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Biological Resources Technical Report

Hughes Circuits Project

MAY 2024

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Acronyms and Abbreviations

Acronym	Definition
APN	Assessor's Parcel Number
BMP	best management practice
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
City	City of San Marcos
CNPS	California Native Plant Society
MBTA	Migratory Bird Treaty Act
MM	Mitigation Measure
OHWM	ordinary high-water mark
Project	Hughes Circuits Project
RWQCB	Regional Water Quality Control Board
USACE	U.S. Army Corps of Engineers
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

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1 Introduction

The Hughes Circuits Project (Project) is being proposed on an undeveloped ~~10.86~~10.46-acre private property in the City of San Marcos, San Diego County, California. Dudek has prepared this Biological Resources Technical Report (report) in support of Project review by the City of San Marcos (City) in the California Environmental Quality Act (CEQA) evaluation process, including whether the Project qualifies for a categorical exemption. This report is also intended to support environmental review by other applicable regulatory resource agencies as needed.

The purpose of this report is to (1) describe the conditions of biological resources associated with the Project in terms of vegetation communities, plants, wildlife, wildlife habitats, and wetlands; (2) quantify potential direct impacts and qualitatively describe indirect impacts to biological resources that would result from implementation of the proposed Project; (3) discuss those impacts in terms of biological significance in view of federal, state, and local laws and policies; and (4) specify measures to avoid, minimize, and/or mitigate any significant impacts that would occur to biological resources as a result of Project implementation.

1.1 Project Description

The proposed Project is the development of a vacant ~~10.86~~10.46-acre site located at 546 South Pacific Street on the northeast corner of South Pacific Street in the western-central region of the City of San Marcos, California (Figure 1, Project Location). The Project site comprises Tax Assessor's Parcel Numbers (APNs) 219-223-20-00 and 219-223-22-00. The Project site is currently designated as Light Industrial (LI) under the City's General Plan Land Use Map (City of San Marcos 2018) and has a zoning designation of Light Industrial (L-I). The project proposes L-I land use, consistent with the City's land use designations for the site.

The Project would consist of development of a 67,410-square-foot light industrial building on a currently vacant site to support the expansion of the existing operations of Hughes Circuits Inc., located adjacent to the Project site to the south, at 546 South Pacific Street. The proposed 67,410-square-foot light industrial building would be located at the westernmost portion of the Project site, and the disturbance area associated with Project construction would be limited to approximately 113,877 square feet, or ~~2.79~~2.61 acres, of the ~~10.86~~10.46-acre Project site. Off-site improvements total 0.28 acres.

1.2 Project Location

The Project site is located in the City of San Marcos. The site is bordered by the City of Carlsbad to the west (Figure 1). The approximately 11-acre Project site is composed of one undeveloped lot on two parcels (APN 219-223-20-00 and APN 219-223-22-00). The Project site is located approximately 1 mile south of State Route 78, approximately 1 mile north of San Marcos High School, and approximately 6 miles west of Interstate 15. Specifically, the Project site is north and east of South Pacific Street. The site is located on the U.S. Geological Survey (USGS) 7.5-minute San Marcos quadrangle map on Township 12 South; Range 3 West of the San Bernardino Base Meridian (USGS 1975).

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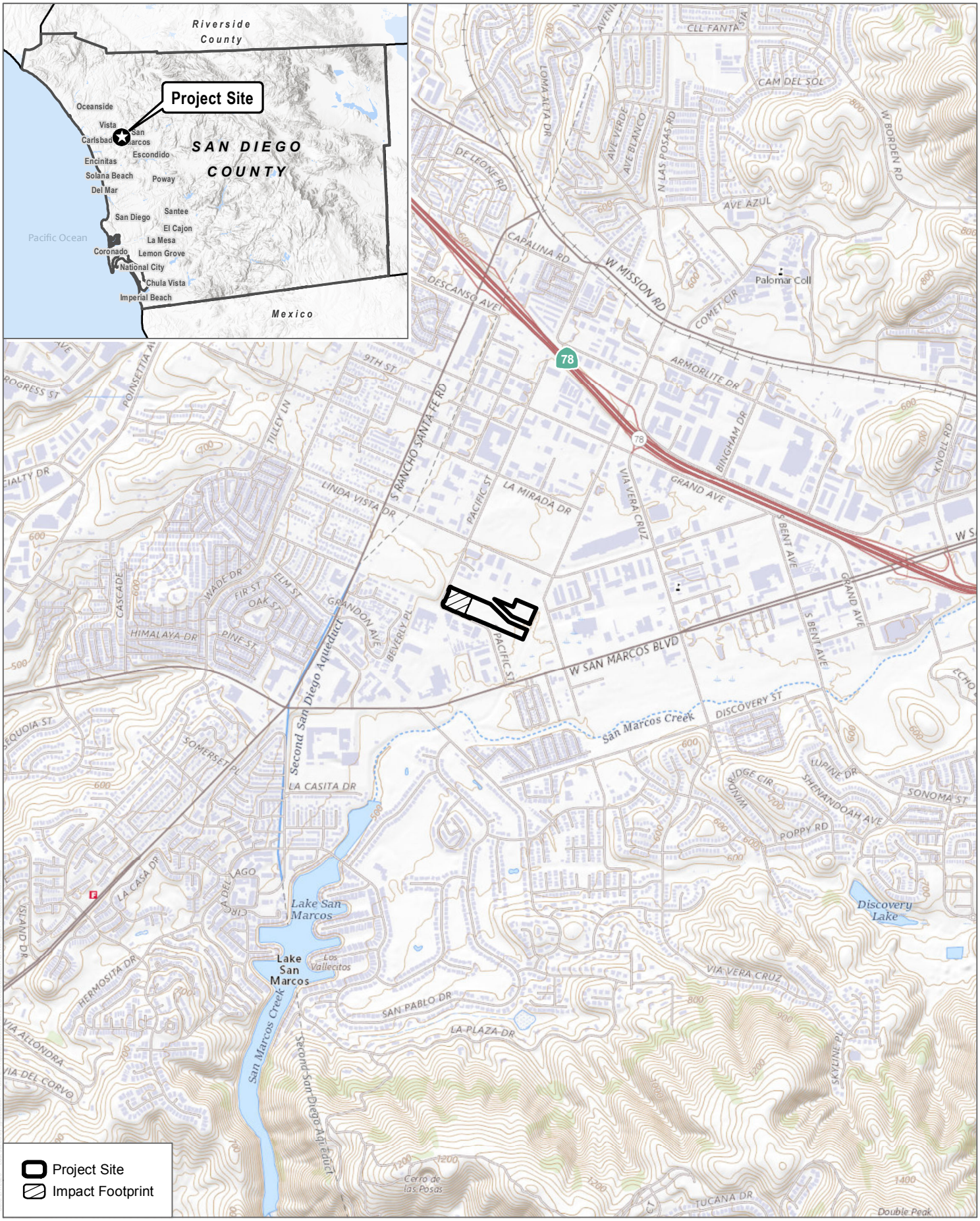

SOURCE: USGS 7.5-Minute Series San Marcos Quadrangle
Township 12S / Range 3W / Section 16

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Biological Technical Report for the Hughes Circuits Project

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2 Regulatory Context

2.1 Federal

2.1.1 Federal Endangered Species Act

The federal Endangered Species Act of 1973 (16 USC 1531 et seq.), as amended, is administered by the U.S. Fish and Wildlife Service (USFWS) for most plant and animal species, and by the National Oceanic and Atmospheric Administration National Marine Fisheries Service for certain marine species. This legislation is intended to provide a means to conserve the ecosystems upon which endangered and threatened species depend, and provide programs for the conservation of those species, thus preventing extinction of plants and wildlife. The federal Endangered Species Act defines an endangered species as "any species that is in danger of extinction throughout all or a significant portion of its range." A threatened species is defined as "any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Under the federal Endangered Species Act, it is unlawful to take any listed species, and "take" is defined as, "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."

The federal Endangered Species Act allows for the issuance of incidental take permits for listed species under Section 7, which is generally available for projects that also require other federal agency permits or other approvals, and under Section 10, which provides for the approval of habitat conservation plans on private property without any other federal agency involvement. Upon development of a habitat conservation plan, USFWS can issue incidental take permits for listed species.

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) was originally passed in 1918 as four bilateral treaties, or conventions, for the protection of a shared migratory bird resource. The primary motivation for the international negotiations was to stop the "indiscriminate slaughter" of migratory birds by market hunters and others. Each of the treaties protects selected species of birds and provides for closed and open seasons for hunting game birds. The MBTA protects more than 800 species of birds and prohibits the take of any migratory bird or any part, nest, or eggs of any such bird. Under the MBTA, "take" is defined as pursuing, hunting, shooting, capturing, collecting, or killing, or attempting to do so (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 FR 3853–3856). The executive order requires federal agencies to work with USFWS to develop a memorandum of understanding. USFWS reviews actions that might affect these species.

Two species of eagles that are native to the United States, bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*), were granted additional protection within the United States under the Bald and Golden Eagle Protection Act (16 USC 668–668d) to prevent the species from becoming extinct.

2.1.3 Clean Water Act

Pursuant to Section 404 of the Clean Water Act, the U.S. Army Corps of Engineers (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 Title 33 of the Code of Federal Regulations, Section 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 (OHWM), which is defined in Title 33 of the Code of Federal Regulations, Section 328.3(e).

2.2 State

2.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) administers the California Endangered Species Act (CESA), which prohibits the "take" of plant and animal species designated by the California Fish and Game Commission as endangered or threatened in California. Under CESA Section 86, take is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA Section 2053 stipulates that state agencies may not approve projects that will "jeopardize the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat essential to the continued existence of those species, if there are reasonable and prudent alternatives available consistent with conserving the species or its habitat which would prevent jeopardy."

CESA defines an endangered species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease." CESA defines a threatened species as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required by this chapter. Any animal determined by the [California Fish and Game] Commission as rare on or before January 1, 1985, is a threatened species." A candidate species is defined as "a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Commission has formally noticed as being under review by the department for addition to either the list of endangered species or the list of threatened species, or a species for which the Commission has published a notice of proposed regulation to add the species to either list." CESA does not list invertebrate species.

CESA authorizes the taking of threatened, endangered, or candidate species if take is incidental to an otherwise lawful activity and if specific criteria are met. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed species that are also state-listed species. In certain circumstances, CESA allows CDFW to adopt a CESA incidental take authorization as satisfactory for CEQA purposes based on finding that the federal permit adequately protects the species and is consistent with state law.

A CESA permit may not authorize the take of "fully protected" species that are protected in other provisions of the California Fish and Game Code, discussed further below.

2.2.2 California Fish and Game Code

Sections 3511 (Birds), 4700 (Mammals), 5050 (Reptiles and Amphibians), and 5515 (Fish) of the California Fish and Game Code provide that designated fully protected species may not be taken or possessed without a permit. Incidental take of these species is not authorized by law.

Pursuant to Section 3503.5 of the California Fish and Game Code, it is unlawful to take, possess, or destroy any birds of prey; or to take, possess, or destroy any nest or eggs of such birds. Birds of prey refer to species in the orders Falconiformes and Strigiformes.

Nests of all other birds (except English sparrow [*Passer domesticus*] and European starling [*Sturnus vulgaris*]) are protected under Sections 3503 and 3513 of the California Fish and Game Code.

Pursuant to Section 1602 of the California Fish and Game Code, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code.

2.2.3 Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (Porter–Cologne Act) protects water quality and the beneficial uses of water. It applies to surface water and groundwater. Under this law, the State Water Resources Control Board develops statewide water quality plans, and the Regional Water Quality Control Boards (RWQCBs) develop regional basin plans that identify beneficial uses, water quality objectives, and implementation plans. The RWQCBs have the primary responsibility to implement the provisions of statewide plans and basin plans. Waters regulated under the Porter–Cologne Act include isolated waters that are not regulated by USACE. RWQCBs regulate discharging waste, or proposing to discharge waste, within any region that could affect a "water of the state" (California Water Code, Section 13260[a]). Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). Developments with impacts on jurisdictional waters must demonstrate compliance with the goals of the Porter–Cologne Act by developing Stormwater Pollution Prevention Plans, Standard Urban Stormwater Mitigation Plans, and other measures to obtain a Clean Water Act Section 401 certification. If a Clean Water Act Section 404 permit is not required for a project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter–Cologne Act.

2.2.4 California Environmental Quality Act

CEQA (California Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (14 CCR 15000 et seq.) require identification of a project's potentially significant impacts on biological resources and feasible mitigation measures and alternatives that could avoid or reduce significant impacts. CEQA Guidelines Section 15380(b)(1) defines endangered animals or plants as species or subspecies whose "survival and reproduction in the wild are in immediate jeopardy from one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, disease, or other factors" (14 CCR 15000 et seq.). A rare animal or plant is defined in CEQA Guidelines Section 15380(b)(2) as a species that, although not currently threatened with extinction, exists "in such small numbers throughout all or a significant portion of its range that it may become endangered if its environment

worsens; or … [t]he species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range and may be considered 'threatened' as that term is used in the federal Endangered Species Act." Additionally, an animal or plant may be presumed to be endangered, rare, or threatened if it meets the criteria for listing, as defined further in CEQA Guidelines Section 15380(c). CEQA also requires identification of a project's potentially significant impacts on riparian habitats (such as wetlands, bays, estuaries, and marshes) and other sensitive natural communities, including habitats occupied by endangered, rare, and threatened species.

In Title 14 of the California Code of Regulations (CCR), Section 1.72 (14 CCR, Section 1.72), CDFW defines a "stream" (including creeks and rivers) as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation."

In 14 CCR 1.56, CDFW's definition of "lake" includes "natural lakes or [human-built] reservoirs." Diversion, obstruction, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake that supports fish or wildlife requires authorization from CDFW by means of entering into an agreement pursuant to Section 1602 of the California Fish and Game Code.

CDFW recognizes that all plants with a California Rare Plant Rank (CRPR) of 1A, 1B, or 2, and some ranked 3, of the California Native Plant Society's Inventory of Rare and Endangered Plants in California (CNPS 2021) may meet the criteria for listing as threatened or endangered and should be considered under CEQA. Some of the CRPR 3 and 4 plants meet the criteria for determination as "rare" or "endangered" as defined in Section 1901, Chapter 10 (Native Plant Protection Act), Division 2, of the California Fish and Game Code, as well as Section 2062 and Section 2067, Chapter 1.5 (CESA), Division 3. Therefore, consideration under CEQA for these CRPR 3 and 4 species is strongly recommended by the California Native Plant Society (CNPS 2021).

For purposes of this report, animals considered "rare" under CEQA include endangered or threatened species, Birds of Conservation Concern (USFWS 2021a), California Species of Special Concern (CDFW 2021a), and fully protected species.

Section IV, Appendix G, Environmental Checklist Form, of the CEQA Guidelines (14 CCR 15000 et seq.) requires an evaluation of impacts to "any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service."

The criteria used to determine the significance of impacts to biological resources under CEQA are provided in Chapter 6, Project Impacts and Significance Determination.

2.3 Local

2.3.1 North County Multiple Habitat Conservation Program

The North County Multiple Habitat Conservation Program (MHCP) is a long-term regional conservation plan established to protect sensitive species and habitats in northern San Diego County. The MHCP is divided into seven Subarea Plans—one for each jurisdiction within the MHCP—that are permitted and implemented separately from one another. The City of Carlsbad is the only city under the MHCP that has an approved and permitted Subarea Plan. The City of San Marcos Subarea Habitat Conservation Plan/Natural Community Conservation Plan (San Marcos Subarea Plan) (City of San Marcos 2001) has not been finalized or implemented, and the City is no

longer an active participant in the Natural Community Conservation Plan program or the subregional MHCP conservation planning effort. However, it is the City's policy to comply with the conservation policies identified in the draft San Marcos Subarea Plan, including an assessment of a designated Biological Core and Linkage Area or MHCP Focused Planning Area in the context of a proposed project and the preservation of sensitive biological resources.

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3 Methods

3.1 Literature Review

To assess biological resources and potential constraints, Dudek biologists reviewed available relevant literature and data on sensitive habitats and species distribution to determine those resources that have the potential for occurrence within the San Marcos USGS 7.5-Minute Quadrangle Map and the eight Quadrangle Maps surrounding the Project site. Prior environmental documents prepared for the Project provided information on biological resources and constraints previously identified. The review included the following:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2021a) including the Morro Hill, Bonsall, Pala, San Luis Rey, Valley Center, Encinitas, Rancho Santa Fe, and Escondido USGS Quadrangle Maps.
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants (CNPS 2021) for the San Marcos and surrounding 7.5-minute USGS quadrangles
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat and Occurrence Database (USFWS 2021b) including USGS 7.5-minute San Marcos and surrounding 7.5-minute USGS quadrangles
- U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2020a) to identify soil types occurring within the Project site
- Google Earth (2021)
- USFWS National Wetlands Inventory (USFWS 2021c)
- USGS National Hydrography Dataset (USGS 2021a, 2021b)
- San Diego County Bird Atlas (Unitt 2004)
- San Diego Natural History Museum's Plant Atlas (SDNHM 2021)
- Vegetation and Sensitive Resources/Impacts for the San Marcos Superior Ready Mix Parcel [map] (Helix Environmental Planning 2005)

3.2 Field Surveys

3.2.1 Field Reconnaissance

An initial due diligence survey was conducted by Dudek biologist Erin Bergman to identify the existing conditions of the site and determine the potential biological constraints to the Project. On April 15 and 27, 2021, Dudek biologist Erin Bergman conducted vegetation mapping and a general biological reconnaissance of the Project site. In addition, Dudek biologist Erin Bergman conducted focused rare plant surveys in spring and summer 2021 to determine the presence/absence of various special-status species. Watershed mapping for the vernal pools was conducted by habitat restoration specialist Scott McMillian. Cody Schaff conducted a jurisdictional delineation on September 8, 2021. Focused surveys for coastal California gnatcatcher (*Polioptila californica californica*) were conducted in May 2023 by USFWS permitted biologist Erin Bergman (TE53771B-0). Updated focused surveys to document the change in presence and extent of any Brodiaea species observed in 2021 was conducted in June 2023. Table 1, Schedule of Surveys, lists the dates, conditions, and focus for each survey. All focused surveys have been conducted to date, and the results are provided in this report.

Table 1. Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
4/15/2021	0800–1700	Biological Reconnaissance No. 1	EB	57°F–77°F; 0%–100% cloud cover; 2–5 mph winds
4/27/2021	0800–1700	Biological Reconnaissance No. 2	EB	57°F–77°F; 0%–100% cloud cover; 2–5 mph winds
5/24/2021	0830–1630	Special-Status Plant Survey No. 1	EB	64°F–78°F; 0%–40% cloud cover; 0–4 mph winds
6/5/2021	Not recorded	Vernal Pool Watershed Mapping	SM	Not recorded
8/30/2021	0900–1300	Special-Status Plant Survey No. 2	EB	65°F–82°F; 20%–80% cloud cover; 0–3 mph winds
9/8/2021	0920–1500	Jurisdictional Delineation	CS	73°F–82°F; 0%–0% cloud cover; 0–4 mph winds
5/10/2023	0626 -1201	CAGN Protocol Survey No. 1	EB	63°F–67°F; 100% cloud cover; 0–3 mph wind
5/17/2023	0754 - 1215	CAGN Protocol Survey No. 2	EB	58°F–65°F; 40%–50% cloud cover; 0-4 mph wind
5/24/2023	0730 –1200	CAGN Protocol Survey No. 3	EB	59°F–69°F; 50%–100% cloud cover; 0–5 mph wind
6/8/2023	Not recorded	Focused Brodiaea Survey	SM	Not recorded

mph = miles per hour
Personnel: EB = Erin Bergman, SM = Scott McMillian, CS= Cody Schaaf

All plant species encountered during the surveys were recorded. Latin and common names for plant species with a CRPR follow the CNPS On-Line Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2021). For plant species without a CRPR, Latin names follow the Jepson Interchange List of Currently Accepted Names of Native and Naturalized Plants of California (Jepson Flora Project 2020), and common names follow the U.S. Department of Agriculture Natural Resources Conservation Service PLANTS Database (USDA 2020b).

