

Biological Resource Assessment for the Rialto Habitat Nature Center Project

Prepared for:

Enplanners
P.O. Box 960
Lake Arrowhead, CA 92352
Contact: Ray Hussey



Prepared by:

Carlson Strategic Land Solutions
327134A Paseo Espada, Suite 323
San Juan Capistrano, CA 92675
Contact: Brianna Bernard

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Appendix D Special Status Wildlife Species Potential Occurrence Determination

Appendix E Delhi Sand Flower-Loving Fly Assessment

ACRONYMS, ABBREVIATIONS, AND GLOSSARY OF TERMS

| | |
|---------|---|
| BLM | United States Bureau of Land Management |
| BMPs | Best Management Practices |
| CAGN | coastal California gnatcatcher |
| CDF | California Department of Forestry and Fire Protection |
| CDFW | California Department of Fish and Wildlife |
| CESA | California Endangered Species Act |
| CEQA | California Environmental Quality Act |
| CNDDDB | California Natural Diversity Database |
| CNPS | California Native Plant Society |
| Corps | United States Army Corps of Engineers |
| CRPR | California Rare Plant Rank |
| CSLS | Carlson Strategic Land Solutions |
| CWA | Clean Water Act |
| FESA | Federal Endangered Species Act |
| FGC | California Fish and Game Code |
| FM | Facilities Management |
| GIS | Geographic Information System |
| GPS | Global Positioning System |
| HCP | Habitat Conservation Plan |
| MBTA | Migratory Bird Treaty Act |
| MCVII | The Manual of California Vegetation |
| MMRP | Mitigation, Monitoring, and Reporting Program |
| MSL | mean sea level |
| NEPA | National Environmental Protection Act |
| NHD | National Hydrography Dataset |
| NPDES | National Pollutant Discharge Elimination System |
| NPPA | Native Plant Protection Act |
| NRCS | Natural Resources Conservation Service |
| NWI | National Wetlands Inventory |
| OHWM | Ordinary High-Water Mark |
| Project | Rialto Habitat Nature Center Project |
| RWQCB | Regional Water Quality Control Board |

| | |
|--------|--|
| SAA | Section 1600 Streambed Alteration Agreement |
| SAR | Santa Ana River |
| SBVMWD | San Bernardino Valley Municipal Water District |
| SWPPP | Storm Water Pollution Prevention Plan |
| U.S. | United States |
| USFS | United States Forest Service |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| WQC | Section 401 Water Quality Certification |
| WWTP | Waste Water Treatment Plant |

1.0 Introduction

Carlson Strategic Land Solutions (CSLS) prepared this Biological Resource Assessment for Enplanners and the City of Rialto (City) for the Rialto Habitat Nature Center Project (Project) in the City of Rialto. The Biological Resource Assessment for the approximately 14-acre Rialto Habitat Nature Center site, the surrounding 300-foot, the 0.15-acre parking lot on Agua Mansa Road, and approximately 1,300-foot long pedestrian path between the parking lot and the Rialto Habitat Nature Center along an existing service road on the west side of a lined portion of Rialto Channel, collectively known as the "Study Area," incorporates the findings from a biological field survey and jurisdictional delineation conducted on January 27, 2023. A Delhi Sands Flower-loving Fly site visit was assessed on February 15, 2023.

1.1 Purpose and Approach

This report provides a summary of the conditions present during the January 27, 2023 field survey, which includes an assessment of the potential presence of sensitive biological resources, an analysis of the potential impacts to those resources due to Project implementation and proposed mitigation. A Delhi Sands Flower-loving Fly site visit was assessed on February 15, 2023. This assessment describes the current biological resources present within the Study Area including habitat communities, jurisdictional waters, and the potential occurrence of listed and special status plant and wildlife species. The potential biological significance of site construction and development in view of federal, state, and local laws and regulations are also identified in this report. The report also recommends, as appropriate, Best Management Practices (BMPs) and avoidance and minimization measures to reduce or avoid potential impacts. While general biological resources are discussed, the focus of this assessment is on those resources considered to be sensitive. This assessment was prepared based upon results of a literature review and field survey.

1.2 Project Terms

The following terms will be used throughout this document and are defined as follows:

- Project site: the approximately Rialto Habitat Nature Center site (14 acres) and proposed parking and pedestrian path.
- Study Area: the area evaluated during the field survey, including the approximately 14-acre Rialto Habitat Nature Center site and an approximate 300-foot buffer area surrounding the Project site.
- Project Vicinity: intended to be a general term to describe the broader area surrounding the Study Area.

1.3 Project Location

The Study Area is located in the City of Rialto on the southern 14 acres of the approximately 40-acre City-owned Rialto Water Treatment Plant, located at 501 East

Santa Ana Avenue, City of Rialto, San Bernardino County (**Figures 1 and 2**). The Project site is generally located northwest of the Santa Ana River, and south of Interstate 10 between South Riverside Avenue to the west and South Pepper Avenue (extended) to the east. The Study Area is located within the United States Geological Survey (USGS) 7.5-Minute Topographic Map *San Bernardino South Quadrangle*.

Access to the Project site is through the Rialto Water Treatment Plant located at 501 East Santa Ana Avenue.

1.4 Existing Conditions and Project History

The Project site consists of large, disturbed areas associated with the City's Wastewater Treatment Plant (WWTP) property. The approximately 14-acre Project site of the location for the proposed Rialto Habitat Nature Center is currently vacant and is predominantly covered by an abandoned, unused pit. An existing 36-inch drain pipe on the east side of the pit discharges treated effluent flow from the treatment plant directly into the Rialto Channel. The pit was formerly used as a receiving basin for partially treated discharge from the WWTP up to the early 1970's prior to implementation of federal Clean Water Act regulations that prohibited discharge of partially treated water onto the earth and water ways. The proposed parking location and pedestrian trail is disturbed. The parking area is 0.15 acres of land fronting the north side of Agua Mansa Road west of the bridge that crosses Rialto Channel and the pedestrian trail is used as the Rialto Channel access road.

Local biological agencies lead by the San Bernardino Valley Municipal Water District (SBVMWD) have issued a Draft Habitat Conservation Plan (Draft HCP) for the Upper Santa Ana River (SAR) watershed, which is a comprehensive program that would provide a framework to protect, enhance, and restore the habitat for Covered Species defined in the Draft HCP while streamlining permitting for Covered Activities.

Currently, the WWTP discharges 100 percent of its treated effluent flows (6.2 mgd or 9.6 cfs on average) into the concrete-lined Rialto Channel via a 36-inch diameter pipe.

2.0 Project Description

The City is proposing to construct the Project on an approximately 14-acre site consisting of the Habitat Nature Center, a public parking lot on Agua Mansa Road, and a pedestrian trail along the existing Rialto Channel service road to the Habitat Nature Center Project site. The Project proposes to be created by intercepting fully treated (primary, secondary, and tertiary) effluent from the WWTP that is currently discharged into the Rialto Channel and routing the effluent flow into an existing pit in the southern portion of the treatment plant property resulting in new wetland and terrestrial wildlife habitat, recreation, and water quality benefits. The Project proposes to create two lakes as shown on **Figure 3**.

Due to safety concerns preventing parking within the WWTP property, the City considered various parking locations for the Rialto Habitat Nature Center Project. The City determined parking would be located on the north side of Agua Mansa Road, east of 687 West Agua Mansa Road, and directly west of the Agua Mansa Road crossing of the Rialto Channel (**Figure 2**). The proposed parking is an approximately 0.15-acre vacant site, identified as APN 805-36-185. The parking is located approximately three-tenths of a mile to the south of the Rialto Habitat Nature Center site and is located in the City of Colton and within the San Bernardino County right-of-way. The path of travel between the lake and the parking area would be approximately 1,600 feet (0.3 mile).

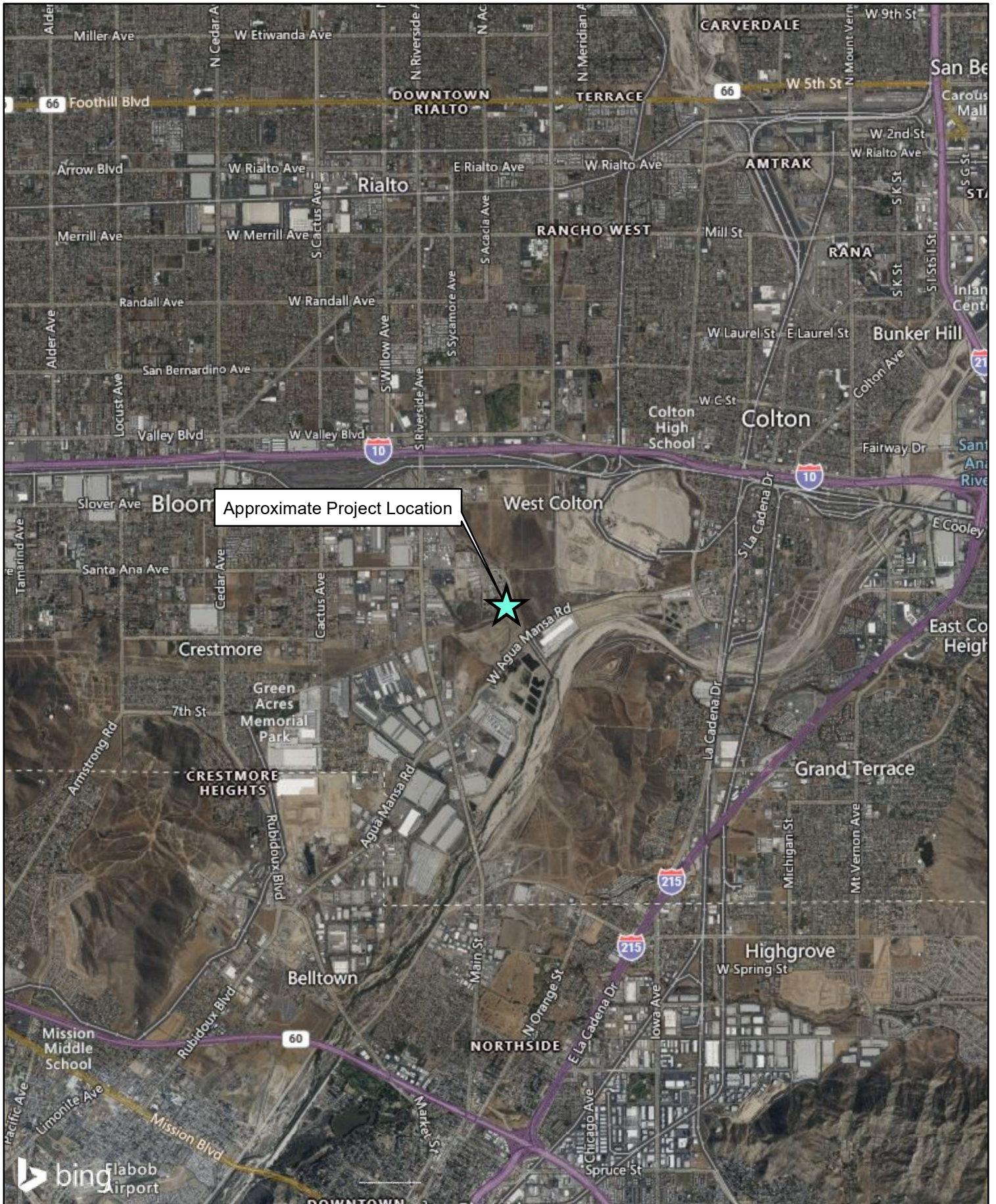
2.1.1 Project Design Details

The Project proposes to create two lakes separated by a pedestrian path running north-south. The lakes would be connected by dual 24-inch diameter pipes. A plastic liner would be installed on the bottom and sides of the lakes, and clay would be installed in the lake perimeter shallow areas and in the wetland area. The smaller, 3-acre west lake would have a depth of approximately 13 feet. The larger, 7-acre lake would have a depth of 48 feet and would include a maintenance access ramp to the bottom of the lake when emptied and a shallow marsh wetland area of 3 to 4 acres. For safety purposes, a shallow three-foot-deep and 13-foot-wide bench would be constructed along the perimeter edges of the lakes. The lake would receive fully treated and cleaned effluent once it has passed through the bio-filtration step, providing water temperature and nutrient management benefits. Once the Rialto Habitat Nature Center is created, it would connect to the existing discharge pipe that the discharges effluent flow to the Rialto Channel. The new connection back into the discharge pipe would occur on the Project site not within the Rialto Channel. The outfall structure within Rialto Channel would remain the same. In essence, the lake would temporarily use approximately 10 percent the treated effluent prior to its return into the Rialto Channel.

In addition, and as described previously, the proposed Project would include development of an 11-space parking lot, which would provide adequate parking and a pedestrian pathway connection to the Project site. A pedestrian pathway between the parking lot and Rialto Habitat Nature Center would occur on the existing utility road along the west side of Rialto Channel.

2.1.2 Recreation Plan

The Project proposes to create recreational facilities within the City by providing active and passive recreational opportunities in the form of a trail around the two lakes. Active recreation opportunities include hiking trails and passive recreation opportunities include vista and wildlife viewing locations with signage. No lighting is planned on the trail system around the lakes. The slopes are proposed at 2:1.



Approximate Project Location



West Colton

W Agua Mansa Rd

Crestmore

CRESTMORE HEIGHTS

Belltown

NORTHSIDE

Highgrove

Grand Terrace

Colton

Rialto

DOWNTOWN RIALTO

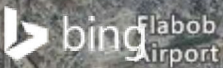
TERRACE

RANCHO WEST

Bunker Hill

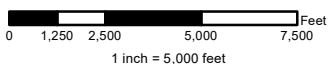
CARVERDALE

San Be



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Carlson SLS

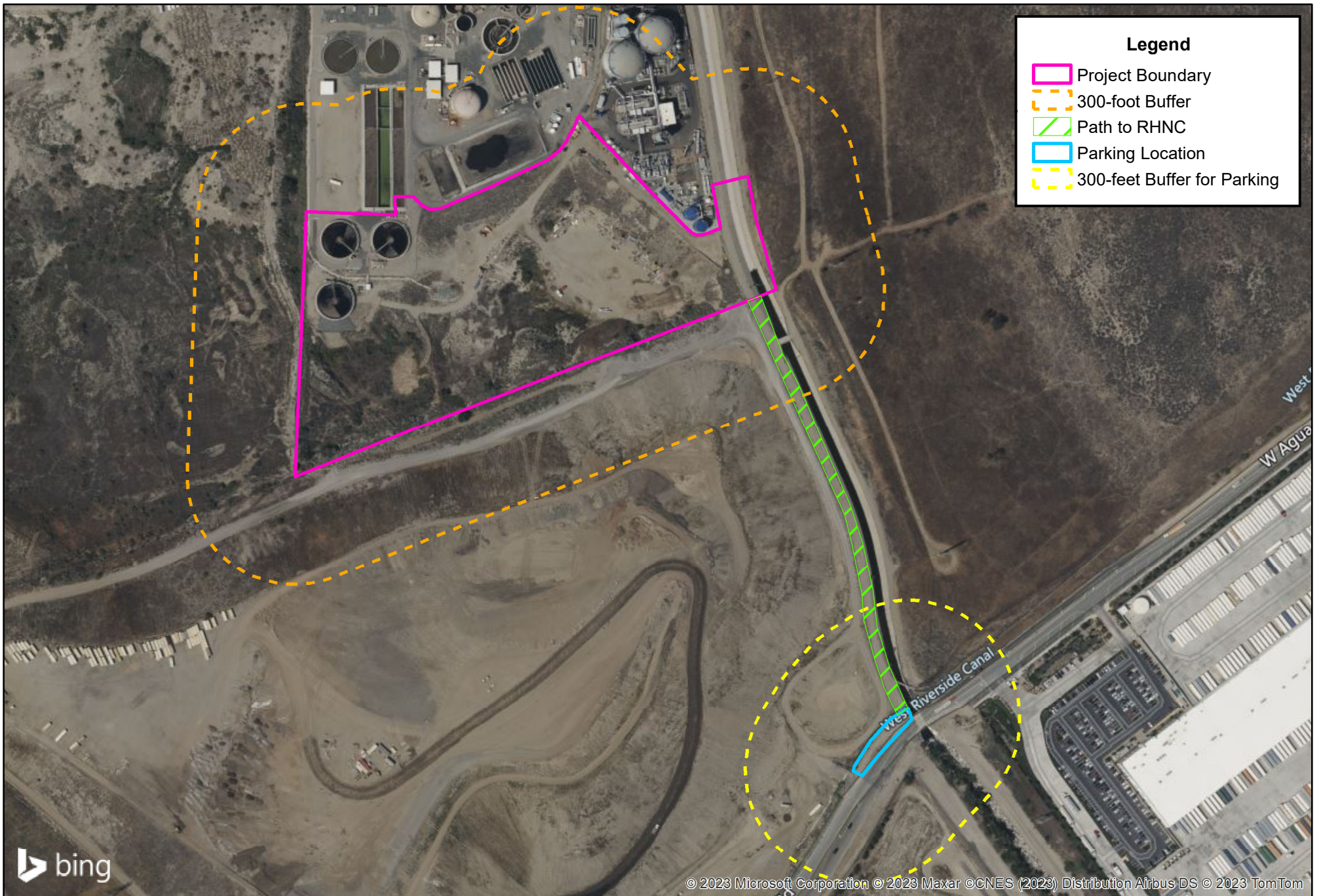
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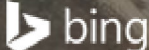
Rialto Habitat Nature Center Project
Regional Location Map

FIGURE 1



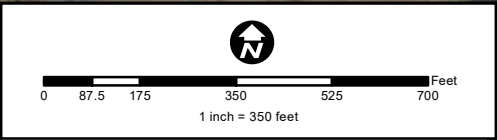
Legend

- Project Boundary
- 300-foot Buffer
- Path to RHNC
- Parking Location
- 300-foot Buffer for Parking



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Carlson SLS
Created: January 23, 2023



Data Sources: Bing Maps

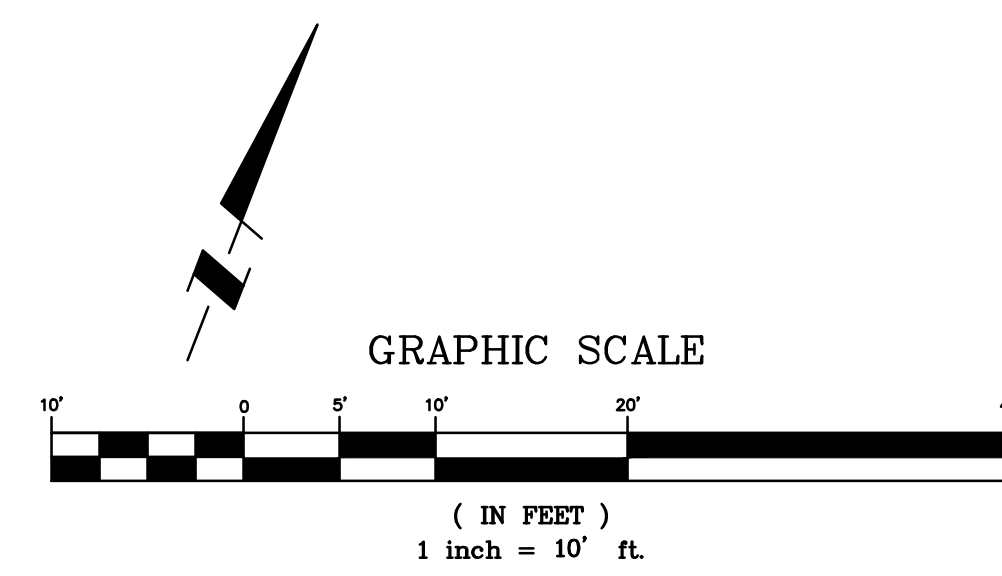
Rialto Habitat Nature Center Project
Project Location Map

FIGURE 2



CONSTRUCTION NOTES:

- ① PEDESTRIAN WALKWAY PAVEMENT PER DETAIL 1 ON SHEET 3
- ② DISCHARGE STRUCTURE PER DETAIL 2 ON SHEET 3
- ③ BENCH LINER PER DETAIL 3 ON SHEET 2
- ④ SLOPE LINER PER DETAIL 3 ON SHEET 2
- ⑤ OUTLET WATER CONTROL VALVE AND LAKE DRAIN PER DETAIL 5 ON SHEET 3
- ⑥ INLET CONTROL STRUCTURE PER DETAIL 6 ON SHEET 3
- ⑦ CONSTRUCT 4" PVC PIPE PER DETAIL 7 ON SHEET 2
- ⑧ CONSTRUCT DOWNDRAIN PER DETAIL 8 ON SHEET 2
- ⑨ CONSTRUCT 1' WIDE V-DITCH PER DETAIL 9 ON SHEET 2
- ⑩ CONSTRUCT INTERCEPTOR V-DITCH PER DETAIL 10 ON SHEET 2
- ⑪ CONSTRUCT SPLASH WALL PER DETAIL 11 ON SHEET 2
- ⑫ 12" CMP RISER PER DETAIL 31 ON SHEET 2
- ⑬ 12" PVC SCHEDULE 40 SD DRAIN LINE PER CITY STD. PLAN



| NO. | DATE | REVISIONS |
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| DESIGNED BY: | |
| DRAFTED BY: | |
| CHECKED BY: | |
| DATE: | |

WILSON MIKAMI CORPORATION
 9 CORPORATE PARK, SUITE 100, IRVINE, CA 92606
 T: 949-679-0090 | F: 949-679-0091

LAKE RIALTO
GRADING PLAN
GRADING AND IMPROVEMENT PLAN

| | |
|-------------|----------|
| PROJECT NO. | 10392.00 |
| SHEET | 4 |
| OF | 10 |

Figure 3
DRAFT

S:\10392.00.dwg PRR00101-9.dwg

2.1.3 Construction

Construction of the proposed lakes, parking, and pedestrian pathway is anticipated to take place over 18 months. Construction of the lakes would consist of site preparation, grading, underground utility construction, and landscaping. Site preparation would consist of vegetation removal and removal of any onsite trash and debris. Grading for the Project would consist of any removals of unsuitable soils to be used for non-compaction required locations. Excavation for the lakes would begin at the eastern most portion of the lake. In addition, grading of the eastern portion of the lake would construct two to one (2:1) slope embankments built up to the west for the proposed wetlands area and include a west to east access ramp to the bottom. Excavation of the western most portion of the lake would consist of a maximum 15 feet cut and fills to achieve appropriate depth and to construct 2:1 slopes embankments with bench surrounding proposed island in the middle. Grading would also include construction of a proposed pedestrian access (trail) which partitions the lake with 2:1 slope embankments and a culvert connecting the flow between the east and west lakes. Once grading and underground utilities are complete, finish grading would commence to construct the trails, slopes, and landscape areas. The lake and its embankments would be lined with a geomembrane to retain lake water and erosion control and landscaping would be planted around the lake. Once final construction activities have completed, 10 percent of the existing flows into the Rialto Channel would commence to fill the lake to a full capacity at an elevation of 905 above mean sea level (MSL).

