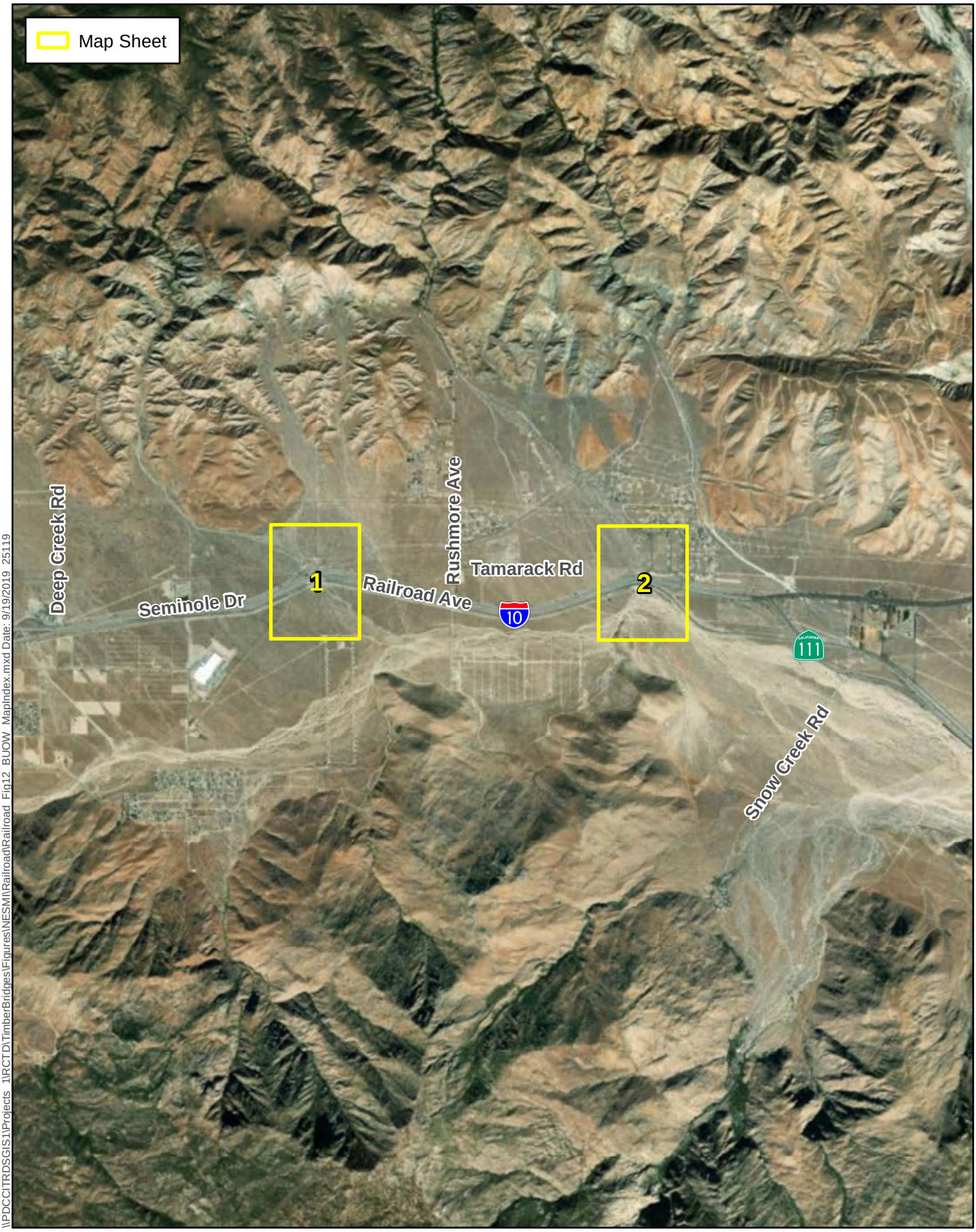


\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig11b_DETO.mxd Date: 9/19/2019_25119

N

Source: ESRI Imagery (2016); CVAG

Figure 11b
2017/2019 Desert Tortoise Survey Results
Railroad Avenue Bridge over E. Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects



\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig12_BUOW_MapIndex.mxd Date: 9/19/2019 25119

N

0 1 2
Miles

Source: ESRI Imagery (2016)

Figure 12 - Map Index
Burrowing Owl Survey Results
Railroad Avenue Bridge Replacement Projects

\\PDCCITRDSGIS1\Projects_1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad_Fig12_BUOW.mxd Date: 9/19/2019 25119

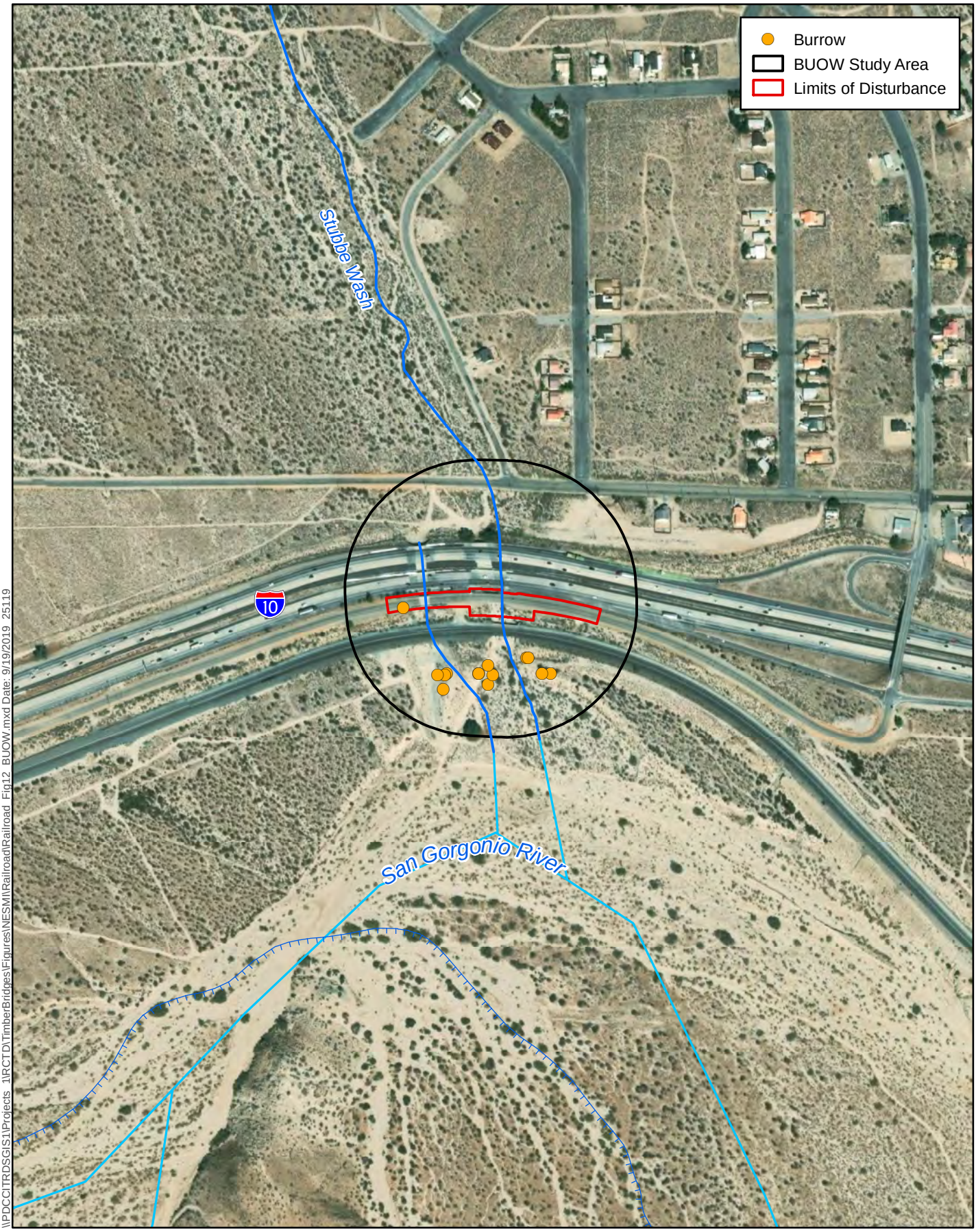
N

0 250 500

Feet

Source: ESRI Imagery (2016)

Figure 12 - Sheet 1
Burrowing Owl Survey Results
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Projects



\\PDCCITRDSGIS1\Projects 1\RCTD\TimberBridges\Figures\NESM\Railroad\Railroad Fig12 BUOW.mxd Date: 9/19/2019 25119

N

0 250 500

Feet

Source: ESRI Imagery (2016)

Figure 12 - Sheet 2
Burrowing Owl Survey Results
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Projects

APPENDIX B: AGENCY CORRESPONDENCE

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: January 27, 2020
Consultation Code: 08ECAR00-2019-SLI-0648
Event Code: 08ECAR00-2020-E-01185
Project Name: Replacement of a Timber Bridge on Railroad Avenue - Federal Project No. BRLO-5956(228)

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-0648

Event Code: 08ECAR00-2020-E-01185

Project Name: Replacement of a Timber Bridge on Railroad Avenue - Federal Project No. BRLO-5956(228)

Project Type: TRANSPORTATION

Project Description: The proposed project consists of the replacement of an existing timber bridge (Bridge No. 56C0099) on Railroad Avenue at Fornat Wash.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.924232177523436N116.73775959243565W

Counties: Riverside, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Peninsular Bighorn Sheep *Ovis canadensis nelsoni* Population: Peninsular CA pop. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4970	Endangered

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard *Uma inornata* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise *Gopherus agassizii* Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch *Astragalus lentiginosus var. coachellae* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7426	Endangered
Triple-ribbed Milk-vetch *Astragalus tricarinatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3370	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
Phone: (760) 431-9440 Fax: (760) 431-5901
http://www.fws.gov/carlsbad/

In Reply Refer To: January 27, 2020
Consultation Code: 08ECAR00-2019-SLI-0647
Event Code: 08ECAR00-2020-E-01184
Project Name: Replacement of a Timber Bridge on Railroad Avenue - Federal Project No. BRLO-5956(229)

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, and proposed species, designated critical habitat, and candidate species that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Carlsbad Fish And Wildlife Office
2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385
(760) 431-9440

Project Summary

Consultation Code: 08ECAR00-2019-SLI-0647

Event Code: 08ECAR00-2020-E-01184

Project Name: Replacement of a Timber Bridge on Railroad Avenue - Federal Project No. BRLO-5956(229)

Project Type: TRANSPORTATION

Project Description: The proposed project consists of the replacement of an existing timber bridge (Bridge No. 56C0101) on Railroad Avenue at East Channel Stubbe Wash.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/33.92411737673474N116.69490811951685W

Counties: Riverside, CA

Endangered Species Act Species

There is a total of 8 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Peninsular Bighorn Sheep *Ovis canadensis nelsoni* Population: Peninsular CA pop. There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4970	Endangered

Birds

NAME	STATUS
Least Bell's Vireo *Vireo bellii pusillus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Southwestern Willow Flycatcher *Empidonax traillii extimus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered

Reptiles

NAME	STATUS
Coachella Valley Fringe-toed Lizard *Uma inornata* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2069	Threatened
Desert Tortoise *Gopherus agassizii* Population: Wherever found, except AZ south and east of Colorado R., and Mexico There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4481	Threatened

Amphibians

NAME	STATUS
Arroyo (=arroyo Southwestern) Toad *Anaxyrus californicus* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3762	Endangered

Flowering Plants

NAME	STATUS
Coachella Valley Milk-vetch *Astragalus lentiginosus var. coachellae* There is **final** critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7426	Endangered
Triple-ribbed Milk-vetch *Astragalus tricarinatus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3370	Endangered

Critical habitats

There is 1 critical habitat wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Coachella Valley Milk-vetch *Astragalus lentiginosus var. coachellae* https://ecos.fws.gov/ecp/species/7426#crithab	Final

From:	Jim Sullivan
To:	Flores, Marisa
Subject:	RE: Clarification for CVMSHCP Section 7.3.1.1
Date:	Thursday, September 19, 2019 8:57:15 AM

Yes.

Jim Sullivan AICP
GIS Program Director
CVAG 760.346.1127

From: Flores, Marisa <Marisa.Flores@icf.com>
Sent: Wednesday, September 18, 2019 6:27 PM
To: Jim Sullivan <jsullivan@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

Sorry, just want to make sure I am clear.
So the bridge replacement O&M project being done by a Permittee (RCTD/Caltrans) within the Conservation Area is being constructed within the County ROW and will require a temporary construction easement owned by a Non-permittee (UPRR). So this project would not require JPR because it is an O&M, and that portion which occurs outside of the County ROW is owned by a non-permittee, therefore would not be subject to CVMSHCP requirements, only CEQA and ESA compliance, correct?

Thank you,
Marisa

From: Jim Sullivan <jsullivan@cvag.org>
Sent: Wednesday, September 18, 2019 4:57 PM
To: Flores, Marisa <Marisa.Flores@icf.com>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

A JPR would be required if Union Pacific was a Permitee. They are not, so you just under CEQA and ESA.

Jim Sullivan AICP
GIS Program Director
CVAG 760.346.1127

From: Flores, Marisa <Marisa.Flores@icf.com>
Sent: Wednesday, September 18, 2019 4:52 PM
To: Jim Sullivan <jsullivan@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

There is no occupied habitat of listed species and we are incorporating avoidance and minimization

measures in Section 4.4.
Then is JPR only required for the Conservation Area if listed species are present? Or would JPR only be required for that portion outside of the Counties ROW?

Thank you,
Marisa

From: Jim Sullivan <jsullivan@cvag.org>
Sent: Wednesday, September 18, 2019 4:46 PM
To: Flores, Marisa <Marisa.Flores@icf.com>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

There is no temporary disturbance for a project like this and Union Pacific is not a Permittee. The question is whether this is occupied habitat of a listed species. If it isn't, nothing needs to be done.

Jim Sullivan AICP
GIS Program Director
CVAG 760.346.1127

From: Flores, Marisa <Marisa.Flores@icf.com>
Sent: Wednesday, September 18, 2019 4:39 PM
To: Jim Sullivan <jsullivan@cvag.org>
Cc: Joanna Stueckle <jstueckle@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

Hello Jim,
I wanted to follow-up with you on the project below as there is a change that I wasn't aware of at the time I originally emailed you. I had stated that all project work would occur within the County ROW, however I have been made aware that there will be a temporary construction easement within the Union Pacific Railroad ROW south of Railroad Avenue. All impacts within the easement would be temporary and only the area needed to construct the project. Section 7.3.1.1 states "…operation and maintenance activities by Permittees within Conservation Areas that are Covered Activities include, but are not limited to, the following within existing rights-of-way or easements: … State and Interstate Facilities, City and County Roads". I just wanted to verify that the term "easements" includes those temporary construction easements needed to construct an O&M project.

Thank you,
Marisa

MARISA FLORES | SENIOR BIOLOGIST | +1.951.493.0649 | marisa.flores@icf.com| icf.com
ICF| 1250 Corona Pointe Ct, Suite 406, Corona, CA 92879 USA | 951.551.3675 mobile

From: Jim Sullivan <jsullivan@cvag.org>
Sent: Wednesday, April 17, 2019 9:39 AM
To: Flores, Marisa <Marisa.Flores@icf.com>
Cc: Joanna Stueckle <jstueckle@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

Riverside County and Caltrans are both Permittees, that's the question. You're OK.

Jim Sullivan AICP
GIS Program Director
CVAG 760.346.1127

From: Flores, Marisa <Marisa.Flores@icf.com>
Sent: Wednesday, April 17, 2019 9:37 AM
To: Jim Sullivan <jsullivan@cvag.org>
Cc: Joanna Stueckle <jstueckle@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

It is a Riverside County project and Caltrans is providing Local Assistance.

Marisa

From: Jim Sullivan [mailto:jsullivan@cvag.org]
Sent: Wednesday, April 17, 2019 8:18 AM
To: Flores, Marisa <Marisa.Flores@icf.com>
Cc: Joanna Stueckle <jstueckle@cvag.org>
Subject: RE: Clarification for CVMSHCP Section 7.3.1.1

If it's a Caltrans project, it's O&M.

Jim Sullivan AICP
GIS Program Director
CVAG 760.346.1127

From: Flores, Marisa <Marisa.Flores@icf.com>
Sent: Tuesday, April 16, 2019 11:18 AM
To: Jim Sullivan <jsullivan@cvag.org>
Cc: Joanna Stueckle <jstueckle@cvag.org>
Subject: Clarification for CVMSHCP Section 7.3.1.1

Hello Jim,
I emailed the primary CVAG email several weeks ago to find out some information for a project I am working on and hoping you can provide an answer.

I am the biological resources consultant for two County bridge replacement projects on Railroad Avenue that occur within the CVMSHCP Conservation Area. I wanted to find out whether the projects would be considered a covered O&M activity under Section 7.3.1.1, and therefore exempt from the Joint Project Review.

Project Description

The projects would replace the existing timber bridges on Railroad Avenue (one at Fornat Wash and the other at East Channel Stubbe Wash) as these bridges have been classified as structurally deficient. The bridge replacements will completely remove and replace the existing timber bridges with new modern bridges, including new footings, columns, and bridge deck. The width of the existing bridges from curb to curb is 32-ft and the County is proposing the new modern bridges are also 32-ft width from curb to curb at the existing location. All work will occur within the existing right-of-way, including staging, access, and work area needed to complete the project. The images below show the locations and disturbance limits for the bridges.

Railroad Avenue Bridge Replacement at Fornat Wash (Bridge No. 56C0099)

Railroad Avenue Bridge Replacement at East Channel Stubbe Wash (Bridge No. 56C0101)

Please let me know if any additional details are needed.
Thank you,
Marisa

MARISA FLORES | SENIOR BIOLOGIST | +1.951.493.0649 | marisa.flores@icf.com| icf.com
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APPENDIX C: SPECIAL STATUS SPECIES LIKELIHOOD OF OCCURRENCE

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Appendix C

Table 1. Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Biological Study Area of the Fornat Wash Bridge (#56C0099) and East Channel Stubbe Wash Bridge (#56C0101).

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Plants					
Chaparral sand-verbena	*Abronia villosa* var. *aurita*	-/-/1B.1	Annual herb found in sandy soils within chaparral, coastal scrub and desert dunes. Elevation ranging between 245-5,250 feet. Blooming period is from January – September.	HP	Suitable habitat is present within scrub habitat in the BSA of the bridges. A focused survey was performed and the species was absent.
Pygmy lotus	*Acmispon haydonii*	-/-/1B.3	Perennial herb found in rocky habitat within pinyon and juniper woodland and Sonoran desert scrub between 1,705-3,935 feet elevation. Known threats include non-native plants and ORV use. Blooming period is from January – June.	HA	The BSA of the bridges does not provide suitable rocky soils for this species. It is not expected to occur.
Wright's beebrush	*Aloysia wrightii*	-/-/4.3	Perennial evergreen shrub found in rocky often carbonate soils within Joshua tree, pinyon and juniper woodlands.	HA	The BSA of the bridges does not provide suitable rocky soils for this species. In addition, this perennial species would have been observed if it was present.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			Elevation ranging between 2,700 - 4,800 feet. Blooming period is from April – October.		
Alkali marsh aster	*Almutaster pauciflorus*	-/-/2.B2	Perennial herb found in meadows and seeps in alkaline soils. Ranging in elevation from 787 – 2,624 feet. Blooming period is from June – October.	HA	The BSA of the bridges lacks alkaline soils and suitable habitat for this species. It is not expected to occur.
Singlewort burrobrush	*Ambrosia monogrya*	-/-/2B.2	Perennial shrub found in sandy soils within chaparral and Sonoran desert scrub between 32-1,640 feet elevation. Blooming period is from August - November.	HP	The BSA of the bridges provides suitable sandy soils and scrub habitat for this species. However, perennial shrub can be identified year round but was not observed during focused studies. This species is not present.
White-margined everlasting	*Antennaria marginata*	-/-/2B.3	Perennial stoloniferous herb found in lower and upper montane coniferous forests. Ranges in elevation from 6,360 – 10,059 feet. Blooming period is from May – August.	HA	The BSA is not within lower or upper montane coniferous forests. It is not expected to occur.
Rock sandwort	*Arenaria lanuginose*	-/-/2B.3	Perennial herb found mesic sandy soils in subalpine coniferous forests and upper montane coniferous	HA	The BSA lacks mesic soils and is not within subalpine or upper montane coniferous forests. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			forests. Ranges in elevation from 4,365 – 7,800 feet. Blooming period is from July – August.		
Borrego milk-vetch	*Astragalus lentiginosus var. borreganus*	-/-/4.3	Annual herb found in sandy soils within Mojavean and Sonoran desert scrub. Ranges in elevation from 90 – 2,685 feet. Blooming period from February – May.	HP	The BSA of the bridges provides suitable sandy soils and scrub habitat for this species. Surveys were conducted twice during the blooming period but was not observed during focused studies. This species is not present.
Coachella valley milk-vetch	*Astragalus lentiginosus* var. *coachellae*	E/-/1B.1/CVMSHCP	Annual to perennial herb found in desert dunes and sandy Sonoran desert scrub between 130-2,150 feet elevation. Known threats include urbanization, ORV use, road widening, non-native plants, flood control activities and wind energy development. Blooming period is from February - May.	HP	This species is known to occur within East Channel Stubbe Wash south of the I-10 (CVMSHCP 2008). However, it was not observed during focused rare plant surveys. This species is absent from the BSA.
Jaeger's milk-vetch	*Astragalus pachypus* var. *jaegeri*	-/-/1B.1	Perennial shrub found in chaparral, cismontane woodland, coastal scrub and valley or foothill grasslands with sandy or rocky soils. Ranging in	HP	The BSA of the bridges provides suitable sandy soils and scrub habitat for this species. However, perennial shrub can be identified year-round but was not observed

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			elevation from 1,197 – 3,198 feet. Blooming period is from December – June.		during focused studies. This species is not present.
Triple-ribbed milk-vetch	*Astragalus tricarinatus*	E/-/1B.2/CVMSHCP	Perennial herb found in Joshua tree woodland and Sonoran desert scrub with sandy or gravelly soils. Ranging in elevation from 1,476 – 3,904 feet. Blooming period is from February – May.	HP	Suitable sandy soils and scrub habitat are present in the BSA of the bridges.
Parish's brittlescale	*Atriplex parishii*	-/-/1B.1	Annual herb found in alkaline habitats within chenopod scrub, playas and vernal pool habitat. Ranging in elevation from 80-6,230 feet. Known threats include development, agriculture, land conversion and grazing. Blooming period is from June - October.	HA	The BSA of the bridges lacks alkaline soils or vernal pool, playa or scrub habitat for this species. It is not expected to occur.
California ayenia	*Ayenia compacta*	-/-/2B.3	Perennial herb found in rocky soils within Mojavean and Sonoran desert scrub. Ranging in elevation from 490-3,590 feet. Blooms from March - April.	HA	The BSA of the bridges does not provide suitable rocky soils, therefore lacks suitable habitat. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Johnston's rockcress	*Boechera johnstonii*	-/-/1B.2	Perennial herb found in chaparral and lower montane coniferous forest. Ranging between 4,430-7,050 feet. Often found on eroded clay soils. Known only from the southern San Jacinto Mountains. Known threats include recreational and residential development in Garner Valley, grazing, trampling, and vegetation management. *Boechera hirshbergiae* is treated as a synonym. Blooming period is from February - June.	HA	The BSA of the bridges lacks clay soils and occurs well outside of the species known elevation range. This species is not expected to occur.
Lincoln rockcress	*Boechera lincolnensis*	-/-/2B.3	Perennial herb found in chenopod scrub or Mojavean desert scrub with carbonite soils. Ranging in elevation from 3,608 – 8,872 feet. Blooming period from March – May.	HA	The BSA of the bridges occurs well outside of the species known elevation range. This species is not expected to occur.
Parish's rockcress	*Boechera parishii*	-/-/1B.2	Perennial herb found in pinyon and juniper woodland, upper montane coniferous forest, and pebble plain with rocky,	HA	The BSA of the bridges occurs well outside of the species known elevation range. In addition, the BSA does not provide suitable soils

