FINAL

Biological Resources Technical Report

Armorlite Lofts Project

MARCH 2025

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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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Summary

This biological technical report was prepared to provide the existing conditions of the Project site and evaluation of the proposed Armorlite Lofts Project. The Project site refers to the approximately 2.44–acre undeveloped Project site analyzed in this report. The Armorlite Lofts Project (Project) is located 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). This report is also intended to support environmental review by other applicable regulatory resource agencies as needed.

Dudek conducted an initial biological reconnaissance visit, habitat assessment, vegetation mapping, aquatic resources assessment, 24-hour post rainfall site visits, focused coastal California gnatcatcher (Polioptila californica californica) surveys, and focused special-status plant surveys between 2021 and 2023. This report documents the results of Dudek's fieldwork and provides an analysis of the biological impacts related to the proposed project.

Based on species composition and general physiognomy, Dudek mapped two vegetation communities and one land covers within the Project site in 2023: Diegan coastal sage scrub (2.13 acres), non-native grassland—broadleaf-dominated (0.12 acres), and disturbed habitat (0.20 acres). No features were mapped during the aquatic resources assessment.

Diegan coastal sage scrub makes up the majority of the Project site. Non-native grassland—broadleaf-dominated occupies a small patch in the center of the site, and disturbed habitat is present in two small areas near the western edge of the site.

Focused surveys for coastal California gnatcatcher within the Project site were negative. Focused surveys special-status plants within the Project site were also negative. No additional special-status species were determined to have a moderate or high potential to occur within the Project site. No features were mapped during the aquatic resources assessment.

The proposed project would result in 2.44 acres of on-site permanent impacts associated with the grading and development of the proposed project.

Of the overall impacts, there are significant impacts from the permanent loss of 2.13 acres of Diegan coastal sage scrub and the permanent loss of 0.12 acres of non-native grassland: broadleaf dominated.

No other significant direct and/or indirect effects on special-status wildlife species and their habitat, jurisdictional resources, and wildlife corridors/habitat linkages are anticipated.

Mitigation to reduce these impacts to a less-than-significant level includes the purchase of off-site mitigation credits, breeding season avoidance, pre-construction nesting surveys; biological monitoring during clearing, grubbing, and grading; best management practices; and prohibition of invasive species in planting palettes.

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1 Introduction

1.1 Purpose of the Report

The Armorlite Lofts Project (Project) is being proposed on an undeveloped 2.44-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). This report is also intended to support environmental review by other applicable regulatory resource agencies as needed.

This purpose of this biological technical report is to (1) describe the conditions of biological resources associated with the Project in terms of vegetation communities, plants, wildlife, potential for special-status species, wildlife habitats and movement, and aquatic resources; (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) recommend measures to avoid, minimize, and/or mitigate any significant impacts that would occur to biological resources as a result of Project implementation.

1.2 Project Location and Description

The Project site occupies approximately 2.44 acres and is located on Armorlite Drive, east of North Las Posas Road and south of West Mission Road in the City of San Marcos, California. The site is mapped in Section 10, Township 12 South, Range 3 West of the San Marcos U.S. Geological Survey 7.5-minute quadrangle and is centered at longitude 117°11'17.60" W and latitude 33°8'49.48" N (Figure 1). The site comprises Tax Assessor's Parcel Number (APNs) 219-162-57. The site is situated in a developed landscape with the Palomar Station and a mixed-use development to the east and south; a drive-thru restaurant and AT&T switch gear facility to the west; and the North County Transit District railroad right-of-way, West Mission Road, and additional commercial development to the north.

The proposed development consists of 165 residential units, 5,600 square feet of commercial space and covered parking garage in a mixed-use building. The development will also include on-site surface parking, retaining walls, surface improvements for drive aisles and pedestrian walkways, and associated civil utility services.

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2 Agency Consultation

As discussed in this report, the Project site lacks state- or federally-listed species as well as jurisdictional aquatic resources, which would require resource agency permits and/or consultation. For this section, “resource agency” refers to the U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, or Regional Water Quality Control Board.

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3 Environmental Setting

The currently undeveloped, vacant site is enclosed by chain-link fencing along the north, south and western property boundary and open cable railing situated atop a small retaining wall along the eastern property boundary. A gated driveway onto the site is located on Armorlite Drive, and a second gated driveway in the northwestern portion of the property provides vehicular access via the adjacent AT&T facility to the west. Well-used foot paths and a hole in the chain-link fencing along the northern property limits indicate informal walk-through access across the property. Other signs of site disturbance include pet waste and miscellaneous trash and litter. The site is generally flat with two small, paved drive aisles and slopes downward along its edges. Elevations on site range from 560 to 578 feet above mean sea level.

Two soils are identified on the US Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey within the proposed project area: Fallbrook sandy loam (FaC), 5 to 9% slopes; and Placentia sandy loam (PfA), 0 to 2% slopes. Most of the site is mapped as Fallbrook sandy loam (FaC) (Figure 2). This soil type is characterized by 5 to 9% slopes, and is a member of the fine-loamy, mixed, superactive, thermic Typic family of Haploxeralfs. Typically, Fallbrook soils have dark brown to yellowish brown A horizons, and dominantly reddish brown B2t horizons, and are slightly acidic or neutral (USDA 2023). Fallbrook soils are typically found on gently rolling hills to very steep and have slopes of 5 to 75%. Elevations are 200 to 3,000 feet. These soils formed in residuum weathered from granitic and closely related granitic rocks. Clay content increases at depth to 25% in the soil profile for Fallbrook sandy loam.

Placentia sandy loam (PfA) is found as a small inclusion in the extreme southwestern corner of the site. It is characterized by 0 to 2% slopes, and is a member of the fine, smectitic, thermic Typic Natrixeralfs. Typically, Placentia soils have brown, medium acid, sandy loam A horizons, dark reddish brown, clay and heavy sandy clay loam B2t horizons with prismatic structure in the upper part and strong brown, gravelly sandy loam C horizons (USDA 2023). Placentia soils are nearly level to moderately sloping and are on fans and terraces at elevations of 50 to 2,500 feet. They formed in alluvium from granite and other rocks of similar composition and texture. This soil type has a claypan (43% clay) approximately 16 inches below ground surface.

3.1 Review of Historical Aerial Imagery

Dudek conducted a review of historical aerial photographs of the Project site and general vicinity, to help determine if ephemeral basins or vernal pools may currently be on the Project site or may have been present in the past. Historical aerial photographs of the Project site were available from as far back as 1938 to the present (Google Earth 2023). No evidence or aerial signatures of vernal pools or ephemeral basins were documented during these years. Note that the lack of evidence or aerial signatures of vernal pools and ephemeral basins does not necessarily mean that these features were never present on the Project site during these years, but it is likely that if these features were present for a sustained period of time that they would have most likely been detected during this analysis.

The available historical aerial photographs prior to 2012 showed a significant amount of disturbed land (primarily disturbed Diegan coastal sage scrub and bare ground) across the Project site. The parcel may have been used as an informal dirt parking area or subject to off-road vehicle use as aerial photographs show bare areas and dirt roads becoming established over time. An aerial from 1994 shows commercial development immediately west of the Project site. By late 2005, it appears the Project site was at least partially fenced, coinciding with a steady increase

of new coastal sage scrub habitat from that point onwards likely resulting from diminished human disturbances on the site. Construction of Palomar Station, abutting the east side of the Project site began in 2013. A retaining wall constructed along the eastern boundary of the Project site as part of the Palomar Station development suggests the existing topography of the site is at least partially, if not entirely, natural and comprised of native rather than imported soils. By 2021, aerial photographs show the majority of coastal sage scrub habitat in the Project site to be disturbed. However, the aerial photograph from July 2021 shows more evidence of Project site disturbance, with two intersecting, perpendicular lines having been graded within the Project site, exposing more soil and creating more bare ground. The Project site remains undeveloped to the present.