Construction of the parking lot would consist of site preparation, grading, and paving. Site preparation would consist of minor clearing of non-native weeds and grass, and removal of any onsite trash and debris. Grading would consist of minor cuts and proper compact to an asphalt concrete (AC) paved parking lot with driveway. The existing pathway connecting users to Rialto Habitat Nature Center would require minor site preparation consisting of brush clearing and tread improvement for drainage and loose rock removal.

2.1.4 Project Operation and Maintenance

Although the Waste Water Treatment Plant has no contractual responsibility to deliver effluent flows into the Rialto Channel, it is required to protect the downstream habitat of two listed species in accordance with the California Endangered Species Act (CESA) and the federal Endangered Species Acts (FESA). The City is working with San Bernardino Valley Municipal Water District to assist in the coordination of the flows to support the habitat of the two listed species (Santa Ana Sucker and Arroyo Chub) within the downstream natural bottom portion of Rialto Channel and the Santa Ana River. As a result, the WWTP currently discharges a minimum of 7 cubic feet per second (cfs) of

treated water into the channel to maintain suitable habitat for these species within the downstream natural bottom portion of Rialto Channel and the Santa Ana River.

As designed, the proposed Project would continue the direct delivery of approximately 90 percent of existing effluent flows into the Rialto Channel to maintain the CESA and FESA minimum requirement. The remaining 10 percent of effluent flows would be temporarily diverted into the lake to maintain the lake's full capacity and ultimately conveyed through the same existing outlet into the Rialto Channel. It should be noted that the City has the ability and capacity to choose not to divert any water into the lakes post construction effectively concluding the existence of the lakes. Reasons for not diverting the water could be cost of maintenance and repairs to the lakes or overall operations of the lakes. The Rialto Habitat Nature Center Project is fully autonomous to the overall system, and should budget decline in the City, the City has the authorization to stop any diverting water into the lake and return to pre-project conditions.

2.1.4.1 Rialto Habitat Nature Center

Operation of Rialto Habitat Nature Center would generally occur Monday through Sunday during daylight hours (dawn to dusk). Daily securing of the site and monthly hardscape maintenance would be provided by the City's Facilities and Maintenance Department. In addition, if necessary, maintenance of kiosks, restrooms and other land-based amenities would consist of inspection and monitoring on a daily basis. Daily trash removal, routine cleaning, and grounds clean up, and monthly landscaping would be provided by the City's Community Services Department. Maintenance of the lake would consist of monthly inspections and if necessary, removal of settled solids, algae, invasive plants or contaminants by vacuum truck.

2.1.4.2 Rialto Habitat Nature Center Amenities

Residents and other guests would access the lake for recreational use and educational programs. The Rialto Habitat Nature Center amenities would include parking and bus access on Agua Mansa Road. In addition, the 1 mile of pedestrian perimeter trails would include the following amenities for guests:

1. Resting Areas: The Project would include casual seating (boulders, stumps etc.) to allow for a quick stop along a path, as well as benches or similar seating to allow for longer duration resting or observation.
2. Observation Areas: The design includes areas to connect people to nature without trampling or disturbing the habitat. Themed informational signage would be provided throughout for guest guidance and enhanced experience.

Signage with consistent icons, and symbology would begin at the site entrance and continue throughout all the Project areas.

3. Waste Management: Wildlife-proof waste collection stations would be placed at key locations (park entrance, gathering spaces, observation locations) for users to dispose of trash in bins and minimize trash ending up on the ground.
4. Irrigation: The Project would use treated dry-weather flow water and stormwater for planting irrigation. Supplemental irrigation would likely be required during the anticipated two-year plant and habitat establishment period.
5. Habitat Features: Habitat structures features would primarily consist of small, protected spaces made of natural materials (rock) to create habitat spaces for small native mammals, reptiles, birds, and native bees. Habitat structures would be designed and located within the riparian, transitional, and upland zones to encourage and promote native fauna occupying the site.
6. Hardscape Design: ADA compliant pedestrian access would be incorporated into the Project design. Of the 11 paved on-site parking spaces, appropriate ADA parking spaces would be provided. The 1 mile of pedestrian trail would be comprised of decomposed granite with a binder to prevent wind erosion.

3.0 Regulatory Context

The following is a list of the key local, state, and federal laws and regulations that apply to protecting plant communities, plants, wildlife, and water quality from project impacts relevant to the Project.

3.1 Federal Laws and Regulations

3.1.1 Federal Endangered Species Act (FESA)

The Federal Endangered Species Act (FESA) of 1973 defines an endangered species as “any species which is in danger of extinction throughout all or a significant portion of its range.” A threatened species is defined as “any species which is likely to become an Endangered species within the foreseeable future throughout all or a significant portion of its range.” Under provisions of Section 9(a)(1)(B) of the FESA, unless properly permitted, it is unlawful to “take” any listed species. “Take” is defined in Section 3(18) of FESA: “...harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Further, the US Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms “harm” and “harass” to include certain types of habitat modification as forms of “take.” These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a federal agency for an action which could affect a federally listed plant or animal species, the

property owner and agency are required to consult with USFWS pursuant to Section 7 of the Endangered Species Act (ESA) if there is a federal nexus, or pursuant to Section 10 of the ESA. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants. All references to federally-protected species in this biological assessment include the most current published status or candidate category to which each species has been assigned by USFWS.

3.1.2 Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) protects individuals as well as any part, nest, or eggs of any bird listed as migratory. In practice, Federal permits issued for activities that potentially impact migratory birds typically have conditions that require pre-disturbance surveys for nesting birds. In the event nesting is observed, a buffer area with a specified radius must be established, within which no disturbance or intrusion is allowed until the young have fledged and left the nest, or it has been determined that the nest has failed. If not otherwise specified in the permit, the size of the buffer area varies with species and local circumstances (e.g., presence of busy roads, intervening topography, etc.), and is based on the professional judgment of a monitoring biologist. A list of migratory bird species protected under the MBTA is published by USFWS.

3.1.3 Federal Clean Water Act (CWA)

The Clean Water Act (CWA), Section 401 provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project operator to obtain a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board administers the certification program in California. Section 404 establishes a permit program administered by the United States Army Corps of Engineers (Corps) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The Corps implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with Corps (40 CFR 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

3.1.4 Wetlands and Other Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and fall under the jurisdiction of several regulatory agencies. The Corps exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as the portion that falls within the limits of the Ordinary High-Water Mark (OHWM). The OHWM is defined as the "line

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

The definition of waters of the United States has undergone several iterations, including a much more streamlined definition which was published and formally adopted in April 2020. However, in August 2021, the April 2020 Navigable Waters definition was challenged in the case *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency*. In light of this case and subsequent order from US District Court for the District of Arizona, the U.S. Environmental Protection Agency (EPA) and Corps have halted implementation of the Navigable Waters Protection Rule from 2020 and are interpreting “waters of the United States” consistent with the pre-2015 regulatory regime. Then in March 2023 following a Supreme Court decision, the rule was once again changed and finalized to codify the pre-2015 definition with some revisions to the definition wetlands. On August 29, 2023 the EPA and Corps issued a final rule to amend the prior definition of Waters of the United States. The final rule conforms with the definition of Waters of the United States to the US Supreme Court’s May 25, 2023 decision in the case *Sackett v. Environmental Protection Agency*. As a result of the case, key aspects of the regulatory text have been amended to conform to the Court’s decision, which revised the definitions of Waters of the United States and became effective on September 8, 2023.

The September 2023 ruling codified the term (a) waters of the United States to mean:

1. Waters which are:
 - i. Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - ii. The territorial seas; or
 - iii. Interstate waters;
2. Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
3. Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
4. Wetlands adjacent to the following waters:
 - i. Waters identified in paragraph (a)(1) of this section; or
 - ii. Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

- iii. Waters identified in paragraph (a)(2) or (3) of this section when the wetlands either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section;
5. Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.
6. Intrastate lakes and ponds, streams, or wetlands not identified in paragraphs (a)(1) through (4) of this section:
 - i. That are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3)(i) of this section; or
 - ii. That either alone or in combination with similarly situated waters in the region, significantly affect the chemical, physical, or biological integrity of waters identified in paragraph (a)(1) of this section.

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by Corps as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3[a]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present and, as outlined within the September 2023 ruling, have adjacency with relative permanent, standing or continuously flowing bodies of water with continuous connection to Waters of the US. Wetlands must meet the parameters as outlined above classified as a wetland by Corps. It is important to note that the RWQCB definition of wetland was redefined, and the new definition went into effect May 28, 2020. The definition of a wetland is as follows: An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes, or the area lacks vegetation. This RWQCB modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. Unlike the federal definition, however, the RWQCB wetland definition allows for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland.

Examples of waters that would be considered wetlands by the RWQCB definition, but not by the federal wetland definition, are non-vegetated wetlands, or wetlands characterized by exposed bare substrates like mudflats and playas, as long as they meet the three-parameters as described in the RWQCB definition. It is important to note that while the Corps may not designate a feature as a wetland, that feature could be considered a special aquatic site or other water of the U.S. by the Corps and potentially subject to Corps' jurisdiction.

3.2 California State Laws and Regulations

3.2.1 California Endangered Species Act (CESA)

The California Endangered Species Act (CESA) establishes the policy of the state to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The CESA mandates that state agencies should not approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that would affect a listed species under both the CESA and the FESA, compliance with the FESA would satisfy the CESA if California Department of Fish and Wildlife (CDFW) determines that the federal incidental take authorization is "consistent" with the CESA under California Fish and Game Code (FGC) Section 2080.1. For projects that would result in take of a species listed under the CESA only, the project operator would have to apply for a take permit under Section 2081(b).

3.2.2 California Fish and Game Code Section 1600-1616

Section 1602 of the California Fish and Game Code requires notifying CDFW prior to any project activity that might (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If, after this notification, the CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will need to be obtained. CDFW may then place conditions in the Section 1602 Streambed Alteration Agreement to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFW jurisdictional limits.

3.2.3 California Fully Protected Species

California fully protected species are described in Sections 3511, 4700, 5050, and 5515 of the California Fish and Game Code. These statutes prohibit take or possession of fully protected species. CDFW is unable to authorize incidental take of fully protected species when activities are proposed in areas inhabited by those species.

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3.2.5 Protection of Birds

Section 3503.5 of the California Fish and Game Code states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Activities that result in the abandonment of an active bird of prey nest may also be considered in violation of this code. In addition, California Fish and Game Code, Section 3511 prohibits the taking of any bird listed as fully protected, and California Fish and Game Code, Section 3515 states that it is unlawful to take any non-game migratory bird protected under the MBTA.

3.2.6 Porter-Cologne Water Quality Act - California Code, Division 7

The RWQCB also has jurisdiction over waters deemed “isolated” or not subject to Section 404 jurisdiction under the Solid Waste Agency of Northern Cook County v. Corps decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required to obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

Under Section 401 of the CWA, the local RWQCB (for this Project, the Santa Ana RWQCB) must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

3.2.7 California Native Plant Protection Act

The California Native Plant Protection Act (California Fish and Game Code §§ 1900-1913) requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. The California Native Plant Protection Act gives the CDFW the power to designate native plants as “Endangered” or “Rare” and prohibits the take of such plants with certain exceptions.

3.2.8 Sensitive Plant Communities

Sensitive plant communities include those habitat types considered sensitive by resource agencies, namely CDFW, due to their scarcity and/or their ability to support State and Federally-listed Endangered, Threatened, and Rare vascular plants, as well as several sensitive bird and reptile species. CDFW maintains a natural plant community list, the List of California Terrestrial Natural Communities. Sensitive natural communities (also referred to by CDFW as ‘rare’, ‘special-status’, or ‘special concern’) are identified on the list by an asterisk and are considered high priority vegetation types (CDFW 2003; CDFW 2000).

3.2.9 California Native Plant Society

The California Native Plant Society (CNPS) is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. The list serves as the candidate list for Threatened and Endangered by CDFW. CNPS has developed five categories of rarity, of which Ranks 1A, 1B, and 2 are particularly considered sensitive.

Sensitive species that occur or potentially could occur within the Study Area are based on one or more of the following: (1) the direct observation of the species within the Study Area during any field surveys; (2) a record reported in the CNDDDB; and (3) the Study Area is within known distribution of a species and contains appropriate habitat.

3.2.10 Native Plant Protection Act (NPPA)

California's Native Plant Protection Act (NPPA) requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants (FGC Sections 1900-1913). Provisions of the NPPA prohibit the taking of listed plants from the wild and require notification of CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The project operator is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

3.3 Regulatory Permits

This report is prepared pursuant to and in support of California Environmental Quality Act (CEQA), and any applicable regulatory permit applications, including the California Department of Fish and Wildlife (CDFW) Streambed Alteration Agreement (SAA), Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification (WQC), United States Army Corps of Engineers (Corps) Section 404 permit, and United States Fish and Wildlife Service Section 7 Biological Opinion.

4.0 Survey and Methods

Preparation for this biological assessment began with a review of relevant available literature and review of historical biological documentation for the Study Area. This effort was followed by onsite field surveys to assess the existing habitat, map any onsite sensitive plant communities and jurisdictional waters, and determine whether special status plant and wildlife species occur or potentially occur within the Study Area.

4.1 Literature Review

The assessment began with a review of relevant available literature on the biological resources within the Study Area and Project Vicinity.

4.1.1 Sensitive Plant Communities

Sensitive plant communities (sensitive habitats) are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. Sensitive habitats are often threatened with local extirpation and are therefore considered valuable biological resources. Plant communities are considered "sensitive" by the California Native Plant Society (CNPS) and CDFW if they meet any of the criteria listed below.

- The habitat is recognized and considered sensitive by CDFW, USFWS, and/or special interest groups such as CNPS.
- The habitat is under the jurisdiction of the Corps pursuant to Section 404 of the CWA.
- The habitat is under the jurisdiction of the CDFW pursuant to Sections 1600 through 1612 of the California Fish and Game Code.
- The habitat is known or believed to be of high priority for inventory in the California Natural Diversity Database (CNDDDB).
- The habitat is considered regionally rare.
- The habitat has undergone a large-scale reduction due to increased encroachment and development.
- The habitat supports special status plant and/or wildlife species (defined below).
- The habitat functions as an important corridor for wildlife movement.

4.1.2 Critical Habitat

Under the ESA, the federal government is required to designate "critical habitat" for any species it lists under the ESA. Federal agencies are prohibited from authorizing, funding or carrying out actions that "destroy or adversely modify" critical habitats. Section 3 of the ESA defines critical habitat as:

- The specific areas within the geographic area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection.
- The specific areas outside the geographic area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

"Conservation" means the use of all methods and procedures that are necessary to bring an endangered or a threatened species to the point at which listing under the ESA is no longer necessary. Critical habitat receives protection under Section 7(a)(2) of the ESA through the prohibition against destruction or adverse modification of critical habitat with regard to actions carried out, funded, or authorized by a federal agency. Section 7(a)(2) also requires conferences on federal actions that are likely to result in the destruction or adverse modification of proposed critical habitat.

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Study Area is within any species' designated Critical Habitat (USFWS 2022a). The USFWS regulatory mapping process for the designation of critical habitat is broad-based mapping exercise of areas that may or may not include constituent elements of the critical habitat designation. Due to this approach in mapping, large areas are designated as critical habitat regardless of the existing habitat, and as a result may include developed areas, such as buildings, roads, hardscape, and other such facilities, as well as natural habitats.

The constituent elements of the critical habitat designation consider the physical and biological features needed for life processes and successful reproduction of the listed species, including:

- Space for individual and population growth for normal behavior;
- Habitat cover or shelter;
- Food, water, or other nutritional or physiological requirements;
- Sites for breeding and rearing offspring; and
- Habitat that is protected from disturbance or is representative of the historical geographic and ecological distribution of a species.

4.1.3 Special Status Plants and Wildlife

Species of plants and animals are afforded "special status" by federal agencies, state agencies, and/or non-governmental organizations because of their recognized rarity, potential vulnerability to extinction, and local importance. These species typically have a limited geographic range and/or limited habitat and are referred to collectively as "special status" species. Plant and wildlife species are considered "special status" species if they meet any of the following criteria.

- Taxa with official status under ESA, CESA, and/or the NPPA.
- Taxa proposed for listing under ESA and/or CESA.
- Taxa designated a species of special concern by CDFW.
- Taxa designated a state fully protected species by CDFW.
- Taxa identified as sensitive, unique or rare, by the USFWS, CDFW, the United States Forest Service (USFS), the United States Bureau of Land Management (BLM), and/or the California Department of Forestry and Fire Protection (CDF).
- Plants that meet the definition of rare or endangered under CEQA §15380(b) and (d). Species that may meet the definition of rare or endangered include the following:
 - Species considered by CNPS and CDFW to be "rare, threatened or endangered in California" (California Rare Plant Rank [CRPR] 1A, 1B and 2) (CNPS 2023). A majority of the CRPR 3 and CRPR 4 plant species generally do not qualify for protection under CESA and NPPA.

- Species that may warrant consideration on the basis of local significance or recent biological information.
- Some species included on the CNDDDB Special Plants, Bryophytes, and Lichens List (CDFW 2023g).
- Considered a locally significant species, that is, a species that is not rare from a statewide perspective but is rare or uncommon in a local context such as within a county or region (CEQA §15125 (c)) or is so designated in local or regional plans, policies, or ordinances (CEQA Guidelines, Appendix G). Examples include a species at the outer limits of its known range or a species occurring on an uncommon soil type.

Available literature and databases were reviewed regarding sensitive habitats and special status plant and wildlife species. Special status plant and wildlife species that have the potential to occur within the immediate region of the Study Area were identified. Several agencies, including the USFWS, CDFW, and CNPS publish lists of particular taxa (species and subspecies) and the associated level of protection or concern associated with each. Reviewed and consulted literature and databases focused on the Study Area, and included the following sources listed below:

- The CNDDDB, a CDFW species account database that inventories status and locations of rare plants and wildlife in California, was used to identify any sensitive plant communities and special status plants and wildlife that may exist within a two-mile radius of the Project site. A CNDDDB search was performed by assessing a two-mile radius around the Study Area (CDFW 2023f). CNDDDB records are generally used as a starting point when determining what special status species, if any, may occur in a particular area. However, these records may be old, lack data not yet entered, and do not represent all the special status species that could be in that particular area.
- A map of USFWS critical habitat to determine species with critical habitat mapped in the general vicinity of the Project (**Figure 4**) (USFWS 2023a).
- Online CNPS Inventory of Rare and Endangered Plants of California (CNPS 2023). A search for the USGS 7.5-Minute Topographic Map *San Bernardino South* and the surrounding eight quadrangles (*San Bernardino North, Harrison Mountain, Redlands, Sunnymead, Riverside East, Riverside West, Fontana, and Devore*) provided information regarding the distribution and habitats of special status vascular plants in the Project Vicinity.
- Pertinent maps, scientific literature, websites, and regional flora and fauna field guides.

The literature review was used as a resource to better understand the biological resources potentially occurring within the Study Area. Although the inventory list of special status plant and wildlife species was not exhaustive of all species that might occur on the property, it provides a wide range of species that are representative of the wildland habitats in the area. Species occurrence and distribution information is based

on documented occurrences where surveys have taken place for individual projects; therefore, a lack of documented occurrence does not necessarily indicate that a given species is absent from the Study Area.

4.2 Biological Survey

4.2.1 General Biological Survey

Plant species were identified using plant field and taxonomical guides, such as The Jepson Manual: Vascular Plants of California, second edition (Baldwin et al. 2012). Vegetation communities were characterized utilizing vegetation alliances in accordance with The Manual of California Vegetation, Second Edition (MCVII) (Sawyer et al. 2009). Where necessary, deviations were made on best professional judgment when areas did not fit into a specific habitat description provided by MCVII. Plant communities were mapped in the field directly onto a 200-scale (1" = 200') aerial photograph and a Trimble R1 GNSS Receiver paired with the ARC Geographical Information System (ARCGIS) Collector Application was utilized during the survey. All plant species encountered during the field survey were identified and recorded in field notes. Information regarding the presence of suitable habitat and soils to support the species, known records or occurrence within the area, and known distribution and elevation range obtained from the relevant literature was used to determine presence or absence of sensitive species.