All wildlife species observed or detected during the surveys were recorded. Binoculars (10 × 50 magnification) were used to aid in the identification of wildlife. Latin and common names of animals follow Crother (2012) for reptiles and amphibians, American Ornithological Society (AOS 2020) for birds, Wilson and Reeder (2005) for mammals, and North American Butterfly Association (NABA 2016) or San Diego Natural History Museum (SDNHM 2002) for butterflies. In addition to species actually detected during the surveys, expected wildlife use of the site was determined by known habitat preferences of local species and knowledge of their relative distributions in the area.

3.2.2 Vegetation Community and Land Cover Mapping

Dudek biologists conducted vegetation mapping to characterize natural vegetation communities, including habitats for special-status species, within the Project site. The vegetation community and land cover mapping follow 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). Vegetation mapping was conducted within the Project site on April 15 and 27, 2021, in conjunction with the initial reconnaissance-level surveys for sensitive resources.

Vegetation communities and land covers within the survey area were mapped in the field with Collector and digitized using ArcGIS, and a GIS coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present within the Project site was determined.

3.2.3 Botanical Surveys

Dudek botanist Erin Bergman conducted a spring focused special-status plant survey on May 24, 2021, and a summer focused special-status plant survey on August 30, 2021. The survey date, biologist, and weather conditions are provided in Table 1. Field survey methods and mapping of rare plants conformed to California Native Plant Society's Botanical Survey Guidelines (CNPS 2001), Protocols for Surveying and Evaluating Impacts to Special Status Native Populations and Natural Communities (CDFW 2018), and General Rare Plant Survey Guidelines (Cypher 2002). The surveys consisted of one survey pass in May and one survey pass in August that provided 100% coverage of the Project site.

Before conducting the late-season focused rare plant survey, on August 16, 2021, Dudek botanist Erin Bergman conducted botanical reference population checks on the Project site to ensure the focal special-status plant species were in bloom and identifiable. Reference checks were conducted for graceful tarplant (*Holocarpha virgata* ssp. *elongata*) because it blooms from May through November. Populations of this species were observed throughout the Project site during the botanical reference check. Botanical reference checks for thread-leaved brodiaea (*Brodiaea filifolia*), small-flowered morning glory (*Convolvulus simulans*), Orcutt's brodiaea (*Brodiaea orcuttii*), San Diego button-celery (*Eryngium aristulatum* var. *parishii*), and spreading navarretia (*Navarretia fossalis*) were not conducted because they bloom during the spring and were mostly observed during the initial biological reconnaissance. A list of all plant species observed on the Project site during surveys is presented in Appendix A, Plant Compendium.

Dudek botanist and habitat restoration ecologist Scott McMillan conducted an updated plant survey of the project survey area on June 8th, 2023. A meandering walking survey was conducted across the entire site to document any changes in the presence and extent of Brodiaea species populations documented in 2021.

3.2.4 Wildlife Surveys

Least Bell's vireo (*Vireo bellii pusillus*) were detected during surveys moving into the vernal pool areas from willow riparian, and least Bell's vireo were heard and observed numerous times, indicating the likely presence of more than one pair. Therefore, it is assumed that this species uses riparian habitat within and adjacent to the Project site.

Focused surveys for coastal California gnatcatcher were conducted by a USFWS permitted biologist (Erin Bergman; TE53771B-0). All suitable habitat within the project site was covered on foot during each survey visit for 100% visual and audible coverage. Survey visits were conducted at minimum 1-week intervals (i.e., 7-day intervals) and were performed in conformance with the currently accepted protocol of the U.S. Fish and Wildlife Service Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol (USFWS 1997).

A tape of recorded gnatcatcher vocalizations was played every approximately 25 feet to induce responses from potentially present gnatcatchers. Tape-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment. A 200-scale (1 inch = 200 feet) aerial photograph of the project site and a vegetation map were used to identify suitable habitats and map any gnatcatchers detected.

Binoculars were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

San Diego fairy shrimp (*Branchinecta sandiegonensis*), a federally endangered species, is known to occur within the immediate vicinity of the Project site and has a high potential to occur within the on-site vernal pools. Because the proposed Project would not result in impacts to the vernal pools, focused surveys to document the presence/absence of this species are not necessary at this time. A list of all wildlife species observed on the Project site during surveys is presented in Appendix B, Wildlife Compendium.

3.2.5 Aquatic Resource Delineation

A jurisdictional aquatic resource delineation was conducted within the potential impact footprint to determine the extent of resources that may be under the jurisdiction of USACE pursuant to Section 404 of the federal Clean Water Act, RWQCB pursuant to Clean Water Act Section 401 and the Porter–Cologne Act, and CDFW pursuant to Sections 1600–1603 of the California Fish and Game Code.

The delineation was conducted in accordance with the methods prescribed in the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987), the 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a), and the Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual (USACE 2008b). During the jurisdictional delineation, the site was walked and evaluated for evidence of an OHWM, surface water, saturation, wetland vegetation, and nexus to a traditional navigable water of the United States. The extent of any identified jurisdictional areas was determined by mapping the areas with similar vegetation and topography to the sampled locations.

Waters of the state regulated by the RWQCB were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (SWRCB 2021). As described in these procedures, wetland waters of the state will be mapped based on the procedures in USACE's 1987 Corps of Engineers Wetlands Delineation Manual (USACE 1987) and its 2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008a). Non-wetland waters were mapped at the OHWM based on the procedures used to delineate USACE non-wetland waters (USACE 2008b).

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under California Fish and Game Code Section 1602. 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) (Cowardin et al. 1979).

Features that convey or hold water are regulated by multiple agencies. Federal, state, and local agencies have different definitions and terminology for these types of features. Water-dependent resources regulated by USACE, RWQCB, CDFW, and the County of San Diego are collectively referred to as "jurisdictional aquatic resources" herein. Terminology used in this document to distinguish each jurisdictional aquatic resource according to the agency that regulates the resource is as follows: USACE and RWQCB "wetlands" and "non-wetland waters" and CDFW "riparian areas" and "streambeds."

3.3 Survey Limitations

The reconnaissance survey, jurisdictional delineation, focused rare plant surveys, protocol coastal California gnatcatcher surveys and vegetation mapping were done during the daylight hours under weather conditions that allowed for quality biological observations (e.g., surveys were not conducted during rain). Because surveys were conducted during the day, the likelihood of detecting nocturnal and crepuscular species, such as many mammal species, was relatively low. In addition, any fall migratory birds that may use habitats on the Project site and pass through the region would not have been observed due to the period surveys were conducted. The surveys were favorable for spring- and summer-blooming flora because surveys were conducted in late spring, and therefore many flowering plant species were in bloom. However, the Southern California region is experiencing a drought, and 2021 surveys were delayed to allow additional blooming period for species that were blooming later in the season than normal. Additional surveys after a strong rainy season were conducted in 2023 to account for this limitation.

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4 Physical Characteristics

4.1 Existing Land Uses and Setting

The Project site is currently vacant and has no existing impervious areas. An approximately 108-foot-wide San Diego County Water Authority dirt right-of-way lane bisects the site. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east. The closest freeway is State Route 78, approximately 0.8 mile north of the Project site.

4.2 Topography

Topography within the Project site is relatively flat with multiple wetlands and vegetation communities throughout; additionally, a San Diego County Water Authority right-of-way and a dirt walking path bisect the site. Elevation ranges from approximately 520 feet above mean sea level in the eastern portion of the site to 535 feet above mean sea level in the northwest portion of the Project site. Adjacent land uses include mixed commercial development to the north and south, a public recreational park (Bradley Park) to the west, and undeveloped land to the east.

4.3 Soils

Two soil series are mapped within the Project site: Las Flores loamy fine sand, 2% to 9% slopes (LeC), and Placentia sandy loam, thick surface, 0% to 2% slopes (PfA), which are both moderately well drained (Figure 2, Soils). Las Flores soils are on hillslopes and formed in residuum weathered from siliceous calcareous sandstone, and Placentia soils are on alluvial fans and formed in alluvium derived from granite. Both of the soils on site are considered hydric. Hydric soils are formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2021). Hydric soils support the growth and regeneration of hydrophytic vegetation and indicate the presence of wetlands within the Project site.

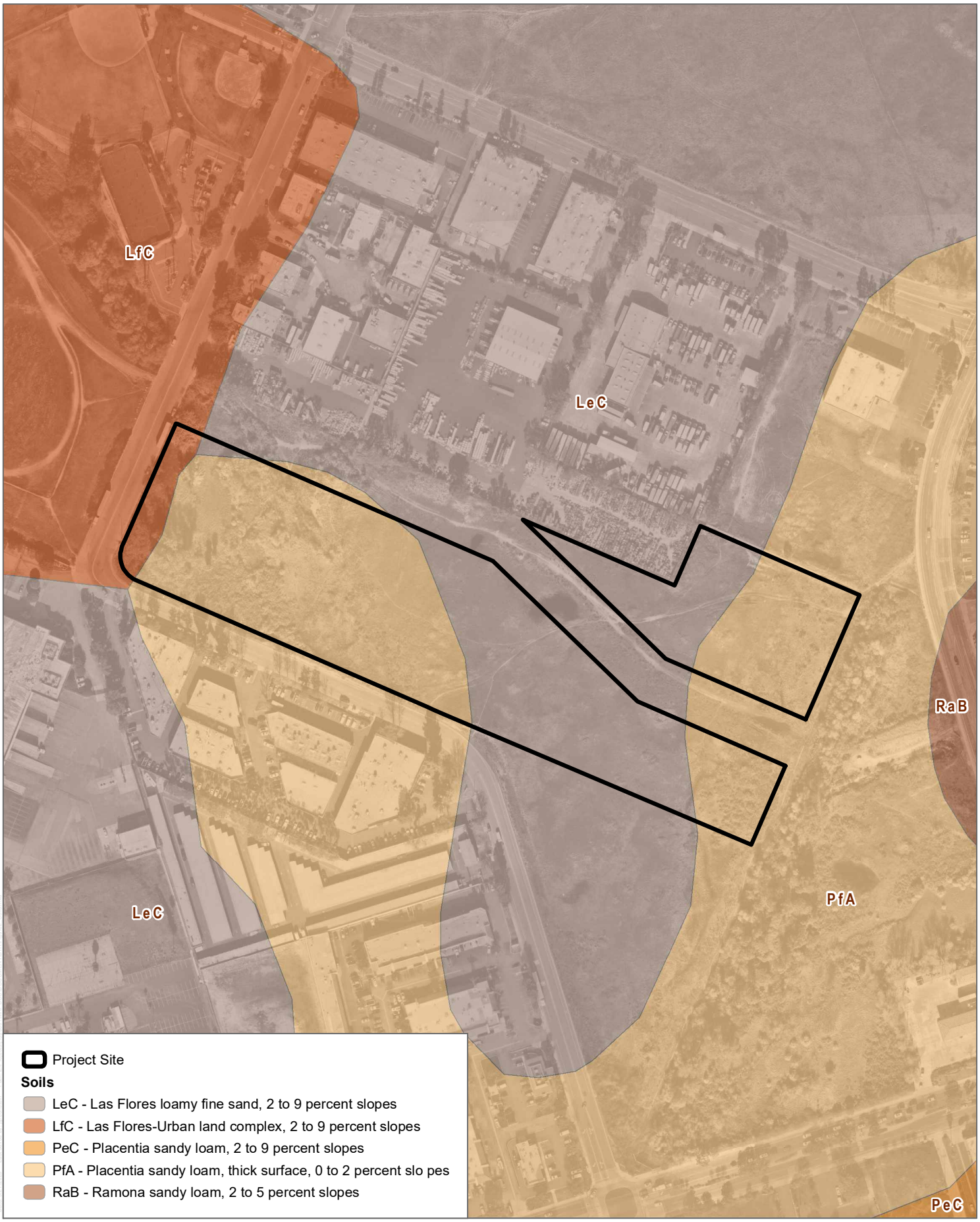
4.4 Watersheds and Hydrology

The Project site is located within the Carlsbad Hydrologic Unit. The Carlsbad Hydrologic Unit (904.00) is a triangular area covering approximately 210 square miles (RWQCB 2021) (Figure 3, Watershed). This hydrologic unit is bordered by the San Luis Rey Hydrologic Unit to the north and San Dieguito Hydrologic Unit to the east and south. The Carlsbad Hydrologic Unit includes four major coastal lagoons: Buena Vista, Agua Hedionda, Batiquitos, and San Elijo (RWQCB 2021). The Carlsbad Hydrologic Unit is divided into six hydrological areas encompassing 10 separate hydrological subareas. The Project site is within the Richland Hydrologic Subarea (904.52) within the San Marcos Hydrologic Area (904.50) (Figure 3).

The San Marcos Hydrologic Area consists of two major tributaries: San Marcos Creek and Encinitas Creek. These tributaries converge prior to discharging into the Pacific Ocean at Batiquitos Lagoon. The Richland Hydrologic Subarea consists of two tributaries to San Marcos Creek: Las Posas Branch and Twin Oaks. These tributaries converge prior to discharging into Lake San Marcos south of the Project site. The Las Posas Branch tributary to San Marcos Creek runs directly on the border of the western side of the site. A second tributary runs through the

Project site on the eastern side to San Marcos Creek (RWQCB 2021). This tributary is mapped within a floodplain and is characterized as a regulatory floodway (FEMA 2012).

In addition, there are five distinct mapped vernal pool watersheds consisting of San Diego Mesa Claypan vernal pool complexes located on the central and eastern portions of the Project site (Figure 4, Vernal Pools and Associated Watersheds and Potential Jurisdictional Aquatic Resources).



SOURCE: SanGIS 2019; USDA 2022

DUDEK

0 100 200 Feet

Coordinate System: NAD 1983, Zone 6, US Feet
Datum: North American 1983
Vertical Datum: NAVD88, US Feet
Created: February 7, 2022

FIGURE 2

Soils

Biological Technical Report for the Hughes Circuits Project

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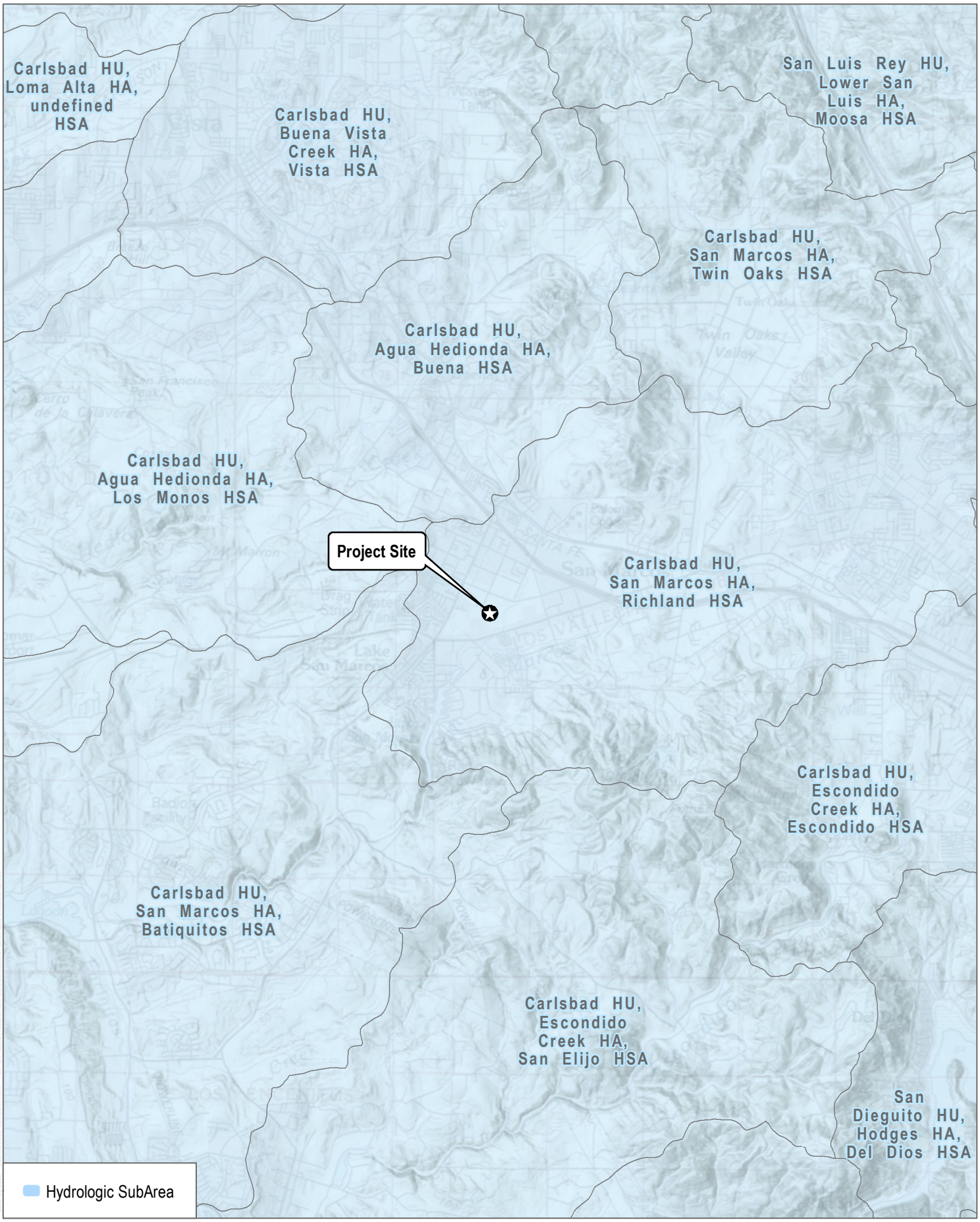

SOURCE: Esri; California State Water Resources Control Board

DUDEK

0 1 2 Miles

FIGURE 3

Watershed

Biological Technical Report for the Hughes Circuits Project

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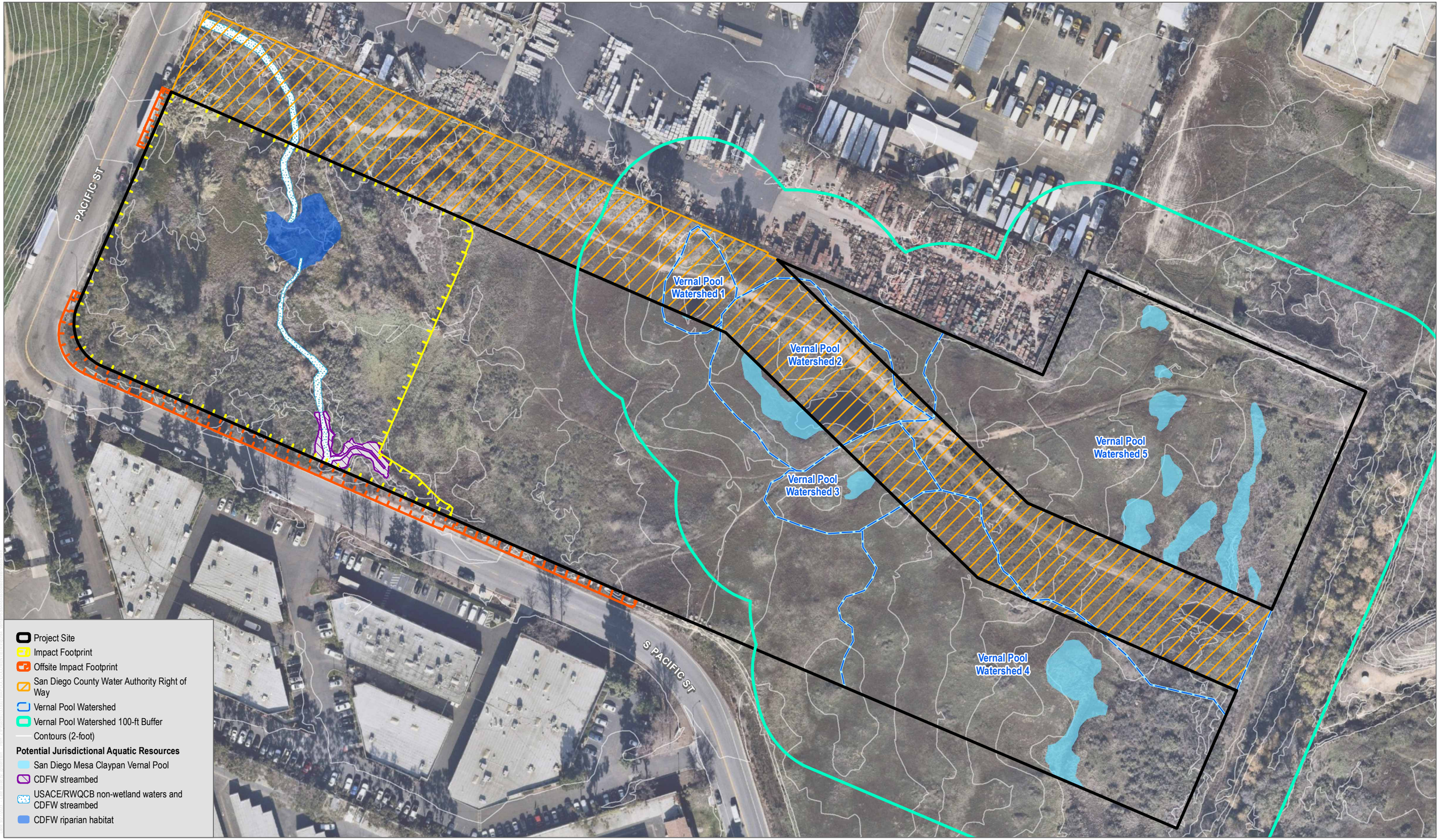

SOURCE: SanGIS 2019; Open Street Map 2019

DUDEK

0 50 100 Feet

FIGURE 4

Vernal Pools and Associated Watersheds and Potential Jurisdictional Aquatic Resources

Biological Technical Report for the Hughes Circuits Project

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5 Results

5.1 Vegetation Communities and Land Covers

The Project site consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities. In total, 13 vegetation communities and/or land cover types were identified within the Project site, including offsite areas (Figure 5, Vegetation Communities and Land Covers) (CDFW 2021b). The MHCP organizes vegetation into habitat group types: Wetland Communities, Rare Upland, Coastal Sage Scrub, Chaparral, Annual Grassland, and Other (Table 2) (SANDAG 2003). The habitat groups identified during the vegetation mapping described in Section 2.2.2, are discussed in detail in the following sections.

