
Biological Technical Report

San Dieguito River Park Osuna Segment of the Coast to Crest Trail Project

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Prepared for:

San Dieguito
River Park 

SAN DIEGUITO RIVER PARK JPA

18372 Sycamore Creek Road

Escondido, California 92025

Contact: *Shawna Anderson*

Prepared by:

DUDEK

605 Third Street

Encinitas, California 92024

Contact: *John Minchin*

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Acronyms and Abbreviations

Acronym	Abbreviation
ASMD	area specific management directives
BMP	best management practices
CEQA	California Environmental Quality Act
CNPS	California Native Plant Society
CWA	Clean Water Act
ESL	Environmentally Sensitive Lands
GIS	geographic information system
MBTA	Migratory Bird Treaty Act
MHPA	multiple habitat planning area
MM	mitigation measure
Mph	miles per hour
MSCP	Multiple Species Conservation Program
OMWD	Olivenhain Municipal Water District
RWQCB	Regional Water Quality Control Board
SES	Schaefer Ecological Solutions
USFWS	U.S Fish and Wildlife Service

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Executive Summary

The proposed project is a 1-mile trail extension that crosses the San Dieguito River linking to other planned trail segments and is referred to herein as the San Dieguito River Park Osuna Segment of the Coast to Crest Trail Project (project or proposed project). The study area for the proposed project consists of the proposed trail alignment and a 100-foot buffer and totals 23.85 acres. The study area is located along the north border of the City of San Diego (City) and the County of San Diego (County). The study area is located between the Surf Cup Sports (Surf Cup) leased property from the city of San Diego to the north and San Dieguito Road to the east. The project boundary extends from the Surf Cup property on the West to a portion of the Evergate Stables property on the east and extending to San Dieguito Road. The project lies east of Interstate 5 and El Camino Real. The project is within the City of San Diego's MSCP Subarea plan area but is located outside of the Multiple Habitat Planning Area (City of San Diego 1997).

The project will consist of a one-mile-long trail extension with a 150-foot span bridge crossing the San Dieguito River connecting this portion of the trail with a previously planned section of trail within the Surf Cup leasehold. The overall trail system is a public access route through City of San Diego open space and easements granted by private land holders. The proposed trail route parallels the north edge of the City of San Diego open space land, on to private property to the east and parallel to the Morgan Run Golf Course to the north.

Multiple biological surveys, associated with other projects, have been conducted in the project area between 1998 to 2018. This current report utilizes those previous reports as reference. Dudek conducted a supplemental biological survey in July of 2021, focusing updates to vegetation mapping as needed and providing additional vegetation mapping to cover the entire study area. The purpose of this biological technical report is to provide the extents of existing vegetation communities and jurisdictional resources within the study area. The report will also identify those plant and wildlife species recognized as sensitive by local, state, or federal wildlife agencies and/or environmental organizations that have a high potential to occur in the study area based on vegetation communities/habitats present. Jurisdictional resources (i.e., wetlands and waters) and sensitive species are summarized from previous survey efforts in the area.

Based on species composition and general physiognomy, 11 vegetation communities (or habitat types) were identified within the study area, including: coastal sage scrub, disturbed habitat, ornamental, freshwater marsh, coastal salt marsh, southern riparian woodland, mulefat scrub, southern willow scrub, Arundo-dominated riparian, non-native riparian, and tamarisk scrub. In addition, two land covers are located within the project site: developed land and open water.

The proposed trail alignment will be primarily within the developed land and disturbed habitat associated with the Surf Cup, Fairbanks Ranch Golf Course, and Evergate Stables properties. However, the trail alignment will also occur within portions of the adjacent coastal sage scrub and wetland vegetation. The wetland habitats present are associated with the San Dieguito River within the western portion of the project area. There are additional wetland features on the eastern half of the project area composed of freshwater marsh and coastal salt marsh, associated with a secondary drainage that crosses through the Evergate Stables property. These areas will be avoided to the greatest extent feasible, with the majority of the trail alignment placed in the developed maintenance access road associated with Evergate Stables.

One sensitive plant species, southwestern spiny rush (*Juncus acutus* ssp. *leopoldii*), was identified during recent biological surveys of the study area in 2021. Based on Dudek's review of the study area and the previous surveys conducted, there are no other sensitive plant species with a high potential to occur within the study area.

Based on Dudek's review of the study area and the previous surveys conducted, the following wildlife species have high potential to occur northern harrier (*Circus cyaneus*), least bittern (*Ixobrychus exilis*), Ridgway's rail (*Rallus obsoletus levipes*), least Bell's vireo (*Vireo bellii pusillus*), San Diego black-tailed jackrabbit, and wandering skipper (*Panoquina errans*).

The results of the previous jurisdictional delineation, associated with the Osuna Valley Trail Bridge Feasibility Study (Kleinfelder 2015) concluded that there are locations within the study area that meet the definition of waters of the United States and/or State, including wetlands, subject to review and regulation by the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife (regulatory agencies), and the City of San Diego.

Trail construction will occur over 1.796 acres within the 23.85-acre study area. The proposed project will result in direct and indirect impacts to wetland and upland habitats, however no direct or indirect impacts to sensitive plant or wildlife species are expected to occur. Implementation of the proposed project would result in direct impacts to 0.132 acres of wetlands and 0.47 acres of coastal sage scrub which would require mitigation per the City's Biology Guidelines (City of San Diego 2018a) and per regulatory agency guidelines.

Mitigation for project impacts would be accomplished through on-site restoration/revegetation and enhancement of both upland and wetland habitat within the project boundaries. To compensate for the direct impacts, 0.470 acres of coastal sage scrub and 0.43 acres of wetlands would be restored and enhanced through revegetation following trail construction. Of the total wetlands to be restored and enhanced, approximately 0.199 acre of non-native wetland vegetation (Arundo-dominated riparian, non-native riparian, and tamarisk scrub) located within the wetland areas adjacent to the south side of the bridge crossing would be restored through the removal and treatment of the non-native/exotic vegetation, followed by revegetation with appropriate native wetland species. Also, approximately 0.203 acres of the area, composed of disturbed habitat, tamarisk scrub and ornamental plantings would be restored to native upland coastal sage scrub vegetation through the removal of the non-native/exotic and ornamental species and revegetation with coastal sage scrub species.

1 Introduction

This technical report (report) provides a summary of previous biological resources evaluations completed for the proposed project on the border of the City of San Diego (City) and unincorporated San Diego County. This report includes an updated analysis of potential biological resource impacts associated with the proposed project.

In accordance with the current San Diego Land Development Code Biology Guidelines (City of San Diego 2018a), this report provides an introduction, a project description, a summary of the pertinent biological resource regulations, the project setting, survey methods, existing biological resources, sensitive biological resources, project impacts (direct and indirect), and proposed project mitigation. The project impacts, avoidance, and mitigation measures (MMs) are discussed in accordance with the California Environmental Quality Act (CEQA), Clean Water Act (CWA), California Fish and Game Code, the City of San Diego Final Multiple Species Conservation Program (MSCP) Subarea Plan (Subarea Plan), and the City of San Diego's Environmentally Sensitive Lands (ESLs) regulations.

1.1 Project Location

The proposed project area consists of an approximate one-mile-long section trail including a 150-foot bridge crossing the San Dieguito River. The trail would run along the border of the City of San Diego and unincorporated San Diego County, approximately 3.5 miles northeast of the City of Del Mar, California. The project area is located east of Interstate 5 Expressway, and approximately 1.30 miles east of El Camino Real and lies between Via De La Valle to the west, and San Dieguito Road to the east. The project area is within the San Dieguito River watershed and falls within the City of San Diego Surf Cup and Fairbanks Ranch Golf course leaseholds. The trail would also pass through a portion of the Evergate Stables property to the east. (Figure 1, Project Location). The project area is within Section 4 and 5 of Township 14 South, Range 3 West, of the Del Mar, California U.S. Geological Survey 7.5-minute topographic quadrangle. The project is outside of the coastal zone.

1.2 Project Description

The project proposes to extend the existing 3.5-mile segment of the Coast to Crest (CTC) trail that currently terminates at the east end of the Surf Cup Sports Park facility to continue across the San Dieguito River to the east, to terminate at San Dieguito Road. This approximate 1-mile extension of the Coast to Crest Trail is referred to as the Osuna trail segment and will function as a multi-use trail for hikers, bicyclists, and equestrians. The Osuna trail segment will include an approximate 150-foot span prefabricated bridge over the San Dieguito River. The trail alignment has been constrained due to the immediate proximity to the Morgan Run Golf Course property. Morgan Run has rejected the request from the JPA for the trail to pass through their property and joint use of their existing bridge over the San Dieguito River. The existing bridge serves the Morgan Golf Course, and it will remain in place and will be used exclusively by the golf course users and maintenance staff. Therefore, the project has been designed to site the bridge, abutments, and alignment to the south and west of the Morgan Run Golf Course property line. The location will be surrounded by existing wetland and upland vegetation. The trail alignment through the Evergate Stables property was modified to avoid and minimize impacts to freshwater marsh and coastal salt marsh vegetation by utilizing the existing service access road as the trail crossing, rather than creating an expanded trail footprint which would have impacted additional jurisdictional habitat. through that portion of the project.

Implementation of the project would require installation of a 150-foot span bridge over the San Dieguito River to establish the connection for the trail system. The bridge will be a prefabricated bridge set on built-in-place concrete abutments (i.e. footings) which will be placed at each end of the bridge outside of the river. The design of the bridge will follow all criteria identified in the Osuna Trail Bridge Feasibility Study and will not impact adjacent properties or the hydrology of the San Dieguito River.

The bridge will be installed over and through the San Dieguito River and through the associated plant communities and land covers. The project has been designed to minimize impacts to native habitat including wetlands, riparian areas and upland plant communities, by routing the trail and bridge primarily through disturbed areas, and non-native exotic vegetation to the greatest degree possible. The slopes of the trail will be revegetated with native vegetation to provide replacement habitat after construction.

Protection of the adjacent native habitat will include the installation of construction fencing to define the trail grading limits, bridging the river channel with a free-span bridge, and avoiding impacts to wetlands and riparian vegetation to the greatest degree possible. The trail will not adversely impact adjacent properties, or the hydrology of the San Dieguito River.

The bridge abutments will be designed to minimize impacts to wetland resources and avoid direct impacts to the river (Kleinfelder 2015). The design of the bridge will follow the guidelines of the American Association of State Highway and Transportation Officials' Load and Resistance Factor Design Specifications, Sixth Edition, 2012, with 2014 interims and amendments by the California Department of Transportation, identified in the Osuna Valley Bridge Feasibility Study (Kleinfelder 2015).

The Trail and bridge construction will include the following elements:

- The trail will be 8 feet wide, with a 2 foot shoulder and fence on each side, for a total width of 12 feet. The trail will be 6 inches to 12 inches deep with a decomposed granite (D.G.) surface.
- The bridge will be a 140-feet long by 12 feet wide prefabricated weathered steel bridge with timber planking similar to other trail bridges on the CTC alignment. The bridge structure will be placed on poured -in-place concrete abutments. The bridge will be brought into a laydown area outside of the river habitat and will then be lifted into place by a crane.
- The bridge abutments will be constructed using small excavators.
- The abutments will be cast in place concrete and will include shallow spread footings.
- Rip-rap will be placed around the abutments. The rip/rap is included within the footprint of the abutments shown on the plans. The amount of rip/rap is estimated to include an approximate 20' x 20' area around each abutment, or 400 sq. ft. of rip-rap per abutment.
- Other improvements associated with the trail will include lodge-pole fencing, six-foot tall black vinyl top rail fencing, bollards, signs and minor culvert crossings.
- Earthwork will include grading for the trail, including fill slopes along the margins of the trail and excavation for the bridge abutments.
- The limits of the construction work will be to the limits of the grading.
- The depth of scour underneath the bridge will be 13.7 feet.
- The hydraulic design for the bridge is to pass a 2-year to 10-year storm event while resulting in a "no-rise" criterion during 100-year or overtopping event.

Ridgway's Rail

As a condition of project approval to avoid impacts to Ridgway's rail, if work is planned adjacent (i.e., within 300 feet) to where Ridgway's rail has a high potential to occur and work is expected to generate noise that would exceed 60 dB(A) hourly average (or greater than ambient noise levels) at the edge of suitable habitat, then, as conditions of project approval, an agency-approved biologist shall perform the following duties prior to the start of construction:

1. A minimum of three focused pre-construction surveys on separate days, to determine the presence of Ridgway's rails in the facility project impact area outside the rail breeding season. At least one survey shall be conducted at dusk, and one at dawn. The remaining survey(s) can be conducted at either dusk or dawn. Dawn surveys should begin at or just before sunrise and proceed for no more than three hours after sunrise. Dusk surveys begin two hours before sunset and continue until dark. There shall be a minimum of seven days between each survey visit and one survey shall be conducted the day immediately prior to performing project construction. Surveys shall be conducted from the edge of potential habitat, and the surveyor shall stay out of the habitat as much as possible to avoid disturbing Ridgway's rails and other nesting species. Immediately after the final survey is completed, a 3- to 5-foot-tall (or taller) exclusionary fence with 2-inch mesh openings shall be installed along the border of the construction area facing potential Ridgway's rail habitat to discourage entry of Ridgway's rails into the construction area and to ensure that impact limits are not exceeded.
2. If no species are detected during these surveys and no impacts to this species are anticipated, no additional avoidance measures shall be necessary.
3. If the focused surveys above identify Ridgway's rails adjacent to the project site, before each day of construction begins adjacent to occupied habitat, a Qualified Biologist shall survey the construction area and the area of potential indirect effect to ensure no Ridgway's rails are present. If any rails are found within this area, the biologist shall direct construction personnel to begin in an area away from Ridgway's rails or flush the rail from the construction site toward suitable habitat outside of the work area. The biologist shall also record the number and location of any Ridgway's rails identified during these surveys.

1.3 Regional Resource Planning Context

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursue, hunt, shoot, wound, kill trap, capture, or collect, or any attempt to carry out these activities (16 USC 703 et seq.). Additionally, Executive Order 13186, "Responsibilities of Federal Agencies to Protect Migratory Birds," requires that any project with federal involvement address impacts of federal actions on migratory birds with the purpose of promoting conservation of migratory bird populations (66 Federal Register [FR] 3853-3856). The Executive Order requires federal agencies to work with the U.S. Fish and Wildlife Service (USFWS) to develop a memorandum of understanding. USFWS reviews actions that might affect these species. Currently, birds are considered to be nesting under the MBTA only when there are eggs or chicks, which are dependent on the nest. This project would comply with all requirements of the MBTA.

San Diego Multiple Species Conservation Program

The City of San Diego (City) is a participant in the San Diego MSCP Plan, a comprehensive, regional, long-term habitat conservation program designed to provide permit issuance authority for take of covered species to the local regulatory agencies. The MSCP Plan addresses habitat and species conservation within approximately 900 square miles in the southwestern portion of San Diego County (County of San Diego 1998). It serves as an approved habitat conservation plan pursuant to an approved Natural Communities Conservation Plan in accordance with the state Natural Communities Conservation Planning Act (County of San Diego 1998).

The MSCP Plan establishes a preserve system designed to conserve large blocks of interconnected habitat having high biological value that are delineated into Multiple Habitat Planning Areas (MHPAs). The City's MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997).

The MSCP Plan identifies 85 plants and animals to be "covered" under the plan ("Covered Species"). Many of these Covered Species are subject to one or more protective designations under state and/or federal law, and some are endemic to San Diego. The MSCP Plan seeks to provide adequate habitat in the preserve to maintain ecosystem functions and persistence of extant populations of the 85 Covered Species while also allowing participating landowners "take" of Covered Species on lands located outside of the preserve. The purpose of the MSCP Plan is to address species conservation on a regional level and thereby avoid project-by-project biological mitigation, which tends to fragment habitat.

A portion of the study area is located within the limits of the County of San Diego MSCP Subarea Plan, but the project area is entirely within the City of San Diego MSCP Subarea Plan (Figure 1).

City of San Diego MSCP Subarea Plan

The Subarea Plan (1997) encompasses 206,124 acres within the MSCP Plan area. The project area is located within the Northern Area of the MSCP Subarea Plan (City of San Diego 1997) (Figure 1). The Subarea Plan is characterized by urban land uses with approximately three-quarters either built out or retained as open space/park system. As mentioned previously, the City MHPA is a "hard line" preserve developed by the City in cooperation with the wildlife agencies, property owners, developers, and environmental groups. The MHPA identifies biological core resource areas and corridors targeted for conservation, in which only limited development may occur (City of San Diego 1997). The MHPA is considered an urban preserve that is constrained by existing or approved development and is comprised of habitat linkages connecting several large core areas of habitat. The criteria used to define core and linkage areas involves maintaining ecosystem function and processes, including large animal movement. Each core area is connected to other core areas or to habitat areas outside of the MSCP either through common boundaries or through linkages. Core areas have multiple connections to help ensure that the balance in the ecosystem will be maintained (City of San Diego 1997). Critical habitat linkages between core areas are conserved in a functional manner with a minimum of 75% of the habitat within identified linkages conserved (City of San Diego 1997). The proposed project area is located outside of these habitat linkages and core areas, with the nearest MHPA being approximately 0.25 miles from the project site.

City of San Diego Wetlands Definition

The extent of City wetland jurisdiction is determined based on the City definition of “wetland” provided in Land Development Code (LDC) Section 113.0103 that are regulated by the City under the ESL Regulations (Section 143.0141[b]), which state the following:

“Wetlands” are defined as areas which are characterized by any of the following conditions:

1. All areas persistently or periodically containing naturally occurring wetland vegetation communities characteristically dominated by hydrophytic vegetation, including but not limited to salt marsh, brackish marsh, freshwater marsh, riparian forest, oak riparian forest, riparian woodlands, riparian scrub, and vernal pools;
2. Areas that have hydric soils or wetland hydrology and lack naturally occurring wetland vegetation communities because human activities have removed the historic wetland vegetation or catastrophic or recurring natural events or processes have acted to preclude the establishment of wetland vegetation as in the case of salt pannes and mudflats;
3. Areas lacking wetland vegetation communities, hydric soils and wetland hydrology due to non-permitted filling of previously existing wetlands;
4. Areas mapped as wetlands on Map No. C-713 as shown in Chapter 13, Article 2, Division 6 (Sensitive Coastal Overlay Zone).

It is intended for this definition to differentiate for the purposes of delineating wetlands, between naturally occurring wetlands and wetlands intentionally created by human actions, from areas with wetlands characteristics unintentionally resulting from human activities in historically non-wetland areas. With the exception of the wetlands created for the purpose of providing wetland habitat or resulting from human actions to create open waters or from the alteration of natural stream courses, areas demonstrating wetland characteristics, which are artificially created are not considered wetlands by this definition. Taking into account the regional precipitation cycles, all adopted scientific, regulator, and technological information available from the State and Federal resource agencies shall be used for guidance on the identification of hydrophytic vegetation, hydric soils, and wetland hydrology.

Under the definition, an area is considered wetland based on the presence at least one of three physical criteria (vegetation, hydrology, soils) or based on “Map No. C-713 as shown in Chapter 13, Article 2, Division 6” (LDC Section 113.0103). The same code section defines wetland buffers as additional “areas or feature(s) that protects functions and values of the adjacent wetland” where the functions and values include, “absorption and slowing of flood waters for flood and erosion control, sediment filtration, water purification, [and] ground water recharge.”

The City uses the criteria listed in Section 320.4(b)(2) of the USACE General Regulatory Policies (33 CFR 320–330) to apply an appropriate buffer around wetlands that serves to protect the function and value of the wetland. According to the City’s Biology Guidelines, a wetland buffer is an area surrounding a wetland that helps protect the function and value of the adjacent wetland by reducing physical disturbance; provides a transition zone where one habitat phases into another; and acts to slow flood waters for flood and erosion control, sediment filtration, water purification, and groundwater recharge (City of San Diego 2018a). The width of the buffer is determined by factors such as type and size of development, sensitivity of the wetland resource to edge effects, topography, and the need for upland transition (City of San Diego 2018a). There are no set buffer widths required for wetlands delineated outside of the coastal zone.

City of San Diego Biology Guidelines

The City's Development Services Department developed the Biology Guidelines presented in the Land Development Manual "to aid in the implementation and interpretation of the Environmentally Sensitive Lands Regulations (ESL), San Diego LDC, Chapter 14, Article 3, Division 1, Section 143.0101 et seq., and the Open Space Residential (OP-1-1) Zone, Chapter 13, Article 1, Division 2, Section 131.0201 et seq." (City of San Diego 2018a). The guidelines also provide standards for the determination of impact and mitigation under CEQA and the California Coastal Act. Sensitive biological resources, as defined by the ESL Regulations, include lands within the MHPA as well as other lands outside of the MHPA that contain wetlands; vegetation communities classifiable as Tier I, II, IIIA, or IIIB; habitat for rare, endangered, or threatened species; or narrow endemic species. The most sensitive habitats are classified as Tier I with the least sensitive classified as Tier IV, and varying mitigation ratios and requirements that mitigation be in tier or in kind are based on the sensitivity of the habitat being affected.

In addition, the location of impact inside or outside of the City's MHPA also determines where and how much mitigation is required, with the highest ratios being required for mitigation outside of the MHPA when project impacts occur within the MHPA (City of San Diego 2018a). Habitat mitigation requirements, along with seasonal grading restrictions, provide protections for sensitive species, with additional species-specific mitigation required for significant impacts to narrow endemic species. Limitations on development in the MHPA also protect wildlife movement corridors (e.g., linear areas of the MHPA less than 1,000 feet wide) (City of San Diego 2018a).

2 Survey Methods and Limitations

Data regarding biological resources present within the study area were obtained through a review of pertinent literature and field reconnaissance, both of which are described in detail as follows. Survey areas were determined based on suitable habitat for the resource for which the survey was conducted.

2.1 Literature Review

Multiple biological evaluations have been previously conducted within the project area. Information from the following reports will be used as a reference for this report:

- Biological Resources Assessment for the Olivenhain Municipal Water District (OMWD) 153A Recycled Water Pipeline Extension Project (ECORP Consulting, Inc. 2018) (Well studies and Mitigated Negative Declaration), which documents a biological assessment conducted between Via de la Valle and Dan Dieguito Road associated with the OMWD Recycled Water Pipeline Extension Project. No special-status or protected resources were detected in this area during surveys and desktop review.
- Osuna Valley Trail Bridge Feasibility Study (Kleinfelder 2015), which analyses the feasibility of bridge location and type of the Osuna Valley Trail Bridge over the San Dieguito River within the San Dieguito River Park, extension of the Coast to Crest Trail. Vegetation mapping, jurisdictional delineation, and desktop review of potential sensitive species in the area were conducted in association with the feasibility study.
- Natural Environmental Study Report for the El Camino Real Road/Bridge Widening Project (Tierra Environmental Services 2006), which documents the potential impacts associated with the El Camino Real Road/Bridge Widening Project. Focused surveys of sensitive species were conducted.
- Draft Initial Study and Mitigated Negative Declaration – 153A Recycled Water Pipeline Extension (Woodard & Curran 2018), which concluded potential significant impact on biological resources associated with the 153A Recycled Water Pipeline Extension.
- Biological Assessment Report for the Fairbanks Ranch Country Club Redevelopment Project (Blue Consulting Group 2015), which documents a biological assessment of the Fairbanks Ranch Country Club Redevelopment Project. Vegetation mapping was conducted in the area. No special status species were determined to have significant potential to occur due to the highly disturbed, developed and utilized area with small patches of native habitat.
- Biological Opinion for the Rancho Paseana Trust Restoration and Enhancement of El Apajo Creek and Del Rayo Drainage, Rancho Santa Fe, San Diego County, California (United States Fish and Wildlife Service [USFWS] 2021), which documents the USFWS biological opinion on the impact to Ridgway's rail as a result of the Ranch Paseana Trust Restoration and Enhancement of the El Apajo Creek and Del Rayo Drainage. The focused surveys conducted for this project, which overlap the trail alignment, resulted in the positive detection of Ridgway's rail.

Additional data sources were reviewed to assist with the biological resource analysis including:

- U.S. Department of Agriculture Web Soil Survey (USDA 2021)
- CDFW California Natural Diversity Database – Special Animals List (CDFW 2021a)
- CDFW California Natural Diversity Database – RareFind, Version 5 (CDFW 2021b)

- The Calflora Database (Calflora 2021)
- California Native Plant Society Inventory of Rare and Endangered Plants (CNPS 2021)
- MSCP Subarea Plan (City of San Diego 1997)
- San Diego Municipal Code, Land Development Code—Biology Guidelines (City of San Diego 2018a)
- USFWS Species Occurrence Data (USFWS 2021)
- San Diego Geographic Information Source (SanGIS) database (SanGIS 2021)
- San Diego Natural History Museum (SDNHM 2012)
- Aerial maps from the San Diego Association of Governments (SANDAG 2014) and Bing (Microsoft 2021)
- Topographic maps (Google Earth 2021)

2.2 Field Reconnaissance

No focused surveys for sensitive plant or wildlife species have been conducted specifically in support of this project. As described in Section 2.1, several focused surveys and habitat assessments for sensitive plant and wildlife species have been conducted for other projects which either overlap the trail alignment or occur immediately adjacent to the alignment. Therefore, these previous surveys are relied upon to determine the potential for sensitive plant and wildlife species to occur within the trail alignment footprint.