The biologist paid special attention to those habitat areas that had the potential to provide suitable habitat for special status plant and wildlife species. Aerial photographs and maps were used to assist in the delineation of plant community boundaries. Following field mapping, the plant communities were digitized, and the vegetation map was created.

General wildlife surveys were conducted on foot and with binoculars within the Study Area. All wildlife species encountered visually or audibly during the field survey were identified and recorded in field notes. Biologists also recorded signs of wildlife species including animal tracks, burrows, nests, scat, and remains. Binoculars were used to aid in the identification of observed wildlife. Wildlife field guides and photographs were used to assist with identification of wildlife species during the field survey, as necessary. Photographs were taken to document existing conditions within the Study Area (**Appendix A**).

4.2.2 Regional Connectivity/Wildlife Movement

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not likely persist over time in fragmented or isolated habitat

areas because they prohibit the infusion of new individuals and genetic information (MacArthur and Wilson 1967, Soule 1987, Harris and Gallagher 1989). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “meta-population.” The long-term health of each deme within the meta-population is dependent upon its size and the frequency of interchange of individuals (immigration versus emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population’s genetic variability is generally associated with an increase in a population’s health.

Corridors mitigate the effects of habitat fragmentation by:

- Allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity.
- Providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction.
- Serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Fahrig and Merriam 1985, Simberloff and Cox 1987, Harris and Gallagher 1989).

Wildlife movement activities usually fall into one of three movement categories:

- Dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions).
- Seasonal migration.
- Movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover).

A number of terms have been used in various wildlife movement studies, such as “wildlife corridor,” “travel route,” “habitat linkage,” and “wildlife crossing” to refer to areas in which wildlife moves from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

- Travel route: a landscape feature (such as a ridge line, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to

another; it contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.

- Wildlife corridor: a piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as “habitat or landscape linkages”) can provide both transitory and resident habitat for a variety of species.
- Wildlife crossing: a small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings are typically manmade and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles. These are often “choke points” along a movement corridor.

4.3 Delhi Sands Flower-loving Fly Assessment

Due to the Proximity of Delhi Sands Flower-Loving Fly (DSF) Conservation Areas, a DSF habitat assessment was performed on the Project site. Prior to a site visit, soil maps covering the Project site were reviewed, along with aerial imagery to gain an understanding of historical land use regimens. Photographs were taken of the site, along with field notes on vegetation and soil conditions. The site is then rated based on its potential to support DSF based on the following scale of 1 to 5, with 5 being the best quality and most suitable habitat:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. *Unsuitable.*
2. Delhi sands are present, but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). *Very Low Quality.*
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi Sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality.*
4. Abundant clean Delhi Sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality.*

5. Sand dune habitat with clean Delhi Sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant and vegetation species composition is often indicative of low disturbance. *High Quality.*

It should be noted that habitat qualities often vary spatially within a site and may range in quality of suitability for DSF habitat. Furthermore, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Habitat conditions rated from Very Low Quality up to High Quality, are formally considered as representing suitable conditions for the DSF.

4.4 Jurisdictional Waters

The following sources were reviewed to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, and their location within the watersheds associated with the Study Area, and other features that might contribute to federal or state jurisdictional authority located within watersheds associated with the Study Area:

- National Wetlands Inventory (NWI) maps (USFWS 2023c). The NWI database indicates potential wetland areas based on changes in vegetation patterns as observed from satellite imagery. This database is used as a preliminary indicator of wetland habitats because the satellite data are not precise.
- Title 33 Code of Federal Register (CFR): Navigation and Navigable Waters Part 328
- USGS National Hydrography Dataset (NHD). Provides the locations of “blue-line” streams as mapped on 7.5-Minute Topographic Map coverage.
- Aerial Imagery (Google Earth©) (Google 2023).
- USGS 7.5-Minute Topographic Maps.
- Natural Resource Conservation Service (NRCS) Soil Survey.

All depressions and drainages were evaluated for the presence of jurisdictional waters and wetlands according to the Corps, RWQCB, and CDFW delineation guidelines, including connectivity or lack of connectivity to Traditional Navigable Waters. Dominant vegetation within and adjacent to the jurisdictional features within the Study Area was identified and recorded.

The Corps and the RWQCB have jurisdiction over Waters of the United States. Jurisdictional non-wetland features for the Waters of the United States are typically determined through the observation of an Ordinary High Water Mark (OHWM), which is defined as the “line on the shore established by the fluctuation of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the

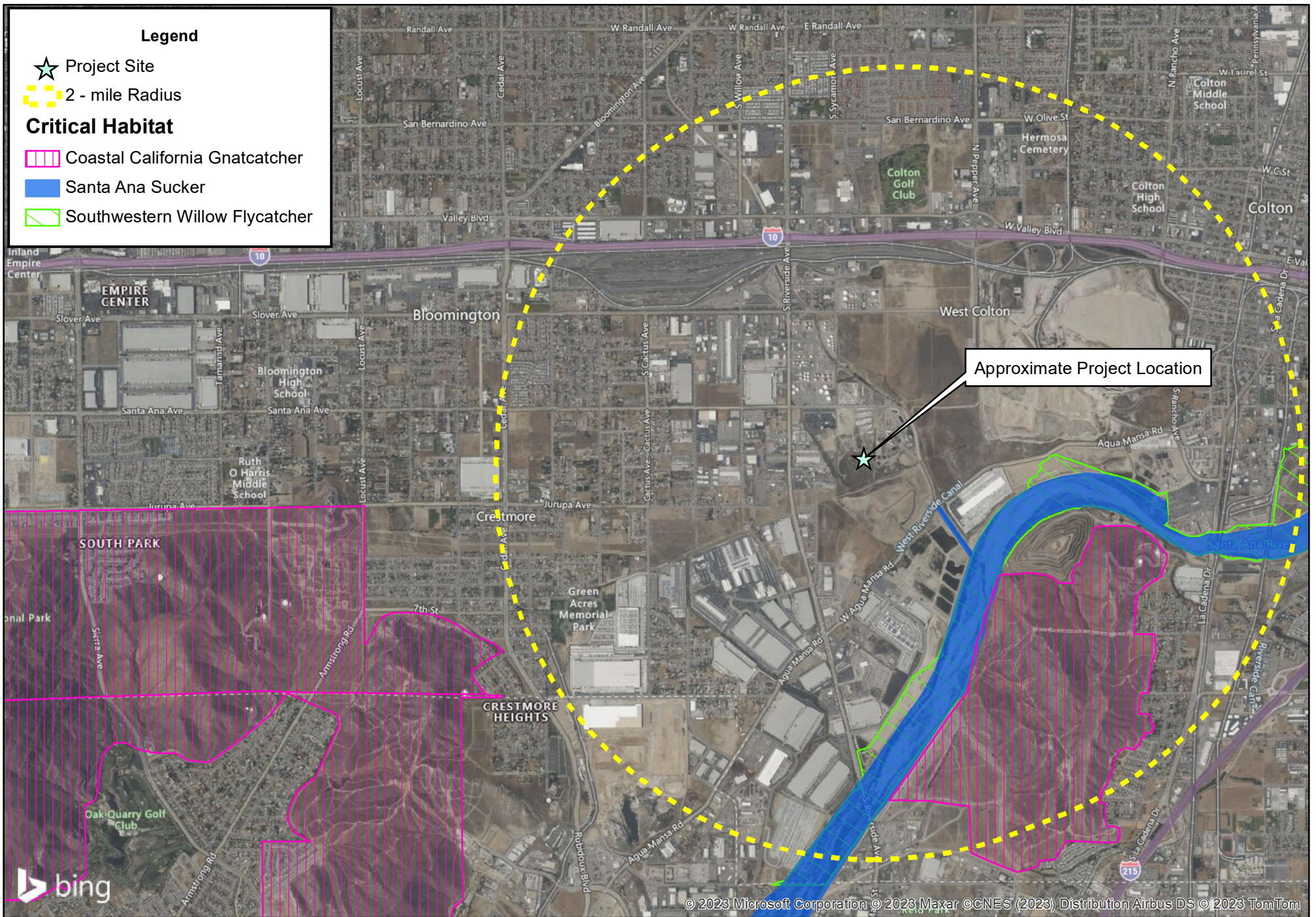
surrounding areas.” Projects with impacts to Waters of the United States are regulated under Sections 401 and 404 of the Clean Water Act.

To determine the presence of a jurisdictional wetland for the Waters of the United States, three indicators are required: (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. The methodology published in the *United States Army Corps of Engineers 1987 Wetland Delineation Manual* and the *Arid West Supplement* sets the standards for meeting each of the three indicators, which normally require more than 50 percent cover of dominant plant species typical of a wetland, soils exhibiting characteristics of saturation, and hydrological indicators be present.

CDFW has jurisdiction over water of the Department’s interest (California Fish and Game Code §§1600 et seq.; California Code of Regulations, Title 14, §720), referred to as Waters of the State. Section 1602 of the California Fish and Game Code (FGC) applies to all rivers, streams, lakes and streambeds. CDFW defines a stream as “a body of water that flows perennially or episodically and that is defined by the area in which water currently flows, or has flowed, over a given course during the historic hydrologic course regime, and where the width of its course can reasonably be identified by physical or biological indicators” (Brady and Vyverberg 2013). Likewise, CDFW regulates jurisdictional areas of riparian habitat only to the extent that those areas are part of a stream, river, or lake as defined above. Waters of the State pertaining to Porter-Cologne in relation to RWQCB jurisdiction are defined by California Water Code Section 13050(e) as any surface or ground water within the boundaries of the state.

Prior to the field investigation, CSLS biologist reviewed historical aerial imagery and topography for the Study Area to determine the potential for perennial, intermittent, or ephemeral drainages and associated riparian resources. Generally, indicators of jurisdictional drainages on an aerial photo include vegetation and/or incised lines indicating the path of flowing water. Following the desktop research, CSLS biologists conducted an onsite field investigation. Based on the collective results of the desktop investigation and the field surveys, any observed jurisdictional features were mapped using the following parameters:

- The limits of the Corps’ jurisdiction extend to the OHWM. OHWM indicators include: the observation of benches, break in bank slope, particle size distribution, sediment deposits, drift, litter, and/or change in plant community.
- The RWQCB shares the Corps’ jurisdictional methodology, and the Regional Board’s May 2020 wetland definition.
- CDFW’s jurisdiction applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the state. CDFW’s authority also includes riparian habitat (including wetlands) supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, CDFW jurisdiction is mapped to the top of bank of the stream or the extent of streambed dependent vegetation.



Legend

- ★ Project Site
- ⊞ 2 - mile Radius

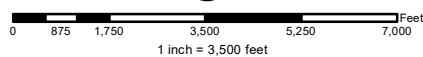
Critical Habitat

- ▭ Coastal California Gnatcatcher
- ▭ Santa Ana Sucker
- ▭ Southwestern Willow Flycatcher

Approximate Project Location

GIS Prepared By:
Carlson SLS

Created: April 5, 2023



Data Source: Bing Map

Rialto Habitat Nature Center Project
Critical Habitat

FIGURE 4

5.0 Results

A field survey and jurisdictional delineation was performed on January 27, 2023, by CSLS biologist Brianna Bernard to assess and map vegetation communities, plants, and wildlife, and to identify habitat areas that could be suitable for special status plant species or jurisdictional features. A Delhi Sands Flower-loving Fly site visit was assessed on February 15, 2023.

5.1 Vegetation Communities

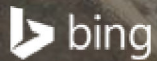
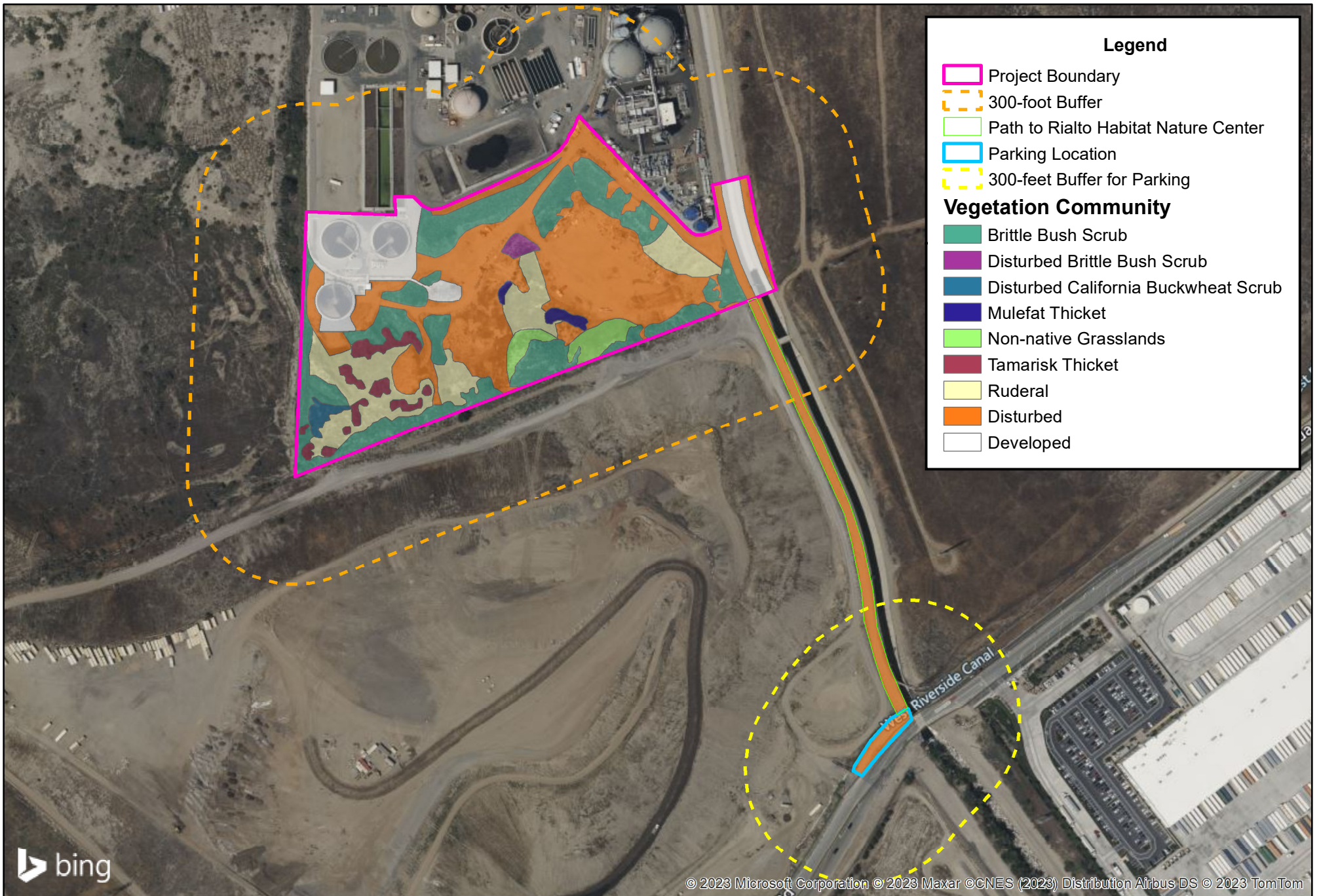
The vegetation communities and habitat conditions were inspected to confirm presence and habitat quality of the vegetation found onsite. Vegetation mapping and acreages for each vegetation community is based on the observations of the field survey, which are listed below in **Table 1** and graphically depicted on **Figure 5**. Representative photographs of the vegetation communities can be found in **Appendix A**. A complete list of species observed onsite can be found in **Appendix B**.

The deviations from MCVII alliance categories include ruderal, ornamental, disturbed and developed communities. The deviations were made due to the lack of alliances for these communities within MCVII. The field survey analyzed the Project site and a surrounding 300-foot buffer around the Project site to determine the existing vegetation types. As shown on **Figure 5**, the surrounding 300-foot buffer consists primarily of developed, disturbed, and non-native grasslands vegetation communities.

Table 1. Vegetation Community Observed Onsite

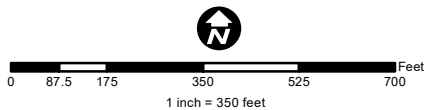
| Vegetation Community | Acreage within the Project site (acres) |
|--------------------------------------|---|
| Brittle Bush Scrub | 3.85 |
| Disturbed Brittle Bush Scrub | 0.10 |
| Disturbed California Buckwheat Scrub | 0.12 |
| Mulefat Thicket | 0.12 |
| Non-native Grasslands | 0.45 |
| Tamarisk Thicket | 0.43 |
| Ruderal | 2.06 |
| Disturbed | 7.71 |
| Developed | 2.21 |
| TOTAL | 17.05 |

The general description of the habitat observed during the field survey are described below.



GIS Prepared By:
Carlson SLS

Created: January 23, 2023



Data Sources: Bing Maps

Rialto Habitat Nature Center Project
Vegetation Community Map

FIGURE 5

5.1.1 Brittle Bush Scrub

The brittle bush scrub is also known as *Encelia farinosa* Shrubland Alliance is composed primarily of brittle bush (*Encelia farinosa*). Additional species within the scrub includes California buckwheat (*Eriogonum fasciculatum*), California sage scrub (*Artemisia californica*), scattered with coyote brush, star thistle (*Centaurea solstitialis*), and summer mustard (*Hirschfeldia incana*).

5.1.2 Disturbed Brittle Bush Scrub

The disturbed brittle bush scrub and is composed of species as outlines in the brittle bush scrub community in a disturbed state with less vegetation cover and animal trails.

5.1.3 Disturbed California Buckwheat Scrub

The disturbed California buckwheat scrub is as known as *Eriogonum fasciculatum* Shrubland Alliance and is composed of California buckwheat with scattered California brittlebush. It is in a disturbed state with less vegetation cover and animal trails.

5.1.4 Mulefat Thicket

The mulefat thicket is also known as *Baccharis salicifolia* Shrubland Alliance and is composed of mulefat (*Baccharis salicifolia*), California buckwheat and California sage scrub. Ruderal and non-native species occur within this community.

5.1.5 Non-Native Grasslands

The non-native grassland habitat is dominated by slender oat (*Avena barbata*). Other grass and forb species within this community includes red stemmed filaree (*Erodium cicutarium*), red brome (*Bromus madritensis* subsp. *rubens*), and summer mustard (*Hirschfeldia incana*).

5.1.6 Tamarisk Thickets

This alliance consists entirely of tamarisk species (*Tamarix ramosissima*).

5.1.7 Ruderal

The Project site contains portions of the ruderal vegetation community. The vegetation within this area is comprised of predominantly of summer mustard (*Hirschfeldia incana*). Other species include tocalote (*Centaurea melitensis*), and red brome (*Bromus rubens*).

5.1.8 Disturbed

The Project site consists primarily of disturbed habitat. The disturbed habitat area is associated with water treatment plant activities, staging areas, maintenance road adjacent to the Rialto Channel, dirt roads, and pedestrian paths/trails.

5.1.9 Developed

The developed areas are not vegetated and consist of water treatment plant infrastructure, asphalt roads, and concrete.

5.1.10 300-foot Buffer Area

While a majority of the 300-foot buffer is developed with the Rialto Water Treatment Plant to the north, various industrial uses occur to the west, and the Rialto channel occurs to the east. Open space occurs to the south of the Project site.

5.2 Special-Status Vegetation Types

A CNDDDB search within the San Bernardino South USGS topographic quadrangle identified three special-status vegetation communities designated by CDFW. The special status vegetation communities include Riversidian Alluvial Fan Sage Scrub, Southern Riparian Scrub, and Southern Cottonwood Willow Riparian Scrub. The Project site does not contain any of the listed special-status vegetation types.

5.3 Plants

Sensitive plants include those listed, or candidates for listing, by the USFWS and CDFW; and species considered sensitive by the CNPS (particularly Lists 1A, 1B, and 2). Several sensitive plant species were reported in the vicinity of the Study Area based on the CNDDDB and within the San Bernardino South quadrangle search. A total of six sensitive plant species occurs within the USGS 7.5' San Bernardino South quadrangle and had a CNDDDB occurrence. A brief description of the species is included below. A complete list of special status plant species within the potential to occur on the Project site were analyzed based on distribution, habitat requirements, and existing site conditions (**Appendix C**). All plant species observed within the Project site during the field survey is listed in **Appendix B**.

Marsh Sandwort (*Arenaria paludicola*)

Status: Federally Endangered, State Endangered, California Rare Plant Rank 1B.1

Distribution: Los Angeles, San Bernardino, Santa Cruz, San Francisco, and San Luis Obispo Counties.

Habitat(s): Habitats supporting sandy openings and marshes and swamps (freshwater or brackish). Known from 3 to 170 meters (9 to 558 feet) MSL. Blooms May through August.

Status onsite: None. The Project site lacks suitable habitat and soils. Not observed during field visit.

Salt Marsh bird's-beak (*Chloropyron maritimum ssp. maritimum*)

Status: Federally Endangered, State Threatened, California Rare Plant Rank 1B.2

Distribution: Los Angeles, Orange, Santa Barbara, San Bernardino, San Diego, Ventura, and San Luis Obispo.

Habitat(s): Habitats supporting coastal dunes and marshes and swamps (coastal salt). Known from 0 to 30 meters (0 to 985 feet) MSL. Blooms May through November.