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			quartzite on clay and sometimes carbonate soils. Ranging in elevation from 5,807 – 9,809 feet. Blooming period is from April – May.		or woodland/forest habitat for this species. It is not expected to occur.
San Bernardino rockcress	*Boechera peirsonii*	-/-/1B.2	Perennial herb found in rocky soils in subalpine coniferous forest. Ranges in elevation from 8,100 – 9,600 feet. Blooming period is from March to August.	HA	The BSA of the bridges occurs well outside of the species known elevation range. This species is not expected to occur.
San Jacinto mariposa-lily	*Calochortus palmeri* var. *munzii*	-/-/1B.2	Perennial bulbiferous herb found in chaparral and lower montane coniferous forest and meadows and seeps between 3,935-7,215 feet in elevation. Known from only a few occurrences in the San Jacinto Mountains. Known threats include grazing, road maintenance, hydrological modifications, non-native plants, and recreational activities. Blooming period is from May - July.	HA	The BSA of the bridges occurs well outside of the species known elevation range. In addition, the BSA does not provide suitable chaparral, forest, or meadow habitat for this species. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Palmer's mariposa-lily	*Calochortus palmeri* var. *palmeri*	-/-/1B.2	Perennial bulbiferous herb found in mesic soils in chaparral, lower montane coniferous forests, meadows and seeps. Ranging in elevation from 3,280 – 7,839 feet. Blooming period from April – July.	HA	The BSA of the bridges occurs well outside of the species known elevation range. In addition, the BSA does not provide suitable chaparral, forest, or meadow habitat for this species. It is not expected to occur.
Plummer's mariposa lily	*Calochortus plummerae*	4.2	Perennial bulbiferous herb found in granitic, rocky soils within chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grasslands. Ranges in elevation from 300 – 5,100 feet. Blooming period is from May – July.	HA	The BSA does not contain suitable soil or chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland habitat. It is not expected to occur.
Western sedge	Carex occidentalis	-/-/2B.3	Perennial rhizomatous herb found in lower montane coniferous forest and meadows and seeps. Ranging in elevation from 5,395-10,280 feet. In California, only known from the San Bernardino, San Jacinto and White Mountains. Blooming	HA	The BSA of the bridges occurs well outside of the species known elevation range. In addition, the BSA does not provide suitable chaparral, forest, or meadow habitat for this species. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			period is from June - August.		
San Bernardino Mountains owl's-clover	*Castilleja lasiorhyncha*	-/-/1B.2	Hemiparasitic annual herb found in mesic soils in chaparral, upper montane coniferous forest, pavement pebble plain, riparian woodland, and meadows and seeps. Ranging in elevation from 4,269-7,839 feet. Blooming period is from May – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range. In addition, the BSA does not provide suitable chaparral, woodland, forest, pebble plain, seeps or meadow habitat for this species. It is not expected to occur.
Heckard's paintbrush	*Castilleja montigena*	-/-/4.3	Perennial herb (hemiparasitic) found in lower and upper montane coniferous forest and pinyon and juniper woodland. Ranges in elevation from 5,850 – 8,400 feet. Blooming period is from May – August.	HA	The BSA does not provide suitable lower and upper montane coniferous forest and pinyon and juniper woodland habitat. It is not expected to occur.
Payson's jewelflower	*Caulanthus simulans*	-/-/4.2	Annual herb found in sandy and granitic soils in chaparral and coastal scrub. Ranging in elevation from 295-7,218 feet. Blooming period is from February – June.	HP	Habitat within the BSA of the bridges is marginally suitable for the species. The species was not observed during rare plant focused studies. This species is considered absent.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Parish's chaenactis	*Chaenactis parishii*	-/-/1B.3	Perennial herb found in dry rocky openings in chaparral. Ranging in elevation from 4,265-8202 feet. Blooming period is from May – July.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Peninsular spineflower	*Chorizanthe leptotheca*	-/-/4.2	Annual herb found in alluvial fan with granitic soils within chaparral, coastal scrub or lower montane coniferous forests. Ranges in elevation from 900 – 5,700 feet. Blooming period is from May to August.	HA	The BSA lacks suitable granitic soils and the elevation is out of the species range. The species was not detected during focused plant surveys that took place during the species blooming period.
Parry's spineflower	*Chorizanthe parryi* var. *parryi*	-/-/1B.1	Annual herb found on dry sandy soils and on slopes and flats within coastal sage scrub and chaparral between 825-3,660 feet in elevation. Blooming period is from April - June.	HP	Habitat within the BSA of the bridges is marginally suitable for the species. The species was not observed during rare plant focused studies. This species is considered absent.
White-bracted spineflower	*Chorizanthe xanti* var. *leucotheca*	-/-/1B.2	Annual herb found in pinyon-juniper woodland, Mojavean desert scrub, and alluvial coastal sage scrub between 984-3,937 feet in elevation.	HP	Habitat within the BSA of the bridges is suitable for the species. The species was not observed during rare plant focused studies. This species is considered absent.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			Blooming period is from April - June.		
Mojave tarplant	*Deinandra mohavensis*	-/E/1B.3	Annual herb found in mesic chaparral, coastal scrub and riparian scrub. Microclimate includes sandy washes, seeps, and grassy swales in eroded granitic landscapes. Ranging in elevation from 2,100-5,445 feet. Previously believed to be extinct in California. Rediscovered in 1994. Blooming period is from July - October.	HA	The BSA of the bridges lacks suitable chaparral and scrub habitat for this species. The BSA also occurs outside of the species known elevation range. This species is not expected to occur.
Colorado Desert larkspur	*Delphinium parishii ssp. subglobosum*	-/-/4.3	Perennial herb found in chaparral, cismontane woodland, pinyon and juniper woodland and Sonoran desert scrub. Ranges in elevation from 1,800 – 5,400 feet. Blooming period is from March – June.	HA	The BSA of the bridges does not contain scrub suitable habitat for this species and has not been documented in the region since 1960. It is not expected to occur
Mount Pinos larkspur	*Delphinium parishii ssp. purpureum*	-/-/4.3	Perennial herb found in chaparral, Mojavean desert scrub, pinyon and juniper woodland. Ranges in elevation from 3,000 – 7,800 feet. Blooming	HA	The BSA of the bridges are not within the elevation range of the species. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			period is from May to June.		
Johnston's monkeyflower	*Diplacus johnstonii*	-/-/4.3	Annual herb found in lower montane coniferous forest. Ranges in elevation from 2,925 – 8,760 feet. Blooming period is from April – August.	HA	The BSA of the bridges does not contain suitable habitat within the species elevation range. It is not expected to occur.
Slender-horned spineflower	*Dodecahema leptoceras*	E/E/1B.1	Annual herb found in sandy soils in chaparral, cismontane woodland, and alluvial fan coastal scrub. Ranging in elevation from 656-2,493 feet. Blooming period is from April – June.	HP	Suitable habitat is present within the wash. This species was not found during the rare plant focused survey, therefore is considered absent.
Southern California rock draba	*Draba saxosa*	-/-/1B.3	Perennial herb found in rocky alpine boulder fields, subalpine coniferous forest and upper montane coniferous forest. Elevation ranging between 8,000-11,810 feet. Known from only the San Jacinto and Santa Rosa Mountains. Blooming period is from June - September.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Harwood's eriastrum	*Eriastrum harwoodii*	-/-/1B.2	Annual herb found in desert dunes. Ranging in elevation between 410-3,000 feet. Blooming period is from March - June.	HA	The BSA of the bridges lacks desert dunes; therefore, this species is not expected to occur.
San Jacinto Mountains daisy	*Erigeron brewei var. jacinteus*	-/-/4.3	Perennial rhizomatous herb found in rocky soils within subalpine coniferous and upper montane coniferous forests. Ranges in elevation from 8,100 – 8,700 feet. Blooming period is from June – September.	HA	The BSA is not within the species elevation range and does not contain suitable habitat. It is not expected to occur.
Southern alpine buckwheat	*Eriogonum kennedyi var. alpigenum*	-/-/1B.3	Perennial herb found in granitic gravelly soil associated with alpine boulder, alpine rock field and subalpine coniferous forest. Ranges in elevation from 7,800 – 10,500 feet. Blooming period is from July – September.	HA	The BSA does not contain suitable habitat for this species. It is not expected to occur.
Palomar monkeyflower	*Erythranthe diffusa*	-/-/4.3	Annual herb found in sandy or gravelly soils within chaparral and lower montane coniferous forest. Ranges in	HA	The BSA lacks suitable habitat and is outside of the species elevation range. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			elevation from 3,660 – 5,490 feet. Blooming period is from April – June.		
Joshua tree poppy	*Eschscholzia androuxii*	-/-/4.3	Annual herb found in sandy, gravelly or rocky desert washes, flats and slopes within Joshua tree woodland and Mojavean desert scrub. Ranges in elevation from 1,755 – 5,055 feet. Blooming period is from February – May.	HA	The BSA is outside of the elevation range for this species. Focused plant surveys during the blooming period did not detect the species. It is not expected to occur.
Arizona spurge	*Euphorbia arizonica*	-/-/2B.3	Perennial herb found in sandy flats in Sonoran desert scrub. Elevation ranging from 164-984 feet. Rare in California. Blooming period is from March - April.	HA	The BSA does not contain Sonoran desert scrub. Focused plant surveys did not detect this species and it is not expected to occur.
Cliff spurge	*Euphorbia misera*	-/-/2B.2	Perennial shrub found in rocky coastal bluff scrub, coastal scrub and Mojavean desert scrub below 1,640 feet in elevation. Blooming period is from December - August.	HA	The BSA of the bridges lacks rocky habitats therefore is not suitable for the species. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
San Jacinto Mountains bedstraw	*Galium angustifolium* ssp. *jacinticum*	-/-/1B.3	Perennial herb found in lower montane coniferous forest. Ranging in elevation from 4,430-6,890 feet. Known from fewer than 10 occurrences. Blooming period is from June - August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Alvin meadow bedstraw	*Gallium caifornicum ssp. primum*	-/-/1B.2	Perennial herb found in granitic sandy soils within chaparral and lower montane coniferous forests. Ranges in elevation from 4,050 – 5,100 feet. Blooming period is from May – July.	HA	The BSA does not contain suitable soils or habitat within the species elevation range. It is not expected to occur.
Fremont's gentian	*Gentiana fremontii*	-/-/2B.3	Annual herb found in meadows and seeps within upper montane coniferous forests. Ranges in elevation from 7,200 – 8,100 feet. Blooming period is from June – August.	HA	The BSA does not contain meadows or seeps. This species is not expected to occur.
San Bernardino gilia	*Gilia leptantha*	-/-/1B.3	Annual herb found in sandy or gravelly soils within lower montane coniferous forest. Ranges in elevation from 4,500 – 7,680 feet. Blooming	HA	The BSA is not within elevation range of this species and does not contain suitable habitat. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			period is from June – August.		
Shaggy-haired alumroot	*Heuchera hirsutissima*	-/-/1B.3	Perennial rhizomatous herb found in rocky to granitic soils in upper and subalpine coniferous forests. Ranging in elevation from 4,986 – 11,480 feet. Blooming period is from May – July.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Parish's alumroot	*Heuchera parishii*	-/-/1B.3	Perennial rhizomatous herb found in rocky or carbonate soils within lower montane coniferous forests, subalpine coniferous forests, upper montane coniferous forests and alpine boulder and rock fields. Ranging in elevation from 4,920-12,470 feet. Blooming period is from June - August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Mesa horkelia	*Horkelia cuneate* var. *puberla*	-/-/1B.1	Perennial herb found in chaparral, cismontane woodland and coastal scrub with sandy or gravelly soils. Ranging in elevation from 229 – 2,657 feet. Blooming	HA	The BSA of the bridges lacks suitable woodland or chaparral habitat. Scrub habitat and sandy soils would be marginally suitable for the species. In addition, this species was not found during the

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			period is from February to July.		focused studies. This species is not expected to occur.
Beautiful hulsea	*Hulsea vestita ssp. callicarpha*	-/-/4.2	Perennial herb found in rocky or gravelly soils in chaparral or lower montane coniferous forests. Ranges in elevation from 2,745 – 9,150 feet. Blooming period is from May – October.	HA	The BSA is not within the elevation range for the species and contains no suitable habitat. It is not expected to occur.
Parry's sunflower	*Hulsea vestita ssp. parryi*	-/-/4.3	Perennial herb found in granitic or carbonate rocky soil within lower and upper montane coniferous forest and pinyon and juniper woodland. Ranges in elevation from 4,110 – 8,685 feet. Blooming period is from April – August.	HA	The BSA is not within the elevation range for the species and contains no suitable habitat. It is not expected to occur.
Pygmy hulsea	*Hulsea vestita ssp. pygmaea*	-/-/1B.3	Perennial herb found in granitic and gravelly soil within alpine boulder and rock field habitat and subalpine coniferous forests. Elevation ranges from 8,505 – 11,700 feet. Blooming period is from June – October.	HA	The BSA is not within the elevation range for the species and contains no suitable habitat. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
California satintail	*Imperata brevifolia*	-/-/2B.1	Perennial rhizomatous grass found in mesic areas within chaparral, coastal sage scrub, creosote bush scrub, desert scrub, and riparian scrub below 1,640 feet in elevation. Known threats include development and agriculture. Blooming period is from September - May.	HA	The BSA of the bridges lacks the mesic environment for this species. Therefore, it is not expected to occur.
Silver-haired ivesia	*Ivesia argyrocoma* var. *argyrocoma*	-/-/1B.2	Perennial herb found in alkaline meadows and seeps, pebble plain and upper montane coniferous forests. Ranging in elevation from 4,799 – 9,711 feet. Blooming period is from June – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Tahquitz ivesia	*Ivesia callida*	-/-/1B.3	Perennial herb found in rocky or granitic areas within upper montane coniferous forest between 7,905-8,035 feet in elevation. Known from only two occurrences within the San Jacinto Wilderness Area.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			Blooming period is from July - September.		
Ribbed cryptantha	*Johnstonella costata*	-/-/4.3	Annual herb found in sandy soils within desert dunes, Mojavean desert scrub and Sonoran desert scrub. Ranges in elevation from -180 – 1,500 feet. Blooming period is from February – May.	HP	The BSA contains suitable habitat for this species. Focused plant surveys during the blooming period did not observe this species. It is presumed absent.
Winged cryptantha	*Johnstonella holoptera*	-/-/4.3	Annual herb found in sandy soils within Mojavean desert scrub and Sonoran desert scrub. Ranges in elevation from 300 – 5,070 feet. Blooming period is from March – April.	HP	The BSA contains suitable habitat for this species. Focused plant surveys during the blooming period did not observe this species. It is presumed absent.
Duran's rush	*Juncus mertensianus var. duranii*	-/-/4.3	Perennial rhizomatous herb found in mesic soils within lower and upper montane coniferous forests and meadows and seeps. Ranges in elevation from 5,304 – 8,412 feet. Blooming period is from July – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Lemon lily	*Lilium parryi*	-/-/1B.2	Perennial bulbiferous herb found in upper and lower montane coniferous forest, riparian forest, and meadows and seeps between 3,660-8,235 feet in elevation. Blooming period is from July - August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
San Jacinto linanthus	*Linanthus jaegeri*	-/-/1B.2	Perennial herb found in rocky or granitic soils within subalpine coniferous forest and upper montane coniferous forest between 7,200-10,005 feet in elevation. Known threats include recreational activities. Blooming period is from July - September.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable montane habitat is present. This species is not expected to occur.
Little San Bernardino Mountains linanthus	*Linanthus maculatus* ssp. *maculatus*	-/-/1B.2/CVMSHCP	Annual herb found in sandy areas within desert dunes, Joshua tree woodland, Mojavean and Sonoran desert scrub between 640-6,805 feet in elevation. Known threats include development, OHV use, refuse dumping, and alteration of hydrology. Blooming	HP	The scrub habitat within the BSA of the bridges is suitable for this species. However, it was not observed during focused rare plant surveys. This species is absent from the BSA.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			period is from March - May.		
White bog adder's-mouth	*Malaxis monophyllos* var. *brachypoda*	-/-/2B.1	Perennial bulbiferous herb found in bogs, fens, meadows, seeps and upper montane coniferous forests with mesic soils. Ranging in elevation from 7,217 – 8,999 feet. Blooming period is from June – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Three-ranked hump moss	*Meesia triquetra*	-/-/4.2	Moss found in bogs, fens, meadows, seeps, subalpine coniferous forests, and upper montane coniferous forests with damp soil. Ranging in elevation from 3,900 – 8,859 feet. Blooming period is in July.	HA	The BSA of the bridges lacks suitable soils and montane habitat. This species is not expected to occur.
Broad-nerved hump moss	*Meesia uliginosa*	-/-/2B.2	Moss found in bogs, fens, meadows, seeps, subalpine coniferous forests, and upper montane coniferous forests with damp soil. Ranging in elevation from 3,630 – 8,412 feet. Blooming period is in July and October.	HA	The BSA of the bridges lacks suitable soils and montane habitat. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Spiny-hair blazing star	*Mentzelia tricuspis*	-/-/2B.1	Annual herb found in sandy, gravelly slopes and washes within Mojavean desert scrub between 490-4,200 feet in elevation. Known from fewer than 20 extant occurrences. Blooming period is from March – May.	HP	Suitable habitat is present in the BSA. The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.
Hall's monardella	*Monardella macrantha ssp. hallii*	-/-/1B.3	Perennial rhizomatous herb found in broad-leafed upland forest, chaparral, cismontane woodland, lower montane coniferous forest and valley and foothill grassland. Ranges in elevation from 2,190 – 6,585 feet. Blooming period is from June – October.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
San Felipe monardella	*Monardella nana* ssp. *letposiphon*	-/-/1B.2	Perennial rhizomatous herb found in chaparral and lower montane coniferous forest between 3,935-6,085 feet in elevation. Known mostly from the Hot Springs Mountains. Located south-southwest of Indio,	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			California. Blooming period from June - July.		
Robison's monardella	*Monardella robisonii*	-/-/1B.3	Perennial rhizomatous herb found in pinyon and juniper woodland. Ranging in elevation from 2,001 – 4,920 feet. Blooming period is from February – October.	HA	The BSA of the bridges does not contain suitable woodland habitat. This species is not expected to occur.
California muhly	*Muhlenbergia californica*	-/-/4.3	Perennial rhizomatous herb found in mesic soils, seeps, streambanks within chaparral, coastal scrub, lower montane coniferous forests and meadows. Ranges in elevation from 300 – 6000 feet. Blooming period is from June – September.	HA	The BSA of the bridges lacks suitable soils and habitat. This species is not expected to occur.
Slender cottonheads	*Nemacaulis denudate* var. *gracilis*	-/-/2B.2	Annual herb found in coastal dunes, desert dunes, and Sonoran desert scrub between 165-1,310 feet in elevation. Known threats include urbanization. Blooming period is from March - May.	HP	Habitat within the BSA of the bridges is marginally suitable for this species. The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Woolly mountain-parsley	*Oreonana vestita*	-/-/1B.3	Perennial herb found in gravel or talus soils within lower and upper montane coniferous forests and subalpine coniferous forests. Ranges in elevation from 4,845 – 10,500 feet. Blooming period is from March – September,	HA	The BSA of the bridges lacks suitable soils and montane habitat. This species is not expected to occur.
Rock-loving oxytrope	*Oxytropis oreophila*	-/-/2B.3	Perennial herb found in gravelly or rocky soils within alpine boulder or rock field habitat and subalpine coniferous forest. Ranges in elevation from 10,200 – 11,400 feet. Blooming period is from June – September.	HA	The BSA of the bridges lacks suitable soils, habitat and is not within the elevation range of this species. This species is not expected to occur.
San Bernardino grass-of-Parnassus	*Parnassia cirrata var. cirrata*	-/-/1B.3	Perennial herb found in mesic and sometimes calcareous soils and streamsides within lower and upper coniferous montane forests and meadows and seeps. Ranges in elevation from 3,750 – 7,320 feet. Blooming period is from August – September.	HA	The BSA of the bridges lacks suitable soils and montane habitat. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
San Jacinto beardtongue	*Penstemon clevelandii var. connatus*	-/-/4.3	Perennial herb found in rocky soils within chaparral, pinyon and juniper woodland and Sonoran desert scrub. Ranges in elevation from 1,200 – 4,500 feet. Blooming period is from March – May.	HA	The BSA of the bridges is not within the elevation range of this species. It is not expected to occur.
Desert beardtongue	*Penstemon pseudospectabilis* ssp. *pseudospectabilis*	-/-/2B.2	Perennial herb found in sandy or rocky washes within Mojavean or Sonoran desert scrub between 260-6,350 feet in elevation. Blooming period is from January - May.	HP	Suitable habitat is present in the BSA. The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.
Narrow-leaf sandpaper-plant	*Petalonyx linearis*	-/-/2B.3	Perennial shrub found in Mojavean and Sonoran desert scrub with sandy or rocky soils. Ranging in elevation from -82 – 3,658 feet. Blooming period is from March – May.	HP	Suitable habitat is present in the BSA. The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.
Cliff cinquefoil	*Potentilla rimicola*	-/-/2B.3	Perennial herb found in rocky or granitic subalpine coniferous forest and upper montane coniferous forest between 7,870-9,200 feet in elevation. Known in California from	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			five occurrences within the San Jacinto Mountains. Known threats include recreational activities. Blooming period is from July - September.		
Latimer's woodland gila	*Saltugilia latimeri*	-/-/1B.2	Annual herb found in rocky or sandy soils and washes within chaparral, Mojavean desert scrub and pinyon and juniper woodland. Known in California from fewer than 20 records. Blooming period is from March – June.	HP	Suitable habitat is present in the BSA. The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.
Davidson's stonecrop	*Sedum niveum*	-/-/4.2	Perennial rhizomatous herb found in rocky soils within lower and upper montane coniferous forests and subalpine coniferous forests. Ranges in elevation from 6,225 – 9000 feet. Blooming period is from June – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Bluish spike-moss	*Selaginella asprella*	-/-/4.3	Perennial rhizomatous herb found in rocky soils within lower and upper montane coniferous forests, cismontane	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			woodland, pinyon and juniper woodland and subalpine coniferous forests. Ranges in elevation from 4,800 – 8,100 feet. Blooming period is July.		
Desert spike-moss	*Selaginella eremophila*	-/-/2B.2	Perennial rhizomatous herb found in chaparral and gravelly or rocky Sonoran desert scrub between 655-2,950 feet in elevation. Known in California from fewer than 20 occurrences. Blooming period is from May - July.	HA	Habitat within the BSA of the bridges is marginally suitable for this species (within sandy soils in scrub habitat). The species was not observed during the rare plant focused studies, therefore it is considered absent from the BSA.
Chickweed oxytheca	*Sidotheca caryophylloides*	-/-/4.3	Annual herb found in sandy soils within lower montane coniferous forests. Ranges in elevation from 3,342 – 7,800 feet. Blooming period is from July – September.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
White-margined oxytheca	*Sidotheca emarginata*	-/-/1B.3	Annual herb found in chaparral, lower montane coniferous forest and pinyon and juniper woodland between 3,935-8,200 feet in elevation.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			Blooming period is from February - August.		
Krantz's catchfly	*Silene krantzii*	-/-/1B.2	Perennial herb found in sandy and gravelly soils in alpine dwarf scrub. Ranges in elevation from 9,705 – 10,530 feet. Blooming period is from April – September.	HA	The BSA of the bridges lacks suitable habitat and occurs outside of the species known elevation range. This species is not expected to occur.
Purple stemodia	*Stemodia durantifolia*	-/-/2B.1	Perennial herb found in mesic sandy Sonoran desert scrub between 590-985 feet in elevation. Blooming period is from January - December.	HA	The BSA of the bridges lacks suitable habitat and occurs outside of the species known elevation range. This species is not expected to occur.
Laguna Mountains jewelflower	*Streptanthus campestris*	-/-/1B.3	Perennial herb found in chaparral, lower montane coniferous forest, and pinyon juniper woodland between 2,953 to 7,546 feet in elevation. Blooming period is from April - July.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Southern jewelflower	*Streptanthus campestris*	-/-/1B.3	Perennial herb found in rocky soils within chaparral, lower montane coniferous forest and pinyon and juniper woodland. Ranges in elevation from 2,700 –	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			6,900 feet. Blooming period is from May – July.		
San Bernardino aster	*Symphyotrichum defoliatum*	-/-/1B.2	Perennial rhizomatous herb found near ditches, streams, and springs in cismontane woodland, coastal scrub, lower montane coniferous forest, meadows and seeps, marshes and swamps, and vernally mesic valley and foothill grassland. Ranging in elevation from 7-6,693 feet. Blooming period us from July – November.	HA	The BSA of the bridges does not contain suitable mesic conditions or habitat for this species. The species was not observed during the rare plant focused studies; therefore it is considered absent.
California dandelion	*Taraxacum californicum*	-/-/1B.1	Perennial herb found in mesic soils within meadows and seeps. Ranges in elevation from 4,860 – 8,400 feet. Blooming period is from May – August.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Sonoran maiden fern	*Thelypteris puberula* var. *sonorensis*	-/-/2B.2	Perennial rhizomatous herb found in meadows and seeps along streams between 164-2,001 feet in elevation. Known threats include recreational activities. Blooming period	HA	The BSA of the bridges lacks hydrology needed for this species. Therefore it is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			is from January - September.		
Hidden Lake bluecurls	*Trichostema austromontanum* ssp. *compactum*	D/-/1B.1	Annual herb found in seasonally submerged lake margins in upper montane coniferous forest. Ranging in elevation from 7,872 – 8,790 feet. Blooming period is from July – September.	HA	The BSA of the bridges occurs well outside of the species known elevation range and no suitable habitat is present. This species is not expected to occur.
Mecca-aster	*Xylorhiza cognata*	-/-/1B.2/CVMSHCP	Perennial herb found in Sonoran desert scrub between 65-1,312 feet in elevation. Mostly known from the Indio and Mecca Hills. Blooming period is from January - June.	HP	The scrub habitat within the BSA of the bridges is suitable for this species. However, it was not observed during focused rare plant surveys. This species is absent from the BSA.
MAMMALS					
Pallid bat	*Antrozous pallidus*	-/SSC/-/-	Found throughout Southern California from coast to mixed conifer forest; grasslands, shrublands, woodlands, & forest. Most common in open, dry habitats with rocky areas for roosting. Yearlong resident in most of range. Roosts in rock	HP	Each bridge has crevices that could provide suitable roosting habitat for each species. This species was not documented during bat emergence and acoustic surveys.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			crevices, caves, mine shafts, under bridges, in buildings and tree hollows.		
Northwestern San Diego pocket mouse	*Chaetodipus fallax fallax*	-/SSC/-/-	Inhabits sandy areas in arid and semi-arid environments supporting herbaceous vegetation such as sage scrub, chaparral, desert washes, desert scrub, desert succulent scrub, pinyon-juniper woodlands and annual grasslands below 6,000 feet elevation. Usually in association with rocky areas and/or coarse gravel.	HA	The BSA is occurs east of known observations of this subspecies . The nearest occurrence of this species was documented in Beaumont quadrant near the Cabazon quadrant is most likely within the range of *C. fallax pallidus*. This species is not expected to occur.
Pallid San Diego pocket mouse	*Chaetodipus fallax pallidus*	-/SSC/-/-	Inhabits transitional Mojavean desert areas from the slopes of the San Bernardino Mountains to the edge of the Colorado Desert and south to the Mexico border. Prefers chaparral and desert scrub. Found in open sandy areas.	HP	This subspecies tend to concentrate activities around shrubs and is often found in rocky habitats. The BSA of the bridges contains desert scrub habitat including Narrowleaf goldenbush – bladderpod scrub and creosote bush scrub, which is suitable for this species. The potential for this subspecies being present is low as it tends to exist in low population densities, so are susceptible to population loss due to human disturbance. The nearest

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
					CNDDB record to Fornat Wash Bridge is from 2000 in the Cabazon quadrant approximately 1 mile to the southwest. The nearest CNDDB record to East Channel Stubbe Wash Bridge overlaps the bridge and was recorded in 1938 in the Whitewater quadrant.
Townsend's big-eared bat	*Corynorhinus townsendii*	-/SSC/-/-	Species can be found in a variety of habitats throughout the state where appropriate roosting habitat exists. Primarily roosts in caves and cavern-like spaces; also in abandoned buildings, mines, culverts, box-like spaces in bridges and other structures, and large hollows in trees. Very sensitive to human disturbances.	HP	Each bridge has crevices that could provide suitable roosting habitat for each species. This species was not documented during bat emergence and acoustic surveys.
San Bernardino flying squirrel	*Glaucomys oregonensis californicus*	-/SSC/-/-	Found in mixed forests and conifer woodlands. Squirrels live and nest in tree cavities and prefer a relatively closed canopy with heavy duff layer and prefer more moist areas.	HA	There BSA of the bridges lacks forest habitat; thus, this species would not occur.
Western yellow bat	*Lasiurus xanthinus*	-/SSC/-/-	Found within valley and foothill desert areas,	HA	No palms or palm oases present, this species is not expected to occur

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			desert riparian areas, washes, and palm oases. Roosts in trees, particularly palms. Forages over water and among trees.		
San Diego desert woodrat	*Neotoma lepida intermedia*	-/SSC/-/-	Common to abundant in chaparral, sage scrub, and desert habitats. Most abundant in rocky areas. Builds large, stick nests in rock outcrops or shrubs.	HP	Suitable habitat is present in the BSA of the bridges.
Pocketed free-tailed bat	*Nyctinomops femorosaccus*	-/SSC/-/-	Rare with limited range in Southern California. Occurs mostly in arid southeastern deserts regions of Riverside County which constitutes the western 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; must drop from roost to gain flight speed. Forages	HP	Each bridge has crevices that could provide suitable roosting habitat for this species. This species was not documented during bat emergence and acoustic surveys.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			primarily on moths, especially over water.		
Big free-tailed bat	*Nyctinomops macrotis*	-/SSC/-/-/-	Inhabits arid, rocky areas; roosts in crevices in cliffs. Has been recorded in urban locations in San Diego County Species, and is rare in California.	HP	Each bridge has crevices that could provide suitable roosting habitat for this species. This species was not documented during bat emergence and acoustic surveys.
Desert bighorn sheep	*Ovis canadensis nelsoni*	-/FP/-/CVMSHCP	Inhabit rocky slopes and cliffs, canyons, washes and alluvial fans. Prefers rugged, open habitat.	HP	The BSA does not contain rocky slopes, canyons or cliffs. The washes present under bridges are not in open rugged habitat due to proximity to developed areas. However Stubbe Wash is a known biological corridor in the region, and could be used by the species. There is low potential to occur in the BSA.
Peninsular bighorn sheep (Population 2)	*Ovis canadensis nelsoni*	E/T(FP)/-/CVMSHCP	Inhabit rocky slopes and cliffs, canyons, washes and alluvial fans. Prefers rugged, open habitat.	HA	The project occurs outside both the range and the CVMSHCP modeled habitat for this subspecies' population. It is not expected to occur.
Palm Springs pocket mouse	*Perognathus longimembris bangsi*	-/SSC/-/CVMSHCP	Limited information available. Species found in sandy habitats on the desert floor from as far north as Joshua Tree National Park, west to the San Gorgonio Pass and south to Borrego Springs and the east side of San	HP	The CVMSHCP has identified Core Habitat for this species within the Snow Creek/Windy Point Conservation Area (CVMSHCP 2008). This species is fully covered under the CVMSHCP. No further action is required.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			Felipe Narrows. Known from Riverside, San Diego and Imperial Counties.		
Los Angeles pocket mouse	*Perognathus longimembris brevinasus*	-/SSC/-/-	Historically this species occurred from San Fernando and Burbank east to Cabazon, south through San Jacinto and Temecula Valleys to Aguanga, Warner Pass, Vail and Temecula. The current range no longer includes the San Fernando Valley as this area has been largely urbanized (Brylski 1998). Known records indicate that this species inhabits areas of open ground, with fine sandy soils (for burrowing) but is also found on gravel washes and on gravelly soils. Often occurs in drainages with sandy soils associated with chaparral, sage scrub, desert scrub, grassland, and vernal pools and playas. Species not known to prefer sites with a high rock cover.	HP	The BSAs are a few miles east of the known range of the species (Brylski 1998), with the nearest occurrence was 2.5 miles away from Bridge #56C0101 at Stubbe Wash in 1940 (CDFW 2018). The BSA contains sandy soils within the wash and desert scrub habitat.