4 Regulatory Context

4.1 Federal

4.1.1 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.

4.1.2 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.

4.1.3 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(c)(1), 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(c)(4).

4.2 State

4.2.1 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.

On July 10, 2023, Senate Bill 147 (SB147) was signed into law and amends the Fish and Game Code to allow a 10-year permitting mechanism for a defined set of projects within the renewable energy, transportation, and water

infrastructure sectors. Currently, this project does not fall within those categories and therefore would not be authorized to take of "fully protected" species that are protected under the provisions of the California Endangered Species Act California Fish and Game Code.

4.2.2 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.

4.2.3 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 (SWRCB) 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.

4.2.4 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.

4.2.5 California Native Plant Protection Act

The Native Plant Protection Act of 1977 (CFGC Sections 1900–1913) directed CDFW to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The Native Plant Protection Act gave the Fish and Game Commission the power to designate native plants as "endangered" or "rare," and prohibited take, with some exceptions, of endangered and rare plants. When CESA was amended in 1984, it

expanded on the original Native Plant Protection Act, enhanced legal protection for plants, and created the categories of "threatened" and "endangered" species to parallel FESA. The 1984 amendments to CESA also made the exceptions to the take prohibition set forth in Section 1913 of the Native Plant Protection Act applicable to plant species listed as threatened or endangered under CESA. CESA categorized all rare animals as threatened species under CESA, but did not do so for rare plants, which resulted in three listing categories for plants in California: rare, threatened, and endangered. The Native Plant Protection Act remains part of the California Fish and Game Code, and mitigation measures for impacts to rare plants are specified in a formal agreement between CDFW and project proponents.

4.3 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 Multiple Habitat Conservation Program (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 zoned as Public/Institutional in the General Plan (City of San Marcos 2023).

4.4 Local

4.4.1 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.

4.4.2 City of San Marcos Conservation and Open Space Element

The purpose of the Conservation and Open Space Element is to identify natural, cultural, historic, and open space resources. It provides goals, policies, and programs related to open space and conservation, and addresses climate change and practices related to water conservation, energy conservation, air quality, and protection of watersheds and water quality. Below is an outline of the City's Conservation and Open Space Easement Goals within the City of San Marcos General Plan.

Goal 1: Identify, protect, and enhance significant ecological and biological resources within San Marcos and its adaptive Sphere of Influence.

Goal 2: The City is committed to conserving, protecting, and maintaining open space, agricultural, and limited resources for future generations. By working with property owners, local organizations, and state and federal agencies, the City can limit the conversion of resource lands to urban uses.

Goal 3: Protect natural topography to preserve and enhance the natural beauty of San Marcos.

Goal 4: Improve regional air quality and reduce greenhouse gas emissions that contribute to climate change.

Goal 5: Reduce water consumption and ensure reliable water supply through water efficiency, conservation, capture, and reuse.

Goal 6: Protect and restore appropriate surface water and groundwater beneficial uses through prioritizing the improvement of locally impaired water bodies within the City of San Marcos subwatersheds.

Goal 7: Achieve sustainable watershed protection for surface and ground water quality that balances social, economical, and environmental needs.

Goal 8: Focus watershed protection, surface and groundwater quality management on sources and practices that the City has the ability to affect.

Goal 9: Support the development of a regulatory framework and organizational structure that facilitates the implementation of the most effective and efficient watershed protection programs for surface water and groundwater quality and beneficial use programs.

Goal 10: Establish and maintain an innovative, sustainable solid waste collection, recycling, and disposal delivery system for present and future generations.

Goal 11: Continue to identify and evaluate cultural, historic, archeological, paleontological, and architectural resources for protection from demolition and inappropriate actions.

5 Methods

5.1 Literature and Database 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. The review included the following:

- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CDFW 2023a) 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 2023) for the San Marcos and surrounding 7.5-minute USGS quadrangles
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat and Occurrence Database (USFWS 2023b) 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 2023a) to identify soil types occurring within the Project site
- Google Earth (2023)
- USFWS National Wetlands Inventory (USFWS 2023c)
- USGS National Hydrography Dataset (USGS 2023a, 2023b)
- San Diego County Bird Atlas (Unitt 2004)
- San Diego Natural History Museum's Plant Atlas (SDNHM 2023)

5.2 General Biological Survey

A general field survey for the Project site was conducted by Dudek biologist Shana Carey on June 11, 2023 and included a biological reconnaissance survey and general habitat assessment (Table 1, Schedule of Surveys).

5.3 Focused Surveys

Focused surveys for the Project site were conducted by Dudek biologists between 2022-2023 and included focused surveys for coastal California gnatcatcher (*Polioptila californica californica*), an aquatic resources assessment, 24-hour post rainfall site checks, and rare plant surveys. Table 1, Schedule of Surveys, lists the dates, conditions, personnel, and focus of each survey. All focused surveys planned have been conducted to date, the methods of which are provided below.

Table 1. Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
6/11/2021	1500–1700	Biological Reconnaissance Survey, Habitat Assessment, and Vegetation Mapping	SC	70°F–71°F; 0% cloud cover; 2–7 mph winds
10/28/2022	0900–1059	California Gnatcatcher Survey #1	KM	62°F–67°F; 0%–100% cloud cover; 0–2 mph winds
11/4/2022	0600–0700	Aquatic Resources Assessment and 24-hour post rain site visit	BO	59°F–61°F; 0% cloud cover; 0–1 mph winds
11/8/2022	1300–1400	24-hour post rainfall site check	KM	67°F–70°F; 10% cloud cover; 1–2 mph winds
11/10/2022	1245–1345	24-hour post rainfall site check	KM	68°F; 0% cloud cover; 1–2 mph winds
11/11/2022	1000–1145	California Gnatcatcher Survey #2	KM	66°F–69°F; 30% cloud cover; 1–4 mph winds
11/25/2022	0713–0908	California Gnatcatcher Survey #3	KM	56°F–67°F; 0% cloud cover; 0–2 mph winds
12/9/2022	0835–1032	California Gnatcatcher Survey #4	KM, SC	51°F–58°F; 0% cloud cover; 0–1 mph winds
12/13/2022	1500–1600	24-hour post rainfall site check	SC	50°F–49°F; 50% cloud cover; 0–2 mph winds
12/23/2022	0700–0854	California Gnatcatcher Survey #5	KM	47°F–52°F; 0% cloud cover; 0–2 mph winds
12/30/2022	1300–1400	24-hour post rainfall site check	SC	48°F–48°F; 100% cloud cover; 0–2 mph winds
1/6/2023	0900–1114	California Gnatcatcher Survey #6	KM	50°F–52°F; 0% cloud cover; 1–2 mph wind
1/7/2023	1600-1700	24-hour post rainfall site check	SC	50°F –49°F; 10% cloud cover; 0–1 mph winds
1/18/2023	0900-1000	24-hour post rainfall site check	SC	50°F –51°F; 10% cloud cover; 0–1 mph winds
1/20/2023	0845–1055	California Gnatcatcher Survey #7	KM	48°F –59°F; 0% cloud cover; 0–1 mph winds
1/21/2022	1300–1400	24-hour post rainfall site check	SC	66°F–67°F; 0% cloud cover; 1–4 mph winds
2/1/2023	1300–1400	24-hour post rainfall site check	SC	69°F –70°F; 0% cloud cover; 2–5 mph winds
2/6/2023	0838–1100	California Gnatcatcher Survey #8	KM	53°F –60°F; 0% cloud cover; 0–2 mph winds
2/16/2023	1630–1730	24-hour post rainfall site check	SC	56°F –54°F; 20% cloud cover; 1–5 mph winds
2/20/2023	0930–1127	California Gnatcatcher Survey #9	KM	63°F –65°F; 0% cloud cover; 1–6 mph winds
2/27/2023	1645–1745	24-hour post rainfall site check	SC	53°F –52°F; 90% cloud cover; 1–10 mph winds