Status onsite: None. The site lacks suitable habitat and soils. Not observed during field visit.

Santa Ana Whollystar (*Eriastrum densifolium* ssp. *sanctorum*)

Status: Federally Endangered, State Endangered, California Rare Plant Rank 1B.21

Distribution: Orange, Riverside, and San Bernardino Counties.

Habitat(s): Found in sandy soils of floodplains and terraced fluvial deposits of the Santa Ana River and larger tributaries. Known from 120 to 625 meters (400 to 4,100 feet) MSL. Blooms April through September.

Status onsite: None. The site lacks suitable soils. Not observed during the field survey.

Mesa Horkelia (*Horkelia cuneata* var. *puberula*)

Status: California Rare Plant Rank 1B.1

Distribution: Los Angeles, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, and Ventura Counties.

Habitat(s): Occurs within chaparral (maritime, cismontane woodland and coastal scrub). Known from 70 to 810 meters (230 to 2660 feet) MSL. Blooms February through July (September).

Status onsite: None. The site lacks suitable soils. Not observed during the field survey.

Parish's bush-mallow (*Malacothamnus parishii*)

Status: California Rare Plant Rank 1A

Distribution: San Bernardino County.

Habitat(s): Found within chaparral and coastal scrub habitats. Known from 305 to 455 meters (1,000 to 1,495 feet) MSL. Blooms June through July.

Status onsite: None. While the site contains minimal chaparral habitat, the site lacks suitable soils. Not observed during the field survey.

Pringle's monardella (*Monardella pringlei*)

Status: California Rare Plant Rank 1A

Distribution: Riverside and San Bernardino Counties.

Habitat(s): Habitats supporting sandy coastal scrub. Known from 300 to 400 meters (985 to 1,310 feet) MSL. Blooms May through June.

Status onsite: None. The site lacks suitable habitats. Not observed during the field survey.

As determined through the field survey conducted, no special status plant species were observed within the Project site and there is no potential for special status plant species to occur on the Project site because the majority of the Project site is developed as a parking lot and disturbed. The undeveloped areas lack suitable habitats and soils to support the special status plant species.

5.4 Critical Habitat

The USFWS's online service for information regarding Threatened and Endangered Species Final Critical Habitat designation within California was reviewed to determine if the Project site is within any species designated Critical Habitat. The Project site and surrounding buffer area are not located within any designated Critical Habitat overlay.

The closest designated Critical Habitat is located approximately 0.50 miles south of the Project site for the Santa Ana Sucker (*Catostomus santaanae*) (Figure 4). The Project site does not contain habitat for the Santa Ana Sucker and the species does not occur onsite.

5.5 Wildlife

Special status wildlife species with the potential to occur within the Study Area were analyzed based on the species identified in USGS 7.5' San Bernardino South quadrangle, distribution, habitat requirements, and existing site conditions (Appendix D). No special status wildlife was identified or observed within the Project site during the field survey. The following special status species are identified to occur within the San Bernardino South quadrangle and noted as an occurrence within the 2-mile CNDDDB search: California glossy snake (*Arizona elegans occidentalis*), orange-throated whiptail (*Aspidoscelis hyperythra*), coastal whiptail (*Aspidoscelis tigris stejnegeri*), burrowing owl (*Athene cunicularia*), Santa Ana sucker, western yellow-bellied cuckoo (*Coccyzus americanus occidentalis*), San Diego banded gecko (*Coleonyx variegatus abbotii*), western mastiff bat (*Eumops perotis californicus*), arroyo chub (*Gila orcuttii*), western yellow bat (*Lasiurus xanthinus*), San Diego black-tailed jackrabbit (*Lepus californicus bennettii*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), steelhead - southern California DPS (*Oncorhynchus mykiss irideus pop. 10*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), coastal California gnatcatcher (*Poliophtila californica californica*), Delhi Sands flower-loving fly, and least Bell's vireo (*Vireo bellii pusillus*). A brief description of those species and their habitat is included below. A complete list of the special status species identified within the quadrangle can be found in Appendix D.

California Glossy Snake

Status: Species of Special Concern

Habitat(s): This species is found in a variety of habitats, primarily arid scrub areas with sparse vegetation including chaparral and grasslands areas.

Status onsite: None. No suitable habitat is found within the Project site. Not observed during the field survey.

Orange-throated Whiptail

Status: Species of Special Concern

Habitat(s): The species is generally found in semi-arid brushy areas typically with loose soil and rocks, including washes, stream sides, rocky hillsides, and coastal chaparral. Habitat types include low elevational chaparral, non-native grassland, (Riversidean) coastal sage scrub, juniper woodland and oak woodland. Associations include alluvial fan scrub and riparian areas. Friable soil appears to be a necessary requirement for excavating burrows and hiding eggs.

Status onsite: None. No suitable habitat is found within the Project site. Not observed during the field survey.

Coastal Whiptail

Status: Species of Special Concern

Habitat(s): This species is found in a variety of habitats, primarily hot and dry open areas with sparse vegetation including chaparral, woodland, and riparian areas. This subspecies is found in coastal southern California, north into Ventura County, and south into Baja California. Additional important habitat characteristics include shrub cover with accumulated leaf litter, and an abundance of invertebrate prey, particularly termites.

Status onsite: None. No suitable habitat is found within the Project site. Not observed during the field survey.

Burrowing Owl

Status: Species of Special Concern

Habitat(s): Burrowing owls are a year-round resident of California including habitats of open, dry grassland, and desert. They are generally restricted to mostly flat, open country with suitable nest sites. They use rodent or other burrows for roosting and nesting cover and acquire their burrows from either abandonment or eviction. Burrowing owls typically hunt from a perch.

Status onsite: None. During the field survey, the biologist paid special attention to any mammal burrows suitable for burrowing owl. It is determined the Project site does not contain any suitable sized burrows for the species. Not observed during the field survey.

Santa Ana Sucker

Status: Federally threatened

Habitat(s): Santa Ana suckers rely on perennial flows with suitable water quality and substrate to support breeding, feeding and sheltering. Over different life history stages, suckers depend on a variety of coarse substrate types, such as gravel, cobble, or mixtures of gravel or cobble with sand, and a variety of riverine features, like shallow riffles and deeper runs and pools.

Status onsite: None. No suitable habitat is found within the Project site. Not observed during the field survey.

Western Yellow-bellied Cuckoo

Status: Federally threatened and State endangered

Habitat(s): This species is an uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Formerly much more common and widespread throughout lowland California. Roosts and nests in densely foliated, deciduous trees and shrubs in extensive thickets, particularly willows.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

San Diego Banded Gecko

Status: Species of Special Concern

Habitat(s): The species ranges through most of Southern California north into the extreme southern part of Nevada and the southwestern tip of Utah, across northwest,

southwest, and southeast Arizona into the bootheel of New Mexico, and south down the western edge of the state of Sonora, Mexico and down the entire length of Baja California. The species occurs in rocky areas in coastal sage and chaparral.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Western Mastiff Bat

Status: Species of Special Concern

Habitat(s): Western mastiff bats are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western mastiff bats can also be found in similar crevices in large boulders and buildings. When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight. Western mastiff bats prefer deep crevices that are at least 15 or 20 feet above the ground. Foraging is concentrated around bodies of water but also includes coastal sage scrub, chaparral, and grassland habitats.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Arroyo Chub

Status: Species of Special Concern

Habitat(s): Arroyo chub are adapted to survive in cool to warm (10 - 24°C) streams that fluctuate between large winter storm flows, and low summer flows, and the low dissolved oxygen and wide temperature fluctuations associated with this flow regime. They are most common in slow flowing or backwater areas with sand or mud substrate but may also inhabit areas with velocities in excess of 80 cm/s over coarse substrate.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Western Yellow Bat

Status: Species of Special Concern

Habitat(s): Roost in trees, hanging from the underside of a leaf. Commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non- native palm trees and have also been documented roosting in cottonwood trees.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

San Diego black-tailed jackrabbit

Status: None

Habitat(s): The black-tailed jackrabbit is a habitat generalist occurring in open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub. It primarily is found in arid regions supporting short grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to locomote, and the openness of open scrub habitat probably is preferred over dense chaparral. They

have also been found in annual grassland, Riversidean sage scrub, alluvial fan sage scrub, Great Basin sagebrush, chaparral, disturbed habitat, southern willow scrub and juniper woodland. They are not found in high mountain forests. It prefers valley bottoms or intermontane valleys.

Status onsite: Low. While the site has minimal suitable habitat, the Project site is a Waste Water Treatment Plant that is fenced a majority of the site. Not observed during the field survey.

Pocketed Free-tailed Bat

Status: Species of Special Concern

Habitat(s): This bat species prefers rocky desert areas with high cliffs or rock outcrops. Rock crevices in cliffs are preferred as roosting sites, since the bat must drop from the roost to gain flight speed. Typically reproduces in rock crevices, caverns, or buildings. Ranges from southern California to New Mexico.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Steelhead - Southern California DPS

Status: Federally Endangered State Candidate Endangered

Habitat(s): Historically, this species populated all coastal streams of southern California with permanent flows, as either resident or anadromous forms, or both. Today, the species occurs mostly within intermittent streams. The DPS includes all naturally spawned anadromous Coastal Rainbow trout populations downstream of natural and human-made barriers in streams from the Santa Maria River (San Luis Obispo County) to the Tijuana River on the U.S.-Mexico border. They are most abundant in the four largest watersheds in the northern portion of their range: the Santa Maria, Santa Ynez, Ventura, and Santa Clara rivers.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Los Angeles Pocket Mouse

Status: Species of Special Concern

Habitat(s): Prefers sandy soil for burrowing. Also known to occur on gravel washes and in rocky soils. Associated with coastal scrub.

Status onsite: None. The site lacks suitable habitat. Not observed during the field survey.

Coastal California gnatcatcher (*Polioptila californica californica*)

Status: Federally threatened, Species of Special Concern

Habitat(s): A non-migratory, permanent resident of coastal sage scrub habitat, which is a broad category of vegetation that includes the following plant communities: Ventura coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. They also use chaparral, grassland and riparian habitats next to coastal sage scrub, but these habitats are used dispersal and foraging. They avoid nesting on steep slopes.

Status onsite: Low. The Project site has disturbed California buckwheat scrub but consists of brittlebush scrub and disturbed habitats. While there is suitable habitat, it is a small patch and not sustainable for a pair. Not observed during the field survey.

Delhi Sands Flower-loving fly

Status: Federally Endangered

Habitat(s): The Delhi Sands flower-loving fly is dependent on Delhi sands and Delhi sand dunes with less than 50% vegetation cover. Typical vegetation includes California buckwheat, California croton (*Croton californicus*), and telegraph weed (*Heterotheca grandiflora*).

Status onsite: None. A DSF habitat assessment was performed on February 15, 2023 and March 2, 2023 by Ken Osborne of Osborne Biological Consulting. Based on that assessment, it was determined the Project site is not suitable for the species. The site lacks suitable habitat. Not observed during the field surveys or habitat assessment.

Least Bell's Vireo (*Vireo bellii pusillus*)

Status: federally endangered, state endangered

Habitat(s): This species primarily occupies riverine riparian habitats that typically feature dense cover within 1-2 m of the ground and a dense, stratified canopy. Typically, it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses.

Status onsite: None. No suitable habitat occurs onsite. Not observed during the field survey.

Summary of Sensitive Wildlife Species

No special status wildlife species or evidence of their presence were observed or heard during the field survey. Given the Project site's disturbed environment, proximity to the Water Treatment Plant, and lack of suitable habitat for the sensitive species, there is no opportunity sensitive wildlife species to occur within the Project site.

5.5.1 Wildlife Species Observed or Detected

Wildlife activity was moderate, and the species observed are typical urbanized species. The animal species or signs thereof observed during the CSLS surveys are listed below:

Birds:

- American crow (*Corvus brachyrhynchos*)
- California towhee (*Melospiza crissalis*)
- Bewick's wren (*Thryomanes bewickii*)
- American avocet (*Recurvirostra americana*)
- White crowned sparrow (*Zonotrichia leucophrys*)
- American bushtit (*Psaltriparus minimus*)
- Yellow-rumped warbler (*Setophaga coronata*)

- Western bluebird (*Sialia mexicana*)
- Cooper's Hawk (*Accipiter cooperii*)
- house finch (*Haemorhous mexicanus*)
- mourning dove (*Zenaida macroura*)
- song sparrow (*Melospiza melodia*)
- Anna's hummingbird (*Calypte anna*)
- turkey vulture (*Cathartes aura*)

Reptiles:

- western fence lizard (*Sceloporus occidentalis*)

Mammals:

- cottontail rabbit (*Sylvilagus audubonii*)
- California ground squirrels (*Spermophilus beecheyi*)
- coyote (*Canis latrans*)

5.6 Regional Connectivity/Wildlife Movement

The Project site does not support regional wildlife movement. The Project site consists of primarily brittlebush scrub and disturbed vegetation communities, within the Rialto Water Treatment Plant, which is located to the north of the Project site. This further constrains potential regional wildlife movement through the Project site.

Although regional movement through this area is likely limited, there is some potential for smaller or "local" movement through the Study Area for more urbanized species. Movement on a smaller scale could occur within the site for species that are less restricted in movement pathway requirements or are adapted to commercial/urban areas [e.g., squirrels, coyotes, and avian species in general].

Bird species may fly over the Project site to utilize the site for foraging, although this is expected to be limited due to the high level of human activity in the region. In summary, the site may support live-in and movement habitat for species on a local scale. Due to development surrounding the site, the site likely provides little to no function to facilitate movement for wildlife species on a regional scale.

5.7 Delhi Sands Flower-Loving Fly Assessment

Due to the location of the Project site adjacent to Delhi Sands flower-loving fly conservation areas, a habitat assessment for this species was conducted by Ken Osborne on February 15, 2023 (**Appendix E**). A subsequent survey was performed on March 2, 2023 on the Parking Alternative areas to determine the suitability for the DSF to occur onsite. The Delhi Sands flower-loving fly is a Federally Endangered species which is dependent on Delhi sands and Delhi sand dunes with less than 50% vegetation cover. Typical vegetation includes California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), and telegraph weed (*Heterotheca grandiflora*).

The entire Project site is on alluvial soils therefore the Project site is determined to be Unsuitable for DSF. The nearest extant DSF population appears immediately east and northeast of the water treatment facility on the eastern side of the existing channel. DSF have been observed (Osborne pers. obs.) 300 meters east, 350 meters east northeast, and within 0.9 km north northwest of the Project area. However, based on the proximity of DSF populations in the area, conditions on the entire Project site and surroundings west of the existing channel (which bounds the eastern edge of the Rialto water treatment facility) presents conditions Unsuitable for DSF.

Furthermore, the proposed parking lot location is determined to be Unsuitable for DSF due to lack of Delhi sand soil type.

5.8 Jurisdictional Areas

5.8.1 Summary of Jurisdictional Waters

The Rialto Channel runs west to east on the eastern portion of the Project site. The channel is concrete.

5.8.2 Waters of the United States

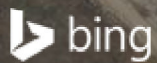
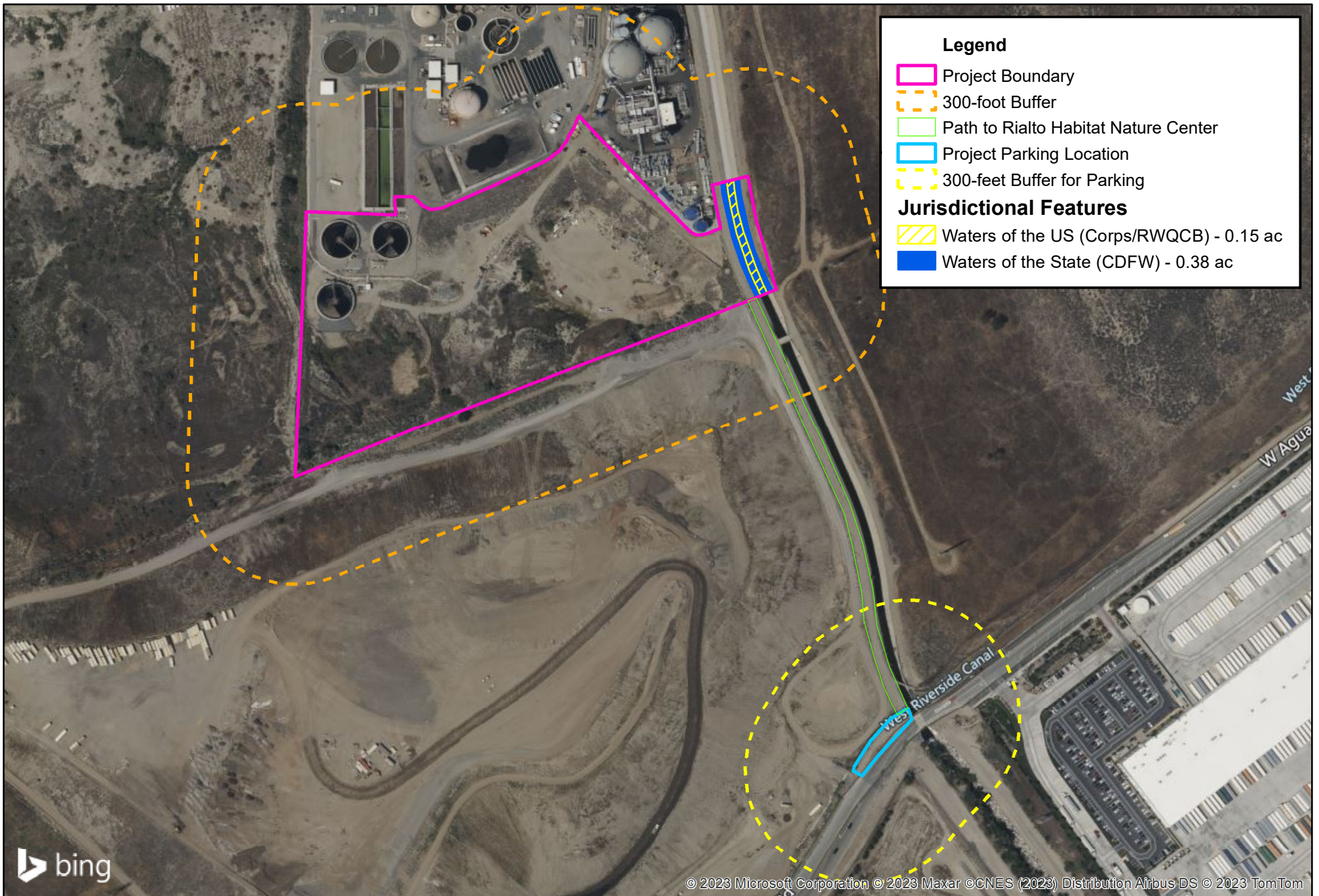
This section relies on the term “Waters of the United States” as it applies to the jurisdictional limits under the authority of the Army Corps of Engineers under the Clean Water Act and applies to the jurisdiction of the Regional Water Quality Control Board under the Porter-Cologne Water Quality Act. Based on the methodology described in Section 4.3, both literature/data base review and a field delineation were conducted to determine the presence of Waters of the United States.

A total of 0.15 acres as shown on **Figure 6**. The Rialto Channel is concrete within the Project boundary and has relatively permanent water due to the discharge of flows from the Waste Water Treatment Plant.

5.8.3 Waters of the State

The Study Area includes Waters of the State that meet CDFW characteristics in accordance with FGC Section 1600 (Brady and Vyverberg 2013). The only Waters of the State jurisdictional feature located within the Study Area is the concrete lined Rialto Channel due to the presence of biological and physical characteristics of a stream subject to the Jurisdiction of CDFW under FGC §1600 et seq.

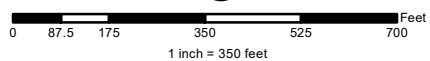
A total of 0.38 acres as shown on **Figure 6**. The Rialto Channel is concrete within the Project boundary.