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			Inhabits sandy washes and drainages as long as not highly modified (such as due to flood control, dry land farming, and sand and gravel extraction).		
American badger	*Taxidea taxus*	-/SSC/-/-	Occurs in herbaceous, shrub, and open stages of a variety of habitats with dry, friable soils. Strongly reliant on burrows and dens.	HP	The BSA of the bridges provides suitable open areas for the species, so habitat is present, however there were no potential burrows large enough to be used for the species were observed during reconnaissance and focused studies This species is also sensitive to disturbances, including those by recreational hikers, the train, and traffic. It is not expected to occur.
Palm Springs round-tailed ground squirrel	*Xerospermo-philus tereticaudus chlorus*	-/SSC/-/CVMSHCP	Species restricted to the Coachella Valley. Occurs in desert succulent scrub, desert scrub, desert wash and alkaline scrub habitat. Prefers open, flat, grassy areas with fine textured sandy soil such as soils associated with accretion dunes, mesquite hummocks etc.	HP	The CVMSHCP has identified Core Habitat for this species within the Snow Creek/Windy Point Conservation Area (CVMSHCP 2008). This species is fully covered under the CVMSHCP. No further action is required.
BIRDS					

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Golden eagle	*Aquila chrysaetos*	BGEPA/FP, /-	Resident remains in territories year-round. Most pairs nest in cliff faces, with the remainder in trees on steep slopes. They hunt in nearby grassland, sage scrub, or broken chaparral.	Breeding: HA Foraging: HP	The BSA of the bridges lacks suitable breeding habitat. The species could potentially forage within open areas of the BSA.
Long-eared owl	*Asio otus*	-/SSC/-/-	Found in parts of southern California year round and during winter months. Preferred habitat includes dense trees for nesting and roosting. Found in wide variety of habitat including meadows near forests, groves of conifers or deciduous trees in prairies and streamside groves in deserts.	HA	The BSA of the bridges lacks suitable riparian habitat for this species; it is not expected to occur.
Burrowing owl	*Athene cunicularia*	-/SSC/-/CVMSHCP	Inhabits open, dry grasslands, prairie; desert floor, and open scrub. Commonly found in areas altered by man, including flood control channels and basins, abandoned or open fields, agricultural and livestock areas, and road cuts. In California, commonly uses ground	HP	The BSA of the bridges provides suitable habitat, including potential burrows and potential foraging areas for burrowing owl. A focused study was performed and the species was absent.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			squirrels burrows. Also known to utilize piles of broken concrete, old pipes, and other abandoned structures for burrows.		
Black swift	*Cypseloides niger*	-/SSC (nesting)/-/-	This species has a very large range throughout western North America where it occurs from Alaska to Costa Rica. Inhabits California as a summer resident occurring from April through October, with most nesting typically occurring from June to August. This species is known to inhabit montane environments, however, it has been observed in foothills and lowlands.	Breeding: HA Foraging: HP	The BSA contains open areas that could provide suitable foraging habitat for this species during migration. This species is known to nest in cliffs and at higher elevations with available moisture, therefore no nesting habitat is present. While there is low potential for this species to forage within the BSA, the designation of SSC only refers to nesting black swifts, which are not expected.
Southwestern willow flycatcher	*Empidonax traillii extimus*	E/E/CVMSHCP	Occupies willows or other shrubs adjacent to water. Typically breeds in thickets and is known to migrate throughout California.	HA	The BSA lacks suitable breeding and foraging riparian habitat. This species would not occur.
Yellow-breasted chat	*Icteria virens*	-/SSC/-/CVMSHCP	Found in a portion of southern California and typically prefers to inhabit	HA	There is no suitable riparian habitat within the BSA of the bridges. This species would not occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			dense shrub often along streams or ponding areas.		
Loggerhead shrike	*Lanius ludovicianus*	-/SSC/-/-	Occurs in association with open fields with scattered trees, woodlands and scrub. Resident loggerhead shrikes use the same habitats all year. Breeding habitat includes open country with tall or shrubby vegetation, pastures with fence rows, old orchards, mowed roadsides, cemeteries, golf courses, agricultural fields, riparian areas, and open woodlands. Nests are placed in dense trees or shrubs, well hidden by foliage, in or near isolated trees or large shrubs. Will sometimes nest in brush piles, tumbleweeds or hardwood debris.	HP	This species was observed during the reconnaissance survey. Suitable foraging habitat is present.
Summer tanager	*Piranga rubra*	-/SSC (nesting)/-/CVMSHCP	Uncommonly found nesting in parts of southern California. Preferred habitat includes woods and groves, including cottonwood-	HA	The BSA of the bridges does not provide suitable riparian forest habitat for this species. It is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			willow forests along streams.		
Coastal California gnatcatcher	*Polioptila californica californica*	T/SSC/-	Found mainly in within a limited range of the coast in California. Preferred habitat includes coastal sage scrub and other types of scrub vegetation.	HA	The BSA of the bridges does not have coastal sage scrub and scrub habitat in the BSA's is sparse. This species is not expected to occur.
Purple martin	*Progne subis*	-/SSC (nesting)/-/-	Summer resident in southern California. Known to occur in open agricultural areas, towns and marsh edges. Nesting habitat consists of mature sycamore and pines within oak and coniferous woodlands.	HA	The BSA of the bridges does not provide suitable habitat for breeding or foraging. This species is not expected to occur.
Vermilion flycatcher	*Pyrocephalus rubinus*	-/SSC (nesting)/-/-	Fall or winter resident or rare and local breeder. Inhabits cottonwood, willow, and mesquite woodlands and other vegetation in desert riparian habitat adjacent to irrigated fields, irrigation ditches, pastures and other mesic areas.	Breeding: HA Foraging: HP	There is no suitable habitat within the BSA of the bridges suitable for breeding. There is a low potential for the species to forage in the BSA's during migration. However, the SSC designation refers only to nesting vermillion flycatchers, for which no habitat is present. This species is not evaluated further.
Yellow warbler	*Setophaga petechial*	-/SSC(nesting)/-/CVMSHCP	Common migration through parts of southern California desert regions and common nesting	Breeding: HA Foraging: HP	There is no suitable riparian habitat within the BSA of the bridges would be suitable for breeding. There is a low potential for the species to

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			along the California coast. Habitat consists of thickets, willow forests, orchards and streamside vegetation.		forage in the BSA's during migration. The SSC designation refers only to nesting yellow warblers so this species is not considered further. .
Crissal thrasher	*Toxostoma crissale*	-/SSC/-/CVMSHCP	Year round resident. Inhabits dense thickets of shrubs or low trees in desert riparian and wash habitat. Known from southeastern California to Texas and northern Mexico.	Breeding: HA Foraging: HA	The BSA lacks dense habitat for breeding individuals of this species. The BSA is outside the range of this species.
Le Conte's thrasher	*Toxostoma lecontei*	-/SSC/-/CVMSHCP	Year round resident. Inhabits sparsely vegetated flats, dunes, washes, alluvial fans or gently rolling hills with a high cover of *Atriplex* or *Opuntia*.	Breeding: HA Foraging: HP	The BSA bridges provide marginal suitable habitat within the washes. The CVMSHCP has identified Core Habitat for this species within the Snow Creek/Windy Point Conservation Area (CVMSHCP 2008). This species is fully covered under the CVMSHCP. No further action is required.
Least Bell's vireo	*Vireo belli pusillus*	E/E/-/CVMSHCP	Summer resident in southern CA. Inhabits open to semi open riparian areas and river bottoms below 2,000 feet elevation. Prefers densely vegetated areas for nesting.	HA	There is no suitable riparian habitat within the BSA of the bridges.The species it not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
REPTILES					
Southern California legless lizard	*Anniella stebbinsi*	-/SSC/-/-	Habitat is primarily areas with sandy or loose loamy soils under the sparse vegetation of beaches, chaparral, or pine-oak woodland, and open, well-shaded terraces in mature riparian natural communities. Leaf litter is commonly present. Moist warm and loose soil is essential for this species. Impacts to suitable habitat are mainly urban development and human activities such as farming and recreation (Papenfuss and Parham 2013).	HA	Although sandy soils are present in the BSA of the bridges, the project sites lacks suitable vegetation communities and leaf litter for this species. It is not expected to occur.
California glossy snake	*Arizona elegans occidentalis*	-/SSC/-/-	Found in sandy habitat in grasslands, coastal sage scrub, and chaparral.	HA	Although sandy soils are present, the project site lacks suitable vegetation for the species; therefore it is not expected to occur.
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	-/SSC/-/-	Inhabits coastal sage scrub, chaparral, riparian, oak woodlands, and rocky areas. Occurs in habitats with gravel or sandy soils,	HA	Although sandy soils are present, the project site lacks suitable vegetation for the species; therefore it is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			often associated with washes.		
Southern rubber boa	*Charina umbratica*	-/T/-/-	Found in oak-conifer and mixed conifer forests at higher elevations where rocks and logs can be used as shelter.	HA	The BSA of the bridges lacks forest habitat for this species. It is not expected to occur.
Red-diamond rattlesnake	*Crotalus ruber*	-/SSC/-/-	Inhabits chaparral, woodlands, grasslands, and desert areas. Prefers areas with boulders and rock outcrops in areas of heavy brush. Occurs as far north as the Puente Hills in Los Angeles, California and as far south as Loreto, Baja California, Mexico.	HA	The BSA lacks dense brush habitat and rock outcrops for shelter. It is not expected to occur.
Desert tortoise	*Gopherus agassizii*	T/T/-/CVMSHCP	Inhabits burrows on sandy flats, rocky foothills, alluvial fans, canyons, washes and other open areas throughout the Mojave and Sonoran deserts in areas with friable soils below 3,500 feet in elevation. Species is most active from March through June and from September through October. Populations	HP Critical Habitat: HA	Suitable habitat is present within the BSA of the bridges. Focused studies were performed in 2017 and 2019, and the species is absent. The BSA of the bridges does not occur within Critical Habitat.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			north and west of the Colorado River are listed as federally threatened. Known to be absent within the Coachella Valley west of the Salton Sea. Additionally, known to be present in the northern, eastern and western rims of the Coachella Valley within the foothills of the Little San Bernardino Mountains, the Painted and Whitewater Hills and the San Jacinto and northern Santa Rosa Mountains.		
Coast horned lizard	*Phrynosoma blainvillii*	-/SSC/-/-	Found coastally from northern Baja, California to the San Francisco Bay area. Inland it is found from Baja California to the Shasta area. Inhabits a wide range of habitats below 8,000 feet elevation including grasslands, coniferous forest, woodlands, chaparral and scrub. Commonly found within open sandy areas	HP	Although sandy soils are present, this species is found on the coastal side of the mountains and is not expected within the geographic area. Loose sandy soils are present in the BSA and suitable vegetation is present south of the UPRR. Potential to occur on the project site is low.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			in close proximity to harvester ants.		
Flat-tailed horned lizard	*Phrynosoma mcallii*	-/SSC/-/CVMSHCP	Inhabits areas of fine sand within desert washes and flats with vegetation cover and ants below 600 feet elevation within Riverside, San Diego and Imperial Counties. Western extent of range is east of the intersection of Highway 111 and Interstate 10, which is east of the BSA.	HP	Suitable habitat is present in the wash within the BSA of the bridges, however, the potential for this species to occur is low as the BSA is to the west of the mapped western extent of the range of this species.
Two-striped gartersnake	*Thamnophis hammondii*	-/SSC/-	It is 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	HA	The BSA of the bridges lacks sufficient hydrology to support this species. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Coachella Valley fringe-toed lizard	*Uma inornata*	T/E/-/CVMSHCP	Restricted to large areas of wind-blown dunes of the Coachella Valley. Historically known to occur from Cabazon at the northwestern extent of the range to Thermal at the southeastern extent. Species is primarily active from April through October with chief breeding months occurring from late April through August.	HA	This species is associated with the San Gorgonio River and the windblown sandy soils associated with this river. East Channel Stubbe Wash Bridge #56C0101 is approximately 0.1 mile to the north of the San Gorgonio River and is connected via Stubbe Wash. East Channel Stubbe Wash Bridge occurs approximately 0.7 mile to the northwest of San Gorgonio River. Although the wash areas of both bridges contain loose sand, the BSA of the bridges lacks suitable wind-blown (aeolian) sand habitat. In addition, this is a fully covered CVMSHCP species but is not expected to occur.
INVERTEBRATES					
Casey's June beetle	*Dinacoma caseyi*	E/-/-/-	Only known distribution is within the southern portion of Palm Springs, California in the Palm Canyon Wash. Species is associated with Sonoran desert habitats with scattered broad-leaved macrophyll shrubs and an open canopy. Also associated with Carsitas	HA	This species is restricted to an area of south Palm Springs. It is not expected to occur in the BSA of the bridges.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			gravelly sand series soil and alluvial fans. Individuals emerge from underground burrows between late March and early June, with peak abundance occurring near April and May. Critical habitat is present within Palm Canyon Wash.		
Coachella Giant Sand Treader Cricket	*Macrobaenet-es valgum*	-/-/-/CVMSHCP	Strongly associated with wind-blown, un-stabilized, active sand dunes. The species has been found to be most abundant in the western portion of Coachella Valley, west of Palm Drive to Snow Creek Road, however, additional suitable habitat occurs within the Whitewater River Floodplain Preserve and within the Simone dunes of the Coachella Valley Preserve. Species is nocturnal with peak activity occurring in the spring months.	HA	The CVMSHCP has identified Core habitat for this species south of the BSA of East Channel Stubbe Wash (CVMSHCP 2008), however the BSA of the bridges lacked wind-blown sands and active sand dunes; therefore suitable habitat is absent. In addition, this species is fully covered under the CVMSHCP but is not expected to occur.
Coachella Valley	*Stenopelmatu s cahuilaensis*	-/-/-/CVMSHCP	Occurs in sandy to somewhat gravelly-sandy	HP	The CVMSHCP has identified Core Habitat for this species south of the

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Jerusalem Cricket			soils. Known from the Snow Creek area and from the remnant dune habitat near Palm Springs Airport. Also known from east of Whitewater Canyon and Thousand Palms area. Strong affiliation with cool, moist conditions.		BSA of East Channel Stubbe Wash (CVMSHCP 2008). This species is fully covered under the CVMSHCP. No further action is required.
AMPHIBIANS					
California red-legged frog	*Rana draytonii*	T/SSC/-/-	Inhabits undisturbed pools of streams, marshes, and ponds up to approximately 4,920 feet elevation. Known to move up to a mile through adjacent riparian habitat under wet conditions such as rainfall. Adults feed on terrestrial insects, and snails, and a wide variety of aquatic prey. It prefers stream banks and shorelines with extensive vegetation, and is vulnerable to the introduction of exotic competitors such as	HA	The BSA of the bridges lacks sufficient hydrology to support this species. This species is not expected to occur.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			bullfrogs, crayfish, and non-native fish.		
Southern mountain yellow-legged frog	*Rana muscosa*	E/E/-/-	Inhabits varied lakes, streams ponds isolated pools. Shows a tendency toward open rocky streams and lakeshores. Rarely found far from water, though data on movements and ability to recolonize sites are lacking. Disjunct southern California population persists as remnants in small streams in the San Gabriel, San Bernardino, and San Jacinto mountains. Species historical elevation range was approximately 984-12,000 feet elevation with remaining populations located at the upper end of that range.	HA	The BSA of the bridges lacks sufficient hydrology to support this species. This species is not expected to occur.
VEGETATION COMMUNITIES					
Sonoran Creosote Bush Scrub		CVMSHCP	The community is dominated by creosote bush, burroweed, and cheesebush, The CVMSHCP proposes this	HP	The Sonoran creosote bush scrub is present within the BSA. The creosote bush scrub, creosote bush/brittlebush scrub, and goldenbush scrub, and disturbed

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
			community is important for conservation within the Conservation Area.		scrub communities all function this sensitive community.
Desert Fan Palm Oasis Woodland		CNDDB	Mesic areas dominated by California fan palm (*Washingtonia robusta*). Additional species include date palms, cottonwood, and arrow-weed.	HA	No woodland habitat is present in the BSA.
Desert Willow-Smoketree Wash Woodland			An open to intermittent tree canopy and shrub layer dominated by desert willow and smoketree.	HP	This community is present on the south side of UPRR at the East Channel Stubbe Wash Bridge.
Mesquite Bosque		CNDDB	Desert community dominated by mesquite (*Prosopis* sp.). Additional species include acacia, cottonwood, and California fan palm.	HA	The BSA does not contain a mesquite bosque.
Mojave Riparian Forest		CNDDB	Desert alluvial deposits along the floodplains of major desert rivers contain enough year round moisture to allow a riparian forest of mixed willow (*Salix* sp.) and cottonwood trees (*Populus fremontii*) as well as dense shrubs.	HA	No riparian forest habitat is present in the BSA.

Common Name	Scientific Name	Status Fed/State/CRPR/CVMSHCP	General Habitat Description	Habitat Present/ Absent	Rationale
Southern Riparian Forest		CNDDB	Forest community dominated by sycamore, cottonwood, and willows.	HA	No southern riparian forest is present in the BSA.

[a] Status Codes

Federal

E = Federally listed; Endangered

PE = Proposed Endangered

T = Federally listed; Threatened

FC = Federal Candidate for Listing

FSC = Federal Species of Concern

BCC = Birds of Conservation Concern

D = Delisted

BGEPA = Bald and golden eagle protection act

State

E = State listed; Endangered

CE = Candidate Endangered

T = State listed; Threatened

R = Rare (Native Plant Protection Act)

SSC = California Species of Special Concern

FP = California Fully Protected Species

WL = Watch List

Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP)

CVMSHCP- This is a Covered Species under the CVMSHCP.

CNPS Rare Plant Rank (CRPR)

1A = Plants presumed extinct in California

1B = Plants rare, threatened, or endangered in California and elsewhere

2 = Plants rare, threatened, or endangered in California, but more common elsewhere

3 = Plants about which we need more information

4 = Limited distribution (Watch List)

CNPS CRPR Threat Codes

0.1 = Seriously endangered in California

0.2 = Fairly endangered in California

0.3 = Not very endangered in California

[b] Habitat Presence/Absence Codes

P= The species is present and was observed during survey efforts.

HP=Habitat is or may be present within Project footprint. The species may potentially be present. Focused survey is warranted.

HA= No habitat present and no further work needed.

Gray Highlight= No potential to occur in the BSA.

APPENDIX D: PLANT AND ANIMAL SPECIES OBSERVED/DETECTED

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Table D-1. Plant Species List

Species	Common Name
Asteraceae	
Ambrosia acanthicarpa	Annual burrweed
Ambrosia dumosa	White bursage
Ambrosia salsola	Burrobrush
Artemisia californica	California sagebrush
Bebbia juncea var. *aspera*	Rough sweetbush
Centaurea melitensis	Tocalote*
Chaenactis fremontii	Fremont pincushion
Dicoria canesens	Desert dicoria
Encelia farinosa	Encelia farinosa
Ericameria linearifolia	Narrow leaved goldenbush
Ericameria pinifolia	Pinebush
Isocoma acradenia	Desert isocoma
Lactuca serriola	Prickly lettuce*
Lepidospartum squamatum	California broomsage
Logfia filaginoides	California cottonrose
Minoptilon belliodes	Desert star
Malacothrix glabrata	Desert dandelion
Oncosiphon piluliferum	Stinknet*
Palafoxia arida var. arida	Desert needle
Sonchus oleraceus	Common sow thistle*
Stephanomeria exigua	Small wirelettuce
Stephanomeria pauciflora	Desert straw
Stephanomeria virgata	Rod wirelettuce
Bignoniaceae	
Chilopsis linearis	Desert willow
Boraginaceae	
Cryptantha angustifolia	Narrow leaved cryptantha
Cryptantha intermedia	Common cryptantha
Gilia capitata	Blue field gilia
Pectocarya linearis ssp. ferocula	Sagebrush combseed
Pectocarya sp.	Combseed
Cryptantha maritima	Guadalupe cryptantha
Emmenanthe penduliflora	Whispering bells
Brassicaceae	
Brassica tournefortii	Saharan mustard
Hirschfeldia incana	Mediterranean hoary mustard
Lepidium lasiocarpum	Shaggyfruit pepperweed
Sisymbrium altissimum	Tumble mustard*
Sisymbrium irio	London rocket*
Cactaceae	
Cylindropuntia californica var. parkeri	Brownspined pricklypear

Species	Common Name
Caryophyllaceae	
Loeflingia squarrosa	Spreading loeflingia
Chenopodiaceae	
Atriplex canescens	Fourwing saltbush
Salsola tragus	Russian thistle*
Chenopodium album	Lamb's quarters*
Cleomaceae	
Peritoma arborea	Bladderpod
Cucurbitaceae	
Cucurbita palmata	Coyote gourd
Marah macrocarpa	Chilicothe
Euphorbiaceae	
Croton californicus	California croton
Stillingia linearifolia	Linear leaved stillingia
Euphorbia polycarpa	Smallseed sandmat
Euphorbia serpillifolia ssp. *hirtula*	Thyme-leafed spurge
Fabaceae	
Acmispon strigosus	Strigose lotus
Lupinus hirsutissimus	Stinging annual lupine
Prosopis pubescens	Screw bean mesquite
Parkinsonia aculeata	Jerusalem thorn
Geraniaceae	
Erodium cicutarium	Coastal heron's bill*
Lamiaceae	
Salvia columbariae	Chia
Loasaceae	
Mentzelia involucrata	Bracted blazing star
Malvaceae	
Malva parviflora	Cheeseweed mallow
Nyctaginaceae	
Mirabilis laevis	Desert wishbone bush
Onagraceae	
Camissoniopsis bistorta	California sun cup
Eulobus californicus	California primrose
Papaveraceae	
Eschscholzia californica	California poppy
Eschscholzia minutiflora	Pygmy poppy
Plantaginaceae	
Plantago ovata	Desert indianwheat
Poaceae	
Bromus madritensis ssp. *madritensis*	Red brome*
Hordeum murinum	Foxtail barley*

Species	Common Name
Bromus tectorum	Cheatgrass*
Schismus barbatus	Common Mediterranean grass*
Triticum aestivum	Common wheat
Polemoniaceae	
Eriastrum eremicum	Desert woollystar
Polygonaceae	
Chorizanthe brevicornu	Brittle spine flower
Eriogonum fasciculatum	California buckwheat
Logfia filaginoides	California cottonrose
Solanaceae	
Datura wrightii	Jimsonweed
Nicotiana glauca	Tree tobacco*
Tamaricaceae	
Tamarix ramosissima	Saltcedar*
Zygophyllaceae	
Larrea tridentata	Creosote

Table D-2. Wildlife Species Observed

Mammals	
Lepus californicus	black-tailed jackrabbit
Neotoma sp.	woodrat (sign)
Parastrellus hesperus	canyon bat
Birds	
Calypte costae	Costa's hummingbird
Columba livia	rock pigeon
Corvus brachyrhynchos	American crow
Corvus corax	common raven
Haemorhous mexicanus	house finch
Lanius ludovicianus	loggerhead shrike
Mimus polyglottos	northern mockingbird
Polioptila melanura	black-tailed gnatcatcher
Tyrannus vociferans	Cassin's kingbird
Zenaida macroura	mourning dove
Reptiles	
Pituophis catenifer	gopher snake
Uta stansburiana	side blotched lizard

APPENDIX E: SITE PHOTOS FOR THE RAILROAD AVENUE BRIDGES (#56C0099 AND #56C0101)

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Appendix E. Site Photographs for Railroad Avenue Bridges (Bridge #56C0099 and #56C0101)

	Photo #1 Date: June 27, 2017 Direction: South Location: Bridge # 56C0099 Description: View of bridge and desert wash below.
	Photo #2 Date: March 7, 2019 Direction: Northwest Location: Bridge # 56C0099 Description: View of the desert wash (Fornat Wash) and areas surrounding the bridge. Heavy sedimentation occurred within Fornat Wash after higher than average winter storms.
	Photo #3 Date: April 30, 2019 Direction: Northeast Location: Bridge # 56C0099 Description: View of the desert wash (Fornat Wash) with vehicles from the I-10 observed in the background.

	Photo #4 Date: March 7, 2019 Direction: Northwest Location: Bridge #56C0101 Description: View of bridge and desert wash (East Channel Stubbe Wash) under the bridge.
	Photo #5 Date: March 7, 2019 Direction: West Location: Bridge #56C0101 Description: View of brittlebush scrub from wash bottom.
	Photo #6 Date: June 27, 2017 Direction: Northwest Location: Bridge #56C0101 Description: View of East Channel Stubbe Wash and bridge undercrossing. High clearance of bridge, openness, atria, and small shrubs, provide preferable conditions for a wildlife corridor.

APPENDIX F: DESERT TORTOISE PRE-PROJECT SURVEY DATA SHEETS

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Appendix E. Site Photographs for Railroad Avenue Bridges (Bridge #56C0099 and #56C0101)

	Photo #1 Date: June 27, 2017 Direction: South Location: Bridge # 56C0099 Description: View of bridge and desert wash below.
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	Photo #5 Date: March 7, 2019 Direction: West Location: Bridge #56C0101 Description: View of brittlebush scrub from wash bottom.
	Photo #6 Date: June 27, 2017 Direction: Northwest Location: Bridge #56C0101 Description: View of East Channel Stubbe Wash and bridge undercrossing. High clearance of bridge, openness, atria, and small shrubs, provide preferable conditions for a wildlife corridor.

APPENDIX G: JURISDICTIONAL DELINEATION REPORT

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JURISDICTIONAL DELINEATION REPORT

RAILROAD AVENUE BRIDGE REPLACEMENT PROJECTS
RIVERSIDE COUNTY, CALIFORNIA

Over Fornat Wash (Br. No. 56C0099; BRLO-5956(228)) and

Over East Channel Stubbe Wash (Br. No. 56C0101; BRLO-5956(229))

PREPARED FOR:

Riverside County Transportation Department
Contact: Frances Segovia
(951) 955-1646

PREPARED BY:

ICF
1250 Corona Pointe Court
Corona, California 92789
Contact: Marisa Flores
(951) 493-0649

July 2019

ICF. 2019. Jurisdictional Delineation Report for the Railroad Avenue Bridge Replacement Projects, Riverside County, California. July. Prepared for Riverside County Department of Transportation.

Contents

Tables

Acronyms and Abbreviations

ADT	average daily traffic
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
County	County of Riverside
CWA	Clean Water Act
EBL	Eligible Bridge List
EPA	Environmental Protection Agency
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
GIS	geographic information system
GPS	global positioning system
HBP	Highway Bridge Program
HU	hydrologic unit
I-10	Interstate 10
JD	Jurisdictional Determination
OBL	obligate
OHWM	Ordinary High Water Mark
POA	Plan of Action
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
Project	Railroad Avenue Bridges Project
RGL	Regulatory Guidance Letter
RPWs	relatively permanent waters
RWQCB	Regional Water Quality Control Board
SD	structurally deficient
SR	sufficiency ratings

SSURGO	Soil Survey Geographic
SWANCC	Solid Waste Agency of Northern Cook County
SWRCB	State Water Resources Control Board
TNW	traditional navigable water
UPL	upland
UPR	Union Pacific Railroad
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WoS	Waters of the State
WoUS	Waters of the United States

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Chapter 1
Introduction

In March 2019, ICF conducted a delineation of jurisdictional waters and wetlands for the County of Riverside (County), in cooperation with the California Department of Transportation (Caltrans), as part of the federal and state regulatory permitting processes for the Railroad Avenue Bridge Replacement Projects (project) plus an additional 100-foot buffer (study area).