Table 1. Schedule of Surveys

Date	Hours	Focus	Personnel	Conditions
3/3/2023	1015–1115	24-hour post rainfall site check	SC	63°F –64°F; 0% cloud cover; 1–5 mph winds
3/17/2023	1715–1815	24-hour post rainfall site check	SC	64°F –63°F; 20% cloud cover; 1–3 mph winds
3/25/2023	1530–1630	24-hour post rainfall site check	SC	65°F –66°F; 40% cloud cover; 1–4 mph winds
4/1/2023	1500–1600	24-hour post rainfall site check	SC	66°F; 0% cloud cover; 2–5 mph winds
5/25/2023	1436–1719	Spring Rare Plant Survey and Vegetation Mapping	KD	63°F –66°F; 30–90% cloud cover; 0–3 mph winds
7/12/2023	0730–0916	Summer Rare Plant Survey and Vegetation Mapping	KD	76°F; 0–10% cloud cover; 0–3 mph winds

All native and naturalized plant species encountered in the Project study area were identified and recorded. Latin and common names for plant species with a California Rare Plant Rank follow the California Native Plant Society Rare Plant Inventory (CNPS 2023). For plant species without a California Rare Plant Rank, Latin names follow the Jepson Online Interchange for California Floristics (Jepson Flora Project 2023) and common names follow the California Natural Community List (CDFW 2023) or the United States Department of Agriculture (USDA) Natural Resources Conservation Service Plants Database (USDA 2023). A list of plants observed during the site visit is included in Appendix A.

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 2023) 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.

5.3.1 Vegetation Community and Land Cover Mapping

Vegetation communities and land covers on site were mapped in the field directly onto a digital aerial photograph–based field map of the Project study area. Following completion of the fieldwork, all vegetation polygons were transferred to a topographic base and digitized using ArcGIS, and a geographic information system (GIS) coverage was created. Once in ArcGIS, the acreage of each vegetation community and land cover present in the Project study area was determined.

Vegetation community classifications followed the Preliminary Descriptions of the Terrestrial Natural Communities of California Holland (1986), as modified for San Diego County in Draft Vegetation Communities of San Diego County (Oberbauer et al. 2008).

Vegetation mapping was originally conducted within the Project site on June 11, 2021. Vegetation mapping was updated on May 25 and July 12, 2023, in conjunction with the botanical surveys.

5.3.2 Botanical Surveys

On May 25, 2023 and July 12, 2023, focused surveys for special-status plants were conducted on site by Dudek biologist Kathleen Dayton. This survey was conducted at the appropriate phenological stage to detect and identify target species. Reference checks were conducted for key target species. Thread-leaved brodiaea (*Brodiaea filifolia*) and Orcutt's brodiaea (*Brodiaea orcuttii*) were observed just starting to bloom on May 10, 2023 in San Marcos. Orcutt's brodiaea (*Brodiaea orcuttii*) was observed again in early bloom on May 17, 2023 and still in bloom on June 27, 2023. Southern tarplant (*Centromadia parryi* ssp. *Australis*) was observed in full bloom on July 11, 2023. Prior to special-status plant surveys, Dudek evaluated plant records in the U.S. Geological Survey 7.5-minute San Marcos quadrangle and the surrounding Morro Hill, Bonsall, Pala, San Luis Rey, Valley Center, Encinitas, Rancho Santa Fe, and Escondido quadrangles (CDFW 2023; CNPS 2023) to determine target species. In addition, Dudek's knowledge of biological resources and regional distribution of each species, as well as elevation, habitat, and soils present within the Project site were evaluated to determine the potential for various special-status plant species to occur. Field survey methods conformed to CNPS Botanical Survey Guidelines (CNPS 2001); Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018); and General Rare Plant Survey Guidelines (Cypher 2002). Surveys were conducted by walking meandering transects throughout the Project site to detect special-status species. All plant species were identified and recorded in Appendix A.

5.3.3 Wildlife Surveys

Focused surveys for the coastal California gnatcatcher (*Polioptila californica californica*) (a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern) were conducted within the Project site between October 2022 and February 2023 by Dudek biologist Kamarul Muri (Permit # TE-813545). The surveys were conducted in conformance with the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS 1997) for projects that are not within an NCCP jurisdiction.

A tape of recorded California gnatcatcher vocalizations played approximately every 50 to 100 feet was used to induce responses from potentially present gnatcatchers. If a gnatcatcher was detected, the recorded playback would be immediately terminated to minimize potential for harassment. Aerial coverage of the area in the ESRI Field Maps mobile application was used to navigate the site and map any gnatcatchers detected. Binoculars (10 x 42) were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers.

Due to lack of suitable habitat, no other focused special-status wildlife species surveys were conducted within the Project site. All wildlife species were identified and recorded in Appendix B.

5.3.4 Survey Limitations

All surveys and assessments within the Project site were done during the daylight hours under climactic and weather conditions that allowed for thorough biological observations (e.g., surveys were not conducted during rain). Because surveys were only conducted during the day, the lists of species identified are not necessarily comprehensive accounts of all species that utilize the site. For example, birds represent the largest component of the vertebrate fauna detected as diurnal surveys maximize the number of observations of this portion of the fauna. Daytime surveys usually result in few observations of mammals such as bats, many of which may be active at night. In addition, many species of reptiles and amphibians are nocturnal or cryptic in their habits and are difficult to observe

using standard meandering transects. Dudek did not conduct focused surveys for special-status wildlife species other than the coastal California gnatcatcher because no other listed species have a moderate to high potential to occur on site.

Focused surveys for potentially occurring special-status plant species were conducted for the Project site during two passes in May and July 2023. The timing of the survey was intended to capture the blooming period of those plant species with a more moderate to high potential to occur on site. Rainfall in the region was above average (NOAA 2023) so the odds of detecting annual species was higher than average. In addition, all perennial, conspicuous shrubs would have been identified during the survey if present.

5.4 Aquatic Resource Assessment

A jurisdictional aquatic resource assessment was conducted within the Project site on November 4, 2022 by Dudek biologist Brock Ortega to determine the extent of aquatic 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 assessment 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 assessment, 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. In addition, any aquatic resources were anecdotally identified using the Cowardin method of wetlands classification, which defines wetland boundaries by the presence of at least one parameter (i.e., hydric soils, hydrophytic vegetation, or hydrology) (Cowardin et al. 1979). Aquatic resources were documented by visually assessing and mapping any hydrophytic vegetation and/or the presence or absence of surface hydrology indicators (e.g., drift lines, drainage patterns, scour etc.). Soil samples were not taken during this effort.

In addition, site visits to check for the presence of surface water or ponding of at least 3 cm were conducted within 24 hours after each rain event (approximately 15 visits) during the 2022-2023 wet season (Table 1, Schedule of Surveys). Visits to a nearby reference site (within 1-mile of the Project site) where vernal pools were present were also conducted.

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6 Results

6.1 Vegetation Communities and Land Cover Types

The Project site consists of mostly undeveloped lands, with a mix of native and non-native vegetation communities. In total, three (3) vegetation communities and/or land cover types were identified within the Project site based on general physiognomy and species composition, including two native or naturalized vegetation types and one non-natural land cover (Figure 3, Vegetation Communities and Land Covers) (CDFW 2023b). The Multiple Habitat Conservation Program (MHCP) organizes vegetation into habitat group types: Wetland Communities, Rare Upland, Coastal Sage Scrub, Chaparral, Annual Grassland, and Other (Table 2) (SANDAG 2003). Only the habitat groups that were identified during the vegetation mapping within the study area are discussed in detail in the following sections.