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GIS Prepared By:
Carlson SLS

Created: January 23, 2023



Data Sources: Bing Maps

Rialto Habitat Nature Center Project
Jurisdictional Waters Map

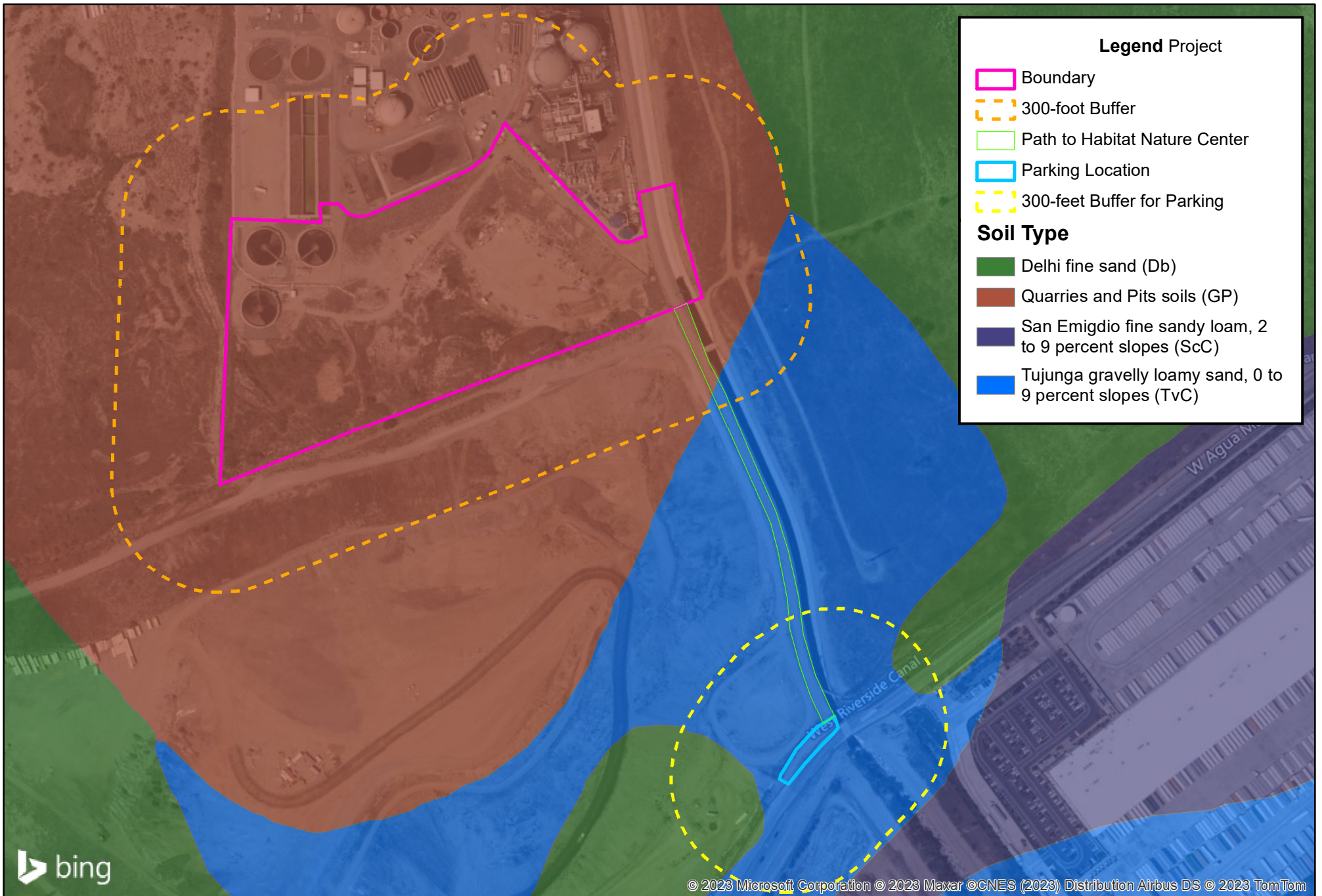
FIGURE 6

5.9 Soils Mapping

The United States Department of Agriculture Natural Resources Conservation Service lists three soil types (series) for the Study Area (**Figure 7**). Please see below for the following soil type, which was used to determine the possibility for sensitive wildlife and plant species. No unique soil types exist on the Project site.

The following soil types are mapped within the Study Area and shown on **Figure 7**:

- Quarries and Pits Soils (GP)
- Tujunga gravelly loamy sand, 0 to 9 percent slopes (TvC)

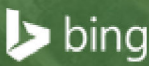


Legend Project

- Boundary
- 300-foot Buffer
- Path to Habitat Nature Center
- Parking Location
- 300-foot Buffer for Parking

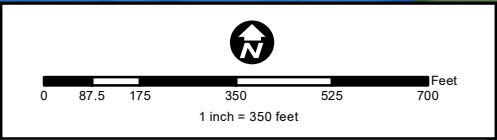
Soil Type

- Delhi fine sand (Db)
- Quarries and Pits soils (GP)
- San Emigdio fine sandy loam, 2 to 9 percent slopes (ScC)
- Tujunga gravelly loamy sand, 0 to 9 percent slopes (TvC)



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GIS Prepared By:
Carlson SLS
Created: January 23, 2023



Data Sources: Bing Maps

Rialto Habitat Nature Center Project
Soil Map

FIGURE 7

6.0 Threshold of Significance

Appendix G of the CEQA Guidelines is used by public agencies in determining whether a project may have a significant impact on biological resources. Under Appendix G, a project may have a significant impact on biological resources if it would:

- Threshold BIO-A** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Threshold BIO-B** Have a substantial adverse effect on any riparian habitat or other sensitive plant community identified in local or regional plans, policies, regulations, or by the CDFW or USFWS.
- Threshold BIO-C** Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- Threshold BIO-D** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery areas.
- Threshold BIO-E** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Threshold BIO-F** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State Habitat Conservation Plan.

For the purposes of this impact analysis the following definitions apply:

- “Substantial adverse effect” means loss or harm of a magnitude which, based on current scientific data and knowledge would: (1) substantially reduce population numbers of a listed, candidate, sensitive, rare, or otherwise special status species; (2) substantially reduce the distribution of a sensitive plant community/habitat type; or (3) eliminate or substantially impair the functions and values of a biological resource (e.g., streams, wetlands, or woodlands) in a geographical area defined by interrelated biological components and systems. In the case of this analysis, the prescribed geographical area is considered to be the region that includes the USGS topographic quadrangle for the site. For some species,

the geographic area may extend to the vicinity of the site based on known distributions of the species.

- “Conflict” means contradiction of a magnitude, which based on foreseeable circumstances, would preclude or prevent substantial compliance.
- “Rare” means: (1) that the species exists in such small numbers throughout all, or a significant portion of, its range that it may become endangered if its environment worsens; or (2) the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered “threatened” as that term is used in the FESA.

7.0 Significance Determination and Proposed Mitigation

7.1 Regulatory Setting

Sensitive species are provided protection by either Federal or State resource management agencies, or both, under provisions of the FESA and CESA.

There are a number of performance criteria and standard conditions that must be met as part of any review and approval of the proposed Project. These include compliance with all of the terms, provisions, and requirements with applicable laws that relate to Federal, State, and local regulating agencies related to potential impacts to sensitive plant and wildlife species, wetlands, riparian habitats, and blue lined stream courses. Impacts are sometimes locally important but not significant because, although they would result in an adverse alteration of existing local conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

7.2 Project Related Impacts

For the purpose of this assessment, Project-related impacts consist of direct and indirect impacts. Direct impacts are considered to be those that involve the loss, modification or disturbance of natural habitats (i.e., vegetation or plant communities), which in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts also include the destruction of individual plants or wildlife, which is typically the case in species of no to low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals in these manners may also directly affect regional population numbers of a species or result in the physical isolation of populations thereby reducing genetic diversity and, hence, population stability.

Indirect impacts are considered to be those that involve the effects of increases in ambient levels of sensory stimuli (e.g., noise, light), unnatural predators (e.g., domestic

cats and other non-native animals), and competitors (e.g., exotic plants, non-native animals). Indirect impacts may be associated with the construction and/or operation of a project; therefore, these impacts may be both short-term and long-term in their duration. These impacts are commonly referred to as “edge effects” and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to project sites.

The determination of impacts in this analysis is based on the proposed Project development plan and the biological values of the habitat and/or sensitivity of plant and wildlife species to be affected. Any recommended mitigation measures to address impacts are discussed below, along with compliance of existing regulations.

7.2.1 Impacts to Vegetation Communities

Direct impacts resulting from Project implementation consist of any ground-disturbing activities (i.e., vegetation removal, grading, paving, structures, landscaping, fuel modification zone, etc.). These areas would be permanently affected by the construction of the Project. Calculations are based on the currently proposed development design in conjunction with the vegetation map from the field survey and aerial imagery. The proposed development plan can be found on **Figure 3**.

Indirect temporary impacts to plant communities include the effects of fugitive dust created by grading activities, vehicle construction traffic, or offsite discharge of surface water runoff with its associated erosion and sedimentation. Grading-related dust could settle on plant surfaces and indirectly inhibit metabolic processes such as photosynthesis and respiration. Grading-related erosion, runoff, sedimentation, soil compaction, and alteration of drainage patterns may affect plants by altering site conditions so that the location in which they are growing becomes unfavorable. Another example of indirect impacts includes the introduction and spread of invasive, exotic plants which could result in permanent indirect impacts to adjacent native plant communities.

Figure 8 and **Table 2** describe and list the approximate total acreages of vegetation communities that will be impacted by Project activities within the Project boundary. It is anticipated that the entire Project site would be impacted with the implementation of the Project.

Table 2. Vegetation Community Impacts

| Vegetation Community | Existing Vegetation (acres) | Impacts (acres) | Avoided (acres) |
|--------------------------------------|-----------------------------|-----------------|-----------------|
| Brittle Bush Scrub | 3.85 | 2.23 | 1.62 |
| Disturbed Brittle Bush Scrub | 0.10 | 0.10 | 0.00 |
| Disturbed California Buckwheat Scrub | 0.12 | 0.12 | 0.00 |
| Mulefat Thicket | 0.12 | 0.12 | 0.00 |

| | | | |
|-----------------------|--------------|--------------|-------------|
| Non-native Grasslands | 0.45 | 0.35 | 0.10 |
| Tamarisk Thicket | 0.43 | 0.40 | 0.03 |
| Ruderal | 2.06 | 1.86 | 0.20 |
| Disturbed | 7.71 | 5.99 | 1.72 |
| Developed | 2.21 | 0.12 | 2.09 |
| TOTAL | 17.05 | 11.29 | 5.76 |

Direct impacts to the 8.72 acres of tamarisk thicket, non-native grasslands, ruderal, disturbed and developed communities onsite from Project implementation, are not significant because these areas consist of built environment and non-native vegetation communities. Further, the species found within these vegetation communities include common plant species which are present in large numbers throughout the region and the removal is not considered significant.

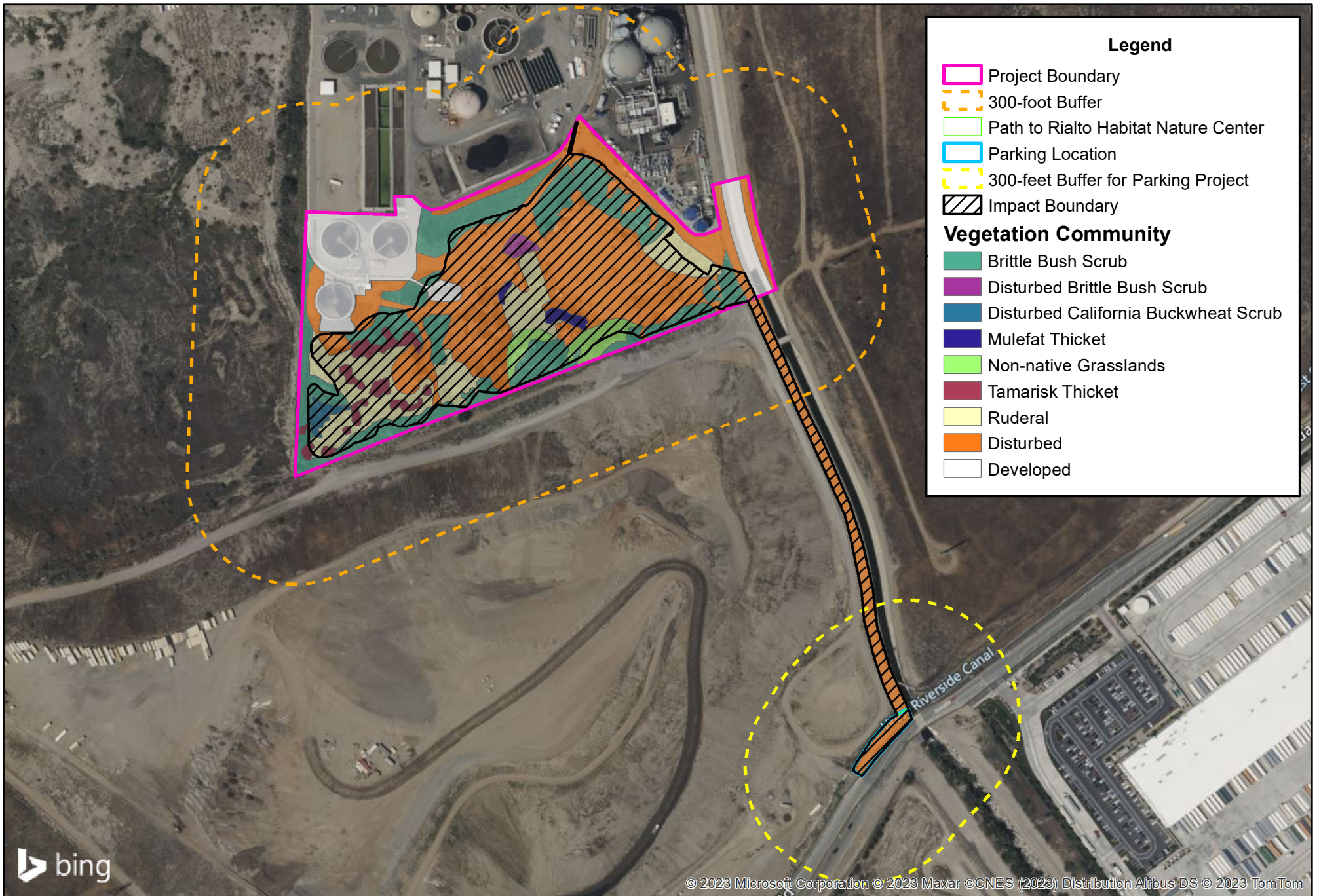
Direct impacts to 2.57 acres of native vegetation communities (brittlebush scrub, disturbed brittlebush scrub, disturbed California buckwheat scrub, and mulefat thicket) from Project implementation is not considered significant because while native, the limited area does not contain any sensitive species, plants or wildlife, or represent sensitive habitats identified through CNDDDB or CDFW sensitive plant communities. The species found within these communities includes common plant species which are present in large numbers throughout the region and the removal is not considered significant. Furthermore, the habitat to be associated with the creation of the two lakes include the creation of these vegetation communities on the slopes and shelf of the lakes. No indirect impacts to the surrounding 300-foot buffer area are anticipated.

7.2.2 Impacts to Jurisdictional Features

Any direct impact to the jurisdictional waters would require authorization from the Resource Agencies (Corps, CDFW, and RWQCB) before any impacts could commence.

The only jurisdictional resource found onsite is the Rialto Channel. The channel is concrete within the Project boundary. No jurisdictional impacts would occur with Project implementation as the outfall area is not anticipated to change. Therefore, no mitigation is required. Furthermore, the Project creates new wetland and riparian habitat with the creation of the two lakes and various planting zones.

It should be noted that the City has the ability and capacity to choose not to divert any water into the lakes post construction, effectively concluding the existence of the lakes. Reasons for not diverting the water could be cost of maintenance and repairs to the lakes or overall operations of the lakes. The Rialto Habitat Nature Center Project is fully autonomous to the overall system, and should budget decline in the City, the City has the authorization to stop any diverting water into the lake and return to pre-project conditions.

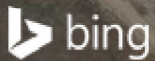


Legend

- Project Boundary
- 300-foot Buffer
- Path to Rialto Habitat Nature Center
- Parking Location
- 300-foot Buffer for Parking Project
- Impact Boundary

Vegetation Community

- Brittle Bush Scrub
- Disturbed Brittle Bush Scrub
- Disturbed California Buckwheat Scrub
- Mulefat Thicket
- Non-native Grasslands
- Tamarisk Thicket
- Ruderal
- Disturbed
- Developed



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GIS Prepared By:
Carlson SLS
Created: April 16, 2023



Data Sources: Bing Maps

Rialto Habitat Nature Center Project
Vegetation Impact Map

FIGURE 8

7.3 Threshold BIO - A

Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Less than Significant with Mitigation Incorporated.

7.3.1 Sensitive Plant Species

No special status plant species exist within the Project site. No suitable habitat for the plant species is found within the Project site, and no observations of sensitive species have been made; therefore, no impact would occur.

7.3.2 Sensitive Wildlife Species

The Project site has nesting and foraging habitat for avian species and special status wildlife identified below due to the location and surrounding land uses and the built nature of the Project site during construction and operations. The existing habitat found onsite does not provide suitable habitat for sensitive wildlife species.

Direct impacts associated with vegetation removal, as a result of construction and long-term operations in the form of vegetation maintenance, may occur to all avian species covered under the Migratory Bird Treaty Act (MBTA) with the removal of potential nesting and foraging habitat. Under **Mitigation Measure BIO-1**, if Project construction or operational maintenance is scheduled to occur during the typical breeding bird season (January 1 through August 15 for raptors and February 15 through August 31 for all other avian species), direct removal of vegetation and indirect short-term noise effects to birds that may forage or nest onsite or within the buffer area may occur. In order to reduce direct and indirect impacts on nesting birds, if vegetation removal and/or construction activities were to occur during nesting bird season, a pre-construction nesting bird survey would be required within five (5) days of ground disturbances during typical nesting bird season to delineate any active nests found within the Study Area. Should an active nest be observed, a no-work buffer shall occur surrounding the active nest, until determined by the Project Biologist it has become inactive. The implementation of the pre-construction nesting bird survey would prevent any direct or indirect impacts due to the removal of vegetation and construction-related noise on species covered under the MBTA.

The Migratory Bird Treaty Act protects nesting activities of both native and non-native bird species. Under the Act it is unlawful to harm, harass, or take a nest. Furthermore, pre-construction and pre-operational vegetation maintenance nesting bird surveys as outlined within **Mitigation Measure BIO - 1** would ensure protection against direct impacts associated with vegetation removal and maintenance or indirect impacts associated with construction or operational maintenance related noise impacts for avian species covered under the MBTA during the typical nesting bird season.

Implementation of **MM BIO-1** would reduce potential impacts to special status wildlife species to less than significant.

MM BIO - 1: If grading or site disturbance or operational vegetation maintenance is to occur between January 1 through August 15 for raptors and February 15 through August 31 for all other avian species, a nesting bird survey shall be conducted within all suitable habitat, onsite and within 300-feet surrounding the site (as feasible), by a qualified biologist within no more than 5 days of scheduled vegetation removal or start of ground disturbing activities, to determine the presence of nests or nesting birds. If active nests are identified, the biologist shall establish buffers around the vegetation (500 feet for raptors and sensitive species, 200 feet for non-raptors/non-sensitive species). All work within these buffers shall be halted until the nesting effort is finished (i.e. the juveniles are surviving independent from the nest). The onsite biologist shall review and verify compliance with the no-work buffers and verify the nesting effort has finished. Work can resume when no other active nests are found onsite or within the surrounding buffer area. Alternatively, a qualified biologist may determine that construction can be permitted within the buffer areas of an active nest with preparation and implementation of a monitoring plan to prevent any impacts while the nest continues to be active (eggs, chicks, etc.). Upon completion of the survey and any follow-up construction avoidance management, a report shall be prepared documenting mitigation monitoring compliance. If ground disturbances have not commenced within 5 days of a negative survey or if construction activities have stopped for 5 days or longer, the nesting survey must be repeated to confirm the absence of nesting birds.

Furthermore, following Project implementation the lakes would include coastal sage scrub and riparian habitats. The creation of the lakes and adjacent habitats provides superior habitat than the vegetation communities being impacted. Furthermore, Project implementation would provide superior nesting and foraging habitat for avian species.

With the implementation of **MM BIO-1** potential adverse impacts to nesting birds and special status wildlife species are reduced to a less than significant level during both the construction phase and operational maintenance phase.

7.3.3 Critical Habitat

The Study Area does not contain a designated Critical Habitat overlay. The closest designated Critical Habitat is located approximately 0.50 miles south for the Santa Ana Sucker. No designated Critical Habitat is located onsite; therefore, there are no potential impacts to designated Critical Habitat due to Project implementation. Furthermore, no suitable habitat occurs onsite for the Santa Ana Sucker.

7.4 Threshold BIO- B

Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies,

regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

No Impact.

The Project site contains the Rialto Channel, which is located on the eastern portion of the Project site. The Channel is not impacted as part of Project implementation. Therefore, no impacts are expected to occur to Waters of the State and no mitigation is required.

It should be noted that the City has the ability and capacity to choose not to divert any water into the lakes post construction, effectively concluding the existence of the lakes. Reasons for not diverting the water could be cost of maintenance and repairs to the lakes or overall operations of the lakes. The Rialto Habitat Nature Center Project is fully autonomous to the overall system, and should budget decline in the City, the City has the authorization to stop any diverting water into the lake and return to pre-project conditions.

7.5 Threshold BIO - C

Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact.

The Project site contains the Rialto Channel, which is located on the eastern portion of the Project site. The Channel is not impacted as part of Project implementation. Therefore, no impacts are expected to occur to Waters of the State and no mitigation is required.

It should be noted that the City has the ability and capacity to choose not to divert any water into the lakes post construction, effectively concluding the existence of the lakes. Reasons for not diverting the water could be cost of maintenance and repairs to the lakes or overall operations of the lakes. The Rialto Habitat Nature Center Project is fully autonomous to the overall system, and should budget decline in the City, the City has the authorization to stop any diverting water into the lake and return to pre-project conditions.

7.6 Threshold BIO - D

Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less than Significant with Mitigation Incorporated.

7.6.1 Wildlife Movement

The site supports potential live-in and movement habitat for species on a local scale (i.e., some limited live-in and marginal movement habitat for reptile, bird, and mammal species), however, the site provides little to no function to facilitate wildlife movement on a regional scale due to the primary developed nature surrounding the Project site. Movement on a local scale likely occurs with species adapted to urban environments due to the surrounding development and disturbances in the vicinity of the site. Although implementation of the Project would result in disturbances to local wildlife movement within the site, those species adapted to urban areas would be expected to persist on-site following construction within the newly created lakes.

Furthermore, following Project implementation the lakes would include coastal sage scrub and riparian habitats. The creation of the lakes and adjacent habitats provides superior habitat than the vegetation communities being impacted and more potential live-in and movement habitat for species.