Previous biological studies within the project area were conducted by Schaefer Ecological Solutions (SES). SES conducted a field reconnaissance survey, vegetation community classification, and formal jurisdiction wetlands delineation in the project area on January 22, 2015. The methods and results associated with those surveys are documented in the Osuna Valley Trail Bridge Feasibility Study. Additional biological studies were conducted between 1998 and 2005, within the vicinity of the project area in association with the El Camino Real Bridge Project, as documented in the Natural Environmental Study Report for the El Camino Real Road/Bridge Widening Project (Tierra Environmental Services 2006). Surveys included protocol-level surveys for arroyo toad and least Bell's vireo, as well as focused surveys for Belding's savannah sparrow, Ridgway's rail, formerly light-footed clapper rail, and present or absence of bat species (Tierra Environmental Services 2006). Focused surveys conducted for the El Camino Real Road/Bridge Widening Project did not result in the detection of any special-status plant species. Focused surveys conducted for the Rancho Paseana project resulted in the positive detection of Ridgway's rail. Dudek conducted sensitive species surveys, for Ridgway's Rail and raptors, for the OMWD Recycled Water Project Pipeline Extension and Groundwater Desalination Project. Surveys were conducted from March to July 2019.

This report largely relies on the previously conducted surveys to determine the potential for special-status species to occur; however, a supplemental biological field survey for the proposed project was conducted in July 2021, by Dudek biologist, Alexandra Kookootsedes. The field survey included vegetation and land cover mapping of the 100-foot buffer around the proposed trail alignment, referred to herein as the survey area, along with updating the previous mapped bridge area from the Osuna Valley Trail Bridge Feasibility Study (Kleinfelder 2015), as necessary. The project area refers to the impact area of the proposed trail. Table 1 lists the survey date, times, surveying biologist, and weather conditions during the survey. The biological survey was conducted in accordance with the City's Guidelines for Conducting Biological Surveys (Appendix II in City of San Diego 2018a).

Table 1. Survey Details

Date	Time	Personnel	Purpose	Conditions
7/15/2021	08:00am-12:00pm	Alexandra Kookootsedes	Vegetation Mapping	72 °F-83 °F; 0%-10% cloud cover; 0-3 mph wind

Notes: mph = miles per hour

2.2.1 Resource Mapping

Vegetation communities and land uses on and within the survey area were mapped in the field directly onto a 100-foot-scale (1 inch = 100 feet), aerial photograph-based field map with overlay of the project survey area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the study area was determined.

Pursuant to the Biology Guidelines (City of San Diego 2018a) the vegetation community and land cover mapping follows the Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008), which is based on the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986). These habitats were then assigned vegetation community names based on the City's Biology Guidelines (City of San Diego 2018a). Areas within the study area supporting less than 30% native plant species cover were mapped as disturbed land, and areas supporting at least 20% native plant species, but fewer than 50% native cover, were mapped as a disturbed native vegetation community (e.g., disturbed coastal sage scrub).

2.2.2 Flora and Fauna

A compiled list of plant species observed in the proposed study area is presented in Appendix A, Plant Compendium. Latin and common names follow the Checklist of the Vascular Plants of San Diego County, 5th Edition (Rebman and Simpson 2014). Where the scientific name listed in Rebman and Simpson (2014) differs from the name currently recognized by the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2018) or that listed in the California Native Plant Society's Inventory of Rare and Endangered Plants (CNPS 2021), the synonym is included in brackets following the name listed in Rebman and Simpson (2014). This list includes those species observed during the SES surveys as recorded on wetland determination data forms, previous monitoring conducted within the study area, as well as species observed during Dudek's updated surveys.

Latin and common names of any animals described in this report follow Crother (2012) for reptiles and amphibians, American Ornithologists' Union (AOU) (2017) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA) (2016) or SDNHM (2002) for butterflies. In addition to species actually detected during the surveys, expected wildlife use of the survey area was determined by known habitat preferences of local species and knowledge of their relative distributions in the area. A list of wildlife species observed in the survey area is presented in Appendix B, Wildlife Compendium.

Since focused biological surveys for the proposed project have not been conducted, the list of plant and wildlife species presented in Appendix A and B is only based on one brief site visit, and species observed during SES surveys and OMWD monitoring. The project area and surrounding habitat would be expected support several native plant and wildlife species that may not be listed in those appendices.

2.2.3 Wetland Delineation

A wetland delineation was conducted in 2015 for a small portion of the study area in association with the Osuna Valley Trail Bridge Feasibility Study. During the updated field review conducted by Dudek in 2021, the limits of the jurisdictional resources identified within the proposed trail alignment (not the entire study area) were reviewed to ensure that site conditions remain the same as those identified in the 2015 delineation. Results from that delineation have been summarized in Section 3.2.2. The delineation defined areas under the jurisdiction of the CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code; under the jurisdiction of the USACE pursuant to Section 404 of the federal CWA; under the jurisdiction of Regional Water Quality Control Board (RWQCB) pursuant to CWA Section 401 and the Porter–Cologne Act; and wetlands defined under the Biology Guidelines (City of San Diego 2018a). Collectively, areas under the jurisdiction of one or all of the resource agencies (USACE, RWQCB, and CDFW), and/or the City are termed jurisdictional resources.

Specifically, the methodology used for each jurisdiction or regulating agency, including the USACE, CDFW, RWQCB, and the City is described as follows. The USACE wetlands delineation was performed in accordance with the 1987 USACE Wetlands Delineation Manual (USACE 1987), the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008), the Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2010), and guidance provided by the USACE and U.S. Environmental Protection Agency on the geographic extent of jurisdiction based on the U.S. Supreme Court’s interpretation of the CWA (USACE and EPA 2008).

Pursuant to Section 404 of the CWA, USACE regulates the discharge of dredged and/or fill material into “waters of the United States.” The term “wetlands” (a subset of waters of the United States) is defined in 33 Code of Federal Regulations (CFR) 328.3(b) as “those areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.” In the absence of wetlands, the limits of USACE jurisdiction in non-tidal waters, such as intermittent streams, extend to the “ordinary high-water mark,” which is defined in 33 CFR 328.3(e).

The USACE and RWQCB, pursuant to the federal CWA, regulate all areas supporting all three wetlands indicator criteria as “wetlands” described in the USACE manual: hydric soils, hydrology, and hydrophytic vegetation. Wetland statuses of plant species to assist in determining if hydrophytic vegetation is present is outlined in The National Wetland Plant List: 2016 wetland ratings (Lichvar et al. 2016). The RWQCB may also take jurisdiction over surface waters lacking USACE regulation pursuant to the state Porter–Cologne Water Quality Control Act. These areas generally include areas with at least one of the three wetlands indicators but that are isolated from a tributary of navigable water through lack of evidence of surface water hydrology.

A predominance of hydrophytic vegetation, usually associated with a stream channel, was used to determine CDFW-regulated riparian areas. Streambeds under the jurisdiction of CDFW were delineated using the Cowardin method of waters classification, which defines waters boundaries by a single parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology).

The City’s definition of wetlands is broader than the definition applied by the USACE. Under the City’s definition, wetlands can include vegetation communities such as freshwater marsh, riparian forest, riparian scrub, or vernal pools. They may also include areas that have hydric soil or wetland hydrology, but human activities have resulted

in a lack of hydrophytic vegetation (e.g., channelized streambeds) or recurring natural events (City of San Diego 2018a). However, “seasonal drainage patterns that are sufficient enough to etch the landscape (i.e., ephemeral/intermittent drainages) may not be sufficient enough to support wetland dependent vegetation. These types of drainages would not satisfy the City’s wetland definition unless wetland dependent vegetation is either present in the drainage or lacking due to past human activities.

2.3 Survey Limitations

Only one site visit was conducted to update the previously mapped vegetation and to map a 100-foot buffer around the proposed trail alignment. The site visit was conducted during daylight hours. There were no incidental sightings of sensitive plant species within the project area during the biological surveys of the area in 2015 and 2018; however, southwestern spiny rush was observed in the survey area during vegetation mapping surveys conducted in 2021. Previous focused surveys have been conducted in the Project area in association with other projects. These surveys have included protocol-level surveys for arroyo toad and least Bell’s vireo, as well as focused surveys for Belding’s savannah sparrow, Ridgway’s rail, formerly light-footed clapper rail, and present or absence of bat species (Tierra Environmental Services 2006). Complete inventories of biological resources present on a site often require numerous focused surveys at different times of day during different seasons. Some species such as annual plants are present in only spring or summer, and nocturnal animals are difficult to detect during the day. Other species may be present in such low numbers that they could be missed. Due to such timing and seasonal variations, survey results are not an absolute list of all species that the study area/project area may support. Sensitive species with potential to occur are largely based on previous focused survey efforts in the area, but also rely on a site visit conducted by Dudek in July 2021, and are described in Section 3.2.5, Sensitive Plants, and Section 3.2.6, Sensitive Wildlife, of this report.

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3 Results

3.1 Physical Characteristics

The proposed study area spans between the Surf Cup Sports Park facility, the Fairbanks Ranch Golf Course and San Dieguito Road, in the northern portion of the City of San Diego. Current land uses immediately surrounding the proposed project include golf courses, a sports park (Surf Cup facility), a country club (Fairbanks Ranch Golf course), horseback riding tracks (Evergate Stables property) and dirt access roads (access roads in Evergate Stables property linking to San Dieguito Road). The San Dieguito River flows through the westerly portion of the study area. El Apajo Creek and Del Rayo Drainage meet and flow towards San Dieguito River within the Evergate Stables portion of the project area (USFWS, 2021).

The elevations in the study area range from approximately 18 feet above mean sea level at the western edge of the study area along the Surf Cup Sports Park to approximately 35 feet above mean sea level along the eastern edge near San Dieguito Road.

According to the Natural Resources Conservation Service, Soil Survey, four soil types were mapped in the study area (Table 2) (USDA 2021):

Table 2. Soils within the Project site

Soil Category	Soil Description	Hydric Rating	Acreage
Grangeville fine sandy loam	Grangeville fine sandy loam, 0% to 2% slopes	Partially Hydric	16.29
Riverwash	gravelly course sand	All Hydric	1.81
Salinas clay	Salinas clay, 2% to 5% slopes	No	11.02
Tujunga sand	Tujunga sand, 0% to 5% slopes	Partially Hydric	5.28
Total			23.85

Note: The hydric soils are derived from USDA 2021.

3.2 Biological Resources

The following discussion describes the existing biological conditions within the proposed project site, provided as biological resource descriptions.

3.2.1 Vegetation Communities and Land Cover Types

The vegetation communities and land covers were mapped according to Oberbauer et al. (2008). These habitats were then identified by their corresponding community as listed the City Biology Guidelines (City of San Diego 2018a). A total of 11 vegetation communities (6 native and 5 non-native) were identified within the project site: coastal sage scrub, freshwater marsh, coastal salt marsh, southern riparian woodland, mulefat scrub, southern willow scrub, disturbed habitat, ornamental, non-native riparian, Arundo-dominated riparian, and tamarisk scrub. In addition, 2 land covers are located within the project site: developed land and open water (Tables 3a and 3b).

The vegetation communities and land cover types recorded in the study area are presented in Table 3a and Table 3b and their spatial distributions are presented on Figures 3a-3e, Biological Resources Map. Table 3a summarizes the acreages of upland and non-native vegetation communities as well as other land covers (13.89

acres) while Table 3b summarizes wetland vegetation acreages (9.95). Acreages shown in Tables 3a and 3b account for the entire survey area, which encompasses 23.84 acres. Also included in the tables are the sensitivity designations of each vegetation community according to the tiers described in the City’s Biology Guidelines (City of San Diego 2018a).

Table 3a. Upland Vegetation Communities and Land Cover Types in the Survey Area and within the Project Boundary

Vegetation Community/ Land Cover Type	City of San Diego Biology Guidelines Vegetation Community	Subarea Plan Tier	Survey Area Acreage	Project Boundary Acreage
Native Vegetation Communities				
Coastal Sage Scrub	Coastal Sage Scrub	II	3.99	0.47
Coastal Sage Scrub (<i>Baccharis</i> -dominated)	Coastal Sage Scrub	II	0.20	--
Non-Native Vegetation Communities and Land Covers				
Developed Land	Disturbed Land	N/A	7.55	0.77
Disturbed Habitat	Disturbed Land	IV	1.84	0.04
Ornamental	Disturbed Land	IV	0.31	0.09
Total			13.89	1.37

Table 3b. Wetland Vegetation Communities and Land Cover Types in the Survey Area and within the Project Boundary

Vegetation Community/ Land Cover Type	City of San Diego Biology Guidelines Vegetation Community	Subarea Plan Designation	Survey Area Acreage	Project Boundary Acreage
Native Vegetation Communities				
Freshwater Marsh	Freshwater Marsh	Wetland	2.75	0.024
Coastal Salt Marsh	Coastal Wetland	Wetland	4.83	0.011
Southern Riparian Woodland	Riparian Forest or Woodland	Wetland	0.41	--
Mulefat Scrub	Riparian Scrub	Wetland	0.02	0.005
Southern Willow Scrub	Riparian Scrub	Wetland	0.49	0.012
Open Water	Natural Flood Channel	Wetland	0.25	0.02
Non-Native Vegetation Communities and Land Covers				
Arundo-Dominated Riparian	Disturbed Wetlands	Wetland	0.18	0.023
Non-native Riparian	Disturbed Wetlands	Wetland	0.03	--
Tamarisk Scrub	Disturbed Wetlands	Wetland	0.52	--
Disturbed Wetland	Disturbed Wetlands	Wetland	0.07	--
Total			9.95	0.075

Note:

^a **Source:** City of San Diego 2018a.

3.2.1.1 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is a native vegetation community that, according to Oberbauer et al. (2008), is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species—such as California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.)—with scattered evergreen shrubs, including lemonade sumac (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*).

Diegan coastal sage scrub occupies a total of 3.99 acres of the study area. This vegetation community occurs primarily on the western half of the project, along the adjacent golf course and soccer field. The area directly adjacent to the soccer field is disturbed coastal sage scrub, with trails and tire tracks running through portions of it. The Diegan coastal sage scrub is comprised of California sagebrush, coast goldenbush (*Isocoma menziesii*), with high cover from field mustard (*Hirschfeldia incana*), and non-native grasses. Coastal sage scrub (including disturbed forms) is considered a Tier II habitat by the City's Biology Guidelines (City of San Diego 2018a).

3.2.1.2 Coastal Sage Scrub (*Baccharis*-dominated)

Coastal sage scrub (*Baccharis*-dominated) is a native vegetation community that, according to Oberbauer et al. (2008), typically occurs in nutrient-poor soils and is composed primarily of broom baccharis (*Baccharis sarothroides*) or coyote bush (*Baccharis pilularis*). Other drought-deciduous species may also be sparsely intermixed—such as California sagebrush, California buckwheat, and saw toothed goldenbush (*Hazardia squarrosa*).

This community occupies a total of 0.20 acres of the study area. This vegetation community occurs primarily on the western half of the project, intermixed with other coastal sage scrub habitat. The baccharis-dominated coastal sage scrub onsite is almost entirely one species, with low bare ground and non-native species covers, when compared to surrounding coastal sage scrub habitat. The City's Biology Guidelines (City of San Diego 2018a) do not distinguish between this variety and general coastal sage scrub vegetation community therefore it is considered a Tier II habitat.

3.2.1.3 Developed Land

According to Oberbauer et al. (2008), urban/developed land represents areas that have been constructed upon or otherwise physically altered to an extent that native vegetation communities are not supported. This land cover type generally consists of semi-permanent structures, homes, parking lots, pavement or hardscape, and landscaped areas that require maintenance and irrigation (e.g., ornamental greenbelts). Typically, this land cover type is unvegetated or supports a variety of ornamental plants and landscaping.

Areas mapped as developed land occupy 7.55 acres of the study area. These areas consist of all graded and maintained areas of the golf course, graded pathway along Evergate Stables, ornamental plantings and structures associated with Evergate Stables, and a small section of the Surf Cup Sports Park. Developed lands do not have a habitat tier per the City's Biology Guidelines (City of San Diego 2018a).

3.2.1.4 Disturbed Habitat

According to Oberbauer et al. (2008), disturbed land (disturbed habitat) refers to areas that are not developed yet lack vegetation, and generally are the result of severe or repeated mechanical perturbation.

Disturbed habitat within the study area includes 1.84 acres at the far west side by the Surf Cup Sports facility, where a combination of trails, vehicle disturbance, and materials stockpiles have left areas with a high level of disturbance and little sign of native habitat. Disturbed habitat is considered a Tier IV habitat per the City's Biology Guidelines (City of San Diego 2018a).

3.2.1.5 Ornamental

Ornamental is used to describe non-native plant species that are planted in association with developed areas, including ornamental species that have naturalized into surrounding habitats. According to Oberbauer et al. (2008), ornamental is not separated from urban/developed, but for the purpose of maintaining consistency with previously mapped areas, ornamental was used in the case of non-native species that are associated with developed areas or have naturalized into nearby surroundings.

Areas mapped as developed land occupy 0.31 acres of the study area. Species observed in this habitat include Ngaio tree (*Myoporum laetum*) and tree tobacco (*Nicotiana glauca*). Ornamental is considered a Tier IV habitat per the City's Biology Guidelines (City of San Diego 2018a).

3.2.1.6 Freshwater Marsh

According to Oberbauer et al. (2008), freshwater marsh is a wetland habitat type that develops where the water table is at or just above the ground surface, such as around the margins of lakes, ponds, slow-moving streams, ditches, and seepages. Due to being permanently flooded by fresh water, there is an accumulation of deep, peaty soils. It typically is dominated by species such as cattail (*Typha* spp.), sedge (*Carex* spp.), and bulrush (*Scirpus* sp.).

The areas mapped as freshwater marsh occupy 2.75 acres within the study area and are mapped along San Dieguito River. The freshwater marsh mapped within the study area is primarily composed of cattails and bulrush. The City's Biology Guidelines (City of San Diego 2018a) classify it as a freshwater marsh if wetland criteria identified in the City's Biology Guidelines are met, including but not limited to presence of hydric soils, predominance of hydrophytic vegetation, and wetland hydrology.

3.2.1.7 Coastal Salt Marsh

According to Oberbauer et al. (2008), coastal salt marsh is a wetland habitat type that develops where saltwater meets land, along the margins of bays, lagoons, and estuaries. It typically is dominated by species such as alkali heath (*Frankenia salina*), seablite species (*Suaeda* sp.), and/or pickleweed species (*Salicornia* sp.).

The areas mapped as coastal salt marsh (including disturbed) occupy 4.83 acres within the study area and are mapped along the eastern portion of the survey area. The dominant species observed include alkali heath and pickleweed. Portions of the survey area mapped as coastal salt marsh are heavily disturbed from frequent mowing to maintain vehicular access to horseback riding facilities at Evergate Stables. The City's Biology Guidelines (City of San Diego 2018a) classify coastal salt marsh as coastal wetlands if wetland criteria identified in the City's Biology Guidelines are met, including but not limited to presence of hydric soils, predominance of hydrophytic vegetation, and wetland hydrology.

3.2.1.8 Non-Native Riparian

According to Oberbauer et al. (2008), non-native riparian is a dense riparian community dominated by non-native, invasive species, often located in wetland habitats where disturbance has occurred. It typically is dominated by a variety of non-native, invasive species including giant reed grass (*Arundo donax*), tamarisk (*Tamarix* spp.), and Eucalyptus (*Eucalyptus* sp.).

The area mapped as non-native riparian occupies 0.03 acres within the study area occurring along the San Dieguito River. The area is dominated by a mix of non-native riparian species including Eucalyptus and giant reed grass. The City's Biology Guidelines (City of San Diego 2018a) do not distinguish between types of disturbed wetland habitats, therefore disturbed wetlands, including non-native riparian, are classified as such.

3.2.1.9 Arundo-Dominated Riparian

According to Oberbauer et al. (2008), Arundo-dominated riparian is a type of non-native riparian community that is almost exclusively dominated by giant reed grass (*Arundo donax*). The substrate is often characterized by loose, sandy alluvium that is deposited along stream channels during flood flows.

The area mapped as Arundo-dominated riparian occupies 0.18 acres within the study area occurring along banks of the San Dieguito River. These areas are a near monoculture of giant reed grass along the edges of the San Dieguito River. The City's Biology Guidelines (City of San Diego 2018a) classify Arundo-dominated riparian as disturbed wetland.

3.2.1.10 Southern Riparian Woodland

According to Oberbauer et al. (2008), Southern Riparian Woodland is a wetland habitat type that is characterized by a moderate density of small trees of shrubs with scattered taller trees, predominately occurring in major river systems where floods scour banks and along smaller major tributaries. It typically is dominated by species such as desert broom (*Baccharis sarothroides*), Western sycamore (*Platanus racemosa*), and cottonwoods (*Populus* sp.), willows (*Salix* spp.), and elderberry (*Sambucus* spp.).

The areas mapped as Southern riparian woodland occupy 0.41 acres of the study area, located on the southern west edge between the Morgan Run golf course and the Surf Cup soccer field. The area mapped as southern riparian woodland includes disturbed habitat which is a mix of native riparian trees including Fremont's cottonwood (*Populus fremontii*) and willows (*Salix* spp.) and non-native riparian species including tamarisk and giant reed grass. Southern riparian woodland is considered riparian woodland by the City's Biology Guidelines (City of San Diego 2018a).

3.2.1.11 Mulefat Scrub

According to Oberbauer et al. (2008), mulefat scrub is described as a uniform, tall, herbaceous riparian scrub community largely dominated by mulefat (*Baccharis salicifolia*). These areas typically receive frequently flooding preventing succession into more tree dominated riparian habitats. Other characteristic species include Narrowleaf willow (*Salix exigua*), stinging nettle (*Urtica dioica* ssp. *holosericea*), and valley sedge (*Carex barbarae*).

The areas mapped as mulefat scrub occupy 0.02 acres within the study area and occur on the east side of the San Dieguito River. The City's Biology Guidelines (City of San Diego 2018a) do not distinguish between this variety and general riparian scrub therefore all categories of riparian scrub are classified as a wetland habitat if they meet the wetland criteria identified in the City's Biology Guidelines.

3.2.1.12 Southern Willow Scrub (Including Disturbed Variety)

According to Oberbauer et al. (2008), southern willow scrub has been described as a dense, broad-leafed, winter-deciduous riparian thicket dominated by several species of willow (*Salix spp.*), with scattered emergent Fremont cottonwood and western sycamore. Most stands are too dense to allow much understory development. This habitat is considered seral due to repeated disturbance/flooding and is therefore unable to develop into the taller southern cottonwood willow riparian forest.

The areas mapped as southern willow scrub, occupy 0.49 acres within the study area and occur along the San Dieguito River. The City's Biology Guidelines (City of San Diego 2018a) do not distinguish between this variety and general riparian scrub therefore all categories of riparian scrub are classified as a wetland habitat if they meet the wetland criteria identified in the City's Biology Guidelines.

3.2.1.13 Tamarisk Scrub

According to Oberbauer et al. (2008), tamarisk scrub is characterized as a weedy, nearly homogenous stand of multiple tamarisk species (*Tamarix spp.*), usually replacing native habitat following major disturbance events. is a wetland habitat type that develops where the water table is at or just above the ground surface, such as around the margins of lakes, ponds, slow-moving streams, ditches, and seepages. Due to being permanently flooded by fresh water, there is an accumulation of deep, peaty soils. Other characteristic species include big basin saltbrush (*Atriplex lentiformis*), narrowleaf willow, and arrowweed (*Pluchea sericea*).

The area mapped as tamarisk scrub occupy 0.52 acres within the study area and occurs along San Dieguito River. Tamarisk scrub was also mapped in the survey area within the disturbed coastal salt marsh. The City's Biology Guidelines (City of San Diego 2018a) do not distinguish between types of disturbed wetland habitats, therefore disturbed wetlands, including non-native riparian, are classified as such.

3.2.1.14 Disturbed Wetland

Disturbed wetlands are areas permanently or periodically inundated by water that have been substantially modified by human activity. Disturbed wetland (Palm-dominated) refers to a vegetation community that often consists of monotypic stands of palm species (*Arecaceae*) such as Washington fan palm (*Washingtonia robusta*) or canary date palm (*Phoenix canariensis*). Some other characteristic non-native species may also be sparsely intermixed, including giant reed (*Arundo donax*), tamarisk (*Tamarix spp.*), pampas grass (*Cortaderia spp.*), and Bermuda grass (*Cynodon dactylon*).