Table 2. Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover	Onsite Acreage	Offsite Acreage
Group A – Wetlands Communities		
Arundo-Dominated Riparian	0.11	0.01
Disturbed Wetland	0.11	--
Emergent Wetland	0.59	--
San Diego Mesa Claypan Vernal Pool	0.43	--
Southern Willow Scrub	0.03	--
Tamarisk Scrub	0.58	--
Subtotal Group A – Wetlands Communities	*1.84*	*0.01*
Group B – Rare Uplands		
Valley Needlegrass Grassland	~~3.63~~3.51	--
Wildflower Field	~~1.90~~ 1.85	--
Subtotal Group B – Rare Uplands	*~~5.53~~5.36*	--
Group C – Coastal Sage Scrub		
Diegan Coastal Sage Scrub	1.08	0.01
Diegan Coastal Sage Scrub—Baccharis-Dominated	1.48	0.04
Subtotal Group C – Coastal Sage Scrub	*2.56*	*0.05*
Group D – Annual Grasslands		
Non-Native Grassland—Broadleaf-Dominated	0.07	--
Subtotal Group D – Annual Grasslands	*0.07*	--
Group F – Other Lands		
Disturbed Habitat	~~0.61~~0.59	0.22
Eucalyptus Woodland	0.25	--
Subtotal Group F – Other Lands	***~~0.86~~0.84***	*0.22*
Total*	***~~10.86~~10.46***	**0.28**

* Totals may not sum due to rounding.

5.1.1 Group A – Wetlands Communities

5.1.1.1 Arundo-Dominated Riparian

Arundo-dominated riparian thickets are dominated almost exclusively by giant reed (*Arundo donax*). This designation is only used when giant reed accounts for greater than 50% of the total vegetative cover within a mapping unit. Site factors include loose, sandy, or fine gravelly alluvium near streams and/or channels. Typically, giant reed occurs along major rivers of coastal Southern California (Oberbauer et al. 2008). Arundo-dominated riparian on site consists of almost 100% cover of giant reed with no other plant diversity where it occurs. The edges of the *Arundo* community consist of hottentot-fig (*Carpobrotus edulis*). *Arundo*-dominated riparian occupies 0.11 acre onsite and 0.01 acre offsite.

5.1.1.2 Disturbed Wetland

Disturbed wetlands are areas permanently or periodically inundated by water that have been significantly modified by human activity. This includes portions of wetlands with obvious artificial structures such as concrete lining, barricades, riprap, piers, or gates. Often unvegetated, areas may contain scattered native or non-native vegetation. Characteristic species include saltcedar (*Tamarix* spp.), eucalyptus (*Eucalyptus* spp.), palms (*Phoenix* spp. and *Washingtonia* spp.), and pampas grass (*Cortaderia* spp.). Disturbed wetland on site consists of riprap and barricades, likely set up by transients to the area. A few hottentot-fig are also found within this area. The disturbed wetland also contains patches of annual beard grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and a variety of willowherb (*Epilobium* spp.). Disturbed wetland occupies 0.11 acre on site.

5.1.1.3 Emergent Wetland

Emergent wetlands are generally persistent wetlands that are dominated by low-growing perennial wetland species. Emergent wetlands can be found in channels, seeps, springs, floodplains, margins of lakes or rivers, and various basins such as pools, ponds, meadows, and dune swales. They may be freshwater or alkali wetlands. Associated species include sedge (*Carex* spp.), spikerush (*Eleocharis* spp.), rush (*Juncus* spp.), dock (*Rumex* spp.) and a variety of others. Emergent wetlands are found throughout San Diego County in areas that are wet (Oberbauer et al. 2008).

Emergent wetland is found next to the tributary on the eastern side of the Project site where the tributary consistently overflows. The emergent wetland is dominated by pale spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), and iris-leaf rush (*J. xiphioides*). Less commonly found within the emergent wetland are curly dock and alkali mallow (*Malvella leprosa*). On the far western side of the Project site, the emergent wetland consists almost entirely of Mexican rush and broad-leaved cattail (*Typha latifolia*). Pickleweed (*Salicornia pacifica*) flats occupy portions of this emergent alkali wetland. This community on site is best described as pickleweed flats because no other species occur in this section. Emergent wetland occupies 0.59 acre on site.

5.1.1.4 San Diego Mesa Claypan Vernal Pool

Vernal pools are seasonally flooded depressions that support a distinctive living community adapted to extreme variability in hydrologic conditions (e.g., seasonally very dry and very wet conditions). Functional vernal pools have an impermeable (or nearly impermeable) soil or subsoil layer, which prevents water from percolating downward, causing rainfall inputs and/or surface runoff to become trapped or “perched” above the impermeable (or nearly impermeable) soil or subsoil layer of the pool feature. Although vernal pools are often associated with hummocks

or mima mounds, this feature is not always present. Vernal pools can be differentiated from other temporary wetlands by the following criteria: (1) the basin is at least partially vegetated during the normal growing season or is unvegetated due to heavy clay or hardpan soils that do not support plant growth; and (2) the basin contains at least one vernal pool indicator species (e.g., woolly-marbles [*Psilocarphus* spp.], toothed calicoflower [*Downingia cuspidata*], San Diego button-celery, or crustaceans [*Branchinecta* spp., *Streptocephalus* spp., and others]) (Oberbauer et al. 2008).

Because vernal pool plants and animals are restricted to vernal pool ecosystems, presence or absence of the above-mentioned plant and animal species can define a vernal pool. Many of the extant vernal pools are threatened by grazing, invasive weeds, fragmentation, vehicular traffic, and urbanization. This vegetation community is considered sensitive by various local, state, and federal resource agencies, including USACE and USFWS.

The Project site has distinctive mima mound formations, with lower areas having vernal pools; each vernal pool documented thus far has several vernal pool/wetland indicator species present. Due to time constraints, all vernal pools were not mapped on site. The following species were found within the vernal pools documented on site during the reconnaissance survey: San Diego button celery (federally and state endangered), spreading navarretia (federally threatened), Mexican rush, iris-leaf rush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), pale spikerush, toad rush (*Juncus bufonius*), and smooth boisduvalia (*Epilobium campestre*). Some of the vernal pools had an abundance of San Diego button celery where populations were expanding outside the vernal pool basins. San Diego Mesa Claypan Vernal Pool complex occurs across the central and eastern portions of the Project site and occupies 0.43 acre.

5.1.1.5 Southern Willow Scrub

Southern willow scrub is a dense broad-leafed, winter deciduous vegetation community. The riparian thickets where southern willow scrub is found are dominated by willow (*Salix* spp.) with scattered emergent western sycamore (*Platanus racemosa*) and Fremont cottonwood (*Populus fremontii* ssp. *fremontii*). Stands are too dense for understory species. Site factors include loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows (Oberbauer et al. 2008).

Southern willow scrub on site is dense and lacks understory species. Southern willow scrub is near the sidewalk and contiguous to the tributary on the western side of the Project site. The willow species that dominates this vegetation community is red willow (*Salix laevigata*). Southern willow scrub occupies 0.03 acre on site.

5.1.1.6 Tamarisk Scrub

Tamarisk scrub is a weedy, virtual monoculture of any of several tamarisk species. Tamarisk usually supplants native vegetation following disturbance. Typically, tamarisk scrub creates a braided wash or is found in intermittent streams, often in areas where high evaporation increases the stream's saltiness. Tamarisk is a strong phreatophyte and a prolific seeder. This makes tamarisk a strong competitor to other wetland species (Oberbauer et al. 2008).

The tamarisk on site dominates the tree canopy, creating a monoculture. However, a variety of herbs are found in the understory of the tamarisk on site. The ground is composed of herbaceous wetland species. The most abundant is rabbit's foot grass, and in some sections, pickleweed. Tamarisk scrub vegetation occupies 0.58 acre on site.

5.1.2 Group B – Rare Upland

5.1.2.1 Valley Needlegrass Grassland

Valley needlegrass grassland is a grassland with perennial tussock formed by needlegrass (*Stipa* spp.). Native and introduced annuals occur between the perennials and often exceed the bunchgrass cover. In San Diego County, native perennial herbs such as sanicle (*Sanicula* spp.), checkerbloom (*Sidalcea* spp.), blue-eyed grass (*Sisyrinchium* spp.), poppy (*Eschscholzia* spp.), and goldfields (*Lasthenia* spp.) are present. The percent of native species at any one time may be quite low, but an area is considered native grassland if 20% aerial cover of native species is present. Valley needlegrass grassland usually occurs on fine-textured clay soils and moist or even waterlogged soils, but can be very dry over the winter (Oberbauer et al. 2008).

Valley needlegrass grassland makes up the mima mound formations on site and other open areas. This community is covered with patches of purple needlegrass (*Stipa pulchra*), native annuals such as western blue-eyed grass (*Sisyrinchium bellum*), goldenstar (*Bloomeria* spp.) and brodiaea (*Brodiaea* spp.) (see Section 4.3, Special-Status Plants), and non-native redstem stork's bill (*Erodium cicutarium*). In addition, a variety of tarplants (*Holocarpha* spp.) are present throughout the needlegrass fields. Valley needlegrass grassland–dominated habitat occupies ~~3.63~~3.51 acres on site.

5.1.2.2 Wildflower Field

Wildflower fields are an amorphous grab-bag of mostly native, herb-dominated types of wildflowers. Wildflower fields can be noted for conspicuous annual wildflower displays. Dominance varies from site to site and from year to year at a particular site. In San Diego County, wildflower fields can be associated with creosote bush (*Larrea tridentata*) scrub, wet meadows, foothill or perennial grassland, and coastal mesas (Oberbauer et al. 2008). On site, wildflower fields are dominated by a variety of wildflowers, including those in the Themidaceae family, such as goldenstar and b*rodiaea* species (see Section 4.3). In addition, blue-eyed grass, small-flowered morning glory (*Convolvulus simulans*), and graceful tarplant (*Holocarpha virgata* ssp. *elongata*) take up large sections of the wildflower fields. Few non-native species occur in these areas, and many of these wildflowers are rare species (see Section 4.3). Wildflower fields occupy ~~1.90~~ 1.85 acres on site (Figure 5, Table 2).

5.1.3 Group C – Coastal Sage Scrub

5.1.3.1 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 berry (*Rhus integrifolia*) and laurel sumac (*Malosma laurina*). The average height of coastal sage scrub reaches 3 to 4 feet.

Diegan coastal sage scrub occurs within the central and eastern sections of the Project site. Dominant species on site include deerweed (*Acmispon glaber*), Menzies' goldenbush (*Isocoma menziesii*), and blue-eyed grass. Less commonly occurring species include California sagebrush and California buckwheat. Diegan coastal sage scrub occupies 1.08 acres on site and 0.01 acre offsite.

5.1.3.2 Diegan Coastal Sage Scrub–Baccharis Dominated

The Diegan coastal sage scrub–Baccharis dominated vegetation community is similar to coastal sage scrub but is dominated by baccharis (*Baccharis* spp.). This vegetation community usually occurs where soils are nutrient poor and disturbance is present, where it typically fills in areas after high levels of disturbance (Oberbauer et al. 2008).

This vegetation community exists in the greatest abundance within the far eastern section of the Project site and near the southcentral portion of the site. Broom baccharis (*Baccharis sarothroides*) makes up approximately 80% of the vegetation within this community on site. The understory of this community consists of a variety of other species. Less commonly occurring species within the understory of broom baccharis include annual yellow sweetclover *(Melilotus indicus*), blue-eyed grass, black mustard (*Brassica nigra*), Menzies' goldenbush, deerweed, and iceplant. Diegan coastal sage scrub–Baccharis dominated occupies 1.48 acres on site and 0.04 acre offsite.

5.1.4 Group E – Annual Grasslands

5.1.4.1 Non-Native Grassland–Broadleaf Dominated

Non-native grassland consists of dense to sparse cover of non-native invasive broadleaf species (Oberbauer et al. 2008). This designation is used when non-native, invasive broadleaf species make up more than 50% cover of the vegetation community. In San Diego County, the presence of black mustard and shortpod mustard (*Hirschfeldia incana*) are common indicators of this community. In some areas, depending on past disturbance and annual rainfall, some mustards are more abundant than others (Oberbauer et al. 2008).

Non-native grassland–broadleaf dominated is disturbed on site and consists mostly of black mustard. Less commonly occurring species include stinkwort (*Dittrichia graveolens*) with red brome (*Bromus madritensis*) and stork's bill. A few of these areas occur on top of the mima mound formations but seem to have been graded or disturbed so heavily they can be considered non-native broadleaf communities. Non-native grassland—broadleaf dominated habitat occupies 0.07 acre on site.

5.1.5 Group F – Other Lands

5.1.5.1 Disturbed Habitat

Disturbed habitats are areas that have been physically disturbed and are no longer recognizable as a native or naturalized vegetation association (Oberbauer et al. 2008). These areas may continue to retain a soil substrate. If vegetation is present, it is almost entirely composed of non-native vegetation, such as ornamentals or ruderal exotic species. Examples of these areas may include graded landscapes, graded firebreaks, graded construction pads, temporary construction staging areas, off-road-vehicle trails, areas repeatedly cleared for fuel management, and areas that are repeatedly used in ways that prevent revegetation (e.g., parking lots, trails that have persisted for years).

On site, ornamental vegetation occurs next to the sidewalk and covers the land up to the salt cedar community. It also invades some of the understory of the eucalyptus woodland. It consists almost entirely of ornamental vegetation and iceplant, with small sections of non-native annual stinkwort. Disturbed habitat within offsite areas is primarily void of vegetation. Disturbed habitat occupies ~~0.61~~0.59 acre on site and 0.22 acre offsite.

5.1.5.2 Eucalyptus Woodland

Eucalyptus habitats range from single-species thickets with little or no shrubby understory to scattered trees over a well-developed herbaceous shrubby understory. Eucalyptus species can form a dense stand with a closed canopy or an open stand that may be installed as a windbreak or ornamental plantings. Eucalyptus species produce a large amount of leaf and bark litter. Overstory composition is typically limited to one species of the genus or mixed stands composed of several eucalyptus species; few native overstory species are present within eucalyptus-planted areas. Some characteristic species of this community include blue gum (*Eucalyptus globulus*) and red gum (*E. camaldulensis)* (Oberbauer et al. 2008).

Eucalyptus woodland is composed of red gum and red iron bark (*E. sideroxylon*) on site, and is a dense, closed-canopy stand. This eucalyptus woodland community can be easily observed on aerial photography within the site. Eucalyptus woodland occupies 0.25 acre on site.

5.2 Floral Diversity

A total of 131 species of vascular plants, consisting of 81 native species (62%) and 50 non-native species (38%), were recorded during the initial survey and vegetation mapping effort. A list of all plant species observed during 2021 and 2023 surveys is provided in Appendix A, Plant Compendium.

5.3 Special-Status Plants

Endangered, rare, or threatened plant species, as defined in CEQA Guidelines Section 15380(b) (14 CCR 15000 et seq.), are referred to as “special-status plant species” in this report and include (1) endangered or threatened plant species recognized in the context of the California Endangered Species Act and the federal Endangered Species Act, and (2) plant species with a CRPR of 1 through 3 (CNPS 2021). This report also includes CRPR 4 plant species.

A special-status plant survey was conducted for the Project site on May 24 and August 30, 2021, to determine the presence or absence of special-status plant species. An updated survey focusing on the potential change in Brodiaea populations was conducted in June 2023. A list of potentially occurring plants was generated as part of the literature review (Appendix C, Special-Status Plant Species Potential to Occur). Appendix C provides a list of all special-status plant species with their habitat requirements and potential to occur on the Project site. It also provides evaluations for each of the special-status species’ occurrence in the vicinity of the Project site and its potential to occur in the Project area based on known geographic range, habitat associations, preferred soil substrate, life form, elevation, and blooming period. Special-status plant species that have low potential or are not expected to occur on site are not further analyzed in this report because no direct, indirect, or cumulative impacts are expected based on the negative surveys and evaluation that these species do not have a moderate or high potential to occur on the Project site.

Based on a review of the potential species to occur within the region, the habitat conditions identified for the Project site, and the results of focused botanical surveys conducted on the Project site, 24 special-status, rare, and/or sensitive plant species have a moderate or high potential to occur. Of those, the following special-status plant species were observed within the wildflower fields and vernal pool communities during the initial biological reconnaissance and subsequent focused rare plant surveys:

- San Diego button celery (*Eryngium aristulatum* var. *parishii*): federally endangered, state endangered, CRPR 1B.1
- thread-leaved brodiaea (*Brodiaea filifolia*): federally threatened, state endangered, CRPR 1B.1
- spreading navarretia (*Navarretia fossalis*): federally threatened, CRPR 1B.1
- Orcutt's brodiaea (*Brodiaea orcuttii*): CRPR 1B.1

The above-referenced special-status plant species and focused rare plant survey results for each species are described in further detail below. The following plant species were detected, but are not considered special-status under CEQA:

- small-flowered morning glory (*Convolvulus simulans*): CRPR 4.2
- graceful tarplant (*Holocarpha virgata* ssp. *elongata*): CRPR 4.2

San Diego Button Celery

This federally and state endangered, CRPR 1B.1 dicot occurs in freshwater wetlands and vernal pool habitats, as well as within coastal sage scrub, valley and foothill grassland, and riparian communities. This wetland indicator species blooms from April through June from 65 to 2,035 feet above mean sea level. Hundreds of individuals were observed surrounding the San Diego mesa claypan vernal pools in the center of the Project site (Figure 6, Special-Status Plants and Wildlife). Some of the vernal pools had San Diego button-celery populations that were expanding outside the vernal pool basins.