Table 2. Vegetation Communities and Land Cover Types

Vegetation Community/Land Cover	Approximate Acreage
Group C – Coastal Sage Scrub	
Diegan Coastal Sage Scrub	2.13
Group D – Annual Grasslands	
Non-Native Grassland—Broadleaf-Dominated	0.12
Group F – Other Lands	
Disturbed Habitat	0.20
Total*	**2.44**

Note:
* Totals may not sum due to rounding.

6.1.1 Group C – Coastal Sage Scrub

6.1.1.1 Diegan Coastal Sage Scrub

Diegan coastal sage scrub is a native vegetation community that, according to Oberbauer et al. (2008), is composed of a variety of soft, low, aromatic shrubs, characteristically dominated by drought-deciduous species such as California sagebrush (Artemisia californica), California buckwheat (*Eriogonum fasciculatum*), and sages (*Salvia* spp.), with scattered evergreen shrubs, including lemonade 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 throughout most of the Project site. In the northern portion of the site, the Diegan coastal sage scrub is dominated by California sagebrush (Artemisia californica). Other shrubs include black sage (Salvia mellifera), white sage (*S. apiana*), coyotebrush (*Baccharis pilularis*), and California buckwheat (*Eriogonum fasciculatum*). The Diegan coastal sage scrub is disturbed by the presence of non-native species, such as black mustard (Brassica nigra), horehound (*Marrubium vulgare*), and some anthropogenic trash. The Diegan coastal sage scrub in the southern portion of the site includes a higher cover of black sage and white sage and is generally denser than the northern portion of the site. Diegan coastal sage scrub habitat occupies 2.13 acre on site.

6.1.2 Group E – Annual Grasslands

6.1.2.1 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)* and red brome (*Bromus madritensis*). Non-native grassland—broadleaf dominated habitat occupies 0.12 acre on site.

6.1.3 Group F – Other Lands

6.1.3.1 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, worn trails that have persisted for years).

Disturbed habitat occurs in the fenced off portion in the northwestern portion of the site that consists of gravelly substrate, as well as mulch. There are a few scattered immature shrubs and non-native forbs still present in this area. The other area of disturbed habitat is the road that extends from the southwestern edge of the site north through about half of the property. Some gravel has been applied and the road is maintained enough to prevent significant plant development. Disturbed habitat occupies 0.20 acre on site.

6.2 Aquatic Resources

Although the site falls within the northwestern corner of a polygon that is identified as a Vernal Pool Major Amendment Area (as shown in the City's Draft SAP), it has been extensively disturbed over the years by anthropogenic influences such as past construction grading as well as utility excavation and exploration, and historic aerial photographs show that the parcel may have been used as an informal dirt parking area or subject to off-road vehicle use in the past. While some minor ponding was observed within the Project site during visits with 24 hours after rainfall events, during none of the visits did ponding meet the 3 cm threshold that would trigger initiation of wet-season protocol surveys for San Diego fairy shrimp. Therefore, observations show that the site is not suitable for ponding or fairy shrimp, and that there are no other aquatic resources that would be under the jurisdiction of aquatic resource agencies.

By comparison, the rainfall was sufficient to establish inundation (pools greater than 3 cm deep) at the nearby reference site where known vernal pools have filled and remained inundated beyond the 24-hour post-rainfall assessment period.

6.3 Observed Plants

Seventy-five vascular plant species consisting of 35 native species (47%) and 40 non-native species (53%) were recorded during rare plant surveys conducted for the Project study area. A list of all plant species observed during 2022 and 2023 surveys is presented in Appendix A, Plant Compendium.

6.4 Observed Wildlife

A total of 16 wildlife species were observed at the Project site, all of which consisted of native species. A cumulative list of wildlife species observed during 2022 and 2023 surveys is provided in Appendix B, Wildlife Compendium.

6.5 Sensitive Species

6.5.1 Critical Habitat

Critical habitat, as defined by the U.S. Fish and Wildlife Service, are (1) specific areas that are either occupied by a species at the time of its listing that contain the physical or biological features that are essential to the conservation of endangered and threatened species and that may need special management or protection and/or (2) include areas that were not occupied by the species at the time of listing but are essential to its conservation.

San Diego fairy shrimp critical habitat designated in 2007 encompasses nearly the entire Project site as well as a large portion of the existing Palomar Station development to the east and south. There is also San Diego fairy shrimp critical habitat designated within a vernal pool reference site southeast of the Project site, as well as within two additional parcels west of South Las Posas Road, on opposite sides of Linda Vista Drive, within the 1-mile vicinity of the Project site, all designated in 2007. The closest critical habitat for thread-leaved brodiaea is located approximately 0.2-mile northwest of the Project site, between West Mission Road and North Las Posas Road, designated in 2011. Additional thread-leaved brodiaea critical habitat designated in 2011 overlaps the same two parcels containing critical habitat for San Diego fairy shrimp located on opposite sides of Linda Vista Drive within one mile of the Project site. Lastly, critical habitat for spreading navarretia was designated in 2010 within the same vernal pool mitigation area discussed above, as well as in the same parcels west of South Las Posas Road on opposite sides of Linda Vista Drive. There is no critical habitat for coastal California gnatcatcher within the site or within a 1-mile buffer (Figure 4).

6.5.2 Sensitive Plant Species Observed or With Potential to Occur

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 (CESA) and the federal Endangered

Species Act (FESA), and (2) plant species with a CRPR 1 through 3 (CNPS 2023). This report also includes CRPR 4 plant species.

A special-status plant survey was conducted for the Project site on May 25 and July 12, 2023, to determine the presence or absence of plant species. No special-status plants were observed on site. 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.

No special-status plants were observed on site and none have a moderate or high potential to occur (Appendix C).

6.5.3 Sensitive Wildlife Species Observed or With Potential to Occur

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 2023a).

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 2023a; USFWS 2023b). Based on a review of the potential species to occur within the region, habitat conditions identified within Project site, as well as results of focused surveys, no special-status wildlife species have a moderate to high potential to occur within the Project site.

Coastal California Gnatcatcher

Although suitable coastal sage scrub habitat capable of supporting coastal California gnatcatcher (*Polioptila californica californica*) occurs throughout the study area, none were heard or observed during the focused, protocol-level surveys for this species. As such, this species is expected to not occur within the Project site. Appendix E includes the 2023 Focused California Gnatcatcher Survey Report for the Armorlite Drive Property, City of San Marcos, San Diego County, California.

Nesting Birds

The Project site contains habitat (disturbed Diegan coastal sage scrub, non-native grassland, and disturbed land), which could potentially provide opportunities for avian species to nest on site. Native nesting bird species with potential to occur within the project site are protected by California Fish and Game Code Sections 3503 and 3503.5, and by the federal MBTA (16 USC 703–711). In particular, Section 3503 provides that it is unlawful to take, possess, or needlessly destroy the active nests or eggs of any bird in California; Section 3503.5 protects all raptors and their eggs and active nests; and the MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of native migratory bird species throughout the United States. A nesting bird survey should be conducted prior to the initiation of project construction activities, discussed in further detail in Section 7.3 (MM-BIO-6).

Roosting Bats

Due to its small size, location within an urbanized setting, and lack of suitable habitat including rocky outcrops and cliffs, caves, mines, trees, and structures such as buildings, bridges, or other anthropogenic features, the project site is not likely to provide suitable roosting habitat for special-status bats. Additionally, no active roosts or sign of active roosting (i.e., guano or staining) were detected during any of the site visits between 2021 – 2023.

Crotch's Bumble Bee

Crotch's bumble bee (*Bombus crotchii*) is a candidate for listing as endangered under the California Endangered Species Act (CESA). The species was listed as a candidate on September 30, 2022, with the final listing determination expected in summer 2025.

