Appendix C:
Natural Environment Study

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project **NES**

Natural Environment Study

Discussion of Biological Assessments, Mitigation, and Monitoring Plans

San Bernardino County, California

District 8-SBD

STPL-5954 (193)

February 2025

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

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San Bernardino County, California

District 8-SBD R136.426

STPL-5954 (193)

February 2025

STATE OF CALIFORNIA

Department of Transportation

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Acronyms List

AASHTO	American Association of State Highway and Transportation Officials
ADT	Average Daily Traffic
BSA	Biological Study Area
Caltrans	California Department of Transportation
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFG	California Fish and Game
CIDH	Cast in Drilled Hole Piles
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
County	San Bernardino County Department of Public Works
CWA	Clean Water Act
DOT	U. S. Department of Transportation
DT	Desert Tortoise
EO	Executive Order
ESA	Environmentally Sensitive Area
Fahrenheit	°F
FESA	Federal Endangered Species Act
FHWA	Federal Highway Administration
ITP	Incidental Take Permit
MASH	Manual for Assessing Safety Hardware
MBTA	Migratory Bird Treaty Act
MLHP	Major Local Highway Projects
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NPDES	National Pollutant Discharge Elimination System
OHWM	Ordinary High-Water Mark
Project	PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project
ROW	Right-of-way
RSP	Rock Slope Protection
RWQCB	Regional Water Quality Control Board
SBCFCD	San Bernadino County Flood Control District
SBCTA	San Bernardino County Transportation Authority
Sq ft	Square Feet
STP	Surface Transportation Program
STIP	State Transportation Improvement Program
SWRCB	State Water Resources Control Board
U.S.	United States
USACE	U. S. Army Corps of Engineers
USFWS	U. S. Fish and Wildlife Service
USGS	U. S. Geological Survey
WDR	Waste Discharge Requirement

Summary

The San Bernardino County Department of Public Works (County), in cooperation with the California Department of Transportation (Caltrans), proposes to replace the existing two-lane timber bridge on Baker Boulevard with a new four-lane structure as part of the PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project (Project). The purpose of the Project is to replace the existing structure with a new crossing that meets current structural design standards, in order to enhance safety and operations of the facility.

This Natural Environment Study (NES) provides a review and evaluation of the potential impacts to threatened, endangered, listed, or special-status species and protected habitat resources as a result of the proposed Project. Field surveys were conducted within the Biological Study Area (BSA) which encompasses the Project area at the proposed bridge replacement location with an approximate 50-foot buffer to assess adjacent sensitive habitat communities.

During biological survey efforts, three land cover types were observed within the BSA, including saltbush scrub, disturbed, and urban/barren. In addition, the BSA includes one aquatic feature, desert sink scrub, which is considered a jurisdictional water of the state. This surface water is regulated under Section 401 of the Clean Water Act (CWA), administered by the Regional Water Quality Control Board (RWQCB). The California Department of Fish and Wildlife (CDFW) also claims jurisdiction over the bed, bank and channel of waters and any associated riparian vegetation.

Additionally, the Project area falls within the jurisdiction of the San Bernardino County Flood Control District (SBCFCD) under State legislation enacted in 1939. The Mojave River Channel falls under the jurisdiction of Zone 4 within the SBCFCD. This aquatic feature has been classified as desert sink scrub and the Project would result in impacts to this habitat including a net total of approximately 1.30 acres of temporary impacts to allow for channel grading and grading for the proposed permanent access ramp to the channel invert. Paving of the new access ramp, if pursued, will also permanently impact approximately 0.0005 acres (20 square feet) of desert sink scrub habitat. Additionally, the Project will be replacing the existing bridge piers and installing Rock Slope Protection (RSP) around the bridge abutments. There are approximately 138, 12-inch diameter timber piles within the existing channel, or approximately 0.002 acres of permanent fill (110 square feet). These piers will be removed and replaced with 162 (144 within desert sink scrub habitat), 18-inch diameter concrete piers, which totals approximately 0.006 acres of permanent fill (255 square feet). Therefore, the total net permanent impact of the replacement bridge piers will be approximately 0.004 acres. Furthermore, approximately 0.03 acres of permanent impacts are anticipated due to placement of RSP along the eastern bridge abutment. Please note that RSP within the channel invert will be buried below scour elevation while the RSP located above the invert will be keyed into the channel embankment. It is the RSP keyed into the channel embankment that will be considered as a permanent impact. The total net permanent fill anticipated within the desert sink scrub due to RSP is approximately 0.03 acres.

For the purposes of this analysis, “special-status species” includes any species that has been afforded special recognition by federal, state or local resources agencies (e.g., United States Fish and Wildlife Service [U.S.; USFWS], CDFW, etc.), and/or resource conservation organizations (e.g., California Native Plant Society [CNPS]). Literature research, habitat assessments, and biological surveys determined that the BSA was potentially suitable for one federally and state threatened species, desert tortoise (*Gopherus agassizii;* [DT]*)*. It should be noted that while the DT is currently listed as threatened on CESA, in April 2024, the California Fish and Game Commission unanimously decided to list the DT as endangered under CESA. Findings for the determination will be adopted at a future meeting. Until the adoption of determination findings, CESA species lists will continue to show DT as “threatened”. The Project is not anticipated to have take of any state-listed species, including DT, with the inclusion of appropriate avoidance and minimization measures, and therefore coordination with CDFW under Section 2081 Incidental Take Permit (ITP) is not anticipated. However, Section 7 consultation with USFWS may be required for the DT.

The following permits will be obtained for the proposed Project prior to construction: Waste Discharge Requirement (WDR) from the RWQCB, a Section 1602 Streambed Alteration Agreement from CDFW, and an Encroachment Permit from the SBCFCD will be required.

Funding for construction will utilize local funds from Measure I Major Local Highway Projects (MLHP) along with state and federal funds under the State Transportation Improvement Program (STIP) and the Surface Transportation Program (STP) administered by San Bernardino County Transportation Authority (SBCTA). Caltrans is the lead agency for National Environmental Policy Act (NEPA) compliance. The County will be the lead agency for California Environmental Quality Act (CEQA) compliance.

Chapter 1: Introduction

The County, in cooperation with Caltrans, proposes to replace the existing two-lane timber bridge on Baker Boulevard with a new four lane structure as part of the PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project (Project). The Project is located along Baker Boulevard within Baker, a census-designated place in San Bernardino County, California, within the Baker (3511631) 7.5-minute U. S. Geological Survey (USGS) quadrangle (Figure 1. Project Vicinity and Figure 2. Project Location).

Project History

Project Purpose and Need

Purpose

The purpose of the Project is to improve structure safety and operations through replacement of the existing bridge and approach roadways.

Need

The Project is needed to meet current structural design standards.

Project Description

The existing bridge was originally built in 1931 as a 93-foot (plus or minus) 5 span simple-supported stringer timber bridge crossing the Mojave River Channel on Baker Boulevard (formerly US 91 and State Route 31). It was repaired and lengthened in 1938. Repairs conducted in 1938 included replacement of all untreated Douglas Fir timber within the existing bridge with Redwood; the addition of 9 new spans to the west and 8 new spans to the east increasing bridge overall length to 408-feet (plus or minus), and channel excavation for the length of the structure to maintain a minimum clearance of 6-feet below the bottom stringer (soffit) of the bridge. The bridge currently exists as a 22-span simple-supported stringer timber bridge with a 5- to 6-inch-thick continuous cast in place reinforced concrete deck overlain with asphalt concrete and closed end reinforced concrete strutted abutments supported on Coastal Douglas Fir (CDF) timber piles. The bents and abutments are set at a 45-degree skew to accommodate flows within the Mojave River Channel below. Timber railing and plywood planking accommodating an elevated 2-foot-wide walk on both sides of the bridge is worn and deteriorating. Current sufficiency rating per Caltrans biannual bridge inspection reports (BRIS) for the structure is roughly 76.

The Project includes the demolition of the existing two-lane 22 span simple-supported stringer timber bridge and its replacement with a four-lane, 10-span cast-in-place reinforced concrete slab structure founded on cast in drilled hole piles (CIDH) or driven concrete pile extensions (Figure 3. Project Features). This proposed structure will meet and address County and American Association of State Highway and Transportation Officials (AASHTO) standards and criteria, or equivalent. Approximately 1,200 feet of approach roadway work would be

required to widen Baker Boulevard to its ultimate width. The design would construct and/or tie into existing, planned and projected ultimate roadway improvements from 0.14 miles west of the existing structure to Death Valley Road (State Highway 127). Additionally, the new bridge will include sidewalks, streetlights, and bridge barrier railing meeting current Manual for Assessing Safety Hardware (MASH) safety and testing requirements. Existing driveways located within the Project area may require improvements to ensure conformity with the widened bridge and roadway approaches.

It is anticipated that excavators, dozers, dump trucks, concrete trucks, drill rigs, pile driving rigs and concrete pumps will be required to rehabilitate and widen the existing road surface and replace the bridge. Temporary and permanent right of way (ROW) acquisition may be required for construction. The existing structure is well suited for either staged construction, with part of the new structure built adjacent to the existing bridge prior to removal of the existing bridge or a full detour (1.25-mile detour length) using adjacent SR-127/I-15 and the local road network to provide a complete closure for construction. Both options will keep the new bridge and approach road widenings within existing ROW. The Project will require relocation of overhead utilities, utilities attached to the bridge, and may require relocation of underground utilities along the roadway approaches. Construction may start as early as 2026 and may last 24 months.

The proposed Project may construct a permanent ramp providing access into the SBCFCD owned floodway channel north of the bridge along the eastern levee to better facilitate channel maintenance and future bridge inspections.

Funding for construction will utilize local funds from Measure IMLHP along with state and federal funds under the STIP and the STP administered by SBCTA. Caltrans is the lead agency for NEPA compliance. The County will be the lead agency for CEQA compliance.

No Build Alternative

Under the no-build alternative, the existing bridge would not be repaired. The worn and deteriorating 86 plus year old timber bridge would not be improved.

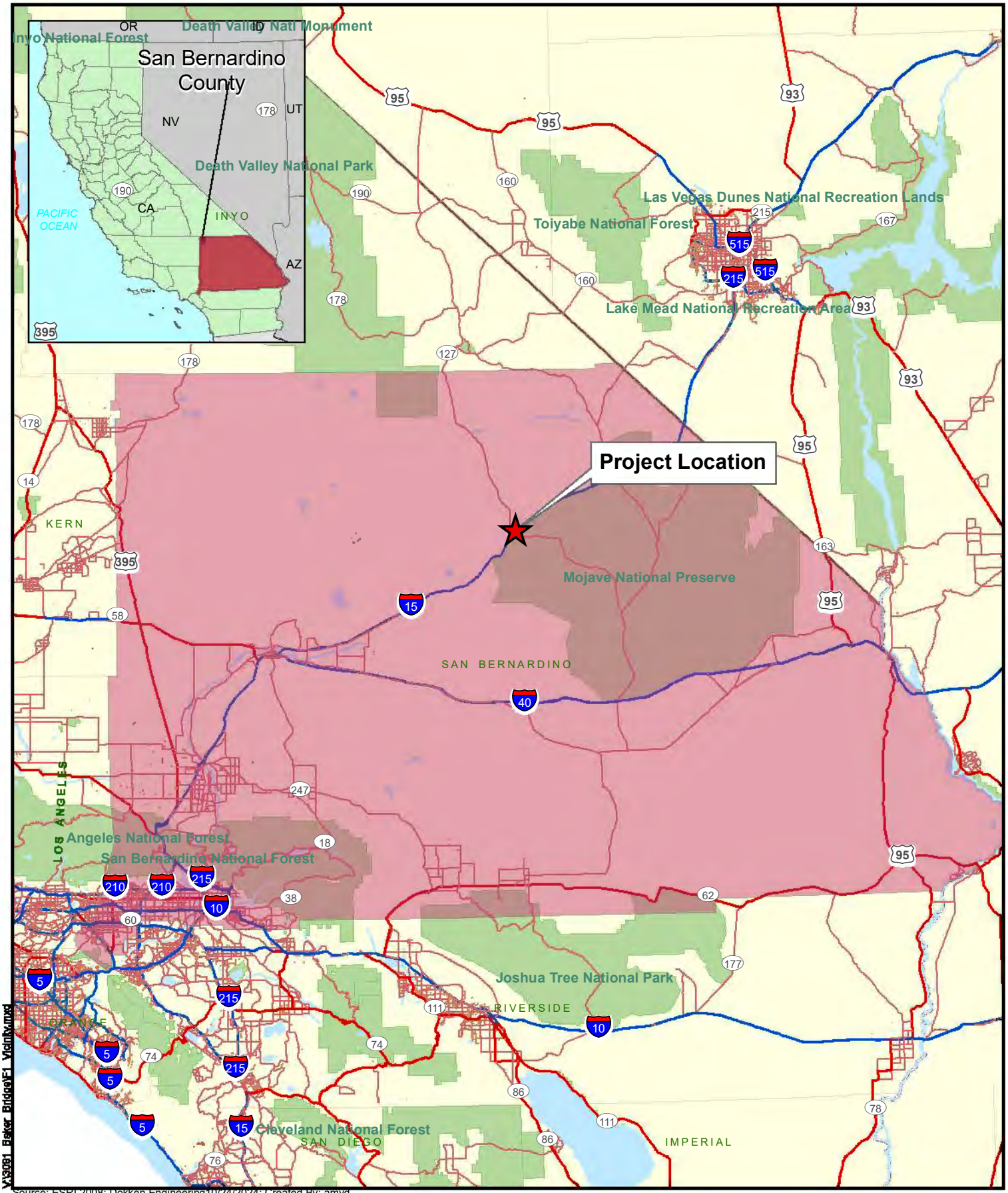

FIGURE 1
Project Vicinity

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

Source: ESRI World Street Maps Online; Dokken Engineering 10/24/2024; Created By: amyd