Thread-Leaved Brodiaea

Thread-leaved brodiaea is a federally threatened, state endangered, CRPR 1B.1 Southern California endemic monocot. This species prefers open ground such as floodplains, grasslands, and gentle hillsides, particularly near vernal pools. It only blooms in the spring of good rainfall years (March through June) from 100 to 2,500 feet above mean sea level, in clay or semi-sandy soils. During the 2021 surveys, hundreds of individuals were observed in the central portion of the Project site within the valley needlegrass grassland and wildflower field habitats (Figure 6).

With the greater than average rainfall of the 2022-2023 season in Southern California, most native bulb species showed better than average population extent and numbers, and this was also the case for the Brodiaea surveys conducted on the project in 2023. The extent of thread-leaf brodiaea were similar to the surveys in 2021, with approximately 500 individuals of thread-leaf brodiaea documented during the 2023 survey. In some areas there were overlapping occurrences of Orcutt's brodiaea and thread-leaf brodiaea. In these areas, there were a few potential hybrid individuals documented. Hybrids between Orcutt's brodiaea and thread-leaf brodiaea are known to occur infrequently, especially in the San Marcos valley area. Where Orcutt's brodiaea has no staminodes (a remnant sterile stamen) in the flowers and thread-leaf brodiaea has thin pointed staminodes in the flowers, these hybrids often exhibit a thin pointed staminode like structure that remains fused within the inside of the petal. Whenever

these potential hybrids were found, it was assumed that these individuals were closest aligned with the thread leaf brodiaea populations and were mapped as such.

Spreading Navarretia

This federally threatened, CRPR 1B.1 annual herb is native to Southern California. It occurs strictly in vernal pool and shallow freshwater habitats and blooms from April through June from 100 to 2,150 feet above mean sea level. Approximately 48 individuals were observed in association with San Diego button celery within the northern-central part of the Project site.

Orcutt's Brodiaea

Orcutt's brodiaea is a CRPR 1B.1 Southern California native perennial herb that blooms from May through July from 98 to 5,550 feet above mean sea level. Its preferred habitat consists of vernally moist grasslands and the periphery of vernal pools. In 2021, hundreds of individuals were observed predominantly in the central part of the Project site within the wildflower fields and valley needlegrass grassland communities. Additionally, individuals were observed scattered along the vernal pool habitats and wildflower fields along the northeastern and southeastern parts of the Project site. During the 2023 focused survey. 1,000 individuals of Orcutt's brodiaea were observed, sometimes overlapping with populations of thread-leaf brodiaea as previously described.

5.4 Wildlife Diversity

A total of 29 wildlife species were observed at the Project site, 28 of which are native species. A cumulative list of wildlife species observed within the Project site is provided in Appendix B, Wildlife Compendium.

5.5 Special-Status Wildlife Species

Species defined as "special-status wildlife species" in this report include endangered and threatened wildlife species recognized in the context of the California and federal Endangered Species Acts; Species of Special Concern (SSC) assigned by CDFW to species whose population levels are declining, have limited ranges, and/or are vulnerable to extinction due to continuing threats; Fully Protected species protected by CDFW and Watch List species candidates for higher sensitivity statuses; and Birds of Conservation Concern designated by USFWS to migratory and non-migratory bird species that adhere to the 1988 amendment to the Fish and Wildlife Conservation Act that mandates USFWS to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the Federal Endangered Species Act of 1973" (USFWS 2021a).

Appendix D, Special-Status Wildlife Species Potential to Occur, lists the special-status wildlife species known to occur within the USGS San Marcos 7.5-minute quadrangle map and the eight quadrangle maps surrounding the Project site—Morro Hill, Bonsall, Pala, San Luis Rey, Valley Center, Encinitas, Rancho Santa Fe, and Escondido (CDFW 2021a; USFWS 2021b). Due to the presence of multiple sensitive vegetation communities and wetland habitats on predominantly undeveloped land, the Project site has moderate value as habitat for these endangered, rare, or threatened wildlife species. Based on a review of the potential species to occur within the region and the habitat conditions identified within the Project site, seven special-status wildlife species have a moderate to high potential to occur.

The federally and state endangered least Bell's vireo was observed during the field reconnaissance study moving into the vernal pool areas from the willow riparian habitat. Least Bell's vireo was heard and observed numerous times. Special-status avian species that were also incidentally observed in the Project area include Cooper's hawk (CDFW Watch List) and white-tailed kite (CDFW Fully Protected). The undeveloped sensitive upland and wetland habitats within the Project site have the potential to support nesting and foraging opportunities for other rare and special-status avian species not incidentally observed during the initial survey due to seasonal limitations. Focused surveys for coastal California gnatcatcher were negative (Appendix E).

Additionally, San Diego fairy shrimp is a federally endangered invertebrate species with a high potential to occur within the San Diego Mesa Claypan vernal pools on the eastern portion of the Project site. The Project site also overlaps with USFWS designated critical habitat for San Diego fairy shrimp. Therefore, there is a high potential for this species to occur within the Project site.

5.6 Wildlife Corridors and Habitat Linkages

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Wildlife corridors contribute to population viability by ensuring continual exchange of genes between populations, providing access to adjacent habitat areas for foraging and mating, and providing routes for recolonization of habitat after local extirpation or ecological catastrophes (e.g., fires).

Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation. Habitat linkages provide a potential route for gene flow and long-term dispersal of plants and animals. They may also serve as primary habitat for smaller animals, such as reptiles and amphibians. Habitat linkages may be continuous habitat or discrete habitat islands that function as steppingstones for dispersal. To function effectively, a wildlife corridor must link two or more patches of habitat for which connectivity is desired, and it must be suitable for the focal target species to achieve the desired demographic and genetic exchange between populations.

The approximately 11-acre Project site is a predominantly undeveloped parcel surrounded by existing, high-density recreational and mixed commercial development. As such, the Project site is not expected to provide for wildlife movement or serve as an important habitat linkage, and is not located within a Biological Core Linkage Area (Ogden 2001). Additionally, the approximately 108-foot-wide San Diego County Water Authority right-of-way that bisects the site causes vehicle disturbance from human activity that would prevent special-status wildlife species from frequently dispersing throughout the Project site.

5.7 Jurisdictional Aquatic Resources

The jurisdictional delineation was conducted by Dudek biologist Cody Schaaf on September 8, 2021, focusing on potential features within the on-site impact footprint. Results of wetland delineation indicate that the Project site supports 0.20 acre of jurisdictional aquatic resources, including 0.05 acre of non-wetland waters regulated by USACE and RWQCB, as well as 0.09 acre of streambed and 0.11 acre of associated riparian habitat regulated by CDFW (Table 3). Wetland Determination Forms were completed for sample points within the mapped freshwater emergent wetland in the center of the impact footprint, along the drainage channel, in patches of tamarisk, and for other hydrophytic vegetation at various locations throughout the Project site. None of the points were determined to meet all three parameters. Accordingly, no USACE wetlands are present on the Project site. Because CDFW

regulates from bank to bank, certain portions within the Project site where the top of a channel bank extended beyond the OHWM are subject to regulation by CDFW as streambed.

Table 3. Jurisdictional Aquatic Resource Summary

Regulating Agency	Jurisdictional Resource	Acres
USACE/RWQCB	Non-Wetland Waters	0.05
	Total USACE/RWQCB	**0.05**
CDFW	Streambed	0.09
	Riparian Habitat – Disturbed Wetland	0.11
	Total CDFW*	**0.20**

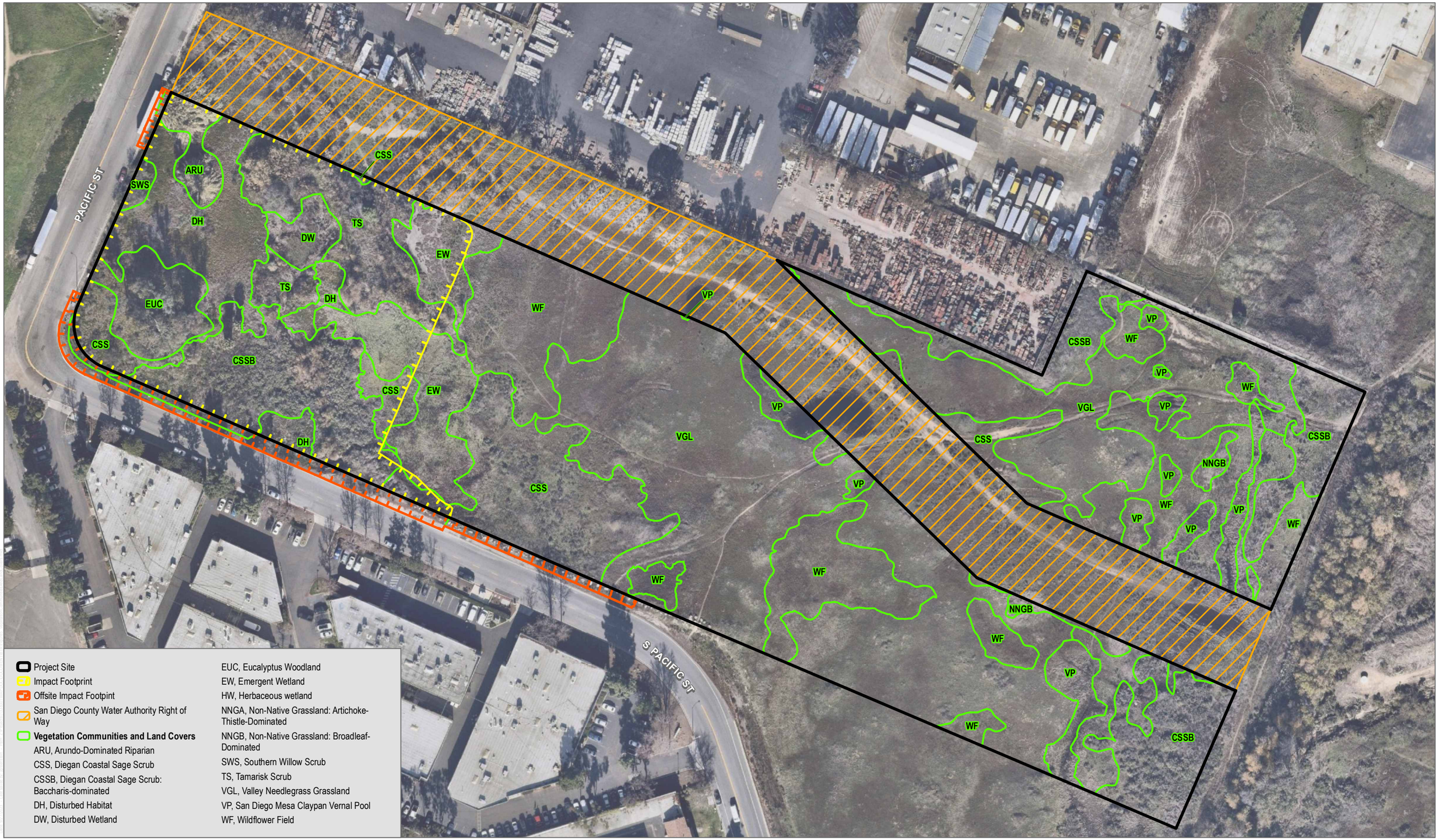
USACE = U.S. Army Corps of Engineers; RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife

The emergent wetland mapped within the Project site is located upslope of the channel and associated disturbed wetland, and as such, this area does not receive flows from the channel and is therefore not regulated by CDFW as associated riparian habitat. The Project site also supports 0.12 acre that is dominated by giant reed and 0.58 acre that is dominated by tamarisk, both of which are considered highly invasive species and outcompete native plant species that provide vital habitat for wildlife. As such, although these species are rated as wetland plants, they are not designated as CDFW riparian habitat per a pre-application meeting with CDFW (CDFW 2021c). These two species are often the target of restoration projects that include their removal to mitigate for impacts to native wetland vegetation.

5.8 Regional Resource Planning Context

The City of San Marcos Subarea Habitat Conservation Plan/Natural Community Conservation Plan (Subarea Plan) has not been finalized or implemented, and the City is no longer an active participant in the Natural Community Conservation Plan program or the subregional MHCP conservation planning effort (City of San Marcos 2001). However, it is the City's policy to comply with the conservation policies identified in the Draft San Marcos Subarea Plan, including an assessment of designated Biological Core Linkage Areas and MHCP Focused Planning Areas in the context of proposed projects. In addition, the Project will be evaluated to ensure consistency with CEQA.

The City of San Marcos Municipal Code contains additional environmental standards for the City environmental review process in Title 18, which outlines how the City defines environmental protection and the steps thereafter. The Project site is designated as Light Industrial in the General Plan (City of San Marcos 2018).



SOURCE: SanGIS 2019; Open Street Map 2019

DUDEK

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FIGURE 5

Vegetation Communities and Land Covers

Biological Technical Report for the Hughes Circuits Project

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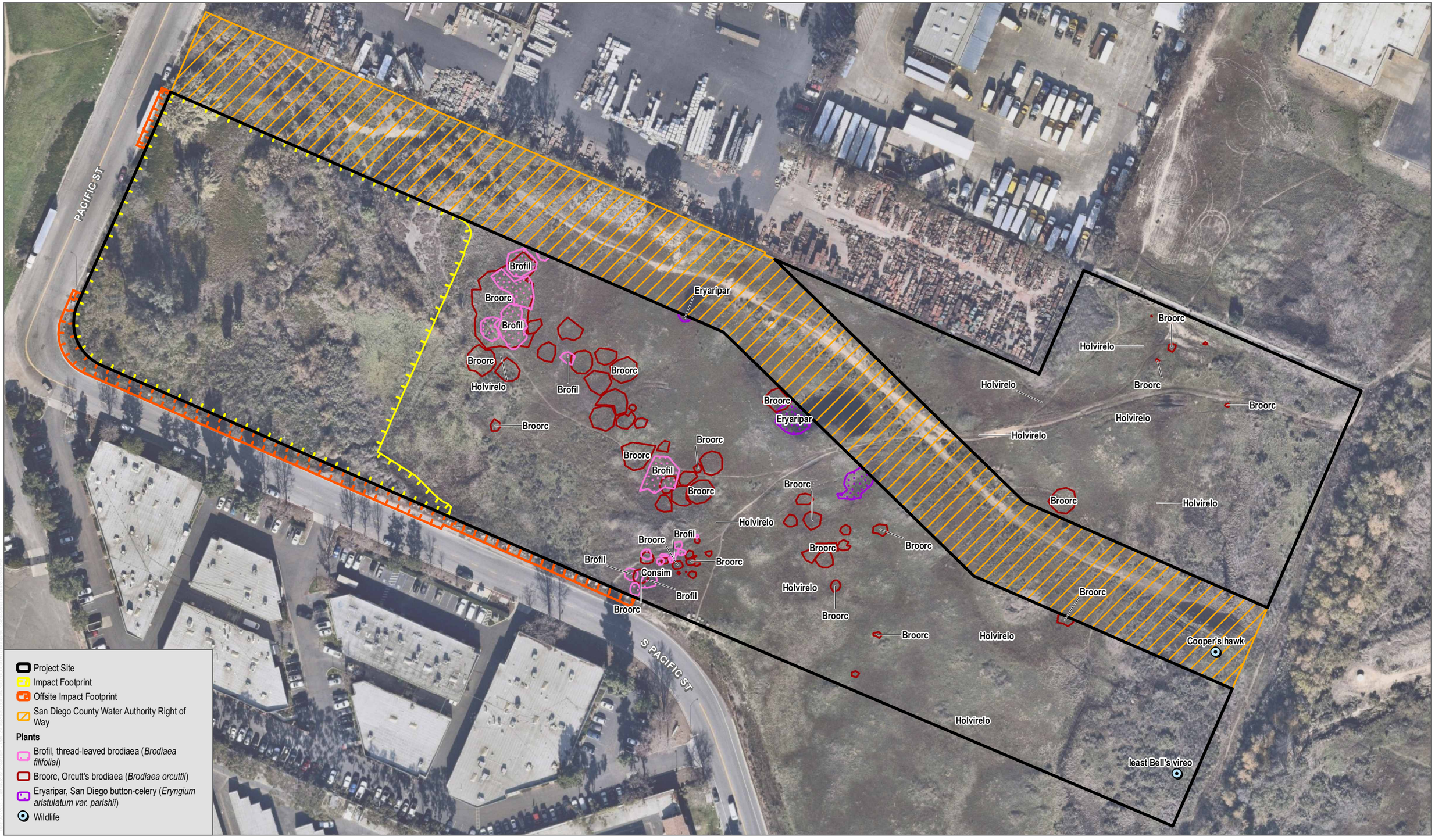

SOURCE: SanGIS 2019; Open Street Map 2019

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FIGURE 6

Special-Status Plants and Wildlife

Biological Technical Report for the Hughes Circuits Project

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6 Project Impacts and Significance Determination

This chapter defines the types of impacts that would occur due to Project implementation, including direct, permanent impacts; direct, temporary impacts; and indirect impacts.

Direct Impacts

Direct, permanent impacts refer to the absolute and permanent physical loss of a biological resource due to clearing, grading, and construction of a project. Direct, permanent impacts are analyzed in four ways: (1) permanent loss of vegetation communities and land covers and general wildlife and their habitat; (2) permanent loss of or harm to individuals of special-status plant and wildlife species; (3) permanent loss of suitable habitat for special-status species; and/or (4) permanent loss of wildlife movement and habitat connectivity.

Direct, temporary impacts refer to a temporal loss of vegetation communities and land covers resulting from vegetation and land cover clearing and grading associated with implementation of a project. The main criterion for direct, temporary impacts is that impacts occur for a short period of time and are reversible.

Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by a project's implementation on remaining or adjacent biological resources outside of the direct disturbance zone that may occur during grading activities (i.e., short-term construction-related indirect impacts) or later in time as a result of a project (i.e., long-term, or operational, indirect impacts). Short-term indirect impacts can include dust, human activity, pollutants, erosion, and noise that extend beyond the identified construction area. Long-term indirect impacts can include changes to hydrology, introduction of invasive species, dust, and noise that are operations related or occur over the long term. In most cases, indirect effects are not quantified, but in some cases, quantification might be included, such as using a noise contour to quantify indirect impacts to nesting birds.

For each of the following impact sections, direct and indirect impacts for biological resources are identified and a significance determination is made for each impact. For each significant impact, mitigation measures that would reduce the impact to less than significant are proposed.

6.1 Special-Status Vegetation Communities

Direct Impacts

Direct Project impacts to vegetation are shown in Table 4. All biological resources within the impact footprint are considered directly and permanently impacted. Figure 5 illustrates the distribution of biological resources on the Project site and the extent of the proposed impacts.