The purpose of this report and associated delineation is to identify the extent of potential federal and state jurisdiction within and adjacent to the project site for verification by the resource agencies to support the federal Clean Water Act (CWA) Sections 401 and 404 (33 U.S.C. §1251 et seq. [1972]), Section 13260 of the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and Section 1600 et seq. of the California Fish and Game Code. Section 404 of the CWA regulates the discharge of dredged or fill material to waters of the United States (WoUS) as well as federal wetlands and is administered by the U.S. Army Corps of Engineers (USACE). Pursuant to Section 401 of the CWA, issuance/ authorization of a 404 permit requires certification from the state in which the discharge originates. In this case, the Colorado River Basin Regional Water Quality Control Board (RWQCB) issues the certification on behalf of the State Water Resources Control Board (SWRCB). The RWQCB/SWRCB may also regulate discharge of waste (i.e., clean fill material) to non-federal waters and wetlands (e.g., isolated features) under the Porter-Cologne Act. Section 1600 et seq. of the California Fish and Game Code is administered by the California Department of Fish and Wildlife (CDFW). In riparian areas, CDFW jurisdictional limits are usually delineated by the top of stream or lake banks, or the outer edge of riparian vegetation; whichever is wider. If a proposed project would result in the discharge of fill to WoUS and/or waters of the State (WoS), or result in modification of streambed or bank, permits for the proposed activity must be sought from each applicable resource agency. Details regarding each of these resource agencies as well as their regulatory authority, jurisdiction, permits, and regulatory processes are provided in Chapter 2, *Regulatory Background.*

A request for a Preliminary Jurisdictional Determination will be submitted for all potentially jurisdictional features observed within the study area. Refer to *Chapter 4, Jurisdictional Delineation Results* for the potential jurisdictional waters in the study area.

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

1.1 Project Description

The County of Riverside (County), in cooperation with California Department of Transportation (Caltrans), proposes to replace the following two (2) existing scour critical and structurally deficient timber bridges along Railroad Avenue near Whitewater in Riverside County, California (Appendix A, Figure 1 and 2):

- Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099) (Federal Aid Project No. BRLO-5956(228)

- Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101) (Federal Aid Project No. BRLO-5956(229)

Railroad Avenue is an approximately 5-mile stretch of road that runs parallel to Interstate 10 (I-10) and the Union Pacific Railroad (UPRR). It connects the Haugen-Lehmann Way and I-10 at the east end and Main Street and I-10 at the west end. It mostly serves the sparsely populated Cabazon community. The average daily traffic (ADT) volume is approximately 211 vehicles. Periodically, the road carries detoured traffic from the heavily traveled I-10 when the freeway is temporarily closed for construction or emergency incidents. The road also serves as an access route for UPRR and utility maintenance crews. Therefore, it is important to maintain this frontage road in sound condition at all times.

The existing timber bridges carry two lanes (one lane in each direction) of traffic over Fornat and East Channel Stubbe Washes. The timber bridges are approximately 59 feet long and are 32 feet wide from curb-to-curb. The County proposes replacing the existing two 2-lane timber bridges along Railroad Avenue with new 2-lane modern bridges with a curb-to-curb roadway width of 32 feet at the same locations.

The bridges are listed in the federal Eligible Bridge List (EBL) as "Structurally Deficient (SD)" with a low Sufficiency Rating (SR) between 59.1 and 62.9. A sufficiency rating is essentially an overall rating of a bridge's fitness for the duty that it performs. The rating is based on a bridge's structural evaluation, functional/geometric obsolescence, and its essentiality to the public. A low sufficiency rating may be due to structural defects, narrow lanes, low vertical clearance, or any of many possible issues. A bridge is healthy when its SR is more than 80.0. Bridges with SR equal to or less than 80.0 and more than 50.0 require rehabilitation or widening. When the SR falls less than 50.0, bridge replacement shall be considered for public safety. Although the Railroad Avenue bridges carry a status flag of SD with SR ratings between 50 and 80 (qualifying for major rehabilitation), it was determined that the bridges are well beyond their 50-year service life and it would be more cost-efficient to replace the bridges. Additionally, a scour Plan of Action (POA) was performed on the bridges by the County in 2013. The POA recommended total replacement of the bridges as the most cost-effective option due to the extent of the scour, structural instability and deterioration of various timber bridge elements.

The proposed project would replace the existing 2-lane timber bridges with new 2-lane modern bridges. The proposed road width would consist of two 12-foot-wide travel lanes, one lane in each direction, and a 4-foot-wide shoulder on each side. Modern traffic barriers/railings meeting current Caltrans safety design standards would be constructed. The proposed bridges would be approximately 60 feet long depending on the channel hydraulic capacity and water surface freeboard requirements. Potentially the elevation of Fornat Wash Bridge may increase, but by no more than two feet to meet freeboard requirements. The East Channel Stubbe Wash Bridge elevation would remain the same. Additionally, approach roadway improvements would be provided and channel improvements would be administered to avoid future scour problems. It is envisioned that the channel bottom will remain earthen.

Existing underground utilities along the north side of Railroad Avenue and suspended utilities (a 4-inch gas line and a telephone line) along the north side of the East Channel Stubbe Wash Bridge would be affected by construction and may require relocation.

All construction activities would be conducted within the existing roadway right of way with construction staging and material laydown areas on the roadway itself. Railroad Avenue between

the two bridges to be replaced would be closed to continuous traffic during construction. The construction duration will be further determined during the project development. It is envisioned that the two bridges will be constructed one at a time to allow access to UPRR facilities and adjacent utilities from the Haugen-Lehmann Way/I-10 Interchange or the Main Street/I-10 Interchange. A Traffic Management Plan (TMP) would be prepared to address closure of the road and access to local utilities and properties.

The proposed construction would require a temporary construction easement (TCE) from UPRR for access to the channel bottom. However, construction activities are expected to stay at least 50 feet from the live rail tracks to eliminate any effects on railroad operations. The Railroad Avenue bridges abut adjacent State Bridges (Br. No. 56-166 and Br. No. 56-168) that carry I-10 traffic over the same washes. Structural modifications to the State Bridges are not anticipated; however, this will be evaluated during design. An encroachment permit from Caltrans District 8 would be obtained prior to construction.

1.2 Project Location

The proposed projects are located within an unincorporated area of Riverside County (Figure 1). The projects occurs within Whitewater, California USGS 7.5-minute quadrangles (Figure 2 in Appendix A) (USGS 1988). In addition, the projects occur within:

- Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099): Section 11 & 12 of Township 35, Range 2 E of Whitewater, California USGS 7.5-minute quadrangle
- Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101): Section 8 of Township 35, Range 3 E of Whitewater, California USGS 7.5-minute quadrangle

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Chapter 2
Regulatory Background

This chapter summarizes the regulations imposed on each type of jurisdictional feature potentially present within the study area.

2.1 U.S. Army Corps of Engineers Regulated Activities

Pursuant to Section 404 of the CWA, USACE regulates the discharge (temporary or permanent) of dredged or fill material into WoUS, including wetlands. A discharge of fill material includes, but is not limited to, grading, placing riprap for erosion control, pouring concrete, and stockpiling excavated material into WoUS. Activities that generally do not involve a regulated discharge (if performed specifically in a manner to avoid discharges) include driving pilings, performing certain drainage channel maintenance activities, constructing temporary mining and farm/forest roads, and excavating without stockpiling.

2.1.1 Waters of the United States

WoUS, as defined in Code of Federal Regulations (CFR) title 33, section 328.3, include the following:

(1) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(2) All interstate waters including interstate wetlands;

(3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

  (i) Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

  (ii) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

  (iii) Which are used or could be used for industrial purpose by industries in interstate commerce;

(4) All impoundments of waters otherwise defined as WoUS under the definition;

(5) Tributaries of waters identified in paragraphs (1) through (4) of this section;

(6) The territorial seas;

(7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (1) through (6) of this section.

(8) WoUS do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the CWA, the

final authority regarding CWA jurisdiction remains with the Environmental Protection Agency (EPA).

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.11(m) which also meet the criteria of this definition) are not WoUS.

The limit of USACE jurisdiction, excluding wetlands and tidal waters, is delineated using the Ordinary High Water Mark (OHWM), and is defined in CFR 328.3(e) as:

…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

2.1.2 Wetlands

Normally, three criteria must be satisfied to classify an area as a federal jurisdictional wetland: (1) a predominance of plant life that is adapted to life in wet conditions (hydrophytic vegetation); (2) soils that saturate, flood, or pond long enough during the growing season to develop anaerobic conditions in the upper part (hydric soils); and (3) permanent or periodic inundation or soils saturation, at least seasonally (wetland hydrology) (Environmental Laboratory 1987).

2.1.3 *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers*

In 1986, in an attempt to clarify the reach of its jurisdiction, USACE stated that Section 404(a) extends to intrastate waters that:

…(a) are or would be used as habitat by birds protected by migratory bird treaties, or (b) are or would be used as habitat by other migratory birds which cross state lines, or (c) are or would be used as habitat for endangered species, or (d) used to irrigate crops sold in interstate commerce." (51 Federal Register 41217).

As a result of the 2001 *Solid Waste Agency of Northern Cook County* (SWANCC) case, the U.S. Supreme Court held that USACE may not rely on the Migratory Bird Rule to establish a significant nexus to interstate or foreign commerce. Although no formal guidance was issued by USACE interpreting the extent to which the *SWANCC* decision would limit jurisdictional determinations, in practice, USACE considers intrastate waters as WoUS where there is an appropriate connection to a navigable water or other clear interstate commerce connection. Therefore, WoUS, including jurisdictional wetlands, must show connectivity with (be tributary to) a navigable WoUS to be subject to USACE under Section 404 of the CWA.

2.1.4 *Rapanos v. United States* and *Carabell v. United States Army Corps of Engineers*

In 2006, the U.S. Supreme Court issued an opinion regarding the extent of USACE jurisdiction over certain waters under Section 404 of the CWA. The *Rapanos-Carabell* consolidated decisions addressed the question of jurisdiction over attenuated tributaries to WoUS, as well as wetlands adjacent to those tributaries.

On June 5, 2007, USACE and EPA issued guidance related to the *Rapanos* decision, with clarifying guidance issued on December 2, 2008. The guidance identifies those waters over which the agencies (USACE and EPA) will assert jurisdiction categorically and on a case-by-case basis. To summarize, USACE will continue to assert jurisdiction over the following features:

- Traditional navigable waters (TNWs) and their adjacent wetlands; and
- Non-navigable tributaries of TNWs that are relatively permanent waters (RPWs) (e.g., tributaries that typically flow year-round or have a continuous flow at least seasonally [i.e., typically 3 months]) and wetlands that directly abut such tributaries (i.e., not separated by uplands, berm, dike, or similar feature).

For non-RPWs, the agencies will determine whether a "significant nexus" exists with a TNW using the data found in an Approved Jurisdictional Determination (JD) Form. The purpose of the significant nexus evaluation is to determine whether the existing functions of a tributary affect the chemical, physical, and/or biological integrity of a downstream TNW. Tributary characteristics that are considered when evaluating whether a significant nexus exists include volume, duration, and frequency of flow; proximity to a TNW; and hydrologic and ecologic functions performed by the tributary and all of its adjacent wetlands. Based on that information, the agencies may assert jurisdiction over the following features:

- Non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally;
- Wetlands adjacent to such tributaries; and
- Wetlands adjacent to but not directly abutting a relatively permanent non-navigable tributary.

The agencies will typically not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies and small washes characterized by low volume and infrequent or short-duration flow); and
- Ditches (including roadside ditches) excavated wholly in uplands and draining only uplands that do not carry a relatively permanent flow of water.

2.1.4.1 Approved Jurisdictional Determinations

An Approved JD is an official USACE jurisdictional determination, is valid for 5 years, can be used and relied upon in a CWA citizen's lawsuit if its legitimacy is challenged (except under extraordinary circumstances), and can be immediately appealed (33 CFR 331). Approved JDs are documented in accordance with Regulatory Guidance Letter (RGL) No. 16-01 and require the use of the Approved JD Form. Approved JDs are evaluated by USACE and EPA.

Under the *Rapanos* guidance, an Approved JD is required for determinations for all "isolated" waters or wetlands, and is subject to review by USACE and EPA.

2.1.4.2 Preliminary Jurisdictional Determinations

USACE issued RGL No. 16-01 in October 2016, allowing USACE to issue Preliminary JDs for a project. A Preliminary JD is a non-binding written indication that there may be WoUS, including wetlands, on a project site and identifies the approximate location of these features. Preliminary JDs are used when a landowner, permit applicant, or other affected party elects to voluntarily waive or set aside

questions regarding CWA jurisdiction over a particular site, usually in the interest of allowing the landowner to move ahead expeditiously to obtain Section 404 authorization where the party determines that it is in his or her best interest to do so. A Preliminary JD is not an official determination regarding the jurisdictional status of potentially jurisdictional features and has no bearing on Approved JDs. A Preliminary JD cannot be used to confirm the absence of jurisdictional waters or wetlands, is advisory in nature, and cannot be appealed. It is considered "preliminary" because a recipient can later request an Approved JD if one is necessary or appropriate.

A Preliminary JD is documented using the Preliminary JD Form. For purposes of impact calculations, compensatory mitigation requirements, and other resource protection measures, a permit decision made on the basis of a Preliminary JD treats all waters and wetlands that would be affected in any way, except by the permitted activity, as if they are jurisdictional. Although a Preliminary JD may be chosen by the applicant, the district engineer reserves the right to use an Approved JD where warranted.

2.1.4.3 2011 Draft Clean Water Act Guidance

On April 27, 2011, USACE and EPA issued draft guidance for determining jurisdiction under the CWA (USACE/EPA 2011). The guidance supersedes the previous guidance from 2003 regarding SWANCC (68 Federal Register 1991–1995) and 2007–2008 *Rapanos* guidance. This document reiterated the guidance issued under the *Rapanos* decision, asserting that the following waters are protected by the CWA:

- TNWs;
- Interstate waters;
- Wetlands adjacent to either TNWs or interstate waters;
- Non-navigable tributaries to TNWs that are relatively permanent (meaning they contain water at least seasonally); and
- Wetlands that directly abut relatively permanent waters.

The guidance further clarifies the criteria for defining TNWs, primarily consistent with previous guidance. In addition, a significant nexus evaluation is required for the "other waters" category of the regulations (see item 3 in Section 2.1.1, *Waters of the United States*, above). The guidance divides these waters into two categories—those that are physically proximate to other jurisdictional waters and those that are not—and discusses how each category should be evaluated.

Finally, the guidance reiterated that certain aquatic areas are generally not considered WoUS:

- Wet areas that are not tributaries or open waters and do not meet the agencies' regulatory definition of "wetlands";
- Waters excluded from coverage under the CWA by existing regulations;
- Waters that lack a "significant nexus" where one is required for a water to be protected by the CWA;
- Artificially irrigated areas that would revert to upland should irrigation cease;
- Artificial lakes or ponds created by excavating and/or diking dry land and used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

- Artificial reflecting pools or swimming pools created by excavating and/or diking dry land;
- Small ornamental waters created by excavating and/or diking dry land for primarily aesthetic reasons;
- Water-filled depressions created incidental to construction activity;
- Groundwater drained through subsurface drainage systems; and/or
- Erosional features (gullies and rills) and swales and ditches that are not tributaries or wetlands.

2.2 State Regulated Activities

2.2.1 Section 401 of the Clean Water Act

A federal permit or license cannot be issued that may result in a discharge to WoUS unless certification under Section 401 of the CWA is granted or waived by the EPA, state, or tribe where the discharge would originate (EPA 2010). Within the proposed project area, the ability to grant, grant with conditions, deny, or waive certification falls to three separate parties: RWQCB or SWRCB, and EPA.

Pursuant to Section 401 of the CWA:

> …any applicant for a federal permit for activities that involve a discharge to WoUS will provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal CWA.

Therefore, before USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 water quality certification or waiver, as applicable. Under Section 401 of the CWA, all activities that are regulated at the federal level by USACE are also regulated at the state level. Therefore, state jurisdiction usually includes all waters or tributaries to waters that are determined to be WoUS and, similar to WoUS, are typically delineated at the OHWM.

However, if waters are determined not to be WoUS, they may still be subject to state jurisdiction based on the Porter-Cologne Act.

2.2.2 Porter-Cologne Water Quality Control Act

The state also regulates activities that would involve "discharging waste, or proposing to discharge waste, within any region that could affect waters of the state" (California Water Code 13260(a)), pursuant to provisions of the Porter-Cologne Water Quality Control Act. WoS are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code 13050(e)). Such waters may include waters not subject to regulation under Section 404 (i.e., isolated features). These waters may include isolated vernal pools, isolated wetlands, or other aquatic habitats not normally subject to federal regulation under Section 404 of the CWA.

2.2.3 State Water Resources Control Board/Regional Water Quality Control Boards

In California, SWRCB and nine RWQCBs regulate activities within state and federal waters under Section 401 of the CWA and the Porter-Cologne Act. SWRCB is responsible for setting statewide policy, coordinating and supporting RWQCB efforts, and reviewing petitions that contest RWQCB actions. Each RWQCB is semi-autonomous and has the authority to set water quality standards, issue Section 401 certifications and waste discharge requirements, and take enforcement action for projects occurring within its boundary. However, when a project crosses multiple RWQCB jurisdictional boundaries, SWRCB becomes the regulating agency and issues project permits.

2.3 California Department of Fish and Wildlife Regulated Activities

Pursuant to Sections 1600–1616 of the California Fish and Game Code, CDFW regulates any activity that will substantially divert or obstruct the natural flow—or substantially change or use any material from the bed, channel, or bank—of any river, stream, or lake. CDFW also regulates any activity that will deposit or dispose of debris, wastewater, or other material containing crumbled, flaked, or ground pavement that may pass into any river, stream, or lake. The applicant must notify CDFW prior to such activities and obtain a Lake or Streambed Alteration Agreement.

2.3.1 California Department of Fish and Wildlife Jurisdiction Pursuant to Section 1602 of the California Fish and Game Code

CDFW has jurisdiction over WoS (California Fish and Game Code §1600 et seq.; California Code of Regulations, Title 14, §720). Section 1602 of the California Fish and Game Code applies to natural rivers, streams, and lakes:

> An entity may not substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

CDFW defines a stream as "a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators" (Brady and Vyverberg 2014). CDFW regulates wetland areas only to the extent that those wetlands are part of a stream, river, or lake as defined by the CDFW.

The California Fish and Game Code mandates that:

> …it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the Department of such activity.

Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear but re-emerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an OHWM to be claimed as jurisdictional.

Water features such as vernal pools and other seasonal swales—where the defined bed and bank are absent, and the feature is not contiguous or closely adjacent to other jurisdictional features—are generally not asserted to fall within state jurisdiction under Section 1602. CDFW generally does not assert jurisdiction over human-made water bodies unless they are located where such natural features were previously located or (importantly) where they are contiguous with existing or prior natural jurisdictional areas.

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Chapter 3
Methodology

3.1 Project Research

Prior to conducting field visits, aerial photographs of the site in various scales were obtained and compared with U.S. Geological Survey (USGS) 7.5-minute Whitewater topographic quadrangle to identify drainage features within the study area as indicated by vegetation types, topographic changes, or visible drainage patterns. The National Hydrography Dataset data for the study area (USGS 2019) and the National Wetlands Inventory (USFWS 2019) were referenced to identify any mapped features such as streams and wetlands. Finally, the study area was carefully reviewed in Google Earth (Google Earth 2019) in various scales, and potentially jurisdictional features were reviewed.

In addition, the U.S. Department of Agriculture, Natural Resources Conservation Service Soil Survey Geographic (SSURGO) Database (USDA/NRCS 2006) was reviewed to identify the soil series that occur in the study area.

3.2 Field Investigation

The field investigation was conducted by James Hickman and Kristen Klinefelter on March 7, 2019, generally between the hours of 0800 and 1400. The study area was defined as the limits of disturbance and an associated 100-foot buffer. The 100-foot buffer was selected as an appropriate buffer considering the project scope, adjacent land use, and potential jurisdictional resources that may be impacted by the proposed project.

During the field efforts, the study area was surveyed on foot and jurisdictional limits were recorded using a global positioning system (GPS) unit with an external receiver that provided sub-meter accuracy where access was possible. If no access was possible, then jurisdictional features were delineated on aerial photographs and digitized in a geographic information system (GIS). Common plant species observed were identified by visual characteristics and morphology in the field. Taxonomic nomenclature for plants follows the *Jepson Manual: Vascular Plants of California,* 2nd edition (Baldwin et al. 2012).

The limits of disturbance was revised several months after the March 2019 field investigation, therefore the study area was expanded to include the new limits of disturbance. A desktop review of areas within the extended study area buffer was performed in July 2019. Features were delineated using aerial imagery in Google Earth (2019), Google Earth Street View, and ArcGIS mapping software.

3.2.1 U.S. Army Corps of Engineers Jurisdiction

Potential WoUS and wetlands were delineated using methods established in the *Wetland Delineation Manual* (Environmental Laboratory 1987), 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), 2007/2008 *Rapanos* Guidance (USACE and EPA 2007, 2008), and *Draft Guidance on Identifying Waters Protected by the Clean Water Act* (USACE/EPA 2011). 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. Details of the application of these criteria are provided below.

- **Hydrophytic Vegetation:** Hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during the growing season (USACE 2008a). The following definitions are used by USACE to define a plants likelihood of tolerating prolonged inundation or soil saturation during the growing season (Lichvar et al. 2012).
    - Obligate (OBL): Almost always occurs in wetlands.
    - Facultative Wetland (FACW): Usually occur in wetlands, but may occur in non-wetlands.
    - Facultative (FAC): Occur in wetlands and non-wetlands.
    - Facultative Upland (FACU): Usually occur in non-wetlands, but may occur in wetlands.
    - Upland (UPL): Almost never occur in wetlands.

    The presence of hydrophytic vegetation is determined by either the dominance test or the prevalence test. The dominance test addresses dominant species in the community being sampled and is satisfied at a location if greater than 50 percent of all the dominant species present within the community have a wetland indicator status of OBL, FACW, or FAC (Environmental Laboratory 1987). The prevalence test addresses all species in the community being sampled and is a weighted average wetland indicator status of all species where each indicator status is given a numeric code (OBL = 1, FACW = 2, FAC = 3, FACU = 4, UPL = 5) and weighting is by absolute percent cover. A prevalence index of 3.0 or less indicates that hydrophytic vegetation is present. The wetland indicator status used for the field efforts follows the *Arid West 2016 Regional Wetland Plant List* (Lichvar et al. 2016).
- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* (USACE 2008a).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Arid West Supplement* (USACE 2008a).

Where appropriate, a soil pit was dug to examine soil color and texture. Wetland data forms are attached as Appendix C and include areas where soil pit examinations were conducted and where soils were assumed hydric. No soils pits were dug in areas that lacked hydrophytic vegetation.

3.2.2 State Jurisdiction

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as USACE. In addition, the study area was evaluated for resources potentially regulated under the Porter-Cologne Act (i.e., isolated features).

3.2.3 California Department of Fish and Wildlife Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of relevant standard practices by CDFW personnel. CDFW jurisdiction was delineated by mapping the outer width and length boundaries of potentially jurisdictional areas, consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.

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Chapter 4
Environmental Setting

This chapter describes the vegetation, topography, land use, hydrology, and soils associated with the study area of each bridge.

4.1 Land Use and Topography

The study areas are located within the Whitewater USGS 7.5-Minute topographic quadrangle. Land use within both project study areas consists of the raised I-10 eastbound freeway lanes running over each wash along the north end of each project's study area, the above grade two-lane Railroad Avenue road running through the center, and two parallel tracks for the Union Pacific Railroad running through the south end of each project's study area with open space in between. Additional land uses in the vicinity of Fornat Wash Bridge (#56C0099) include dirt roads that may be used by off-road vehicles or for maintenance of the railroad or utilities. The under crossing of East Channel Stubbe Bridge (#56C0101) through the wash is part of the Pacific Crest Trail system and is used by hikers and equestrians.

The topography within the study area for Fornat Wash Bridge (#56C0099) is relatively flat with a large channel (Fornat Wash) running from north to south. It generally slopes from northwest to southeast with elevations ranging from approximately 1,542 to 1,559 feet above mean sea level. The project study area is mapped by the Federal Emergency Management Agency (FEMA) as Zone D – areas in which flood hazards are undetermined and Zone X – area of minimal flood hazard (Figure 3 in Appendix A).

The topography within the study area for East Channel Stubbe Wash Bridge (#56C0101) consists of gentle slopes from northwest to southeast with two relatively large channels running north to south. Elevations ranging from approximately 1,340 to 1,360 feet above mean sea level. The project study area is mapped by FEMA as Zone A – areas with 1 percent annual chance of flooding and Zone X – area of minimal flood hazard (Figure 3 in Appendix A).

4.2 Hydrology

4.2.1 Precipitation

Precipitation as recorded in the Palm Springs, California station (NWS 2019) approximately 12 to 14 miles northwest of the study areas during the 2018/2019 rainy season are above average. The jurisdictional delineation was conducted following sufficient seasonal rainfall that enabled low flow and OHWM identification. Table 4-1 summarizes the monthly precipitation for the project area from 1981–2010, 2018, and 2019 to date. Average yearly precipitation is 4.68 inches (National Weather Service 2019).

Table 4-1. Rainfall Data Summary for Project Area (inches)

Palm Springs, CA													
Year	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**	**Total**
1981–2010	1.02	1.13	0.54	0.06	0.02	0.02	0.14	0.29	0.23	0.23	0.35	0.64	4.86
2018	2.05	0.00	0.37	0.00	0.00	0.00	1.58	0.00	0.00	0.62	0.40	0.77	5.79
2019	1.80	4.32	0.39	0.00	–	–	–	–	–	–	–	–	6.71
Source: National Weather Service, Palm Springs Station 2019.													

4.2.2 Hydrologic Unit

Both project study areas are located in the northwestern corner of the Whitewater River watershed eight-digit hydrologic unit code (HUC) (USGS HUC 8: 18100201) within the Colorado River Basin RWQCB (Figure 4 in Appendix A). Both project study areas occur within the San Gorgonio River watershed (HUC-10) (Figure 4 in Appendix A). The San Gorgonio River is a tributary of the Whitewater River, which is part of the Colorado River Basin. The river and its tributaries begin in the San Bernardino Mountains and flow approximately 80 miles east through the San Gorgonio Pass. The San Gorgonio River continues east to its confluence with the Whitewater River, ultimately draining into the Salton Sea. Many of the existing drainages within the watershed are ephemeral and arise from alluvial fans. The dominant land uses within the San Gorgonio River watershed include tribal lands, urban residential and commercial, industrial, agricultural, and vast amounts of open space.

The National Hydrography Data Set results, FEMA mapped 100-year floodplain, and the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory query results are depicted on the Water Resources Map (Figure 3 in Appendix A).

4.3 Soils

Soils in the study areas consist of sands ranging from stony loamy sand to fine sand (Figure 5, Sheets 1 and 2 in Appendix A). Soil series mapped within the study areas include Gorgonio, Myoma, Soboba, Tujunga, and Riverwash (USDA/NRCS 2006). These soils series are described below and illustrated in Figure 5 in Appendix A.

4.3.1 Gorgonio

The Gorgonio series is nearly level to moderately sloping and found on alluvial fans at elevations ranging from 20 to 3,000 feet. This soil type is formed in coarse textured alluvium derived from granite, granodiorite, schist, and related rocks. Gorgonio soils are somewhat excessively drained with slow or medium runoff and rapid permeability. Within the study area, these soils are classified as Gorgonio gravelly loamy fine sand, 2 to 15 percent slopes. This soil map unit occurs within the western half and eastern half of the study area for Fornat Wash Bridge (#56C0099) and is not considered hydric by NRCS (USDA/NRCS 2015).