As such, impacts would be less than significant, and no mitigation measures would be required.

7.6.2 Migratory Birds and Raptors

The Study Area supports potential nesting and foraging habitat for migratory birds. While the loss of foraging/nesting habitat as a result of the proposed Project implementation would cause a significant loss of foraging/nesting habitat for migratory birds and raptors, the Project proposes to create two lakes and associated wetland/riparian habitats and opportunities for nesting and foraging habitat. Therefore, impacts to foraging habitat would be less than significant and no mitigation measures are required with the implementation of the Project.

The site supports songbird nests due to the presence of a shrubs and tamarisk thickets current and will support vegetation in both coastal sage scrub and riparian habitat post-construction. Nesting activity typically occurs from January 1 through August 15 for raptors and February 15 through August 31 for all other avian species. Disturbing or destroying active nests is a violation of the MBTA (16 U.S.C. 703 et seq.). In addition, nests and eggs are protected under Fish and Wildlife Code Section 3503. As such, direct impacts to breeding birds (e.g. through nest removal) or indirect impacts (e.g. by noise causing abandonment of the nest) is potentially significant. Compliance with the MBTA during construction and operational vegetation maintenance would reduce impacts to a less than significant level, as detailed in **MM BIO-1**.

7.7 Threshold BIO - E

Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact.

The Project is not subject to any local policies, such as a tree preservation ordinance, that protect biological resources. Therefore, no impacts would occur, and no mitigation is necessary.

7.8 Threshold BIO - F

Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

Less than Significant.

The City or Rialto nor the County of San Bernardino do not have an adopted Conservation Plan, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans. The Project is located near DSF observed occurrences, located 300 meters east, 350 meters east northeast, and within 0.9 km north northwest of the Project site. Furthermore, DSF conservation occurs to the east and west of the Project site. The Project site does not contain suitable habitat for the DSF, therefore, no impacts would occur to DSF conservation area since the Project site is not located within designated preserve or reserve area. Therefore, no mitigation is necessary.

The local biological agencies including the San Bernardino Valley Municipal Water District (SBVMWD) have drafted a Habitat Conservation Plan (HCP) for the Upper Santa Ana River (SAR) watershed, which is a comprehensive program that would provide a framework to protect, enhance, and restore the habitat for Covered Species defined in the HCP while streamlining permitting for Covered Activities. This plan has not been approved by the Wildlife Agencies (USFWS and CDFW) at the time of this Assessment. However, it is the intent of the Project to maintain the existing flows of the WWTP discharge into Rialto Channel. Following Project implementation the discharge will meet and exceed the 7 cfs requirement proposed as part of the SAR HCP.

8.0 Cumulative Impacts

The loss of biological resources on the Study Area must be considered in the context of the other development in the area. The Project's direct impact analysis identified nesting birds that when combined with impacts from other reasonably past, present, and future projects, could result in a cumulative biological impact. Direct impacts may occur to nesting birds should construction activities and vegetation removal take place during the typical nesting season. However, adherence and implementation of **MM BIO - 1** will ensure impacts to nesting and breeding avian species and their habitats are minimized thus reducing the Project's contribution to cumulative impacts to less than significant. Furthermore, following Project implementation, the lakes would include coastal sage scrub and riparian habitats. The creation of the lakes and adjacent habitats

provides superior habitat than the vegetation communities being impacted and more potential nesting and foraging habitat for species.

Development surrounding the Project site is essentially build-out, therefore there is a lesser potential to impact foraging habitat for song birds and raptors than loss of nesting habitat. The proposed Project constitutes the reuse of an existing developed area and creates lakes and riparian habitat to further enhance the area and provide additional nesting and foraging habitat to avian species. It is not anticipated that additional development would occur in the Project area due to the built-out nature thus conserving the DSF Conservation area and with the implementation of the Project provide additional habitat for avian species. Since the proposed Project is the reconstructed of habitat in a developed area, the proposed Project would not contribute to a cumulative impact, resulting in a less than significant cumulative impact.

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APPENDIX A

Representative Photographs of Community
Classification



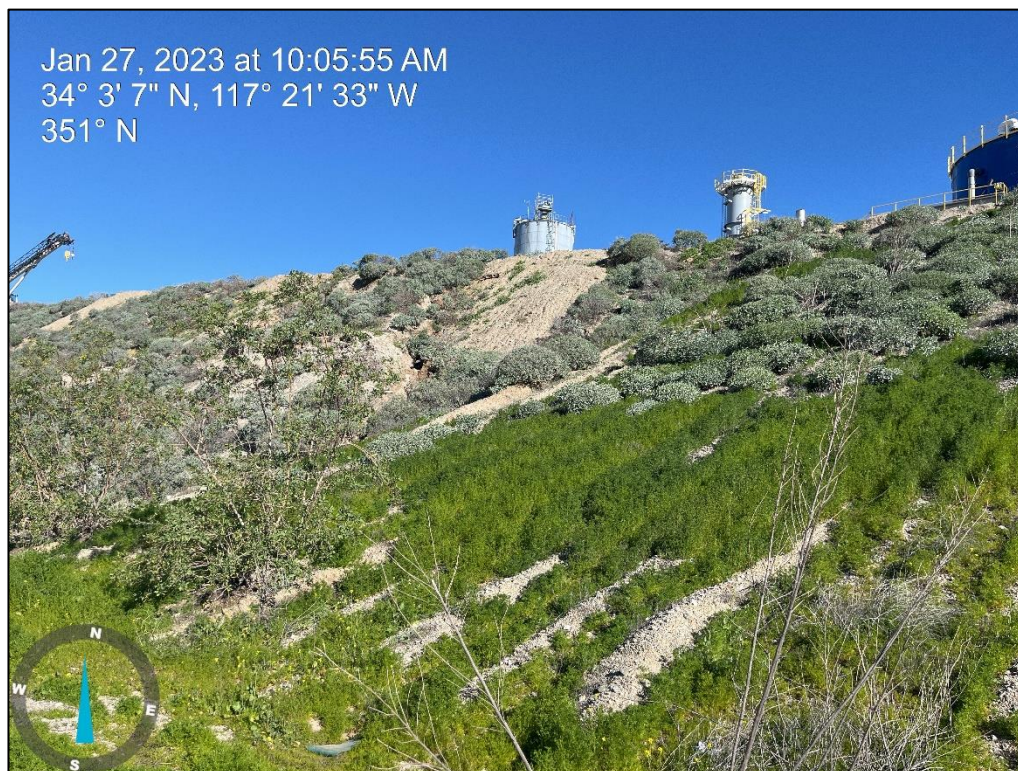
Looking north on the Project site with Encelia slopes and disturbed habitat.



Much of the Project site is disturbed habitat.



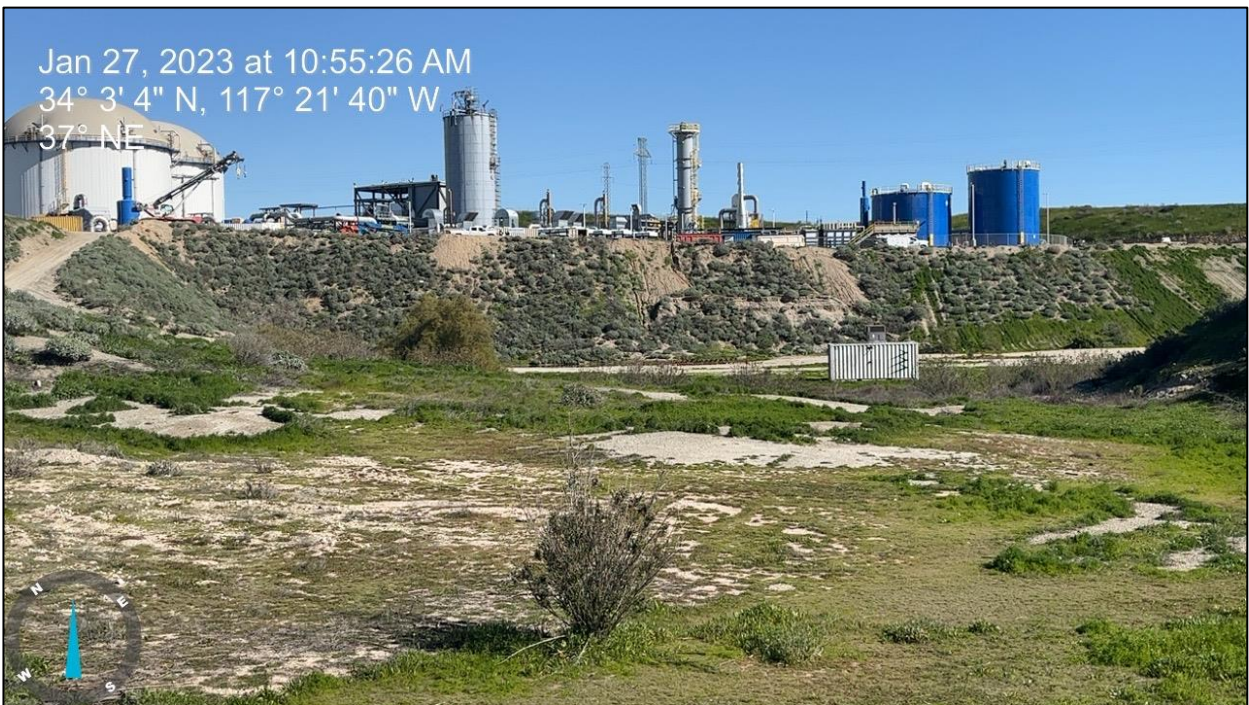
Many of the slopes on the Project site consist of brittle bush scrub.



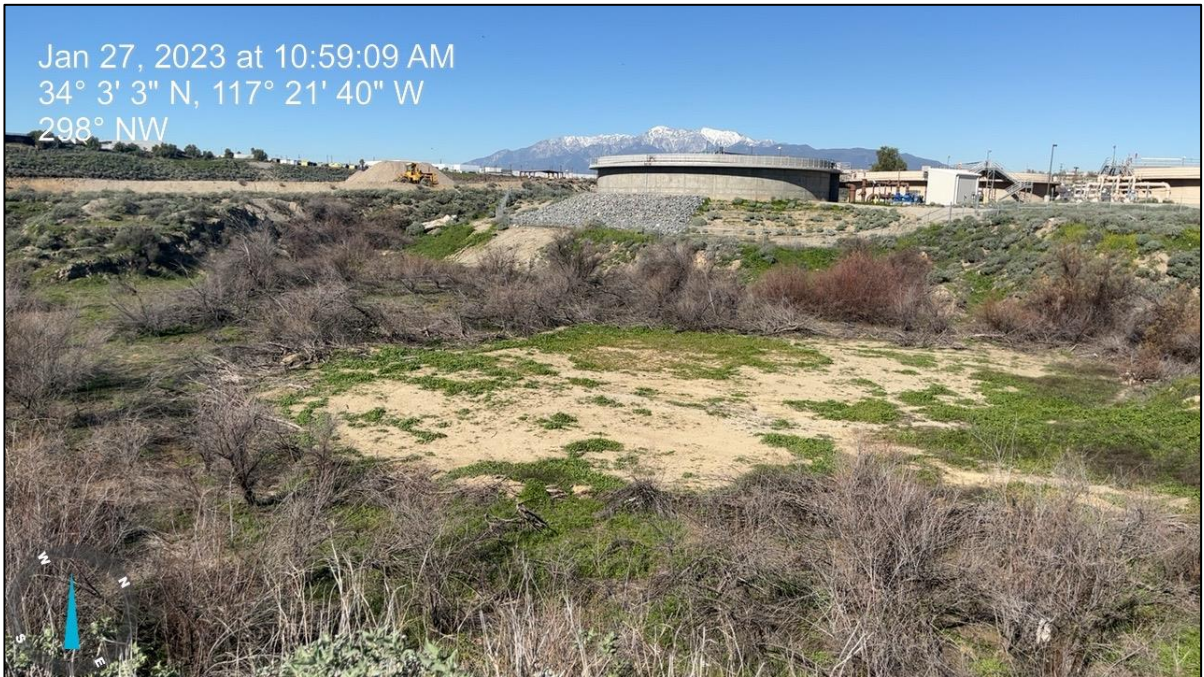
Several slopes included non-native grasslands.



Looking south over the Project site.



Looking northeast across the Project site with ruderal habitat and brittle bush scrub slope



Areas of tamarisk stands.



The Project site included scattered slopes of California sage scrub.



Looking east over the Project site.



Looking west over the Project site.



The proposed parking location consists of disturbed habitat.



Proposed trail path that would lead to the Rialto Habitat Nature Center Project.

APPENDIX B

Plant Species Recorded During Field Surveys

Appendix B contains the list of vascular plant taxa recorded during the 2023 biological survey conducted within the Study Area. Plant nomenclature and taxonomic order is based on *The Jepson Manual: Vascular Plants of California*, second Edition (Baldwin et al. 2012).

Plant Species Observed during the Field Survey

EUDICOTS

VASCULAR SPECIES

ASTERACEAE–Sunflower Family

Artemisia californica–California sagebrush

Baccharis pilularis–coyote brush

Baccharis salicifolia–mulefat

Centaurea melitensis–Maltese star-thistle*

Centaurea solstitialis–yellow star-thistle*

Encelia farinosa–brittle bush

Oncosiphon piluliferum–stinknet*

BRASSICACEAE–Mustard Family

Hirschfeldia incana–shortpod mustard*

GERANIACEAE–Geranium Family

Erodium cicutarium–redstem stork's bill*

LAMIACEAE–Mint Family

Salvia apiana–white sage

POLYGONACEAE–Buckwheat Family

Eriogonum fasciculatum var. *fasciculatum*–California buckwheat

TAMARICACEAE–Tamarisk Family

Tamarix ramosissima–tamarisk*

MONOCOTS

VASCULAR SPECIES

POACEAE–Grass Family

Avena barbata–slender oat*

Bromus diandrus–ripgut brome*

Bromus madritensis ssp. *rubens*–red brome*

APPENDIX C

Special Status Plant Species Potential Occurrence Determination

APPENDIX C

Special Status Plant Species Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status plant species within the Project site for the USGS 7.5-Minute Topographic Map San Bernardino South and the surrounding two-mile radius. During the field surveys, the potential for special status plant species to occur within the Project site was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or recorded on-site by other qualified biologists.
- Known to Occur: observed on site in the recent past, but not observed during the most recent biological survey.
- High potential to occur: observed in similar habitat in the region by a qualified biologist or habitat on the site is a type often utilized by the species, and the site is within the known distribution and elevation range of the species.
- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species, and habitat on the site is a type occasionally used by the species.
- Low potential to occur: the site is within the known distribution and elevation range of the species, but habitat on the site is rarely used by the species or for which there are no known recorded occurrences of the species within or adjacent to the site.
- None: a focused study failed to detect the species or no suitable habitat is present.
- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assessed the probability of occurrence rather than make a definitive conclusion about species presence or absence. Failure to detect the presence of the species is not definitive and may be due to variable effects associated with fire, rainfall patterns, and/or season.

Appendix C - Special Status Plant Species Potential Occurrence Determination

Special Status Plants: Potential to Occur within the Study Area

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence within the Study Area |
|--|----------------------------|----------------------|--|---|
| <i>Arenaria paludicola</i> | marsh sandwort | FE, SE CRPR:1B.1 | Habitats supporting sandy openings and marshes and swamps (freshwater or brackish). Known from 3 to 170 meters (9 to 558 feet) MSL. Bloom Period: May through August. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Astragalus hornii</i> <i>var. hornii</i> | Horn's milk-vetch | CRPR: 1B.1 | Habitats supporting Meadows and seeps, Playas along alkaline and lake margins. Known from 60 to 850 meters (195 to 2,790 feet) MSL. Bloom period May through October. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Carex comosa</i> | Bristly Sedge | CRPR: 2B.1 | Habitats supporting Coastal prairie, Marshes and swamps (lake margins), Valley and foothill grassland. Known from 0 to 625 meters (0 to 2,050 feet) MSL. Bloom period May through September. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Centromadia pungens</i> ssp. <i>laevis</i> | smooth tarplant | CRPR:1B.1 | Alkaline areas in chenopod scrub, meadows and seeps, ditches, playas, riparian woodland, and valley and foothill grassland. Known from below 480 meters (1,600 feet) MSL. Blooming Period: April through September. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Chloropyron maritimum</i> ssp. <i>maritimum</i> | salt marsh bird's-beak | FE, SE CRPR: 1.B2 | Habitats supporting coastal dunes and marshes and swamps (coastal salt). Known from 0 to 30 meters (0 to 985 feet) MSL. Blooming Period: May through November. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Chorizanthe parryi</i> <i>var. parryi</i> | Parry's spineflower | CRPR:1B.1 | Found in sandy or rocky openings. Habitat includes chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. Known from 275 to 1,220 meters (900 to 4,000 feet) MSL. Blooming period: April through June. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Cuscuta obtusiflora</i> <i>var. glandulosa</i> | Peruvian Dodder | CRPR: 2B.2 | Habitats supporting Marshes and swamps (freshwater). Known from 15 to 280 meters (50 to 920 feet) MSL. Bloom Period: July through October. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Dodecahema leptoceras</i> | Slender-horned spineflower | CRPR: 1B.1 | Habitats supporting sandy soils within Chaparral, Cismontane woodland, Coastal scrub (alluvial fans). Known from 200 to 760 meters (655 to 2,495 feet) MSL. Bloom period: April to June. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |

Appendix C - Special Status Plant Species Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence within the Study Area |
|--|-----------------------|------------|---|---|
| <i>Eriastrum densifolium</i> ssp. <i>sanctorum</i> | Santa Ana Wollystar | CRPR: 1B.1 | Habitats supporting Chaparral, Coastal scrub (alluvial fans). Known from 91 to 610 meters (300 to 2,000 feet) MSL. Bloom period: April to September. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Galium californicum</i> ssp. <i>primum</i> | Meadow Bedstraw | CRPR: 1B.2 | Habitats supporting Chaparral, Lower montane coniferous forest. Known 1,350 to 1,700 meters (4,430 to 5,580 feet) MSL. Bloom period: May through July. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Helianthus nuttallii</i> ssp. <i>parishii</i> | Los Angeles Sunflower | CRPR: 1A | Habitats supporting marshes and swamps (freshwater). Known from 10 to 1,525 meters (35 to 5,005 feet) MSL. Bloom period: August through October. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Horkelia cuneata</i> var. <i>puberula</i> | Mesa horkelia | CRPR: 1B.1 | Habitats supporting Chaparral (maritime), Cismontane woodland, Coastal scrub. Known from 70 to 810 meters (230 to 2,660 feet) MSL. Bloom period: February through July. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Lycium parishii</i> | Parish's desert-thorn | CRPR: 2B.3 | Habitats supporting Coastal scrub, Sonoran desert scrub. Known from 135 to 1,000 meters (445 to 3,280 feet) MSL. Bloom period: March through April. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Malacothamnus parishii</i> | Parish bush-mallow | CRPR: 1A | Habitats supporting Chaparral, Coastal scrub. Known from 305 to 455 meters (1,000 to 1,495 feet) MSL. Bloom period: June through July. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Monardella pringlei</i> | Pringle's monardella | CRPR: 1A | Habitats supporting Coastal scrub (sandy). Known from 300 to 400 meters (985 to 1,310 feet) MSL. Bloom period: May through June. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Nasturtium gambelii</i> | Gambel's water cress | CRPR: 1B.1 | Habitats supporting Marshes and swamps (brackish, freshwater). Known from 5 to 330 meters (15 to 1,085 feet) MSL. Bloom period: April through October. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Ribes divaricatum</i> var. <i>parishii</i> | Parish's gooseberry | CRPR: 1A | Habitats supporting Riparian woodland. Known from 65 to 300 meters (215 to 985 feet) MSL. Bloom period: February through April. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Senecio aphanactis</i> | Chaparral ragwort | CRPR: 2B.2 | Habitats supporting Chaparral, Cismontane woodland, Coastal scrub. Known from 15 to 800 meters (50 to 2,625 feet) MSL. Bloom period: Jan through April. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |

Appendix C - Special Status Plant Species Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence within the Study Area |
|----------------------------------|--------------------------|------------|--|---|
| <i>Sidalcea neomexicana</i> | salt spring checkerbloom | CRPR: 2B.2 | Habitats supporting Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas. Known from 15 to 1,530 meters (50 to 5,020 feet) MSL. Bloom period: March through June. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Sphenopholis obtusata</i> | prairie wedge grass | CRPR: 2B.2 | Habitats supporting Cismontane woodland, Meadows and seeps. Known from 300 to 2,000 meters (985 to 6,560 feet) MSL. Bloom period: April to July. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| <i>Symphyotrichum defoliatum</i> | San Bernardino aster | CRPR: 1B.1 | Habitats supporting Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Marshes and swamps, Meadows and seeps, Valley and foothill grassland (vernally mesic). Known from 2 to 2,040 meters (5 to 6,695 feet) MSL. Bloom period: July through November. | None. No suitable habitat is found within the Study Area. Not observed during field survey. |
| | | | | |

| Legend |
|--|
| <p><u>Federal Endangered Species Act (ESA) Listing Codes:</u> federal listing is pursuant to the Federal Endangered Species Act of 1973, as amended (ESA). FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range. FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.</p> <p><u>California Endangered Species Act (CESA) Listing Codes:</u> state listing is pursuant to § 1904 (Native Plant Protection Act of 1977) and §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range. ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.</p> <p><u>California Rare Plant Ranks (Formerly known as CRPR Lists):</u> the CRPR is a statewide, non-profit organization that maintains, with CDFG, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CRPR and CDFG officially changed the name "CRPR List" or "CRPR Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CRPR and CDFG jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CRPR assignment.</p> |

Appendix C - Special Status Plant Species Potential Occurrence Determination

CRPR: 1B - California Rare Plant Rank 1B (formerly List 1B): Plants Rare, Threatened, or Endangered in California and Elsewhere. All of the plants constituting California Rare Plant Rank 1B meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 2 - California Rare Plant Rank 2 (formerly List 2): Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Sections 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

CRPR: 4 - California Rare Plant Rank 4 (formerly List 4): Plants of Limited Distribution - A Watch List. Very few of the plants constituting California Rare Plant Rank 4 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CRPR and CDFG strongly recommend that California Rare Plant Rank 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.