The site is small and located within an urbanized setting as it is surrounded by commercial and residential developments on all sides. Additionally, although potentially suitable coastal sage scrub habitat is present, the site shows evidence of anthropogenic disturbance and past grading activities and is largely depauperate, lacking many of the diverse floral resources preferred by Crotch's bumble bee such as milkweeds, lupines, medics, phacelias, clarkias, poppies, and larkspurs. Furthermore, the closest known records of this species occur in the Lake Calavera area, approximately 5.5 miles northwest from the site (CDFW 2025). Therefore, the proposed Project site is not likely to support foraging or nesting of this species.

6.6 Habitat Connectivity and Wildlife Corridors

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 2.44-acre Project site is a predominantly undeveloped parcel surrounded by existing, high-density residential and mixed commercial development that likely does not provide large-scale regional wildlife movement or habitat connectivity value, but may provide small-scale, local value for small mammals, reptiles, and mesocarnivores. In addition, birds (especially those protected by the MBTA that are using the Pacific Flyway) and bats may use the site as foraging habitat.

The Project site is also fenced on all sides (with chain-linked fencing on three sides and open cable railing on a single side) which would preclude its use in facilitating large wildlife movement through the urban landscape. In addition, the site is not located within a Biological Core Linkage Area (Ogden 2001). As such, the isolated Project site is not expected to provide for wildlife movement or serve as an important habitat linkage for wildlife traversing the region.

7 Project Impacts, Significance, and Mitigation Measures

7.1 Significance Guidance/Criteria

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 in the following section.

7.2 Impacts and Significance

7.2.1 Vegetation Communities and Land Cover Types

Direct Impacts

Direct impacts to vegetation as a result of the proposed project are shown in Table 3. All biological resources within the impact footprint are considered directly and permanently impacted. Figure 4 illustrates the distribution of biological resources on the Project site and the extent of the proposed impacts.

Table 3. Proposed Impacts to Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover	On-Site Acreage	Direct Impact (acres)	Mitigation Ratio	Required Mitigation (acres)
Group C – Coastal Sage Scrub				
Diegan Coastal Sage Scrub	2.13	2.13	1:1	2.13
Group D – Annual Grasslands				
Non-Native Grassland—Broadleaf-Dominated	0.12	0.12	0.5:1	0.06
Group F – Other Lands				
Disturbed Habitat	0.20	0.20	N/A	0
Total*	**2.44**	**2.44**	—	**2.19**

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

The entire 2.44 acre Project site is expected to be permanently impacted. This would result in permanent impacts to 2.13 acres of Diegan coastal sage scrub, permanent impacts to 0.12 acre of non-native grassland-broadleaf-dominated, and permanent impacts to 0.20 acre of disturbed lands. Permanent impacts to the disturbed habitat totaling 0.20 acre would not be significant because this land cover is not considered sensitive, it is non-native, and provides little biological resource value.

Direct permanent impacts to native coastal sage scrub and non-native grassland communities would be significant absent mitigation. The proposed Project would result in the purchase of 2.19 acres of sensitive upland vegetation communities (Mitigation Measure [MM] BIO-1). Implementation of MM-BIO-1 would provide for the required 1:1 mitigation ratio for impacts to coastal sage scrub and 0.5:1 mitigation ratio for non-native grassland. Implementation of MM-BIO-1 would reduce potential direct, permanent impacts to less than significant.

Indirect Impacts

Indirect impacts during construction may include dust, anthropogenic trash, and accidental transport of non-native plant species into the Project site by vehicles, equipment, or foot traffic. Implementation of MM-BIO-2, which includes industry-standard construction best management practices (BMPs), including dust control, good housekeeping procedures, and measures to protect the site from establishment of invasive species would be required for the Project to obtain a grading permit. Implementation of these measures during construction, including consistency with the Construction General Permit Order 2009-009-DWQ, would reduce any potential short-term indirect impacts to a level that is less than significant. In addition, the implementation of MM-BIO-3, would ensure

that the proposed Project's landscaping plan does not include exotic plant species that may be invasive and/or harmful to native habitats in the region, as well as prohibit the use of plants that require intensive irrigation, fertilizers, or pesticides. Implementation of MM-BIO-4 will ensure compliance with all Project-imposed mitigation measures with the presence of a biological monitor on site.

7.2.2 Aquatic Resources

No aquatic resources are present within the Project site; therefore no direct or indirect impacts to aquatic resources will occur.

7.2.3 Critical Habitat

San Diego fairy shrimp critical habitat designated in 2007 encompasses nearly the entire Project site. However, as discussed in Section 6.2, Aquatic Resources, field study observations in 2023 show that the site does not support suitable ponding or habitat for fairy shrimp. Therefore, the site does not contain the physical or biological features essential to the conservation of the species (i.e., primary constituent elements, such as vernal pools or supporting topographic features). In addition, at the time of this report the Project is not subject to federal agency actions and, as such, critical habitat designations alone do not affect activities by private landowners.

7.2.4 Sensitive Plants

The proposed Project site does not support any special-status plant species and none are considered as having a moderate or high potential to occur; therefore construction of the project will not result in direct or indirect impacts to any special-status plant species.

7.2.5 Sensitive Wildlife

The proposed Project site does not support any special-status wildlife species and none are considered as having a moderate or high potential to occur; therefore construction of the project will not result in direct or indirect impacts to any special-status wildlife species. Migratory Birds Protected under the Migratory Bird Treaty Act and Fish and Game Code 3503.5 have potential to nest on site; impacts to nesting birds or other wildlife would be significant, absent mitigation. Implementation of MM-BIO-5 and MM-BIO-6 would avoid potential impacts to nesting wildlife through breeding season avoidance and/or nesting survey(s).

7.2.6 Wildlife Corridors and Habitat Linkages

No wildlife corridors or habitat linkages occur within the site, therefore no direct or indirect impacts to wildlife corridors and habitat linkages will occur.

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 as discussed in Section 7.3 below, 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.

7.3 Summary of Mitigation Measures

MM-BIO-1 Off-Site Mitigation. Impacts to sensitive vegetation shall be mitigated through the purchase of 2.13 acres of Diegan coastal sage scrub and 0.06 acres of non-native grassland from a County approved mitigation bank. The amount of mitigation acreage required for non-native grassland may be reduced if up-tiered (i.e., coastal sage scrub) habitat is available for purchase. If mitigation credits are not available for purchase, an alternative may be designation of an off-site preserve.

MM-BIO-2 Construction Best Management Practices. The Project applicant shall ensure that the following conditions are implemented during Project construction to minimize potential environmental impacts due to project implementation:

1. 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.
2. Employees shall strictly limit their activities, vehicles, equipment, and construction materials to the Project site.
3. 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.
4. Pets of Project personnel shall not be allowed on the Project site.

MM-BIO-3 Landscaping. The applicant shall ensure that development landscaping habitat does not include exotic plant species that may be invasive to native habitats in the region. 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.

MM-BIO-4 Biological Monitor Requirements and Duties. A qualified biologist shall be on site per the discretion of the City during initial clearing/grubbing and during grading 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 potential biological resources, monitor ongoing work, and maintain communications with the Project's engineer to ensure that any issues are appropriately and lawfully managed.

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

1. Periodically monitor the work area to ensure that work activities do not generate excessive amounts of dust.
2. 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.
3. 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 were achieved.

MM-BIO-5 Breeding Season Avoidance. The removal of coastal sage scrub 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-6 shall be implemented.

MM-BIO-6 Nesting Survey(s). Take of birds protected under the Migratory Bird Treaty Act and California Fish and Game Code shall be avoided during the nesting season. 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.