The areas mapped as disturbed wetland occupy 0.07 acres within the study area and occur along the San Dieguito River within the adjacent golf course, as well as within the Evergate Stables property fields. Per the City's Biology Guidelines (City of San Diego 2018a), disturbed wetland is classified as a wetland habitat.

3.2.2 Jurisdictional Resources

A wetlands delineation was completed by SES in 2015. During the updated field review conducted by Dudek in 2021, the limits of the jurisdictional resources identified within the proposed trail alignment where the bridge is located (not the entire study area) were reviewed to ensure that site conditions remain the same as those identified in the 2015 delineation. While updates to the vegetation were required, the results of the jurisdictional delineation were not revised. During the jurisdictional delineation surveys hydrology, vegetation, and soils were evaluated and results were recorded on wetland determination data forms to determine the presence or absence of wetland field indicators. The San Dieguito River runs through the western portion of the project area creating a riparian corridor and associated transitional uplands from the floodplain. The study area falls within the floodplain of the San Dieguito River. The San Dieguito River has a visible Ordinary High-Water Mark, which was used to map the extent to the feature for the Osuna Valley Trail Bridge Feasibility Study. Since the previous delineation only focused on the location of the bridge and the immediate surrounding area, any wetland vegetation located to the east of the bridge were assumed to be wetlands/riparian habitat regulated by all three agencies and the City. The jurisdictional resources identified in the 2015 delineation and those presumed to be jurisdictional are shown on Figures 3a–3e and summarized in Table 4. All vegetation community mapped on site, as wetland communities and classified through the City’s Biological Guidelines as a wetland habitat, are regulated by the City of San Diego as is the open water. Tamarisk scrub is not included as a City wetland as this vegetation community grows on the edges of coastal sage scrub and wetland transition zones. Given that this species is not classified as a wetland by the USACE, stands of tamarisk scrub are not considered regulated by the City or the regulatory agencies.

Table 4. ACOE/RWQCB Jurisdictional Resources within the Study Area

Jurisdictional Aquatic Resource	Area (Acres)
Wetlands	
Arundo-Dominated Riparian	0.04
Coastal Salt Marsh	4.83
Freshwater Marsh	2.10
Mulefat Scrub	0.02
Non-native Riparian	0.03
Southern Willow Scrub	0.49
Southern Riparian Woodland (disturbed)	0.41
<i>Total Wetlands</i>	7.94
Non-Wetland Waters	
Open Water	0.25
Disturbed Wetlands	0.04
<i>Total Non-Wetland Waters</i>	0.29
Total Jurisdictional Area	8.23

Table 5. CDFW Wetlands and Streambed within the Study Area

Jurisdictional Aquatic Resource	Area (Acres)
Wetlands/ Riparian Area	
Arundo-Dominated Riparian	0.04
Coastal Salt Marsh	4.83
Freshwater Marsh	2.10
Mulefat Scrub	0.02
Non-native Riparian	0.03
Southern Willow Scrub	0.49
Southern Riparian Woodland (disturbed)	0.41
<i>Total Wetlands</i>	7.94
Non-Wetland Waters/ Streambed	
Open Water	0.25
Disturbed Wetlands	0.06
Arundo-Dominated Riparian	0.13
Southern Willow Scrub (disturbed)	0.40
Freshwater Marsh	0.01
<i>Total Non-Wetland Waters</i>	0.85
Total Jurisdictional Area	8.79

Table 6. City of San Diego Jurisdictional Wetlands within the Study Area

Jurisdictional Aquatic Resource	Area (Acres)
Wetlands/ Riparian Area	
Arundo-Dominated Riparian	0.04
Coastal Salt Marsh	4.83
Freshwater Marsh	2.10
Mulefat Scrub	0.02
Non-native Riparian	0.03
Southern Willow Scrub	0.49
Southern Riparian Woodland (disturbed)	0.41
<i>Total Wetlands</i>	7.94
Non-Wetland Waters/ Streambed	
Open Water	0.25
Disturbed Wetlands	0.06
Arundo-Dominated Riparian	0.13
Southern Willow Scrub (disturbed)	0.40
Freshwater Marsh	0.01
<i>Total Non-Wetland Waters</i>	0.85
Total Jurisdictional Area	8.79

3.2.3 Floral Diversity

A total of 22 species of native or naturalized plants, 14 native (64%) and 8 non-native (36%), were recorded during the biological reconnaissance survey for the project. Low species diversity is directly related to a lack of focused surveys. A cumulative list of all common and sensitive plant species observed in the study area is provided in Appendix A of this report.

3.2.4 Wildlife Diversity

The study area supports habitat for a variety of species, with a mix of upland and wetland habitat. Upland habitats, including Diegan coastal sage scrub and disturbed habitat, provide foraging and nesting habitat for migratory and resident bird species and other wildlife species. Suitable habitat for sensitive riparian species is present within riparian scrub (southern willow scrub, mulefat scrub, and tamarisk scrub), riparian woodland (southern riparian woodland) habitats. Wetland and freshwater marsh habitats (coastal marsh and freshwater marsh) are also present within the study area and may support sensitive wetland species. The range of vegetated communities within the study area also likely provides cover and foraging opportunities for wildlife species, including reptiles and mammals.

3.2.5 Sensitive Plants

Plant species are considered sensitive if they have been listed or proposed for listing by the federal or state government as rare, endangered, or threatened (“listed species”); have a California Rare Plant Rank (CRPR) of 1-4; are listed as a MSCP-covered species; and/or have been adopted by the City as narrow endemic. Dudek reviewed the findings from biological surveys conducted within portions of the study area associated with the other projects to determine the potential for sensitive plant species to occur within the study area. In addition, Dudek’s knowledge of biological resources and regional distribution of each species, as well as elevation, habitat, and soils present within the project area were evaluated to determine the potential for various sensitive species to occur.

Based on the Osuna Valley Trail Bridge Feasibility Study and the Biological Resources Assessment for the OMWD 153A Recycled Water Pipeline Water Pipeline Extension Project findings, southern tarplant (*Centromadia parryi* ssp. *australis*) is the only species that was identified to have a moderate potential to occur in the project area, according to vegetation mapping and CNDDDB records (Kleinfelder, 2015; ECORP Consulting, Inc., 2018). Southern tarplant was previously observed within the coastal sage scrub habitat associated with the upper floodplain (Kleinfelder 2015). However, this species would have been observed during surveys conducted within the study area and is therefore considered absent from the study area.

Based on Dudek’s review of the study area and the previous surveys conducted there are no sensitive plant species which have a high potential to occur in the study area. One sensitive plant, southwestern spiny rush, occurs within areas of coastal salt marsh. Additionally, only one species was determined to have a moderate potential to occur: Lewis’ evening primrose (*Camissoniopsis lewisii*). Previously surveys may have been timed to detect this species but more current surveys did not occur during this species blooming period. Therefore, in the absence of focused surveys, this species is assumed to be present.

A description of species with a moderate and high potential to occur, or known to occur, is provided as follows:

Southwestern Spiny Rush

Southwestern spiny rush is listed by California Native Plant Society (CNPS) to have a CRPR of 4.2; however, this species is not federally or state-listed and is not covered by the MCSP. This species is typically found in a variety of wetland habitats including meadows, seeps, marshes, and swamps. It can also be found in coastal dune habitat.

Southwestern spiny rush is a perennial species that was observed in the coastal salt marsh within the survey area during recent vegetation mapping surveys. One small patch was observed in the eastern half of the survey area adjacent to the Evergate Stables fence line.

Lewis' Evening Primrose

Lewis' evening primrose is listed by California Native Plant Society (CNPS) to have a CRPR of 3; however, this species is not federally or state-listed and is not covered by the MCSP. This species is typically found in a variety of upland habitats including chaparral, cismontane coniferous forest, and grassland.

Lewis' evening primrose is an annual species that has one known occurrence within the San Dieguito lagoon just over 3 miles west of the study area. Lewis' evening primrose has a moderate potential to occur within the sandy and saline coastal scrub present within the study area.

3.2.6 Sensitive Wildlife

Sensitive wildlife species are those listed as federal/state endangered or threatened, proposed for listing, fully protected by CDFW, California Watch List, California species of special concern, or MSCP-covered species. Findings from previous biological surveys associated other projects within and surrounding the study area have been reviewed and are summarized in the text below. In addition, Dudek's knowledge of biological resources and regional distribution of each species, as well as elevation, habitat, and soils present within the survey area, were evaluated to determine the potential for various sensitive species to occur.

Based on the Osuna Valley Trail Bridge Feasibility Study findings, the species that have potential to occur in the study area, based on vegetation types and CNDDDB output include Ridgway's rail (*Rallus obsoletus levipes*) and least Bell's vireo (*Vireo bellii pusillus*) (Kleinfelder 2015). Ridgway's rail and least Bell's vireo were observed within the survey area for the El Camino Real Bridge replacement project, but neither were observed during biological surveys for the Osuna Valley Trail Bridge Feasibility study, surveys for the OMWD 153A Recycled Water Pipeline Project, or for this project. Ridgway's rail was observed within the study area during surveys for the Fairbanks Ranch Golf Course Leasehold in 2018, during biological monitoring for the OMWD pipeline in 2019 and during surveys for the Rancho Paseana Trust Restoration and Enhancement of El Apajo Creek and Del Rayo Drainage Project in 2020 (Dudek 2018; USFWS 2021).

The Biological Resource Assessment for the OMWD 153A Recycled Water Pipeline Extension Project identifies 4 additional species with high or moderate potential to occur within the study area (ECORP Consulting Inc., 2018). The San Diego black-tailed jackrabbit (*Lepus californicus bennettii*) was determined to have a high potential to occur, whereas orange-throated whiptail (*Aspidoscelis hyperythra*), Belding's savannah sparrow (*Passerculus sandwichensis beldingi*), and California black rail (*Laterallus jamaicensis coturniculus*) were determined to have a moderate potential to occur.

Based on Dudek's review of the study area and the previous surveys conducted, the following wildlife species have a high potential to occur: northern harrier (*Circus cyaneus*), least bittern (*Ixobrychus exilis*), Ridgway's rail (*Rallus obsoletus levipes*), least Bell's vireo (*Vireo bellii pusillus*), San Diego black-tailed jackrabbit, and wandering skipper (*Panoquina errans*) have a high potential to occur. Western spadefoot (*Spea hammondi*), orange-throated whiptail, Cooper's hawk (*Accipiter cooperii*), Canada goose (*Branta canadensis*), Swainson's hawk (*Buteo swainsoni*), white-tailed kit (*Elanus leucurus*), California horned lark (*Eremophila alpestris acita*), yellow warbler (*Setophaga petechia*), and monarch butterfly (*Danaus plexippus*) were all determined to have a moderate potential to occur within the study area.

A description of species with a moderate and high potential to occur, or known to occur, is provided as follows:

Northern Harrier

Northern harrier is considered a species of special concern by CDFW and is covered by the MSCP. The species has a wide range, breeding from northern Alaska to northern Baja California using a wide variety of open habitats including grasslands, marshes, deserts, coastal sand dunes, and floodplains. The species preys on small to medium sized species including birds, rodents, reptiles, and frogs (Macwhirter and Bildstein 1996). Northern harrier is primarily threatened by loss of habitat, including loss of freshwater and estuarine wetland breeding habitat. (Cripe 2000; Macwhirter and Bildstein 1996).

Northern harriers have been recorded nearby the survey area and have a high potential to nest within the survey area.

Least Bittern

Least Bittern is considered a species of special concern by CDFW and is not covered by the MSCP. The species nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic species occurring in San Diego County mostly during breeding season with some overwintering in the Salton Sea and lower Colorado River Valley (Gibbs et.al. 1992; Garrett and Dunn 1981; Rosenberg et al. 1991; Hamilton and Willick 1996; Patten et al. 2003). Least bittern is primarily threatened by degradation and loss of freshwater marsh habitat within its range (Gibbs et.al. 1992).

Least bitterns have been recorded nesting at San Elijo Lagoon and have a high potential to occur within the survey area (SDNHM 2021).

Ridgway's Rail

Ridgway's rail is a federally and state-listed endangered species, covered by the MSCP. Ridgway's rail inhabits coastal wetlands from the San Francisco Bay to northern Baja California. Predators such as raptors and degradation of wetlands have led to the decline of the species. Ridgway's rail lay four to eight eggs (Zembal et al. 2007). The prey of this species typically consists of crustaceans (Eddleman and Conway 1998).

Ridgway's rail was first reported near the survey area in 2004. After multiple surveys of the area, inland from the San Dieguito Lagoon and El Camino Real in 2005 and 2006, 31 breeding pairs were identified. In 2006, this subpopulation was the third largest subpopulation of Ridgway's rail in California and the largest recorded in freshwater marsh habitat. The population has fluctuated between 15 and 45 pairs in annual census counts between 2006 and 2016 (Zembal et al. 2013; Zembal et al. 2016).

Ridgeway's rail has a high potential to occur within the survey area as Ridgeway's rail were directly observed and heard during biological monitoring surveys for the OMWD pipeline and during the Rancho Paseana surveys.

Least Bell's Vireo

Least Bell's vireo is federally listed endangered, state-listed endangered, and MSCP covered species. The breeding range of least Bell's vireo includes coastal and inland Southern California (including the western edge of Southern California's southern deserts), a small area within California's Central Valley, and extreme northern Baja California, Mexico. Least Bell's vireo overwinters primarily along southern Baja California (Kus 2002). Least Bell's vireo primarily occupies riverine riparian habitats along water, including dry portions of intermittent streams that typically provide dense cover within 1 to 2 meters (3.3 to 6.6 feet) off the ground, often adjacent to a complex, stratified canopy. Least Bell's vireo nesting habitats in cismontane and coastal areas include southern willow scrub; mulefat scrub; arroyo willow riparian forest edge; wild blackberry thickets; and more rarely, cottonwood forest, sycamore alluvial woodland, and southern coast live oak riparian forest.

Least Bell's vireo has high potential to occur within riparian habitat along the San Dieguito River. A least bell's vireo observation was recorded in the study area during 2019 surveys of the OMWD 153A Recycled Water Pipeline Extension Project.

San Diego Black-tailed Jackrabbit

San Diego black-tailed jackrabbit is considered a species of special concern by CDFW and is not covered by the MSCP. The subspecies San Diego black-tailed jackrabbit (*L. c. bennettii*), which is one of nine subspecies of black-tailed jackrabbit (Dunn et al. 1982), is confined to coastal Southern California, with marginal records being Mt. Piños in northeastern Ventura County, Arroyo Seco/Pasadena in Los Angeles County, and the San Felipe Valley and Jacumba in San Diego County (Hall 1981). The black-tailed jackrabbit occupies many diverse habitats, but primarily is found in arid regions supporting short-grass habitats.

The San Diego black-tailed jackrabbit is particularly sensitive to habitat fragmentation and isolation of populations. Because local populations fluctuate in relation to resources, it may disappear from a location when the size of the habitat patch declines to some critical point no longer large enough to sustain a population or the patch becomes too isolated from other occupied habitat for successful dispersal to the site. Other documented threats to jackrabbits related to urban development are vehicle collisions and pet, stray, and feral dogs (Lechleitner 1958). Inadvertent poisoning from rodenticides used to control pest rodents (e.g., ground squirrels) in landscaped areas and golf courses is also a threat to the species.

San Diego black-tailed jackrabbit has a high potential to occur within the survey area.

Wandering Skipper

Wandering skipper is not federally or state-listed, however it is covered by the MSCP. The species is found in saltmarsh habitat from Baja California to Santa Barbara County (Orsak 1977). Suitable habitat occurs within the survey area. Wandering skipper are known to occur in salt marshes throughout the region. The species is threatened by development of the coastal marsh habitats throughout its range.

Wandering skipper has a high potential to occur within the survey area.

Western Spadefoot

Western spadefoot is considered a species of special concern by CDFW but it is not covered by the MSCP. The western spadefoot usually occurs in open areas with sandy or gravelly soils in a variety of habitats, including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, river floodplains, alluvial fans, playas, and alkali flats (Stebbins 2003; Holland and Goodman 1998). The species is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas (Holland and Goodman 1998).

Loss of aquatic and adjacent upland habitats supporting the life cycle of the western spadefoot is a primary threat to this species. Davidson et al. (2002) found that declines in western spadefoot in Southern California were associated most strongly with habitat loss, due primarily to urbanization and, to a lesser extent, agriculture. Other factors related to urban development probably are also contributing to this species' decline. Over the long term, non-native predators, such as bullfrog, crayfish, and mosquito fish, are a threat to western spadefoot, especially during breeding and metamorphosis (Jennings and Hayes 1994; USFWS 2005).

One recent occurrence of Western spadefoot was documented 3 miles upstream of the study area in 2007, however vernal pools and ephemeral basins were not observed within the study area. Additionally, non-native American bullfrogs (*Rana catesbeiana*), have been recorded less than 1 mile from the survey area. Thus, Western spadefoot has a moderate potential to occur within the survey area.

Orange-Throated Whiptail

Orange-throated whiptail is considered a watch list species by CDFW and is covered by the MSCP. The species occurs in low-elevation coastal scrub, chaparral, and valley foothill hardwood habitats.

Several occurrences of orange-throated whiptail have been recorded within 3 miles of the study area, however the habitat within the study area is limited in quality. As such, orange-throated whiptails have a moderate potential to occur within the survey area.

Cooper's Hawk

Cooper's hawk is considered a watch list species by CDFW and is covered by the MSCP. The species nests and forages in dense stands of live oak, riparian woodlands, and other woodland habitats often near water.

Cooper's hawks has a moderate potential to nest and forage within the study area, with riparian trees suitable for raptor nesting. A cooper's hawk observation was recorded in the study area during 2019 surveys of the OMWD 153A Recycled Water Pipeline Extension Project.

Canada Goose

Canada goose is not considered a species of special concern by CDFW but it is covered by the MSCP. The species has a wide range, extending through temperate and arctic North America. The species has also been introduced into many other continents around the world. Canada goose habitat includes lakes, rivers, ponds, and other bodies of water, along with yards, park lawns, and agricultural fields.

Canada goose has a moderate potential to occur within portions of the survey area that area characterized by open, disturbed habitat or near ponds of the San Dieguito River.

Swainson's Hawk

Swainson's hawk is considered a threatened species by CDFW and is covered by the MSCP. The Swainson's hawk breeds widely across western North America from Coahuila, Chihuahua, and Sonora in northern Mexico north to Manitoba, Saskatchewan, and Alberta in southern Canada. Across their breeding range, Swainson's hawks forage in open habitats dominated by grasses, as well as some open shrublands and open, small woodlands. Generally, Swainson's hawk nest in scattered trees along stream courses, rivers, or in open woodlands within foraging habitat (Bechard et al. 2010).

Swainson's hawk has a moderate potential to nest and forage within the study area, with riparian trees suitable for raptor nesting.

White-tailed Kite

White-tailed kite is considered a fully protected species by CDFW but it is not covered by the MSCP. White-tailed kites often nest in woodland, riparian, and individual trees near open lands, foraging opportunistically in grassland, meadows, scrubs, agriculture, emergent wetlands, savanna, and disturbed lands.

White-tailed kite has been observed within 5 miles of the study area. They have a moderate potential to nest and forage within the study area, with riparian trees suitable for raptor nesting, and scrub habitat with some open non-native grassland patches and adjacent developed lands including a golf course. A white-tailed kite observation was recorded in the study area during 2019 surveys of the OMWD 153A Recycled Water Pipeline Extension Project.

California Horned Lark

California horned lark is considered a watch list species by CDFW but it is not covered by the MSCP. The species of horned lark occurs in the Southern and Central coastal slopes of California and in the San Joaquin Valley. Typically, California horned larks nest and forage in grasslands, disturbed lands, agriculture, and along beaches.

California horned lark has been recorded nearby the survey area and has a moderate potential to occur on disturbed, open portions of the study area.

Yellow Warbler

Yellow warbler is considered a species of special concern by CDFW but it is not covered by the MSCP. This species is a migrant throughout much of North America and winters from Southern California, Arizona, and the Gulf Coast southward to central South America (AOU 1998). The yellow warbler occurs near rivers, streams, lakes, or wet meadows that contain riparian vegetation nearby (Lowther et al. 1999; Heath 2008). They can also be associated with agricultural areas and, more specifically, are associated with willows (*Salix* spp.) (Strusis-Timmer 2009).

Yellow warbler has been recorded within 2 miles of the survey area and have a moderate potential to nest in the riparian habitat present within the survey area. A yellow warbler observation was recorded in the study area during 2019 surveys of the OMWD 153A Recycled Water Pipeline Extension Project.

Monarch Butterfly

Monarch butterfly is considered a candidate for federal listing but is not covered by the MSCP. Monarch butterfly wintering sites are considered special status by CDFW. The species' distribution is controlled by the distribution of its larval host plant (i.e., various milkweeds, genus *Asclepias*). Wintering sites in California are associated with wind-protected groves of large trees (primarily eucalyptus or pine) with nectar and water sources nearby, generally near the coast.

Monarch butterflies have a moderate potential to occur within the study area but are not expected to overwinter since the site is outside of the species' known geographic range for overwintering.

3.2.7 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the immigration and emigration of animals. Wildlife corridors contribute to population viability by:

1. Assuring the continual exchange of genes between populations, which helps maintain genetic diversity
2. Providing access to adjacent habitat areas, representing additional territory for foraging and mating
3. Allowing for a greater carrying capacity
4. Providing routes for colonization of habitat lands following local population extinctions or habitat recovery from ecological catastrophes (e.g., fires)

Habitat linkages are patches of native habitat that function to join two larger patches of habitat. They serve as connections between habitat patches and help reduce the adverse effects of habitat fragmentation. Although individual animals may not move through a habitat linkage, the linkage does represent a potential route for gene flow and long-term dispersal. Habitat linkages may serve as both habitat and avenues of gene flow for small animals such as reptiles and amphibians. Habitat linkages may be represented by continuous patches of habitat or by nearby habitat "islands" that function as stepping-stones for dispersal.

The main habitat linkages within the study area are associated with San Dieguito River, adjacent open space upland habitat, and wetlands on the eastern side of the study area. Outside of these areas is predominately developed landscapes that likely provide limited refuge and cover for wildlife species and their movements. San Dieguito River provides wildlife habitat and may support wildlife species movement; however, the habitat is limited in size, thus any large species that use this habitat are likely passing through. Wildlife likely also use the open space on the southern half of the study area to move between habitats; however, this natural habitat is bounded on all sides by roads and development and therefore movement would be restricted.

The MHPA of the MSCP was designed to include key biological core and linkage areas within the City (City of San Diego 1997). The survey area is partially within the MSCP but is not within the designated MHPA and is determined not to be a biological core or linkage area. The MHPA boundary occurs approximately 1.3 miles south of the proposed project area and is not adjacent to the project area (Figure 1).

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4 Proposed Wetland Buffers

The purpose of the project is to provide the continuation of and connection to the existing Coast to Crest trail. The new trail segment will begin at the east end of the Surf Cup Sports Park facility, will pass through the northwest corner of the Fairbanks Ranch Golf Course leasehold, and will continue to the east along the south edge of the Evergate Stables property, to connect to San Dieguito Road. The only option to establish the trail connection is to pass through portions of City regulated wetlands associated with the San Dieguito River and the surrounding transitional upland habitat. Therefore it is infeasible to create a wetlands protection buffer around City regulated resources. The new bridge location was sited to occur in degraded wetland habitat to the extent feasible, to avoid and minimize impacts to wetlands to the greatest degree possible.

Following project construction, graded areas associated with the construction of the trail and bridge will be returned to native habitat as described in Section 1.2. Existing exotic/non-native plant species that have previously invaded the existing wetlands will be removed and those areas will be restored and enhanced to the appropriate native plant communities. This will help provide an improved wetland habitat area and additional nesting and foraging opportunities for native wildlife species. In addition, areas of wetlands that could be subject to physical disturbance, from noise and human associated activities will be protected by confining human use and access through the wetlands, to the new trail and bridge. Revegetation along the margins of the trail will help provide a vegetative buffer to the existing habitat. Providing a dedicated trail connection through the wetlands will ensure that the wetlands and other surrounding habitat are not inadvertently degraded by trail users seeking their own way through the area.

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5 Consistency with the Multiple Species Conservation Program

The proposed project impact footprint does not occur within or adjacent to the City of San Diego MHPA, and therefore is not required to document compliance with the MSCP Land Use Adjacency Guidelines (LUAG). Figure 1 shows the proximity of the City MHPA to the project site, with the nearest City MHPA area occurring approximately 1.3 miles from the proposed project site. The project does however lie immediately adjacent to the County of San Diego MSCP area however the trail only crosses into the County area where the trail links-up to the existing access road serving the Evergate Farm property. Agreements have been reached between Evergate and the JPA to jointly use their access road for the trail. Impacts to sensitive vegetation and wildlife species have been avoided in that area through adjustments to the trail to always be contiguous with (i.e., in the same footprint as) the access road.

The project will occur primarily within City-owned land and will need to be consistent with the City’s Biology Guidelines (City of San Diego 2018a) and will be evaluated according to the City’s Significance Determination Thresholds (City of San Diego 2016.)