0 0.4 0.8 1.2 1.6
Miles

FIGURE 2
Project Location

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

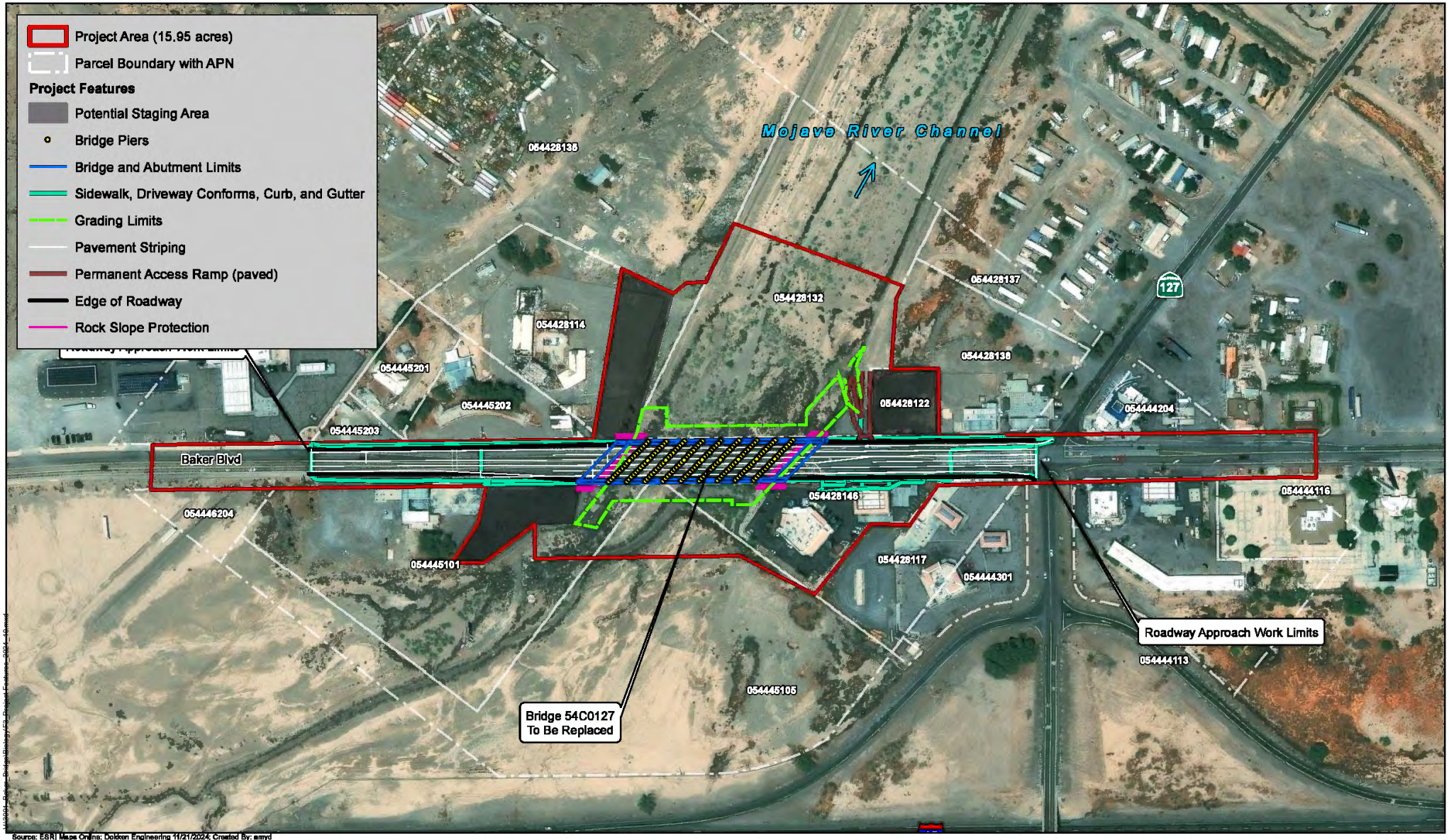

Figure 3
Project Features

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
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Chapter 2 – Study Methods

This section describes the Federal, state, and local plans, policies, and laws that are relevant to biological resources within the BSA. Applicable Federal permits and approvals that will be required before construction of the Project are provided in Chapter 5.

Federal Regulations

National Environmental Policy Act

NEPA provides an interdisciplinary framework for environmental planning by federal agencies and contains action-forcing procedures to ensure that federal agency decisions take environmental factors into account. NEPA is applicable when a federal agency proposes an action, grants a permit, or agrees to fund or otherwise authorize any other entity to undertake an action that could possibly affect environmental resources. Caltrans is the designated NEPA lead agency for this Project acting under delegation from the FHWA.

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (16 U.S.C. section 1531 et seq.) provides for the conservation of endangered and threatened species listed pursuant to Section 4 of the Act (16 U.S.C. section 1533) and the ecosystems upon which they depend. These species and resources have been identified by USFWS or NMFS. One federally threatened species, DT, has potential to occur within the BSA.

Clean Water Act

The CWA was enacted as an amendment to the Federal Water Pollutant Control Act of 1972, which outlined the basic structure for regulating discharges of pollutants to Waters of the U.S. The CWA serves as the primary federal law protecting the quality of the nation's surface waters, including lakes, rivers, and coastal wetlands. The CWA empowers the U.S. Environmental Protection Agency to set national water quality standards and effluent limitations and includes programs addressing both point-source and non-point-source pollution. Point-source pollution originates or enters surface waters at a single, discrete location, such as an outfall structure or an excavation or construction site. Non-point-source pollution originates over a broader area and includes urban contaminants in storm water runoff and sediment loading from upstream areas. The CWA operates on the principle that all discharges into the nation's waters are unlawful unless they are specifically authorized by a permit; permit review is the CWA's primary regulatory tool.

Section 401

The RWQCB has jurisdiction under Section 401 of the CWA and regulates any activity which may result in a discharge to surface waters. Typically, the areas subject to jurisdiction of the RWQCB coincide with waters of the U.S. including any wetlands. The RWQCB also asserts authority over "Waters of the State" under WDRs pursuant to the Porter-Cologne Water Quality Control Act. The

Project is located within the jurisdiction of the Lahontan RWQCB and would require a WDR prior to construction.

Section 402

The California State Water Resources Control Board (SWRCB) regulates construction projects that involve ground disturbance of one acre or greater. These projects must obtain coverage under the SWRCB General Permit for Storm Water Discharges Associated with Construction Activity (General Construction Permit). Operators of regulated construction sites are required to develop a Stormwater Pollution Prevention Plan; to implement sediment, erosion, and pollution prevention control measures; and to obtain coverage under the General Construction Permit.

Section 404

The United States Army Corp of Engineers (USACE) regulates discharges of dredged or fill material into waters of the U.S. These waters include wetlands and non-wetland bodies of water that meet specific criteria, including a direct or indirect connection to interstate commerce. The USACE regulatory jurisdiction pursuant to Section 404 of the CWA is founded on a connection, or nexus, between the water body in question and interstate commerce. This connection may be direct (through a tributary system linking a stream channel with traditional navigable waters used in interstate or foreign commerce) or may be indirect (through a nexus identified in USACE regulations). Soda Lake, which occurs upstream (south) of the Mojave River Channel, is an isolated, dry lake that is not considered a traditionally navigable water and does not meet the definitions of an "a(3)" water as outlined by the USACE. As such, Soda Lake (Dry Lake) is considered a non-jurisdictional water that does not fall under the purview of the USACE. Based on this determination, the channel within the Project BSA, which occurs downstream (north) of Soda Lake, is also considered non-jurisdictional and will not require Section 404 permitting through the USACE.

Executive Order 11990 – Protection of Wetlands

The Executive Order (EO) 11990 established a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. The U. S. Department of Transportation (DOT) promulgated DOT Order 5660.1A in 1978 to comply with this direction. On federally funded projects, impacts on wetlands must be identified. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific Wetlands Only Practicable Alternative Finding.

An additional requirement is to provide early public involvement in projects affecting wetlands. FHWA provides technical assistance in the Guidance for Preparing and Processing Environmental and Section 4(f) Documents (Technical Advisory T 6640.8A) and reviews environmental documents for compliance.

Executive Order 13112 – Invasive Species

The EO 13112 (signed February 3, 1999) directs all federal agencies to prevent and control introductions of invasive species in a cost-effective and

environmentally sound manner. The EO and directives from the Federal Highway Administration require consideration of invasive species in NEPA analyses, including their identification and distribution, their potential impacts, and measures to prevent or eradicate them.

State Regulations

California Environmental Quality Act

CEQA is a California state law created to inform governmental decision-makers and the public about the potential, significant environmental effects of proposed activities and to work to reduce these negative environmental impacts. The County is the CEQA lead agency for this Project.

California Endangered Species Act

The California Fish and Game (CFG) Code Section 2050, henceforth referred to as the California Endangered Species Act (CESA), requires CDFW to establish a list of endangered and threatened species (Section 2070) and to prohibit the incidental taking of any such listed species except as allowed by the Act (Sections 2080-2089). In addition, CESA prohibits take of candidate species (under consideration for listing).

CESA also requires CDFW to comply with CEQA (Pub. Resources Code Section 21000 et seq.) when evaluating incidental take permit applications (CFG Code Section 2081(b) and California Code Regulations, Title 14, section 783.0 et seq.), and the potential impacts the project or activity for which the application was submitted may have on the environment. CDFW's CEQA obligations include consultation with other public agencies which have jurisdiction over the project or activity [California Code Regulations, Title 14, Section 783.5(d)(3)]. CDFW cannot issue an incidental take permit if issuance would jeopardize the continued existence of the species [CFG Code Section 2081(c); California Code Regulations, Title 14, Section 783.4(b)]. The DT is currently listed as threatened on CESA, but in April 2024 the California Fish and Game Commission unanimously decided to list the DT as endangered under CESA. Findings for the determination will be adopted at a future meeting. DT has potential to occur within the BSA.

Section 1602: Streambed Alteration Agreement

Under CFG Code 1602, public agencies are required to notify CDFW before undertaking any project that will divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resources. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project.

Section 3503 and 3503.5: Bird and Raptors

CFG Code Section 3503 prohibits the destruction of bird nests and Section 3503.5 prohibits the killing of raptor species and destruction of raptor nests.

Section 3513: Migratory Birds

CFG Code Section 3513 prohibits the take or possession of any migratory non-game bird as designated in the Migratory Bird Treaty Act (MBTA) or any part of

such migratory non-game bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

Porter-Cologne Water Quality Control Act

California's Porter-Cologne Act, enacted in 1969, provides the legal basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or gaseous) to land or surface waters that may impair beneficial uses for surface and/or groundwater of the state. It predates the CWA and regulates discharges to waters of the state. Waters of the state include more than just waters of the U.S., such as groundwater and surface waters not considered waters of the U.S. Additionally, it prohibits discharges of "waste" as defined and this definition is broader than the CWA definition of "pollutant". Discharges under the Porter-Cologne Act are permitted by WDRs and may be required even when the discharge is already permitted or exempt under the CWA.