Additionally, take of a state candidate species is prohibited under CESA. While Crotch's bumble bee has low potential to occur on site, the pre-construction surveys for Crotch's bumble bee shall be conducted within the construction footprint prior to the start of ground-disturbing activities occurring during the Crotch's bumble bee nesting period (February 1 through October 31). The survey shall ensure that no nests for Crotch's bumble bee are located within the construction area. The pre-construction survey shall include focused surveys, which shall be based on recommendations described in the Survey Considerations for California Endangered Species Act (CESA) Candidate Bumble Bee Species, released by the California Department of Fish and Wildlife (CDFW) on June 6, 2023, or the most current version at the time of construction.

The surveys shall be performed by a biologist with expertise in surveying for bumble bees and include at least three survey passes that are not on sequential days or in the same week, preferably spaced 2 to 4 weeks apart. Surveys may occur between 1 hour after sunrise and 2 hours before sunset. Surveys shall not be conducted during wet conditions (e.g., foggy, raining, or drizzling), and surveyors shall wait at least 1 hour following rain. Optimal surveys are when there are sunny to partly sunny skies and a temperature greater than 60°F. Surveys may be conducted earlier if other bees or butterflies are flying. Surveys shall not be conducted when it is windy (i.e., sustained winds greater than 8 miles per hour). Within non developed habitats, the biologist shall look for nest resources suitable for bumble bee use. Ensuring that all nest resources receive 100% visual coverage, the biologist shall watch the nest resources for up to 5 minutes, looking for exiting or entering worker bumble bees. Worker bees should arrive and exit an active nest site with frequency,

such that their presence would be apparent after 5 minutes of observation. If a bumble bee worker is detected, then a representative shall be identified to species. Biologists should be able to view several burrows at one time to sufficiently determine if bees are entering/exiting them, depending on their proximity to one another. It is up to the discretion of the biologist regarding the actual survey viewshed limits from the chosen vantage point to determine which would provide 100% visual coverage; this could include a 30- to 50-foot-wide area. If a nest is suspected, the surveyor can block the entrance of the possible nest with a sterile vial or jar until nest activity is confirmed (no longer than 30 minutes).

Identification shall include trained biologists netting/capturing the representative bumble bee in appropriate insect nets, per the protocol in U.S. National Protocol Framework for the Inventory and Monitoring of Bees. The bee shall be placed in a clear container for observation and photographic documentation, if able. The bee shall be photographed using a macro lens from various angles to ensure recordation of key identifying characteristics. If bumble bee-identifying characteristics cannot be adequately captured in the container due to movement, the container shall be placed in a cooler with ice until the bumble bee becomes inactive (generally within 15 minutes). Once inert, the bumble bee shall be removed from the container and placed on a white sheet of paper or card for examination and photographic documentation. The bumble bee shall be released into the same area from which it was captured upon completion of identification. Based on implementation of this method on a variety of other bumble bee species, they become active shortly after removal from the cold environment, so photography must be performed quickly.

If Crotch's bumble bee nests are not detected, no further mitigation would be required. The mere presence of foraging Crotch's bumble bees would not require implementation of additional minimization measures because they can forage up to 10 kilometers from their nests. If nest resources occupied by Crotch's bumble bee are detected within the construction area, no construction activities shall occur within 100 feet of the nest, or as determined by a qualified biologist through evaluation of topographic features or distribution of floral resources. The nest resources shall be avoided for the duration of the Crotch's bumble bee nesting period (February 1 through October 31). Outside of the nesting season, it is assumed that no live individuals would be present within the nest because the daughter queens (gynes) usually leave by September, and all other individuals (original queen, workers, males) die. The gyne is highly mobile and can independently disperse to outside of the construction footprint to surrounding open space areas that support suitable hibernacula resources.

A written survey report shall be submitted to the City of San Marcos within 30 days of the last survey pass. The report shall include survey methods, weather conditions, and survey results, including a list of insect species observed and a figure showing the locations of any Crotch's bumble bee nest sites or individuals observed. The survey report shall include the qualifications/resumes of the surveyor(s) and approved biologist(s) for identification of photo vouchers and a detailed habitat assessment. If Crotch's bumble bee nests are observed, the survey report shall also include recommendations for avoidance, and the location information shall be submitted to the California Natural Diversity Database at the time of, or prior to, submittal of the survey report.

If Crotch's bumble bee is detected within the project site, the project applicant shall consult with CDFW regarding the need to obtain an Incidental Take Permit. Any measures determined to be

necessary through the Incidental Take Permit process to offset impacts to Crotch's bumble bee may supersede measures provided in this document.

In the event that an Incidental Take Permit is needed, mitigation for direct impacts to Crotch's bumble bee shall be fulfilled through compensatory mitigation at a minimum 1:1 nesting habitat replacement of equal or better functions and values to those impacted by the project, or as otherwise determined through the Incidental Take Permit process. Mitigation shall be accomplished through on-site preservation of suitable habitat and/or in accordance with CDFW guidance for off-site locations. The funding source shall be in the form of an endowment to help the qualified natural lands management entity that is ultimately selected to hold the conservation easement(s). The endowment amount shall be established following the completion of a project specific Property Analysis Record to calculate the costs of in-perpetuity land management. The Property Analysis Record shall take into account all management activities required in the Incidental Take Permit to fulfill the requirements of the conservation easement.

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9 List of Preparers

The individuals who prepared this document and associated appendices include biologist Shana Carey and biologist/project manager Kamarul Muri. Figures were created by GIS specialist Kelsey Bacon.

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SOURCE: SANGIS 2020, 2021

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

Armorlite Lofts Project

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SOURCE: SANGIS 2019; USDA 2022

DUDEK

0 30 60 Feet

FIGURE 2

Soils Present Within Project Site

Armorlite Lofts Project

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SOURCE: SANGIS 2020, 2021

DUDEK

0 50 100 Feet

FIGURE 3

Vegetation Communities and Land Covers

Armorlite Lofts Project

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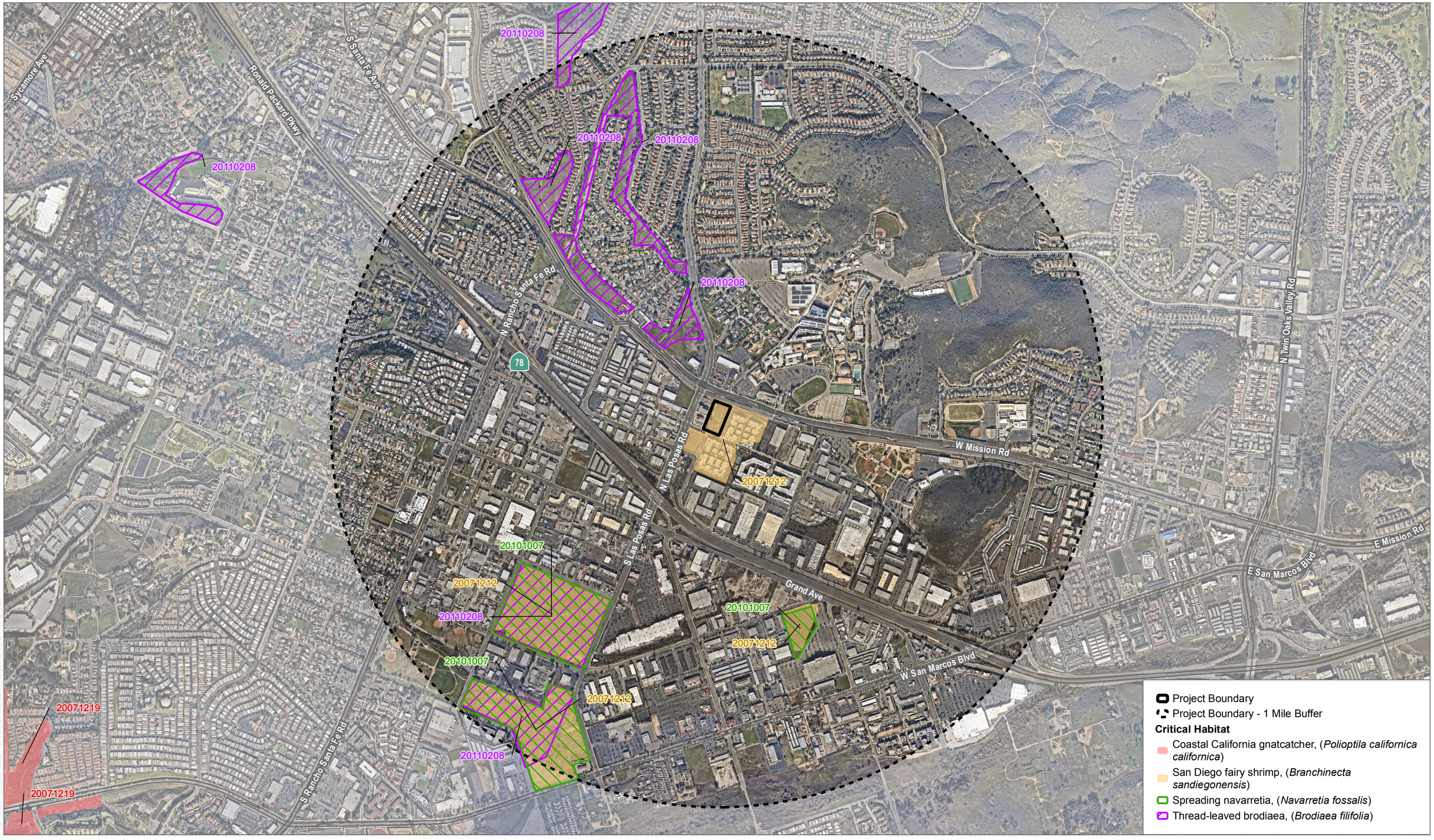