Table 4. Direct Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres)			Mitigation Ratio	Required Mitigation (acres)	On-Site Preservation (acres)
		Onsite	Offsite	Total			
Group A – Wetland Communities							
Arundo-Dominated Riparian	0.11	0.11	0.01	0.12	N/A	0	0
Disturbed Wetland	0.11	0.11	0	0.11	3:1	0.33	0
Emergent Wetland	0.59	0.29	0	0.29	3:1	0.86	0.30
San Diego Mesa Claypan Vernal Pool	0.43	0	0	0	3:1	0	0.43
Southern Willow Scrub	0.03	0.03	0	0.03	3:1	0.09	0
Tamarisk Scrub	0.58	0.56	0	0.56	N/A	0	0.02
Subtotal Group A – Wetlands Communities	*1.84*	*1.09*	*0.01*	*1.10*	—	*1.28*	*0.~~76~~75*
Group B – Rare Uplands							
Valley Needlegrass Grassland	~~3.63~~3.51	0	0	0	2:1	0	~~3.63~~3.51
Wildflower Field	~~1.90~~1.85	0	0	0	2:1	0	~~1.90~~1.85
Subtotal Group B. Rare Uplands	*~~5.53~~5.36*	*0*	*0*	*0*	—	*0*	*~~5.53~~5.36*
Group C – Coastal Sage Scrub							
Diegan Coastal Sage Scrub	~~1.08~~0.96	~~0.21~~ 0.15	0.01	~~0.22~~ 0.16	1:1	~~0.22~~0.16	~~0.93~~0.81
Diegan Coastal Sage Scrub—Baccharis-Dominated	~~1.48~~1.39	~~0.63~~ 0.54	0.04	~~0.67~~ 0.58	1:1	~~0.66~~0.58	~~0.89~~0.85
Subtotal Group C – Coastal Sage Scrub	*~~2.56~~2.35*	*~~0.84~~ 0.69*	*0.05*	*~~0.89~~ 0.74*	—	*~~0.88~~0.74*	*~~1.82~~1.67*
Group D – Annual Grasslands							
Non-Native Grassland—Broadleaf-Dominated	0.07	0	0	0	0.5:1	0	0.07
Subtotal Group D – Annual Grasslands	0.07	*0*	*0*	*0*	—	*0*	*0.07*
Group F – Other Lands							
Disturbed Habitat	~~0.61~~0.59	~~0.61~~ 0.59	0.22	0.8~~13~~	N/A	0	0
Eucalyptus Woodland	0.25	0.25	0	0.25	N/A	0	0

Table 4. Direct Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres)			Mitigation Ratio	Required Mitigation (acres)	On-Site Preservation (acres)
		Onsite	Offsite	Total			
Subtotal Group F – Other Lands	~~*0.86*~~*0.84*	~~*0.86*~~ *0.84*	*0.22*	~~1.08~~ 1.06	—	*0*	*0*
Total*	~~**10.86**~~ **10.46**	~~2.79~~ **2.61**	**0.28**	~~3.07~~ **2.89**	**—**	**2.16**	~~**8.07**~~**7.85**

* Numbers may not sum due to rounding.
N/A = not applicable

Of the approximately ~~10.86~~10.46 acres within the Project, site, approximately ~~2.79~~ 2.61 acres would be permanently impacted. Specifically, the western portion of the Project site would be impacted by proposed development, resulting in permanent impacts to 1.09 acres of wetland communities, ~~0.84~~0.69 acre of coastal sage scrub, and ~~1.08~~ 0.84 acre of "other lands." Offsite improvements along the frontage road would result in 0.28 acre of impact, of which 0.01 is arrundo and 0.05 consists of coastal sage scrub.

Total impacts to wetland communities would include 0.12 acre of Arundo-dominated riparian and 0.56 acre of tamarisk scrub. Although these species are categorized as wetland plant species, they are highly invasive and are often the target of restoration projects that include their removal to mitigate for impacts to native wetland vegetation because they outcompete native habitats that provide vital habitat for wildlife. Therefore, mitigation is not proposed for impacts to these two vegetation communities. Permanent impacts to non-native vegetation communities/land covers totaling 1.08 acre would not be significant because these land covers are not considered sensitive; they are non-native and provide little biological resource value.

Direct permanent impacts to native wetland and coastal sage scrub communities would be significant absent mitigation. The Project would result in the preservation of ~~7.32~~ 7.1 acres of sensitive upland vegetation communities and 0.~~76~~ 75 acre of wetland vegetation communities (including 0.02 acre of restored wetland vegetation) (Mitigation Measure [MM] BIO-1). Implementation of MM-BIO-1 would provide for the required 1:1 mitigation for impacts to coastal sage scrub. The preservation of 0.~~76~~ 75 acre of native wetlands and vernal pools would provide partial mitigation for impacts to wetland vegetation communities. To compensate for the loss of wetland vegetation communities, the Project would implement invasive species removal and vernal pool restoration (MM-BIO-2). Implementation of MM-BIO-1 and MM-BIO-2 would reduce potential direct, permanent impacts to less than significant.

MM-BIO-1 On-Site Preservation. Impacts to sensitive vegetation shall be mitigated through the on-site preservation of ~~8.07~~7.85 acres of sensitive upland and wetland vegetation. The proposed Project shall result in the preservation of ~~7.32~~7.1 acres of sensitive upland vegetation communities and 0.~~76~~ 75 acre of wetland vegetation communities (which includes 0.02 acres of restored areas per MM-BIO-2). A land manager shall be identified to ensure that the Project is managed and protected in perpetuity. A conservation easement for the 7.85 acres shall be recorded prior to the issuance of a grading permit or other timing agreed upon by the Planning Division Director or their designee.

MM-BIO-2 On-Site Habitat Restoration**.** On-site habitat restoration shall consist of the removal of invasive species, vernal pool restoration, and development of a habitat restoration plan.

Invasive Species Removal. The 0.02 acre of tamarisk scrub on site shall be restored to native emergent wetland habitat through the removal of the tamarisk and other non-native plant species. Tamarisk shall be cut and stump-treated with herbicide, and the other non-native species shall be removed with a combination of herbicide application, mowing (line trimmers), and hand weeding. With the removal of those invasive species, the site shall be planted and seeded to establish native emergent wetland species found on site, including pale spikerush (*Eleocharis macrostachya*), Mexican rush (*Juncus mexicanus*), iris-leaf rush (*J. xiphioides*), alkali mallow (*Malvella leprosa*), and pickleweed (*Salicornia pacifica*).

Vernal Pool Restoration. Vernal pool restoration shall include some minor recontouring of the existing vernal pool basin where appropriate, mostly where vernal pools have been altered by road ruts, trail berms, and other past disturbances to the site. Any recontouring will avoid impacts to existing vernal pools and existing sensitive species and is intended to develop new pools or to expand pools from existing locations. Along with this minor recontouring, weed control shall be conducted in the vernal pools and surrounding watershed areas. Weed control shall consist of a combination of herbicide application, mowing (line trimmers), and hand weeding. Vernal pools on site that are low in diversity, particularly those at the south end of the Project site, shall be planted and seeded with vernal pools species known from the site. Seed collected for this purpose shall come from on-site sources only. This shall include San Diego button celery (*Eryngium aristulatum* var. *parishii*), spreading navarretia (*Navarretia fossalis*), pale spikerush, annual coast plantago (*Plantago elongata*), aquatic pygmy plant (*Crassula aquatica*), toad rush (*Juncus bufonius*), smooth boisduvalia (*Epilobium campestris*), and wooly marbles (*Psilocarphus brevissimus*). Mitigation will not occur within the San Diego County Water Authority owned parcels. The project applicant will consult with the U.S. Fish and Wildlife Service to ensure that the mitigation plan does not impact listed species.

Habitat Restoration Plan. The applicant shall prepare a conceptual habitat restoration plan outlining the restoration described above. Upon approval, a 5-year implementation effort shall follow, including topographic reconstruction, weed control, seeding, container planting, irrigation, and a program of monitoring and reporting.

The restoration plan shall be prepared by persons with expertise in Southern California ecosystems and native plant revegetation techniques. The plan shall include, at a minimum (a) a description of the mitigation site; (b) the plant species to be used, container sizes, and seeding rates; (c) a schematic depicting the mitigation area; (d) planting schedule; (e) a description of the irrigation methodology; (f) measures to control non-native vegetation on site; (g) specific success criteria; (h) a detailed monitoring program; (i) contingency measures should the success criteria not be met; and (j) identification of the party responsible for meeting the success criteria and providing for conservation of the mitigation site in perpetuity. As part of the mitigation planning a PAR-like cost evaluation will be developed and approved by USFWS to help determine long term costs in the endowment required to support those costs. The applicant is required to fund the endowment before the issuance of grading permits, and the endowment agreement shall be approved by USFWS.

Indirect Impacts

Indirect impacts to vegetation during construction may include dust, which could disrupt plant vitality in the short term; construction-related soil erosion; and runoff. Implementation of industry-standard construction and stormwater best management practices (BMPs), including dust control, erosion control, and water quality protection, would be required for the Project to obtain a grading permit. Implementation of these dust, erosion control, and water quality protection measures during construction, including consistency with the Construction General Permit Order 2009-009-DWQ, would reduce any potential short-term indirect impacts on adjacent vegetation communities to a level that is less than significant.

In addition, the project applicant shall adhere to the landscaping requirements outlined in MM-BIO-3.

MM-BIO-3 Landscaping. The applicant shall ensure that development landscaping adjacent to on- or off-site habitat does not include exotic plant species that may be invasive to native habitats. Exotic plant species not to be used include any species listed on the California Invasive Plant Council's (Cal-IPC) "Invasive Plant Inventory" List. In addition, landscaping should not use plants that require intensive irrigation, fertilizers, or pesticides adjacent to preserved lands and water runoff from landscaped areas should be directed away from the biological conservation easement area and contained and/or treated within the development footprint. The applicant shall ensure that development lighting adjacent to all on- or offsite habitat shall be directed away from and/or shielded so as not to illuminate native habitats.

6.2 Special-Status Plant Species

Direct Impacts

Focused rare plant species surveys were conducted during spring and summer blooming periods in 2021 and again in 2023 to determine the full extent of flora within the Project site. Four special-status plant species were identified within the central and eastern portions of the Project site within the wildflower fields, valley needlegrass grassland, and vernal pool habitats. All special-status plant populations and all vernal pools and associated watersheds would be avoided by the Project. Therefore, there would be no direct impacts to special-status plant species.

Indirect Impacts

Indirect impacts to special-status plant species would be limited to short-term construction impacts related to erosion, runoff, and dust. All Project ground-disturbing activities would be subject to the typical restrictions (e.g., BMPs) and requirements that address erosion and runoff, including those of the National Pollutant Discharge Elimination System permit program, preparation of a Stormwater Pollution Prevention Plan, and consistency with the Construction General Permit Order 2009-009-DWQ. With implementation of these BMPs and permit conditions, potential indirect impacts to special-status plant species would be less than significant. In addition, implementation of MM-BIO-3 would ensure that any landscaping onsite would prevent the introduction and spread of invasive plant species on the project site during construction and operations. Implementation of MM-BIO-5 would ensure that all construction personnel are aware of the sensitive plant species and their habitat.

6.3 Special-Status Wildlife Species

Direct Impacts

The undeveloped sensitive upland and wetland habitats within the Project site have the potential to support least Bell's vireo. This species was observed foraging in on-site and off-site habitat. Although suitable coastal sage scrub habitat capable of supporting coastal California gnatcatcher occurs throughout the Project site, this species was not observed during multiple site visits conducted by a USFWS permitted coastal California gnatcatcher biologist for focused rare plant surveys and the initial biological reconnaissance. The proposed Project would result in the direct loss of 1.10 acres of wetland habitat that could be used by least Bell's vireo, and ~~0.89~~ 0.74 acre of habitat that could be used by coastal California gnatcatcher. Direct impacts to these species would be mitigated through implementation of MM-BIO-1 and MM-BIO-2, which would provide for the preservation of ~~8.07~~7.85 acres of high-value habitat.

To further reduce potential direct impacts on coastal California gnatcatcher and least Bell's vireo during initial clearing/grubbing the project will implement **MM-BIO-4** to **MM-BIO-12** which includes temporary construction fencing. Environmental awareness training, breeding season avoidance, best management practices for construction and nesting bird surveys and avoidance measures.

MM-BIO-4 Temporary Installation Fencing. The Project applicant shall temporarily fence the limits of the Project impact footprint and install appropriate sediment-trapping devices to prevent additional impacts to, and the spread of silt from, the construction zone into adjacent habitats to be avoided. Fencing and sediment trapping devices shall be installed in a manner that does not impact habitats to be avoided.

If work occurs beyond the fenced limits of impacts, all work shall cease until the problem has been remedied to the satisfaction of the City of San Marcos. Any habitat impacts that occur beyond the authorized work area shall be offset at ratios approved by the City of San Marcos. Temporary construction fencing and sediment trapping devices shall be removed upon Project completion.

MM-BIO-5 Environmental Awareness Training. A Workers Environmental Awareness Training Program shall be implemented with the contractor and all active construction personnel prior to construction to ensure knowledge of sensitive plant and wildlife species that may occur on site, including coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) and their habitat, and general compliance with environmental/permit regulations and mitigation measures.

At a minimum, training shall include a discussion of the following topics: (1) the purpose for resource protection; (2) descriptions of coastal California gnatcatcher and least Bell's vireo and their habitat; (3) descriptions of the special-status plants and their habitat, (4) the mitigation measures outlined in this report that should be implemented during Project construction to conserve sensitive resources, including strictly limiting activities, vehicles, equipment, and construction materials to the fenced area to avoid sensitive resource areas in the field (i.e., avoided areas delineated on maps and on the Project site by fencing); (5) environmentally responsible construction practices; (6) the protocol to resolve conflicts that may arise at any time during the construction process; and, (7) the general provisions of the federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), the

need to adhere to the provisions of FESA and CESA, and the penalties associated with violating FESA and CESA.

MM-BIO-6 Breeding Season Avoidance**.** The removal of coastal sage scrub and wetland vegetation from the Project impact footprint shall only occur from September 1 through February 14 to avoid the bird breeding season. Further, to the maximum extent practicable, grading activities associated with construction of the Project shall occur September 1 through February 14 to avoid the breeding season. If Project construction must occur during the breeding season, MM-BIO-10 and MM-BIO-11 shall be implemented.

MM-BIO-7 Work Hours. Project construction shall occur during daylight hours. However, if temporary night work is required, night lighting shall abide by city standards and shall be selectively placed, shielded, and directed away from natural habitats.

MM-BIO-8 Construction Best Management Practices. The Project applicant shall ensure that the following conditions are implemented during Project construction to minimize potential impacts to sensitive vegetation and species:

1. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the fenced area.
2. To avoid attracting predators, the Project site shall be kept clean of debris. All food-related trash items shall be enclosed in sealed containers and regularly removed from the site.
3. Pets of Project personnel shall not be allowed on the Project site.
4. Impacts from fugitive dust shall be avoided and minimized through watering and other appropriate measures consistent with the Construction General Permit Order 2009-009-DWQ.

MM-BIO-9 Biological Monitor Requirements and Duties. A qualified biologist shall be on site daily during initial clearing/grubbing and weekly during grading activities within 500 feet of coastal California gnatcatcher (*Polioptila californica californica*) and least Bell's vireo (*Vireo bellii pusillus*) habitat to ensure compliance with all Project-imposed mitigation measures. The biologist shall be available during pre-construction and construction phases to review grading plans, address protection of sensitive biological resources, monitor ongoing work, and maintain communications with the Project's engineer to ensure that issues relating to coastal California gnatcatcher, least Bell's vireo, and their habitat are appropriately and lawfully managed.

The qualified biological monitor shall also be responsible for the following duties:

1. Oversee installation of and inspect temporary fencing and erosion control measures within or up-slope of avoided and/or preserved areas a minimum of once per week during installation and daily during all rain events until established to ensure that any breaks in the fence or erosion control measures are repaired immediately.
2. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.
3. Halt work, if necessary, and confer with the U.S. Fish and Wildlife Service (USFWS) and City of San Marcos (City) to ensure the proper implementation of species and habitat protection measures. The biologist shall report any violation to USFWS and the City within 24 hours of its occurrence.

4. Submit weekly letter reports (including photographs of impact areas) via email to the City during clearing/grubbing of potential habitat and/or Project construction resulting in ground disturbance within 500 feet of avoided potential habitat. The weekly reports shall document that authorized impacts were not exceeded and general compliance with all conditions. The reports shall also outline the duration of monitoring, the location of construction activities, the type of construction that occurred, and equipment used. These reports shall specify numbers and locations of any coastal California gnatcatcher/least Bell's vireo and nests, sex, observed behavior (especially in relation to construction activities), and remedial measures employed to avoid, minimize, and mitigate impacts to coastal California gnatcatcher/least Bell's vireo and nests.
5. Submit a final report to the City within 60 days of Project completion that includes the following: (1) as-built construction drawings for grading with an overlay of any active nests; (2) photographs of habitat areas during pre-construction and post-construction conditions; and (3) other relevant summary information documenting that authorized impacts were not exceeded and that general compliance with the avoidance/minimization provisions and monitoring program as required by USFWS were achieved.

MM-BIO-10 California Gnatcatcher Survey. For initial clearing/grubbing of coastal California gnatcatcher (*Polioptila californica californica*) habitat within the Project impact footprint, a biologist holding a Section 10(a)(1)(A) permit shall perform a minimum of three focused surveys, on separate days, to determine the presence of California gnatcatchers or nests in the Project impact footprint. Surveys will begin a maximum of 7 days prior to performing initial clearing/grubbing, and one survey shall be conducted the day immediately prior to the initiation of clearing/grubbing. If any coastal California gnatcatchers are found in the Project impact footprint, the biologist shall direct construction personnel to begin clearing/grubbing in an area away from the coastal California gnatcatchers and shall attempt to flush coastal California gnatcatchers away from clearing/grubbing so that coastal California gnatcatchers will not be injured or killed by clearing/grubbing activities. If an active coastal California gnatcatcher nest is found, the nest shall be avoided until nesting is confirmed to be completed by the biologist. The Project applicant shall notify the U.S. Fish and Wildlife Service at least 7 days prior to the initiation of surveys and within 24 hours of locating any California gnatcatcher and/or nest.

MM-BIO-11 California Gnatcatcher Nest Avoidance and Minimization Measures. If an active coastal California gnatcatcher (*Polioptila californica californica*) nest is found on site or within 500 feet of Project grading activities, the biologist shall postpone work within 500 feet of the nest and contact the U.S. Fish and Wildlife Service (USFWS) and the City of San Marcos to discuss (1) the best approach to avoid/minimize impacts to nesting coastal California gnatcatchers (e.g., sound walls, noise monitoring); and (2) a nest monitoring program acceptable to USFWS. Subsequent to these discussions, work may be initiated subject to implementation of the agreed-upon avoidance/minimization approach and monitoring program. If the biologist determines that bird breeding behavior is being disrupted, the Project applicant shall stop work and coordinate with USFWS to review the avoidance/minimization approach. Upon agreement as to any necessary revisions to the avoidance/minimization approach, work may resume subject to the revisions and continued monitoring. Success or failure of an active nest shall be established by regular and frequent trips to the site, as determined by the biologist and through a schedule approved by the wildlife agencies. Monitoring of an active nest shall continue until fledglings have dispersed or the nest has been determined to be a failure, as approved by USFWS.

MM-BIO-12 General Pre-Construction Surveys**.** Take of birds protected under the Migratory Bird Treaty Act and California Fish and Game Code shall be avoided during the nesting season.

Nesting Bird Survey. To avoid any direct impacts on raptors and/or any migratory birds protected under the Migratory Bird Treaty Act and California Fish and Game Code, removal of habitat that supports active nests on the proposed area of disturbance shall occur outside of the nesting season for these species (February 15 through August 31, annually). If construction occurs during the nesting season, pre-construction nesting bird surveys must be conducted within 72 hours of construction-related activities. If nesting birds are detected by the biologist, the following buffers shall be established: (1) no work within 300 feet of a non-listed nesting migratory bird nest, and (2) no work within 500 feet of a listed bird or raptor nest. However, the biologist may reduce these buffer widths depending on site-specific conditions (e.g., the width and type of screening vegetation between the nest and proposed activity) or the existing ambient level of activity (e.g., existing level of human activity within the buffer distance) in conjunction with consultation with the City of San Marcos. If construction must take place within the recommended buffer widths above, the Project applicant shall contact the City of San Marcos and wildlife agencies to determine the appropriate buffer.