The RWQCBs are responsible for establishing the water quality standards (objectives and beneficial uses) required by the CWA and regulating discharges to ensure compliance with the water quality standards. Details regarding water quality standards in a project area are contained in the applicable RWQCB Basin Plan. In California, RWQCBs designate beneficial uses for all water body segments in their jurisdictions, and then set criteria necessary to protect these uses. Consequently, the water quality standards developed for particular water segments are based on the designated use and vary depending on such use. In addition, the SWRCB identifies waters failing to meet standards for specific pollutants, which are then state listed in accordance with CWA Section 303(d). If a state determines that waters are impaired, and the standards cannot be met through point source or non-source point controls (National Pollutant Discharge Elimination System [NPDES] permits or WDRs), the CWA requires the establishment of Total Maximum Daily Loads which specify allowable pollutant loads from all sources (point, non-point, and natural) for a given watershed.

Regional Water Quality Control Board

The SWRCB adjudicates water rights, sets water pollution control policy, and issues water board orders on matters of statewide application, and oversees water quality functions throughout the state by approving Basin Plans, Total Maximum Daily Loads, and NPDES permits. RWQCBs are responsible for protecting beneficial use of water resources within their regional jurisdiction using planning, permitting, and enforcement authorities to meet this responsibility.

Local Regulations

County of San Bernadino 2007 General Plan

The County General Plan is a comprehensive policy document which provides the framework for land use, development, and resource management within the County. It sets forth policies and goals, as well as implementation measures to guide future land use, infrastructure development and environmental preservation. Section V of the General Plan includes the Conservation Element, which provides direction regarding the conservation, development, and utilization

of the County's natural resources. Its objective is to prevent the wasteful exploitation, destruction and neglect of resources.

Desert Region Habitat is considered a Recognized Important Biological Area per the General Plan as it supports various important biological resources such as DT and desert bighorn sheep habitat. Baker is part of the North Desert Region, which represents the largest of the County's five regional planning areas and is characterized by its arid desert climate and expansive open spaces, including the Mojave Desert (San Bernardino County 2007).

Compliance with all relevant goals and policies outlined in the General Plan will be required as part of the Project, including but not limited to:

Policy CO 2.1 – The County will coordinate with state and federal agencies and departments to ensure that their programs to preserve rare and endangered species and protect areas of special habitat value, as well as conserve populations and habitats of commonly occurring species, are reflected in reviews and approvals of development programs.

Goal CO 5 – The County will protect and preserve water resources for the maintenance, enhancement and restoration of environmental resources.

Goal D/CO 1 – Preserve the unique environmental features and natural resources of the Desert Region, including native wildlife, vegetation, water and scenic vistas.

Studies Required

Online databases from USFWS, California Natural Diversity Database (CNDDB), and CNPS were queried for presence of potential threatened, endangered, rare, or special-status species within the USGS 7.5-minute quadrangles of Baker (3511631), Soda Lake (Dry Lake) North (3511621), West of Soda Lake (Dry Lake) (3511622), and West of Baker (3511632). These searches identified ten special status wildlife species and seven special status plant species with potential to occur in the vicinity of the Project (Appendix A through Appendix C). These species are described in Table 2. Species Potential Table, which provides a comprehensive list and presents specific characteristics, habitat requirements, and potential for occurrence for each species.

Personnel and Survey Dates

A general biological survey was conducted on August 14, 2024, by Dokken Engineering biologists Vincent Chevreuil and Katie Jacobson. The survey consisted of a general assessment of biological conditions of the Project site, with special attention given to sensitive plant and wildlife species that were determined by the literature assessment to have a potential of occurring within the Project vicinity. Methodology involved walking meandering transects throughout the BSA and recording observed vegetation and wildlife species as well as categorizing existing habitat communities.

In addition, a jurisdictional delineation was conducted in accordance with technical methods outlined in the *USACE Wetlands Delineation Manual* (USACE 1987), *Regional Supplement to the USACE Wetland Delineation Manual: Arid*

West Region (USACE 2008), and *A Field Guide to the Identification of the Ordinary High-Water Mark* (OHWM) *in the Arid West Region of the Western United States* (Lichvar 2008). The OHWM data sheet is included in the attached (Appendix E).

Agency Coordination and Professional Contacts

California Department of Fish and Wildlife

On September 12, 2023, a four-quadrangle CNDDB search of special-status species was obtained and used to create a list of species potentially occurring in the vicinity of the Project. An updated list was obtained on January 29, 2024, and September 17, 2024 (Appendix B).

United States Fish and Wildlife Service

On September 12, 2023, an official species list was obtained from the USFWS Information for Planning and Consultation list for Federally endangered and threatened species that could occur in the vicinity of the Project. An updated list was obtained on January 29, 2024, and September 17, 2024 (Appendix A).

California Native Plant Society

On September 12, 2023, a special status plant list was obtained from CNPS *Inventory of Rare and Endangered Plants of California*. An updated list was obtained on January 29, 2024, and November 7, 2024 (Appendix C).

National Oceanic and Atmospheric Administration

This Project is located outside of National Oceanic and Atmospheric Administration Fisheries jurisdiction; therefore, a fisheries species list is not required.

Limitations That May Influence Results

Sensitive wildlife species with the potential to occur in the BSA may be cryptic (difficult to detect) or transient, migratory species. The population size and locations of sensitive species may fluctuate through time. Because of this, the data collected for this NES represents a “snapshot” in time and may not reflect actual future conditions. The collection of biological field data is normally subject to environmental factors that cannot be controlled or reliably predicted. Consequently, the interpretation of field data must be conservative and consider the uncertainties and limitations imposed by the environment. However, due to the experience and qualifications of the consulting biologists involved in the surveys, this limitation is not expected to severely influence the results or substantially alter the findings.

The Mojave River Channel is present within the BSA. This area has been classified as desert sink scrub habitat as its situated between two low-lying playas, Soda Lake (Dry Lake) and Silver Lake (Dry Lake). Due to the lack of consistent water flow and channelization (through creation of levees), the channel exhibits weak OHWM indicators. Given the highly disturbed nature of the BSA, the OHWM was delineated by examining various local hydrologic indicators

alongside aerial imagery from January 2020. The OHWM may fluctuate between the planning and construction phases based on weather conditions.

Chapter 3 – Results: Environmental Setting

Description of the Existing Physical and Biological Conditions

The following sections discuss ecological conditions of the region and biological resources present within the BSA.

Study Area

The Project is located along Baker Boulevard as it crosses the Mojave River Channel. The Project area encompasses approximately 15.95 acres and accounts for all temporary and permanent impacts associated with construction, including proposed construction easements, temporary access roads, cut and fill limits, and potential staging areas. The BSA was defined as the area necessary for Project activities with an approximate 50-foot buffer to evaluate adjacent sensitive habitat resources and to accommodate for potential changes in the Project design. The BSA measures approximately 23.75 acres (Figure 4. Habitat Communities).

Physical Conditions

The Project is located in the census-designated community of Baker, California, directly off Interstate 15 in San Bernardino, California (Figure 2. Project Location), within the Mojave Desert Floristic Province (Jepson 2024). Baker experiences a desert climate that consists of hot, dry summers and cool winters with very little precipitation. The average annual high temperature is approximately 84 degrees Fahrenheit (°F), and the average annual low temperature is approximately 54°F. The region averages 3.72 inches of precipitation annually (U.S. Climate Data 2024). The topography within the BSA is flat and the elevation of the Project ranges between approximately 920 feet to 940 feet above mean sea level. The Natural Resources Conservation Service Custom Soil Resource Report was quired for the Project, but no soil data is available for this region (Natural Resource Conservation Service 2024).

Hydrology

The Mojave River Channel is an ephemeral river that originates in the San Bernardino Mountains near Silverwood Lake. Downstream of the Mojave Forks Dam, the river flows mostly underground through Hesperia, Victorville, and Barstow. The river terminates at a large inland delta called the Mojave River Wash, near the western boundary of the Mojave National Preserve. However, during heavy rain years, surface water can fill Soda Lake (Dry Lake) south of Baker and can reach Silver Lake (Dry Lake), north of Baker, during historic flows (USGS 2004) via the Mojave River Channel.

Soda Lake, which occurs upstream (south) of the Mojave River Channel, is an isolated, dry lake that is not considered a traditionally navigable water and does not meet the definitions of an “a(3)” water as outlined by the USACE. As such, Soda Lake (Dry Lake) is considered a non-jurisdictional water that does not fall under the purview of the USACE. Based on this determination, the channel within the Project BSA, which occurs downstream (north) of Soda Lake (Dry Lake), is

also considered non-jurisdictional and will not require permitting through the USACE.

The desert sink scrub habitat is still considered a water of the state and a WDR from the RWQCB, a Section 1602 Streambed Alteration Agreement from CDFW, and an Encroachment Permit from the SBCFCD will be required.

Biological Conditions

Habitat Communities

The BSA is situated within Baker, a census-designated place located adjacent to Interstate 15 in San Bernardino, California. Land use within the vicinity of the bridge replacement is either developed or highly disturbed by human activities, limiting the potential for sensitive species or habitats to occur within the BSA. The existing Baker Boulevard bridge passes over the Mojave River Channel, classified as desert sink scrub that divides the BSA from east to west. Plant and wildlife species observed within the BSA during the August 2024 biological survey efforts were used to define habitat types based on composition, abundance, and cover (Table 1. Species Observed List). Habitat communities within the BSA include saltbush scrub and desert sink scrub. In addition, the BSA encompasses undeveloped lots, access roads, dirt levees, and graded areas classified as disturbed areas, as well as paved roadways, parking lots and buildings classified as urban/barren (Figure 4. Habitat Communities; Appendix D: Reference Photographs).

Urban/Barren

Urban/barren areas are characterized by urban structures, dirt roads, pavement, landscaping, and other developed areas. The BSA encompasses Baker Boulevard, which is a paved, two-lane roadway that is devoid of vegetation. In addition, numerous paved parking lots and businesses located both north and south of Baker Boulevard fall within the BSA boundaries. These areas provide little to no suitable habitat for local wildlife species. Urban/barren land cover comprises approximately 13.55 acres (57%) of the BSA (Figure 4. Habitat Communities).

Disturbed Areas

Within the BSA, disturbed areas include the undeveloped lots adjacent to Baker Boulevard that lack substantial vegetation and appear to be highly disturbed by human activity. This land cover type also includes the dirt levees, access roads, and graded areas utilized by the Flood Control District to maintain the Mojave River Channel. South of Baker Boulevard, disturbed land cover occurs in the upland areas directly adjacent to desert sink scrub habitat, delineated on August 14, 2024. Disturbed area comprises approximately 4.13 acres (17%) of the BSA (Figure 4. Habitat Communities).

Saltbush Scrub

Saltbush scrub habitat is primarily comprised of sparse, low-lying shrubs such as big saltbush (*Atriplex lentiformis*) and saltcedar (*Tamarix ramosissima*). Additional species within this habitat community include occasional stands of non-native Mediterranean canarygrass (*Phalaris minor*) as well as infrequent populations of creosote bush (*Larrea tridentata*) and honey mesquite (*Neltuma odorata*). Within

the BSA, this habitat is highly fragmented and occurs along the margins of developed or highly disturbed areas. This habitat community comprises approximately 1.15 acres (5%) of the BSA (Figure 4. Habitat Communities).

Desert Sink Scrub

Within the BSA, Baker Boulevard passes over the Mojave River Channel, which has been classified as desert sink scrub habitat as its situated between two low-lying playas, Soda Lake (Dry Lake) and Silver Lake (Dry Lake). Within the BSA, the channel is an excavated passageway managed by the SBCFCD which helps manage excess water flow from Soda Lake (Dry Lake), particularly during periods of heavy rainfall or flooding. The channel serves to direct floodwaters away from populated areas and infrastructure within Baker, preventing potential damage. The channel works by allowing water that exceeds the capacity of the river's main bed to flow into adjacent low-lying areas, naturally dispersing or being redirected to avoid flooding in the town. The channel primarily flows underground, and surface water is only present immediately following rain events or during historic wet years. Vegetation within the channel is similar to adjacent upland habitat and consists of stands of big saltbush and saltcedar. In addition, bush seepweed (*Suaeda nigra*) is frequently observed along the banks of the delineated channel. The stream channel comprises approximately 4.92 acres (21%) of the BSA (Figure 4. Habitat Communities).