SOURCE: SANGIS 2019; USFWS

DUDEK

0 625 1,250 Feet

FIGURE 4

Critical Habitat within Project Vicinity

Armorlite Lofts Project

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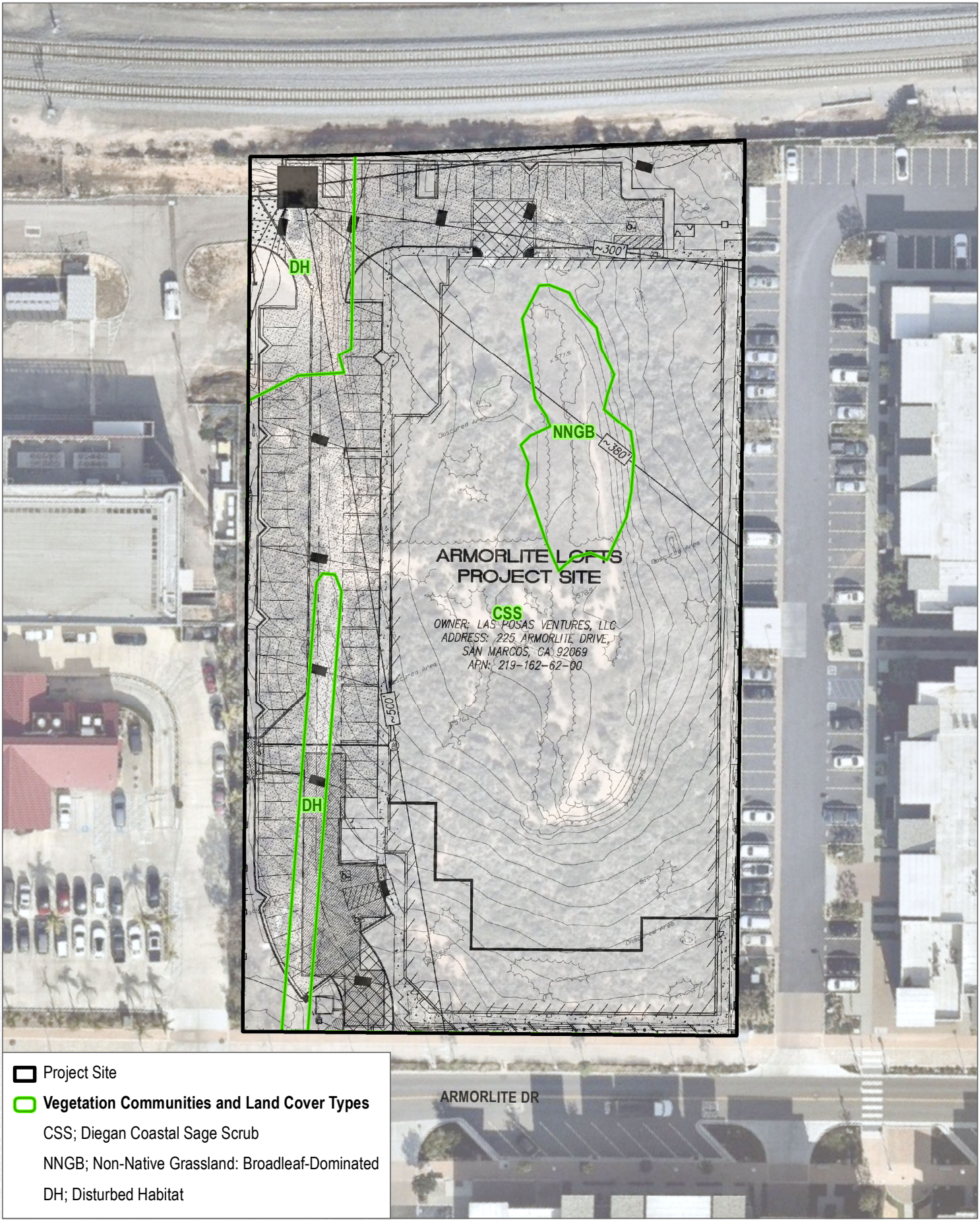

SOURCE: SANGIS 2020, 2021; Latitude33 2023

DUDEK

0 50 100 Feet

FIGURE 5

Proposed Impacts to Vegetation Communities and Land Covers

Armorlite Lofts Project

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Appendix A
Plant Compendium

Vascular Species

Eudicots

AMARANTHACEAE — AMARANTH FAMILY

* *Amaranthus albus* – prostrate pigweed
  Amaranthus blitoides – mat amaranth

ANACARDIACEAE – SUMAC OR CASHEW FAMILY

* *Schinus molle* – Peruvian peppertree

APIACEAE – CARROT FAMILY

* *Ammi majus* – large bullwort
  Daucus pusillus – American wild carrot
* *Foeniculum vulgare* – fennel

ASTERACEAE – SUNFLOWER FAMILY

Ambrosia psilostachya – western ragweed
Artemisia californica – California sagebrush
Baccharis pilularis ssp. *consanguinea* – coyotebrush
Baccharis salicifolia ssp. *salicifolia* – mulefat
Baccharis sarothroides – desertbroom
* *Centaurea melitensis* – Maltese star-thistle
Corethrogyne filaginifolia – sand-aster
Deinandra fasciculata – clustered tarweed
* *Dittrichia graveolens* – stinkwort
* *Erigeron bonariensis* – asthmaweed
Erigeron canadensis – Canadian horseweed
Eriophyllum confertiflorum var. *confertiflorum* – golden-yarrow
Hazardia squarrosa var. *grindelioides* – sawtooth bristleweed
Heterotheca grandiflora – telegraphweed
* *Hypochaeris glabra* – smooth cat's ear
Isocoma menziesii var. *vernonioides* – Menzies' goldenbush
* *Lactuca serriola* – prickly lettuce
Logfia filaginoides – California cottonrose
* *Logfia gallica* – narrowleaf cottonrose
Osmadenia tenella – false rosinweed
Pseudognaphalium beneolens – Wright's cudweed
Pseudognaphalium biolettii – two-color rabbit-tobacco
Pseudognaphalium californicum – ladies' tobacco