Indirect Impacts

Indirect effects to special-status wildlife species during Project construction may include the generation of fugitive dust; changes in hydrology resulting from construction, including sedimentation and erosion; the release of chemical pollutants; and increased human presence. Potential indirect impacts from construction dust, erosion/sedimentation, and the release of chemical pollutants would be avoided and minimized through implementation of industry-standard construction-related BMPs, including consistency with the Construction General Permit Order 2009-009-DWQ, which would reduce these potential impacts on special-status wildlife species to a level that is less than significant. Although increased human presence during construction may result in avoidance and/or behavioral modification by wildlife in the area, this effect would be short term and is considered less than significant.

Noise generated during construction has the potential to indirectly impact adjacent special-status wildlife species by disrupting their normal activities, particularly breeding and nesting activities associated with special-status bird species. Special-status bird species, including federally and state-listed species and species protected under the MBTA and California Fish and Game Code Sections 3503–3513 and 3800–3801, may occur in habitats adjacent to the Project site. Nesting birds can be affected by short-term construction-related noise, resulting in decreased reproductive success or abandonment of an area as nesting habitat. Breeding passerine and raptor species likely use the various habitats on site for nest construction and foraging. Indirect impacts from construction-related noise may occur to breeding birds if construction occurs during the breeding season (i.e., February 15 through August 31). Potential impacts, including noise, lighting, increased human presence, and vehicle traffic within the site could affect nesting birds. Pre-construction nesting bird surveys during the breeding season to avoid impacts to nesting birds in accordance with the MBTA and California Fish and Game Code are a condition of Project approval.

6.4 Jurisdictional Aquatic Resources

Direct Impacts

The proposed Project would result in impacts to aquatic resources that are potentially subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act (33 USC 1344), waters of the state potentially subject to RQWCB

jurisdiction pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act, and stream and riparian habitats potentially subject to the regulation by CDFW pursuant to Section 1602 of the California Fish and Game Code. Table 5 provides a summary of the proposed impacts.

Table 5. Impacts to Jurisdictional Aquatic Resources

Regulating Agency	Jurisdictional Resource	On-Site Acreage	Impacts (acres)
USACE/RWQCB	Non-Wetland Waters	0.05	0.05
	Total USACE/RWQCB	**0.05**	**0.05**
CDFW	Streambed	0.09	0.09
	Riparian Habitat – Disturbed Wetland	0.11	0.11
	Total CDFW*	**0.20**	**0.20**

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

Overall, the proposed Project would result in impacts to 0.09 acre of streambed and 0.11 acre of associated riparian habitat regulated by CDFW. Approximately 0.05 acre of non-wetland waters regulated by USACE and RWQCB would be permanently impacted. Mitigation for impacts to jurisdictional aquatic resources would occur through the on-site preservation of 0.~~76~~ 75 acre of emergent wetland and vernal pools (MM-BIO-1) and on-site invasive species removal and vernal pool restoration (MM-BIO-2). In addition, all impacts to jurisdictional aquatic resources would require consultation with the regulatory agencies (MM-BIO-13).

MM-BIO-13 Federal and State Agency Permits. Prior to impacts occurring to U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) (collectively, the Resource Agencies) jurisdictional aquatic resources, the Project applicant or its designee shall obtain the following permits: USACE 404 permit, RWQCB 401 Water Quality Certification, and CDFW Fish and Game Code 1600 Streambed Alteration Agreement. The project applicant will consult with the U.S. Fish and Wildlife Service and get approval of the mitigation plan to ensure that it does not impact listed species.

Indirect Impacts

Indirect impacts would be limited to short-term construction impacts related to construction runoff and dust. All Project ground-disturbing activities would be subject to the typical restrictions (e.g., BMPs) and requirements that address erosion and runoff, including those of the National Pollutant Discharge Elimination System permit program, preparation of a Stormwater Pollution Prevention Plan, and consistency with the Construction General Permit Order 2009-009-DWQ. With implementation of these BMPs and permit conditions, potential indirect impacts to preserved jurisdictional aquatic resources on the Project site would be less than significant.

6.5 Wildlife Corridors and Habitat Linkages

There are no wildlife corridors or habitat linkages on site; therefore, there would be no significant impacts to these resources.

6.6 Regional Conservation Planning Context

The Project is not located within a designated Biological Core Linkage Area or Focused Planning Area, and therefore, it is consistent with the conservation policies of the Draft San Marcos Subarea Plan. In addition, the Project would be required to conform to the goals and policies in the City of San Marcos General Plan (City of San Marcos 2012) related to the protection of biological resources. Following implementation of proposed mitigation measures, the Project is expected to be found to be in conformance with the Draft San Marcos Subarea Plan and the City's General Plan. Therefore, no impacts related to regional resource planning are anticipated.

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Appendix A
Plant Compendium

Angiosperms: Eudicots

AIZOACEAE – FIG-MARIGOLD FAMILY

* *Carpobrotus edulis* – hottentot-fig

APIACEAE – CARROT FAMILY

Eryngium aristulatum var. *parishii* – San Diego button-celery

* *Foeniculum vulgare* – sweet fennel

ASTERACEAE – SUNFLOWER FAMILY

Amblyopappus pusillus – pineapple-weed

Ambrosia acanthicarpa – annual bur-sage

Ambrosia psilostachya – western ragweed

Baccharis pilularis ssp. *consanguinea* – chaparral broom, coyote brush

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

Baccharis sarothroides – broom baccharis

Deinandra fasciculata – fascicled tarweed

Erigeron canadensis – horseweed

Grindelia camporum – gumplant

Heterotheca grandiflora – telegraph weed

Holocarpha virgata ssp. *elongata* – graceful tarplant

Isocoma menziesii var. *vernonioides* – coastal goldenbush

Lasthenia gracilis – common goldfields

Osmadenia tenella – osmadenia

Psilocarphus brevissimus var. *brevissimus* – dwarf woolly-marbles

Uropappus lindleyi – silver puffs

* *Cotula australis* – Australian brass-buttons

* *Cotula coronopifolia* – African brass-buttons

* *Cynara cardunculus* ssp. *cardunculus* – artichoke

* *Dittrichia graveolens* – stinkwort

* *Erigeron bonariensis* – flax-leaf fleabane

* *Helminthotheca echioides* – bristly ox-tongue

* *Hypochaeris glabra* – smooth cat's ear

* *Lactuca serriola* – prickly lettuce

* *Logfia gallica* – narrow-leaf cottonrose

* *Matricaria discoidea* – common pineapple-weed

* *Pseudognaphalium luteoalbum* – fragrant everlasting cudweed

* *Senecio vulgaris* – common groundsel

* *Sonchus asper* ssp. *asper* – prickly sow-thistle

* *Sonchus oleraceus* – common sow-thistle

Baccharis pilularis – chaparral broom, coyote brush
Corethrogyne filaginifolia var. *filaginifolia* – California sand-aster
Isocoma menziesii – coastal goldenbush

BORAGINACEAE – BORAGE FAMILY

Amsinckia intermedia – rancher's fiddleneck
Pectocarya linearis ssp. *ferocula* – slender combseed
Pholistoma membranaceum – San Diego fiesta flower
Nemophila menziesii – baby blue eyes

BRASSICACEAE – MUSTARD FAMILY

Lepidium nitidum – shining peppergrass
* *Brassica nigra* – black mustard
* *Capsella bursa-pastoris* – shepherd's purse
* *Hirschfeldia incana* – short-pod mustard
* *Rapistrum rugosum* – annual bastard-cabbage

CARYOPHYLLACEAE – PINK FAMILY

* *Silene gallica* – common catchfly
* *Stellaria media* – common chickweed

CHENOPODIACEAE – GOOSEFOOT FAMILY

Salicornia pacifica – Pacific pickleweed
* *Chenopodium album* – lamb's quarters
* *Dysphania ambrosioides* – Mexican tea

CONVOLVULACEAE – MORNING-GLORY FAMILY

Convolvulus simulans – small-flower bindweed
Cressa truxillensis – alkali weed
Calystegia macrostegia – morning-glory

CRASSULACEAE – STONECROP FAMILY

Crassula aquatica – water pygmyweed

CUCURBITACEAE – GOURD FAMILY

Marah macrocarpa – manroot, wild-cucumber

DIPSACACEAE – TEASEL FAMILY

* *Dipsacus sativus* – Fuller's teasel

EUPHORBIACEAE – SPURGE FAMILY

Croton setiger – doveweed

FABACEAE – LEGUME FAMILY

Acmispon americanus var. *americanus* – Spanish-clover
Acmispon strigosus – Bishop's/strigose lotus
Lupinus bicolor – miniature lupine
Lupinus succulentus – arroyo lupine
* *Medicago lupulina* – black medick, yellow trefoil
* *Melilotus albus* – white sweetclover
* *Melilotus indicus* – Indian sweetclover
Acmispon glaber – deerweed

FRANKENIACEAE – FRANKENIA FAMILY

Frankenia salina – alkali-heath

GENTIANACEAE – GENTIAN FAMILY

Zeltnera venusta – canchalagua

GERANIACEAE – GERANIUM FAMILY

Geranium carolinianum – Carolina geranium
* *Erodium botrys* – long-beak filaree/storksbill
* *Erodium cicutarium* – red-stem filaree/storksbill
* *Geranium dissectum* – cut-leaf geranium

LAMIACEAE – MINT FAMILY

Salvia columbariae – chia

LYTHRACEAE – LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia* – grass poly

MALVACEAE – MALLOW FAMILY

Malvella leprosa – alkali mallow

MONTIACEAE – MONTIA FAMILY

Calandrinia menziesii – red maids

MYRSINACEAE – MYRSINE FAMILY

* *Anagallis arvensis* – scarlet pimpernel, poor man's weatherglass

ONAGRACEAE – EVENING-PRIMROSE FAMILY

Camissoniopsis bistorta – California sun cup
Epilobium brachycarpum – summer cotton weed
Epilobium campestre – smooth boisduvalia

Epilobium ciliatum ssp. *ciliatum* – willow herb
Oenothera elata – evening-primrose

OROBANCHACEAE – BROOM-RAPE FAMILY

Castilleja exserta ssp. *exserta* – purple owl's-clover

PAPAVERACEAE – POPPY FAMILY

Eschscholzia californica – California poppy

PLANTAGINACEAE – PLANTAIN FAMILY

Antirrhinum nuttallianum ssp. *nuttallianum* – Nuttall's snapdragon
Plantago elongata – prairie plantain
Plantago erecta – dot-seed plantain
Plantago rhodosperma – red-seed plantain
* *Plantago lanceolata* – English plantain, rib-grass
* *Veronica anagallis-aquatica* – water speedwell
Antirrhinum nuttallianum – Nuttall's snapdragon

POLEMONIACEAE – PHLOX FAMILY

Navarretia fossalis – spreading navarretia

POLYGONACEAE – BUCKWHEAT FAMILY

Rumex fueginus – golden dock
* *Rumex crispus* – curly dock
Eriogonum fasciculatum – California buckwheat

PRIMULACEAE – PRIMROSE FAMILY

Primula clevelandii ssp. *clevelandii* – Padre's shooting star

RANUNCULACEAE – BUTTERCUP FAMILY

Ranunculus hebecarpus – hairy-fruit buttercup

RUBIACEAE – MADDER OR COFFEE FAMILY

Galium aparine – common bedstraw, goose grass

SALICACEAE – WILLOW FAMILY

Salix lasiolepis – arroyo willow

SCROPHULARIACEAE – FIGWORT FAMILY

Scrophularia californica – California bee plant/figwort

SOLANACEAE – NIGHTSHADE FAMILY

* *Nicotiana glauca* – tree tobacco

TAMARICACEAE – TAMARISK FAMILY

* *Tamarix ramosissima* – saltcedar

VIOLACEAE – VIOLET FAMILY

Viola pedunculata – Johnny jump-up

Angiosperms: Monocots

AGAVACEAE – AGAVE FAMILY

Chlorogalum parviflorum – small-flower soap-plant/amole

ARECACEAE – PALM FAMILY

* *Washingtonia robusta* – Mexican fan palm

CYPERACEAE – SEDGE FAMILY

Eleocharis macrostachya – pale spike-rush

Eleocharis montevidensis – sand spike-rush

IRIDACEAE – IRIS FAMILY

Sisyrinchium bellum – blue-eyed-grass

JUNCACEAE – RUSH FAMILY

Juncus balticus ssp. *ater* – wire rush

Juncus dubius – mariposa rush

Juncus mexicanus – Mexican rush

Juncus xiphioides – iris-leaf rush

Juncus bufonius – toad rush

POACEAE – GRASS FAMILY

Deschampsia danthonioides – annual hair grass

Distichlis spicata – salt grass

Stipa lepida – foothill needle grass

Stipa pulchra – purple needle grass

* *Arundo donax* – giant reed
* *Avena barbata* – slender wild oat
* *Avena fatua* – wild oat
* *Brachypodium distachyon* – purple false brome
* *Bromus diandrus* – ripgut grass
* *Bromus hordeaceus* – soft chess
* *Festuca perennis* – perennial rye grass
* *Hainardia cylindrica* – barb grass

* *Polypogon monspeliensis* – annual beard grass
* *Bromus rubens* – foxtail chess, red brome
* *Cenchrus setaceus* – African fountain grass

THEMIDACEAE – BRODIAEA FAMILY

Bloomeria crocea var. *crocea* – common goldenstar

Brodiaea filifolia – thread-leaf brodiaea

Brodiaea orcuttii – Orcutt's brodiaea

TYPHACEAE – CATTAIL FAMILY

Typha latifolia – broad-leaf cattail

* Signifies introduced (non-native) species

Appendix B
Wildlife Compendium

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird
Icterus cucullatus – hooded oriole
Sturnella neglecta – western meadowlark

Bushtits

AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus – bushtit

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch
Spinus psaltria – lesser goldfinch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe
Sayornis saya – Say's phoebe
Tyrannus vociferans – Cassin's kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk
Elanus leucurus – white-tailed kite

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus brachyrhynchos – American crow

Corvus corax – common raven

Kinglets

REGULIDAE – KINGLETS

Corthylio calendula – ruby-crowned kinglet

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Swifts

APODIDAE – SWIFTS

Chaetura vauxi – Vaux's swift

Vireos

VIREONIDAE – VIREOS

Vireo bellii pusillus – least Bell's vireo

Waterfowl

ANATIDAE – DUCKS, GEESE, AND SWANS

Anas platyrhynchos – mallard

Wood Warblers and Allies

PARULIDAE – WOOD-WARBLERS

Cardellina pusilla – Wilson's warbler

Geothlypis trichas – common yellowthroat

Setophaga coronata – yellow-rumped warbler
Setophaga petechia – yellow warbler

Wrens

TROGLODYTIDAE – WRENS

Thryomanes bewickii – Bewick's wren

Waxbills

ESTRILDIDAE – WAXBILLS

* *Lonchura punctulata* – scaly-breasted munia

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Melospiza melodia – song sparrow
Melozone crissalis – California towhee
Pipilo maculatus – spotted towhee

Typical Warblers, Parrotbills, Wrentit

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

Invertebrates

Butterflies

LYCAENIDAE – BLUES, HAIRSTREAKS, AND COPPERS

Icaricia acmon acmon – Acmon blue

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Junonia coenia – common buckeye

RIODINIDAE – METALMARKS

Apodemia mormo virgulti – Behr's metalmark

Mammals

Hares and Rabbits

LEPORIDAE – HARES AND RABBITS

Sylvilagus audubonii – desert cottontail

Sylvilagus bachmani – brush rabbit

Squirrels

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

Uta stansburiana – common side-blotched lizard

* signifies introduced (non-native) species

Appendix C

Special-Status Plant Species Potential to Occur

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Abronia maritima	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/ 0–330	Y	N	N	**Not expected to occur.** The site is outside of the species' known elevation range and there is no suitable vegetation present.
Abronia villosa var. *aurita*	chaparral sand-verbena	None/None/1B.1	Chaparral, Coastal scrub, Desert dunes; sandy/ annual herb/ (Jan)Mar–Sep/ 246–5,245	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub habitat present.
Acanthomintha ilicifolia	San Diego thorn-mint	FT/SE/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay, openings/annual herb/ Apr–June/ 33–3,145	Y	Y	Y	**High potential to occur.** Suitable coastal scrub, annual herbs, grassland, and vernal pools on site. CNDDB occurrence records on site from 1991. However, this species was not observed during focused surveys and is therefore not expected to occur.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1	Coastal dunes, Coastal scrub (sandy)/annual herb/ Mar–June(July)/ 0–35	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Adolphia californica	California adolphia	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/ Dec–May/ 33–2,425	Y	Y	Y	**Moderate potential to occur.** Suitable coastal scrub and grassland on site. CNDDB occurrences from 1995 approx 1 mile west of the site. However, this species was not observed during focused surveys and is therefore not expected to occur.
Agave shawii var. *shawii*	Shaw's agave	None/None/2B.1	Coastal bluff scrub, Coastal scrub; Maritime succulent scrub/perennial leaf succulent/ Sep–May/10–395	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.
Allium marvinii	Yucaipa onion	None/None/1B.2	Chaparral (clay, openings)/perennial bulbiferous herb/ Apr–May/ 2,490–3,490	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	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	Y	Y	Y	**Moderate potential to occur.** Suitable coastal scrub, grasslands, and vernal pools with sandy loam soils on site. No CNDDB occurrence records within 5 miles. However, this species was not observed during focused surveys and is therefore not expected to occur.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; sandy or gravelly/annual herb/Feb–June/ 3–1,000	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub habitat present. No CNDDB occurrence records within 5 miles.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/Dec–June/ 0–1,195	Y	Y	Y	**Low potential to occur.** No suitable habitat on site, but multiple CNDDB occurrence records approx 5 miles SW from 1997-2015.
Arctostaphylos rainbowensis	rainbow manzanita	None/None/1B.1	Chaparral/perennial evergreen shrub/Dec–Mar/ 673–2,195	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.
Artemisia palmeri	San Diego sagewort	None/None/4.2	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; sandy, mesic/perennial deciduous shrub/ (Feb)May–Sep/ 49–3,000	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub, riparian scrub/woodland, and sandy substrate on site. CNDDB occurrence records approx. 4.5 miles SW from 1990s.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Asplenium vespertinum	western spleenwort	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub; rocky/perennial rhizomatous herb/Feb–June/ 591–3,280	Y	Y	Y	**Low potential to occur.** Suitable Diegan coastal sage scrub on site. No CNDDB occurrence records within 5 miles.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; alkaline or clay/perennial herb/Mar–Oct/ 10–1,505	Y	Y	Y	**Low potential to occur.** Suitable coastal sage scrub on site. No CNDDB occurrence records within 5 miles.
Atriplex pacifica	South Coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/ 0–460	Y	Y	Y	**Low potential to occur.** Suitable coastal sage scrub on site. No CNDDB occurrence records within 5 miles.
Baccharis vanessae	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; sandstone/perennial deciduous shrub/ Aug,Oct,Nov/197–2,360	Y	Y	Y	**Low potential to occur.** No suitable habitat on site, but one extirpated CNDDB occurrence from 1976 0.3 miles west of the site.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Bloomeria clevelandii	San Diego goldenstar	None/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; clay/perennial bulbiferous herb/ Apr–May/ 164–1,525	Y	Y	Y	**High potential to occur.** Suitable coastal sage scrub, grassland, and vernal pool habitats on site. Multiple CNDDB occurrence records approx. 3.5 miles south ranging from 1965-2021. However, this species was not observed during focused surveys and is therefore not expected to occur.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; often clay/perennial bulbiferous herb/ Mar–June/ 82–3,670	Y	Y	Y	**Observed on site.** Multiple occurrences in the center of the Project area.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Meadows and seeps, Valley and foothill grassland, Vernal pools; mesic, clay/perennial bulbiferous herb/ May–July/ 98–5,550	Y	Y	Y	**Observed on site.** Multiple occurrences on the center and eastern portions of the Project area.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2	Chaparral, Coastal scrub; sandy or loamy, disturbed sites and burns/annual herb/ (Jan)Mar–June/ 33–4,000	Y	Y	Y	**Low potential to occur.** Suitable sandy loam substrate and coastal scrub habitat on site. No CNDDB occurrence records within 5 miles.
Calochortus plummerae	Plummer's mariposa lily	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Valley and foothill grassland; granitic, rocky/perennial bulbiferous herb/May–July/ 328–5,575	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub present. No CNDDB occurrence records within 5 miles of the site.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Coastal bluff scrub, Cismontane woodland, Coastal dunes, Coastal scrub, Valley and foothill grassland; sandy or clay/annual herb/ Mar–May(June)/ 0–985	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub and sandy substrate present. No CNDDB occurrence records within 5 miles of the site.
Caulanthus simulans	Payson's jewelflower	None/None/4.2	Chaparral, Coastal scrub; sandy, granitic/annual herb/(Feb)Mar–May(June)/ 295–7,215	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub and sandy soil present. No CNDDB occurrence records within 5 miles of the site.
Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2	Closed-cone coniferous forest, Chaparral/perennial evergreen shrub/ Apr–June/ 771–2,475	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/2B.2	Chaparral/perennial evergreen shrub/ Dec–May/3–1,245	Y	Y	Y	**Low potential to occur**. No suitable habitat present, but multiple CNDDB occurrence records from 1983-2015 approximately 3.5 miles SE of the site.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Centromadia parryi ssp. *australis*	southern tarplant	None/None/1B.1	Marshes and swamps (margins), Valley and foothill grassland (vernally mesic), Vernal pools/annual herb/ May–Nov/0–1,570	Y	Y	Y	**Moderate potential to occur.** Suitable vernal pool habitat present. CNDDB occurrence records from 2015 approx. 1.75 miles east of the site. However, this species was not observed during focused surveys and is therefore not expected to occur.
Centromadia pungens ssp. *laevis*	smooth tarplant	None/None/1B.1	Chenopod scrub, Meadows and seeps, Playas, Riparian woodland, Valley and foothill grassland; alkaline/annual herb/ Apr–Sep/0–2,095	Y	Y	Y	**Low potential to occur.** Suitable Arundo-dominated riparian woodland present. No CNDDB occurrence records within 5 miles of the site.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub (sandy), Coastal dunes/annual herb/Jan–Aug/ 0–330	Y	N	N	**Not expected to occur.** The site is outside of the species' known elevation range and there is no suitable vegetation present.
Chamaebatia australis	southern mountain misery	None/None/4.2	Chaparral (gabbroic or metavolcanic)/ perennial evergreen shrub/ Nov–May/ 984–3,345	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1	Closed-cone coniferous forest, Chaparral (maritime), Coastal scrub; sandy openings/annual herb/Mar–May/10–410	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.
Chorizanthe polygonoides var. *longispina*	long-spined spineflower	None/None/1B.2	Chaparral, Coastal scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools; often clay/annual herb/ Apr–July/98–5,015	Y	Y	Y	**Low potential to occur.** Suitable coastal sage scrub, vernal pool habitat present. No CNDDB occurrences within 5 miles of the site.
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; sandy/annual herb/(Feb)Mar–June(Aug)/16–985	Y	Y	Y	**Low potential to occur.** Suitable coastal scrub and sandy substrate present. No CNDDB occurrence records within 5 miles of the site.
Clarkia delicata	delicate clarkia	None/None/1B.2	Chaparral, Cismontane woodland; often gabbroic/annual herb/ Apr–June/ 771–3,280	Y	N	Y	**Not expected to occur.** The site is outside of the species' known elevation range.