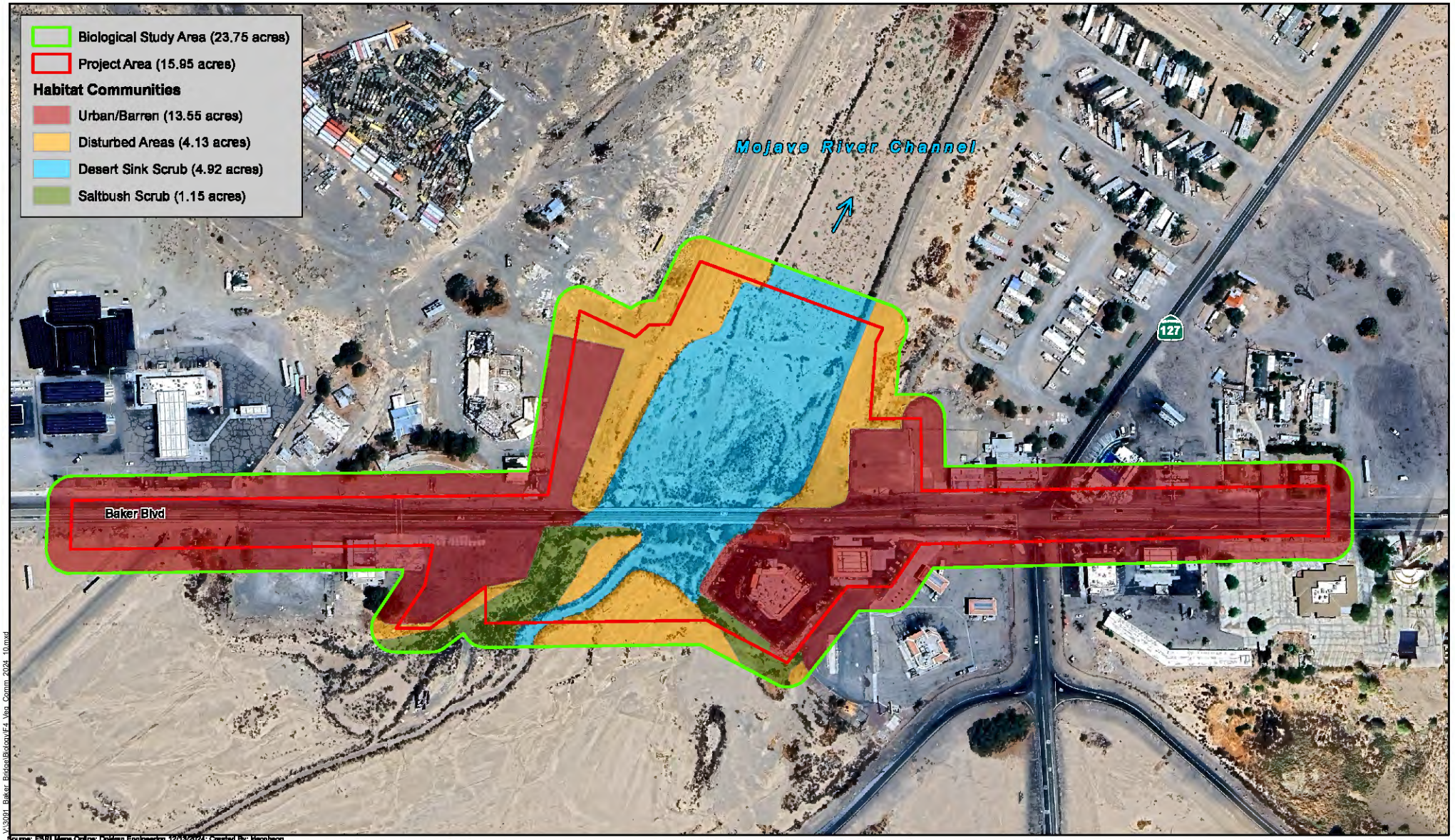

Figure 4
Habitat Communities

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement
STPL-5954(193)
Baker, San Bernardino County, California

Table 1. Species Observed

Common Name	Scientific Name	Native (N)/ Non-Native (X)[1]
Plant Species		
Big saltbush	*Atriplex lentiformis*	N
Brown spined prickly pear	*Opuntia phaeacantha*	N
Bush seepweed	*Suaeda nigra*	N
Coyote melon	*Cucurbita palmata*	N
Creosote bush	*Larrea tridentata*	N
Fringed amaranth	*Amaranthus fimbriatus*	N
Honey mesquite	*Neltuma odorata*	N
Honeysweet	*Tidestromia suffruticosa*	N
Mediterranean canarygrass	*Phalaris minor*	X
Mexican fan palm	*Washingtonia robusta*	X [Moderate]
Prickly lettuce	*Lactuca serriola*	X
Saharan mustard	*Brassica tournefortii*	X [High]
Saltcedar	*Tamarix ramosissima*	X [High]
Wheelscale	*Atriplex elegans*	N
Wildlife Species		
Common raven	*Corvus corax*	N
Eurasian collared dove	*Streptopelia decaocto*	X
Great-tailed grackle	*Quiscalus mexicanus*	N
House sparrow	*Passer domesticus*	X
Rock pigeon	*Columbia livia*	X
Western kingbird	*Tyrannys verticalis*	N

[1]California Invasive Plant Council (Cal-IPC) Rating

Wildlife

The majority of the BSA is comprised of paved or developed surfaces that are not suitable to support sensitive wildlife species. Wildlife habitat within the BSA is limited to the desert sink scrub habitat and the adjacent saltbush scrub habitat. During the biological survey conducted on August 14, 2024, wildlife observed within the BSA consisted of locally common bird species including common raven (*Corvus corax*), house sparrow (*Passer domesticus*), rock pigeon (*Columbia livia*), and Eurasian collared dove (*Streptopelia decaocto*). No special-status species were observed.

Habitat Connectivity

The CDFW *Biogeographic Information & Observation System* (CDFW 2024b) was reviewed to determine if the BSA is located within an Essential Connectivity Area. The BSA is within an area of *Terrestrial Connectivity Rank 4 – Conservation Planning Linkages*. These include areas that represent the best remaining connections between core natural areas to maintain habitat connectivity. The implementation of this Project will not result in permanent fragmentation of existing natural habitats.

The Baker Boulevard Bridge will be replaced roughly within the same linear footprint, and no new barriers or additional habitat fragmentation will be created as a result of the Project. Once complete, the Project would allow for the

continued movement of wildlife along desert sink scrub habitat and would preserve existing habitat connectivity.

Regional Species and Habitats and Natural Communities of Concern

Plant and wildlife species are considered to have special status if they have been listed as such by Federal or state agencies or by one or more special interest groups, such as CNPS.

Prior to the field surveys, online databases from USFWS, CNDDB, and CNPS were queried for presence of potential threatened, endangered, rare, or special-status species. Database search results identified ten special-status or sensitive wildlife species and seven special-status or sensitive plant species with potential of occurring in the vicinity of the BSA. Table 2 below includes a complete list of these special-status species along with a discussion and determination of each species' potential of occurring within the BSA. An analysis of habitat requirements, recorded observations, and field surveys determined that one of these species has the potential to occur within the BSA: DT.

Table 2: Listed, Proposed Species, Natural Communities, and Critical Habitat Potentially Occurring or Known to Occur in the Project Area.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Reptile Species						
Desert tortoise*	*Gopherus agassizii*	Fed: State: CDFW:	T T --	Species inhabits a variety of habitats from flats and slopes within creosote bush scrub at lower elevations to rocky slopes in blackbrush scrub and juniper woodland at higher elevations within Mojavean desert scrub and Sonoran Desert scrub communities. Species prefers creosote bush scrub with a high diversity of perennials and high production of ephemeral plant species. Requires friable soil for burrow and nest construction, but adequately firm to prevent burrow collapse. Feeding activity is very short and occurs in the spring. Mating occurs in March and April, with eggs laid in May to July at the openings of burrows. Prefers elevations at 1,000-3,000 feet but has been documented from below sea level to 7, 300 feet.	HP	**Low Potential:** The BSA encompasses suitable desert scrub habitat that may support this species. Furthermore, there are four recent iNaturalist observations of this species within an approximate 6-mile radius of the BSA. However, DT burrows or other evidence of DT habitation were not observed during surveys efforts, and soils within the BSA are mostly composed of clay and are unlikely to support DT burrow construction. Overall, there is a low potential for the species to disperse through the BSA based on potentially suitable habitat.
Mojave fringe-toed lizard	*Uma scoparia*	Fed: State: CDFW:	-- -- SSC	This species inhabits areas with fine wind-blown sand, including dunes, flats with sandy hummocks formed around the bases of vegetation, washes and banks of rivers; requires fine, loose sand for burrowing. Inhabits areas in the Mojave Desert from the southern end of Death Valley south to the Colorado River. Occur from about 300-3,000 ft. Goes	A	**Presumed Absent:** The BSA lacks fine, wind-blown sand that is necessary to support burrowing individuals of this species. The species is presumed absent due to the lack of necessary habitat features.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				underground in the sand or in a burrow in November and emerges in February.		
Bird Species						
Vermilion flycatcher	*Pyrocephalus rubinus*	Fed: State: CDFW:	-- -- SSC	Occurs primarily along the Colorado River within Riverside County, but also occurs in isolated patches throughout central southern California. Inhabits desert riparian habitat in proximity to irrigated fields, irrigation ditches, pastures and other open, mesic areas. Breeds and forages near water, and occurs most frequently where riparian thickets of cottonwood, willow, mesquite, and other water associated vegetation interface with open, mesic habitats. Breeds approximately February through July.	A	**Presumed Absent:** The BSA lacks desert riparian habitat suitable to support nesting and foraging individuals of this species. Furthermore, the stretch of the Mojave River Channel that occurs within the BSA primarily flows underground and rarely includes surface water that could support this species. The species is presumed absent due to a lack of necessary habitat features.
Yellow-breasted chat	*Icteria virens*	Fed: State: CDFW:	-- -- SSC	An uncommon summer resident of coastal California and in foothills of the Sierra Nevada, arriving in April and departing by late September. Requires riparian thickets of willow and other brushy tangles near watercourses for nesting and foraging. Nests in dense shrubs along streams and rivers. Breeds from May-August.	A	**Presumed Absent:** The BSA lacks riparian thickets of willow and other brushy tangles for nesting and foraging. There is one historic (1979) CNDDB occurrence of the species within the BSA. However, there are no other recent observations of the species. Therefore, the species is presumed absent due to a lack of suitable local habitat features and recent observations.
Southwestern willow flycatcher	*Empidonax traillii extimus*	Fed: State: CDFW:	E E --	Breeds in riparian habitats characterized by dense vegetation in proximity to open water or saturated soil. Species is associated with dense willow-covered islands and riparian	A	**Presumed Absent:** The BSA lacks a riparian corridor with dense vegetation and willow-covered islands. In addition, the BSA is outside of the elevational and geographical range of the species.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				habitats at elevations up to 8,000 feet. Often in proximity to rivers, swamps, lakes, reservoirs, and other wetlands. Historically, the species nested in native vegetation, but will also use thickets of non-native tamarisk and Russian olive. Breeds in April through August.		There are no CNDDB occurrences of the species within a 10-mile radius of the BSA. Therefore, the species is presumed absent from the BSA due to a lack of suitable habitat features and local recent observations.
Invertebrate Species						
Monarch butterfly	*Danaus plexippus*	Fed: State: CDFW:	C -- --	Winter roosts along the coast from northern Mendocino to Baja California. Utilizes wind protected tree groves in proximity to nectar and water sources. Host plants include milkweed species such as *Asclepias syriaca, A. incarnara,* and *A. speciosa.* Suitable habitats include fields, meadows, weedy areas, marshes, and roadsides. Mass adult migrations occur from August to October.	A	**Presumed Absent:** The BSA occurs within the inland desert of San Bernardino County and does not occur within the overwintering range of monarch butterflies. Furthermore, the BSA lacks necessary habitat features including wind protected tree groves and the associated plant host species. The species is presumed absent due to the lack of locally suitable habitat.
Fish Species						
Mohave tui chub	*Siphateles bicolor mohavensis*	Fed: State: CDFW:	E E FP	The species is endemic to the Mojave River basin, adapted to warm, silty, alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Requires vegetation for spawning. The species is known to occur at three sites: Soda Springs (Zzyzx Springs), Camp Cady Wildlife Area, and China Lake Naval Air Weapons Station.	A	**Presumed Absent:** The BSA encompasses a portion of the Mojave River Channel that experiences intermittent flows and therefore lacks an appropriate aquatic environment with deep pools, ponds, or slough-like areas. The species faces a restricted distribution, mainly due to the Cedar Springs Dam and the Mojave River Dam, resulting in the obstruction and diversion of water flow from critical desert sections of the Mojave River that historically served as habitat for the