California Native Plant Society (CRPR) Threat Ranks: The CRPR Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) and designates the level of endangerment by a 1 to 3 ranking with 1 being the most endangered and 3 being the least endangered. A Threat Rank is present for all California Rare Plant Rank 1B's, 2's, 4's, and the majority of California Rare Plant Rank 3's. California Rare Plant Rank 4 plants are seldom assigned a Threat Rank of 0.1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a California Rare Plant Rank. In addition, all California Rare Plant Rank 1A (presumed extinct in California), and some California Rare Plant Rank 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

0.1 = seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 = fairly endangered in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

Sources:

- Calflora website - search for plants (Calflora 2023).
- CRPR Inventory of Rare and Endangered Plants (CRPR 2023).
- The Status of Rare, Threatened, and Endangered Plants and Animals of California, 2000-2004 (CDFW 2023).
- The Jepson Manual: *Vascular Plants of California*, second edition (Baldwin *et al.* 2012).
- RareFind, CDFW, California Natural Diversity Database (CNDDDB) (CDFW 2023f).
- State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2023i).

APPENDIX D

Special Status Wildlife Potential Occurrence
Determination

APPENDIX D

Special Status Wildlife Potential Occurrence Determination

This table summarizes conclusions from analysis and field surveys regarding the potential occurrence of special status wildlife species within the Project site for the USGS 7.5-Minute Topographic Map San Bernardino South and the surrounding two-mile radius. During the field surveys, the potential for special status wildlife species to occur within the Project Site was assessed based on the following criteria:

- Present: observed on the site during the field surveys, or previously recorded on-site by other qualified biologists.
- Known to Occur: observed on site in the recent past, but not observed during the most recent biological survey.
- High potential to occur: observed in similar habitat in the region by a qualified biologist or habitat on the site is a type often utilized by the species, and the site is within the known distribution and elevation range of the species.
- Moderate potential to occur: reported sightings in surrounding region, or the site is within the known distribution and elevation range of the species, and habitat on the site is a type occasionally used by the species.
- Low potential to occur: the site is within the known distribution and elevation range of the species, but habitat on the site is rarely used by the species or for which there are no known recorded occurrences of the species within or adjacent to the site.
- None: a focused study failed to detect the species or no suitable habitat is present.
- Unknown: the species' distributional/elevation range and habitat are poorly known.

Even with field surveys, biologists assessed probability of occurrence rather than make definitive conclusions about species presence or absence. Failure to detect the species is not definitive and may be due to variable effects associated with migration, weather, fire, and/or time of day and year.

Special Status Wildlife: Potential to Occur within the Study Area

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|-------------------------------------|--|--------------------|--|--|
| <i>Agelaius tricolor</i> | Tricolor blackbird | ST, SSC, BLMS, BBC | Tricolor blackbird colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat composed of grassland, woodland, or agricultural cropland. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Aimophila ruficeps canescens</i> | southern California rufous-crowned sparrow | WL | They are found on grass-covered hillsides, coastal sage scrub, and chaparral and often occur near the edges of the denser scrub and chaparral associations. Preference is shown for tracts of California sagebrush. Optimal habitat consists of sparse, low brush or grass, hilly slopes preferably interspersed with boulders and outcrops. The species may occur on steep grassy slopes without shrubs if rock outcrops are present. It is a very secretive species. | None. No suitable habitat is found within the Project site. Not observed during the field surveys. |
| <i>Anniella stebbinsi</i> | Southern California legless lizard | SSC | Coastal sand dunes and a variety of interior habitats, including sandy washes and alluvial fans. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Arizona elegans occidentalis</i> | California glossy snake | SSC | This species is found in a variety of habitats, primarily arid scrub areas with sparse vegetation including chaparral and grasslands areas. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Aspidoscelis hyperythra</i> | orange-throated whiptail | SSC, FSS | The species is generally found in semi-arid brushy areas typically with loose soil and rocks, including washes, stream sides, rocky hillsides, and coastal chaparral. Habitat types include low elevation chaparral, non-native grassland, (Riversidian) coastal sage scrub, juniper woodland and oak woodland. | None. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|---------------------------------------|---------------------|----------------|--|--|
| | | | Associations include alluvial fan scrub and riparian areas. Friable soil appears to be a necessary requirement for excavating burrows and hiding eggs. | |
| <i>Artemisospiza belli</i> | Bell's sage sparrow | WL | Chaparral and coastal sage scrub along the coastal lowlands, inland valleys and in the lower foothills of local mountains. | None. No suitable habitat is found within the Project site. Not observed during the field surveys. |
| <i>Aspidoscelis tigris stejnegeri</i> | coastal whiptail | SSC | This species is found in a variety of habitats, primarily hot and dry open areas with sparse vegetation including chaparral, woodland, and riparian areas. This subspecies is found in coastal southern California, north into Ventura County, and south into Baja California. Additional important habitat characteristics include Important habitat components include shrub cover with accumulated leaf litter, and an abundance of invertebrate prey, particularly termites. | Low. The site contains minimal suitable habitat within the disturbed areas. Not observed during field survey. |
| <i>Athene cunicularia hypugaea</i> | burrowing owl | SSC, BLMS, BCC | Burrowing owls are a year-round resident of California including habitats of open, dry grassland, and desert. They are generally restricted to mostly flat, open country with suitable nest sites. They use rodent or other burrows for roosting and nesting cover and acquire their burrows from either abandonment or eviction. Burrowing owls typically hunt from a perch. | None. A habitat assessment was performed, and no suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Bombus crotchii</i> | Crotch bumble bee | SCE | The crotch bumble bee inhabits open grassland and scrub habitats. This species occurs primarily in California, including the Mediterranean region, Pacific Coast, Western Desert, Great Valley, and adjacent foothills | None. No suitable nectar sources were observed onsite. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|---|-------------------------------------|------------------------|---|---|
| | | | through most of southwestern California. | |
| <i>Buteo swainsoni</i> | Swainson's hawk | ST, BLMS, BBC | This hawk prefers open grasslands and desert-like habitats. It is common to see this hawk perched on a fence post in a prairie or open range. The Swainson's Hawk also inhabits agricultural areas, and is known to follow farmer's tractors in search of insect or rodent prey. | None. No suitable habitat is found within the Project site. Not observed during the field survey. |
| <i>Catostomus santaanae</i> | Santa Ana Sucker | FT | Santa Ana suckers rely on perennial flows with suitable water quality and substrate to support breeding, feeding and sheltering. Over different life history stages, suckers depend on a variety of coarse substrate types, such as gravel, cobble, or mixtures of gravel or cobble with sand, and a variety of riverine features, like shallow riffles and deeper runs and pools. | None. No suitable habitat is found within the Project site. Not observed during the field survey. |
| <i>Chaetodipus fallax fallax</i> | northwestern San Diego pocket mouse | SSC | This species is a common resident of sandy herbaceous areas, often on sandy substrates (rocks or coarse gravel) in southwestern California. In San Diego County the species occurs mainly in arid coastal and desert border areas. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Coccyzus americanus occidentalis</i> | western yellow-billed cuckoo | FT, SE, BLMS, FSS, BCC | This species is an uncommon to rare summer resident of valley foothill and desert riparian habitats in scattered locations in California. Formerly much more common and widespread throughout lowland California. Roosts and nests in densely foliated, | None. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|------------------------------------|-----------------------------|----------|---|---|
| | | | deciduous trees and shrubs in extensive thickets, particularly willows. | |
| <i>Coleonyx variegatus abbotti</i> | San Diego Banded Gecko | SSC | The species ranges through most of Southern California north into the extreme southern part of Nevada and the southwestern tip of Utah, across northwest, southwest, and southeast Arizona into the bootheel of New Mexico, and south down the western edge of the state of Sonora, Mexico and down the entire length of Baja California. The species occurs in rocky areas in coastal sage and chaparral. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Crotalus ruber</i> | red-diamond rattlesnake | SSC, FSS | It can be found from the desert, through dense chaparral in the foothills (it avoids the mountains above around 4,000 feet), to warm inland mesas and valleys, all the way to the cool ocean shore. It is most commonly associated with heavy brush with large rocks or boulders. Dense chaparral in the foothills, cactus or boulder associated coastal sage scrub, oak and pine woodlands, and desert slope scrub associations are known to carry populations of the northern red-diamond rattlesnake, however, chamise and red shank associations may offer better structural habitat for refuges and food resources for this species than other habitats. They need rodent burrows, cracks in rocks or surface cover objects. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Dipodomys merriami parvus</i> | San Bernardino kangaroo rat | FE, SSC | Typically found in Riversidean alluvial fan sage scrub and sandy loam soils, alluvial fans and floodplains, and along washes with nearby | None. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|------------------------------------|------------------------|--------|---|---|
| | | | sage scrub. | |
| <i>Dipodomys stephensi</i> | Stephen's kangaroo rat | FE, ST | This species prefers large areas of disturbed or patchy annual and perennial grasslands and open coastal sage scrub. Preferred perennials plant species include buckwheat and chamise and preferred annual plant species include brome grass. The nearest known populations are in Rancho Guejito and at the Naval Weapons Station in Fallbrook. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Eumops perotis californicus</i> | Western mastiff bat | SSC | Western mastiff bats are found in a variety of habitats, such as semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western mastiff bats can also be found in similar crevices in large boulders and buildings. When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight. Western mastiff bats prefer deep crevices that are at least 15 or 20 feet above the ground. Foraging is concentrated around bodies of water but also includes coastal sage scrub, chaparral, and grassland habitats. | None. The site lacks suitable roosting habitat for the species. Not observed during the field survey. |
| <i>Euphydryas editha quino</i> | quino checkerspot | FE | Quino checkerspot butterfly habitat is characterized by patchy shrub or small tree | None. The site lacks suitable habitat for the species. Not observed during the |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|---------------------------|--------------------|--------|--|--|
| | butterfly | | landscapes with openings of several meters between large plants, or a landscape of open swales alternating with dense patches of shrubs; such habitats are often collectively termed "scrublands." Quino will frequently perch on vegetation or other substrates to mate or bask, and they require open areas to facilitate movement. Optimal habitat appears to contain little or no invasive exotic vegetation. Sustained drought conditions can lead to extirpation of local populations, and broad scale climate anomalies may lead to phenological incompatibility between Quino checkerspot butterfly and their host plants. | field survey. |
| <i>Gila orcuttii</i> | Arroyo chub | SSC | Arroyo chub are adapted to survive in cool to warm (10 - 24°C) streams that fluctuate between large winter storm flows, and low summer flows, and the low dissolved oxygen and wide temperature fluctuations associated with this flow regime. They are most common in slow flowing or backwater areas with sand or mud substrate but may also inhabit areas with velocities in excess of 80 cm/s over coarse substrate. | None. The site lacks suitable habitat. Not observed during the field survey. |
| <i>Lasiurus xanthinus</i> | western yellow bat | SSC | Roost in trees, hanging from the underside of a leaf. Commonly found in the southwestern U.S. roosting in the skirt of dead fronds in both native and non- native palm trees and have also been documented roosting in cottonwood trees. | None. The site lacks suitable habitat. Not observed during the field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|--|-----------------------------------|--------------------------------|---|---|
| <i>Laterallus jamaicensis coturniculus</i> | California black rail | ST, BLMS, BBC, Fully Protected | Black Rails nest in marshes and wet meadows across North America, including riparian marshes, coastal prairies, saltmarshes, and impounded wetlands. All of the habitats have stable shallow water. Nests are primarily made of southern cattail or spikerush and are elevated above the mud substrate in clumps of vegetation. Black rails have also been known to nest on top of a mat of dead vegetation from the previous years' growth. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Lepus californicus bennettii</i> | San Diego black-tailed jackrabbit | SSC | The black-tailed jackrabbit is a habitat generalist occurring in open areas or semi-open country, typically in grasslands, agricultural fields or sparse coastal scrub. It primarily is found in arid regions supporting short grass habitats. Jackrabbits typically are not found in high grass or dense brush where it is difficult for them to locomote, and the openness of open scrub habitat probably is preferred over dense chaparral. They have also been found in annual grassland, Riversidean sage scrub, alluvial fan sage scrub, Great Basin sagebrush, chaparral, disturbed habitat, southern willow scrub and juniper woodland. They are not found in high mountain forests. It prefers valley bottoms or intermontane valleys. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Nyctinomops femorosaccus</i> | pocketed free-tailed bat | SSC | This bat species prefers rocky desert areas with high cliffs or rock outcrops. Rock crevices in cliffs are preferred as roosting sites, since the bat must drop from the roost to gain flight speed. Typically reproduces in rock crevices, caverns, or buildings. Ranges from southern | None. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|--|-----------------------------------|--------------------------------|---|---|
| | | | California to New Mexico. | |
| <i>Oncorhynchus mykiss irideus</i> pop. 10 | Steelhead-Southern California DPS | FE, State Candidate Endangered | Historically, this species populated all coastal streams of southern California with permanent flows, as either resident or anadromous forms, or both. Today, the species occurs mostly within intermittent streams. The DPS includes all naturally spawned anadromous Coastal Rainbow trout populations downstream of natural and human-made barriers in streams from the Santa Maria River (San Luis Obispo County) to the Tijuana River on the U.S.-Mexico border. They are most abundant in the four largest watersheds in the northern portion of their range: the Santa Maria, Santa Ynez, Ventura, and Santa Clara rivers. | None. The site lacks suitable habitat. Not observed during the field survey. |
| <i>Onychomys torridus ramona</i> | Southern grasshopper mouse | SSC | Common in arid desert habitats of the Mojave Desert and southern Central Valley of California. Alkali desert scrub and desert scrub habitats are preferred, with somewhat lower densities expected in other desert habitats, including succulent shrub, wash, and riparian areas. Also occurs in coastal scrub, mixed chaparral, sagebrush, low sage, and bitterbrush habitats. Uncommon in valley foothill and montane riparian, and in a variety of other habitats. | None. The site lacks suitable habitat for the species. Not observed during the field survey. |
| <i>Perognathus longimembris brevinasus</i> | Los Angeles pocket mouse | SSC | Prefers sandy soil for burrowing. Also known to occur on gravel washes and in rocky soils. Associated with coastal scrub. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Phrynosoma blainvillii</i> | coast horned lizard | SSC, BLMS | Occurs in a variety of vegetation types including coastal sage scrub, chaparral, | None. No suitable habitat is found within the Project site. Not observed |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|--|--------------------------------|-----------|--|--|
| | | | annual grassland, oak woodland and riparian woodlands. | during field survey. |
| <i>Polioptila californica californica</i> | coastal California gnatcatcher | FT, SSC | A non-migratory, permanent resident of coastal sage scrub habitat, which is a broad category of vegetation that includes the following plant communities: Ventura coastal sage scrub, Diegan coastal sage scrub, maritime succulent scrub, Riversidean sage scrub, Riversidean alluvial fan sage scrub, southern coastal bluff scrub, and coastal sage-chaparral scrub. They also use chaparral, grassland and riparian habitats next to coastal sage scrub, but these habitats are used dispersal and foraging. They avoid nesting on steep slopes. | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Rhaphiomidas terminates abdominalis</i> | Delhi Sands flower-loving fly | FE | The Delhi Sands flower-loving fly is dependent on Delhi sands and Delhi sand dunes with less than 50% vegetation cover. Typical vegetation includes California buckwheat, California croton (<i>Croton californicus</i>), and telegraph weed (<i>Heterotheca grandiflora</i>). | None. A DSF habitat assessment was performed on February 15, 2023 and March 2, 2023 by Ken Osborne of Osborne Biological Consulting. Based on that assessment, it was determined the Project site is not suitable for the species. The site lacks suitable habitat. Not observed during the field surveys or habitat assessment. |
| <i>Spea hammondi</i> | western spadefoot | SSC, BLMS | May be found in coastal sage scrub, open chaparral, pine-oak woodlands and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. Within these habitats, they require rain pools/vernal pools in which to reproduce and that persist with more than | None. No suitable habitat is found within the Project site. Not observed during field survey. |

Appendix D - Special Status Wildlife Potential Occurrence Determination

| Scientific Name | Common Name | Status | General Habitat Description | Potential For Occurrence |
|------------------------------|--------------------|--------|---|---|
| | | | three weeks of standing water in which to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack fish, bullfrogs, and crayfish in order for to successfully reproduce and metamorphose. They estivate in sandy, gravelly soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth. | |
| <i>Taxidea taxus</i> | American badger | SSC | Badgers prefer to live in dry, open grasslands, fields, and pastures. They are found from high alpine meadows to sea level | None. No suitable habitat is found within the Project site. Not observed during field survey. |
| <i>Vireo bellii pusillus</i> | least Bell's vireo | FE, SE | Least Bell's vireos primarily occupy riverine riparian habitats that typically feature dense cover within 1-2 m of the ground and a dense, stratified canopy. Typically, it is associated with southern willow scrub, cottonwood-willow forest, mule fat scrub, sycamore alluvial woodland, coast live oak riparian forest, arroyo willow riparian forest, or mesquite in desert localities. It uses habitat which is limited to the immediate vicinity of water courses. 2,000 feet elevation in the interior. | None. No suitable habitat is found within the Project site. Not observed during field survey. |

| Legend |
|--|
| <p><u>Federal Endangered Species Act (ESA) Listing Codes:</u> federal listing is pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended. The official federal listing of Endangered and Threatened Animals is published in the Federal Register, 50 CFR 17.11.</p> <p>FE = federally listed as endangered: any species, subspecies, or variety of plant or animal that is in danger of extinction throughout all or a significant portion of their range.</p> <p>FT = federally listed as threatened: any species, subspecies, or variety of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.</p> <p>FC = federal candidate for listing.</p> |

FPT = federally proposed threatened.

California Endangered Species Act (CESA) Listing Codes: state listing is pursuant to §2074.2 and §2075.5 (California Endangered Species Act of 1984) of the Fish and Game Code, relating to listing of Endangered, Threatened and Rare species of plants and animals. The official California listing of Endangered and Threatened animals is contained in the California Code of Regulations, Title 14, and Section 670.5.

SE = state listed as endangered: any species, subspecies, or variety of plant or animal that are in serious danger of becoming extinct throughout all, or a significant portion, of their range.

ST = state listed as threatened: any species, subspecies, or variety of plant or animal that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future.

SCT = state candidate for listing as threatened.

SCE = state candidate for listing as endangered.

California Department of Fish and Wildlife (CDFW):

SSC = species of special concern: status applies to animals which 1) are declining at a rate that could result in listing, or 2) historically occurred in low numbers and known threats to their persistence currently exist. The CDFW has designated certain vertebrate species as "species of special concern" because declining population levels, limited ranges, and/or continuing threats have made them vulnerable to extinction.

Fully protected = animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

WL = watch list: these birds have been designated as "Taxa to Watch" in the *California Bird Species of Special Concern report* (Shuford and Gardali 2008).

The report defines "Taxa to Watch" as those that are not on the current special concern list that (1) formerly were on the 1978 (Remsen 1978) or 1992 (CDFG 1992) special concern lists and are not currently listed as state threatened and endangered; (2) have been removed (delisted) from either the state or federal threatened and endangered lists (and remain on neither), or (3) are currently designated as "fully protected" in California.

United States Fish and Wildlife Service (USFWS):

BCC = USFWS bird of conservation concern: listed in the USFWS'S 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory non-game birds that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report are priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

United States Forest Service (USFS):

FSS = Forest Service sensitive: those plant and animal species identified by a Regional Forester that are not listed or proposed for listing under the ESA and for which population viability is a concern, as evidenced by: (a) significant current or predicted downward trends in population numbers or density or (b) significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution."

United States Bureau of Land Management (BLM):

BLMS = BLM sensitive: those plant and animal species on BLM administered lands and that are (1) under status review by the USFWS/NMFS; or (2) whose numbers are declining so rapidly that federal listing may become necessary, or (3) with typically small and widely dispersed populations; or (4) those inhabiting ecological refugia or other specialized or unique habitats. BLM policy is to provide the same level of protection as USFWS candidate species.

California Department of Forestry and Fire Protection (CDF):

CDF: S = CDF sensitive: species is a California Department of Forestry and Fire Protection sensitive species. The Board of Forestry classifies as sensitive species those species that warrant special protection during timber operations.