Scientific Name	Common Name	Status (Federal/ State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Blooming During Survey?	Elevation Appropriate?	Habitats Appropriate?	Potential to Occur
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/ Apr–June/ 98–2,590	Y	Y	Y	**Moderate potential to occur.** No suitable habitat present, but multiple CNDDB occurrence records approximately 1 mile west of the site, ranging from 1983 to 2017. However, this species was not observed during focused surveys and is therefore not expected to occur.

Status Legend
Federal
FC: Candidate for federal listing as threatened or endangered
FE: Federally listed as endangered
FT: Federally listed as threatened
State
SCE: Candidate for state listing as endangered
SE: State listed as endangered
ST: State listed as threatened
SR: State listed as rare
CRPR: California Rare Plant Rank
1A: Plants presumed extirpated in California and either rare or extinct elsewhere
1B: Plants rare, threatened, or endangered in California and elsewhere
2A: Plants presumed extirpated in California, but common elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which more information is needed – A Review List
4: Plants of Limited Distribution – A Watch List
Threat Rank
0.1 – Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
0.2 – Moderately threatened in California (20%–80% occurrences threatened/moderate degree and immediacy of threat)
0.3 – Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)
Source
CDFW (California Department of Fish and Wildlife). 2022. California Natural Diversity Database (CNDDB) Rarefind. CDFW, Biogeographic Data Branch. Accessed June 2022. https://wildlife.ca.gov/Data/CNDDB/Maps-and-Data.

Appendix D

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Amphibians					
Anaxyrus californicus	arroyo toad	FE/SSC	Semi-arid areas near washes, sandy riverbanks, riparian areas, palm oasis, Joshua tree, mixed chaparral and sagebrush; stream channels for breeding (typically third order); adjacent stream terraces and uplands for foraging and wintering	Y	**Not expected to occur.** The project site does not contain the requisite habitat for this species.
Spea hammondii	western spadefoot	None/SSC	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	Y	**Moderate potential to occur.** Suitable valley needlegrass grassland and vernal pool complexes with coastal scrub capable of supporting this species on site. CNDDB species occurrence records within 2 miles of the site, from 1967.
Reptiles					
Arizona elegans occidentalis	California glossy snake	None/SSC	Arid scrub, rocky washes, grasslands, chaparral, open areas with loose soil	Y	**Low potential to occur.** Suitable grasslands and open areas with loose soil capable of supporting this species are on site. No CNDDB species occurrence records within 1 mile.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Y	**Low potential to occur.** Suitable Diegan coastal sage scrub capable of supporting this species occurs on site. CNDDB species occurrence records approx 2 miles SW from the site from 1992.
Aspidoscelis tigris stejnegeri	San Diegan tiger whiptail	None/SSC	Hot and dry areas with sparse foliage, including chaparral, woodland, and riparian areas.	Y	**Low potential to occur.** Suitable riparian habitats occur on site, and the local area is hot and

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
					dry. No CNDDB occurrence records within 5 miles of the site.
Crotalus ruber	red diamondback rattlesnake	None/SSC	Coastal scrub, chaparral, oak and pine woodlands, rocky grasslands, cultivated areas, and desert flats	Y	**Low potential to occur.** Suitable Diegan coastal sage scrub capable of supporting this species occurs on site. No CNDDB occurrence records within 5 miles.
Diadophis punctatus similis	San Diego ringneck snake	None/None	Moist habitats including wet meadows, rocky hillsides, gardens, farmland grassland, chaparral, mixed-conifer forest, and woodland habitats	Y	**Low potential to occur.** Suitable moist habitats (arundo-dominated riparian, vernal pool complexes, emergent and herbaceous wetlands) occur on site. No CNDDB occurrences within 5 miles.
Emys marmorata	western pond turtle	None/SSC	Slow-moving permanent or intermittent streams, ponds, small lakes, and reservoirs with emergent basking sites; adjacent uplands used for nesting and during winter	N	**Not expected to occur.** No suitable vegetation present.
Phrynosoma blainvillii	Blainville's horned lizard	None/SSC	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	Y	**Low potential to occur.** Suitable sandy soils, coastal scrub, grasslands, and riparian habitat capable of supporting this species occurs on site. No CNDDB occurrence records within 5 miles.
Plestiodon skiltonianus interparietalis	Coronado skink	None/WL	Woodlands, grasslands, pine forests, and chaparral; rocky areas near water	Y	**Low potential to occur.** Suitable grasslands and wetland features are present on site. No CNDDB occurrence records are within 5 miles.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Y	**Low potential to occur.** Suitable undeveloped brushy/shrubby vegetation, specifically Diegan coastal sage scrub, is present on site. CNDDB occurrence records from 2005 show this species approximately 3 miles west of the site.
Thamnophis hammondii	two-striped gartersnake	None/SSC	Streams, creeks, pools, streams with rocky beds, ponds, lakes, vernal pools	Y	**Low potential to occur.** Suitable stream and vernal pool habitat occurs on site. CNDDB species occurrence records are approx. 2.25 miles southwest from 1991.
Thamnophis sirtalis ssp. (Southern California coastal plain from Ventura County to San Diego County, and from sea level to about 850 m)	south coast garter snake	None/SSC	Marsh and upland habitats near permanent water and riparian vegetation	Y	**Low potential to occur.** Suitable Arundo-dominated riparian habitat capable of supporting this species occurs on site. No CNDDB species occurrence records within 5 miles of the site.
Birds					
Accipiter cooperii (nesting)	Cooper's hawk	None/WL	Nests and forages in dense stands of live oak, riparian woodlands, or other woodland habitats often near water	Y	**Occurs on site.** Species was incidentally observed on site during the initial site visit.
Agelaius tricolor (nesting colony)	tricolored blackbird	None/SSC, ST	Nests near freshwater, emergent wetland with cattails or tules, but also in Himalayan blackberry; forages in grasslands, woodland, and agriculture	Y	**Low potential to occur.** Suitable emergent wetlands, valley needlegrass grassland, and eucalyptus woodland capable of supporting this species occurs on site. No CNDDB occurrence records within 5-miles.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Aimophila ruficeps canescens	Southern California rufous-crowned sparrow	None/WL	Nests and forages in open coastal scrub and chaparral with low cover of scattered scrub interspersed with rocky and grassy patches	Y	**Moderate potential to occur.** Multiple CNDDB occurrence records are within 5 miles of the site, ranging from 1992-2017. Suitable coastal scrub habitat capable of supporting this species occurs on site.
Aquila chrysaetos (nesting and wintering)	golden eagle	None/FP, WL	Nests and winters in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats	N	**Not expected to occur.** No suitable vegetation present.
Artemisiospiza belli belli	Bell's sage sparrow	None/WL	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	Y	**Low potential to occur.** The site contains large, unfragmented patches of Diegan coastal sage scrub capable of supporting this species. No CNDDB species occurrence records within 5-miles of the site.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	None/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Y	**Low potential to occur.** Suitable open scrub and grassland capable of supporting this species occurs on site. No CNDDB species occurrence records within 5 miles of the site.
Buteo swainsoni (nesting)	Swainson's hawk	None/ST	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	Y	**Low potential to occur.** Suitable riparian and grassland habitats capable of supporting this species occur on site. No CNDDB species occurrence

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
					records within 5 miles of the site.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	Y	**Not expected to occur.** No suitable cactus vegetation present.
Charadrius alexandrinus nivosus (nesting)	western snowy plover	FT/SSC	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	Y	**Not expected to occur.** No suitable inland or coastal habitats capable of supporting this species occur on site. No CNDDB species occurrence records within 5 miles of the site.
Circus hudsonius (nesting)	northern harrier	None/SSC	Nests in open wetlands (marshy meadows, wet lightly-grazed pastures, old fields, freshwater and brackish marshes); also in drier habitats (grassland and grain fields); forages in grassland, scrubs, rangelands, emergent wetlands, and other open habitats	Y	**Low potential to occur.** Emergent wetlands, grasslands, and dry scrub habitats capable of supporting this species are present on site. No CNDDB species occurrence records within 5 miles.
Coccyzus americanus occidentalis (nesting)	western yellow-billed cuckoo	FT/SE	Nests in dense, wide riparian woodlands and forest with well-developed understories	N	**Not expected to occur.** No suitable vegetation present.
Elanus leucurus (nesting)	white-tailed kite	None/FP	Nests in woodland, riparian, and individual trees near open lands; forages opportunistically in grassland, meadows, scrubs, agriculture, emergent wetland, savanna, and disturbed lands	Y	**Occurs on site.** Incidentally observed during the initial bio recon.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian	Y	**Low potential to occur.** Suitable riparian and shrubland habitats capable of supporting this species are present on site. No

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
			and shrubland habitats during migration		CNDDB species occurrence records within 5 miles of the site.
Eremophila alpestris actia	California horned lark	None/WL	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.	Y	**Low potential to occur.** Suitable grasslands capable of supporting this species occur on site. CNDDB species occurrence records from 1999 are approx. 3 miles west of the site.
Icteria virens (nesting)	yellow-breasted chat	None/SSC	Nests and forages in dense, relatively wide riparian woodlands and thickets of willows, vine tangles, and dense brush	Y	**Low potential to occur.** Suitable riparian habitat, southern willow scrub, and dense brush capable of supporting this species are present on site. No CNDDB species occurrences within 5 miles of the site.
Ixobrychus exilis (nesting)	least bittern	None/SSC	Nests in freshwater and brackish marshes with dense, tall growth of aquatic and semi-aquatic vegetation	Y	**Not expected to occur.** No suitable vegetation or marsh habitat present.
Laterallus jamaicensis coturniculus	California black rail	None/FP, ST	Tidal marshes, shallow freshwater margins, wet meadows, and flooded grassy vegetation; suitable habitats are often supplied by canal leakage in Sierra Nevada foothill populations	Y	**Low potential to occur.** Suitable herbaceous wetlands and shallow freshwater margins capable of supporting this species are present. No CNDDB species occurrence records within 5 miles of the site.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	None/SE	Nests and forages in coastal saltmarsh dominated by pickleweed (Salicornia spp.)	Y	**Not expected to occur.** No suitable saltmarsh or vegetation present.
Plegadis chihi (nesting colony)	white-faced ibis	None/WL	Nests in shallow marshes with areas of emergent vegetation; winter foraging in shallow lacustrine waters, flooded	Y	**Not expected to occur.** No suitable marsh, estuary, or vegetation present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
			agricultural fields, muddy ground of wet meadows, marshes, ponds, lakes, rivers, flooded fields, and estuaries		
Polioptila californica californica	coastal California gnatcatcher	FT, BCC/SSC	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	Y	**Moderate potential to occur.** Suitable sage scrub habitat capable of supporting this species is present on site. Multiple CNDDB occurrences within 5 miles of the site from 1994-2017. However this species was not observed during multiple site visits.
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Y	**Not expected to occur.** No suitable coastal saline emergent wetlands present.
Riparia riparia (nesting)	bank swallow	None/ST	Nests in riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with sandy soils; open country and water during migration	Y	**Low potential to occur.** Suitable riparian habitat with sandy substrate capable of supporting this species are present on site. No CNDDB species occurrences within 5 miles of the site.
Setophaga petechia (nesting)	yellow warbler	None/SSC	Nests and forages in riparian and oak woodlands, montane chaparral, open ponderosa pine, and mixed-conifer habitats	Y	**Low potential to occur.** Suitable riparian habitat present. No CNDDB species occurrence records within 5 miles of the site.
Sternula antillarum browni (nesting colony)	California least tern	FE/FP, SE	Forages in shallow estuaries and lagoons; nests on sandy beaches or exposed tidal flats	Y	**Not expected to occur.** No suitable vegetation or estuary/lagoon habitat present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Vireo bellii pusillus (nesting)	least Bell's vireo	FE/SE	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	Y	**Observed on site.** Incidentally observed during the initial bio recon.
Fishes					
Eucyclogobius newberryi	tidewater goby	FE/None	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County, to the mouth of the Smith River	Y	**Not expected to occur.** No suitable brackish aquatic habitat present.
Gila orcuttii	arroyo chub	None/SSC	Warm, fluctuating streams with slow-moving or backwater sections of warm to cool streams at depths >40 centimeters (16 inches); substrates of sand or mud	Y	**Not expected to occur.** No suitable warm stream habitat present; the streambed on site is an unnamed drainage channel not capable of supporting this species.
Mammals					
Aeorestes cinereus	northern hoary bat	None/None	Forest, woodland riparian, and wetland habitats; also juniper scrub, riparian forest, and desert scrub in arid areas; roosts in tree foliage and sometimes cavities, such as woodpecker holes	N	**Not expected to occur.** No suitable vegetation present.
Antrozous pallidus	pallid bat	None/SSC	Grasslands, shrublands, woodlands, forests; most common in open, dry habitats with rocky outcrops for roosting, but also roosts in man-made structures and trees	Y	**Low potential to occur.** Suitable grass, shrub, and woodlands capable of supporting this species are present. No suitable roosting habitat, and no CNDDB occurrence records within 5 miles of the site.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Chaetodipus californicus femoralis	Dulzura pocket mouse	None/SSC	Open habitat, coastal scrub, chaparral, oak woodland, chamise chaparral, mixed-conifer habitats; disturbance specialist; 0 to 3,000 feet above mean sea level	Y	**Low potential to occur.** Suitable coastal scrub habitat capable of supporting this species is present. No CNDDB species occurrence records within 5 miles of the site.
Chaetodipus fallax fallax	northwestern San Diego pocket mouse	None/SSC	Coastal scrub, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon–juniper, and annual grassland	Y	**Moderate potential to occur.** Suitable coastal scrub, sagebrush, and annual grassland are present on site. CNDDB occurrence records from 1992 are approximately 2 miles SW of the site.
Choeronycteris mexicana	Mexican long-tongued bat	None/SSC	Desert and montane riparian, desert succulent scrub, desert scrub, and pinyon–juniper woodland; roosts in caves, mines, and buildings	Y	**Not expected to occur.** No suitable vegetation present.
Corynorhinus townsendii	Townsend's big-eared bat	None/SSC	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	Y	**Low potential to occur.** Suitable riparian habitat is present. Only CNDDB record within 5 miles of the site is from 1930.
Dasypterus xanthinus	western yellow bat	None/SSC	Valley–foothill riparian, desert riparian, desert wash, and palm oasis habitats; below 2,000 feet above mean sea level; roosts in riparian and palms	N	**Not expected to occur.** No suitable vegetation present.
Dipodomys stephensi	Stephens' kangaroo rat	FE/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Y	**Low potential to occur.** Suitable grassland and coastal scrub present. No CNDDB species occurrence records within 5 miles.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Eumops perotis californicus	western mastiff bat	None/SSC	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	Y	**Low potential to occur.** Suitable coastal scrub and eucalyptus woodland present. No CNDDB occurrence records within 5 miles of the site.
Leptonycteris yerbabuenae	lesser long-nosed bat	FPD/SSC	Sonoran desert scrub, semi-desert grasslands, lower oak woodlands	N	**Not expected to occur.** No suitable vegetation present.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	BCC/SSC	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Y	**Low potential to occur.** Suitable grassland and coastal scrub present. CNDDB species occurrence records from 2003 are approx. 4.5 miles southeast of the site.
Myotis yumanensis	Yuma myotis	None/None	Riparian, arid scrublands and deserts, and forests associated with water (streams, rivers, tinajas); roosts in bridges, buildings, cliff crevices, caves, mines, and trees	Y	**Low potential to occur.** Suitable riparian habitat present. No CNDDB species occurrence records within 5 miles.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Y	**Low potential to occur.** Suitable coastal scrub habitat present. CNDDB species occurrence records from 1994 are approx. 2.5 miles southwest of the site.
Nyctinomops femorosaccus	pocketed free-tailed bat	None/SSC	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	Y	**Not expected to occur.** No suitable habitat present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Nyctinomops macrotis	big free-tailed bat	None/SSC	Rocky areas; roosts in caves, holes in trees, buildings, and crevices on cliffs and rocky outcrops; forages over water	N	**Not expected to occur.** No suitable vegetation present.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Y	**Not expected to occur.** No suitable vegetation present.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Y	**Low potential to occur.** Suitable grasslands and coastal scrub habitat present. CNDDB occurrence records are within 5 miles but not dated.
Invertebrates					
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Y	**High potential to occur.** Suitable vernal pool complexes on site. Site is within USFWS designated critical habitat for this species.
Cicindela latesignata latesignata	western beach tiger beetle	None/None	Mudflats and beaches in coastal Southern California	N	**Not expected to occur.** No suitable vegetation present.
Cicindela senilis frosti	senile tiger beetle	None/None	Inhabits marine shoreline, from Central California coast south to saltmarshes of San Diego; also found at Lake Elsinore	Y	**Not expected to occur.** No suitable vegetation present.
Cincindela latesignata obliviosa	Oblivious tiger beetle	None/None	Inhabited the Southern California coastline, from La Jolla north to the Orange County line. Occupied saline mudflats and moist sandy spots in estuaries of small streams in the lower zone. Has not been observed in 20 years.	N	**Not expected to occur.** No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State)	Habitat	Appropriate Habitats?	Potential to Occur
Danaus plexippus pop. 1	monarch	FC/None	Wind-protected tree groves with nectar sources and nearby water sources	Y	**Moderate potential to occur.** Suitable wildflower fields for nectar and multiple water sources are present.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Y	**High potential to occur.** Suitable vernal pool complexes on site.
Tryonia imitator	mimic tryonia (=California brackishwater snail)	None/None	Inhabits coastal lagoons, estuaries, and saltmarshes, from Sonoma County south to San Diego County	Y	**Not expected to occur.** No suitable saltmarsh habitat, estuaries, or lagoons present.