Area specific management directives (ASMD) were developed for certain MSCP covered species as a condition of coverage under the MSCP. The conditions for coverage outlined in the City’s MSCP Subarea Plan have been reviewed in conjunction with the species which have a potential to occur within the project area. All ASMDs for those species will be adhered to. Table 7 describes how the project will comply with the ASMD for species with a potential to occur within the project site.

Table 7. Area Specific Management Directives Compliance

MSCP Covered Species	Area Specific Management Directives (ASMD)	Project Compliance
Northern Harrier	ASMD must include 900 feet or maximum possible avoidance area around nests within the preserve, manage agricultural and disturbed land (which become part of the preserve), and the preserve management group shall coordinate efforts to manage for wintering northern harriers’ foraging habitat within MSCP preserve.	To avoid any indirect impacts to northern harrier, construction shall not occur within 900 feet of nests or shall occur outside of the breeding season for these species (February 1 to September 15).
Ridgway’s Rail	ASMD must include active management of wetlands to ensure healthy tidal saltmarsh environmental and address edge effects ¹ .	Edge effects would be limited to the portions of the trail which would be installed within native habitat. The amount of edge effects in this area is expected to be marginal in comparison to the existing land uses. Non-native vegetation within and immediately adjacent to the trail alignment will be restored and enhanced to native habitat suitable for Ridgway’s rail habitation, as part of the mitigation program for this project.

Table 7. Area Specific Management Directives Compliance

MSCP Covered Species	Area Specific Management Directives (ASMD)	Project Compliance
Least Bell's Vireo	ASMD must include measures to provide appropriate successional habitat, upland buffers for all known populations, cowbird control, and specific measures to protect against detrimental edge effects to this species. Any clearing of occupied habitat must occur between September 15 and March 15 (i.e., outside of the nesting period).	To avoid any indirect impacts least Bell's vireo construction within 300 feet of suitable habitat shall occur outside of the breeding season for these species (February 1 to September 15). Edge effects would be limited to the portions of the trail which would be installed within native habitat. The amount of edge effects in this area is expected to be marginal in comparison to the existing land uses.
Wandering Skipper	ASMD must include measures to control weeds and invertebrate predators (where appropriate) and to control access to saltmarsh habitat.	The trail will be fenced with signage to discourage off-trail use. The project does not include weed control but will remove non-native species.
Orange-Throated Whiptail	ASMD must address edge effects ¹ .	Edge effects would be limited to the portions of the trail which would be installed within native habitat. The amount of edge effects in this area is expected to be marginal in comparison to the existing land uses. Non-native vegetation within and immediately adjacent to the trail alignment will be restored and enhanced to native habitat suitable for orange-throated whiptail as part of the mitigation program for this project.
Cooper's Hawk	ASMD must include 300-foot impact avoidance areas around the active nests, and minimization of disturbance in oak woodlands and oak riparian forests.	The proposed project would not result in impacts to oak woodlands or oak riparian forest. To avoid any indirect impacts Cooper's hawk, construction within 300-feet of suitable habitat shall occur outside of the breeding season for these species (February 1 to September 15).
Canada Goose	No ASMD designed for this species.	Not applicable.
Swainson's Hawk	No ASMD designed for this species.	Not applicable.

Note:

¹ Edge effects may include (but are not limited to) trampling, dumping, vehicular traffic, competition with invasive species, parasitism by cowbirds, predation by domestic animals, noise, collecting, recreational activities, and other human intrusion.

6 Impacts Analysis

The purpose of this section is to describe the direct, indirect, and cumulative impacts of the proposed project on sensitive biological resources. The significance determinations for proposed or potential impacts are described in this section and mitigation measures to reduce impacts are provided in Section 7.

6.1 Definition of Impacts

Based upon the project description (Section 1.2), direct impacts, indirect (short-term and long-term), and cumulative impacts are defined as follows.

Direct Impacts may include both the permanent loss of on-site habitat and the plant and wildlife species that it contains, as well as the temporary loss of on-site habitat. Direct impacts for this project were quantified by overlaying the proposed bridge and the trail alignment, including the trail and bridge abutment footprint and the associated graded slopes, onto the biological resources map and evaluating the impacts by vegetation community. Direct impacts would occur as a result of grading for the trail and installation of the abutments. Direct impacts resulting from the grading for the slopes outside of the trail footprint, will result in the loss of native habitat, however these areas will be restored to native habitat as part of the proposed onsite mitigation program..

According to the Biology Guidelines, lands containing Tier I, II, IIIA, and IIIB habitats and all City wetlands are considered sensitive and declining and, as such, impacts to these resources may be considered significant. Lands designated as Tier IV are not considered to have significant habitat value and impacts would not be considered significant.

The City's Biology Guidelines also include additional information regarding significance as follows (City of San Diego 2018a):

- a. Total upland impacts (Tiers I-III B) less than 0.1 acre are not considered significant and do not require mitigation.
- b. Total wetland impacts less than 0.01 acre are not considered significant and do not require mitigation. This does not apply to vernal pools, road pools supporting listed fairy shrimp, or wetlands within the Coastal Zone.
- c. Removal/control of non-native plants is not considered to constitute a significant habitat impact for which compensatory habitat acquisition, preservation, or creation for the area impacted is required. Mitigation for indirect impacts such as erosion control or off-site infestation by non-native species may be needed.

Indirect Impacts refer to off-site and on-site effects that are short-term impacts (i.e., temporary) due to the project construction or long-term (i.e., permanent) design of the project and the effects it may have to adjacent resources. For this project, it is assumed that the potential short-term indirect impacts resulting from construction activities may include noise, general human presence that may temporarily disrupt species, and habitat vitality and construction-related soil erosion and runoff. Shading of the bridge is also considered a permanent indirect impact to any vegetation communities that occur under the bridge. Since the proposed project is not located within or adjacent to the MHPA, construction of the bridge would not result in potential indirect impacts to the MHPA preserve.

In accordance with the Subarea Plan and pursuant to the San Diego RWQCB Municipal Permit and the City's Stormwater Standards Manual (City of San Diego 2018b), projects are required to implement site design, source control, and

treatment control best management practices (BMPs). Development projects will be required to meet National Pollutant Discharge Elimination System regulations and incorporate BMPs during construction and permanent BMPs as defined by the City's Storm Water Standards Manual as part of project development.

Significant indirect impacts to breeding birds may occur if construction activities produce noise or other types of disturbance in proximity to active nests, potentially resulting in abandonment of nests or other breeding failure. The City's Biology Guidelines provide necessary widths for active nest buffers and breeding season dates for covered species, including raptors (City of San Diego 2018a).

Cumulative impacts refer to the combined environmental effects of the proposed project and other relevant projects. In some cases, the impact from a single project may not be significant, but when combined with other projects, the cumulative impact may be significant.

6.2 Direct Impacts

6.2.1 Vegetation Communities and Land Cover Types

Implementation of the project will result in direct impacts totaling 1.635 acres of various vegetation communities and land cover types (Table 8; Figures 4a–4e). Table 8 provides a list of the corresponding Biology Guidelines (City of San Diego 2018a) vegetation communities, and corresponding subarea plan tier or subarea plan designation for each vegetation community. The impacts summarized in Table 8 are divided into those that would result in:

1. Shading from the bridge. (Permanent Indirect Impacts)
2. Abutment and trail development (Permanent Direct Impacts)
3. Trail slope grading (Permanent Direct Impacts) that would be restored in place with native habitat.

Shading from the bridge is considered a permanent indirect impact. In this case the bridge passes primarily over open water, but also passes over non-native *Arundo*, non-native riparian, and minor patches of freshwater marsh and southern willow scrub plant communities. The bridge may limit some sunlight from reaching the vegetation growing below the bridge, but it is not likely to be detrimental to the persistence of the native wetland and riparian species. Many understory riparian species are adapted to low light conditions, often growing under the canopies of taller riparian trees, so they should be able to persist under the shaded conditions. Construction of the bridge abutments (i.e., bridge footings) and the trail footprint would result in 1.352 acres of permanent impacts (Table 8). Grading of the slopes for the trail would also result in 0.242 acres of permanent impacts.

Of the total 1.635 acres of permanent impacts to all vegetation types and land covers, 0.470 acres are impacts to coastal sage scrub and 0.173 acres are impacts to wetland vegetation (i.e., native and non-native wetlands), while the remaining 0.992 acres of impact are to non-native vegetation and disturbed/developed areas (Table 8). Impacts to sensitive vegetation communities would be considered significant but will be mitigated for through onsite restoration and enhancement, therefore reducing the impacts to "less-than-significant".

Table 8. Direct and Indirect Impacts to Vegetation Communities and Land Cover Types in the Project Site

Vegetation Community/ Land Cover Type	City of San Diego Biology Guidelines Vegetation Community ^a	Subarea Plan Tier	Impact Type			
			Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading of Slopes (direct impact)	Total
Upland Vegetation Communities						
Coastal Sage Scrub	Coastal Sage Scrub	II	—	0.309	0.161	0.470
Wetland Vegetation Communities						
Freshwater Marsh	Freshwater Marsh	Wetland	0.003	0.021	—	0.024
Coastal Salt Marsh	Salt Marsh	Wetland	—	0.011	—	0.011
Mulefat Scrub	Riparian Scrub	Wetland	—	0.005	0.008	0.013
Southern Willow Scrub	Riparian Scrub	Wetland	0.004	0.012	—	0.016
Open Water	Natural Flood Channel	Wetland	0.020	—	—	0.020
<i>Subtotal Wetlands</i>			<i>0.027</i>	<i>0.049</i>	<i>0.008</i>	<i>0.084</i>
Non-Native Vegetation Communities and Land Covers						
Developed Land	Disturbed Land	N/A	—	0.843	—	0.843
Disturbed Habitat	Disturbed Land	IV	—	0.037	0.010	0.047
Ornamental	Disturbed Land	IV	—	0.068	0.034	0.102
Arundo-Dominated Riparian	Disturbed Wetlands	Wetland	0.011	0.023	0.001	0.035
Non-native Riparian	Disturbed Wetlands	Wetland	0.003	—	—	0.003
Tamarisk Scrub	Disturbed Wetlands	Wetland	—	0.023	0.028	0.051
<i>Subtotal Non-Native and Land Covers</i>			<i>0.014</i>	<i>0.994</i>	<i>0.073</i>	<i>1.081</i>
Grand Total			0.041	1.352	0.242	1.635 b

Note:

^a **Source:** City of San Diego 2018a.

^b Total impacts when Developed, Disturbed and Ornamental communities (0.992 ac.) are deducted amounts to 0.643 acre of impacts to native and non-native wetlands.

6.2.2 Jurisdictional Resources

The proposed project will have direct impacts to jurisdictional resources resulting from the bridge and trail construction (Tables 9-10). Installation of the bridge abutments (i.e., footings) would impact jurisdictional resources and is included in the impact quantities listed for Abutment and Trail Wetlands in Table 8. The trail and bridge alignment have been designed to fall primarily within non-native riparian, and arundo-dominated riparian plant communities and has been designed to minimize impacts to adjacent wetland resources and avoid direct impacts to the river, as directed by the previous feasibility study (Kleinfelder 2015).

In total, the proposed project would result in direct impacts to 0.134 acres and indirect temporary impacts to 0.41 acres of City regulated wetlands (Table 11), Impacts to wetlands and other regulated resources would be considered significant, but would be mitigated for through the proposed mitigation/revegetation program, as described in Section 7.

Table 9. Direct and Indirect Impacts to ACOE/RWQCB Jurisdictional Resources in the Project Area

Vegetation Community/ Land Cover Type	Impact Type			
	Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading (direct impact)	Total
Wetlands				
Arundo-Dominated Riparian (under ACOE/RWQCB and City jurisdiction)	0.001	0.010	0.001	0.012
Coastal Salt Marsh	—	0.011	—	0.011
Freshwater Marsh	0.003	0.021	—	0.024
Mulefat Scrub	—	0.005	0.008	0.013
Non-native Riparian	0.003	—	—	0.003
Southern Willow Scrub	0.004	0.012	—	0.016
<i>Subtotal</i>	<i>0.011</i>	<i>0.059</i>	<i>0.009</i>	<i>0.079</i>
		<i>0.068</i>		
Non-Wetland Waters				
Open Water	0.020	—	—	0.020
<i>Subtotal</i>	<i>0.020</i>	<i>—</i>	<i>—</i>	<i>0.020</i>
Total Jurisdictional Area	0.031	0.059	0.009	0.099

Table 10. Direct and Indirect Impacts to CDFW Wetlands and Streambed in the Project Area

Vegetation Community/ Land Cover Type	Impact Type			
	Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading (direct impact)	Total
Wetlands/ Riparian Habitat				
Arundo-Dominated Riparian (under combined agency & City jurisdiction)	0.001	0.010	0.001	0.012
Coastal Salt Marsh	—	0.011	—	0.011
Freshwater Marsh	0.003	0.021	—	0.024
Mulefat Scrub	—	0.005	0.008	0.013
Non-native Riparian	0.003	—	—	0.003

Table 10. Direct and Indirect Impacts to CDFW Wetlands and Streambed in the Project Area

Vegetation Community/ Land Cover Type	Impact Type			Total
	Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading (direct impact)	
Southern Willow Scrub	0.004	0.012	—	0.016
<i>Subtotal</i>	<i>0.011</i>	<i>0.059</i>	<i>0.009</i>	<i>0.079</i>
		0.068		
Non-Wetland Waters/ Streambed				
Open Water	0.020	—	—	0.020
Arundo-dominated Riparian (under CDFW & City jurisdiction only)	0.010	0.014	0.001	0.025
<i>Subtotal</i>	<i>0.030</i>	<i>0.014</i>	<i>0.001</i>	<i>0.045</i>
		0.015		
Total Area	0.041	0.073	0.010	0.124

Table 11. Direct and Indirect Impacts to City of San Diego Wetlands in the Project Area

Vegetation Community/ Land Cover Type	Impact Type			Total
	Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading (direct impact)	
Wetlands/ Riparian Habitat				
Arundo-Dominated Riparian (under combined agency & City jurisdiction)	0.001	0.010	0.001	0.012
Coastal Salt Marsh	—	0.011	—	0.011
Freshwater Marsh	0.003	0.021	—	0.024
Mulefat Scrub	—	0.005	0.008	0.013
Non-native Riparian	0.003	—	—	0.003
Southern Willow Scrub	0.004	0.012	—	0.016
Tamarisk Scrub		0.023	0.028	0.051
<i>Subtotal</i>	<i>0.011</i>	<i>0.082</i>	<i>0.037</i>	<i>0.130</i>
		0.119		
Non-Wetland Waters/ Streambed				
Open Water	0.020	—	—	0.020
Arundo-dominated Riparian (under CDFW & City jurisdiction only)	0.010	0.014	0.001	0.025

Table 11. Direct and Indirect Impacts to City of San Diego Wetlands in the Project Area

Vegetation Community/ Land Cover Type	Impact Type			
	Bridge Shading (indirect impact)	Abutment and Trail (direct impact)	Grading (direct impact)	Total
<i>Subtotal</i>	0.030	0.014	0.001	0.045
		0.015		
Total Area	0.041	0.096	0.038	0.175

6.2.3 Sensitive Plants

No focused plant surveys were conducted as part of this study; however no sensitive plant species were detected within the proposed project impact footprint during general reconnaissance surveys. In addition, previous plant surveys conducted for other projects in the immediate area have not detected any sensitive plant species. Based on a review of the study area and the results from previous surveys, only one species has a moderate potential to occur within the project area: Lewis’ evening primrose. Since surveys may not have been timed to capture this species during its blooming period, this report assumes this species is present and analyzes impacts to suitable habitat for the species.

The City’s significance thresholds apply for special-status plants ranked CRPR 1 or 2, as well as threatened and endangered species, but do not typically apply to species ranked CRPR 3 and 4, unless proposed project construction activities would significantly damage a population. The Project would result in impacts to 0.470 acres of coastal sage scrub which could have the potential to support Lewis’ evening primrose. The loss of this habitat would be **less than significant** given the low rarity of the species and the marginal loss of habitat.

6.2.4 Sensitive Wildlife

The Project would have direct impacts to 0.602 acres of native upland and wetland/riparian habitat that could have the potential to support sensitive wildlife species and provide potential nesting/foraging habitat for those species identified in Section 3.2.6 (**northern harrier**, least bittern, **Ridgway’s rail**, **least Bell’s vireo**, San Diego black-tailed jackrabbit, **wandering skipper**, western spadefoot, **orange-throated whiptail**, **Cooper’s hawk**, **Canada goose**, **Swainson’s hawk**, white-tailed kit, California horned lark, yellow warbler, and monarch butterfly). Of those species, several are MSCP covered species (noted in bold).

Impacts to wetland and riparian habitat for sensitive wildlife species would be considered significant, since the impact to native habitat exceeds the City thresholds for upland and wetland vegetation communities, however the proposed revegetation and mitigation measures will help reduce these impacts to less than significant.

6.3 Indirect Impacts

The project will incorporate methods to control runoff, including site design, source control, and treatment control BMPs during construction. The project will be required to meet National Pollutant Discharge Elimination System regulations and incorporate BMPs during construction and permanent BMPs (i.e., erosion control protection and

vegetation establishment, as defined by the City of San Diego's (City's) Storm Water Standards Manual. Prior to proposed construction mobilization, the project contractor will prepare a Stormwater Pollution Prevention Plan, in accordance with the state's General Construction Stormwater Permit – 99-08-DWQ and implement the plan during construction. All construction staging areas will be located outside of native habitat, with sufficient buffers provided to protect the native habitat. Implementation of the requisite BMPs would ensure that construction activities would not have any indirect impacts to sensitive vegetation, jurisdictional resources, or sensitive plant and wildlife species.

Indirect Impacts to Sensitive Wildlife

Wildlife may be indirectly affected in the short-term by construction-related noise, which can disrupt normal activities and subject wildlife to higher predation risks. Breeding birds can be significantly affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities.

Indirect impacts from construction-related noise may occur to Ridgway's rail, least Bell's vireo, northern harrier, least bittern, Cooper's hawk, Canada goose, Swainson's hawk, white-tailed kit, California horned lark and yellow warbler if construction occurs during the breeding season (i.e., February 1 through September 15). These impacts would be considered significant. Mitigation is discussed in Section 7.

6.4 Cumulative Impacts

The project area is located within the City of San Diego MSCP Subarea Plan area. The MSCP is a long-term regional conservation plan established to protect sensitive species and habitats in San Diego County. The MSCP is divided into subarea plans that are implemented separately from one another. Within the MSCP area there are focused MHPA areas, however this portion of the San Dieguito River, where the trail and bridge will be located, is not within the MHPA area. The MSCP planning effort is designed to address cumulative impacts through development of a regional plan that addresses impacts to covered species and habitats in a manner that assures their conservation despite cumulative project impacts over the long term. The ultimate goal of the MSCP plan is the establishment of biological reserve areas in conformance with the State of California Natural Communities Conservation Planning Act.

Cumulative impacts to sensitive vegetation communities or sensitive species from implementation of the project are not expected since all activities are located outside of the MHPA and the project would result in minimal impacts to sensitive resources. These impacts would be offset through the restoration/revegetation of on-site disturbed habitat to native vegetation and through enhancement of existing non-native vegetation communities through exotic species removals and revegetation with native species, thus resulting in no-net-loss of sensitive resources. Therefore, the proposed project would not result in cumulative impacts to either sensitive vegetation communities or species.

6.5 Deviations to Environmentally Sensitive Lands Regulations

Plans submitted in accordance with Chapter 4, Article 3, Division 1 of the City Municipal Code, ESL Regulations shall, to the maximum extent feasible, comply with the various ESL Regulations. If a proposed development does not comply with all applicable development ESL Regulations, the decision-maker may approve, conditionally approve, or deny the proposed Site Development Permit and grant the deviation based on specific findings that must be made in accordance with LDC Section 143.0150. Applicable findings would be required for any deviations

that would conflict with any local policies or ordinances, such as ESL, and would need to be approved by the decision-making body.

Outside the coastal zone, deviations to the wetland regulations in Section 143.0141(b) can be granted if applicable findings are made and the project falls under one of the following three options: (1) Essential Public Project Option, (2) Economic Viability Option, or (3) Biologically Superior Option.

6.5.1 Supplemental Findings – Environmental Sensitive Lands

1. *The site is physically suitable for the design and siting of the proposed development and the development will result in minimum disturbance to environmentally sensitive lands;*

The trail alignment has been constrained due to the immediate proximity to the Morgan Run Golf Course property. Morgan Run has rejected the request from the JPA for the trail to pass through their property and joint use of their existing bridge over the San Dieguito River. The existing bridge serves the Morgan Golf Course, and it will remain in place and will be used exclusively by the golf course users and maintenance staff. Therefore, the project has been designed to site the bridge, abutments, and alignment to the south and west of the Morgan Run Golf Course property line. The bridge will be a prefabricated bridge set on built-in-place concrete abutments (i.e., footings) which will be placed at each end of the bridge outside of the river. The trail alignment through the Evergate Stables property was modified to avoid and minimize impacts to freshwater marsh and coastal salt marsh vegetation by utilizing the existing service access road as the trail crossing, rather than creating an expanded trail footprint which would have impacted additional jurisdictional habitat through that portion of the project.

2. *The proposed development will minimize the alteration of natural land forms and will not result in undue risk from geologic and erosional forces, flood hazards, or fire hazards;*

This finding is primarily applicable to sites that contain steep hillsides. The proposed trail is not located in or near steep hillsides and therefore this finding is not applicable.

3. *The proposed development will be sited and designed to prevent adverse impacts on any adjacent environmentally sensitive lands;*

The bridge will be installed over and through the San Dieguito River and through the associated plant communities and land covers. The project has been designed to minimize impacts to native habitat including wetlands, riparian areas and upland plant communities, by routing the trail and bridge primarily through disturbed areas, and non-native exotic vegetation to the greatest degree possible. The slopes of the trail will be revegetated with native vegetation to provide replacement habitat after construction.

Protection of the adjacent native habitat will include the installation of construction fencing to define the trail grading limits, bridging the river channel with a free-span bridge, and avoiding impacts to wetlands and riparian vegetation to the greatest degree possible. The trail will not adversely impact adjacent properties, or the hydrology of the San Dieguito River.

The bridge abutments will be designed to minimize impacts to wetland resources and avoid direct impacts to the river (Kleinfelder 2015). The design of the bridge will follow the guidelines of the American Association of State Highway and Transportation Officials' Load and Resistance Factor Design Specifications, Sixth Edition, 2012, with

2014 interims and amendments by the California Department of Transportation, identified in the Osuna Valley Bridge Feasibility Study (Kleinfelder 2015).

4. *The proposed development will be consistent with the City of San Diego's Multiple Species Conservation Program (MSCP) Subarea Plan;*

The proposed project impact footprint does not occur within or adjacent to the City of San Diego MHPA, and therefore is not required to document compliance with the MSCP LUAG.

5. *The proposed development will not contribute to the erosion of public beaches or adversely impact local shoreline sand supply; and*

The proposed project will not in any way contribute to the erosion of public beaches nor would it impact local shoreline sand supply.

6. *The nature and extent of mitigation required as a condition of the permit is reasonably related to, and calculated to alleviate, negative impacts created by the proposed development.*

Impacts to sensitive vegetation is provided according to the City's Land Development Code. As stated in Item 1, the location of the bridge and trail were sited to avoid sensitive habitat to the extent feasible given project constraints. To compensate for the permanent loss of 0.082 acre of wetlands, the project will include restoration of the side slopes and margins of the trail. In areas adjacent to the trail where non-native vegetation occurs, the non-native vegetation would be removed and treated, and the areas would be enhanced and revegetated with appropriate wetland and riparian vegetation. In total, a minimum of 0.186 acre of wetland mitigation compensation, composed of wetland restoration and enhancement, would be required on site to compensate for these impacts. The project proposes to restore 0.11 acre of wetlands and enhance 0.32 acre of wetlands through exotic species removals and revegetation, for a total of 0.43 acre of wetland mitigation which exceeds the required mitigation acreage of 0.186 acre. To compensate for the permanent loss of 0.47 acre of Tier II coastal sage scrub habitat, the project will provide 0.47 acre of onsite restoration/revegetation of coastal sage scrub vegetation within the side slopes and margins of the trail, as well as within areas of non-native vegetation.

6.5.2 Supplemental Findings - Environmentally Sensitive Lands Deviations

1. *There are no feasible measures that can further minimize the potential adverse effects on environmentally sensitive lands; and*

The original proposal was to utilize the existing bridge to provide the trail connection, however the landowner was not amenable to that proposal. Therefore, construction of an additional bridge is necessary to make the trail connection. The new bridge has been designed to stay out of the river and to avoid sensitive resources to the extent feasible.