Sources:

- A Guide to the Reptiles and Amphibians of California (CaliforniaHerps.com 2023).
- *A Field Guide to Hawks of North America, Second Edition* (Clark and Wheeler 2001).
- *Atlas of Breeding Birds, Orange County, California* (Gallagher 1997).
- Amphibian and Reptile Species of Special Concern in California (Jennings and Hayes 1994).
- *A Field Guide to Mammals of North America North of Mexico. Fourth Edition* (Reid 2006).
- *A Natural History of California* (Schoenherr 1992).
- *A Field Guide to Western Reptiles and Amphibians, Third Edition* (Stebbins 2003).
- Amphibian species accounts (Amphibiaweb 2023).
- *California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California* (Shuford and Gardali 2008).
- Check-List of North American Birds, 7th edition (American Ornithologists' Union [AOU] 1998).
- *Complete Birds of North America* (National Geographic Society 2006).
- *Field Guide to the Birds of North America, 4th Ed* (National Geographic Society 2003).
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- Life History Accounts and Range Maps (CDFW 2023e).
- *Life on the Edge: A Guide to California's Endangered Natural Resources. Wildlife* (Thelander et al. 1994).
- *Mammals of North America* (Bowers et al. 2004).
- *Mammals of California* (Eder 2005).
- *Mammals of North America* (Kays and Wilson 2002).
- Mammalian Species of Special Concern in California (Williams 1986).
- *Mammal Species of the World* (Wilson and Reeder 2005).
- NatureServe Explorer (NatureServe 2023).
- *National Audubon Society, the Sibley Guide to Birds* (Sibley 2000).
- RareFind, CDFW, California Natural Diversity Database (CNDDB) (CDFW 2023).
- *Reference Atlas to the Birds of North America* (National Geographic Society 2003).
- *Shorebirds of North America. The Photographic Guide* (Paulson 2005).
- Special Animals List (CDFW 2023h).
- Standard Common and Current Scientific Names (Center for North American Herpetology website [CNAH] website 2023).
- *The Smithsonian Book of North American Mammals* (Wilson and Ruff 1999).
- Terrestrial Mammal Species of Special Concern in California (Bolster 1998).

APPENDIX E

Delhi Sand Flower-Loving Fly Assessment

Ken H. Osborne
Osborne Biological Consulting
6675 Avenue Juan Diaz
Riverside, CA 92509

March 7, 2023

Attn: Ms. Brianna Bernard
Project Manager/Biologist
Carlson Strategic Land Solutions
27134 A Paseo Espada, Suite 323
San Juan Capistrano, CA 92675

RE: Habitat assessment for Delhi Sands Flower-loving Fly on 12.7-acres of the Rialto Wastewater Treatment Plant, Rialto Lake project and associated alternative parking areas, Rialto, CA.

To Whom It May Concern:

On behalf of the Rialto Wastewater Treatment Plant, Carlson Strategic Land Solutions has requested my assessment of habitat conditions and potential for the federally endangered Delhi Sands Flower-loving Fly (DSF, *Rhaphiomidas terminatus abdominalis*) on a 12.7-acre site at the southern end of the Rialto Water Treatment Facility, Rialto, CA. This assessment includes three alternative parking areas associated with the project. For the purpose of this habitat assessment, I have evaluated site conditions for DSF suitability in terms of site characteristics on the basis of a detailed grading system I have developed in recent years.

Summary Conclusions: Though the 12.7-acre project site is within close proximity to known DSF populations, the entire site is situated on alluvial soil substrates and is therefore unsuitable for DSF. Site conditions for the three alternative parking areas are as follows: Agua Mansa Road location (alternative #3) and east end of Santa Ana Avenue (alternative #1) sites are unsuitable for DSF due to lack of Delhi sand soils. The alternative parking location on the Southern California Edison easement at Industrial Drive (alternative #2) represents high quality DSF habitat with high potential for DSF presence.

Qualifications: Although I possess USFWS 10(a) permitting to survey for the federally endangered Delhi Sands Flower-loving Fly, such permitting is generally awarded to biologists only on the basis of a biologist's experience with and/or ability to identify adult DSF, such permitting not awarded on the basis of any real understanding of DSF biology, ecology, or habitat requirements. Traditionally, USFWS considered any land (within the known range of DSF) to have been mapped with Delhi Sands soils (Woodruff 1980) as subject to formal survey for the DSF. Thus, my additional qualifications in this regard include BS, MS, degrees in entomology, 55 years general entomological experience, over thirty-five years' experience with research and discoveries in *Rhaphiomidas* life history, biology, and ecology, such that I am now a leading expert in this narrow field of study.

Natural History of the Delhi Sands Flower-loving Fly: Delhi Sands Flower-loving fly belongs to a genus of flies (*Rhaphiomidas*) commonly known as flower loving flies. There are more than 30

species of these flies, distributed across the southwestern United States and northern Mexico. These flies are huge by the standards set by most flies – with size among the species ranging from approximately 1.5 centimeters up to 3, and even 4 centimeters, usually gray, tan, rust or yellow in color. All species of *Rhaphiomidas* are associated with rather arid, sandy habitats, with most species living on dune systems of inland desert valleys, rivers, deltas, and beach strands. A few species are found in sandy washes, alluvial benches and remnant glacial moraines. Many species of these flies often hover before flowers in the manner of hummingbirds, using a long, thin, tubular proboscis (mouth-part), with which the flies probe for nectar – hence a traditional name “giant flower-loving flies”. Smaller flies of the family Apioceridae, once considered very closely related to *Rhaphiomidas* were formerly called “flower-loving flies”.

The DSF is only known to occur in association with Delhi sand deposits, presumably occupied the once extensive dune system of the upper Santa Ana River Valley, including portions of what is now the City of Colton, west through portions of the City of Ontario, and south to the Santa Ana River. Today, DSF exists on only a few disjunct sites (USFWS 1997) within a radius of about eight miles in southwestern San Bernardino and northwestern Riverside Counties (Colton, Rialto, Fontana, and Ontario). More than 95 percent of known DSF habitat was considered eliminated by development, agriculture and other land management practices by 1993 (Smith 1993, USFWS 1996 *in* Kingsley 1996), however, this proportion is now nearer 98 to 99% due to these ongoing processes. Many of the last remaining fragments of DSF habitat are currently under pressure by land management efforts such as heavy disking, irrigation, manure dumping, and gravel dumping. There is presently an estimated 1,200 acres of habitat that can support this species (USFWS 1997), but this estimate likely includes lands needing extensive habitat restoration.

Adult DSF flight period is typically August and September, when individual adults emerge, reproduce and die. The adult life span of an individual DSF lasts for a few days and adults do not live beyond the flight period (Kiyani 1995). Adult DSF are highly mobile, agile fliers. Male DSF are frequently seen flying low through habitat, using apparently random, circuitous paths around and between shrubs in search of females. Such “cruising” behavior often covers areas on the scale of 1000 square meters in the time span of a minute. Alternatively, male DSF are often seen flying about an open patch of ground (ca 100 square meters) such as along a dirt path or dune blow-out area. Here, males may repetitively land and rest on one or another object (such as small dried plants) in the area, and such rests are interrupted by periods of patrolling flight (apparently territorial) about the spot. When alarmed, these insects tend to fly rapidly in more or less a straight line – often covering distances of 100 meters in less than 6 seconds. Adult DSF are known to nectar at flowers of California buckwheat and California croton.

DSF, like other *Rhaphiomidas* species, appears to have an annual life cycle (because of the annual flight). However, it has been widely believed that the underground larval/pupal stage may persist for additional years, depending upon various environmental factors such as annual rainfall, food availability and weather conditions during the flight season (many desert *Rhaphiomidas* species do not appear after a drought year and often, substantial flights occur only sporadically over the years). The biology of *Rhaphiomidas trochilus* is likely informative of *Rhaphiomidas* species in general and DSF in particular. Based on observations of captive *R. trochilus* larvae (Osborne and Ballmer 2014) it is reasonable to conclude that they are mobile opportunistic predators of soft-bodied, sand-inhabiting insects. Larvae from Sand Ridge, Kern County, CA were maintained in captivity for several months, during which they burrowed actively through sand maintained with slight moisture

content (similar to the damp sand where they were found). They fed on larvae of a scarab beetle (Scarabaeidae) and an unidentified beefly (Diptera: Bombyliidae), which were also recovered from Sand Ridge, and larvae of paper wasps (*Polistes* sp.) which were removed from their nests and buried in the sand. Captive larvae grew and molted after feeding; but, when not fed for extended periods of time, they molted again – losing weight and size in the process. Some larvae were observed to repeat the growth and “shrinkage” cycle multiple times. One larva survived about 17 months in captivity; because it was captured nine months after the most recent flight season, it was at least two years old at time of death. This larva molted four times while undergoing five cycles of growth and shrinkage driven by variable food availability. Its final dry weight was slightly smaller than the typical dry weight of an adult male *R. trochilus*. The ability of *R. trochilus* larvae to molt down during times of scarce food resources could allow an extended and indeterminate larval growth period, but with maturation and appearance of adults always during summer months. This may also explain the common observations that populations of various *Rhaphiomidas* species apparently exhibit little or no adult emergence in some years (especially years of below normal precipitation).

The brief adult life span and active mate-locating behavior of DSF males (typical of all *Rhaphiomidas* species) suggests that relatively high population density and/or nearly synchronous adult emergence may be crucial to survival of populations. Protracted *Rhaphiomidas* larval biology and staggered (across years) adult emergence must enhance population momentum and cross generational gene flow, and the requirement of abundant and diverse insect prey on which larvae develop – all explain why DSF populations appear as long-term entities (persisting for decades) associated with ecologically intact dune habitats.

DSF Habitat Characteristics: DSF is typically found in areas of unconsolidated sandy soils (Delhi series) supporting an open community of native and exotic plant species. Dominant plants are typically California buckwheat (*Eriogonum fasciculatum*), California croton (*Croton californicus*), telegraph weed (*Heterotheca grandiflora*), annual bur ragweed (*Ambrosia acanthicarpa*) and deerweed (*Acmespon scoparius*) but many exotic species often dominate on DSF habitat as well. DSF have been found in habitats that do not support these dominant plant species, and plant species composition is not directly relevant to larval development (due to predatory biology of DSF larvae). Thus, the implication that DSF are reliant on some of these plant species – an idea often repeated in literature and biological reporting – is false. Adult DSF are anecdotally believed to nectar at flowers of California buckwheat and California croton, though such a habitat is rare at best and not yet documented. Many other plant species are common, including Thurber’s eriogonum (*Eriogonum thurberi*), autumn vinegar weed (*Lessingia glandulifera*), and sapphire eriastrum (*Eriastrum sapphirinum*). Nonnative plant species also occur in DSF habitat (and incidentally, virtually everywhere). DSF habitat also commonly supports other associated insects such as flies and wasps considered as indicator species – *Apiocera convergens*, *Apiocera chrysolasia*, *Ligyra gozophylax*, *Campsomeris tolteca*, *Trielis alcione*, and *Nemomydas pantherinus*. Over 350 insect species have been found on one DSF site, and DSF habitat is typically marked by high abundance and diversity of predatory and parasitic insect groups including many highly specialized families of flies, wasps, bees, beetles, and antlions. The Delhi Sands community is one of California's unique natural communities containing an array of native plants and animals, some of which are found nowhere else. One plant species, Pringle's monardella, (*Monardella pringlei*) is already presumed extinct, as no living individuals have been observed in

many years. Several species of insects and some vertebrates, which inhabit the Delhi Sands dunes system, are as endangered as the DSF, but no one has yet petitioned to have them officially declared Endangered. These include the convergent flower-loving fly *Apiocera convergens*, a newly discovered species of Jerusalem cricket, (*Stenopelmatus* sp.), a new species of camel cricket (*Ceuthophilus* sp.) and an endemic subspecies of butterfly *Apodemia mormo nigrescens* (Emmel and Emmel 1998). The other apiocerid fly (*Apiocera chrysolasia*), although known from approximately six general localities, is only common within the Delhi sands.

Methods: On February 15, 2023, I visited the primary project site in order to investigate habitat suitability for the DSF. During a subsequent visit on March 2, 2023, I visited three alternative parking areas associated with the project (Alternative #1 located on the eastern end of Santa Ana Avenue, Alternative #2 on an Southern California Edison easement at Industrial Drive, and Alternative #3 located on Agua Mansa Road at the crossing with the Rialto Channel). I have reviewed soil maps covering the project site, prepared by the California Department of Agriculture (Woodruff 1980, <https://websoilsurvey.sc.egov.usda.gov>). Satellite imagery covering the site, dating from 1994 to 2020 (Google Earth) was reviewed in order to gain an understanding of land use regimens in recent years. Other reports of habitat evaluations and DSF surveys in the vicinity of the project site have been reviewed. Photographs were taken of the site along with field notes on vegetation and soil conditions. I examined the project site to rate its potential to support DSF, the rating based on the following scale of 1 to 5, with 5 being the best quality and most suitable habitat in my judgment:

1. Developed areas, non-Delhi sands soils with high clay, silt, and/or gravel content. Delhi sands extensively and deeply covered by dumping of exotic soils, rubble, trash, manure, or organic debris. *Unsuitable*.
2. Delhi sands are present but the soil characteristics include a predominance of exotic soils such as alluvial materials, or predominance of other foreign contamination as gravels, manure, or organic debris. Severe and frequent disturbance (such as a maintenance yard or high use roadbed). *Very Low Quality*.
3. Moderately contaminated Delhi sands. Delhi sands with moderate to high disturbance (such as annual disking). Sufficient Delhi Sands are present to prevent soil compaction (related to contamination by foreign soils). Some sandy soils exposed on the surface due to fossorial animal activity. *Low Quality*.
4. Abundant clean Delhi Sands with little or no foreign soils (such as alluvial material) present. Moderate abundance of exposed sands on the soil surface. Low vegetative cover. Evidence of moderate degree of fossorial animal activity by vertebrates and invertebrates. May represent high quality habitat with mild or superficial disturbance. *Moderate Quality*
5. Sand dune habitat with clean Delhi Sands. High abundance of exposed sands on the soil surface. Low vegetative cover. Evidence (soil surface often gives under foot) of high degree of fossorial animal activity by vertebrates and invertebrates. Sand associated plant and arthropod species may be abundant and vegetation species composition is often indicative of low disturbance. *High Quality*

It should be noted that habitat qualities often vary spatially within a site so that conditions on a site fall within a range of qualities. Further, overall habitat quality is affected by the overall habitat area on a site, such that very small areas diminish the overall habitat value of a site. Habitat conditions rated from *Very Low Quality* up to *High Quality*, are formally considered as representing *Suitable* conditions for the DSF. Use of this habitat rating system is somewhat subjective and best undertaken by a biologist who has extensive experience with *Rhaphiomidas* species. It must be noted that these ratings do not infer or imply actual occupancy by DSF, only relative potential to harbor the species, and relative conservation value of the land should DSF be found.

Results: The entire site is situated on an area of quarry pits associated with an alluvial wash (the quarried materials were evidently sand and gravel). My field investigation confirms interbedded alluvial course gravely sands (all with presence of abundant larger cobble) as indicated by previous soils mapping (Woodruff 1980, <https://websoilsurvey.sc.egov.usda.gov>, Figure 1). Plant species characteristic of Delhi sands do not occur on the site. Although Delhi sands are located as close as 50 meters east of the study site (a large dune system known to support the DSF), Delhi sands do not occur on the study site itself. The Delhi sands east of the site are separated from the site by an existing channel.

Vegetation on the slopes surrounding the basins consists primarily of *Encelia farinosa*-dominated coastal sage scrub. Basin floors support ruderal exotic annual vegetation with the basin margins often with *Bacharis salisifolia* and *Tamarisk*.

All three of the alternative parking areas are located in areas previously mapped with Delhi Sand soils (Woodruff 1980, <https://websoilsurvey.sc.egov.usda.gov>). The locations at the eastern end of Santa Ana Avenue and on Agua Mansa Road have had the native soils stripped away and/or buried with gravel pavements. The alternative parking site on the Southern California Edison easement off of Industrial Drive has intact Delhi Sand soils, supports vegetation associated with Delhi sands, is adjacent to other extensive areas with Delhi sands, and most significantly, is in a context with several adjacent lands known to support the DSF.

Discussion and Conclusions: The entire 12.7-acre site is on alluvial soils presenting habitat conditions *Unsuitable* for DSF. The nearest extant DSF population appears immediately east and northeast of the water treatment facility on the eastern side of the existing channel. DSF have been observed (Osborne pers. obs.) 300 meters east, 350 meters east northeast, and within 0.9 km north northwest of the project area. Nevertheless, on the basis of my experience, and in spite of the near proximity of DSF populations in the area, conditions on the entire project site and surroundings west of the existing channel (which bounds the eastern edge of the Rialto water treatment facility) presents conditions *Unsuitable* for DSF.

With respect to the alternative parking areas, site conditions on the Agua Mansa Road location (alternative #3) and east end of Santa Ana Avenue (alternative #1) sites are *Unsuitable* for DSF due to lack of Delhi sand soils. The alternative parking location on the Southern California Edison easement at Industrial Drive (Alternative #2) represents *High Quality* DSF habitat with high potential for DSF presence. This Alternative #2 site would be subject to a two-year protocol survey for DSF in order to make a presence/absence determination acceptable to the USFWS (1996) and even with a negative survey result, this site may nevertheless be considered to be of conservation value (USFWS 1997) for DSF ecological purposes given its adjacent proximity to other areas held in conservation for the DSF.

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Respectfully submitted,



Ken H. Osborne

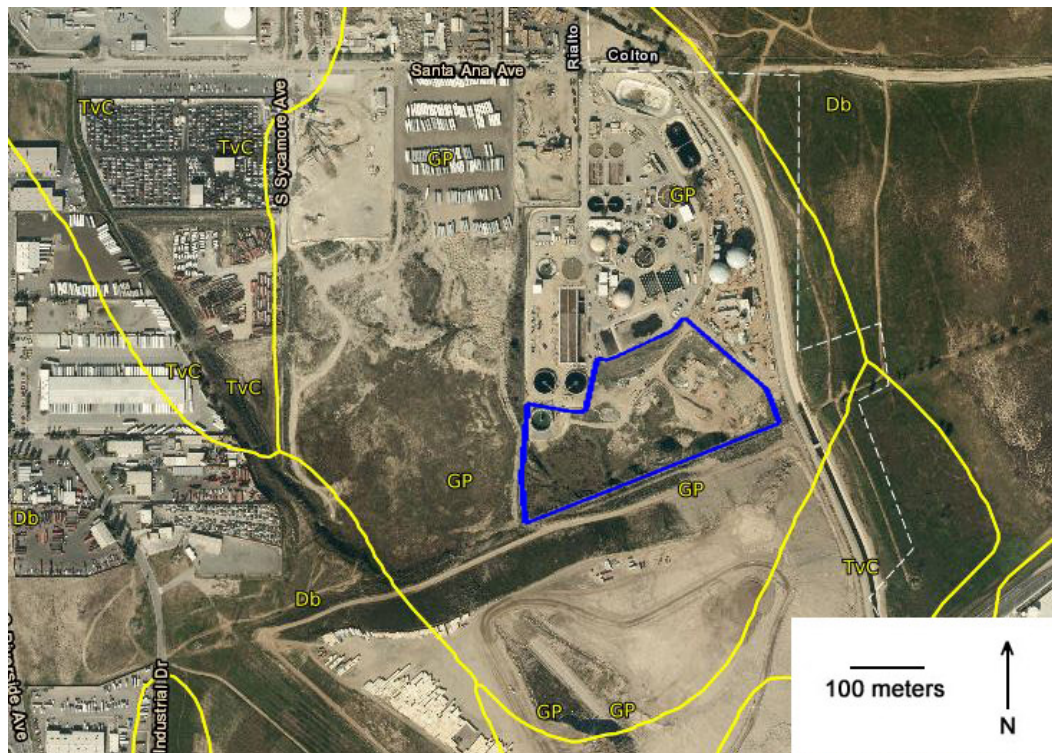


Figure 1. Soils map with satellite image of the 12.7-acre area (highlighted and outlined blue): HaC = Hanford course sandy loam, TvC = Tujunga gravelly loamy sand, TuB = Tujunga loamy sand.



Figure 2. Photograph (February 15, 2023) of gravely sandy alluvial soils exposed in slope on the northern portion of the site (pen at center for scale).



Figure 3. Photograph (February 15, 2023) of *Encelia farinosa*-dominated coastal sage scrub on gravely, sandy alluvial soils, on the northern portion of the site. View looks northeast from a central location on the site. Note cobble and gravel in alluvial soils of foreground.



Figure 4. Photograph (February 15, 2023) of exposed slopes on the eastern edge of the site. Undisturbed bedding of alluvial soils is evident on the upper portion of this slope exposure, with cobble, gravel in the talus slope below. Mature *Encelia* and *Artemisia* shrubs indicate the slope is long undisturbed.



Figure 5. Photograph (February 15, 2023) of one of the basin floors on the western portion of the site. While vegetation on the floor of the basin is dominated by ruderal - exotic annual forbs such as *Oncosiphon piluliferum*, *Hirschfeldia incana*, and *Amsinkia menziesii*, the margins of the basin support extensive stands of Tamarisk.



Figure 6. Photograph (March 7, 2023) of the parking Alternative site #1 on the north side of Santa Ana Avenue at the eastern terminus of Santa Ana Avenue. View looks north. This site has a well compacted gravel base pavement. Natural Delhi sands dunes (with DSF) exist on the lands in the background.



Figure 7. Photograph (March 7, 2023) of the parking Alternative site #2 on the Southern California Edison easement along the east side of Industrial Drive. Lands managed for DSF are located beyond the fence-line (center) and extend nearly to the Angeles Block building in the background.



Figure 8. Photograph (March 7, 2023) of the parking Alternative site #3 on the south side of Agua Mansa Road (view looking east toward the Rialto Channel crossing (background). Roadside conditions are with a well compacted gravel base.