4.3.2 Soboba

The Soboba series is on alluvial fans and flood plains at elevations ranging from 25 to 3,700 feet with slopes ranging from 0 to 30 percent. This soil type is formed in sand blown from recent alluvium. Soboba soils are somewhat excessively drained with very slow runoff and rapid permeability. Within the study area, these soils are classified as Soboba stony loamy sand, 2 to 15 percent slopes. This soil map unit occurs within the center of the Fornat Wash Bridge (#56C0099) along the wash running north to south and is not considered hydric by NRCS (USDA/NRCS 2015).

4.3.3 Tujunga

The Tujunga series is found on alluvial fans and floodplains at elevations ranging from 0 to 1968 feet above sea level. They are formed in alluvium from granitic sources. Tujunga soils are somewhat excessively drained with negligible to low runoff and high saturated hydraulic conductivity. Within the study area, these soils are classified as Tujunga gravelly loamy sand, 0 to 8 percent slopes. This soil map unit occurs within the northeastern corner of the study area for Fornat Wash Bridge (#56C0099) and is not considered hydric by NRCS (USDA/NRCS 2015).

4.3.4 Myoma

The Myoma soils are nearly level to rolling, have hummocky micro relief where unprotected and are at elevations ranging from 200 feet below sea level to 1,800 feet above sea level. They are formed in sand blown from recent alluvium. This soil series is somewhat excessively drained with very slow runoff and rapid permeability. Within the study area, these soils are classified as Myoma fine sand, 0 to 9 percent slopes. This soils map unit occurs within the easternmost portion of the study area of East Channel Stubbe Wash Bridge (#56C0101) and are not considered hydric by NRCS (USDA/NRCS 2015).

4.3.5 Riverwash

The Riverwash soil series are found at elevations of 700 to 2,900 feet formed from sandy gravelly alluvium. This soil type is characterized by excessively drained soils with 0 to 2 percent slopes. These soils make up the majority of the study area of East Channel Stubbe Wash Bridge (#56C0101) and are considered hydric by NRCS (USDA/NRCS 2015).

4.4 Vegetation

Vegetation communities in the study area were mapped using the *California Manual of Vegetation* (Sawyer, Keeler-Wolfe, and Evans 2009). Vegetation communities and land use types mapped within the study area of the projects are illustrated in Figure 6, Sheets 1 and 2 in Appendix A. Table 4-2 provides the acreage of each vegetation community and land use type within the study areas. A full description of each vegetation community and land use types follows.

Table 4-2. Vegetation Communities Within the Study Areas

Vegetation Community	Railroad Avenue Bridges	
	Fornat Wash Bridge (#56C0099)(acres)	East Channel Stubbe Wash Bridge (#56C0101) (acres)
Narrowleaf Goldenbush – Bladderpod Scrub	0.50	0.00
Disturbed Creosote Bush Scrub	0.13	0.00
Creosote Bush – Brittlebush Scrub	0.00	0.14
Brittlebush Scrub	0.00	1.14
Desert Wash	0.37	0.56
Ruderal	0.57	0.58
Developed/Disturbed*	4.76	3.73
Total within Study Area (acres)	**6.33**	**6.15**

*The developed/disturbed area of the existing bridges overlaps with the desert wash. To avoid double counting the total habitat in the study area, only the natural vegetation community (desert wash) is included in the totals.

4.4.1 Narrowleaf Goldenbush – Bladderpod Scrub

Narrowleaf goldenbush – bladderpod scrub (*Ericameria linearifolia – Cleome isomeris* Shrubland Alliance) is dominated by narrowleaf goldenbush (*Ericameria linearifolia*), bladderpod (*Cleome isomeris*) and yellow mock aster (*Eastwoodia elegans*) in the shrub canopy. Other species often found in this community are California buckwheat (*Eriogonum fasciculatum*), golden yarrow (*Eriophyllum confertiflorum*), ephedra (*Ephedra confertiflorum*), winterfat (*Krascheninnikovia lanata*), and may also include emergent trees such as, juniper (*Juniperus californica*) at lower cover.

This community occurs within the study area of Fornat Wash Bridge (#56C0099) on the south side Railroad Avenue and is dominated by narrowleaf goldenbush (UPL) and coyote brush (*Baccharis pilularis,* UPL). Other species observed were brittlebush (*Encelia farinosa*, UPL), telegraph weed (*Heterotheca grandiflora*, UPL), and non-native grasses, including ripgut brome (*Bromus diandrus*, UPL), Mediterranean grass (*Schismus* sp., UPL), and slender wild oat (*Avena barbata*, UPL). The community has been disturbed by maintenance of the Caltrans and County right-of-way and off-road vehicles.

4.4.2 Creosote Bush – Brittlebush Scrub

The creosote bush – brittlebush scrub (*Larrea tridentata – Encelia farinosa* Shrubland Alliance) community is a shrub community characteristically dominated by creosote bush (*Larrea tridentata*), brittlebush (*Encelia farinosa*). Other species that can often be found in this scrub community are desert agave (*Agave deserti*), burroweed (*Ambrosia dumosa*), desert holly (*Atriplex hymenelytra*), sweetbush (*Bebbia juncea*), and desert trumpet (*Eriogonum inflatum*). Within the study area, the community consists of scattered creosote bush, brittlebush, burroweed, narrowleaf goldenbush (UPL), ripgut brome (UPL), and Mediterranean grass (UPL). The community occurs within the study area of East Channel Stubbe Wash Bridge (#56C0101) south of the UPRR. Some areas with this community have been disturbed by off-road vehicles.

4.4.3 Disturbed Creosote Bush Scrub

The creosote bush scrub (*Larrea tridentata* Shrubland Alliance) vegetation community is characteristically dominated by creosote bush (*Larrea tridentata* Shrubland Alliance) but may also include other shrubs such as burroweed (*Ambrosia dumosa*), cheesebush (*A. salsola*), shadscale (*Atriplex confertifolia*), brickellbush (*Brickellia incana*), and brittlebush (*Encelia farinosa*). The community may also include a low cover of emergent trees such as honey mesquite (*Prosopis glandulosa*) and seasonal annuals or perennial grasses. Within the study area, this community occurs south of the UPRR within the study area of Fornat Wash Bridge (#56C0099) and has been heavily disturbed by maintenance activities within the UPRR right-of-way and off-road vehicles. Due to the disturbances, the community is sparsely vegetated with creosote bush (UPL), burroweed (UPL), and scattered nonnative annual grasses.

4.4.4 Brittlebush Scrub

The brittlebush scrub (*Encelia farinosa* Shrubland Alliance) community characterizes brittlebush as a dominant or co-dominant species in a shrub community. Other plants which often occur within this shrub community are desert agave, California sagebrush (*Artemisia californica*), teddy bear cholla (*Cylindropuntia bigelovii*), California buckwheat , and thickleaf yerba santa (*Eriodictyon crassifolium*). The brittlebush scrub occurs between Railroad Avenue and the UPRR within the study area of East Channel Stubbe Wash Bridge (#56C0101). The plants found within this community in the study area are brittlebush (UPL), goldenbush (UPL), California croton (*Croton californicus*, UPL), burroweed (UPL), jimsonweed (*Datura wrightii,* UPL), and non-native grasses, including ripgut brome (UPL) and Mediterranean grass (UPL).

4.4.5 Desert Wash

The desert wash vegetation community occurs within Fornat Wash and the west and east channels of Stubbe Wash. The wash bottom is comprised of course sandy and gravelly soils and has no vegetation or is sparsely vegetated with species that occur in the scrub vegetation communities described above. Sporadic desert willows are also present.

4.4.6 Ruderal

Ruderal areas occur adjacent to the existing roadways in the study area and are characterized by heavy disturbances. Vegetation consisted of tumble mustard (*Sisymbrium altissimum*, UPL), Athel tamarisk (*Tamarix aphylla*, FAC), and nonnative grasses.

4.4.7 Developed/Disturbed

The developed/disturbed land use type was designated for the local dirt roads, existing paved roadways, UPRR, and their right-of ways that have been mechanically disturbed by maintenance activities. Most right-of-way areas are unvegetated and the small amount of vegetation that may be present is comprised of nonnative species, such as tumble mustard and nonnative grasses.

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Chapter 5
Jurisdictional Delineation Results

This chapter describes the delineated features and expected jurisdictional status within the study area and documents existing conditions. An impact analysis is not included as a part of this report; impacts on potential jurisdictional aquatic features are included in the project Natural Environment Study (Minimal Impacts).

The information and results included herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. However, all jurisdictional determinations should be considered preliminary until reviewed and approved by the regulatory agencies.

Figures 7 (Sheet 1 and 2) and 8 (Sheet 1 and 2) in Appendix A depict the results of the federal and state jurisdictional delineations, respectively. Site photographs are provided in Appendix B, OHWM data forms are provided in Appendix C, wetland determination data forms are provided in Appendix D, a list of all plants observed in the study area is included in Appendix E, and Preliminary Jurisdictional Delineation Form in Appendix F.

5.1 Delineated Features

A total of seven features were delineated within both project's study areas. All features consisted of ephemeral sandy channels, either small channels formed by runoff or large flood control channels designed to convey flows under the I-10, Railroad Avenue, and UPRR. All seven features are depicted on Figures 7 (Sheets 1 and 2) and 8 (Sheets 1 and 2) in Appendix A. The features within each site are summarized in Table 5-1 and described individually in the subsections below.

Table 5-1. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction for the Railroad Avenue Bridges

	USACE/RWQCB		CDFW	
Railroad Avenue Bridges	**Non-Wetland WoUS/WoS (acres/ linear feet)**	**Wetland WoUS/WoS (acres)**	**Unvegetated Streambed (acres/linear feet)**	**Riparian (acres)**
Fornat Wash Bridge (#56C0099)	0.438/492	–	0.547/492	0.003
East Channel Stubbe Wash Bridge (#56C0101)	0.669/941	–	0.799/914	–

5.1.1 Fornat Wash Bridge

Two features were delineated within the study area for the Fornat Wash Bridge (#56C0099). The features, along with the agency jurisdiction for wetlands and non-wetlands, are summarized in Table 5-2 and described in detail in the subsections below. The features are depicted on Figures 7-Sheet 1 and 8-Sheet 1 in Appendix A.

Table 5-2. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction at Fornat Wash Bridge (#56C0099)

		USACE/RWQCB		CDFW	
Feature Type	**Feature Description**	**Non-Wetland WoUS/WoS (acres/ linear feet)**	**Wetland WoUS/WoS (acres)**	**Streambed (acres/ linear feet)**	**Riparian (acres)**
Feature 1-1	Fornat Wash is a large ephemeral, sandy wash; OHWM Form 2; dominated by brittlebush (UPL), foothill palo verde (FAC), narrowleaf goldenbush (UPL); riparian vegetation present; OHWM indicators include break in slope, sediment deposition, change in sediment size, debris rack	0.416/375	–	0.503/375	0.003
Feature 1-2	Small ephemeral sandy channel; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, change in vegetation cover	0.022/118	--	0.044/118	
Total		**0.438/492**	**–**	**0.547/492**	**0.003**

5.1.1.1 Feature 1-1

Feature 1-1 is a large sandy wash (Fornat Wash) that flows under the I-10, Railroad Avenue, and the UPRR, all of which are within the study area of Fornat Wash Bridge (#56C0099). This ephemeral sandy wash originates outside of the study area and flows generally in the northwest to southeast direction. Feature 1-1 conveys flows from the San Bernardino Mountains north of the study area to the San Gorgonio River south of the study area. Manufactured banks between Railroad Avenue and the UPRR maintain channel flow, though erosional features were beginning to form along the banks presumably as a result of recent higher than average rainfalls.

Feature 1-1 is composed of primarily unvegetated desert wash. The feature has an unvegetated low-flow channel and sparsely vegetated banks dominated by brittlebush (UPL), foothill palo verde (*Parkinsonia microphylla*, FAC), and narrowleaf goldenbush (UPL) near the channel outlet from under Railroad Avenue. Due to lack of hydrophytic vegetation, no sample points were taken for wetlands. The palo verde located within the banks of the channel was considered riparian vegetation.

The OHWM associated with Feature 1-1 ranges from 48 to 82 feet in width. The OHWM is defined by a break in slope, sediment deposition, change in sediment size, and debris rack. CDFW jurisdiction

ranges from approximately 50 to 125 feet and was measured at the top of bank and included the extent of riparian vegetation.

Within the study area, Feature 1-1 has approximately 375 linear feet of USACE non-wetland WoUS/WoS comprising 0.403 acre. No wetlands are associated with Feature 1-1. Feature 1-1 also contains 364 linear feet of CDFW streambed comprising 0.493 acre, and 375 linear feet of CDFW streambed and associated riparian vegetation comprising 0.003 acre. Table 5-2 presents jurisdictional totals for Feature 1-1. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 1 and 8-Sheet 1, respectively.

5.1.1.2 Feature 1-2

Feature 1-2 is a small ephemeral sandy channel that originates within the study area and flows in the general north to south direction. Feature 1-2 conveys runoff flows from the I-10 via a corrugated metal pipe and concrete box culvert towards the above grade railway toward the Whitewater River. Feature 1-2 was delineated via desktop (i.e. Google Earth) due to a revised study area in June 2019. Conditions of the feature appeared consistent with the delineation performed at Feature 1-1 based on aerial imagery, historical imagery, and Google Earth Street View (2019).

Feature 1-2 is sparsely vegetated with brittlebush scrub and is dominated by California buckwheat (UPL), brittlebush (UPL), and desert broom (FACU). The drainage lacks hydrophytic vegetation thus no wetland sample points were taken.

The OHWM associated with Feature 1-2 ranges from approximately 2 to 10 feet in width. The OHWM is defined by a break in slope and change in vegetation cover. CDFW jurisdiction ranges from approximately 4 to 20 feet in width and was measured at the top of bank.

Within the study area, Feature 1-2 has approximately 118 linear feet of USACE non-wetland WoUS/WoS comprising 0.022 acre. No wetlands are associated with Feature 1-2. Feature 1-2 also contains 118 linear feet of CDFW streambed comprising 0.044 acre. No riparian vegetation is associated with Feature1-2. Table 5-2 presents jurisdictional totals for Feature 1-2. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 1 and 8-Sheet 1, respectively.

5.1.2 Railroad Avenue Bridge over East Channel Stubbe Wash

A total of six features were delineated within the study area, East Channel Stubbe Wash Bridge (#56C0101), all of which are sandy drainages typical of dryland fluvial systems. These features along with the agency jurisdiction for wetlands and non-wetlands are summarized in Table 5-3 and described in detail in the subsections below. All six features are depicted on Figures 7-Sheet 2 and 8-Sheet 2 in in Appendix A.

Table 5-3. Summary of Potential USACE, RWQCB, and CDFW Jurisdiction at East Channel Stubbe Wash Bridge (#56C0101)

		USACE/RWQCB		CDFW	
Feature Type	**Feature Description**	**Non-Wetland WoUS/WoS (acres/ linear feet)**	**Wetland WoUS/WoS (acres/ linear feet)**	**Streambed (acres/ linear feet)**	**Riparian (acres/ linear feet)**
Feature 2-1	Small ephemeral sandy channel; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, sediment deposition, change in sediment size, change in vegetation cover	0.015/163	–	0.017/149	–
Feature 2-2	West Channel Stubbe Wash is a large sandy ephemeral wash; OHWM Form 1; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, change in sediment size, change in vegetation cover, debris rack	0.211/282	–	0.239/282	–
Feature 2-3	Small ephemeral sandy channel; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, change in sediment size, change in vegetation cover	0.003/56	–	0.005/56	–
Feature 2-4	Small ephemeral sandy channel; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, sediment deposition, change in sediment size, change in vegetation cover	0.004/90	–	0.007/77	–
Feature 2-5	East Channel Stubbe Wash is a large sandy ephemeral wash; dominated by California buckwheat,	0.440/304	–	0.487/304	–

Feature Type	Feature Description	USACE/RWQCB		CDFW	
		Non-Wetland WoUS/WoS (acres/ linear feet)	Wetland WoUS/WoS (acres/ linear feet)	Streambed (acres/ linear feet)	Riparian (acres/ linear feet)
	brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, change in sediment size, sediment deposition, change in vegetation cover, debris rack				
Feature 2-6	Small ephemeral sandy channel; SP 1; dominated by California buckwheat, brittlebush, desert broom; riparian vegetation not present; OHWM indicators include break in slope, sediment deposition, change in sediment size, soil cracks, change in vegetation cover	0.027/46	–	0.044/46	–
Total		**0.699/941**	**–**	**0.799/914**	**–**

5.1.2.1 Feature 2-1

Feature 2-1 is a small ephemeral sandy channel that originates within the study area of East Channel Stubbe Wash Bridge (#56C0101) and flows in the general west to east direction. Feature 2-1 conveys flows from runoff flowing over the above grade UPRR toward Feature 2-2.

Feature 2-1 is sparsely vegetated with brittlebush scrub and is dominated by California buckwheat (UPL), brittlebush (UPL), and desert broom (FACU). Due to lack of hydrophytic vegetation, no sample points were taken for wetlands.

The OHWM associated with Feature 2-1 is approximately 4 feet in width. The OHWM is defined by a break in slope, sediment deposition, change in sediment size, and change in vegetation cover. CDFW jurisdiction is approximately 5 feet in width and was measured at the top of bank.

Within the study area, Feature 2-1 has approximately 163 linear feet of USACE non-wetland WoUS/WoS comprising 0.015 acre. No wetlands are associated with Feature 2-1. Feature 2-1 also contains 149 linear feet of CDFW streambed comprising 0.017 acre. No riparian vegetation is associated with Feature 2-1. Table 5-3 presents jurisdictional totals for Feature 2-1. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2 and 8-Sheet 2, respectively.

5.1.2.2 Feature 2-2

Feature 2-2, West Channel Stubbe Wash, is a large sandy wash that flows under the I-10, Railroad Avenue, and the railway, all of which are within the study area. It is a large ephemeral sandy wash

that originates outside of the study area and flows generally in the north to south direction. Feature 2-1 conveys flows from the San Bernardino Mountains north of the study area to the San Gorgonio River south of the study area. Manufactured banks made of rock rip rap between Railroad Avenue and the railway maintain channel flow, with additional inputs from Feature 2-1 to the west and Feature 2-3 to the east.

Feature 2-2 is composed of sparsely vegetated desert wash with brittlebush scrub along the banks. The feature has a primarily unvegetated low-flow channel and vegetated banks dominated by brittlebush (UPL), California buckwheat (UPL), and desert broom (FACU). Due to lack of hydrophytic vegetation, no sample points were taken for wetlands.

The OHWM associated with Feature 2-2 is approximately 32 feet in width. The OHWM is defined by a break in slope, change in sediment size, change in vegetation cover, and debris rack. CDFW jurisdiction ranges from approximately 32 to 53 feet in width and was measured at the top of bank.

Within the study area, Feature 2-2 has approximately 282 linear feet of USACE non-wetland WoUS/WoS comprising 0.200 acre. No wetlands are associated with Feature 2-2. Feature 2-2 also contains 282 linear feet of CDFW streambed comprising 0.231 acre. No riparian vegetation is associated with Feature 2-2. Table 5-3 presents jurisdictional totals for Feature 2-2. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2, and 8-Sheet 2, respectively.

5.1.2.3 Feature 2-3

Feature 2-3 is a small ephemeral sandy channel that originates within the study area and flows in the general east to west direction. Feature 2-3 conveys flows from runoff flowing over the above grade railway toward Feature 2-2.

Feature 2-3 is sparsely vegetated with brittlebush scrub and is dominated by California buckwheat (UPL), brittlebush (UPL), and desert broom (FACU). Due to lack of hydrophytic vegetation, no sample points were taken for wetlands.

The OHWM associated with Feature 2-3 is approximately 2 feet in width. The OHWM is defined by a break in slope, change in sediment size, and change in vegetation cover. CDFW jurisdiction is approximately 4 feet in width and was measured at the top of bank.

Within the study area, Feature 2-3 has approximately 56 linear feet of USACE non-wetland WoUS/WoS comprising 0.003 acre. No wetlands are associated with Feature 2-3. Feature 2-3 also contains 56 linear feet of CDFW streambed comprising 0.005. No riparian vegetation is associated with Feature 2-3. Table 5-3 presents jurisdictional totals for Feature 2-3. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2, and 8-Sheet 2, respectively.

5.1.2.4 Feature 2-4

Feature 2-4 is a small ephemeral sandy channel that originates within the study area and flows in the general west to east direction. Feature 2-4 conveys flows from runoff flowing over the above grade railway toward Feature 2-5.

Feature 2-4 is sparsely vegetated with brittlebush scrub and is dominated by California buckwheat (UPL), brittlebush (UPL), and desert broom (FACU). Due to lack of hydrophytic vegetation, no sample points were taken for wetlands.

The OHWM associated with Feature 2-4 is approximately 2 feet in width. The OHWM is defined by a break in slope, change in sediment size, sediment deposition, and change in vegetation cover. CDFW jurisdiction is approximately 4 feet in width and was measured at the top of bank.

Within the study area, Feature 2-4 has approximately 90 linear feet of USACE non-wetland WoUS/WoS comprising 0.004 acre. No wetlands are associated with Feature 2-4. Feature 2-4 also contains 77 linear feet of CDFW streambed comprising 0.007 acre. No riparian vegetation is associated with Feature 2-4. Table 5-3 presents jurisdictional totals for Feature 2-4. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2 and 8-Sheet 2, respectively.

5.1.2.5 Feature 2-5

Feature 2-5, East Channel Stubbe Wash, is a large sandy wash that flows under the I-10, Railroad Avenue, and the railway, all of which are within the study area. The drainage originates outside of the study area and flows generally in the north to south direction, conveying flows from the San Bernardino Mountains to the San Gorgonio River. Manufactured banks made of rock rip rap between Railroad Avenue and the railway and vertical concrete walls near the bridge outlets and inlets maintain channel flow, with additional inputs from Feature 2-4 to the west.

Feature 2-5 is composed of sparsely vegetated desert wash with brittlebush scrub along the banks. The feature has a primarily unvegetated low-flow channel and vegetated banks dominated by brittlebush (UPL), California buckwheat (UPL), and desert broom (FACU). Due to lack of hydrophytic vegetation, no sample points were taken for wetlands.

The OHWM associated with Feature 2-5 ranges from 40 to 84 feet in width. The OHWM is defined by a break in slope, change in sediment size, sediment deposition, change in vegetation cover, and debris rack. CDFW jurisdiction ranges from approximately 40-113 feet in width and was measured at the top of bank.

Within the study area, Feature 2-5 has approximately 304 linear feet of USACE non-wetland WoUS/WoS comprising 0.413 acre. No wetlands are associated with Feature 2-5. Feature 2-5 also contains 304 linear feet of CDFW streambed comprising 0.460 acre. No riparian vegetation is associated with Feature 2-5. Table 5-3 presents jurisdictional totals for Feature 2-5. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2 and 8-Sheet 2, respectively.

5.1.2.6 Feature 2-6

Feature 2-6 is a small ephemeral sandy channel that originates within the study area and flows in the general north to south direction. Feature 2-6 conveys flows from the above grade Railroad Avenue toward an approximately 36-inch culvert. The origin of Feature 2-6 is heavily eroded slope along the south side of Railroad Avenue. Due to recent above average rainfall, large amounts of sediment have been deposited into the channel which has clogged the culvert that conveys water under the railway.

Feature 2-6 is sparsely vegetated with brittlebush scrub and is dominated by California buckwheat (UPL), brittlebush (UPL), and desert broom (FACU). SP-1 was taken at Feature 2-6 at the base of the channel where soil cracks were present and was determined not to contain a wetland due to lack of hydrophytic vegetation and lack of hydric soils.

The OHWM associated with Feature 2-6 ranges from 20 to 42 feet in width. The OHWM is defined by a break in slope, change in sediment size, sediment deposition, soil cracks, and change in vegetation cover. CDFW jurisdiction was measured as the top of bank and ranges from 36 to 50 feet in width.

Within the study area, Feature 2-6 has approximately 46 linear feet of USACE non-wetland WoUS/WoS comprising 0.027 acre. No wetlands are associated with Feature 2-6. Feature 2-6 also contains 46 linear feet of CDFW streambed comprising 0.044 acre. No riparian vegetation is associated with Feature 2-6. Table 5-3 presents jurisdictional totals for Feature 2-6. Detailed maps depicting USACE, RWQCB, and CDFW jurisdictions are included in Appendix A, Figures 7-Sheet 2 and 8-Sheet 2, respectively.

5.2 Jurisdictional Determination Summary

All features observed within the study area were delineated with the understanding that a request for a PJD would be submitted for the project (Appendix F). As such, all features exhibiting indicators of an OHWM were assumed to be jurisdictional WoUS/WoS, subject to regulation by the USACE under Section 404 of the CWA and the RWQCB under Section 401 of the CWA. All features observed within the study area would also be considered jurisdictional unvegetated streambed and riparian-associated vegetation subject to regulation by CDFW under Section 1600 of the California Fish and Game Code.

5.3 List of Report Preparers/Reviewer

Marisa Flores, Senior Biologist—Report Reviewer; 14 years of experience.

Paul Schwartz, Senior Biologist—Report Reviewer; 13.5 years of experience.

James Hickman, Senior Biologist—Delineator; 15 years of experience.