2. *The proposed deviation is the minimum necessary to afford relief from special circumstances or conditions of the land, not of the applicant's making.*

The trail has been designed to reduce impacts to wetlands to the extent feasible. Since the co-location of the trail and existing bridge is not a viable option, construction of a new bridge must occur. Given these conditions, the deviation impacts to wetland habitat were unavoidable and the minimum necessary to complete the project. All impacts to wetlands will be mitigated onsite and will result in no-net loss of native wetland habitat.

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7 Mitigation

This section describes proposed mitigation and avoidance measures that would mitigate adverse and significant impacts to biological resources resulting from the proposed project activities.

The following mitigation measure(s) would reduce the potential for direct and indirect impacts on special-status plant and wildlife species, sensitive natural communities, and jurisdictional wetlands and waters by ensuring that special-status resources would be avoided to the extent possible and compensatory mitigation would be provided to address unavoidable significant impacts. Implementation of the following mitigation measures (MMs) would reduce impacts to a less-than-significant level.

7.1 Mitigation Measures for Direct Impacts

7.1.1 Direct Impacts to Vegetation Communities and Jurisdictional Resources

The proposed project would result in impacts to sensitive vegetation communities within the trail alignment, including the trail footprint, graded slopes, bridge footprint and bridge abutments (i.e., project footprint). Mitigation is not necessary for the indirect impacts associated with shading as all plantings under the bridge will consist of freshwater marsh species which are tolerant to shading. The project will include mitigation that is consistent with the City’s Biology Guidelines (City of San Diego 2018a) and, according to the City’s Significance Determination Thresholds (City of San Diego 2016), impacts of more than 0.1 acres to upland habitats (Tiers I–III B) and 0.01 acre of wetlands are considered significant and require mitigation. All mitigation ratios for permanent impacts to sensitive vegetation communities were determined based on the location of the impacts relative to the MHPA. All impacts are outside of the City’s MHPA area. Table 8 outlines the mitigation requirements for permanent impacts. Figures 5a and 5b show the proposed mitigation/revegetation treatment areas.

Table 12. Mitigation for Impacts to Sensitive Vegetation Communities within the Project Footprint

Vegetation Community/ Land Cover Type	City of San Diego Biology Guidelines Vegetation Community ^a	Subarea Plan Tier	Impacts and Mitigation Requirement		
			Bridge Abutment & Trail/Slope Impacts	Mitigation Ratio Requirement	Total Mitigation Required
Upland Vegetation Communities					
Coastal Sage Scrub	Coastal Sage Scrub	II	0.47	1:1	0.47
Wetland Vegetation Communities					
Freshwater Marsh	Freshwater Marsh	Wetland	0.021	2:1	0.042
Coastal Salt Marsh	Salt Marsh	Wetland	0.011	4:1	0.044
Mulefat Scrub	Riparian Scrub	Wetland	0.013	2:1	0.026
Southern Willow Scrub	Riparian Scrub	Wetland	0.012	2:1	0.024

Table 12. Mitigation for Impacts to Sensitive Vegetation Communities within the Project Footprint

Vegetation Community/ Land Cover Type	City of San Diego Biology Guidelines Vegetation Community ^a	Subarea Plan Tier	Impacts and Mitigation Requirement		
			Bridge Abutment &Trail/Slope Impacts	Mitigation Ratio Requirement	Total Mitigation Required
Arundo-Dominated Riparian	Disturbed Wetlands	Wetland	0.026	2:1	0.052
Tamarisk Scrub	Disturbed Wetlands	Wetland	0.051	2:1	0.102
<i>Subtotal Wetlands</i>			<i>0.134</i>	—	<i>0.290</i>
Total			0.604	—	0.760

Footnotes:

a City of San Diego Biological Guidelines 2018a.

Mitigation Measures

Upland Mitigation. To compensate for the permanent loss of 0.47 acres of Tier II coastal sage scrub habitat the project will provide onsite restoration/revegetation of coastal sage scrub vegetation, within the side slopes and margins of the trail, as well as within non-native habitat areas adjacent to the trail. Where disturbed habitat and non-native vegetation (i.e., tamarisk and ornamental vegetation) exist adjacent to the trail, the non-native species will be removed, and the areas will be revegetated and enhanced with native species. A minimum of 0.47 acres of CSS mitigation compensation will be required onsite to compensate for these impacts. The project proposes to restore and enhance 0.49 acres of upland CSS vegetation through exotic species removals and revegetation, which meets and exceeds the required mitigation acreage, as shown on Figure 5A.

The project shall implement the upland restoration and enhancement program shown on the preliminary landscape planting and irrigation plans, provided in Appendix E r.

Wetlands Mitigation. To compensate for the permanent direct impacts to 0.134 acres of wetlands, the project will include restoration of the side slopes and margins of the trail, where the trail passes through existing wetlands, through revegetation with wetland and riparian vegetation. In addition, within areas adjacent to the trail, where Non-Native Riparian, Arundo-dominated Riparian and Tamarisk Scrub communities exist, the non-native vegetation would be removed and treated, and the areas would be enhanced and revegetated with appropriate wetland and riparian vegetation. In total, a minimum of 0.290 acres of wetland mitigation compensation, as shown in Table 12, composed of wetland restoration and enhancement, would be required on site to compensate for these impacts. The project proposes to restore 0.17 acres of wetlands and enhance 0.22 acres of wetlands through exotic species removals and revegetation, for a total of 0.39 acre of wetland mitigation which exceeds the required mitigation acreage by 0.10 acre.

The project shall implement the wetland restoration and enhancement program shown on the preliminary landscape planting and irrigation plans, provided in Appendix E.

Installation of Temporary Fencing. To prevent inadvertent disturbance to areas outside the limits of grading, the contractor shall install temporary orange construction fencing, or utilize existing fencing, along the limits of grading, **provided under separate cover**.

Installation of Permanent Fencing. To prevent inadvertent disturbance to areas outside the limits of trail over the long-term, the contractor shall install the permanent fencing shown on the engineering grading plans, **provided under separate cover**.

Construction Monitoring and Reporting. To prevent inadvertent disturbance to areas outside the limits of grading, all disturbance of native habitat shall be monitored by a biologist. The biological monitor(s) shall be contracted to perform biological monitoring during all clearing and grubbing and construction activities.

The project biologist(s) shall perform the following duties:

- a. Attend the pre-construction meeting with the contractor and other key construction personnel prior to clearing and grubbing to provide educational guidelines for work within the sensitive habitat areas. The biologist shall discuss measures to reduce conflict between the timing and location of construction activities with other mitigation requirements (e.g., seasonal surveys for nesting birds).
- b. During clearing and grubbing, the project biologist shall conduct meetings with the contractor and other key construction personnel each morning prior to construction activities to review the proposed activities for the day, and for the monitor(s) to describe the importance of restricting work to designated areas and to minimize and avoid harm to, or harassment of, wildlife prior to clearing and grubbing.
- c. Review and/or verify the limits of the construction area in the field with the contractor in accordance with the final grading plan prior to clearing and grubbing. Assure that temporary construction fencing demarcating the limits of grading are installed and properly maintained.
- d. Supervise and monitor vegetation clearing and grubbing weekly to ensure against direct and indirect impacts to biological resources that are intended to be protected and preserved and to document that protective fencing is in place and intact.
- e. Flush wildlife species (i.e., reptiles, mammals, avian, or other mobile species) from any occupied habitat areas immediately prior to brush-clearing activities. This does not include disturbance of nesting birds or “flushing” of state-listed species (i.e., Ridgeways Rail, or other listed species. (
- f. Periodically monitor the construction site to verify that the project is implementing the following stormwater pollution prevention plan best management practices: dust control, silt fencing, removal of construction debris and a clean work area, covered trash receptacles that are animal-proof and weather-proof, prohibition of pets on the construction site, and a speed limit of 15 miles per hour during the daylight and 10 miles per hour during hours of darkness.
- g. Periodically monitor the construction site after grading is completed and during the construction phase to see that any artificial security light fixtures that may be required are directed away from open space and are shielded, and to document that no unauthorized impacts have occurred.

- h. Prepare and retain monitoring notes for the duration of the proposed project for submittal in a final report to substantiate the biological supervision of the vegetation clearing and grading activities and the protection of the biological resources.
- i. Prepare a monitoring report after the construction activities are completed, which describes the biological monitoring activities, including a monitoring log; photos of the site before, during, and after the grading and clearing activities; and a list of special-status species observed.

Long-Term Five-Year Biological Monitoring and Reporting. The long-term establishment of the mitigation revegetation areas shall be monitored by a qualified biologist/habitat restoration specialist. The biological monitor(s) shall be contracted to perform biological monitoring throughout the five-year maintenance and monitoring period.

The project biologist(s) shall perform the following duties:

- a. Monitor the project bi-monthly during years one and two, and quarterly during years three through five.
- b. Monitoring shall include qualitative monitoring based upon visual observations, as well as quantitative monitoring through the use of point intercept transect data collection to record percent cover of native and non-native species within the revegetation areas. Transects shall be taken in all representative mitigation/revegetation areas. The biological monitor shall determine the location, length and quantity of the transects to provide an adequate representation of the site conditions.
- c. Results of the monitoring effort shall be documented in annual monitoring reports to be prepared at the end of each yearly monitoring period. The reports shall describe the current site conditions, progress towards achievement of the project’s success criteria and performance standards and any remedial measures that might be necessary to help assure project success.
- d. The annual success criteria and performance standards shall be as follows:

Table 13. Wetland Restoration Area Performance Standards

Year	Minimum Percent Container Plant Survival ¹	Maximum Percent Non-native Weed Cover	Percent Native Plant Cover ²	Percent Non-Native Invasive/ Exotic Species
1	100	20	55	0
2	90	15	60	0
3	85	10	65	0
4	80	10	70	0
5	80	10	75	0

Notes:

¹ Percent survival is based upon the quantity of container plants installed originally. Natural recruitment of native species, if present within the areas where container plants have died, may be counted to offset container plant mortality at the discretion of the Project Biologist if the species are deemed compatible with the original intended plant palette.

² The remainder of the cover after the combination of the non-native cover and native cover amounts, is assumed to be bare ground/native leaf litter (i.e., at the end of Year 5, the percentage bare ground/leaf litter allowance is assumed to be 15%).

Table 14. Wetland Enhancement Area Performance Standards

Year	Minimum Percent Container Plant Survival ¹	Maximum Percent Non-native Weed Cover	Percent Native Plant Cover ²	Percent Non-Native Invasive/ Exotic Species
1	100	20	60	0
2	90	15	65	0
3	85	10	70	0
4	80	10	75	0
5	80	10	80	0

Notes:

- ¹ Percent survival is based upon the quantity of container plants installed originally. Natural recruitment of native species, if present within the areas where container plants have died, may be counted to offset container plant mortality at the discretion of the Project Biologist if the species are deemed compatible with the original intended plant palette.
- ² The remainder of the cover after the combination of the non-native cover and native cover amounts, is assumed to be bare ground/native leaf litter (i.e., at the end of Year 5, the percentage bare ground/leaf litter allowance is assumed to be 15%).

Table 15. Upland CSS Restoration Area Performance Standards

Year	Minimum Percent Container Plant Survival ¹	Maximum Percent Non-native Plant/ Weed Cover	Percent Native Plant Cover ²	Percent Non-Native Invasive/ Exotic Species
1	100	20	50	0
2	90	15	55	0
3	85	15	60	0
4	80	10	65	0
5	80	10	70	0

Notes:

- ¹ Percent survival is based upon the quantity of container plants installed originally. Natural recruitment of native species, if present within the areas where container plants have died, may be counted to offset container plant mortality at the discretion of the Project Biologist if the species are deemed compatible with the original intended plant palette.
- ² The remainder of the cover after the combination of the non-native cover and native cover amounts, is assumed to be bare ground/native leaf litter (i.e., at the end of Year 5, the percentage bare ground/leaf litter allowance is assumed to be 15%).

Invasive Species Prohibition. For all revegetation areas there shall be no invasive plant species present, as described/listed on the most recent version of the California Invasive Plant Council California Invasive Plant Inventory for the project region, throughout the five-year maintenance and monitoring period.

7.1.2 Direct Impacts to Sensitive Wildlife

Direct impacts to habitat for special-status wildlife species identified as having moderate to high potential to occur in the study area (northern harrier, least bittern, Ridgway’s rail, least Bell’s vireo, San Diego black-tailed jackrabbit, wandering skipper, western spadefoot, orange-throated whiptail, Cooper’s hawk, Canada goose, Swainson’s hawk, white-tailed kit, California horned lark, yellow warbler, and monarch butterfly) would be reduced through the implementation of upland and wetlands mitigation. In addition, installation of both temporary and permanent fencing would ensure that inadvertent direct impacts to habitat for special-status species would not occur. A biological monitor will be present to ensure that the appropriate measures are adhered to.

7.2 Mitigation Measures for Indirect Impacts

Best Management Practices (BMP's). To avoid indirect impacts, the project shall be required to meet National Pollutant Discharge Elimination System regulations, incorporate appropriate BMPs during project construction, install permanent BMPs per the City's Storm Water Standards Manual, and prepare and implement a Stormwater Pollution Prevention Plan.

Construction Flagging and Environmental Training. The project would be required to adhere to all standard construction protection measures, which includes having a qualified biologist present provide environmental training, to supervise flagging of sensitive resources prior to construction, and monitor the project during construction to ensure no unauthorized impacts occur.

7.2.1 Indirect Impacts to Sensitive Wildlife

Proposed project implementation has the potential to indirectly impact sensitive birds (least Bell's vireo, northern harrier, least bittern, Cooper's hawk, Canada goose, Swainson's hawk, white-tailed kit, California horned lark and yellow warbler) nesting or foraging in adjacent habitat areas. Potentially significant indirect impacts from construction noise to wildlife considered special status would be significant absent mitigation.

To avoid any indirect impacts to the above listed species, construction within 300-feet of suitable habitat, shall occur outside of the breeding season for these species (February 1 to September 15). If construction must occur during the breeding season, a qualified biologist shall conduct a pre-construction survey within suitable habitat to determine the presence or absence of nesting birds in the proposed area of disturbance. The pre-construction survey shall be conducted within 10 calendar days prior to the start of construction activities. The applicant shall submit the results of the preconstruction survey to the City of San Diego's (City's) Development Services Department (DSD) for review and approval prior to initiating any construction activities.

If nesting sensitive birds are detected, a letter report or mitigation plan in conformance with the City's Biology Guidelines and applicable state and federal law (i.e., appropriate follow up surveys, monitoring schedules, construction, and noise barriers/buffers, etc.) shall be prepared and include proposed measures to be implemented to ensure that the disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City DSD for review and approval and implemented to the satisfaction of the City. The biologist, in concert with the City, shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

If nesting by the above listed sensitive birds is detected, then an appropriate impact avoidance area shall be included in the mitigation plan and this buffer shall be established around the active nest using orange fencing or other clear demarcation method. The radius of this avoidance buffer shall be determined through coordination with the project biologist and authorized by the City's project manager and DSD and shall use orange fencing or other clear demarcation method to define the approved buffer. If none of these sensitive birds are observed nesting during the pre-construction survey then no further mitigation is required.

8 Acknowledgements

This report was prepared by Dudek biologists Patricia Schuyler and Alexandra Kookootsedes, with input from habitat restoration specialist John Minchin. GIS analysis and Graphics were provided by Lesley Terry.

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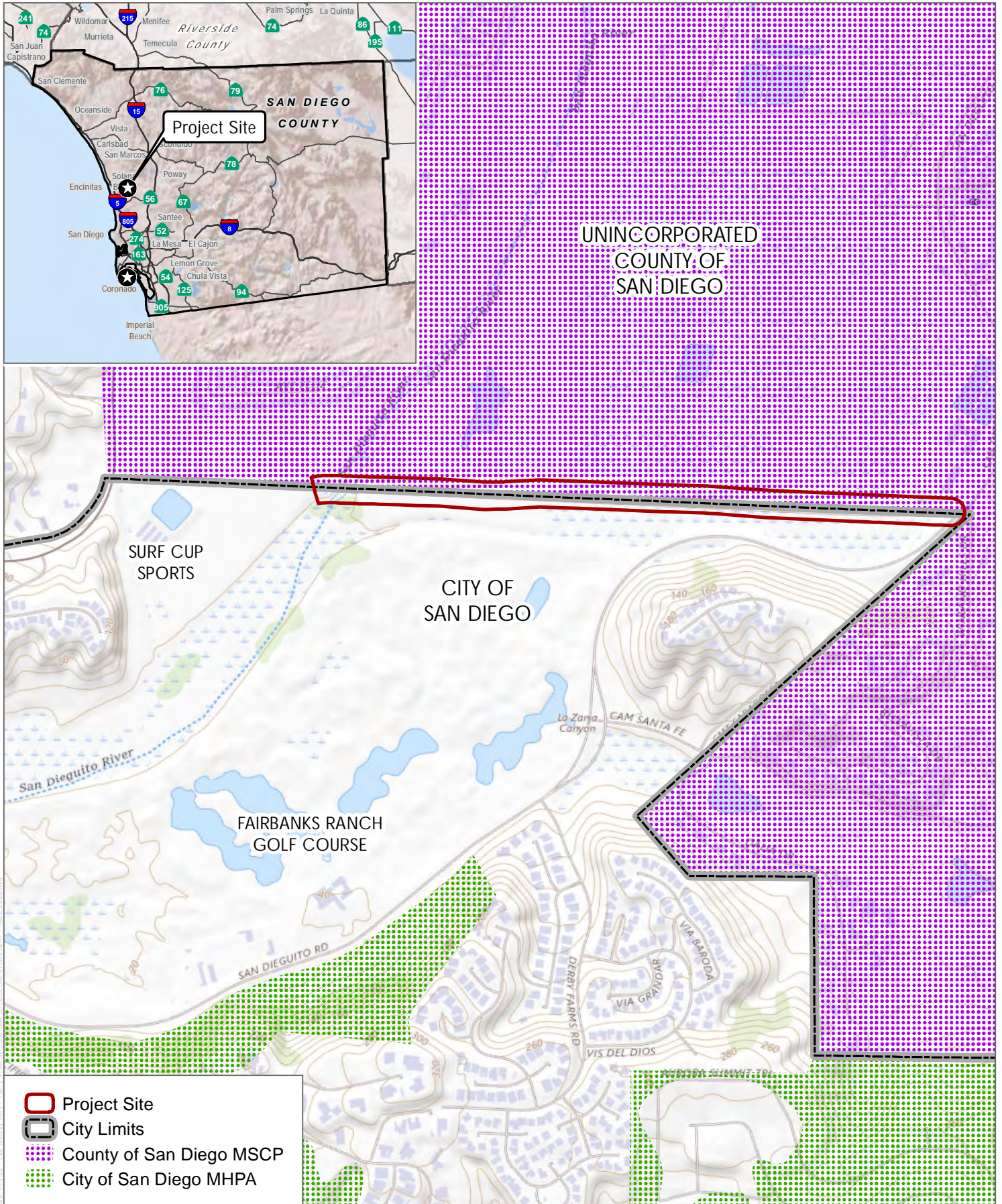
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SOURCE: USGS 7.5-Minute Series, Del Mar Quadrangle








FIGURE 1

Project Location

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-  Project Boundary
- Proposed Impact Component
-  Trail
-  Grading Limits
-  Bridge
-  Abutment

SOURCE: AERIAL-KIMLEY-HORN APRIL 2021

FIGURE 2A
Project Area






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FIGURE 2B
Project Area

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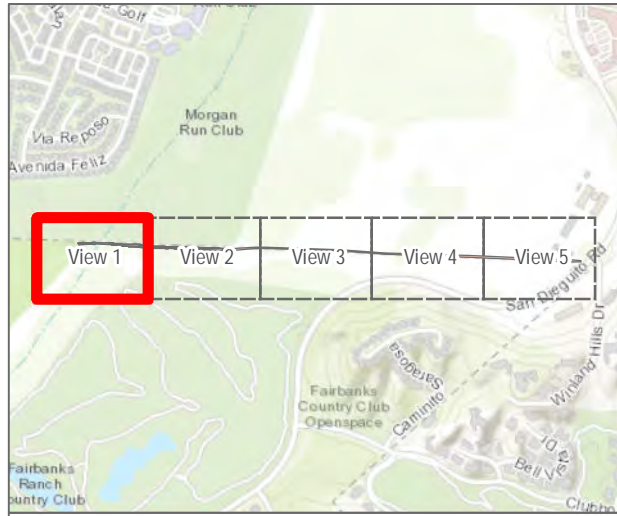


-  Project Boundary
- Proposed Impact Component
-  Trail
-  Grading Limits
-  Bridge
-  Abutment

SOURCE: AERIAL-KIMLEY-HORN APRIL 2021

FIGURE 2C
Project Area

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- Study Area**
- Vegetation Communities/Land Covers
- Vegetation Communities/Land Covers**
- ADR, Arundo Donax Riparian
 - CSM, Coastal Salt Marsh
 - CSS, Coastal Sage Scrub
 - CSSB, Coastal Sage Scrub-Baccharis Dominated
 - DEV, Developed
 - DH, Disturbed Habitat
 - DW, Disturbed Wetlands
 - FWM, Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNR, Non-Native Riparian
 - ORN, Ornamental
 - OW, Open Water
 - SWS, Southern Willow Scrub
 - TS, Tamarisk Scrub
 - dSRW, disturbed Southern Riparian Woodland
 - dSWS, disturbed Southern Willow Scrub
- Jurisdictional Delineation**
- USACE/RWQCB Non-Wetland Waters; CDFW Streambed
 - USACE/RWQCB Wetlands; CDFW Riparian Habitat
 - CDFW Riparian Habitat
 - City of San Diego Wetlands

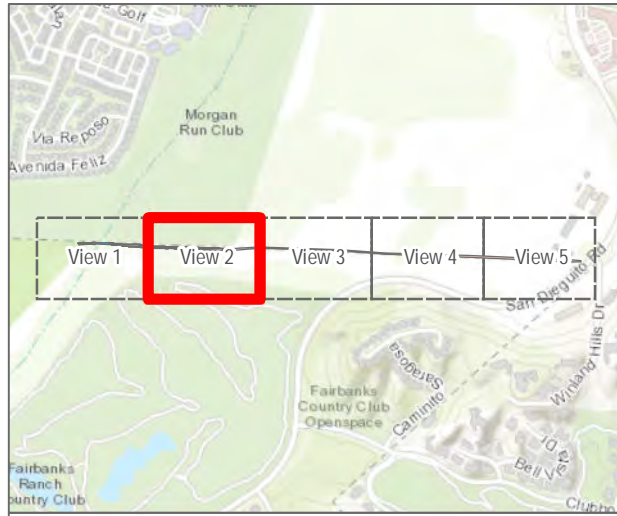


SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 3A
 Biological Resources Map - View 1
 Biological Resources Report for the Osuna Trail Project

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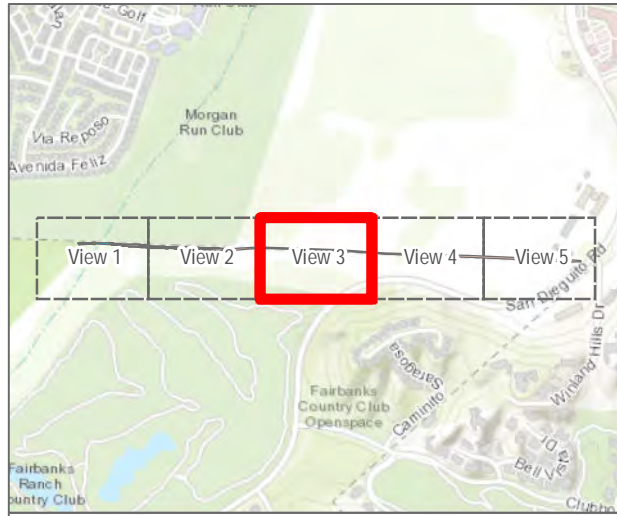
- Study Area**
- Study Area
 - Vegetation Communities/Land Covers
- Vegetation Communities/Land Covers**
- ADR, Arundo Donax Riparian
 - CSM, Coastal Salt Marsh
 - CSS, Coastal Sage Scrub
 - CSSB, Coastal Sage Scrub-Baccharis Dominated
 - DEV, Developed
 - DH, Disturbed Habitat
 - DW, Disturbed Wetlands
 - FWM, Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNR, Non-Native Riparian
 - ORN, Ornamental
 - OW, Open Water
 - SWS, Southern Willow Scrub
 - TS, Tamarisk Scrub
 - dSRW, disturbed Southern Riparian Woodland
 - dSWS, disturbed Southern Willow Scrub
- Jurisdictional Delineation**
- USACE/RWQCB Non-Wetland Waters; CDFW Streambed
 - USACE/RWQCB Wetlands; CDFW Riparian Habitat
 - CDFW Riparian Habitat
 - City of San Diego Wetlands

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 3B
Biological Resources Map - View 2
Biological Resources Report for the Osuna Trail Project