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
						species. There are 3 CNDDB occurrences of the species 9 miles southwest of the BSA at Soda Springs (Zzyzx Springs), an artificial spring-fed pond. While there's potential for dispersal from Soda Springs to the Mojave River Channel during rare intense storms, most of the river's flow is now subsurface, limiting such events. Therefore, the species is presumed absent from the BSA due to a lack of suitable water features and local recent observations.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Saratoga Springs pupfish	*Cyprinodon nevadensis nevadensis*	Fed: State: CDFW:	-- -- SSC	This fish is a subspecies of the Amargosa pupfish which occur naturally only in Saratoga Springs and its outflow marsh in Death Valley National Park within San Bernardino County. Saratoga Spring is located at an elevation of 70m and is a tributary to the Amargosa River. This species has also been introduced into Lake Tuendae also within San Bernardino County. Pupfish tend to avoid temperatures exceeding 35°C, preferring areas along the shore in 40-50cm of water between 20 and 30°C. Saratoga Springs water is clear, 28-29°C with a soft sand and silt bottom. The spring overflows into a pond and then into a marsh 4-6 hectares in area which is ringed by sand dunes. As temperatures rise above 35-38°C, fish will burrow into the marsh mud for thermal refuge.	A	**Presumed Absent:** The BSA is outside of the historical and current distribution of the species. There is 1 historic (1979) CNDDB occurrence of the species 9 miles southwest of the BSA at Soda Springs (Zzyzx Springs), an artificial spring-fed pond. While there is potential for dispersal from Soda Springs to the Mojave River Channel during rare intense storms, most of the river's flow is now subsurface, limiting such events. Therefore, the species is presumed absent from the BSA due to a lack of the necessary aquatic habitat features.
Mammal Species						
Desert bighorn sheep	*Ovis canadensis nelsoni*	Fed: State: CDFW:	-- -- FP	Peninsular desert bighorn sheep occur in the Peninsular Ranges from the San Jacinto and Santa Rosa Ranges in Riverside County south into Mexico. Bighorns prefer open areas of low-growing vegetation for feeding, with steep, rugged terrain nearby as a means of escape. Requires an adequate source of water. Inhabit rocky slopes and cliffs, canyons, washes and alluvial fans.	A	**Presumed Absent:** Although the BSA encompasses open areas with low-growing vegetation, the BSA lacks steep, rugged terrain that this species could use to escape. Finally, the BSA falls within a developed urban area that does not provide suitable adjacent foraging or refuge habitat for this species. Due to the lack of locally suitable habitat features, the species is presumed absent from the BSA.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
				Like other bighorn sheep, they prefer rugged and open habitat, and use their climbing abilities, vigilance, and excellent vision to detect and escape from predators. They are generalist herbivores and eat a wide variety of desert plants, including cacti. Preferential to low sage, sagebrush, desert scrub, subalpine conifer, perennial grassland, montane chaparral, and montane riparian habitat communities.		
Townsend's big-eared bat	*Corynorhinus townsendii*	Fed: State: CDFW:	-- -- SSC	Species occur throughout California in all habitats except subalpine and alpine communities. Requires caves, mines, tunnels, buildings, or man-made structures for day and night roosts. Rarely roots in tree cavities, limited to males and non-reproductive females. Young born May-June (0-6,561 feet 10,800 feet elevation).	A	**Presumed Absent:** Baker Bridge does not provide suitable bat roosting habitat required to support this species. Furthermore, this species is very sensitive to human disturbance and is unlikely to roost within an urban area. Due to the lack of suitable roosting features, the species is presumed absent from the BSA.
Plant Species						
Alkali marsh aster	*Almutaster pauciflorus*	Fed: State: CNPS:	-- -- 2B.2	A perennial herb inhabiting alkaline soils in meadows, seeps, and wetland-riparian habitats. Flowers June-October (790-2,630 feet).	A	**Presumed Absent:** The BSA lacks meadows, seeps, and wetland-riparian habitat. There is one recent (2016) CNDDB occurrence of the species 9 miles southwest of the BSA at Soda Springs. The species is presumed absent due to a lack of suitable local habitat features and nearby observations.
Booth's evening primrose	*Eremothera boothii ssp. boothii*	Fed: State:	-- --		A	**Presumed Absent:** The BSA lacks the habitat communities that can support

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
		CNPS:	2B.3	An annual herb inhabiting sandy flats, steep loose slopes, Joshua tree woodland, and pinyon/juniper woodland. Flowers April-September (2,600-7,900 feet).		individuals of this species. Despite being outside the anticipated elevational range of the species, there are numerous observations of this species within a 10-mile radius of the BSA, including a recent (2023) Calflora occurrence approximately 1 mile east of the Project at an elevation much higher than the Project site. However, the species was not observed during the biological survey that was conducted on 8/14/24, which is within the blooming period of this species. The elevation range where this species normally occurs is also far above the elevation range within the BSA. Therefore, the species is presumed absent from the BSA due to the lack of local observations and lack of suitable habitat features.
Emory's crucifixtion-thorn	*Castela emoryi*	Fed: State: CNPS:	-- -- 2B.2	A shrub native to California, and also found in Sonora, Mexico, and Arizona. Found in communities of creosote bush scrub. Flowers June-July (295-2,525 feet).	HP	**Presumed Absent:** The BSA encompasses marginally suitable desert scrub habitat. The nearest recent (2012) CNDDB occurrence is located approximately 7 miles southwest of the BSA. All regional occurrences of this species are concentrated either southwest or north of the Project area. However, this large deciduous shrub was not observed during the biological survey conducted on 8/14/24. The species is presumed absent due to a lack of local occurrences and given the species was not observed during the field survey.

Common Name	Species Name	Status		General Habitat Description	Habitat Present	Potential for Occurrence and Rationale
Small-flowered androstephium	*Androstephium breviflorum*	Fed: State: CNPS:	-- -- 2B.2	A perennial bulbiferous herb inhabiting sandy or rocky soils of desert dunes and Mojavean desert scrub bajadas communities. Flowers March-April (1,380 to 4,395 feet).	HP	**Presumed Absent:** The BSA encompasses saltbush scrub habitat that may provide suitable habitat for this species. In addition, there are five documented CNDDB occurrences within 10 miles of the BSA, with the nearest approximately 6.5 miles north of the BSA (1996). However, the elevation range of this species is also above the elevation range within the BSA. No individuals of the species were observed within the BSA during the August 2024 biological survey. Due to lack of suitable habitat features and lack of recent, nearby occurrences, this species is presumed absent.
Wright's jaffueliobryum moss	*Jaffueliobryum wrightii*	Fed: State: CNPS:	-- -- 2B.3	A perennial moss found in rock crevices, dry rocky soils, and carbonate soils within alpine dwarf scrub, pinyon juniper, and Mojavean desert scrub plant communities (530-8,200 feet).	HP	**Presumed Absent:** The BSA contains desert scrub habitat that may be suitable for this species. However, there are no recent or local occurrences of the species within a 10-mile radius of the BSA on CNDDB, Calflora, or iNaturalist. Furthermore, this species was not observed during the biological survey conducted on 8/14/24. The species is presumed absent due to a lack of local occurrences.

** It should be noted that while the DT is currently listed as threatened on CESA, in April 2024, the California Fish and Game Commission unanimously decided to list the DT as endangered under CESA. Findings for the determination will be adopted at a future meeting. Until the adoption of determination findings, CESA species lists will continue to show DT as "threatened".*

Federal Designations (Fed): (FESA, USFWS) **E:** Federally listed, endangered **T:** Federally listed, threatened **DL**: Federally listed, delisted	**State Designations (CA):** (CESA, CDFW) **E:** State-listed, endangered **T:** State-listed, threatened
Other Designations CDFW_SSC: CDFW Species of Special Concern CDFW_FP: CDFW Fully Protected **California Native Plant Society (CNPS) Designations*:*** ***Note: according to CNPS (Skinner and Pavlik 1994), plants on Lists 1B and 2 meet definitions for listing as threatened or endangered under Section 1901, Chapter 10 of the California Fish and Game Code. This interpretation is inconsistent with other definitions.*** **1A:** Plants presumed extinct in California. **1B:** Plants rare and endangered in California and throughout their range. **2:** Plants rare, threatened, or endangered in California but more common elsewhere in their range. **3:** Plants about which need more information; a review list. **Plants 1B, 2, and 4 extension meanings:** **_.1 Seriously** endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat) **_.2 Fairly** endangered in California (20-80% occurrences threatened) **_.3** Not very endangered in California (<20% of occurrences threatened or no current threats known)	
Habitat Potential Absent [A] - No habitat present and no further work needed. Habitat Present [HP] - Habitat is or may be present. The species may be present. Critical Habitat [CH] – Project is within designated Critical Habitat.	
Potential for Occurrence Criteria: **Present**: Species was observed on site during a site visit or focused survey. **High**: Habitat (including soils and elevation factors) for the species occurs on site and a known occurrence has been recorded within 5 miles of the site. **Low-Moderate**: Either low quality habitat (including soils and elevation factors) for the species occurs on site and a known occurrence exists within 5 miles of the site; or suitable habitat strongly associated with the species occurs on site, but no records were found within the database search. **Presumed Absent**: Focused surveys were conducted, and the species was not found, or species was found within the database search but habitat (including soils and elevation factors) do not exist on site, or the known geographic range of the species does not include the survey area.	
Source: (CDFW 2024b), (CNPS 2024), (Calflora 2024), (Jepson 2024), (USFWS 2024).	

Chapter 4 – Results: Biological Resources, Discussion of Impacts, and Mitigation

Habitats and Natural Communities of Special Concern

Habitats are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status plants or animals occurring on site. Wetlands and waters of the United States are also considered sensitive by both federal and State agencies. Desert sink scrub habitat was found to be present within the BSA and has been identified as a natural community of special concern as it is a jurisdictional water of the state. Avoidance and minimization, and compensatory mitigation measures concerning desert sink scrub habitat are discussed below. Furthermore, saltbush scrub habitat is present within the BSA and considered a natural community of special concern as it may provide suitable habitat for the desert tortoise, as is discussed in further detail below. These natural communities are shown in **Figure 4.** Habitat Communities. **Table 3** Impacts to Sensitive Natural Habitats and **Figure 5.** Project Impacts outline the impacts of the Project on the jurisdictional stream channel (desert sink scrub habitat) and saltbush scrub habitat.

Table 3. Impacts to Sensitive Natural Habitats

Impact Type	Sensitive Natural Habitat	
	Desert Sink Scrub	Saltbush Scrub
Temporary	1.30 acres	0.30 acres
Permanent	0.0345 acres	0.0207 acres
Total*	**1.33 acres**	**0.32 acres**

rounded up to nearest tenth

Discussion of Desert Sink Scrub

The Mojave River Channel passes underneath the existing Baker Boulevard bridge within the BSA from south to north. It stretches across the Mojave Desert, with surface water rarely visible except during significant rainfall or flooding events. The Mojave River Channel links Soda Lake (Dry Lake) to the south and Silver Lake (Dry Lake) to the north, contributing to the hydrological system in the region, though these lakes are usually dry due to the low precipitation. In the Baker area, the Mojave River Channel often runs beneath the surface due to the arid climate and sandy soils, emerging only during heavy storms or in certain sections of the riverbed. The Mojave River Channel plays a crucial role in flood management for Baker, with overflow channels directing excess water away from populated areas, protecting the town from potential flood damage during storms. The riverbed and surrounding areas support desert-adapted

vegetation, such as big saltbush, saltcedar, and bush seepweed (*Suaeda nigra*). Sparse plant life is indicative of the harsh desert conditions, but these plants help stabilize the soil and provide habitat for local wildlife.