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Chapter 6
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Appendix A
Jurisdictional Delineation Maps

Appendix A Map List

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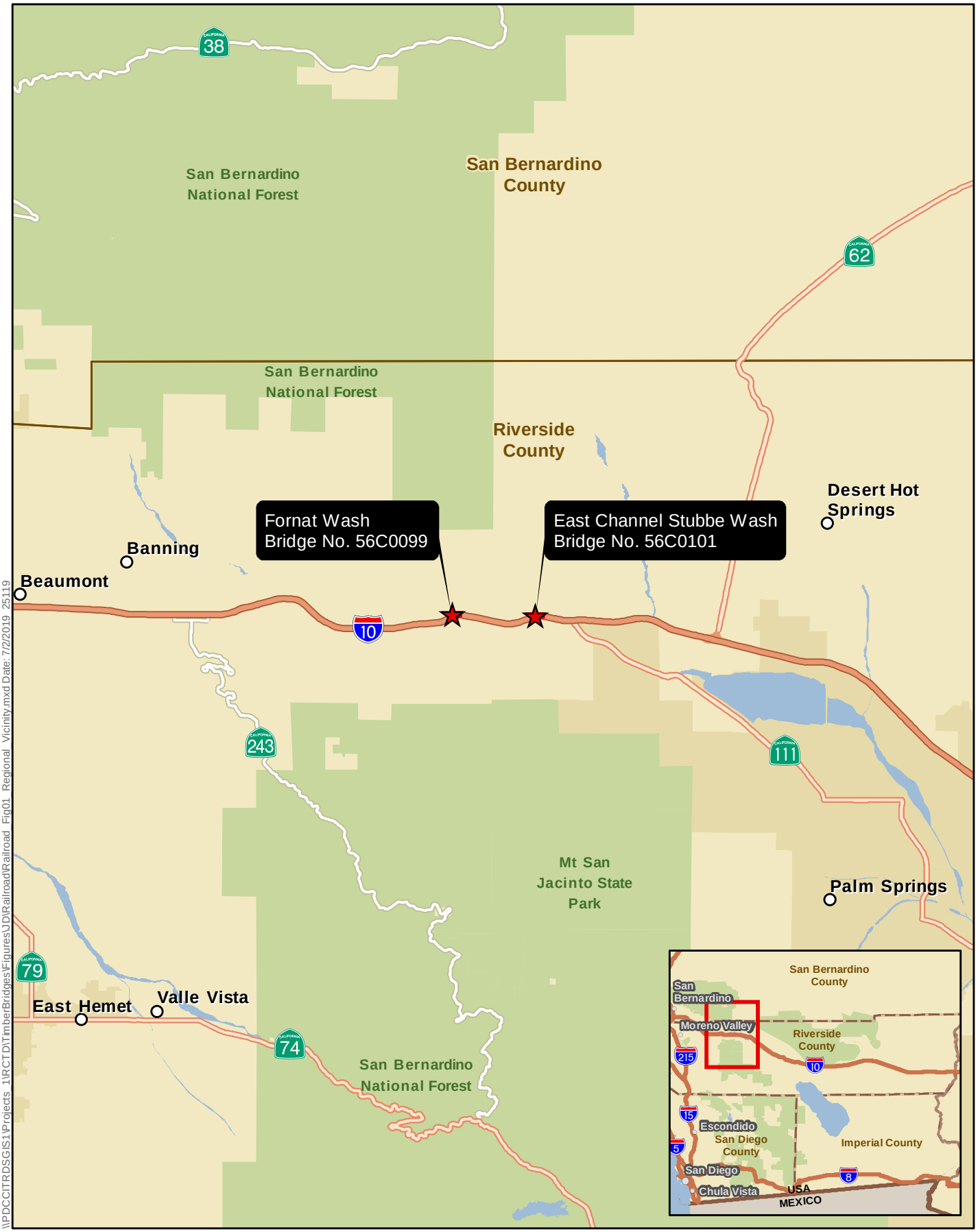

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N

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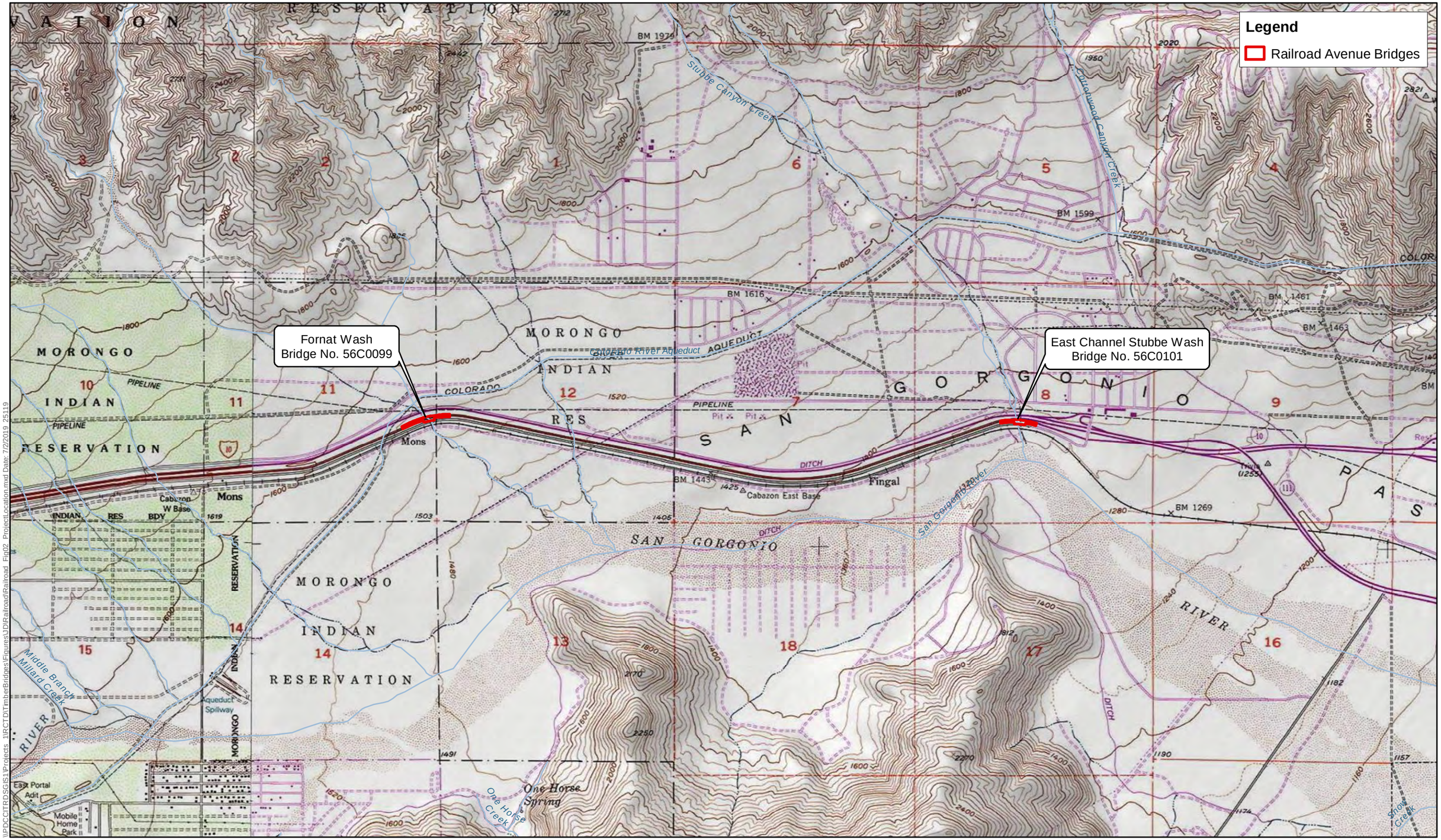
Miles

Source: ESRI StreetMap North America (2010)

Figure 1
Regional Vicinity Map
Railroad Avenue Bridge Replacement Project



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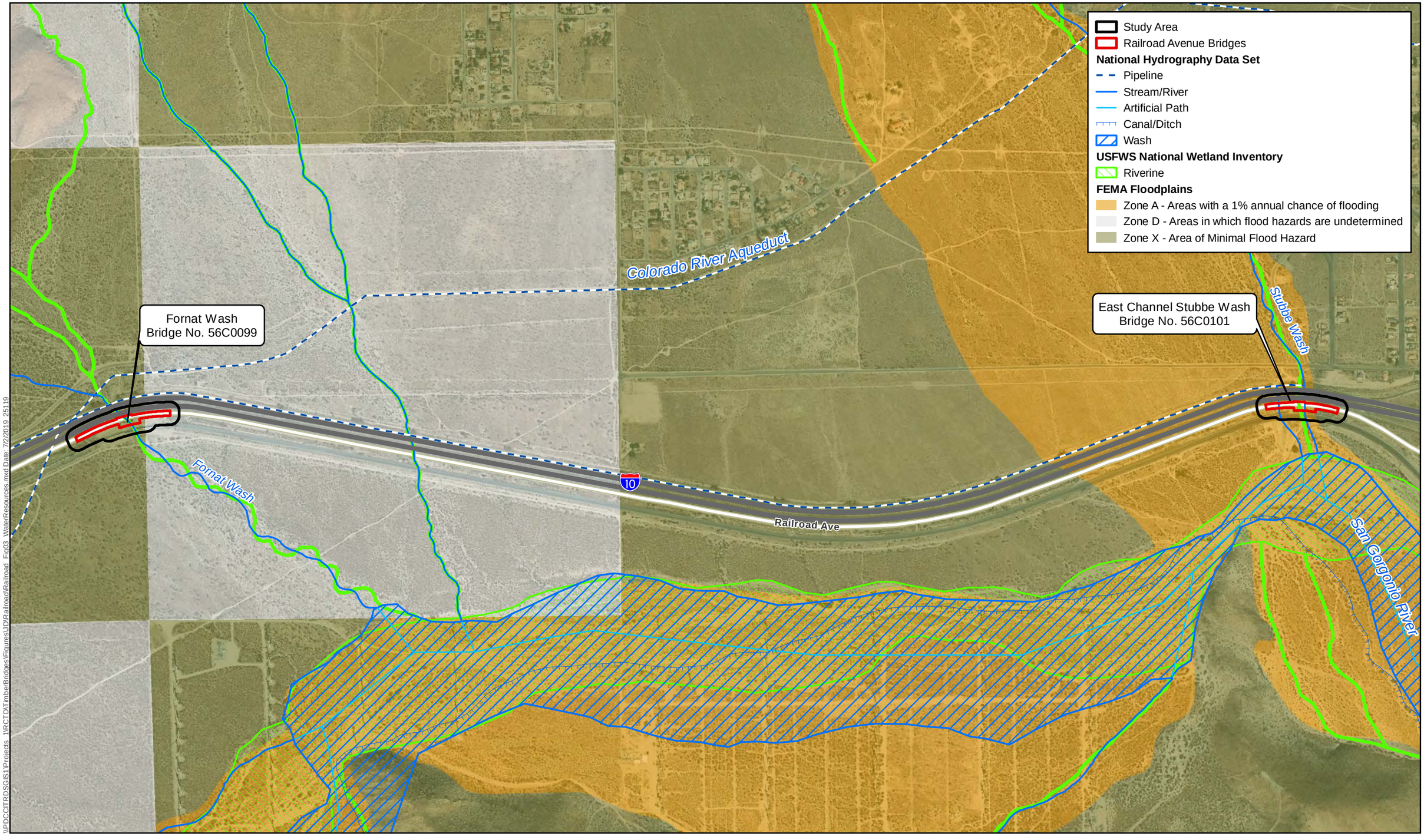
Feet

Source: USGS 7.5'
White Water & Cabazon

Figure 2
Project Location
Railroad Avenue Bridge Replacement Project



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Feet

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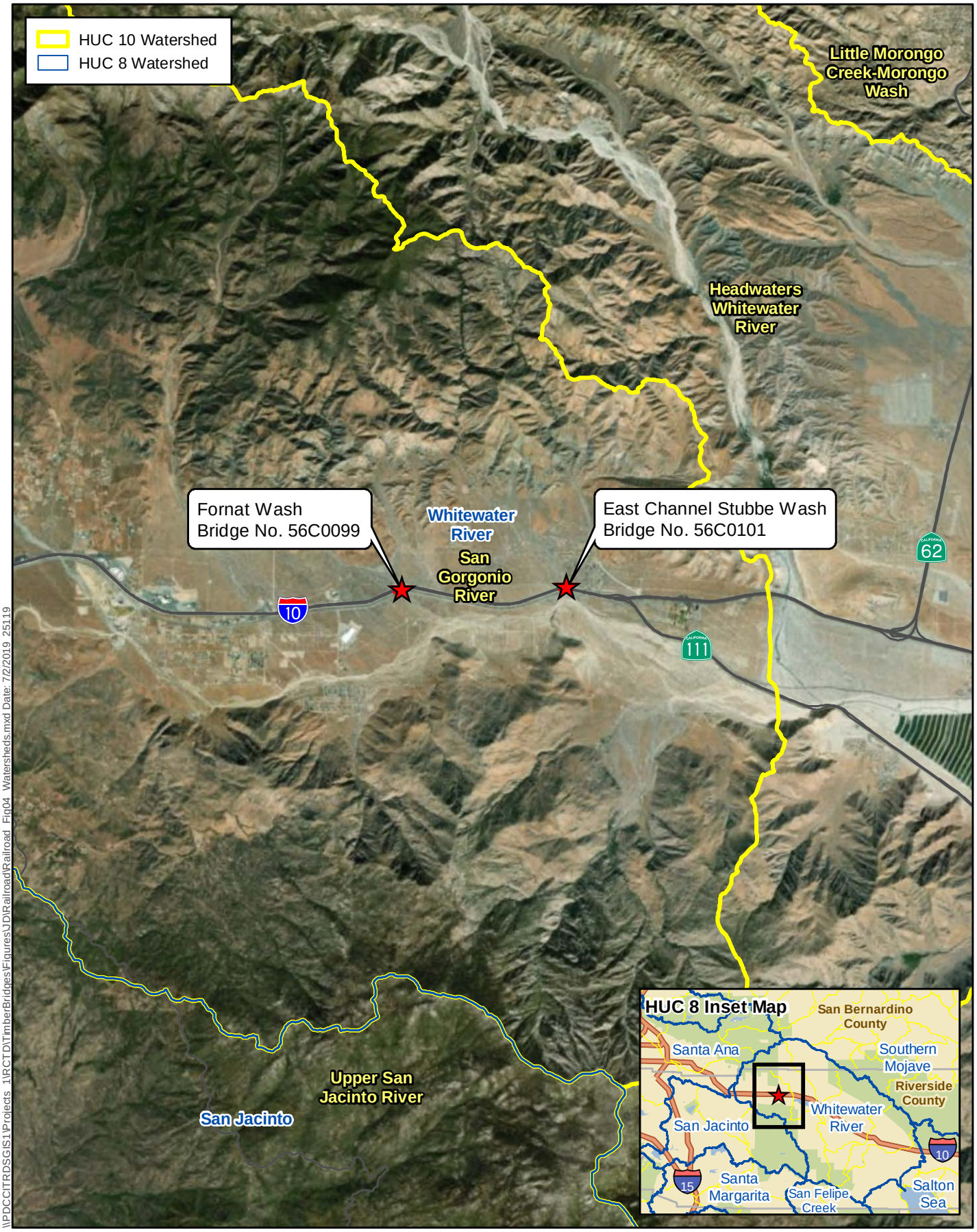
Source: ESRI Imagery (2016); FEMA Floodplains (2017):
USFWS NWI Wetlands (2017); NHD (2018)

Figure 3
Water Resources Map
Railroad Avenue Bridge Replacement Project



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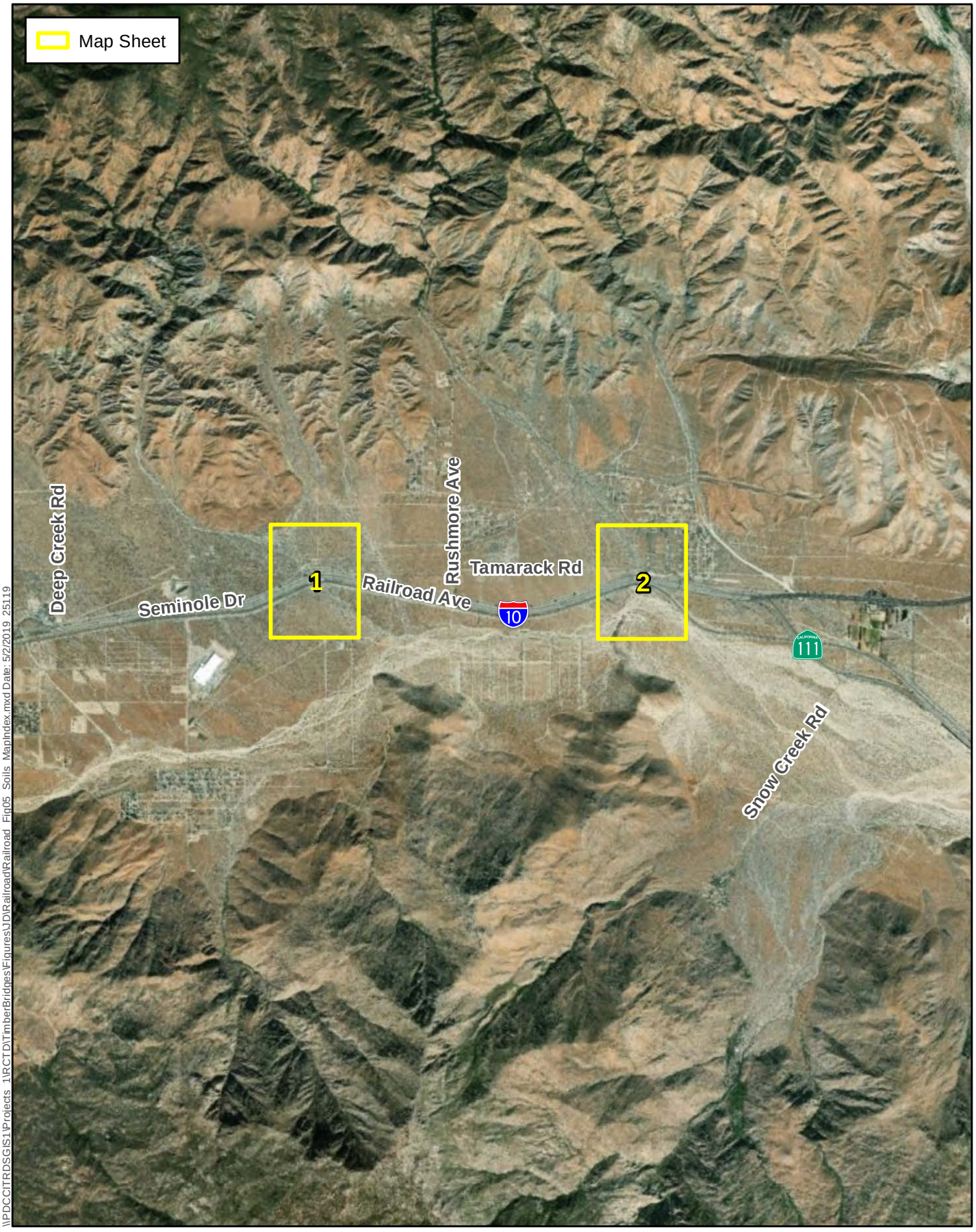
Miles

Source: ESRI Imagery (2016); NHD (2018)

Figure 4
Watersheds
Railroad Avenue Bridge Replacement Project



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N

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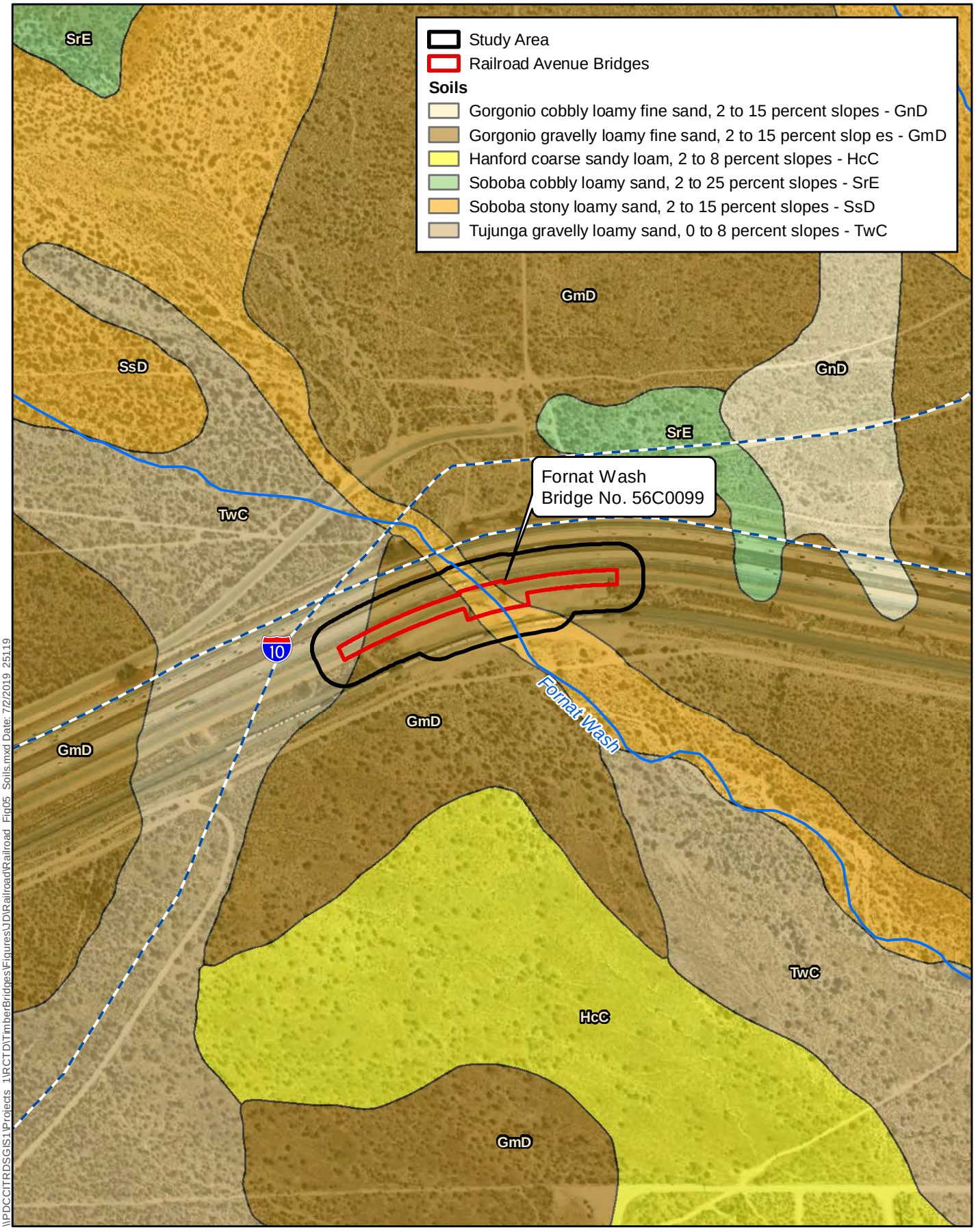
Miles

Source: ESRI Imagery (2016)

Figure 5 - Map Index
Soils Map
Railroad Avenue Bridge Replacement Project



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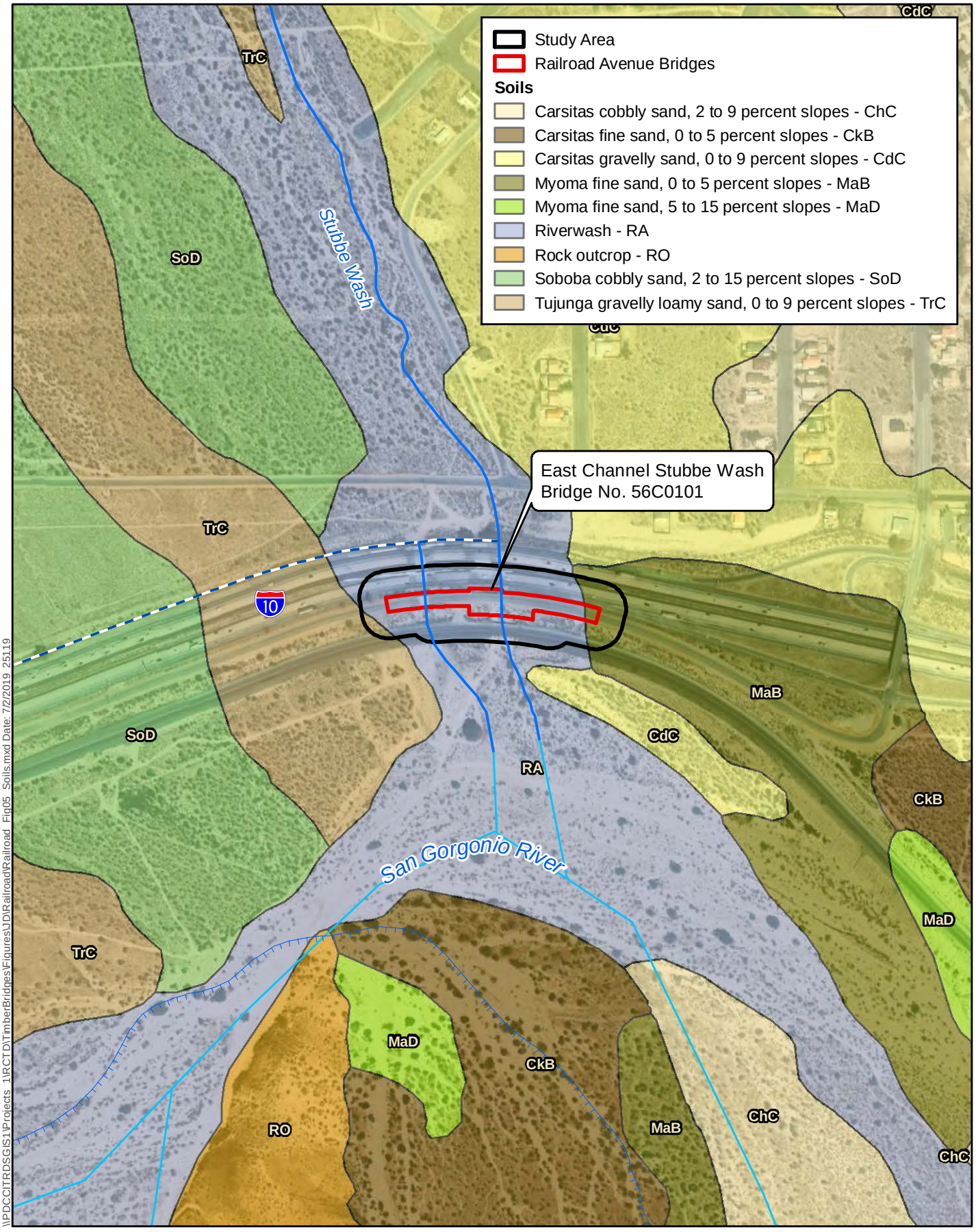
0 250 500

Feet

Source: ESRI Imagery (2016); SSURGO

Figure 5 - Sheet 1
Soils Map
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Project



0 250 500
Feet

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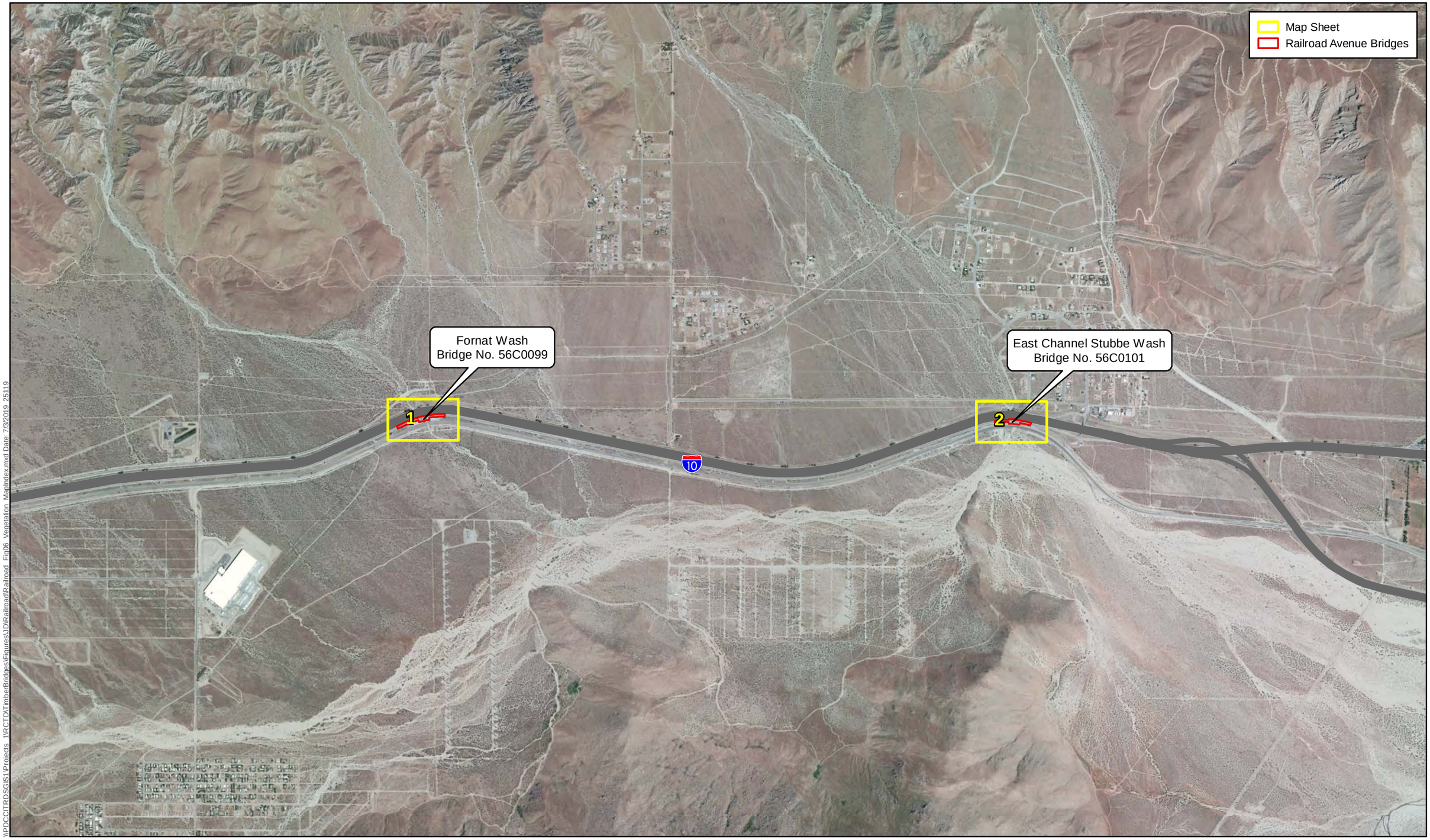
Source: ESRI Imagery (2016); SSURGO