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- Study Area
- Vegetation Communities/Land Covers
- Vegetation Communities/Land Covers**
- ADR, Arundo Donax Riparian
- CSM, Coastal Salt Marsh
- CSS, Coastal Sage Scrub
- CSSB, Coastal Sage Scrub-Baccharis Dominated
- DEV, Developed
- DH, Disturbed Habitat
- DW, Disturbed Wetlands
- FWM, Freshwater Marsh
- MFS, Mulefat Scrub
- NNR, Non-Native Riparian
- ORN, Ornamental
- OW, Open Water
- SWS, Southern Willow Scrub
- TS, Tamarisk Scrub
- dSRW, disturbed Southern Riparian Woodland
- dSWS, disturbed Southern Willow Scrub
- Jurisdictional Delineation**
- USACE/RWQCB Non-Wetland Waters; CDFW Streambed
- USACE/RWQCB Wetlands; CDFW Riparian Habitat
- CDFW Riparian Habitat
- City of San Diego Wetlands

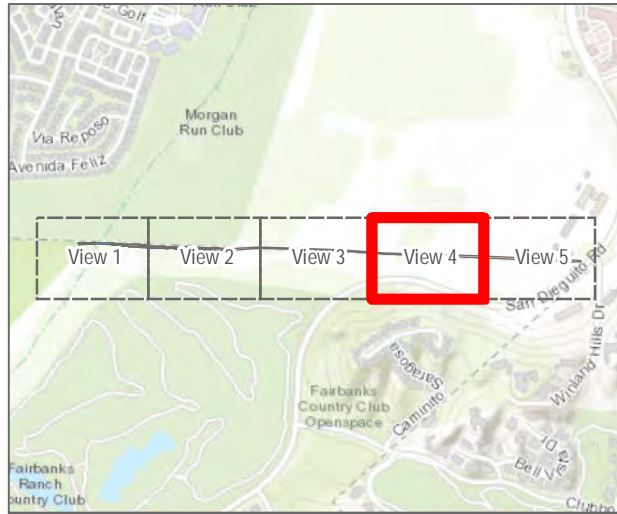


SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 3C
 Biological Resources Map - View 3
 Biological Resources Report for the Osuna Trail Project

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- Study Area
- Vegetation Communities/Land Covers
- Vegetation Communities/Land Covers**
- ADR, Arundo Donax Riparian
- CSM, Coastal Salt Marsh
- CSS, Coastal Sage Scrub
- CSSB, Coastal Sage Scrub-Baccharis Dominated
- DEV, Developed
- DH, Disturbed Habitat
- DW, Disturbed Wetlands
- FWM, Freshwater Marsh
- MFS, Mulefat Scrub
- NNR, Non-Native Riparian
- ORN, Ornamental
- OW, Open Water
- SWS, Southern Willow Scrub
- TS, Tamarisk Scrub
- dSRW, disturbed Southern Riparian Woodland
- dSWS, disturbed Southern Willow Scrub
- Jurisdictional Delineation**
- USACE/RWQCB Non-Wetland Waters; CDFW Streambed
- USACE/RWQCB Wetlands; CDFW Riparian Habitat
- CDFW Riparian Habitat
- City of San Diego Wetlands

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021

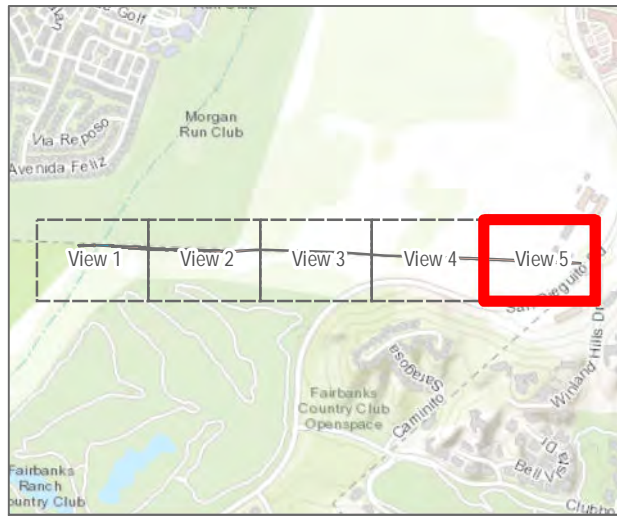


FIGURE 3D

Biological Resources Map - View 4

Biological Resources Report for the Osuna Trail Project

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- Study Area
- Vegetation Communities/Land Covers
- Vegetation Communities/Land Covers**
- ADR, Arundo Donax Riparian
- CSM, Coastal Salt Marsh
- CSS, Coastal Sage Scrub
- CSSB, Coastal Sage Scrub-Baccharis Dominated
- DEV, Developed
- DH, Disturbed Habitat
- DW, Disturbed Wetlands
- FWM, Freshwater Marsh
- MFS, Mulefat Scrub
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- dSRW, disturbed Southern Riparian Woodland
- dSWS, disturbed Southern Willow Scrub
- Jurisdictional Delineation**
- USACE/RWQCB Non-Wetland Waters; CDFW Streambed
- USACE/RWQCB Wetlands; CDFW Riparian Habitat
- CDFW Riparian Habitat
- City of San Diego Wetlands

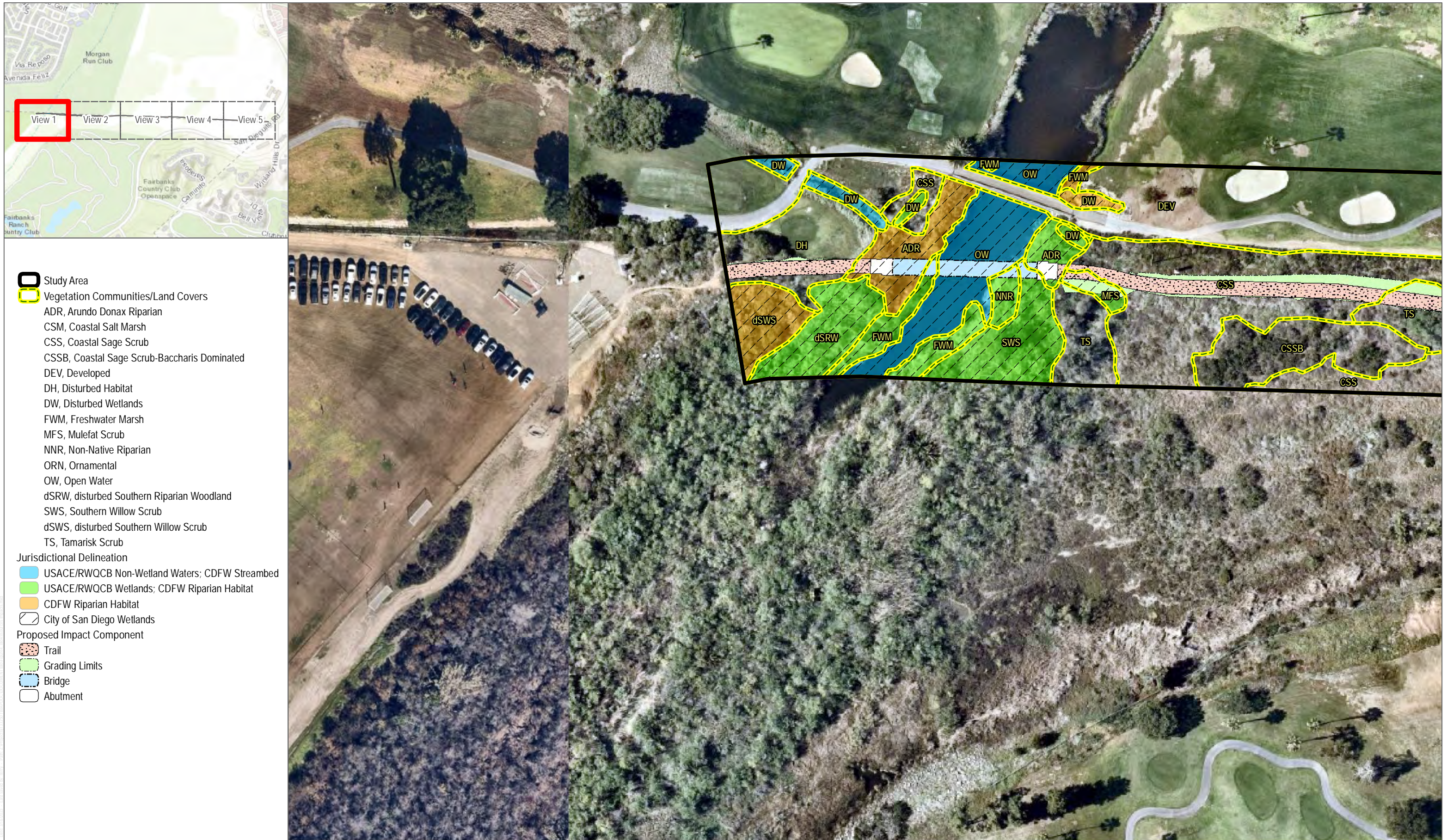


SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 3E

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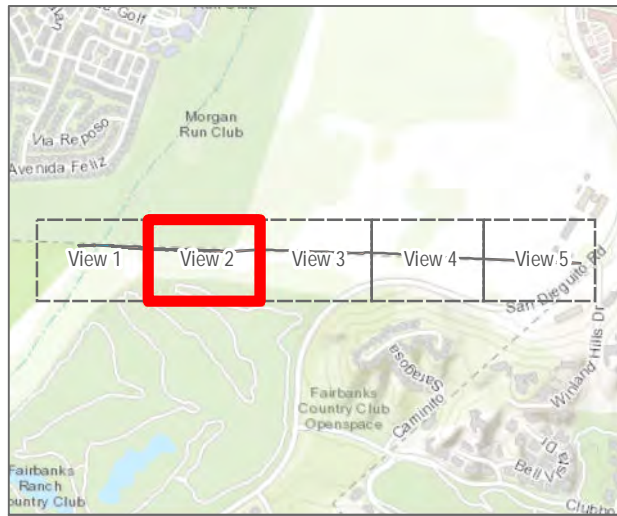


SOURCE: AERIAL- KIMLEY-HORN APRIL 2021

FIGURE 4A

Impacts to Biological Resources Map - View 1

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- Study Area
- Vegetation Communities/Land Covers
 - ADR, Arundo Donax Riparian
 - CSM, Coastal Salt Marsh
 - CSS, Coastal Sage Scrub
 - CSSB, Coastal Sage Scrub-Baccharis Dominated
 - DEV, Developed
 - DH, Disturbed Habitat
 - DW, Disturbed Wetlands
 - FWM, Freshwater Marsh
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 - dSRW, disturbed Southern Riparian Woodland
 - SWS, Southern Willow Scrub
 - dSWS, disturbed Southern Willow Scrub
 - TS, Tamarisk Scrub
- Jurisdictional Delineation**
 - USACE/RWQCB Non-Wetland Waters; CDFW Streambed
 - USACE/RWQCB Wetlands; CDFW Riparian Habitat
 - CDFW Riparian Habitat
 - City of San Diego Wetlands
- Proposed Impact Component**
 - Trail
 - Grading Limits
 - Bridge
 - Abutment

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 4B
Impacts to Biological Resources Map - View 2
Biological Resources Report for the Osuna Trail Project

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SOURCE: AERIAL- KIMLEY-HORN APRIL 2021

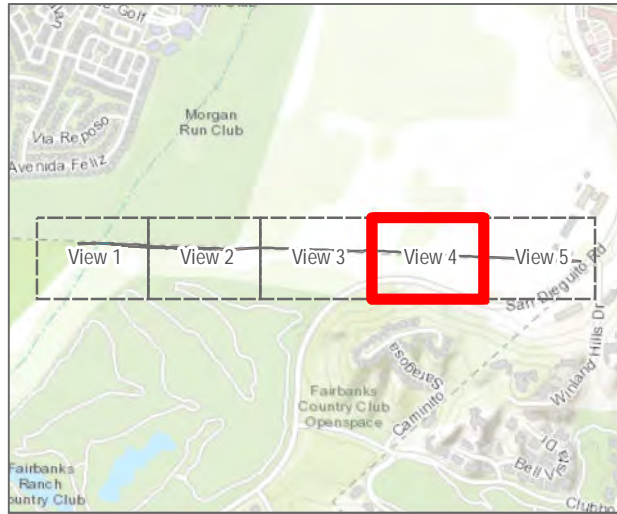


FIGURE 4C

Impacts to Biological Resources Map - View 3

Biological Resources Report for the Osuna Trail Project

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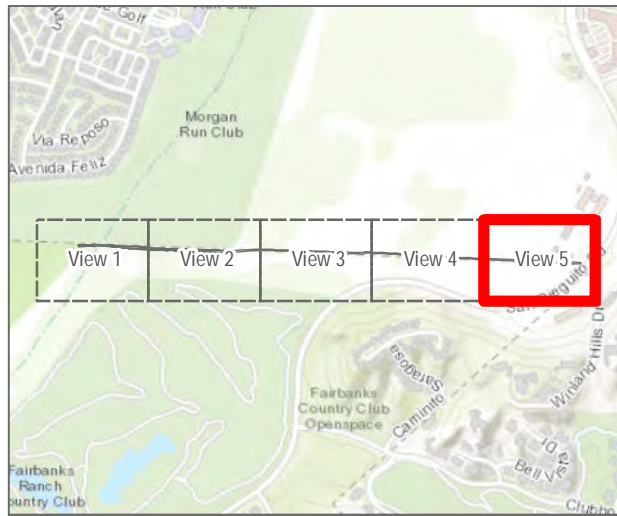
- Study Area
- Vegetation Communities/Land Covers
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 - CDFW Riparian Habitat
 - City of San Diego Wetlands
- Proposed Impact Component
 - Trail
 - Grading Limits
 - Bridge
 - Abutment

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 4D
 Impacts to Biological Resources Map - View 4
 Biological Resources Report for the Osuna Trail Project

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- Study Area
- Vegetation Communities/Land Covers
 - ADR, Arundo Donax Riparian
 - CSM, Coastal Salt Marsh
 - CSS, Coastal Sage Scrub
 - CSSB, Coastal Sage Scrub-Baccharis Dominated
 - DEV, Developed
 - DH, Disturbed Habitat
 - DW, Disturbed Wetlands
 - FWM, Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNR, Non-Native Riparian
 - ORN, Ornamental
 - OW, Open Water
 - dSRW, disturbed Southern Riparian Woodland
 - SWS, Southern Willow Scrub
 - dSWS, disturbed Southern Willow Scrub
 - TS, Tamarisk Scrub
- Jurisdictional Delineation
 - USACE/RWQCB Non-Wetland Waters; CDFW Streambed
 - USACE/RWQCB Wetlands; CDFW Riparian Habitat
 - CDFW Riparian Habitat
 - City of San Diego Wetlands
- Proposed Impact Component
 - Trail
 - Grading Limits
 - Bridge
 - Abutment

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 4E

Impacts to Biological Resources Map - View 5

Biological Resources Report for the Osuna Trail Project

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SOURCE: AERIAL- KIMLEY-HORN APRIL 2021

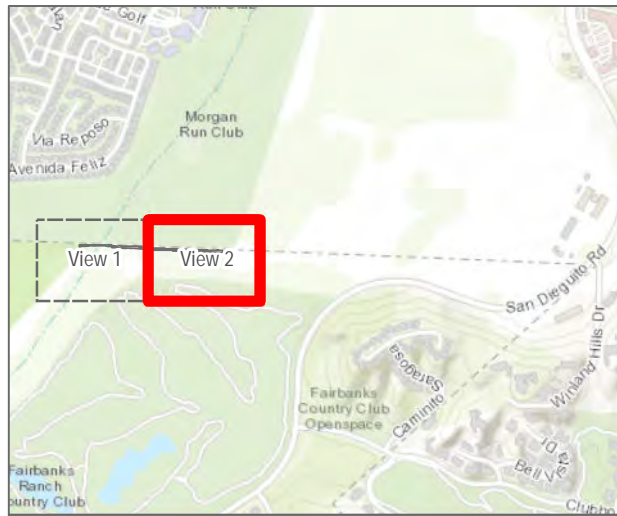


FIGURE 5A

Mitigation and Revegetation Areas - View 1

Biological Resources Report for the Osuna Trail Project

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- Study Area
- Parcel Boundary
- OMWD Easement
- Vegetation Communities/Land Covers
 - ADR, Arundo Donax Riparian
 - CSM, Coastal Salt Marsh
 - CSS, Coastal Sage Scrub
 - CSSB, Coastal Sage Scrub-Baccharis Dominated
 - DEV, Developed
 - DH, Disturbed Habitat
 - DW, Disturbed Wetlands
 - FWM, Freshwater Marsh
 - MFS, Mulefat Scrub
 - NNR, Non-Native Riparian
 - ORN, Ornamental
 - OW, Open Water
 - dSRW, disturbed Southern Riparian Woodland
 - SWS, Southern Willow Scrub
 - dSWS, disturbed Southern Willow Scrub
 - TS, Tamarisk Scrub
- Jurisdictional Delineation**
 - USACE/RWQCB Non-Wetland Waters; CDFW Streambed
 - USACE/RWQCB Wetlands; CDFW Riparian Habitat
 - CDFW Riparian Habitat
 - City of San Diego Wetlands
- Proposed Trail Component**
 - Trail
 - Bridge
 - Abutment
- Mitigation & Revegetation**
 - Wetland Restoration (0.17 Ac.)
 - Wetland Enhancement (0.22 Ac.)
 - CSS Restoration (0.49 Ac.)

SOURCE: AERIAL- KIMLEY-HORN APRIL 2021



FIGURE 5B
Mitigation and Revegetation Areas - View 2
Biological Resources Report for the Osuna Trail Project

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Appendix A

Plant Compendium

Angiosperms: Eudicots

ADOXACEAE – ADOXA FAMILY

Sambucus nigra ssp. *caerulea* – blue elderberry

ASTERACEAE – SUNFLOWER FAMILY

Artemisia californica – coastal sagebrush

Baccharis salicifolia ssp. *salicifolia* – mule-fat, seep-willow

Baccharis pilularis – chaparral broom, coyote brush

Isocoma menziesii – coastal goldenbush

BRASSICACEAE – MUSTARD FAMILY

* *Hirschfeldia incana* – short-pod mustard

CHENOPODIACEAE – GOOSEFOOT FAMILY

* *Salsola tragus* – prickly russian-thistle, tumbleweed

FRANKENIACEAE – FRANKENIA FAMILY

Frankenia salina – alkali-heath

MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus globulus* – blue gum

SALICACEAE – WILLOW FAMILY

Populus fremontii ssp. *fremontii* – western cottonwood

Salix gooddingii – Goodding's black willow

Salix laevigata – red willow

Salix lasiolepis – arroyo willow

SCROPHULARIACEAE – FIGWORT FAMILY

* *Myoporum laetum* – ngaio, mousehole tree

SOLANACEAE – NIGHTSHADE FAMILY

* *Nicotiana glauca* – tree tobacco

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix ramosissima* – saltcedar

URTICACEAE – STINGING NETTLE FAMILY

Urtica dioica ssp. *holosericea* – hoary nettle

Angiosperms: Monocots

JUNACEAE – RUSH FAMILY

Juncus acutus ssp. *leopoldii* – southwestern spiny rush

POACEAE – GRASS FAMILY

Distichlis spicata – salt grass

* *Arundo donax* – giant reed

* *Bromus rubens* – foxtail chess, red brome

TYPHACEAE – CATTAIL FAMILY

Typha latifolia – broad-leaf cattail

* signifies introduced (non-native) species

Appendix B

Wildlife Compendium

Bird

Blackbirds, Orioles and Allies

ICTERIDAE—BLACKBIRDS

- Agelaius phoeniceus*—red-winged blackbird
- Euphagus cyanocephalus*—Brewer's blackbird
- Icterus cucullatus*—hooded oriole
- * *Molothrus ater*—brown-headed cowbird
- Quiscalus mexicanus*—great-tailed grackle
- Sturnella neglecta*—western meadowlark

Bushtits

AEGITHALIDAE—LONG-TAILED TITS AND BUSHTITS

- Psaltriparus minimus*—bushtit

Cardinals, Grosbeaks and Allies

CARDINALIDAE—CARDINALS AND ALLIES

- Pheucticus melanocephalus*—black-headed grosbeak

Cormorants

PHALACROCORACIDAE—CORMORANTS

- Phalacrocorax auritus*—double-crested cormorant

Falcons

FALCONIDAE—CARACARAS AND FALCONS

- Falco peregrinus anatum*—American peregrine falcon
- Falco sparverius*—American kestrel

Finches

FRINGILLIDAE—FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

- Haemorhous mexicanus*—house finch
- Spinus lawrencei*—Lawrence's goldfinch
- Spinus psaltria*—lesser goldfinch

Flycatchers

TYRANNIDAE—TYRANT FLYCATCHERS

Empidonax difficilis—Pacific-slope flycatcher

Sayornis nigricans—black phoebe

Sayornis saya—Say's phoebe

Tyrannus vociferans—Cassin's kingbird

Goatsuckers

CAPRIMULGIDAE—GOATSUCKERS

Phalaenoptilus nuttallii—common poorwill

Grebes

PODICIPEDIDAE—GREBES

Podilymbus podiceps—pied-billed grebe

Hawks

ACCIPITRIDAE—HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii—Cooper's hawk

Buteo jamaicensis—red-tailed hawk

Elanus leucurus—white-tailed kite

Pandion haliaetus—osprey

Hérons and Bitterns

ARDEIDAE—HERONS, BITTERNs, AND ALLIES

Ardea alba—great egret

Ardea herodias—great blue heron

Butorides virescens—green heron

Egretta thula—snowy egret

Nycticorax nycticorax—black-crowned night-heron

Hummingbirds

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

Selasphorus sasin—Allen's hummingbird

Selasphorus sp.—Allen's/rufous hummingbird

Ibises and Spoonbills

THRESKIORNITHIDAE—IBISES AND SPOONBILLS

Plegadis chihi—white-faced ibis

Jays, Magpies and Crows

CORVIDAE—CROWS AND JAYS

Corvus brachyrhynchos—American crow

Corvus corax—common raven

Kinglets

REGULIDAE—KINGLETS

Regulus calendula—ruby-crowned kinglet

Mockingbirds and Thrashers

MIMIDAE—MOCKINGBIRDS AND THRASHERS

Mimus polyglottos—northern mockingbird

New World Sparrows

PASSERELLIDAE—NEW WORLD SPARROWS

Melospiza lincolnii—Lincoln's sparrow

Melospiza melodia—song sparrow

Melospiza crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

Old World Warblers and Gnatcatchers

SYLVIIDAE—SYLVIID WARBLERS

Poliophtila caerulea—blue-gray gnatcatcher

Owls

TYTONIDAE—BARN OWLS

Tyto alba—barn owl

Pigeons and Doves

COLUMBIDAE—PIGEONS AND DOVES

- * *Streptopelia decaocto*—Eurasian collared-dove
- Zenaida macroura*—mourning dove

Rails, Gallinules and Coots

RALLIDAE—RAILS, GALLINULES, AND COOTS

- Fulica americana*—American coot
- Porzana carolina*—sora
- Rallus obsoletus levipes*—Ridgway's rail

Roadrunners and Cuckoos

CUCULIDAE—CUCKOOS, ROADRUNNERS, AND ANIS

- Geococcyx californianus*—greater roadrunner

Shorebirds

CHARADRIIDAE—LAPWINGS AND PLOVERS

- Charadrius vociferus*—killdeer

Starlings and Allies

STURNIDAE—STARLINGS

- * *Sturnus vulgaris*—European starling

Swallows

HIRUNDINIDAE—SWALLOWS

- Petrochelidon pyrrhonota*—cliff swallow
- Stelgidopteryx serripennis*—northern rough-winged swallow
- Tachycineta bicolor*—tree swallow
- Tachycineta thalassina*—violet-green swallow