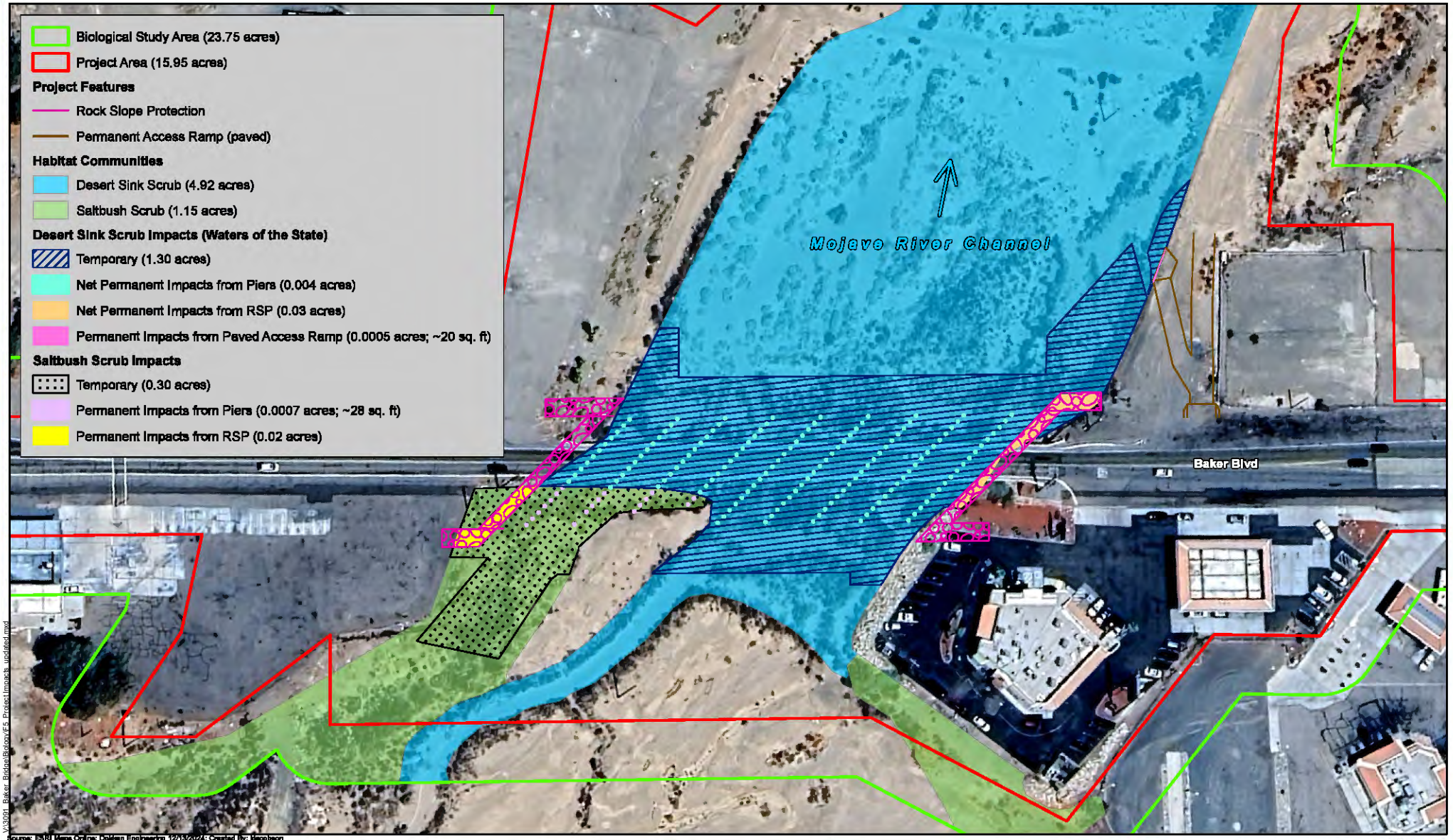

Figure 5
Project Impacts

PSR#TD004 Baker Boulevard Over Mojave River Bridge Replacement Project
STPL-5954(193)
Baker, San Bernardino County, California

Survey Results

During the biological surveys conducted on August 14, 2024, no water was observed in the Mojave River Channel. However, signs of vertisols were evident, including the presence of wide cracks. During survey efforts, a jurisdictional wetland delineation was conducted in accordance with technical methods outlined in the *USACE Wetlands Delineation Manual* (USACE 1987), *Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region* (USACE 2008), *and A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar 2008) to determine absence/presence of wetland communities, as well as the OHWM (Appendix E). During the wetland delineation, sample points were taken in the upland areas as well as within the low flow channel southwest of the existing bridge. No wetland features were identified, however OHWM indicators were evident from bank to bank and within the low flow channel.

This habitat community has been classified as desert sink scrub as its situated between two low-lying playas, Soda Lake (Dry Lake) and Silver Lake (Dry Lake).

Project Impacts

Grading within the desert sink scrub habitat will occur to restore the channel back to its original design elevations. Over time, storms have carried sediment and debris from upstream, depositing them downstream and causing a gradual rise in the channel bed elevation. Grading activities as well as construction of the maintenance vehicle access ramp to the channel invert will result in approximately 1.30 acres of temporary impacts to desert sink scrub. Paving of the access ramp, if implemented, will also permanently impact approximately 0.0005 acres (20 square feet) of desert sink scrub habitat. Additionally, the Project will be replacing the existing bridge piers and installing RSP around the bridge abutments. There are approximately 138, 12-inch diameter timber piles within the existing channel, or approximately 0.002 acres of permanent fill (110 square feet). These piers will be removed and replaced with 162 (144 within desert sink scrub habitat), 18-inch diameter concrete piers, which totals approximately 0.006 acres of permanent fill (255 square feet). Therefore, the total net permanent impact of the replacement bridge piers will be approximately 0.004 acres.

Furthermore, approximately 0.03 acres of permanent impacts are anticipated due to placement of RSP along the eastern bridge abutment. Please note that RSP within the channel invert will be buried below scour elevation while the RSP located above the invert will be keyed into the channel embankment. It is the RSP keyed into the channel embankment that will be considered as a permanent impact. The total net permanent fill anticipated within the desert sink scrub due to RSP is approximately 0.0345 acres (Figure 5. Project Impacts).

Avoidance and Minimization Efforts

The following avoidance and minimization measures will be incorporated into the Project design and Project construction to reduce potential impacts to desert sink scrub:

BIO-1: BMPs will be incorporated into Project construction to minimize impacts on the environment including erosion and the release of pollutants (e.g. oils, fuels):

- Exposed soils and material stockpiles would be stabilized, through watering or other measures, to prevent the movement of dust at the Project site caused by wind and construction;
- Implementation of the Project shall require approval of a site-specific SWPPP or Water Pollution Control Program that would implement effective measures to protect water quality, which may include a hazardous spill prevention plan and additional erosion prevention techniques;
- All construction roadway areas would be properly protected to prevent excess erosion, sedimentation, and water pollution;
- All vehicle and equipment fueling/maintenance would be conducted outside of any surface waters;
- Equipment used in and around jurisdictional waters must be in good working order and free of dripping or leaking contaminants;
- Raw cement, concrete or concrete washings, asphalt, paint or other coating material, oil or other petroleum products, or any other substances that could be hazardous to aquatic life shall be prevented from contaminating the soil or entering jurisdictional waters;
- All erosion control measures, and storm water control measures would be properly maintained until the site has returned to a pre-construction state;
- All construction materials would be hauled off-site after completion of construction.

Compensatory Mitigation

The Project would result in approximately 0.0345 acres of permanent impacts to desert sink scrub and temporary impacts will consist of approximately 1.30 acres. In addition to avoidance and minimization measure **BIO-1,** the following compensatory mitigation will be required:

BIO-2: The County will fulfill all compensatory mitigation required by permitting agencies (CDFW and/or RWQCB) as outlined in the final environmental permits acquired for the Project. Compensatory mitigation will be developed during the permitting phase and is anticipated to be required for permanent impacts to desert sink scrub habitat. Mitigation may consist of credit purchases, in lieu fee payments, or on/offsite habitat enhancement or restoration. All permanent impacts will be mitigated at a minimum of 1:1 ratio.

Cumulative Impacts

Desert sink scrub habitat will be enhanced through regrading to improve the structures' ability to withstand potential high flood events. The County does not have any future and/or reasonably foreseeable actions that would result in impacts to this stream channel at this location. The implementation of any project occurring within or near this section of the Mojave River Channel would be considered separate from the proposed Project. The Project would not result in long-term impacts to desert sink scrub as it relates to the overall function and habitat value of this aquatic resource. Thus, no cumulative impacts are anticipated as a result of the proposed Project.

Discussion of Saltbush Scrub

Saltbush scrub habitat is a type of desert plant community dominated by species from the genus Atriplex (commonly known as saltbush), adapted to arid environments with saline or alkaline soils. This habitat is typically found in desert basins, playas, alluvial fans, and lower-elevation valleys across the southwestern United States, including the Mojave and Sonoran Deserts. Saltbush species are known for their ability to tolerate harsh conditions, including high salinity and low water availability. They are an important part of the Mojave Desert's plant community, often growing alongside other drought-tolerant species like creosote bush and various cacti. These plants also play a key role in providing food and habitat for wildlife, such as small mammals and desert birds. It may also provide marginally suitable habitat for DT.

Survey Results

The saltbush scrub habitat within the BSA is highly fragmented and occurs along the margins of developed or highly disturbed areas. Dominant species within this vegetation community include low-lying shrubs such as big saltbush (*Atriplex lentiformis*) and saltcedar (*Tamarix ramosissima*). Additional species within this habitat community include occasional stands of non-native Mediterranean canarygrass (*Phalaris minor*) as well as infrequent populations of creosote bush (*Larrea tridentata*) and honey mesquite (*Neltuma odorata*). Within the BSA, this habitat community comprises approximately 1.15 acres.

Project Impacts

Placement of RSP around the western bridge abutment will result in approximately 0.02 acres of permanent impacts to saltbush scrub habitat. In addition, approximately 0.0007 acres (28 sq. ft) of permanent impacts to this habitat community are anticipated due to the new bridge piers. These activities will likely require the removal of vegetation within both the bridge pier and RSP footprints. Additionally, approximately 0.30 acres of temporary impacts are anticipated to facilitate grading within the channel as well as equipment and personnel access (Figure 5. Project Impacts).

Avoidance and Minimization Efforts

The following avoidance, minimization, and mitigation measures will be incorporated into the Project design and Project construction to reduce potential impacts to saltbush scrub habitat:

BIO-3: Prior to the start of construction activities, temporary Environmentally Sensitive Area (ESA) fencing and/or desert tortoise exclusion fencing will be erected along the limits of the saltbush scrub habitat and desert sink scrub habitat impact areas to clearly demarcate their limits, if required by regulatory permits. Construction equipment and vehicles will be confined to designated access routes and work areas to minimize habitat disturbance. Vehicles and heavy machinery will avoid unnecessary idling and will be regularly maintained to reduce the risk of fluid leaks, which could contaminate nearby habitats.

Compensatory Mitigation

With incorporation of measure **BIO-3**, impacts to saltbush scrub habitat will be avoided and minimized to the greatest extent feasible. Given the small number of permanent impacts, approximately 0.0207 acres, no compensatory mitigation is proposed.

Cumulative Impacts

The Project will result in impacts to saltbush scrub habitat as result of construction access and installation of RSP. The County does not have any future and/or reasonably foreseeable actions that would result in impacts to saltbush scrub at this location. The implementation of any project occurring within or near this habitat community would be considered separate from the proposed Project. There are no additional current, future and/or reasonably foreseeable actions that are threatening the saltbush scrub habitat.

Special Status Plant Species

The plants listed in Table 2 are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the presence of habitat required by the special-status plants occurring on site. Prior to field surveys, a list of regional special status plant species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the BSA was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the BSA. After a careful comparison between habitat requirements and the habitat available within the BSA, no special status plant species were found to be present nor have potential to occur within the BSA.

Special Status Animal Species

Animals are considered to be of special concern based on (1) federal, state, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. Prior to field surveys, a list of regional special-status wildlife species with potential to occur within the Project vicinity was compiled from database searches. The potential for each species to occur within the BSA was determined by analyzing the habitat requirements of each species and comparing the habitat requirements to available habitat within the BSA. After a careful comparison between habitat requirements and the habitat available within the BSA, DT

is the only special status wildlife species that has potential to occur within the BSA. The saltbush scrub habitat shown in Figure 4 provides marginally suitable habitat for the DT.

Discussion of Desert Tortoise

The DT is listed as a threatened species under both FESA (1990) and CESA (1989) due to habitat destruction, which has caused a substantial decline in the population. DT declines appear to have been most severe and widespread in the Western Mojave Desert due to habitat loss and degradation, especially for large-scale solar energy development projects (USFWS 2022). It should be noted that while the DT is currently listed as threatened on the California Endangered Species Act, in April 2024, the California Fish and Game Commission unanimously decided to list the DT as endangered under California Endangered Species Act. Findings for the determination will be adopted at a future meeting. Until the adoption of determination findings, California Endangered Species Act species lists will continue to show DT as "threatened".

Most DTs inhabit creosote bush scrub habitats at elevations ranging from 1,000 to 3,000 feet above sea level, though they can be found in suitable areas up to 5,000 feet. The species is divided into two distinct populations, separated by the Mojave and Sonoran deserts. DTs occupy a large region that spans the Mojave and Sonoran Deserts of California, Nevada, Utah, and parts of Arizona. They thrive in a variety of habitats, including sandy flats, rocky foothills, alluvial fans, washes, and canyons, where the soil is suitable for constructing burrows (USFWS 1994). Being entirely terrestrial, DTs need firm ground for digging burrows, forbs and plants for foraging, and ample land for movement, dispersal, and gene flow (USFWS 2010).

Desert tortoises are elusive desert dwellers, surviving extreme temperatures by spending up to 95% of their lives underground. Their strong limbs and well-developed claws allow them to dig burrows to escape the heat. This underground retreat enables them to survive ground temperatures exceeding 140°F and freezing conditions. They build hibernation dens up to 30 feet long, and the availability of soil suitable for burrowing is a key factor limiting their distribution. Burrows are often located beneath creosote bushes, where roots help stabilize the soil (USFWS 2016).