Status Legend
Federal
BCC: USFWS—Birds of Conservation Concern
FC: Candidate for federal listing as threatened or endangered
FD: Federally delisted; monitored for 5 years
FE: Federally listed as endangered
FPD: Federally proposed for delisting
FPE: Federally proposed for listing as endangered
FPT: Federally proposed for listing as threatened
FT: Federally listed as threatened
State
FP: CDFW Fully Protected species
SCD: State candidate for delisting
SCE: State candidate for listing as endangered
SCT: State candidate for listing as threatened
SE: State listed as endangered
SSC: California Species of Special Concern
ST: State listed as threatened
WL: CDFW Watch List species

Appendix E

Coastal California Gnatcatcher Survey Report

DUDEK
MAIN OFFICE
605 THIRD STREET
ENCINITAS, CALIFORNIA 92024
T 800.450.1818 F 760.632.0164

June 29, 2023 13383

U.S. Fish and Wildlife Service
Attention: Recovery Permit Coordinator
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

Subject: 2023 Focused California Gnatcatcher Survey Report for the Hughes Circuits Inc. Project, San Marcos, San Diego County, California

Dear Recovery Permit Coordinator:

This survey report documents the results of a protocol-level presence/absence survey for the coastal California gnatcatcher (*Polioptila californica californica*; gnatcatcher). The focused survey was conducted at the Hughes Circuits Inc. Project (project) site, located in San Diego County south of the City of San Marcos, California (Figure 1, CAGN Survey).

The gnatcatcher is a federally listed threatened species and a California Department of Fish and Wildlife Species of Special Concern. It is closely associated with coastal sage scrub habitat and typically occurs below elevations of 950 feet above mean sea level and on slopes less than 40%, but gnatcatchers have been observed at elevations greater than 2,000 feet above mean sea level. The species is threatened primarily by loss, degradation, and fragmentation of coastal sage scrub habitat and is impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism.

1 Location and Existing Conditions

The project site is located in the City of San Marcos, San Diego County, California, on the parcel IDs 2192232000 and 2192232200. The approximately 14-acre site occurs on private property. The site consists of two parcels and sits north of South Pacific Street on one side and east of South Pacific Street on the other side. One tributary runs through the site on the eastern side to San Marcos Creek, and a tributary to San Marcos Creek runs directly on the border of the western side of the property. Access to the site can be made off South Las Posas Road or off South Pacific Street. The elevation range of the site is 527 to 538 feet.

2 Vegetation Communities

The vegetation type that potentially supports gnatcatchers within the focused survey area includes Diegan coastal sage scrub and Diegan coastal scrub–Baccharis dominated. Diegan coastal sage scrub communities are described below. The entire site, including all vegetation communities, were studied thoroughly for gnatcatchers due to the small size and access to the Diegan coastal sage scrub communities.

2.1 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*). The average height of coastal sage scrub reaches 3 to 4 feet.

Diegan coastal sage scrub occupies a total of 2.26 acres on site. Diegan coastal sage scrub occurs within the central and eastern sections of the site. Dominant species on site in the coastal sage scrub include deerweed (*Acmispon glaber*), Menzies' goldenbush (*Isocoma menziesii*) and blue-eyed grass (*Sisyrinchium bellum*). Less commonly occurring species include California sagebrush and California buckwheat.

2.2 Diegan Coastal Sage Scrub–Baccharis Dominated

The Diegan coastal sage scrub–Baccharis dominated vegetation community is similar to coastal sage scrub but is dominated by the Baccharis species. This vegetation community usually occurs where soils are nutrient poor and disturbance is present, where it typically fills in areas after high levels of disturbance (Oberbauer et al. 2008).

Diegan coastal sage scrub–Baccharis dominated occupies 1.49 acres on site. This vegetation community exists within the far eastern section of the site and near the southcentral portion of the site in greatest abundance. Broom baccharis (*Baccharis sarothroides*) makes up approximately 80% of the vegetation within this community on site. The understory of this community consists of a variety of other species. Less commonly occurring species within the understory of the broom baccharis include annual yellow sweetclover (*Melilotus indicus),* blue-eyed grass, black mustard (*Brassica nigra*), Menzies' goldenbush, deerweed, and iceplant *(Carpobrotus edulis).*

3 Methods

Three survey visits were conducted at a minimum of 7-day intervals. All potentially suitable habitat was surveyed by Erin Bergman (Permit No. TE53771B-0), Dudek wildlife biologist. Details and conditions for each survey visit are summarized in Table 1.

Table 1. Survey Details and Conditions

Date	Biologist	Time	Survey Conditions (temperature, skies, wind)
5/10/2023	Erin Bergman	6:26 a.m.–12:01 p.m.	63°F–67°F; 100% cloud cover; 0–3 mph wind
5/17/2023	Erin Bergman	7:54 a.m.–12:15 p.m.	58°F–65°F; 40%–50% cloud cover; 0-4 mph wind
5/24/2023	Erin Bergman	7:30 a.m.–12:00 p.m.	59°F–69°F; 50%–100% cloud cover; 0–5 mph wind

All suitable habitat within the approximately 14-acre project area was covered on foot during each survey visit for 100% visual and audible coverage of the project site; routes of the survey are illustrated on Figure 2, CAGN Survey Route. Survey visits were conducted at minimum 1-week intervals (i.e., 7-day intervals) and were performed in conformance with the

currently accepted protocol of the U.S. Fish and Wildlife Service Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol (USFWS 1997).

A tape of recorded gnatcatcher vocalizations was played every approximately 25 feet to induce responses from potentially present gnatcatchers. Tape-playback would have been terminated immediately upon detection of any gnatcatchers to minimize the potential for harassment. A 200-scale (1 inch = 200 feet) aerial photograph of the project site and a vegetation map were used to identify suitable habitats and map any gnatcatchers detected. Binoculars were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

4 Results

No coastal California gnatcatchers were observed during any survey. Thirty-eight species of wildlife were detected during the surveys and are provided in Appendix A, List of Wildlife Species Observed or Detected. No rare species were detected within the impact area. The impact area on site is highly disturbed compared to the rest of the site.

I certify that the information in this survey report and appendix fully and accurately represents my work. Please feel free to contact me, Erin Bergman, at 760.274.3927 with questions or for additional information.

Sincerely,

Erin Bergman
Permit No. TE53771B-0

Att: *Figure 1, CAGN Survey*
Figure 2, CAGN Survey Route
Appendix A, List of Wildlife Species Observed or Detected

5 Literature Cited

USFWS (U.S. Fish and Wildlife Service). 1997. "Coastal California Gnatcatcher (*Polioptila californica californica*) Presence/Absence Survey Protocol." Accessed June 2023. https://www.fws.gov/sites/default/files/documents/survey-protocol-for-coastal-california-gnatcatcher.pdf.

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6 References for Latin and Common Names

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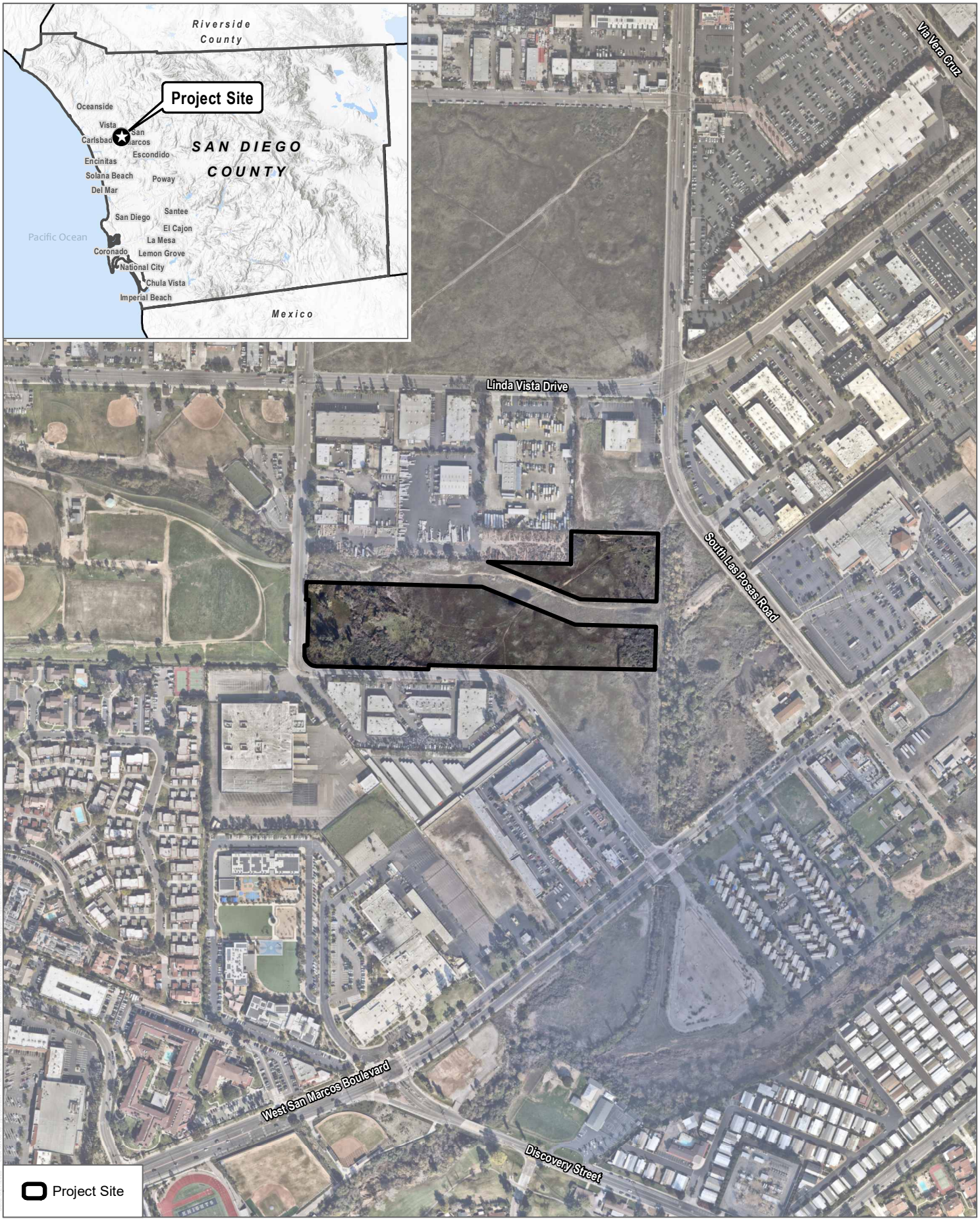


SOURCE: SanGIS 2019; 2023

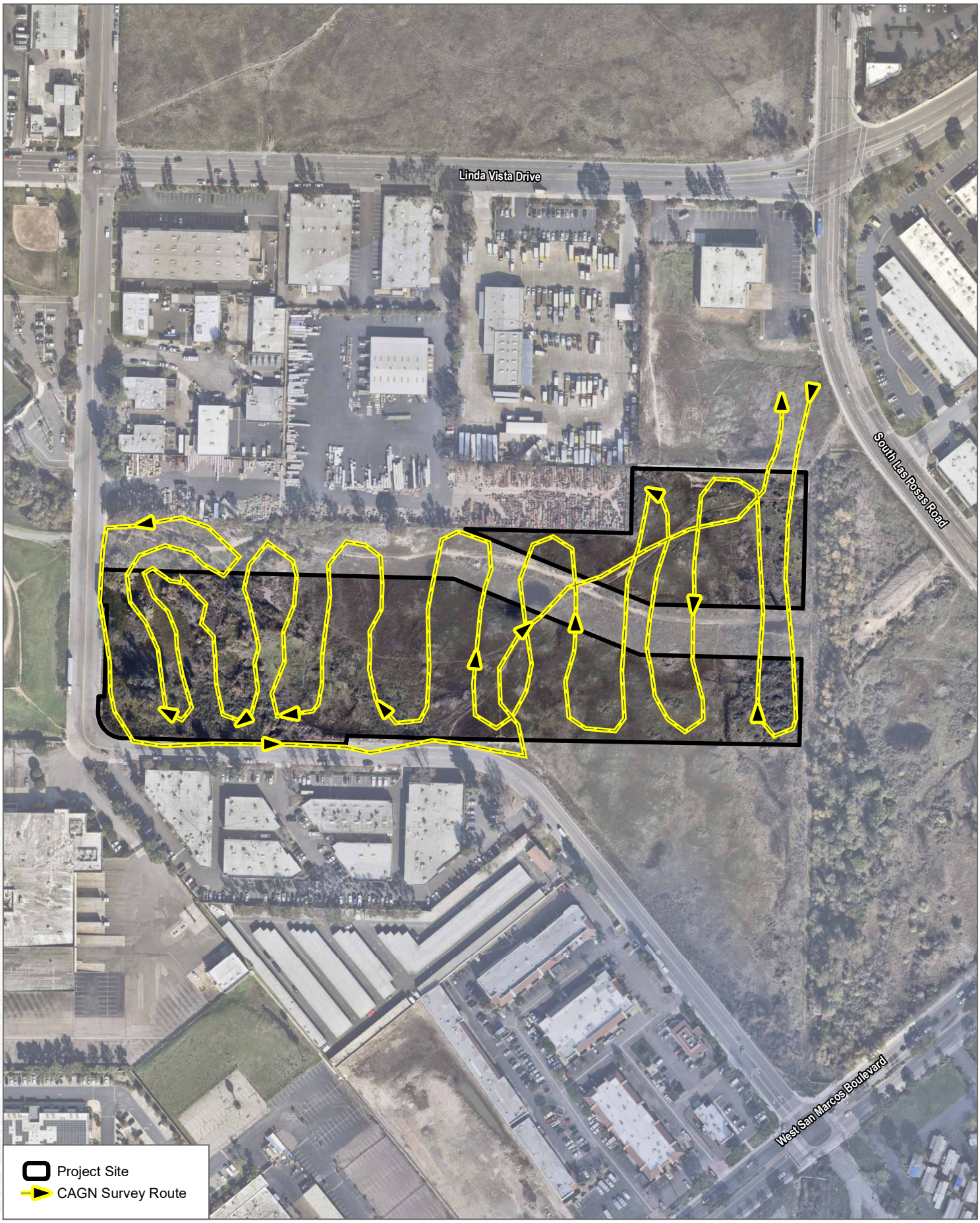
DUDEK

0 250 500 Feet

FIGURE 1

CAGN Survey

Hughes Circuits Project



SOURCE: SanGIS 2019; 2023

DUDEK

0 125 250 Feet

FIGURE 2

CAGN Survey Route

Hughes Circuits Project

Appendix A

List of Wildlife Species Observed or Detected

Wildlife Species – Vertebrates

Birds

Blackbirds, Orioles and Allies

ICTERIDAE – BLACKBIRDS

Agelaius phoeniceus – red-winged blackbird
Icterus cucullatus – hooded oriole
Sturnella neglecta – western meadowlark

Bushtits

AEGITHALIDAE – LONG-TAILED TITS AND BUSHTITS

Psaltriparus minimus – bushtit

Finches

FRINGILLIDAE – FRINGILLINE AND CARDUELINE FINCHES AND ALLIES

Haemorhous mexicanus – house finch
Spinus psaltria – lesser goldfinch

Flycatchers

TYRANNIDAE – TYRANT FLYCATCHERS

Sayornis nigricans – black phoebe
Sayornis saya – Say's phoebe
Tyrannus vociferans – Cassin's kingbird

Hawks

ACCIPITRIDAE – HAWKS, KITES, EAGLES, AND ALLIES

Accipiter cooperii – Cooper's hawk
Buteo jamaicensis – red-tailed hawk
Elanus leucurus – white-tailed kite

Hummingbirds

TROCHILIDAE – HUMMINGBIRDS

Calypte anna – Anna's hummingbird

Jays, Magpies and Crows

CORVIDAE – CROWS AND JAYS

Corvus brachyrhynchos – American crow

Corvus corax – common raven

Kinglets

REGULIDAE – KINGLETS

Corthylio calendula – ruby-crowned kinglet

Mockingbirds and Thrashers

MIMIDAE – MOCKINGBIRDS AND THRASHERS

Mimus polyglottos – northern mockingbird

Pigeons and Doves

COLUMBIDAE – PIGEONS AND DOVES

Zenaida macroura – mourning dove

Swifts

APODIDAE – SWIFTS

Chaetura vauxi – Vaux's swift

Vireos

VIREONIDAE – VIREOS

Vireo bellii pusillus – least Bell's vireo

Wood Warblers and Allies

PARULIDAE – WOOD-WARBLERS

Cardellina pusilla – Wilson's warbler

Geothlypis trichas – common yellowthroat

Setophaga coronata – yellow-rumped warbler

Setophaga petechia – yellow warbler

Wrens

TROGLODYTIDAE – WRENS

Thryomanes bewickii – Bewick's wren

Waxbills

ESTRILDIDAE – WAXBILLS

* *Lonchura punctulata* – scaly-breasted munia

New World Sparrows

PASSERELLIDAE – NEW WORLD SPARROWS

Melospiza melodia – song sparrow

Melozone crissalis – California towhee

Pipilo maculatus – spotted towhee

Typical Warblers, Parrotbills, Wrentit

SYLVIIDAE – SYLVIID WARBLERS

Chamaea fasciata – wrentit

Invertebrates

Butterflies

LYCAENIDAE – BLUES, HAIRSTREAKS, AND COPPERS

Icaricia acmon acmon – Acmon blue

NYMPHALIDAE – BRUSH-FOOTED BUTTERFLIES

Junonia coenia – common buckeye

RIODINIDAE – METALMARKS

Apodemia mormo virgulti – Behr's metalmark

Mammals

Hares and Rabbits

LEPORIDAE – HARES AND RABBITS

Sylvilagus audubonii – desert cottontail

Sylvilagus bachmani – brush rabbit

Squirrels

SCIURIDAE – SQUIRRELS

Otospermophilus beecheyi – California ground squirrel

Reptiles

Lizards

PHRYNOSOMATIDAE – IGUANID LIZARDS

Sceloporus occidentalis – western fence lizard

Uta stansburiana – common side-blotched lizard

* signifies introduced (non-native) species