Thrushes

TURDIDAE—THRUSHES

- Sialia mexicana*—western bluebird
- Turdus migratorius*—American robin

Vireos

VIREONIDAE—VIREOS

Vireo bellii pusillus—least Bell's vireo

Vireo cassinii—Cassin's vireo

Waterfowl

ANATIDAE—DUCKS, GEESE, AND SWANS

Anas platyrhynchos—mallard

Oxyura jamaicensis—ruddy duck

Waxbills

ESTRILDIDAE—WAXBILLS

* *Lonchura punctulata*—scaly-breasted munia

Wood Warblers and Allies

PARULIDAE—WOOD-WARBLEDERS

Cardellina pusilla—Wilson's warbler

Geothlypis trichas—common yellowthroat

Oreothlypis celata—orange-crowned warbler

Parkesia noveboracensis—northern waterthrush

Setophaga coronata—yellow-rumped warbler

Setophaga petechia—yellow warbler

Woodpeckers

PICIDAE—WOODPECKERS AND ALLIES

Dryobates nuttallii—Nuttall's woodpecker

Wrens

TROGLODYTIDAE—WRENS

Cistothorus palustris clarkae—Clark's marsh wren

Cistothorus palustris—marsh wren

Wrentits

TIMALIIDAE—BABBLERS

Chamaea fasciata—wrentit

Yellow-Breasted Chat

ICTERIIDAE—YELLOW-BREASTED CHAT

Icteria virens—yellow-breasted chat

* signifies introduced (non-native) species

Appendix C

Sensitive Plant Species Potentially Occurring within the Project Site

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Abronia maritima</i>	red sand-verbena	None/None/4.2/None	Coastal dunes/perennial herb/Feb–Nov/0–330	Not expected to occur. No suitable habitat present.
<i>Acanthomintha ilicifolia</i>	San Diego thorn-mint	FT/SE/1B.1/Narrow Endemic	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, openings/annual herb/Apr–June/33–3,145	Low potential to occur. Clay soils are not dominant in the study area and this species prefers heavy clay lenses. Recorded occurrences near the study area are over 3 miles away.
<i>Acmispon prostratus</i>	Nuttall's acmispon	None/None/1B.1/Covered	Coastal dunes, Coastal scrub (sandy)/annual herb/Mar–June(July)/0–35	Low potential to occur. This species prefers coastal dunes and beaches. The only recorded occurrences near the study area are several miles away at Torrey Pines State Beach and San Elijo Lagoon.
<i>Adolphia californica</i>	California adolphia	None/None/2B.1/None	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/Dec–May/33–2,425	Low potential to occur. Although California adolphia has been documented north of the site, the study area does not contain the clay soils required for this species.
<i>Agave shawii</i> var. <i>shawii</i>	Shaw's agave	None/None/2B.1/Narrow Endemic	Coastal bluff scrub, Coastal scrub; Maritime succulent scrub/perennial leaf succulent/Sep–May/10–395	Not expected to occur. This species prefers coastal bluff scrub and would have been observed during vegetation mapping if present.
<i>Ambrosia monogyra</i>	singlewhorl burrobrush	None/None/2B.2/None	Chaparral, Sonoran desert scrub; sandy/perennial shrub/Aug–Nov/33–1,640	Not expected to occur. No suitable habitat present.
<i>Ambrosia pumila</i>	San Diego ambrosia	FE/None/1B.1/Narrow Endemic	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; sandy loam or clay, often in disturbed areas, sometimes alkaline/perennial rhizomatous herb/Apr–Oct/66–1,360	Low potential to occur. Suitable disturbed marsh and alluvial scrub habitat occurs within the study area and could support this species but it was not observed during vegetation mapping. No known occurrences have been

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				recorded within 4 miles of the study area.
<i>Aphanisma blitoides</i>	aphanisma	None/None/1B.2/Narrow Endemic	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy or gravelly/annual herb/ Feb-June/3-1,000	Low potential to occur. No suitable coastal bluff or dune habitat is present and all known occurrences in the region occur immediately adjacent to the coast.
<i>Arctostaphylos glandulosa</i> ssp. <i>crassifolia</i>	Del Mar manzanita	FE/None/1B.1/Covered	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec-June/0-1,195	Not expected to occur. No suitable habitat present.
<i>Artemisia palmeri</i>	San Diego sagewort	None/None/4.2/None	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; sandy, mesic/perennial deciduous shrub/ (Feb)May-Sep/49-3,000	Not expected to occur. Although suitable riparian habitat occurs within the study area and could support this species, this perennial shrub was not observed during vegetation mapping.
<i>Asplenium vespertinum</i>	western spleenwort	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial rhizomatous herb/Feb-June/591-3,280	Not expected to occur. The site is outside of the species' known elevation range.
<i>Astragalus albens</i>	Cushenbury milk-vetch	FE/None/1B.1/None	Joshua tree woodland, Mojavean desert scrub, Pinyon and juniper woodland; usually carbonate, rarely granitic/perennial herb/Mar-June/3,590-6,560	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Astragalus tener</i> var. <i>titi</i>	coastal dunes milk-vetch	FE/SE/1B.1/Narrow Endemic	Coastal bluff scrub (sandy), Coastal dunes, Coastal prairie (mesic); often vernal mesic areas/annual herb/Mar-May/3-165	Not expected to occur. No suitable habitat present.
<i>Atriplex coulteri</i>	Coulter's saltbush	None/None/1B.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; alkaline or clay/perennial herb/Mar-Oct/10-1,505	Not expected to occur. Although saline coastal scrub is present that could support this species, this, species would have been detected during surveys. In addition, soils on site are alkaline but not high in clay content. This species is known

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				to occur just over 3 miles to the north in San Elijo Lagoon.
<i>Atriplex pacifica</i>	South Coast saltscale	None/None/1B.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar-Oct/0-460	Not expected to occur. Saline coastal scrub is present that could support this species however this species would have been detected during surveys. It is known to occur approximately 2 miles west of the study area on coastal bluffs above Via de la Valle and 2 miles east in Fairbanks Ranch.
<i>Baccharis vanessae</i>	Encinitas baccharis	FT/SE/1B.1/Covered	Chaparral (maritime), Cismontane woodland; sandstone/perennial deciduous shrub/Aug,Oct,Nov/197-2,360	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Berberocactus emoryi</i>	golden-spined cereus	None/None/2B.2/None	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy/perennial stem succulent/May-June/10-1,295	Not expected to occur. No suitable Torrey pine forest or maritime chaparral habitat present. The only recorded occurrences near the study area are at Torrey Pines State Reserve.
<i>Bloomeria clevelandii</i>	San Diego goldenstar	None/None/1B.1/Covered	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial bulbiferous herb/Apr-May/164-1,525	Not expected to occur. The site is outside of the species' known elevation range.
<i>Brodiaea filifolia</i>	thread-leaved brodiaea	FT/SE/1B.1/Covered	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/Mar-June/82-3,670	Low potential to occur. Clay soils are not dominant in the study area and this species prefers heavy clay lenses. Recorded occurrences near the study area are over 4 miles away.
<i>Brodiaea orcuttii</i>	Orcutt's brodiaea	None/None/1B.1/Covered	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal	Not expected to occur. No suitable habitat present.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
			pools; mesic, clay/perennial bulbiferous herb/ May-July/98-5,550	
<i>Calandrinia breweri</i>	Brewer's calandrinia	None/None/4.2/None	Chaparral, Coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/(Jan)Mar-June/33-4,000	Low potential to occur. No known occurrences have been recorded within 5 miles of the study area.
<i>Calochortus plummerae</i>	Plummer's mariposa lily	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; granitic, rocky/perennial bulbiferous herb/ May-July/328-5,575	Not expected to occur. The site is outside of the species' known elevation range.
<i>Camissoniopsis lewisii</i>	Lewis' evening-primrose	None/None/3/None	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy or clay/annual herb/Mar-May(June)/0-985	Moderate potential to occur. Sandy and saline coastal scrub is present that could support this species. There is an occurrence in the San Dieguito lagoon just over 3 miles to the west.
<i>Ceanothus cyaneus</i>	Lakeside ceanothus	None/None/1B.2/Covered	Closed-cone coniferous forest, Chaparral/perennial evergreen shrub/ Apr-June/771-2,475	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Ceanothus otayensis</i>	Otay Mountain ceanothus	None/None/1B.2/None	Chaparral (metavolcanic or gabbroic)/perennial evergreen shrub/ Jan-Apr/1,965-3,605	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Ceanothus verrucosus</i>	wart-stemmed ceanothus	None/None/2B.2/Covered	Chaparral/perennial evergreen shrub/ Dec-May/3-1,245	Not expected to occur. No suitable habitat present.
<i>Centromadia parryi</i> ssp. <i>australis</i>	southern tarplant	None/None/1B.1/None	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/May-Nov/0-1,570	Not expected to occur. Although there is suitable marsh margin habitat within in the study area, if present, this species would have been observed during vegetation mapping. Several known occurrences have been recorded

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				over two miles to the west near San Dieguito Lagoon.
<i>Centromadia pungens</i> ssp. <i>laevis</i>	smooth tarplant	None/None/1B.1/None	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; alkaline/annual herb/ Apr-Sep/0-2,095	Low potential to occur. Suitable alkali marsh habitat exists within the study area but no known occurrences of this species have been recorded within 5 miles of the study area. It was not observed during vegetation mapping.
<i>Chaenactis glabriuscula</i> var. <i>orcuttiana</i>	Orcutt's pincushion	None/None/1B.1/None	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan-Aug/0-330	Not expected to occur. No suitable habitat present.
<i>Chamaebatia australis</i>	southern mountain misery	None/None/4.2/None	Chaparral (gabbroic or metavolcanic)/perennial evergreen shrub/Nov-May/984-3,345	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Chloropyron maritimum</i> ssp. <i>maritimum</i>	salt marsh bird's-beak	FE/SE/1B.2/Covered	Coastal dunes, Marshes and swamps (coastal salt)/annual herb (hemiparasitic)/May-Oct(Nov)/0-100	Not expected to occur. This species is only known from a handful of saltmarsh habitats further south in San Diego County near Ocean Beach the San Diego Bay and Imperial Beach.
<i>Chorizanthe orcuttiana</i>	Orcutt's spineflower	FE/SE/1B.1/None	Closed-cone coniferous forest, Chaparral (maritime), Coastal scrub; sandy openings/annual herb/Mar-May/10-410	Not expected to occur. This species is only known from sandstone coastal bluff and sandy maritime chaparral habitats.
<i>Chorizanthe polygonoides</i> var. <i>longispina</i>	long-spined spineflower	None/None/1B.2/None	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/Apr-July/ 98-5,015	Low potential to occur. Clay soils are lacking in the study area. Some sandy areas of coastal scrub are present but this species prefers mesas. The nearest recorded occurrences are at Torrey Pines State Reserve or further.

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Cistanthe maritima</i>	seaside cistanthe	None/None/4.2/None	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; sandy/annual herb/(Feb)Mar-June(Aug)/16-985	Low potential to occur. Some sandy areas of coastal scrub are present but this species prefers mesas and bluffs. The nearest recorded occurrences are at Torrey Pines State Reserve or further.
<i>Clarkia delicata</i>	delicate clarkia	None/None/1B.2/None	Chaparral, Cismontane woodland; often gabbroic/annual herb/Apr-June/771-3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Comarostaphylis diversifolia</i> ssp. <i>diversifolia</i>	summer holly	None/None/1B.2/None	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr-June/98-2,590	Not expected to occur. No suitable habitat present.
<i>Convolvulus simulans</i>	small-flowered morning-glory	None/None/4.2/None	Chaparral (openings), Coastal scrub, Valley and foothill grassland; clay, serpentinite seeps/annual herb/Mar-July/98-2,425	Not expected to occur. Clay soils are not dominant in the study area and this species prefers heavy clay lenses, typically serpentine. Recorded occurrences near the study area are over 3 miles away.
<i>Corethrogyne filaginifolia</i> var. <i>incana</i>	San Diego sand aster	None/None/1B.1/None	Coastal bluff scrub, Chaparral, Coastal scrub/perennial herb/June-Sep/10-375	Not expected to occur. This species is only known from sites further south in San Diego County, particularly Point Loma.
<i>Corethrogyne filaginifolia</i> var. <i>linifolia</i>	Del Mar Mesa sand aster	None/None/1B.1/Covered	Coastal bluff scrub, Chaparral (maritime, openings), Coastal scrub; sandy/perennial herb/May,July,Aug,Sep/49-490	Low potential to occur. Some sandy areas of coastal scrub are present but this species prefers mesas and bluffs. The nearest recorded occurrences are over 2 miles from the study area in habitats like Crest Canyon and Torrey Pines State Reserve.
<i>Cryptantha wigginsii</i>	Wiggins' cryptantha	None/None/1B.2/None	Coastal scrub; often clay/annual herb/Feb-June/66-900	Low potential to occur. This species is only known from

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				occurrences over 4 miles north of the study area.
<i>Cylindropuntia californica</i> var. <i>californica</i>	snake cholla	None/None/1B.1/Narrow Endemic	Chaparral, Coastal scrub/perennial stem succulent/Apr–May/98–490	Low potential to occur. <i>Cylindropuntia</i> species were not observed during vegetation mapping. The nearest recorded occurrence is over 3 miles to the east
<i>Dichondra occidentalis</i>	western dichondra	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/perennial rhizomatous herb/ (Jan)Mar–July/164–1,640	Not expected to occur. The site is outside of the species’ known elevation range.
<i>Diplacus aridus</i>	low bush monkeyflower	None/None/4.3/None	Chaparral (rocky), Sonoran desert scrub/perennial evergreen shrub/ Apr–July/2,460–3,935	Not expected to occur. The site is outside of the species’ known elevation range and there is no suitable habitat present.
<i>Dudleya blochmaniae</i> ssp. <i>blochmaniae</i>	Blochman’s dudleya	None/None/1B.1/None	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland; rocky, often clay or serpentinite/perennial herb/ Apr–June/16–1,475	Not expected to occur. Clay soils are not dominant in the study area and this species prefers clay and serpentine. Nearest recorded occurrences are in La Jolla and Camp Pendleton.
<i>Dudleya brevifolia</i>	short-leaved dudleya	None/SE/1B.1/Narrow Endemic	Chaparral (maritime, openings), Coastal scrub; Torrey sandstone/perennial herb/ Apr–May/98–820	Not expected to occur. Torrey sandstone not present in the study area. Species only known from bluffs and mesas in the Torrey Pines area.
<i>Dudleya variegata</i>	variegated dudleya	None/None/1B.2/Narrow Endemic	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial herb/Apr–June/ 10–1,900	Not expected to occur. Clay soils and vernal pools not present in the study area.
<i>Dudleya viscida</i>	sticky dudleya	None/None/1B.2/Covered	Coastal bluff scrub, Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial herb/May–June/33–1,800	Not expected to occur. This species is known to prefer rocky cliffs and bluffs.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Ericameria palmeri</i> var. <i>palmeri</i>	Palmer's goldenbush	None/None/1B.1/Covered	Chaparral, Coastal scrub; mesic/perennial evergreen shrub/(July)Sep–Nov/98–1,965	Low potential to occur. Coastal sage scrub is present but the nearest recorded occurrence is over 5 miles to the south.
<i>Eriodictyon sessilifolium</i>	sessile-leaved yerba stanta	None/None/2B.1/None	Coastal scrub; volcanic/perennial shrub/July/558–560	Not expected to occur. The site is outside of the species' known elevation range.
<i>Eryngium aristulatum</i> var. <i>parishii</i>	San Diego button-celery	FE/SE/1B.1/Covered	Coastal scrub, Valley and foothill grassland, Vernal pools; mesic/annual / perennial herb/Apr–June/66–2,030	Not expected to occur. Vernal pools not present in the study area.
<i>Erysimum ammophilum</i>	sand-loving wallflower	None/None/1B.2/Covered	Chaparral (maritime), Coastal dunes, Coastal scrub; sandy, openings/perennial herb/ Feb–June/0–195	Low potential to occur. This species prefers sandy bluffs and mesas. The nearest recorded occurrences are over 2 miles from the study area in habitats like Crest Canyon and Torrey Pines State Reserve.
<i>Erythranthe diffusa</i>	Palomar monkeyflower	None/None/4.3/None	Chaparral, Lower montane coniferous forest; sandy or gravelly/annual herb/ Apr–June/4,000–6,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Euphorbia misera</i>	cliff spurge	None/None/2B.2/None	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; rocky/perennial shrub/ Dec–Aug(Oct)/33–1,640	Low potential to occur. This species prefers coastal bluffs and rocky areas. The nearest recorded occurrences are over 3 miles away near San Elijo Lagoon and Torrey Pines. This perennial species was not observed during vegetation mapping.
<i>Ferocactus viridescens</i>	San Diego barrel cactus	None/None/2B.1/Covered	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem succulent/May–June/10–1,475	Low potential to occur. This species prefers rocky or sandy hillslopes which are lacking from the study area. Several occurrences of this species have

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				been recorded in hilly areas near Torrey Pines High School, 2 miles to the south but this perennial species was not observed during vegetation mapping.
<i>Geothallus tuberosus</i>	Campbell's liverwort	None/None/1B.1/None	Coastal scrub (mesic), Vernal pools; soil/ephemeral liverwort/N.A./33-1,965	Not expected to occur. Vernal pools not present in the study area.
<i>Githopsis diffusa</i> ssp. <i>filicaulis</i>	Mission Canyon bluecup	None/None/3.1/None	Chaparral (mesic, disturbed areas)/annual herb/Apr-June/1,475-2,295	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Grindelia hallii</i>	San Diego gumplant	None/None/1B.2/None	Chaparral, Lower montane coniferous forest, Meadows and seeps, Valley and foothill grassland/perennial herb/May-Oct/607-5,725	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Harpagonella palmeri</i>	Palmer's grapplinghook	None/None/4.2/None	Chaparral, Coastal scrub, Valley and foothill grassland; Clay; open grassy areas within shrubland/annual herb/Mar-May/66-3,130	Not expected to occur. Occurrences have been recorded just over 2 miles to the south near Torrey Pines High School. However, the site does not contain the requisite clay soils to support this species.
<i>Hazardia orcuttii</i>	Orcutt's hazardia	None/ST/1B.1/None	Chaparral (maritime), Coastal scrub; often clay/perennial evergreen shrub/Aug-Oct/262-280	Not expected to occur. The site is outside of the species' known elevation range.
<i>Heterotheca sessiliflora</i> ssp. <i>sessiliflora</i>	beach goldenaster	None/None/1B.1/None	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar-Dec/0-4,015	Low potential to occur. This species prefers sandy bluffs and dunes. The nearest occurrences are over 2 miles away in bluff habitats like Crest Canyon and Torrey Pines.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Holocarpha virgata</i> ssp. <i>elongata</i>	graceful tarplant	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/annual herb/May–Nov/197–3,605	Not expected to occur. The site is outside of the species' known elevation range.
<i>Hordeum intercedens</i>	vernal barley	None/None/3.2/None	Coastal dunes, Coastal scrub, Valley and foothill grassland (saline flats and depressions), Vernal pools/annual herb/Mar–June/16–3,280	Not expected to occur. Vernal pools not present in the study area.
<i>Horkelia truncata</i>	Ramona horkelia	None/None/1B.3/None	Chaparral, Cismontane woodland; clay, gabbroic/perennial herb/May–June/1,310–4,265	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Hulsea californica</i>	San Diego sunflower	None/None/1B.3/None	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest; openings and burned areas/perennial herb/Apr–June/3,000–9,560	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Isocoma menziesii</i> var. <i>decumbens</i>	decumbent goldenbush	None/None/1B.2/None	Chaparral, Coastal scrub (sandy, often in disturbed areas)/perennial shrub/Apr–Nov/33–445	Low potential to occur. This species prefers sandy bluffs, hillsides, and openings; coastal scrub on the site was lacking openings. The nearest occurrence is over 2 miles away on bluffs near Torrey Pines High School.
<i>Iva hayesiana</i>	San Diego marsh-elder	None/None/2B.2/None	Marshes and swamps, Playas/perennial herb/Apr–Oct/33–1,640	Low potential to occur. Suitable marsh habitat exists on site but no documented occurrences have been recorded within 3 miles and this obvious perennial was not observed during vegetation mapping.
<i>Juglans californica</i>	Southern California black walnut	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; alluvial/perennial deciduous tree/Mar–Aug/164–2,950	Not expected to occur. The site is outside of the species' known elevation range.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Juncus acutus</i> ssp. <i>leopoldii</i>	southwestern spiny rush	None/None/4.2/None	Coastal dunes (mesic), Meadows and seeps (alkaline seeps), Marshes and swamps (coastal salt)/perennial rhizomatous herb/(Mar)May-June/10-2,950	Occurs in the study area. Suitable coastal salt marsh habitat exists on site and it was observed in this habitat during vegetation mapping.
<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>	Coulter's goldfields	None/None/1B.1/None	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb-June/3-4,000	Not expected to occur. Although there is some suitable saline marsh habitat is present within the study area, the area is very small and unlikely to support the species. A known occurrence exists on the margins on San Dieguito Lagoon 3 miles to the west.
<i>Lathyrus splendens</i>	pride-of-California	None/None/4.3/None	Chaparral/perennial herb/Mar-June/656-5,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Lepechinia cardiophylla</i>	heart-leaved pitcher sage	None/None/1B.2/Covered	Closed-cone coniferous forest, Chaparral, Cismontane woodland/perennial shrub/Apr-July/1,705-4,490	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Lepidium virginicum</i> var. <i>robinsonii</i>	Robinson's pepper-grass	None/None/4.3/None	Chaparral, Coastal scrub/annual herb/Jan-July/3-2,900	Low potential to occur. Suitable coastal scrub present but the nearest occurrence is over 2 miles away on bluffs near Torrey Pines High School.
<i>Leptosyne maritima</i>	sea dahlia	None/None/2B.2/None	Coastal bluff scrub, Coastal scrub/perennial herb/Mar-May/16-490	Low potential to occur. This species prefers bluffs and mesas. The nearest recorded occurrence is over 2 miles to the southwest near Crest Canyon.
<i>Lycium californicum</i>	California box-thorn	None/None/4.2/None	Coastal bluff scrub, Coastal scrub/perennial shrub/(Dec)Mar,June,July,Aug/16-490	Low potential to occur. This species prefers bluffs and mesas. The nearest recorded occurrence

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
				is over 3 miles to the northwest near San Elijo Lagoon.
<i>Microseris douglasii</i> ssp. <i>platycarpa</i>	small-flowered microseris	None/None/4.2/None	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/annual herb/Mar–May/49–3,510	Low potential to occur. Grassland habitat ideal for this species is not present onsite. Clay soils are lacking.
<i>Mobergia calculiformis</i>	light gray lichen	None/None/3/None	Coastal scrub (?); On rocks/crustose lichen (saxicolous)/N.A./33–35	Not expected to occur. This species is only known from further south in San Diego County near Point Loma.
<i>Monardella hypoleuca</i> ssp. <i>lanata</i>	felt-leaved monardella	None/None/1B.2/Covered	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/984–5,165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Monardella viminea</i>	willow monardella	FE/SE/1B.1/Covered	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; alluvial ephemeral washes/perennial herb/June–Aug/164–740	Not expected to occur. The site is outside of the species' known elevation range.
<i>Myosurus minimus</i> ssp. <i>apus</i>	little mousetail	None/None/3.1/None	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/Mar–June/66–2,095	Not expected to occur. No suitable habitat present. No vernal pools area present.
<i>Navarretia fossalis</i>	spreading navarretia	FT/None/1B.1/ Narrow Endemic	Chenopod scrub, Marshes and swamps (assorted shallow freshwater), Playas, Vernal pools/annual herb/Apr–June/98–2,145	Not expected to occur. Vernal pools not present in the study area. Nearest recorded occurrences over 4 miles from the study area.
<i>Navarretia prostrata</i>	prostrate vernal pool navarretia	None/None/1B.2/None	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools; Mesic/annual herb/Apr–July/10–3,965	Not expected to occur. Vernal pools not present in the study area. Nearest recorded occurrences are in Kearny Mesa area.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Nemacaulis denudata</i> var. <i>denudata</i>	coast woolly-heads	None/None/1B.2/None	Coastal dunes/annual herb/Apr-Sep/0-330	Not expected to occur. No suitable habitat present.
<i>Ophioglossum californicum</i>	California adder's-tongue	None/None/4.2/None	Chaparral, Valley and foothill grassland, Vernal pools (margins); mesic/perennial rhizomatous herb/(Dec)Jan-June/197-1,720	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Orcuttia californica</i>	California Orcutt grass	FE/SE/1B.1/Narrow Endemic	Vernal pools/annual herb/Apr-Aug/49-2,165	Not expected to occur. No suitable habitat present.
<i>Orobanche parishii</i> ssp. <i>brachyloba</i>	short-lobed broomrape	None/None/4.2/None	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy/perennial herb (parasitic)/Apr-Oct/10-1,000	Low potential to occur. Sandy openings in coastal scrub are lacking in the study area and the nearest known occurrences are at Torrey Pines.
<i>Pentachaeta aurea</i> ssp. <i>aurea</i>	golden-rayed pentachaeta	None/None/4.2/None	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland, Valley and foothill grassland/annual herb/Mar-July/262-6,065	Not expected to occur. The site is outside of the species' known elevation range.
<i>Phacelia ramosissima</i> var. <i>australitoralis</i>	south coast branching phacelia	None/None/3.2/None	Chaparral, Coastal dunes, Coastal scrub, Marshes and swamps (coastal salt); sandy, sometimes rocky/perennial herb/Mar-Aug/16-985	Low potential to occur. Some suitable habitat is present but this species is known to occur closer to the ocean in saltmarsh marsh systems. The nearest recorded occurrence is over 3 miles west near Crest Canyon in the San Dieguito Lagoon.
<i>Phacelia stellaris</i>	Brand's star phacelia	None/None/1B.1/None	Coastal dunes, Coastal scrub/annual herb/Mar-June/3-1,310	Low potential to occur. This species prefers dunes and is known only from Torrey Pines and locations further south near San Diego Bay.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Pinus torreyana</i> ssp. <i>torreyana</i>	Torrey pine	None/None/1B.2/Covered	Closed-cone coniferous forest, Chaparral; Sandstone/perennial evergreen tree/ N.A./98-525	Not expected to occur. No suitable habitat present.
<i>Piperia cooperi</i>	chaparral rein orchid	None/None/4.2/None	Chaparral, Cismontane woodland, Valley and foothill grassland/perennial herb/ Mar-June/49-5,200	Not expected to occur. No suitable habitat present.
<i>Pogogyne abramsii</i>	San Diego mesa mint	FE/SE/1B.1/Narrow Endemic	Vernal pools/annual herb/Mar-July/ 295-655	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Pogogyne nudiuscula</i>	Otay Mesa mint	FE/SE/1B.1/Narrow Endemic	Vernal pools/annual herb/May-July/ 295-820	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Quercus dumosa</i>	Nuttall's scrub oak	None/None/1B.1/None	Closed-cone coniferous forest, Chaparral, Coastal scrub; sandy, clay loam/perennial evergreen shrub/Feb-Apr(May-Aug)/ 49-1,310	Low potential to occur. This species prefers upland hills, bluffs and mesas in coastal sage scrub and maritime chaparral. It is an obvious perennial and was not observed during vegetation mapping. The nearest occurrence is over 2 miles away on bluffs near Torrey Pines High School.
<i>Quercus engelmannii</i>	Engelmann oak	None/None/4.2/None	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/ perennial deciduous tree/Mar-June/ 164-4,265	Not expected to occur. The site is outside of the species' known elevation range.
<i>Rupertia rigida</i>	Parish's rupertia	None/None/4.3/None	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pebble (Pavement) plain, Valley and foothill grassland/perennial herb/ June-Aug/2,295-8,200	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Salvia munzii</i>	Munz's sage	None/None/2B.2/None	Chaparral, Coastal scrub/perennial evergreen shrub/Feb-Apr/377-3,490	Not expected to occur. The site is outside of the species' known elevation range.
<i>Selaginella cinerascens</i>	ashy spike-moss	None/None/4.1/None	Chaparral, Coastal scrub/perennial rhizomatous herb/N.A./66-2,095	Not expected to occur. This species only occurs on upland mesas and terraces of coastal sage scrub. The nearest occurrence is over 2 miles away on bluffs near Torrey Pines High School.
<i>Senecio aphanactis</i>	chaparral ragwort	None/None/2B.2/None	Chaparral, Cismontane woodland, Coastal scrub; sometimes alkaline/annual herb/Jan-Apr(May)/49-2,620	Low potential to occur. Some alkaline flats are present in the study area but the nearest known occurrence is in the Del Mar Mesa Preserve, over 3 miles southeast.
<i>Sidalcea neomexicana</i>	salt spring checkerbloom	None/None/2B.2/None	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; alkaline, mesic/perennial herb/Mar-June/49-5,015	Low potential to occur. Some alkaline flats are present in the study area but no recent known occurrences have been recorded within 10 miles.
<i>Sphaerocarpos drewiae</i>	bottle liverwort	None/None/1B.1/None	Chaparral, Coastal scrub; openings, soil/ephemeral liverwort/N.A./295-1,965	Not expected to occur. The site is outside of the species' known elevation range.
<i>Stemodia durantifolia</i>	purple stemodia	None/None/2B.1/None	Sonoran desert scrub (often mesic, sandy)/perennial herb/(Jan)Apr, June, Aug, Sep, Oct, Dec/591-985	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Stipa diegoensis</i>	San Diego County needle grass	None/None/4.2/None	Chaparral, Coastal scrub; rocky, often mesic/perennial herb/Feb-June/33-2,620	Low potential to occur. Rocky soils are lacking from the study area. No recorded occurrences within 5 miles.