DTs are slow to mature, reaching adulthood between 14 to 20 years, and they have long lifespans, with individuals living well over 50 years. Their reproduction cycle spans 25 years, but they have low reproductive potential, producing only 3 to 14 eggs per clutch, with juvenile mortality rates approaching 99%. Juveniles grow slowly, about 2.5 cm per year, and their soft shells make them highly vulnerable to predation (USFWS 2010). Active from spring to fall, DTs emerge in the mornings or late afternoons to forage and hibernate during the winter. Activity timing varies by habitat, but most tortoises hibernate by late fall and remain underground until spring, only emerging during winter storms to replenish water stores. DTs sometimes dig shallow basins in impermeable soils to catch rainwater, but they can survive for years without drinking, obtaining water primarily from plants and storing it in their bladders. In the spring, DTs emerge to feed on ephemeral plants, with grasses and wildflowers providing key nutrition during a six-week period. In drier times, they rely on dry grass stems and

cactus pads. Unfortunately, introduced plant species have significantly encroached on their natural habitat, degrading the ecosystem that supports their survival.

Survey Results

The Project is located within the known range of the DT, and the BSA includes potentially suitable saltbush scrub habitat that could support the species by providing opportunities for dispersal, foraging, and refuge. However, during biological survey efforts conducted on August 14, 2024, no DT burrows, scat or tracks were detected within the BSA. Additionally, soils within the BSA are mostly composed of clay and are unlikely to support DT burrow construction

DTs are known to avoid developed areas and human disturbances and are generally absent from habitat within 1 km of areas with greater than 10% development (Carter et al. 2020). Since the Project is in a semi-developed area and directly adjacent to a high amount of human disturbance relative to the surrounding area, it is unlikely that an individual of the species would burrow within the BSA.

There is only one documented CNDDB occurrence of the species within 10 miles of the BSA, located approximately 9.5 miles northwest, near Halloran Springs (1986). However, there are four recent nearby documented iNaturalist occurrences of the species within 6 miles of the BSA in adjacent undeveloped areas. The first occurrence is approximately 4.9 miles north of the existing Baker Bridge and was recorded in June 2010. The second occurrence is approximately 5.5 miles northeast of the existing bridge and was recorded in May 2022. The third occurrence is approximately 5.3 miles east of the bridge and was recorded in April 2024. The last occurrence is approximately 3.6 miles southwest of the existing bridge and was recorded in April 2021. DTs are believed to have an average home-range of 1 km^2 with limited dispersal ability (Dutcher et al. 2023). Therefore, there is a low potential for DT to be encountered within the BSA. The Project is *Not Likely to Adversely Effect* DT and informal Section 7 will be required with USFWS. Direct impacts or take of DT is not anticipated, and therefore, consultation with CDFW under Section 2081 is not anticipated.

Project Impacts

Permanent and temporary impacts to marginally suitable saltbush scrub habitat are anticipated to occur as a result of the proposed Project. Construction of the southwestern bridge piers and the placement of RSP around the western bridge abutment will result in approximately 0.02 acres of permanent impacts to saltbush scrub habitat. These activities will likely require the removal of vegetation to accommodate installation of RSP. Additionally, approximately 0.30 acres of temporary impacts are anticipated as a result of regrading within the channel as well as equipment and personnel access (Figure 5. Project Impacts). However, the habitat within the BSA is highly fragmented and occurs along the margins of developed or highly disturbed areas, making it unlikely that a DT would occur here. The species is highly sensitive to human disturbance and would likely avoid the area, especially during active construction.

Avoidance and Minimization Efforts

Although no direct impacts to DT are anticipated, the following measures will be incorporated into the Project to avoid and minimize potential Project-related impacts to the species:

BIO-4: Approximately 2-4 weeks in advance of construction activities, a focused survey for desert tortoises and their burrows within the Project area shall occur by the authorized biologist. Survey methodology shall assure 100% visual coverage of the survey area. Additionally, within 24 hours of the start of soil disturbance, another focused preconstruction clearance survey for desert tortoise will be conducted by the authorized biologist. The focused desert tortoise survey shall not be combined with other surveys conducted for other species while using the same personnel. If a tortoise or tortoise sign is found in the impact areas or within the immediate vicinity during either preconstruction survey, USFWS and CDFW shall be contacted immediately and the tortoise shall be allowed to move outside the construction area/exclusionary area on their own before the Project can commence installation of exclusionary fencing, on-site construction preparation activities, or any construction activities.

BIO-5: Areas that provide suitable habitat for the desert tortoise (saltbush scrub habitat and desert sink scrub habitat) will be marked with temporary desert tortoise exclusion fencing, if required by regulatory permits. Exclusion fencing locations will be decided in coordination with USFWS and CDFW. The desert tortoise fencing must comply with the standards outlined in the 2009 *USFWS Desert Tortoise (Mojave Population) Field Manual*. A USFWS/CDFW approved biologist will oversee installation of exclusion fencing.

If required by regulatory permits, desert tortoise exclusion fencing will be inspected at least twice weekly by the authorized project biologist or trained personnel and repaired as needed. Repairs must occur within two days. Any debris that accumulates along the fence should be removed as the fence is inspected.

BIO-6: The Project biologist will monitor ground disturbing activities at the Project site which may cause take of the desert tortoise. The authorized biologist will also oversee the implementation of all avoidance and minimization measures put in place to protect the desert tortoise. Should a desert tortoise be found within the Project limits, construction activities shall cease and the USFWS and CDFW shall be contacted within 12 hours. The tortoise shall be allowed to leave the Project area limits on its own volition. Construction may only recommence at the Project biologist's authority and once the desert tortoise is outside of project limits.

BIO-7: Environmental awareness training will be provided to all construction personnel prior to the onset of ground disturbing activities. The training will

include information on desert tortoise, including life history, protection measures, and protocols for encounters with the species.

BIO-8: Project personnel will thoroughly check under parked vehicles/equipment and within the exclusion fence area every day prior to mobilization for desert tortoises. If any desert tortoises are found within the staging and/or construction areas, they will be allowed to move away from such areas on their own accord. Workers will not be allowed to capture, handle, or relocate tortoises. Project activities will re-commence only once the desert tortoise is outside the Project limits or at the USFWS and CDFW approved biologist's authority.

BIO-9: Construction vehicles will not exceed 15 mph when traveling on soil surfaces within the Project limits.

BIO-10: Open trenches, auger holes, or other excavations that may act as pitfall traps will be inspected prior to working in or around the excavation area and prior to backfilling. Any excavations that remain open overnight must be covered to prevent entrapment of wildlife. Any animals found within the excavations will be relocated by the Project biologist. Should any listed or sensitive species be found within these excavations, the appropriate wildlife agency will be contacted immediately and subsequent actions will be performed under the direction of the lead wildlife agencies.

BIO-11: Should a desert tortoise be injured as a result of project related activities; it shall be immediately taken to a CDFW approved rehabilitation facility by the authorized biologist. The CDFW approved rehabilitation facility in the vicinity of the Project area is the Big Bear Alpine Zoo (909) 584-1299. Any veterinarian bills for such injured tortoises shall be paid by San Bernardino County. The CDFW and USFWS shall be notified within 12 hours of the incident. Notification shall include the date, time, location, and circumstances of the incident.

Compensatory Mitigation

No compensatory mitigation for the DT is proposed, as no direct impacts to the species are expected as a result of the proposed Project.

Cumulative Impacts

The Project is not anticipated to have cumulative impacts on the DT population in the region. DT recent occurrences are concentrated outside of Baker in the surrounding areas that are undeveloped/unoccupied. Impacts to potentially suitable dispersal habitat within the BSA are relatively minor, and mostly temporary. The Project would not result in any large scale or long-term impacts to DT or potentially suitable DT dispersal habitat. Furthermore, other projects in the region that may result in impacts to DT or DT habitat would be considered separate from the proposed Project; and therefore, the Project would not result in cumulative impacts to the species.

Chapter 5 – Conclusions and Regulatory Determinations

Federal Endangered Species Act Consultation Summary

Based on an analysis of species occurrences and habitat requirements, effect determinations were made for each federally listed, candidate or proposed species as shown in **Table 4** below. A total of 3 federally listed species were returned via database searches and only one of these species has a low potential to occur within the Project area, the DT. No direct impacts to the species are anticipated as a result of the proposed Project, however minor permanent impacts are anticipated to marginally suitable dispersal, foraging and/or refugia habitat for DT. Therefore, the Project May Affect but is Not Likely to Adversely Affect the species, and informal Section 7 consultation with USFWS will be required.

This Project is located outside of National Oceanic and Atmospheric Administration Fisheries jurisdiction; therefore, a fisheries species list was not queried.

Table 4. Federally Listed Species Determinations

Species Name	Federal Status	Potential	Determination
Southwestern willow flycatcher (*Empidonax traillii extimus*)	Endangered	Absent	No Effect
Desert tortoise (*Gopherus agassizii*)	Threatened*	Low	May Affect, Not Likely to Adversely Affect
Monarch butterfly (*Danaus plexippus*)	Candidate	Absent	No Effect
** It should be noted that while the DT is currently listed as threatened on CESA, in April 2024, the California Fish and Game Commission unanimously decided to list the DT as endangered under CESA. Findings for the determination will be adopted at a future meeting. Until the adoption of determination findings, CESA species lists will continue to show DT as "threatened".*			

Essential Fish Habitat Consultation Summary

No essential fish habitat is present within the Project limits; therefore, no consultation is required.

California Endangered Species Act Consultation Summary

Based on biological surveys, habitat assessments, and local occurrence analysis, one state listed species has a low potential to occur within the BSA, DT. With implementation of species-specific avoidance measures direct impacts to DT are not anticipated. Furthermore, the Project is not expected to result in the take of DT individuals, and a Section 2081 Incidental Take Permit for DT is not warranted.

Wetlands and Other Waters Coordination Summary

The Project will permanently affect a total of approximately 0.034 acres of waters of the state. In addition, the Project will have temporary effects to 1.30 acres of waters of the state. Prior to work within these areas, the County will obtain a WDR from the RWQCB, a Section 1602 Streambed Alteration Agreement from CDFW, and an Encroachment Permit from the SBCFCD.

Invasive Species

In February 1999, EO 13112 was signed, requiring federal agencies to prevent and control the introduction and spread of invasive species. Measure **BIO-12** will be incorporated into the Project plans to ensure that invasive species are not introduced or spread.

BIO-12: Prior to arrival at the Project site and prior to leaving the Project site, construction equipment that may contain invasive plants and/or seeds will be cleaned to reduce the spreading of noxious weeds.

Other

Best Management Practices

To minimize and avoid potential environmental impacts of construction, measure **BIO-1** has been incorporated into the Project design.

General Wildlife

To minimize and avoid potential effects to local wildlife, the following measures **BIO-13** through **BIO-15** have been incorporated into the Project design.

BIO-13: All food-related trash must be disposed into closed containers and must be removed from the Project area daily. Construction personnel must not feed or otherwise attract wildlife to the Project area.

BIO-14: The contractor must not apply rodenticide or herbicide within the Project area during construction.

BIO-15: If any wildlife is encountered during the course of construction, said wildlife will be allowed to leave the construction area unharmed.

Migratory Birds

Native birds are protected by the MBTA and CFG Code Sections 3513, 3503.5 and 3503. The implementation of measure **BIO-16** would avoid all potential impacts to migratory birds.

BIO-16: Prior to vegetation removal or initial ground disturbance during the nesting bird season (February 1 – September 30) a pre-construction nesting bird survey must be conducted by a Project Biologist prior to the start of work. The nesting bird survey must include the Project area plus a 300-foot buffer.

Within 1 week of the nesting bird survey, all vegetated areas that are designated for removal must be cleared by the contractor or a supplemental nesting bird survey is required.

An initial100-foot no-disturbance buffer will be established around any active nest of migratory birds and a minimum 300-foot no-disturbance buffer will be established around any nesting raptor species. The contractor must immediately stop work in the buffer area until the appropriate buffer is established and is prohibited from conducting work that could disturb the birds (as determined by the Project Biologist and in coordination with wildlife agencies) in the buffer area until a Project Biologist determines the young have fledged. A reduced no-work buffer can be established if determined appropriate by the Project Biologist, and will consider various factors including species of bird, location of nest, stage of nest, existing environment, and type of active work.