Figure 5 - Sheet 2
Soils Map
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Project



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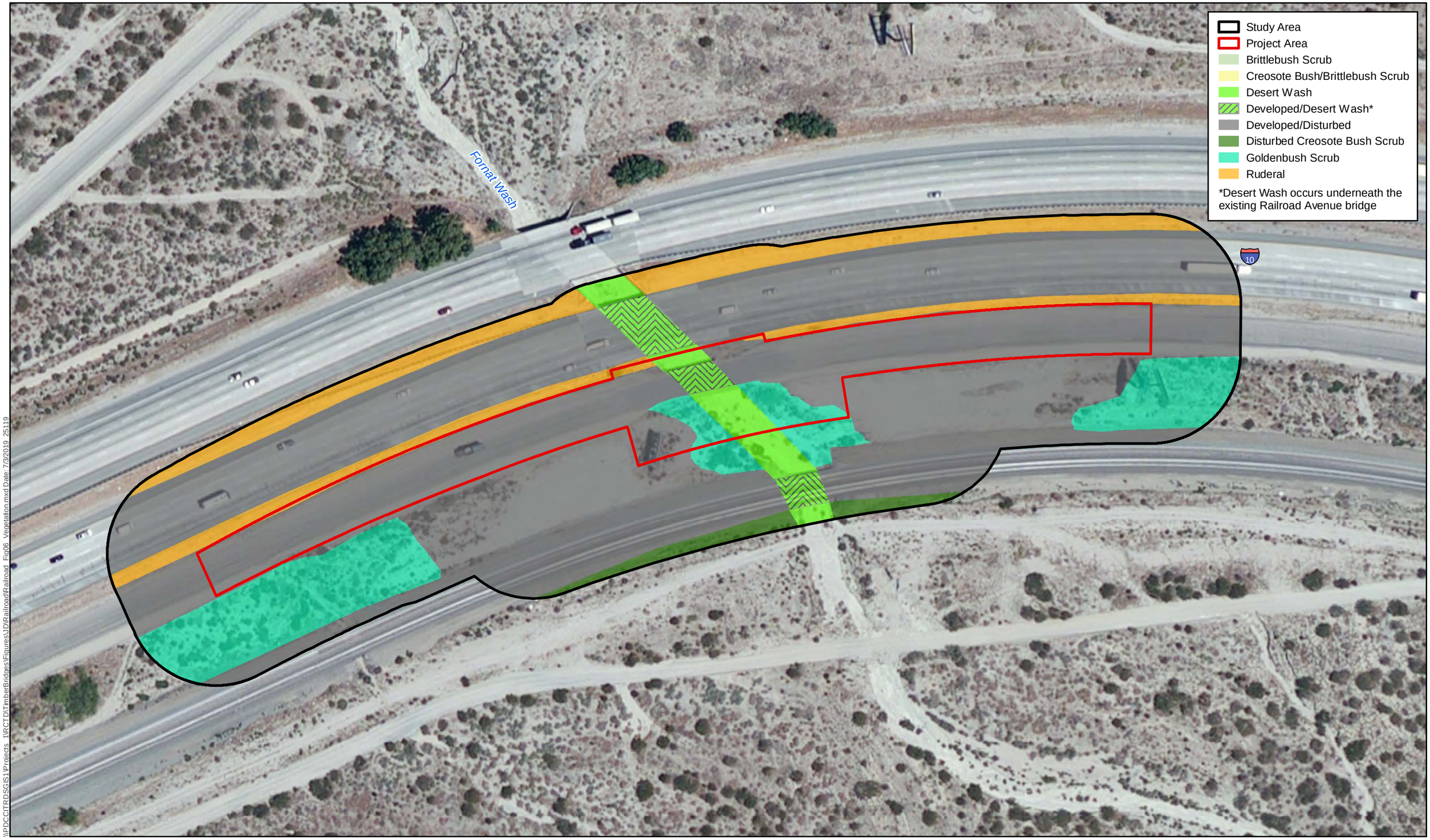
Source: ESRI Imagery (2016)

Figure 6 - Map Index
Vegetation Communities/Land Use Types
Railroad Avenue Bridge Replacement Project



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Feet

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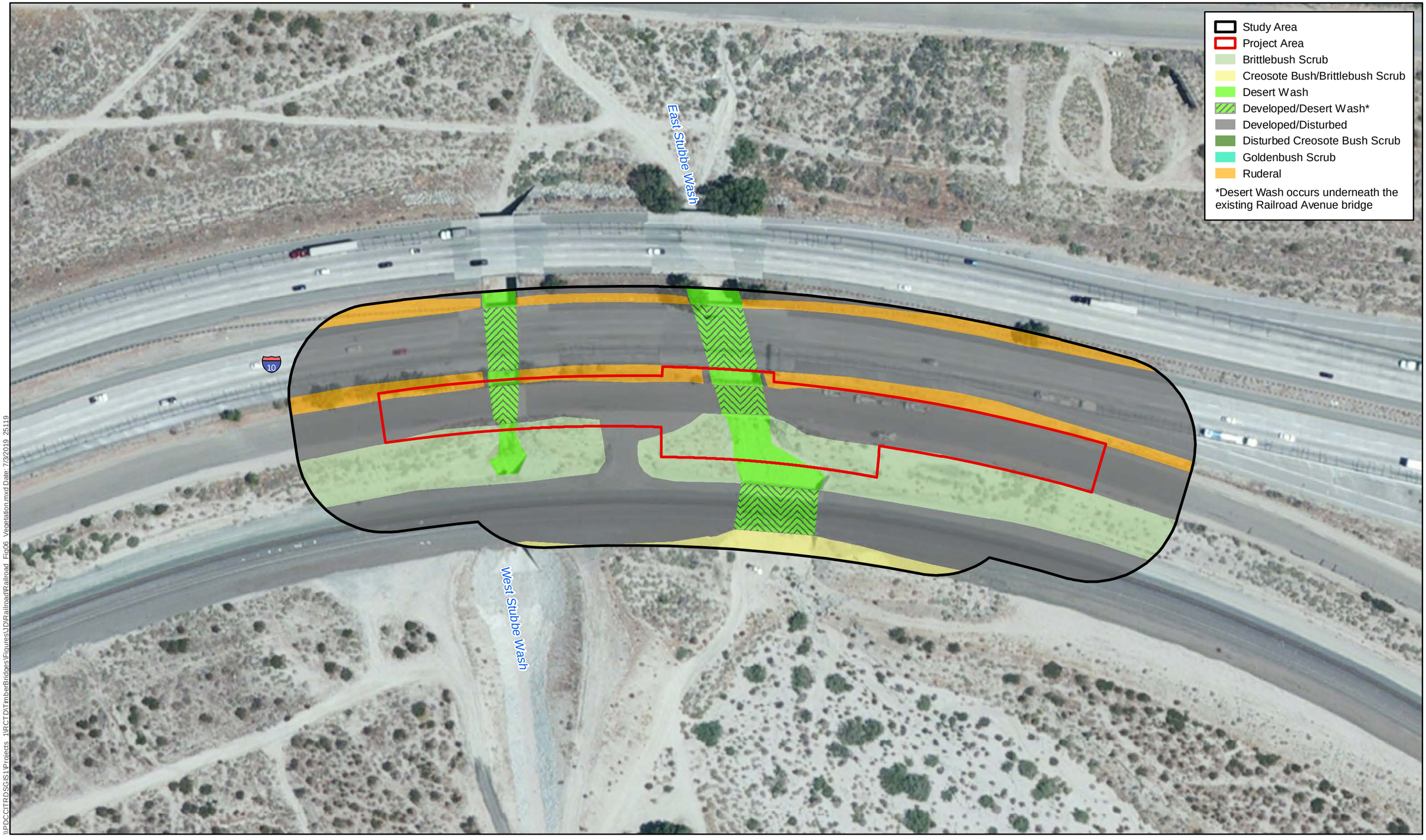
Source: ESRI Imagery (2016)

Figure 6 - Sheet 1
Vegetation Communities/Land Use Types
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Project



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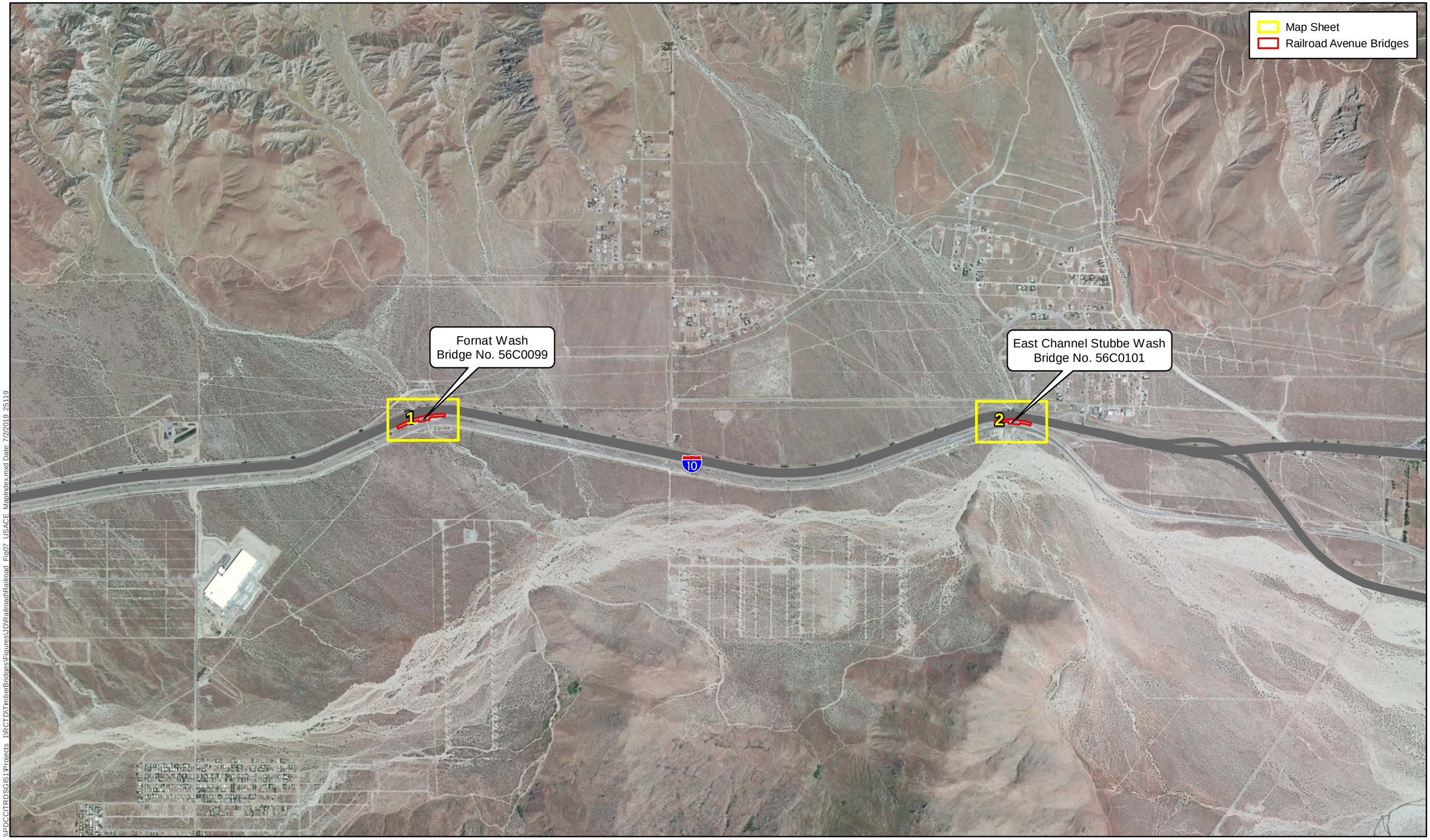
0 50 100
Feet

N

Source: ESRI Imagery (2016)

Figure 6 - Sheet 2
Vegetation Communities/Land Use Types
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Project



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Feet

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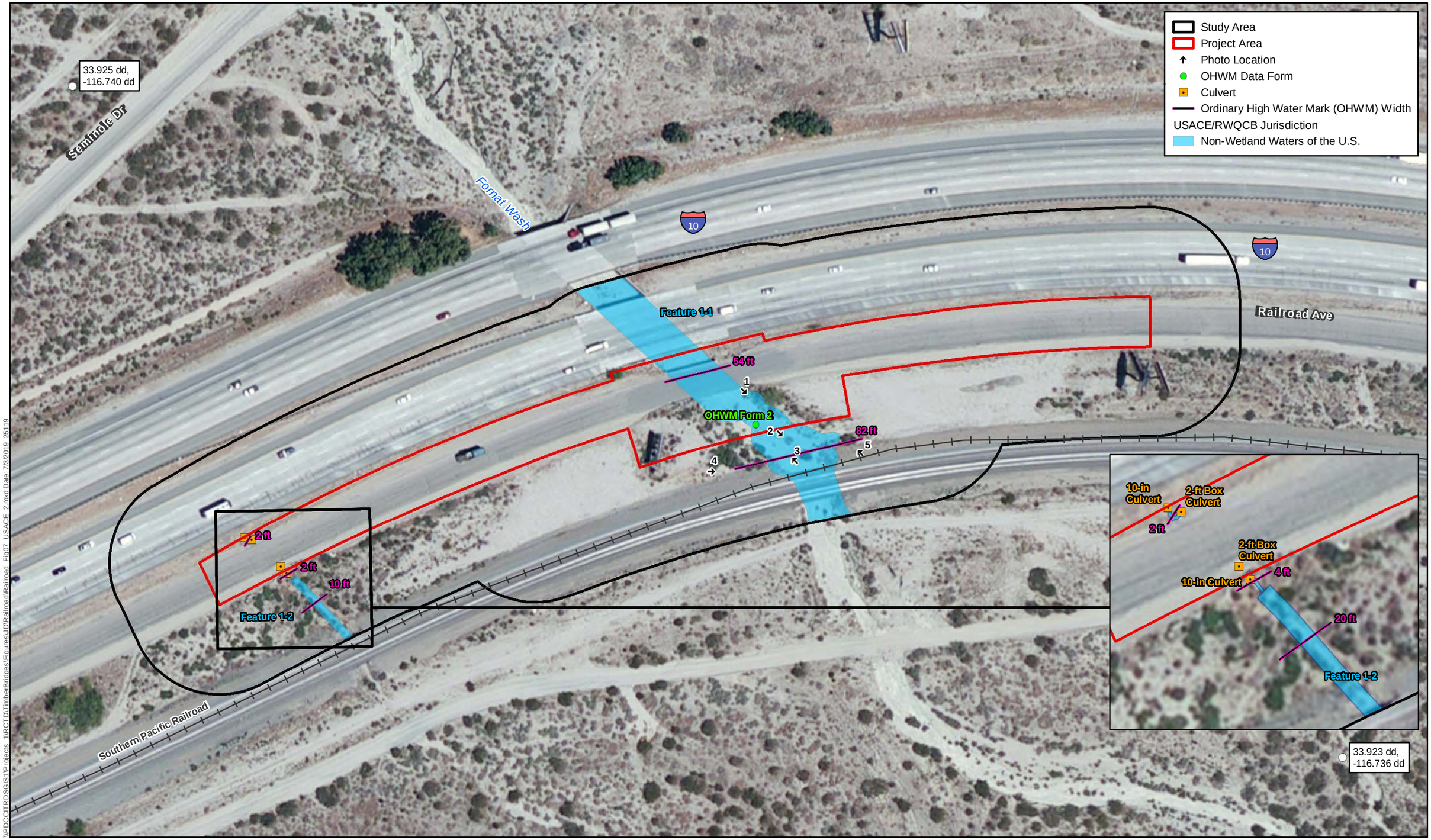
Source: ESRI Imagery (2016)

Figure 7 - Map Index
USACE/RWQCB Jurisdictional Results
Railroad Avenue Bridge Replacement Project



Source: ESRI Imagery (2016)

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Figure 7 - Sheet 1
USACE/RWQCB Jurisdictional Results
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Project

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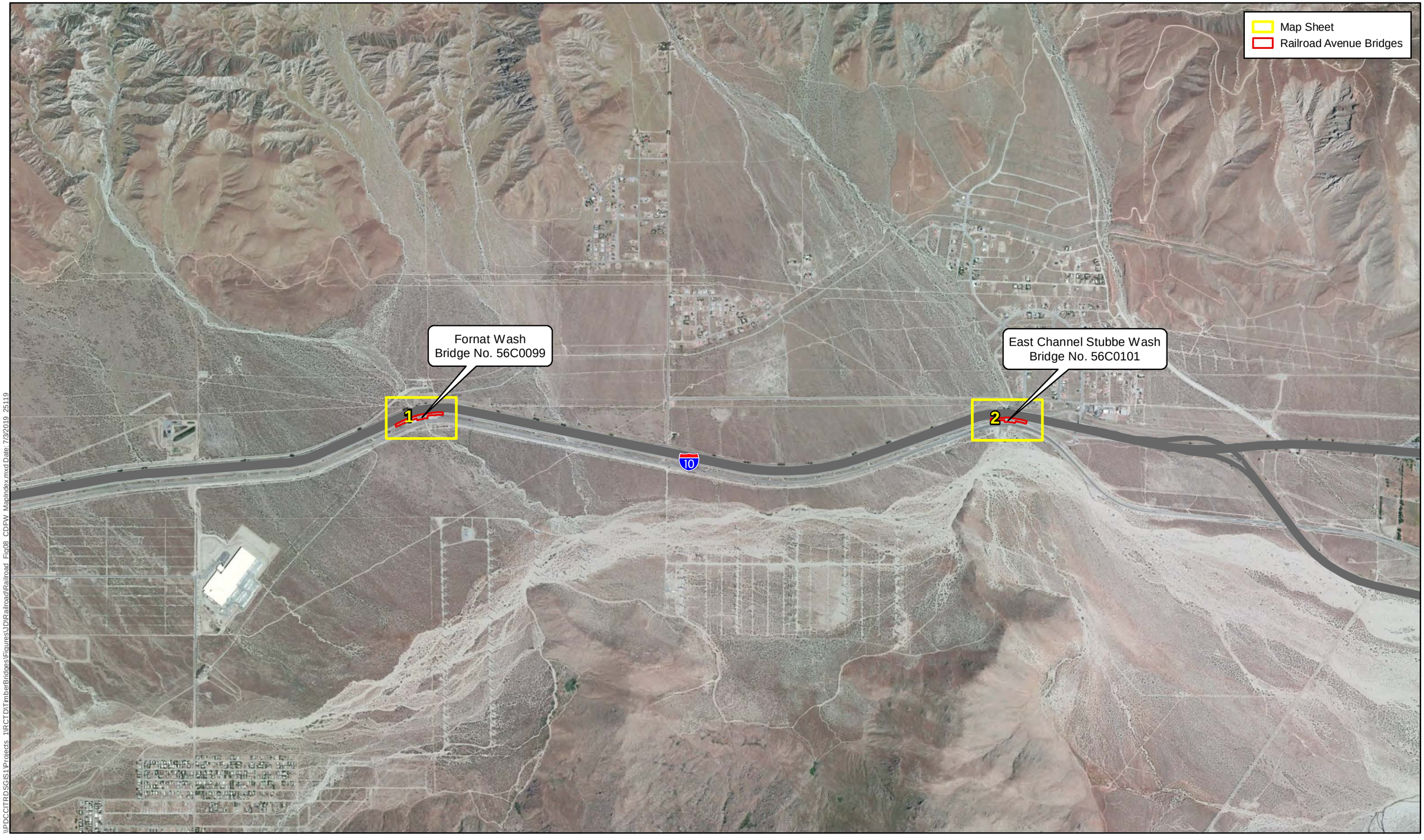
Source: ESRI Imagery (2016)

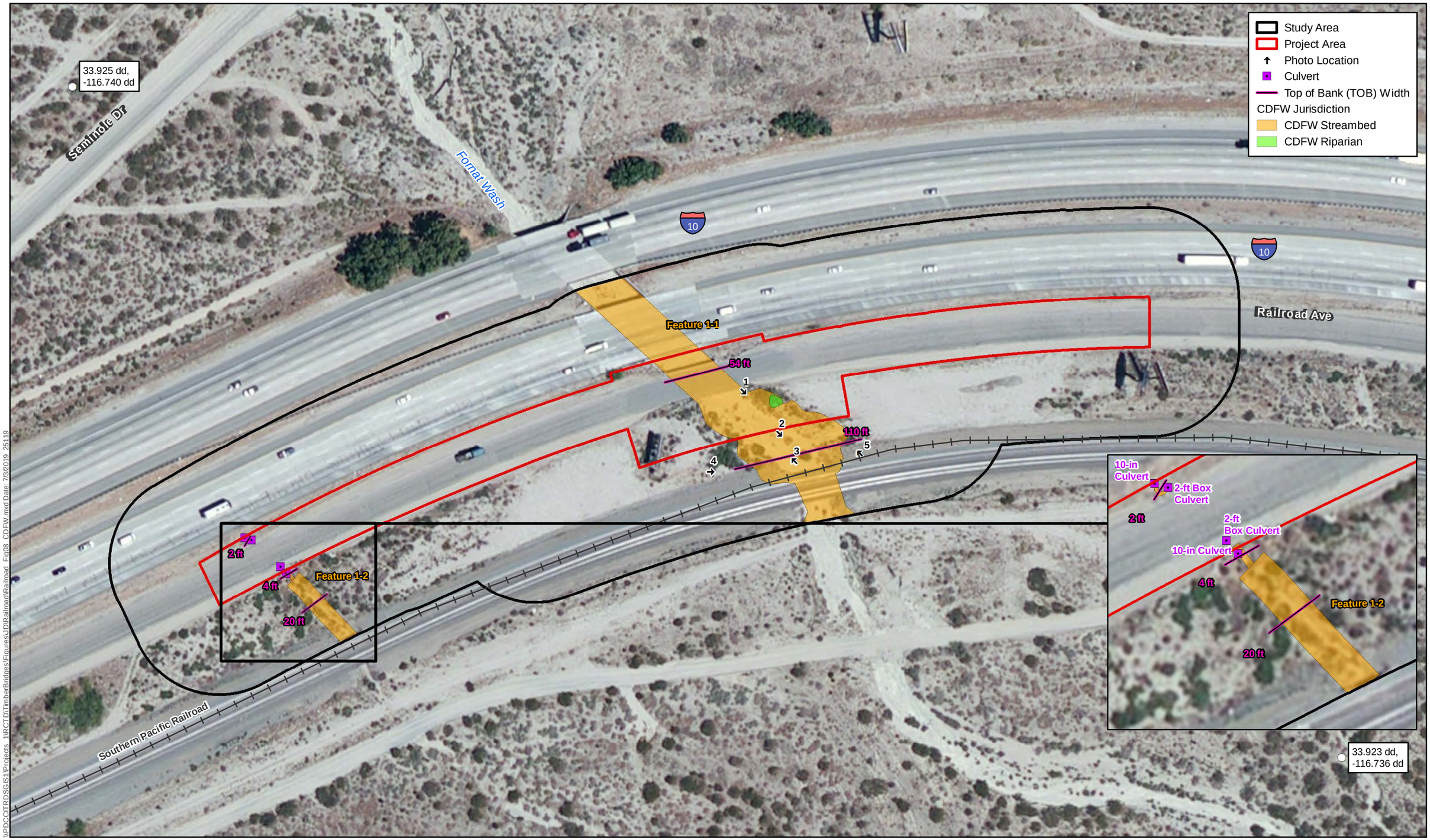
Figure 7 - Sheet 2
USACE/RWQCB Jurisdictional Results
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Project



Source: ESRI Imagery (2016)

Figure 8 - Map Index
CDFW Jurisdictional Results
Railroad Avenue Bridge Replacement Project

\\PDCCITRDSC\IS1\Projects\1RCT\DITimberBridges\Figures\JD\Railroad\Railroad_Fig08_CDFW_MapIndex.mxd Date: 7/3/2019 25119



Source: ESRI Imagery (2016)

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Figure 8 - Sheet 1
CDFW Jurisdictional Results
Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)
Railroad Avenue Bridge Replacement Project

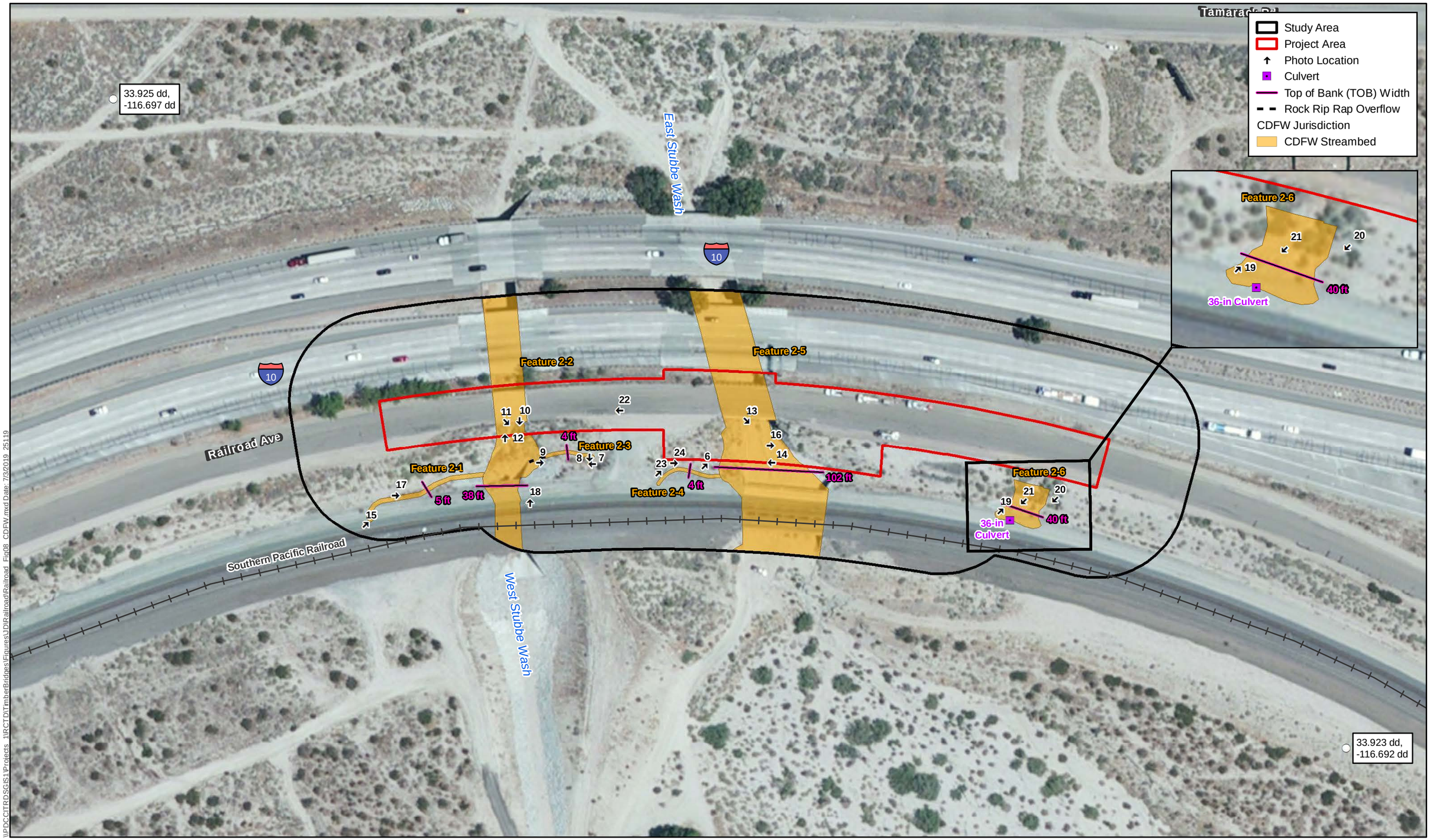

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Figure 8 - Sheet 2
CDFW Jurisdictional Results
Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)
Railroad Avenue Bridge Replacement Project

Appendix B
Site Photographs

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APPENDIX B – Site Photographs

Railroad Avenue Bridge over Fornat Wash (Br. No. 56C0099)

Photograph: 1

Photo Date: 03-07-2019

Location: Feature 1-1 (Fornat Wash)

Direction: southeast

Comment: Looking southeast from below the bridge at the channel bed of Feature 1-1.