APPENDIX C / SENSITIVE PLANT SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/CRPR/City of San Diego MSCP)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
<i>Stylocline citroleum</i>	oil neststraw	None/None/1B.1/None	Chenopod scrub, Coastal scrub, Valley and foothill grassland; clay/annual herb/ Mar-Apr/164-1,310	Not expected to occur. The site is outside of the species' known elevation range.
<i>Suaeda esteroa</i>	estuary seablite	None/None/1B.2/None	Marshes and swamps (coastal salt)/perennial herb/(May)July-Oct(Jan)/ 0-15	Not expected to occur. Suitable coastal salt marsh present, however this species would have been observed during surveys. A recent occurrence (2004) was recorded 1 mile west of the site in similar habitat (SDNHM 2021).
<i>Suaeda taxifolia</i>	woolly seablite	None/None/4.2/None	Coastal bluff scrub, Coastal dunes, Marshes and swamps (margins of coastal salt)/perennial evergreen shrub/ Jan-Dec/0-165	Not expected to occur. Although suitable coastal salt marsh is present, this perennial evergreen shrub would have been detected during surveys. A recent occurrence (2010) was recorded 1 mile west of the site in similar habitat (SDNHM 2021).
<i>Texosporium sancti-jacobi</i>	woven-spored lichen	None/None/3/None	Chaparral (openings); On soil, small mammal pellets, dead twigs, and on Selaginella spp/crustose lichen (terricolous)/N.A./ 197-2,165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable habitat present.
<i>Viguiera laciniata</i>	San Diego County viguiera	None/None/4.3/None	Chaparral, Coastal scrub/perennial shrub/Feb-June(Aug)/197-2,460	Not expected to occur. The site is outside of the species' known elevation range.
<i>Xanthisma junceum</i>	rush-like bristleweed	None/None/4.3/None	Chaparral, Coastal scrub/perennial herb/May-Jan/787-3,280	Not expected to occur. The site is outside of the species' known elevation range.

Status Legend

Federal

FE: Federally listed as endangered

FT: Federally listed as threatened

FC: Federal candidate for listing as threatened or endangered

State

SE: State listed as endangered

ST: State listed as threatened

SR: State listed as rare

CRPR (California Rare Plant Rank)

CRPR 1A: Plants presumed extinct in California and either rare or extinct elsewhere

CRPR List 1B: Plants rare, threatened, or endangered in California and elsewhere

CRPR List 2A: Plants rare, threatened, or endangered in California but common elsewhere

CRPR List 2B: Plants rare, threatened, or endangered in California but more common elsewhere

CRPR 3: Review List: Plants about which more information is needed

CRPR 4: Watch List: Plants of limited distribution

.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)

.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

City of San Diego MSCP

Covered: Covered under the MSCP

Narrow Endemic: Species with a very limited native range; Species adopted by the City Council as narrow endemic species are considered sensitive biological resources

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Appendix D

Sensitive Wildlife Species Potentially Occurring within the Project Site

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
Amphibians				
<i>Spea hammondi</i>	western spadefoot	None/SSC/None	Primarily grassland and vernal pools, but also in ephemeral wetlands that persist at least 3 weeks in chaparral, coastal scrub, valley-foothill woodlands, pastures, and other agriculture	Moderate potential to occur. This species requires vernal pools and freshwater ephemeral basins. One recent occurrence was documented 3 miles upstream in 2007. A dated 1967 CNDDDB occurrence of this species was recorded within one mile of the study area. American Bullfrogs (<i>Lithobates catesbeianus</i>) observed within San Dieguito River less than 1 mile upstream of the project site. American bullfrogs are presumed present as management of the species within the San Dieguito River has not continue downstream past Lake Hodges (San Dieguito River Park, 2003).
Reptiles				
<i>Actinemys marmorata</i>	northwestern pond turtle	None/SSC/Covered	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	Low potential to occur. Some open water associated with the San Dieguito River is present but no known occurrences of this species have been recorded within five miles of the study area. The only known occurrence within the watershed is within Lake Hodges over 6 miles upstream.

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
<i>Aspidoscelis hyperythra</i>	orange-throated whiptail	None/WL/Covered	Low-elevation coastal scrub, chaparral, and valley-foothill hardwood	Moderate potential to occur. Coastal sage scrub is present but limited in quality. Several occurrences of this species have been recorded within three miles of the study area in more upland scrub.
<i>Aspidoscelis tigris stejnegeri</i>	San Diegan tiger whiptail	None/SSC/None	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Low potential to occur. This species does not occur along the coast where this project is located (CaliforniaHerps.com 2021). Woodland and riparian habitats are densely vegetated. Several occurrences of this species have been recorded within ten miles of the study area.
<i>Crotalus ruber</i>	red diamondback rattlesnake	None/SSC/None	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Low potential to occur. Coastal sage scrub is present but limited in quality. This species prefers more upland stands of coastal sage scrub. Several occurrences of this species have been recorded within ten miles of the study area in more upland scrub.
<i>Phrynosoma blainvillii</i>	Blainville's horned lizard	None/SSC/Covered	Open areas of sandy soil in valleys, foothills, and semi-arid mountains including coastal scrub, chaparral, valley-foothill hardwood, conifer, riparian, pine-cypress, juniper, and annual grassland habitats	Low potential to occur. This species is typically found in more upland habitats. Several occurrences of this species have been recorded within ten miles of the study area.
<i>Plestiodon skiltonianus interparietalis</i>	Coronado skink	None/WL/None	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	Low potential to occur. Woodland habitat present but not rocky or surrounded by grassland or

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
				chaparral. Three occurrences of this species have been recorded within ten miles of the study area
<i>Salvadora hexalepis virgultea</i>	coast patch-nosed snake	None/SSC/None	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Low potential to occur. Coastal scrub is shrubby but small mammal burrows were not obvious during the vegetation mapping. No observations within 5 miles of the study area. The closest observations are nearby Lake Hodges and at Black Mountain Open Space Park, both over 5 miles away.
<i>Thamnophis hammondi</i>	two-striped gartersnake	None/SSC/None	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Low potential to occur. San Dieguito River flows through the study area but this species prefers more rocky creeks away from brackish lagoons. No known occurrences of this species have been recorded within five miles of the study area but this species is known throughout the county.
Birds				
<i>Accipiter cooperii</i> (nesting, foraging)	Cooper's hawk	None/WL/Covered	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Moderate potential to nest. Riparian woodland habitats provide large trees suitable for raptor nesting within the study area. Moderate potential to forage. Scrubs habitat is low in quality with some open non-native grass patches. Adjacent developed land includes maintained golf

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
				course that may also provide habitat for foraging.
<i>Artemisospiza belli belli</i>	Bell's sage sparrow	None/WL/None	Nests and forages in coastal scrub and dry chaparral; typically in large, unfragmented patches dominated by chamise; nests in more dense patches but uses more open habitat in winter	Low potential to nest. Coastal sage scrub in the study area is limited in size and quality and is not contiguous with other large undisturbed patches. One occurrence of this species has been recorded within one mile of the study area.
<i>Athene cunicularia</i> (burrow sites and some wintering sites)	burrowing owl	BCC/SSC/Covered	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Not expected to occur. Disturbed lands within the study area previously supported agriculture but no suitable burrows were observed during surveys and no recent occurrences are recorded within 5 miles of the study area.
<i>Branta canadensis</i>	Canada goose	None/None/Covered	Lakes, rivers, ponds, and other bodies of water; yards, park lawns, and agricultural fields	Moderate potential to occur on the disturbed, open portions of the study area or near the ponds of San Dieguito River. The San Dieguito River and open disturbed and developed areas within the study area could support this species.
<i>Buteo swainsoni</i> (nesting, foraging)	Swainson's hawk	None/ST/Covered	Nests in open woodland and savanna, riparian, and in isolated large trees; forages in nearby grasslands and agricultural areas such as wheat and alfalfa fields and pasture	Moderate potential to nest. Riparian woodland habitats provide large trees suitable for raptor nesting within the study area. Moderate potential to forage. Scrubs habitat is low in quality with some open non-native grass patches. Adjacent developed

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				land includes maintained golf course that may also provide habitat for foraging.
<i>Campylorhynchus brunneicapillus sandiegensis</i> (San Diego and Orange Counties only)	coastal cactus wren	None/SSC/Covered	Southern cactus scrub patches	Not expected to occur. Scrub within the study area does not harbor stands of cactus.
<i>Charadrius alexandrinus nivosus</i> (nesting)	western snowy plover	FT, BCC/SSC/Covered	On coasts nests on sandy marine and estuarine shores; in the interior nests on sandy, barren or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds	Not expected to occur. Sandy, open flats are beaches are not present within the study area.
<i>Circus cyaneus</i>	Northern Harrier	None/SSC/Covered	Forages over coastal sage scrub and other open scrub communities. Nests in areas associated with marshes, pastures, grasslands, prairies, croplands, desert shrub-steppe, and riparian woodland.	High potential to nest and moderate potential to forage. Marshes within the study area provide potential for nesting. Scrubs habitat is low in quality with some open non-native grass patches. Adjacent developed land includes maintained golf course that may also provide habitat for foraging. Several observations of this species have been recorded within 3 miles of the study area.
<i>Coccyzus americanus occidentalis</i> (nesting)	western yellow-billed cuckoo	FT/SE/None	Nests in dense, wide riparian woodlands and forest with well-developed understories	Not expected to occur. This species is extremely rare in San Diego County and only utilizes extensive stands of high quality, mature riparian woodland and forest; the study area does not

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
				support such contiguous, high quality habitat.
<i>Egretta rufescens</i>	reddish egret	None/None/Covered	Freshwater marsh with emergent vegetation; in the Central Valley primarily nests and forages in rice fields and other flooded agricultural fields with weeds and other residual aquatic vegetation	Low potential to occur and not expected to nest. Marsh habitat is available to support this species but it is only a rare and brief visitor during migration. Occurrences have been recorded in the San Dieguito Lagoon (SDNHM 2021) but are very rare.
<i>Elanus leucurus</i> (nesting, foraging)	white-tailed kite	None/FP/None	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Moderate potential to nest and forage. Riparian woodland habitats provide large trees suitable for raptor nesting within the study area. Scrubs habitat is low in quality with some open non-native grass patches. Adjacent developed land includes maintained golf course that may also provide habitat for foraging. One occurrence of this species has been observed within five miles of the study area.
<i>Empidonax traillii extimus</i> (nesting)	southwestern willow flycatcher	FE/SE/Covered	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to nest. Riparian habitat is dense and scrubby; it could support migrant willow flycatchers but is unlikely to support residents/nesting since it is not a contiguous, high quality riparian corridor. No known occurrences of this species have been recorded within ten miles of the study area.

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<i>Eremophila alpestris actia</i>	California horned lark	None/WL/None	This subspecies of horned lark occurs on the state's southern and central coastal slope and in the San Joaquin Valley. Nests and forages in grasslands, disturbed lands, agriculture, and beaches.	Moderate potential to occur on the disturbed, open portions of the study area. One occurrence of this species has been recorded within five miles of the study area.
<i>Falco mexicanus</i> (nesting, foraging)	prairie falcon	None/WL/None	Forages in grassland, savanna, rangeland, agriculture, desert scrub, alpine meadows; nest on cliffs or bluffs	Not expected to nest or forage. Study area is lacking large, expansive open habitats for foraging and no cliffs or bluffs for nesting are present.
<i>Icteria virens</i> (nesting)	yellow-breasted chat	None/SSC/None	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Not expected to nest. Riparian habitat is dense and scrubby but is not a contiguous, high quality riparian corridor. No known occurrences of this species have been recorded within five miles of the study area.
<i>Ixobrychus exilis</i> (nesting)	least bittern	None/SSC/None	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	High potential to nest in marsh habitat containing cattails within the study area. This species has been recorded as nesting at San Elijo Lagoon (SDNHM 2021).
<i>Laterallus jamaicensis coturniculus</i>	California black rail	None/FP, ST/None	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Not expected to occur. This species has been documented as being extirpated from San Diego County.
<i>Passerculus sandwichensis beldingi</i>	Belding's savannah sparrow	BCC/SE/Covered	Nests and forages in coastal saltmarsh dominated by pickleweed (<i>Salicornia</i> spp.)	Low potential to occur. Although marsh habitat is present, patches of pickleweed were small and isolated. This species requires thick stands of pickleweed.

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
<i>Plegadis chihi</i> (nesting colony)	white-faced ibis	None/WL/Covered	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries	Not expected to nest. This species is only known as a rare migrant from the San Dieguito River lagoon (SDNHM 2021). No nesting colonies are known from the area.
<i>Polioptila californica californica</i>	coastal California gnatcatcher	FT/SSC/Covered	Nests and forages in various sage scrub communities, often dominated by California sagebrush and buckwheat; generally avoids nesting in areas with a slope of greater than 40%; majority of nesting at less than 1,000 feet above mean sea level	Moderate potential to occur. Coastal sage scrub in the study area is limited in quality and is not contiguous with other large undisturbed patches but several occurrences of this species have been recorded within one mile of the study area in more upland areas of sage scrub. Dispersing birds could visit sage scrub in the study area.
<i>Rallus obsoletus levipes</i>	Ridgway's rail	FE/FP, SE/Covered	Coastal wetlands, brackish areas, coastal saline emergent wetlands	High potential to occur and nest. Coastal salt marsh and freshwater marsh and present and suitable for this species. Two occurrences of this species have been recorded within one mile of the study area, in and around the San Dieguito River.
<i>Setophaga petechia</i> (nesting)	yellow warbler	None/SSC/None	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Moderate potential to nest. Riparian habitat present and known occurrences of this species have been recorded within two miles of the study area.
<i>Sialia mexicana</i>	western bluebird	None/None/Covered	Nests in old-growth red fir, mixed-conifer, and lodgepole pine habitats near wet meadows used for foraging	Not expected to occur. No suitable habitat present.

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<i>Sternula antillarum browni</i> (nesting colony)	California least tern	FE/FP, SE/Covered	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Not expected to nest. Sandy, open flats are beaches are not present within the study area
<i>Vireo bellii pusillus</i> (nesting)	least Bell's vireo	FE/SE/Covered	Nests and forages in low, dense riparian thickets along water or along dry parts of intermittent streams; forages in riparian and adjacent shrubland late in nesting season	High potential to nest. Riparian habitat within the study area is limited in size and quality but could support this species. A known occurrence of this species has been recorded approximately 2 miles west of the study area.
Mammals				
<i>Chaetodipus californicus femoralis</i>	Dulzura pocket mouse	None/SSC/None	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Low potential to occur in coastal sage scrub and disturbed habitat within the study area. No known occurrences of this species have been recorded within 5 miles of the study area.
<i>Chaetodipus fallax fallax</i>	northwestern San Diego pocket mouse	None/SSC/None	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper, and annual grassland	Low potential to occur. Coastal sage scrub within the study area is limited in size and quality. Two known occurrences of this species have been recorded within 10 miles of the study area.
<i>Choeronycteris mexicana</i>	Mexican long-tongued bat	None/SSC/None	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon-juniper woodland; roosts in caves, mines, and buildings	Not expected to occur. No suitable habitat for foraging, and no caves/mines for roosting present.
<i>Corynorhinus townsendii</i>	Townsend's big-eared bat	None/SSC/None	Mesic habitats characterized by coniferous and deciduous forests and riparian habitat, but also xeric areas; roosts in limestone caves and lava tubes, man-made structures, and tunnels	Low potential to forage on site. Not expected to roost on site. Riparian habitat within the study area is limited in size and quality. No known occurrences of this

APPENDIX D / SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
				species have been recorded within ten miles of the study area
<i>Dasypterus xanthinus</i>	western yellow bat	None/SSC/None	Valley-foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	Not expected to occur. No suitable habitat present.
<i>Euderma maculatum</i>	spotted bat	None/SSC/None	Foothills, mountains, desert regions of southern California, including arid deserts, grasslands, and mixed-conifer forests; roosts in rock crevices and cliffs; feeds over water and along washes	Not expected to occur. No suitable habitat present.
<i>Eumops perotis californicus</i>	western mastiff bat	None/SSC/None	Chaparral, coastal and desert scrub, coniferous and deciduous forest and woodland; roosts in crevices in rocky canyons and cliffs where the canyon or cliff is vertical or nearly vertical, trees, and tunnels	Low potential to forage on site. Not expected to roost on site. Coastal sage scrub within the study area is limited in size and quality. Several known occurrences of this species have been recorded within five mile of the study area.
<i>Lasiurus blossevillii</i>	western red bat	None/SSC/None	Forest, woodland, riparian, mesquite bosque, and orchards, including fig, apricot, peach, pear, almond, walnut, and orange; roosts in tree canopy	Low potential to roost or forage. Riparian habitat within the study area is limited in size and quality. One known occurrence of this species has been recorded within 10 miles of the study area.
<i>Lepus californicus bennettii</i>	San Diego black-tailed jackrabbit	None/SSC/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	High potential to occur. Coastal scrub onsite is of low quality with grassland patches throughout. Additionally, disturbed areas and maintained grass for golf courses surrounds the project area.
<i>Neotoma lepida intermedia</i>	San Diego desert woodrat	None/SSC/None	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Low potential to occur. Coastal sage scrub in the study area is limited in size and quality. Several occurrences of this species have been recorded

APPENDIX D / SENSITIVE WILDLIFE SPECIES POTENTIALLY OCCURRING WITHIN THE PROJECT SITE

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
				within five miles of the study area.
<i>Nyctinomops femorosaccus</i>	pocketed free-tailed bat	None/SSC/None	Pinyon-juniper woodlands, desert scrub, desert succulent shrub, desert riparian, desert wash, alkali desert scrub, Joshua tree, and palm oases; roosts in high cliffs or rock outcrops with drop-offs, caverns, and buildings	Not expected to occur. No suitable habitat present. No rocky canyons/cliffs present for roosting present. One known occurrence of this species has been recorded within two miles of the study area.
<i>Nyctinomops macrotis</i>	big free-tailed bat	None/SSC/None	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	Not expected to roost. Large trees with holes for roosting are lacking from the site. Moderate potential to forage over open water within the study area. One known occurrence of this species has been recorded within five miles of the study area.
<i>Odocoileus hemionus</i>	mule deer	None/None/Covered	Coastal sage scrub, chaparral, riparian, woodlands, and forest; often browses in open area adjacent to cover throughout California, except deserts and intensely farmed areas	Low potential to occur. Woodland areas with cover suitable for this species are lacking from the study area. Browsing and foraging is limited due to the developed nature of the surrounding area.
<i>Perognathus longimembris pacificus</i>	Pacific pocket mouse	FE/SSC/None	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Low potential to occur. Open sandy coastal strand and dunes are lacking from the site but one occurrence 3 miles to the west in the San Dieguito Lagoon has been recorded.
<i>Puma concolor</i>	puma	None/None/Covered	Scrubs, chaparral, riparian, woodland, and forest; rests in rocky areas and on cliffs and ledges that provide cover; most abundant in riparian areas and	Low potential to occur. This species is known to utilize the San Dieguito River corridor but the urbanized nature of the

Scientific Name	Common Name	Status (Federal/State/ City of San Diego MSCP)	Habitat	Potential to Occur
			brushy stages of most habitats throughout California, except deserts	surroundings near the study are limit potential to occur.
<i>Taxidea taxus</i>	American badger	None/SSC/Covered	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. Open, disturbed habitats are limited in size and adjacent to highly developed areas. One known occurrence of this species within 10 miles of the study area.
Invertebrates				
<i>Bombus crotchii</i>	Crotch bumble bee	None/SCE/None	Open grassland and scrub communities supporting suitable floral resources.	Low potential to occur. Coastal scrub within the study area is limited in size and quality and lacking high native floral diversity. The closest known occurrence was documented in 2 miles south of the study area.
<i>Branchinecta sandiegonensis</i>	San Diego fairy shrimp	FE/None/Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pools or non-vegetated ephemeral pools present within the study area.
<i>Danaus plexippus</i> pop. 1	monarch	FC/None/None	Wind-protected tree groves with nectar sources and nearby water sources	Moderate potential to occur but not expected to overwinter. The site is outside of the species' known geographic range for overwintering.
<i>Euphydryas editha quino</i>	quino checkerspot butterfly	FE/None/None	Annual forblands, grassland, open coastal scrub and chaparral; often soils with cryptogamic crusts and fine-textured clay; host plants include <i>Plantago erecta</i> , <i>Antirrhinum coulterianum</i> , and <i>Plantago patagonica</i> (Silverado Occurrence Complex)	Not expected to occur. The site is outside of the species' known geographic range.
<i>Lycaena hermes</i>	Hermes copper	FPT/None/None	Mixed woodlands, chaparral, and coastal scrub	Not expected to occur. The site is outside of the species' known geographic range.

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<i>Panoquina errans</i>	wandering skipper	None/None/Covered	Saltmarsh	High potential to occur. Suitable saltmarsh habitat is present and this species is known to occur in saltmarshes throughout the region.
<i>Streptocephalus woottoni</i>	Riverside fairy shrimp	FE/None/Covered	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. No suitable vernal pools or non-vegetated ephemeral pools present within the study area.

Status Legend

Federal

BCC: Bird of Conservation Concern

FC: Candidate for federal listing as threatened or endangered

FDL: Federally delisted; monitored for 5 years

FE: Federally listed endangered

FT: Federally listed as threatened

State

PSE: Proposed state listing as endangered

SDL: State delisted

SSC: Species of Special Concern

FP: California Department of Fish and Wildlife Protected and Fully Protected Species

SE: State listed as endangered

ST: State listed as threatened

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