Chapter 6 – References

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Calflora 2024	Calflora. 2024. Plants of California. Available at: <http://www.calflora.org/> (accessed 9/17/2024).
Carter et al. 2020	Carter, S.K., K.E. Nussear, T.C. Esque, I.A.F. Leinwand, E. Masters, R.D. Inman, N.B. Carr, and L.J. Allison. 2020. Quantifying development to inform management of Mojave and Sonoran desert tortoise habitat in the American southwest. Endangered Species Research 42:167–184.
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CNPS 2024	California Native Plant Society. 2024. Inventory of Rare and Endangered Plants of California. Available at: <http://www.rareplants.cnps.org/> (accessed 9/17/2024).
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FESA 1973	Federal Endangered Species Act. 1973. U.S. Fish and Wildlife. Available at: < https://www.fws.gov/endangered/laws-policies/>
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NRCS 2024	Natural Resource Conservation Service. 2024. Custom Soil Resources Report for Mojave Desert Area, Northeast Part, California. Available at: <https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm> (accessed 1/31/2024).
San Bernardino County 2007	San Bernardino County. 2007. *General Plan*; Amended April 24, 2014. San Bernardino County Land Use Services Department. Available at:

	<https://www.sbcounty.gov/uploads/LUS/GeneralPlan/FINALGP.pdf > (accessed 10/8/2024).
U.S. Climate Data 2024	United States Climate Data. 2024. Baker, CA Weather Averages. Available at: <https://www.usclimatedata.com > (accessed 9/20/2024).
USFWS 1994	U.S. Fish and Wildlife Service. 1994. Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, OR. 73 pgs and appendices.
USFWS 2010	United States Fish and Wildlife Service. 2010. Preparing for any action that may occur within the range of the Mojave Desert tortoise (*Gopherus agassizii*) 2010 Field Season.
USFWS 2022	United States Fish and Wildlife Service. 2022. Mojave Desert Tortoise (*Gopherus agassizii*) 5-Year Review: Summary and Evaluation.
USFWS 2024	United States Fish and Wildlife Service. 2024. Official Species List: U.S. Department of the Interior – Fish and Wildlife Service: Sacramento Fish and Wildlife Office. (requested: 9/17/2024).
USGS 2004	United States Geological Survey. 2004. Desert Landforms and Surface Processes in the Mojave National Preserve and Vicinity. USGS Open-File Report 2004-1007

Appendix A. USFWS Species List

United States Department of the Interior

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

In Reply Refer To: 11/07/2024 21:26:20 UTC
Project Code: 2024-0145051
Project Name: Baker Boulevard Bridge Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, 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 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 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 at the Fish and Wildlife Service's Endangered Species Consultation website at:

https://www.fws.gov/service/esa-section-7-consultation

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

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 Code 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

Project Code: 2024-0145051
Project Name: Baker Boulevard Bridge Replacement
Project Type: Bridge - Replacement
Project Description: The Project includes the demolition of the existing two-lane 22-span simple-supported stringer timber bridge and its replacement with a four lane highway with center median supported by a 11-span cast-in-place reinforced concrete slab bridge structure founded on cast-in-drill-hole piles.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@35.26418975,-116.07697168683667,14z

Counties: San Bernardino County, California

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

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

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

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

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

BIRDS

NAME	STATUS
Southwestern Willow Flycatcher *Empidonax traillii extimus*	Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/6749

REPTILES

NAME	STATUS
Desert Tortoise *Gopherus agassizii*	Threatened

Population: Wherever found, except AZ south and east of Colorado R., and Mexico
There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
Species profile: https://ecos.fws.gov/ecp/species/4481

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

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

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency: Dokken Engineering
Name: Katie Jacobson
Address: 110 Blue Ravine Rd #200
City: Folsom
State: CA
Zip: 95630
Email kjacobson@dokkenengineering.com
Phone: 9168449581

Appendix B. CNDDB Species List

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Baker (3511631) OR Soda Lake North (3511621) OR West of Soda Lake (3511622) OR West of Baker (3511632))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
alkali marsh aster *Almutaster pauciflorus*	PDASTEL010	None	None	G4	S1S2	2B.2
Baker's desertsnail *Eremarionta rowelli bakerensis*	IMGASB9101	None	None	G3G4T1	S1	
desert bighorn sheep *Ovis canadensis nelsoni*	AMALE04013	None	None	G4T3	S3	FP
desert tortoise *Gopherus agassizii*	ARAAF01012	Threatened	Threatened	G3	S2S3	
Emory's crucifixion-thorn *Castela emoryi*	PDSIM03030	None	None	G3G4	S2S3	2B.2
Mohave tui chub *Siphateles bicolor mohavensis*	AFCJB1303H	Endangered	Endangered	G4T1	S1	FP
Mojave fringe-toed lizard *Uma scoparia*	ARACF15030	None	None	G3G4	S3S4	SSC
Saratoga Springs pupfish *Cyprinodon nevadensis nevadensis*	AFCNB02075	None	None	G2T1	S1	SSC
small-flowered androstephium *Androstephium breviflorum*	PMLIL06010	None	None	G5	S2?	2B.2
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G4	S2	SSC
vermilion flycatcher *Pyrocephalus rubinus*	ABPAE36010	None	None	G5	S2S3	SSC
Wright's jaffueliobryum moss *Jaffueliobryum wrightii*	NBMUS97020	None	None	G5	S2S3	2B.3
yellow-breasted chat *Icteria virens*	ABPBX24010	None	None	G5	S4	SSC

Record Count: 13

Appendix C. CNPS Species List

CALIFORNIA NATIVE PLANT SOCIETY

CNPS Rare Plant Inventory

Search Results

10 matches found. Click on scientific name for details

Search Criteria: Quad is one of [3511631:3511621:3511622:3511632]

▲ COMMON NAME	SCIENTIFIC NAME	FAMILY	LIFEFORM	BLOOMING PERIOD	FED LIST	STATE LIST	GLOBAL RANK	STATE RANK	CA RARE PLANT RANK	CA ENDEMIC	DATE ADDED	PHOTO
alkali marsh aster	*Almutaster pauciflorus*	Asteraceae	perennial herb	Jun-Oct	None	None	G4	S1S2	2B.2		2017-03-14	 © 2014 Richard Spellenberg
Booth's evening-primrose	*Eremothera boothii* ssp. *boothii*	Onagraceae	annual herb	Apr-Sep	None	None	G5T4	S3	2B.3		1980-01-01	No Photo Available
Borrego milk-vetch	*Astragalus lentiginosus* var. *borreganus*	Fabaceae	annual herb	Feb-May	None	None	G5T5?	S4	4.3		1974-01-01	No Photo Available
Cooper's rush	*Juncus cooperi*	Juncaceae	perennial herb	Apr-May(Aug)	None	None	G4	S3	4.3		1974-01-01	 © 2018 Neal Kramer
desert winged-rockcress	*Sibara deserti*	Brassicaceae	annual herb	Mar-Apr	None	None	G4	S4	4.3		1974-01-01	No Photo Available
Emory's crucifixion-thorn	*Castela emoryi*	Simaroubaceae	perennial deciduous shrub	(Apr)Jun-Jul(Sep-Oct)	None	None	G3G4	S2S3	2B.2		1974-01-01	No Photo Available
small-flowered androstephium	*Androstephium breviflorum*	Themidaceae	perennial bulbiferous herb	Mar-Apr	None	None	G5	S2?	2B.2		1974-01-01	 © 2005 James M. Andre
Utah vine milkweed	*Funastrum utahense*	Apocynaceae	perennial herb	(Mar)Apr-Jun(Sep-Oct)	None	None	G4	S4	4.2		1980-01-01	 © 2004 James M. Andre

winged cryptantha	*Johnstonella holoptera*	Boraginaceae	annual herb	Mar-Apr	None	None	G4G5	S4	4.3	1980-01-01	No Photo Available
Wright's jaffueliobryum moss	*Jaffueliobryum wrightii*	Grimmiaceae	moss		None	None	G5	S2S3	2B.3	2014-05-15	No Photo Available

Showing 1 to 10 of 10 entries

Suggested Citation:

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 17 September 2024].

Appendix D. Reference Photographs

Reference Photographs

Photo 1. Representative photo of the existing Baker Boulevard Bridge (urban/barren land cover) as it crosses over the Mojave River Channel. Taken facing southwest (8/14/2024).

Photo 2. Representative photo of desert sink scrub on the southern side of the existing bridge. Taken facing northeast (8/14/2024).

Photo 3. Representative photo of the saltbush scrub habitat within the BSA, located southwest of the existing bridge. Taken facing northwest (8/14/2024).

Photo 4: Representative photo of desert sink scrub on the northern side of the existing bridge. Taken facing northwest (8/14/2024).

Photo 5: Representative photo of a disturbed area within the BSA located east of the barren access road along the northeastern bank of desert sink scrub. Taken facing southeast (8/14/2024).

Photo 6: Representative photo of the barren access road along the northeastern bank of desert sink scrub within the BSA. Taken facing northwest (8/14/2024).

Photo 7: Representative photo of desert sink scrub north of the bridge. Taken from the barren access road facing southwest (8/14/2024).

Photo 8: Representative photo of the vertisols present within desert sink scrub beneath the existing Baker Boulevard Bridge. Taken facing southwest (8/14/2024).

Appendix E. OHWM Data Sheet

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Baker Blvd. Bridge Rep. **Date:** 8/14/24 **Time:** 10 am
Project Number: 3071 **Town:** Baker **State:** CA
Stream: Mojave River **Photo begin file#:** **Photo end file#:**
Investigator(s): Katie Jacobson Vincent Chevrieul

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

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

Location Details: Baker, CA San Bernardino County

Projection: UTM **Datum:** NAD83
Coordinates: 35.26449°N, -116.07715°W

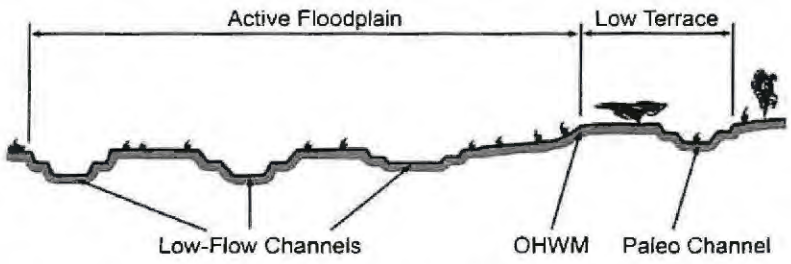
Potential anthropogenic influences on the channel system:
Dirt levees along both banks of the channel NW of existing bridge structure; homeless camping under bridge

Brief site description: Mojave River channel - intermittent system; north side modified by SBDCFCD.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 8/2024
- [ ] Topographic maps
- [ ] Geologic maps
- [ ] Vegetation maps
- [X] 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

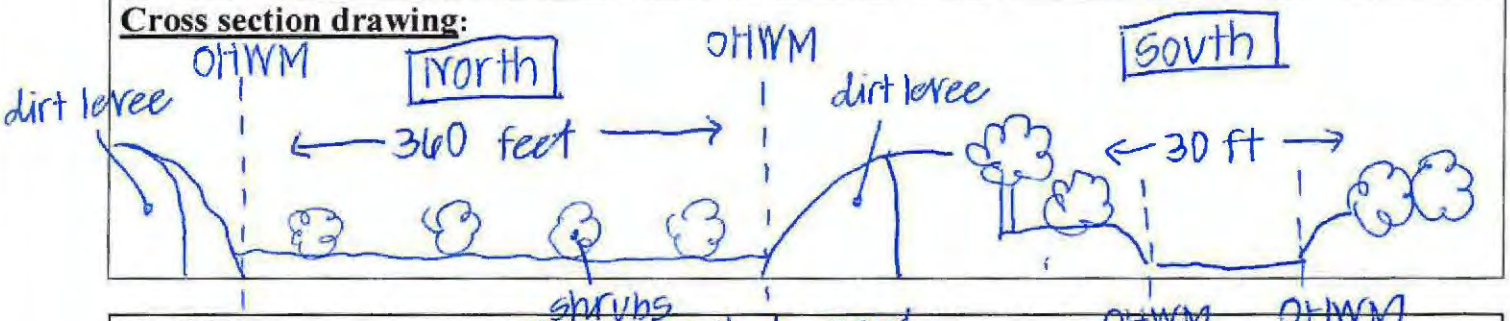


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:
   - [X] Mapping on aerial photograph
   - [X] Digitized on computer
   - [X] GPS
   - [ ] Other:

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

Cross section drawing:



OHWM

GPS point: 35.263617°N, -116.077123°W

Indicators:

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments: south of bridge, no veg present in low flow channel - shrubs + trees upland of OHWM North of bridge, break in bank slope.

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

GPS point: 35.263617°N, -116.077123°W

Characteristics of the floodplain unit:

Average sediment texture: silt loam

Total veg cover: 50 % Tree: 10 % Shrub: 40 % Herb: ____ %

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

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

Comments:

vertisols present both north + south of the bridge