Photograph: 2

Photo Date: 03-07-2019

Location: Feature 1-1 (Fornat Wash)

Direction: southeast

Comment: Looking southeast at where Feature 1-1 runs under the railway tracks.

Photograph: 3

Photo Date: 03-07-2019

Location: Feature 1-1 (Fornat Wash)

Direction: northwest

Comment: Looking upstream at Feature 1-1 towards the bridge over Railroad Avenue.

Photograph: 4

Photo Date: 03-07-2019

Location: Feature 1-1

Direction: east

Comment: An erosional feature along the banks of Feature 1-1.

Photograph: 5

Photo Date: 03-07-2019

Location: Feature 1-1 (Fornat Wash)

Direction: northwest

Comment: Sediment deposition within the channel bed, looking towards the bridge over Railroad Avenue.

Railroad Avenue Bridge over East Channel Stubbe Wash (Br. No. 56C0101)

Photograph: 6

Photo Date: 03-07-2019

Location: Feature 2-5 (East Channel Stubbe Wash)

Direction: northeast

Comment: Railroad Avenue bridge over Feature 2-5.

Photograph: 7

Photo Date: 03-07-2019

Location: Feature 2-3

Direction: east

Comment: Looking downstream where Feature 2-3 flows towards Feature 2-2.

Photograph: 8

Photo Date: 03-07-2019

Location: Feature 2-3

Direction: south

Comment: Looking south at the start of where Feature 2-3 begins to convey flows.

Photograph: 9

Photo Date: 03-07-2019

Location: Feature 2-2 and 2-3

Direction: east

Comment: Rock rip rap that Feature 2-3 flows over into Feature 2-2.

Photograph: 10

Photo Date: 03-07-2019

Location: Feature 2-2 (West Channel Stubbe Wash)

Direction: south

Comment: Looking south where Feature 2-2 flows under the railway.

Photograph: 11

Photo Date: 03-07-2019

Location: Feature 2-2

Direction: southeast

Comment: The OHWM along the eastern side of Feature 2-2.

Photograph: 12

Photo Date: 03-07-2019

Location: Feature 2-2 (West Channel Stubbe Wash)

Direction: north

Comment: Looking upstream at Feature 2-2 where it flows under the I-10 and Railroad Avenue.

Photograph: 13

Photo Date: 03-07-2019

Location: Feature 2-5 (East Channel Stubbe Wash)

Direction: southeast

Comment: Looking south at Feature 2-5 from under the bridge over Railroad Avenue towards where the channel flows under the railway bridge.

Photograph: 14

Photo Date: 03-07-2019

Location: Feature 2-5 (East Channel Stubbe Wash)

Direction: west

Comment: Looking west at rock rip rap along the channel banks of Feature 2-5.

Photograph: 15

Photo Date: 03-07-2019

Location: Feature 2-1

Direction: northeast

Comment: Looking downstream at Feature 2-1.

Photograph: 16

Photo Date: 03-07-2019

Location: Feature 2-5 (East Channel Stubbe Wash)

Direction: east

Comment: Looking downstream at rock rip rap along the channel banks of Feature 2-5.

Photograph: 17

Photo Date: 03-07-2019

Location: Feature 2-1

Direction: east

Comment: Looking downstream at Feature 2-1.

Photograph: 18

Photo Date: 03-07-2019

Location: Feature 2-2 (West Channel Stubbe Wash)

Direction: north

Comment: Looking upstream at Feature 2-2 from the railway.

Photograph: 19

Photo Date: 03-07-2019

Location: Feature 2-6

Direction: northeast

Comment: Looking at erosion along Railroad Avenue and sediment deposition within Feature 2-6.

Photograph: 20

Photo Date: 03-07-2019

Location: Feature 2-6

Direction: southwest

Comment: Looking downstream at sediment deposition within Feature 2-6.

Photograph: 21

Photo Date: 03-07-2019

Location: Feature 2-6

Direction: southwest

Comment: The clogged culvert that allows water to flow under the railway.

Photograph: 22

Photo Date: 03-07-2019

Location: Feature 2-2

Direction: west

Comment: Looking towards Feature 2-2 from Railroad Avenue.

Photograph: 23

Photo Date: 03-07-2019

Location: Feature 2-4

Direction: northeast

Comment: Looking downstream at Feature 2-4.

Photograph: 24

Photo Date: 03-07-2019

Location: Feature 2-4

Direction: east

Comment: Looking downstream at Feature 2-4 conveying flows toward Feature 2-5.

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Appendix C
OHWM Forms

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Form #1

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Railroad Avenue Bridge over Stubbe Wash **Date:** 2019 03-07 **Time:** 0900
Project Number: 3719, Task 1 **Town:** Needles **State:** CA
Stream: Stubbe Wash, 2-2 **Photo begin file#:** 1 **Photo end file#:** 27
Investigator(s): Kristen Klinefelter, James Hackman

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Railroad Ave, East of Stubbe Wash

Projection: **Datum:** WGS 84
Coordinates: 33.552707, -116.414357

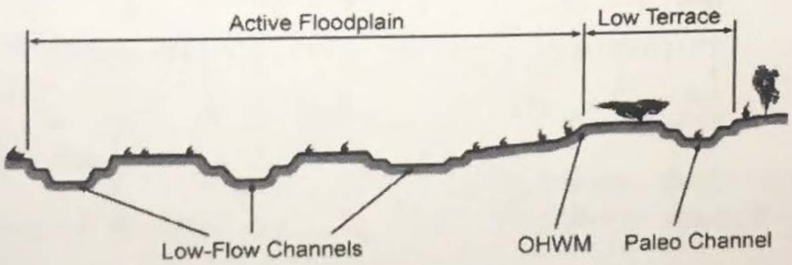
Potential anthropogenic influences on the channel system: The system is entirely channelized by bridges and rock slopes. There is evidence of recent earth work in the channel, potentially for maintenance and/or flow diversion.

Brief site description: The feature is Stubbe Wash, it flows N-S, crossing under I-10, Railroad Ave, then under a 2 railroad bridge before bifurcating and turning channel S.E. Within the project study area, the feature is primarily unvegetated, w/ only a few creosote bushes & Ericameria sp.

Checklist of resources (if available):

- [x] Aerial photography
  Dates:
- [ ] Topographic maps
- [ ] Geologic maps
- [ ] Vegetation maps
- [ ] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
  - [ ] History of recent effective discharges
  - [ ] Results of flood frequency analysis
  - [ ] Most recent shift-adjusted rating
  - [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



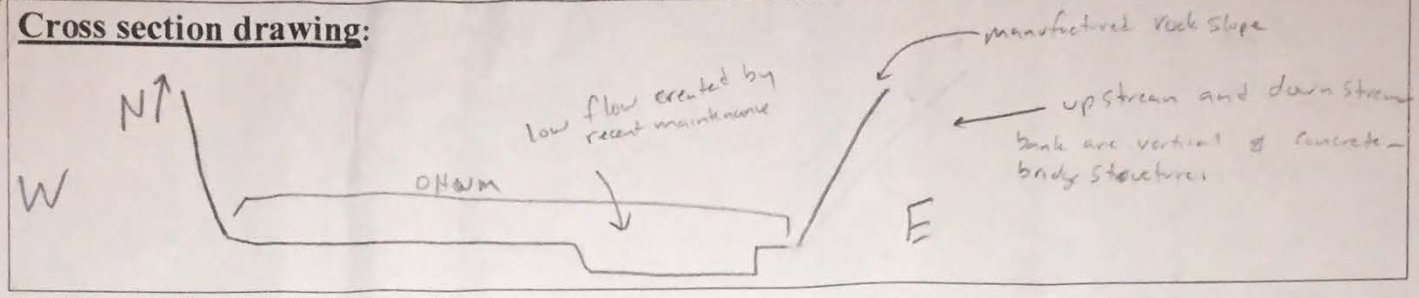
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

Form # 1

Project ID: **Cross section ID:** 2-2 **Date:** 2019 03-07 **Time:** 0900

Cross section drawing:



OHWM

GPS point: Polygon drawn

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: manufactured, vertical & nearly vertical banks
- [ ] Other: _____

Comments:

Floodplain unit:

- [ ] Low-Flow Channel
- [ ] Active Floodplain
- [x] Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Medium sand

Total veg cover: <2 % Tree: 0 % Shrub: <2 % Herb: 0 %

Community successional stage:

- [x] NA – Currently receives heavy flow events
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [x] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Medium Sand

Total veg cover: Ø % Tree: Ø % Shrub: Ø % Herb: Ø %

Community successional stage:

- ☑ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

The low flow appears to have been manufactured recently as Sediment has been moved potentially to divert flow, creating this low flow

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Form # 2

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Railroad Avenue Bridge over Formal Wash **Date:** 2019 03-07 **Time:** 1045
Project Number: 3917 **Town:** East of Cabazon **State:** CA
Stream: Formal Wash, 1-1 **Photo begin file#:** 28 **Photo end file#:** 32
Investigator(s): KRISTEN KLINEFELTER, JAMES ALLMAN

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Railroad Avenue @ - Formal Wash

Projection: **Datum:** WGS 84
Coordinates: 33.552709, -116.441627

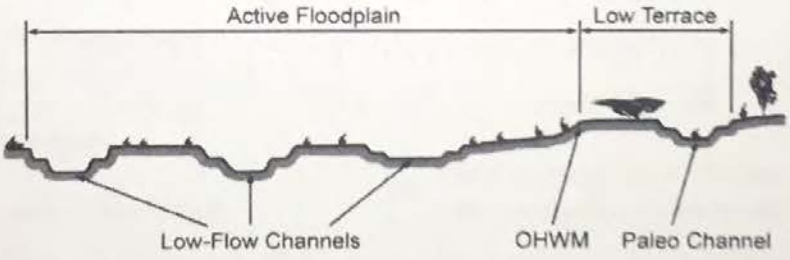
Potential anthropogenic influences on the channel system: This feature is channelized throughout the Study area. Bridge confin the drainage w/ concrete banks. A manufactured slope contains the channel between the Railroad Ave bridge & the railroad.

Brief site description: - The feature flows SE - NW under bridge. It is no longer defined channel after crossing under the railroad, and it flows southeast

Checklist of resources (if available):

- ☑ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



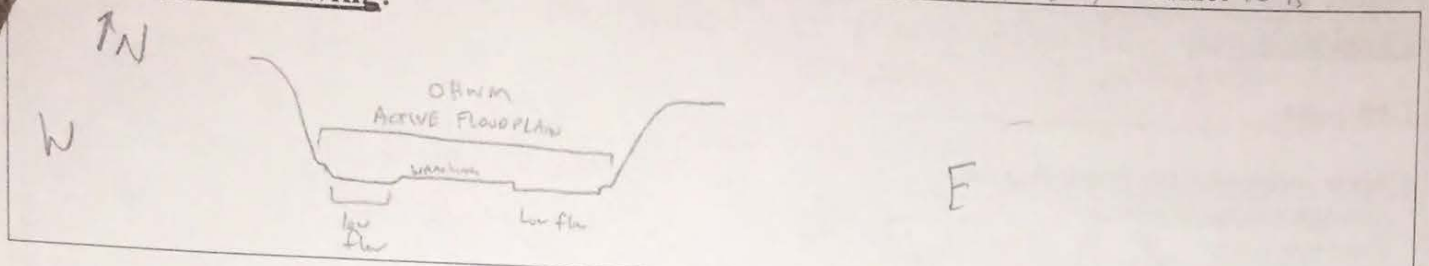
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Form #1

Project ID: **Cross section ID:** 1-1 **Date:** 2014 03-07 **Time:** 1045

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments: The feature is channelized by steep manufactured slopes & the feature conveys flows all the way across

Floodplain unit: ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: medium sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☑ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☑ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

The active floodplain consists of 2 low flows & an "island" slightly elevated (~12"). Evidence of recent flow over the entire width is present throughout.

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Fine Soil

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☑ Drift and/or debris
- ☐ Presence of bed and bank
- ☑ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: _____ %

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

* low terrace does not exist as this is a manufactured, channelized feature

Appendix D
Wetland Determination Data Forms

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: TIMBER BRIDGES City/County: RIVERSIDE COUNTY Sampling Date: 2019 03-07

Applicant/Owner: RCTD State: CA Sampling Point: SP 1

Investigator(s): KRISTEN KLINEFELTER, JAMES HICKMAN Section, Township, Range: S8 T3S R3E

Landform (hillslope, terrace, etc.): BENCH Local relief (concave, convex, none): CONCAVE Slope (%): 0%

Subregion (LRR): C-MED Lat: 33.552639 Long: -116.413675 Datum: WGS 84

Soil Map Unit Name: Riverwash NWI classification: R6

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ✓ (If no, explain in Remarks.)

Are Vegetation N, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No —	
Wetland Hydrology Present?	Yes ____	No —	

Remarks: Vegetation is not hydrophytic & species are dominated by those found in dry upland areas
– THERE ARE NO INDICATORS AT THE SURFACE THAT WARRANT A SUBSURFACE INVESTIGATION.
– Recent heavy above average rainfall

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1. ENCELIA FARINOSA	20	Y	UL
2. ERIOGONUM FASCICULATUM	10	Y	UL
3.			
4.			
5.			
	30% = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum 70 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species —	x 1 =	
FACW species —	x 2 =	
FAC species —	x 3 =	
FACU species —	x 4 =	
UPL species 30	x 5 =	150
Column Totals: 30 (A)		(B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

N Dominance Test is >50%

N Prevalence Index is ≤3.0[1]

N Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

N Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: SPECIES MAKEUP IS NOT HYDROPHYTIC & CONSISTENT W/ UPLAND AREA

SOIL

Sampling Point: _____

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks: SOILS ARE SANDY & WELL DRAINING

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- X Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: NO SURFACE HYDROLOGY INDICATORS.

Appendix E
Study Area Plant List

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Plant Species List

Species	Common Name
Asteraceae	
Ambrosia acanthicarpa	Annual burrweed
Ambrosia dumosa	White bursage
Ambrosia salsola	Burrobrush
Artemisia californica	California sagebrush
Bebbia juncea var. *aspera*	Rough sweetbush
Centaurea melitensis	Tocalote*
Chaenactis fremontii	Fremont pincushion
Dicoria canesens	Desert dicoria
Encelia farinosa	Encelia farinosa
Ericameria linearifolia	Narrow leaved goldenbush
Ericameria pinifolia	Pinebush
Isocoma acradenia	Desert isocoma
Lactuca serriola	Prickly lettuce*
Lepidospartum squamatum	California broomsage
Logfia filaginoides	California cottonrose
Minoptilon belliodes	Desert star
Malacothrix glabrata	Desert dandelion
Oncosiphon piluliferum	Stinknet*
Palafoxia arida var. arida	Desert needle
Sonchus oleraceus	Common sow thistle*
Stephanomeria exigua	Small wirelettuce
Stephanomeria pauciflora	Desert straw
Stephanomeria virgata	Rod wirelettuce
Bignoniaceae	
Chilopsis linearis	Desert willow
Boraginaceae	
Cryptantha angustifolia	Narrow leaved cryptantha
Cryptantha intermedia	Common cryptantha
Gilia capitata	Blue field gilia
Pectocarya linearis ssp. ferocula	Sagebrush combseed
Pectocarya sp.	Combseed
Cryptantha maritima	Guadalupe cryptantha
Emmenanthe penduliflora	Whispering bells
Brassicaceae	
Brassica tournefortii	Saharan mustard
Hirschfeldia incana	Mediterranean hoary mustard
Lepidium lasiocarpum	Shaggyfruit pepperweed
Sisymbrium altissimum	Tumble mustard*

Species	Common Name
Sisymbrium irio	London rocket*
Cactaceae	
Cylindropuntia californica var. parkeri	Brownspined pricklypear
Caryophyllaceae	
Loeflingia squarrosa	Spreading loeflingia
Chenopodiaceae	
Atriplex canescens	Fourwing saltbush
Salsola tragus	Russian thistle*
Chenopodium album	Lamb's quarters*
Cleomaceae	
Peritoma arborea	Bladderpod
Cucurbitaceae	
Cucurbita palmata	Coyote gourd
Marah macrocarpa	Chilicothe
Euphorbiaceae	
Croton californicus	California croton
Stillingia linearifolia	Linear leaved stillingia
Euphorbia polycarpa	Smallseed sandmat
Euphorbia serpillifolia ssp. *hirtula*	Thyme-leafed spurge
Fabaceae	
Acmispon strigosus	Strigose lotus
Lupinus hirsutissimus	Stinging annual lupine
Prosopis pubescens	Screw bean mesquite
Parkinsonia aculeata	Jerusalem thorn
Geraniaceae	
Erodium cicutarium	Coastal heron's bill*
Lamiaceae	
Salvia columbariae	Chia
Loasaceae	
Mentzelia involucrata	Bracted blazing star
Malvaceae	
Malva parviflora	Cheeseweed mallow
Nyctaginaceae	
Mirabilis laevis	Desert wishbone bush
Onagraceae	
Camissoniopsis bistorta	California sun cup
Eulobus californicus	California primrose
Papaveraceae	
Eschscholzia californica	California poppy
Eschscholzia minutiflora	Pygmy poppy
Plantaginaceae	
Plantago ovata	Desert indianwheat

Species	Common Name
Poaceae	
Bromus madritensis ssp. *madritensis*	Red brome*
Hordeum murinum	Foxtail barley*
Bromus tectorum	Cheatgrass*
Schismus barbatus	Common Mediterranean grass*
Triticum aestivum	Common wheat
Polemoniaceae	
Eriastrum eremicum	Desert woollystar
Polygonaceae	
Chorizanthe brevicornu	Brittle spine flower
Eriogonum fasciculatum	California buckwheat
Logfia filaginoides	California cottonrose
Solanaceae	
Datura wrightii	Jimsonweed
Nicotiana glauca	Tree tobacco*
Tamaricaceae	
Tamarix ramosissima	Saltcedar*
Zygophyllaceae	
Larrea tridentata	Creosote

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Appendix F

Preliminary Jurisdictional Determination Form

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PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: Los Angeles District | File/ORM #: | PJD Date: Mar 7, 2019

State: CA | City/County: Riverside

Nearest Waterbody: Whitewater River

Location: TRS, LatLong or UTM: 33.552248, -116.425091

Name/ Address of Person Requesting PJD:
Frances Segovia
Senior Transportation Planner
3525 14th Street
Riverside, CA 92501

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 1,433 linear ft | 54 width | 1.107 acres | Stream Flow: Ephemeral

Wetlands: 0 acre(s) | Cowardin Class: Riverine

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☑ Field Determination: Date of Field Trip: Mar 7, 2019

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☐ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☑ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☑ U.S. Geological Survey Hydrologic Atlas:
  - ☑ USGS NHD data.
  - ☑ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Whitwater, California
- ☑ USDA Natural Resources Conservation Service Soil Survey. Citation: Soil Survey Geographic (SSURGO) Database for Ri
- ☑ National wetlands inventory map(s). Cite name: USFWS NWI Wetlands 2017
- ☐ State/Local wetland inventory map(s):
- ☑ FEMA/FIRM maps: FEMA Floodplain 2017
- ☐ 100-year Floodplain Elevation is:
- ☑ Photographs: ☑ Aerial (Name & Date): ESRI imagery 2016; Google Earth 2019
  - ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	Mar 7, 2019
State	CA	City/County	Unincorporated area of Riverside County	Person Requestinq PJD	Frances Segovia

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
Fornat W	33.552720	116.441638	Riverine	0.438 acre	Non-Section 10 non-wetlanc
East Cha	33.552708	116.414022	Riverine	0.669 acre	Non-Section 10 non-wetlanc

Notes:

APPENDIX H: SURVEY DATES AND PERSONNEL

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Table H-1. Survey Personnel and Qualifications

Personnel	Company	Qualifications	Focused Surveys Performed
Marisa Flores	ICF	14 years of experience performing general biological assessments in Southern California. Experienced in habitat evaluations for burrowing owl, least Bell's vireo, and conducting jurisdictional delineations.	Burrowing owl habitat assessment and focused survey; Bat habitat assessment
Shannon Crossen	ICF	10 years of experience performing general biological assessments in Southern California. Experience in habitat evaluations for burrowing owl, bats, and wildlife movement.	Bat habitat assessment
Danny Cuellar	SWCA Environmental Consultants	5 years of experience general biological surveys.	Desert Tortoise focused survey and rare plants focused survey
Camilla Estes	ICF	4 years of experience performing general biological assessments, general biological surveys; small mammals, nesting birds, burrowing owl, and desert tortoise.	Burrowing Owl focused survey
James Hickman	ICF	15 years of experience performing general biological assessments in Southern California for sensitive species. Performs surveys for burrowing owl, least Bell's vireo, bats, desert tortoise, rare plants, and jurisdictional delineations.	Reconnaissance survey and veg mapping; Desert Tortoise focused survey; Bat acoustic/emergence survey; jurisdictional delineation
Shawn Johnston	ICF	8 years of experience performing botanical surveys.	Rare plants focused survey
Kristen Klinefelter	ICF	6 years of experience general biological surveys; jurisdictional delineation; restoration monitoring; rare plant surveys	Jurisdictional delineation
William Kohn	ICF	20+ years of experience general biological surveys; habitat assessments; biological monitoring; BUOW, Swainson's hawk, California red-legged frog, and bat focused surveys.	Bat acoustic/emergence survey
Ryan Layden	ICF	8 years of experience performing general biological assessments in Southern California for sensitive species, including burrowing owl, riparian birds, and desert tortoise.	Desert Tortoise focused survey
Dennis Miller	URS Corporation	15 years of experience performing general biological assessments in Southern California for sensitive species. Performs surveys for burrowing owl, least Bell's vireo, bats, desert tortoise, and conducts jurisdictional delineations	Desert Tortoise focused survey and Bat acoustic/emergence survey
Cara Snellen	Jacobs	10 years of experience general biological surveys and construction monitoring.	Bat acoustic/emergence survey
William Stahnke	ICF	1 years of experience general biological surveys.	Bat acoustic/emergence survey

Manna Warbuton	ICF	10 years of experience general biological surveys, with expertise in aquatic habitats.	Desert Tortoise focused survey
Lance Woolley	US Forest Service	15 years of experience performing biological and botanical surveys.	Rare plant focused survey

Table H-2. Survey Dates, Types, Weather, and Personnel – Fornat Wash Bridge (#56C0099)

Dates	Survey Type	Weather Conditions	Personnel
4/6/2017	Burrowing Owl Habitat Assessment and Focused Survey #1	Time 0630-1010; 62°-69°F; Cloud Cover: 0% cover; Wind: 4-5 mph	Marisa Flores and Camilla Estes
5/4/2017	Desert Tortoise Focused Survey	Time: 0645-1045; Temperature 75° F- 105°F; Cloud Cover: 50% cover, Wind: 15-20 mph	Ryan Layden and Danny Cuellar
5/4/2017	Rare Plant Habitat Assessment	n/a	Shawn Johnston and Danny Cuellar
5/15/2017	Burrowing Owl Focused Survey #2	Time: 1745-1900; Temperature: 66°F-67°F; Cloud Cover: 75% cover, Wind: 8-15 mph	Will Kohn and Danny Cuellar
5/21/2017	Rare Plant Focused Survey (spring)	n/a	Shawn Johnston and Danny Cuellar
5/22/2017	Review Rare Plant Reference Populations	n/a	Shawn Johnston and Danny Cuellar
6/7/2017	Burrowing Owl Focused Survey #3	Time: 1905-2000; Temperature: 81°F-86°F; Cloud Cover: 40% cover; Wind: 15-20 mph	Ryan Layden and Danny Cuellar
6/9/2017	Vegetation Mapping	Time: 1000-1245; Temperature 82°F - 85°F; Cloud cover: 0% cover; Wind: 5-7 mph	James Hickman
6/27/2017	Bat Habitat Assessment	Time: 1455; Temperature: 105°F; Cloud cover: 0% cover; Wind 10 mph	Shannon Crossen and Marisa Flores
7/7/2017	Burrowing Owl Focused Survey #4	Time: 0905-0945; Temperature: 74-78°F; Cloud Cover: 75%; Wind: 5-10 mph	Ryan Layden and Danny Cuellar
7/17/2017	Bat Emergence/ Acoustic Surveys	Time: 1930-2100; Temperature: 80-95°F; Cloud Cover: 0% cover; Wind 5-15 mph	Will Kohn, James Hickman, Ryan Layden, and Dennis Miller
7/21/2017	Rare Plant Focused Survey (summer)	n/a	Shawn Johnston and Danny Cuellar
10/20/2017	Rare Plant Focused Survey (fall)	n/a	Shawn Johnston, Danny Cuellar, and Lance Wooley
3/7/2019	Jurisdictional Delineation	n/a	James Hickman and Kristen Klinefelter
4/30/2019	Desert Tortoise Focused Survey	Time: 0815-1345; Temperature: 68°-75°F; Cloud Cover: 90% cover; Wind: 0-3 mph	James Hickman, Frances Lin

Table H-3. Survey Dates, Types, Weather, and Personnel – East Channel Stubbe Wash Bridge (#56C0101)

Dates	Survey Type	Weather Conditions	Personnel
4/6/2017	Burrowing Owl Habitat Assessment and Focused Survey #1	Time 0630-1010; 62°-69°F; Cloud Cover: 0% cover; Wind: 4-5 mph	Marisa Flores and Camilla Estes
5/4/2017	Rare Plant Focused Survey	N/A	Shawn Johnston
5/15/2017	Burrowing Owl Focused Survey #2	Time: 1910-2000; Temperature: 66°F-67°F; Cloud Cover: 75% cover; Wind: 8-15 mph	Will Kohn and Danny Cuellar
5/21/2017	Rare Plant Focused Survey - Reference Population	N/A	Shawn Johnston and Danny Cuellar
5/22/2017	Review Rare Plant Reference Population	n/a	Shawn Johnston
5/26/2017	Desert Tortoise Focused Survey	Time: 0700-1230; Temperature: 72° F- 92°F; Cloud Cover: 0% cover; Wind: 15-20 mph	Ryan Layden and Manna Warburton
6/7/2017	Burrowing Owl Focused Survey #3	Time: 1755-1900; Temperature: 81°F-86°F; Cloud Cover: 40% cover; Wind: 15-20 mph	Ryan Layden and Danny Cuellar
6/9/2017	Vegetation Mapping	Time: 1000-1245; Temperature: 82°F – 85°F; Cloud cover: 0% cover; Wind 5-7 mph	James Hickman
6/27/2017	Bat Habitat Assessment	Time: 1420- 1445; Temperature: 108°F; Cloud cover: 0% cover; Wind 10 mph	Shannon Crossen and Marisa Flores
7/7/2017	Burrowing Owl Focused Survey #4	Time: 0740-0840; Temperature: 74-78°F; Cloud Cover: 60%; Wind: 5-10 mph	Ryan Layden and Danny Cuellar
7/20/2017	Bat Emergence/ Acoustic Surveys	Time: 1930-2100; Temperature: 81-88°F; Cloud Cover: 0% cover; Wind: 5-10 mph	Will Kohn, Marissa Maggio, James Hickman, and William Stahnke
7/21/2017	Rare Plant Focused Survey (summer)	n/a	Shawn Johnston and Danny Cuellar
10/20/2017	Rare Plant Focused Survey (fall)	n/a	Shawn Johnston
3/7/2019	Jurisdictional Delineation	n/a	James Hickman and Kristen Klinefelter

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