* *Pseudognaphalium luteoalbum* – Jersey cudweed
  Pseudognaphalium stramineum – cottonbatting plant
* *Sonchus asper* ssp. *asper* – spiny sowthistle
* *Sonchus oleraceus* – common sowthistle

BRASSICACEAE – MUSTARD FAMILY

* *Brassica nigra* – black mustard
* *Hirschfeldia incana* – shortpod mustard
* *Rosmarinus officinalis* – rosemary

CARYOPHYLLACEAE – PINK FAMILY

* *Polycarpon tetraphyllum* var. *tetraphyllum* – fourleaf manyseed
* *Silene gallica* – common catchfly

CONVOLVULACEAE – MORNING-GLORY FAMILY

* *Convolvulus arvensis* – field bindweed

CRASSULACEAE – STONECROP FAMILY

Crassula connata – sand pygmyweed

EUPHORBIACEAE – SPURGE FAMILY

Croton setiger – dove weed
* *Euphorbia maculata* – spotted sandmat

FABACEAE – LEGUME FAMILY

Acmispon glaber var. *glaber* – common deerweed
Acmispon micranthus – San Diego bird's-foot trefoil
* *Melilotus indicus* – annual yellow sweetclover

GENTIANACEAE – GENTIAN FAMILY

Zeltnera venusta – charming centaury

GERANIACEAE – GERANIUM FAMILY

* *Erodium cicutarium* – redstem stork's bill

LAMIACEAE – MINT FAMILY

* *Marrubium vulgare* – horehound
  Salvia apiana – white sage
  Salvia mellifera – black sage
  Trichostema lanceolatum – vinegarweed

LYTHRACEAE – LOOSESTRIFE FAMILY

* *Lythrum hyssopifolia* – hyssop loosestrife

MYRSINACEAE – MYRSINE FAMILY

* *Lysimachia arvensis* – scarlet pimpernel

MYRTACEAE – MYRTLE FAMILY

* *Eucalyptus sideroxylon* – red ironbark

ONAGRACEAE – EVENING PRIMROSE FAMILY

Camissoniopsis hirtella – Santa Cruz Island suncup

PLANTAGINACEAE – PLANTAIN FAMILY

Antirrhinum nuttallianum ssp. *subsessile* – lesser snapdragon

POLEMONIACEAE – PHLOX FAMILY

Eriastrum sp. – eriastrum

POLYGONACEAE – BUCKWHEAT FAMILY

Eriogonum fasciculatum var. *foliolosum* – California buckwheat

* *Rumex crispus* – curly dock

RHAMNACEAE – BUCKTHORN FAMILY

Rhamnus crocea – redberry buckthorn

RUBIACEAE – MADDER FAMILY

Galium aparine – stickywilly

SOLANACEAE – NIGHTSHADE FAMILY

* *Nicotiana glauca* – tree tobacco

URTICACEAE – NETTLE FAMILY

* *Urtica urens* – dwarf nettle

Monocots

AGAVACEAE – AGAVE FAMILY

* *Yucca aloifolia* – aloe yucca

ASPHODELACEAE – ASPHODEL FAMILY

* *Asphodelus fistulosus* – onionweed

POACEAE – GRASS FAMILY

* *Avena barbata* – slender oat
* *Bromus rubens* – red brome
* *Cortaderia selloana* – Uruguayan pampas grass

* *Cynodon dactylon* – Bermudagrass
* *Festuca myuros* – rat-tail fescue
* *Gastridium phleoides* – nit grass
* *Pennisetum setaceum* – fountain grass
* *Polypogon interruptus* – ditch rabbitsfoot grass
* *Schismus barbatus* – common Mediterranean grass
  Stipa lepida – foothill needlegrass

* signifies introduced (non-native) species

Appendix B
Wildlife Compendium

Wildlife Species

BIRDS

FINCHES

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch
Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Tyrannus vociferans—Cassin's kingbird

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

JAYS, MAGPIES & CROWS

CORVIDAE—CROWS & JAYS

Corvus brachyrhynchos—American crow

MOCKINGBIRDS & THRASHERS

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird

OLD WORLD WARBLERS & GNATCATCHERS

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea—blue-gray gnatcatcher

PIGEONS & DOVES

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

WOOD WARBLERS & ALLIES

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Melozone crissalis—California towhee
Zonotrichia leucophrys—white-crowned sparrow

MAMMALS

HARES & RABBITS

LEPORIDAE—HARES & RABBITS

Sylvilagus bachmani—brush rabbit

SQUIRRELS

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

REPTILES

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard
Sceloporus orcutti—granite spiny lizard

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)	Potential to Occur
Abronia maritima	red sand-verbena	None/None/4.2	Coastal dunes/perennial herb/Feb–Nov/ 0–330	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/ 245–5,245	Not expected to occur. Records of this subspecies are all north or east of the project site (CCH 2023). Focused surveys were negative.
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/35–3,145	Low potential to occur. No suitable clay soils on site. Focused surveys were negative.
Acmispon prostratus	Nuttall's acmispon	None/None/1B.1	Coastal dunes, Coastal scrub (sandy)/ annual herb/Mar–June(July)/0–35	Not expected to occur. The site is outside of the species' known elevation range.
Adolphia californica	California adolphia	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland; Clay/perennial deciduous shrub/ Dec–May/35–2,425	Low potential to occur. No suitable clay soils on site. Focused surveys were negative for this conspicuous perennial shrub.
Agave shawii var. *shawii*	Shaw's agave	None/None/2B.1	Coastal bluff scrub, Coastal scrub/perennial leaf/Sep–May/10–395	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	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ambrosia pumila	San Diego ambrosia	FE/None/1B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools; Alkaline (sometimes), Clay (sometimes), Disturbed areas (often), Loam (sometimes), Sandy (sometimes)/perennial rhizomatous herb/Apr–Oct/65–1,360	Low potential to occur. Although there is suitable coastal scrub and grassland, focused surveys for this species were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Aphanisma blitoides	aphanisma	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/annual herb/Feb–June/ 5–1,000	Low potential to occur. Although there is suitable coastal scrub vegetation with sandy loam soils, focused surveys were negative.
Aphyllon parishii ssp. *brachylobum*	short-lobed broomrape	None/None/4.2	Coastal bluff scrub, Coastal dunes, Coastal scrub; Sandy/perennial herb (parasitic)/ Apr–Oct/10–1,000	Not expected to occur. No suitable vegetation present.
Arctostaphylos glandulosa ssp. *crassifolia*	Del Mar manzanita	FE/None/1B.1	Chaparral (maritime, sandy)/perennial evergreen shrub/June–Apr/0–1,195	Not expected to occur. No suitable vegetation present.
Arctostaphylos rainbowensis	Rainbow manzanita	None/None/1B.1	Chaparral/perennial evergreen shrub/ Dec–Mar/675–2,195	Not expected to occur. No suitable vegetation present.
Artemisia palmeri	San Diego sagewort	None/None/4.2	Chaparral, Coastal scrub, Riparian forest, Riparian scrub, Riparian woodland; Mesic, Sandy/perennial deciduous shrub/ (Feb)May–Sep/15–3,000	Low potential to occur. Although there is suitable coastal scrub vegetation with sandy loam soils, the site is not mesic. Focused surveys were negative.
Asplenium vespertinum	western spleenwort	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub; Rocky/perennial rhizomatous herb/ Feb–June/590–3,280	Low potential to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative.
Atriplex coulteri	Coulter's saltbush	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Alkaline (sometimes), Clay (sometimes)/perennial herb/Mar–Oct/10–1,505	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not alkaline or clay. Focused surveys were negative.
Atriplex pacifica	south coast saltscale	None/None/1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub, Playas/annual herb/Mar–Oct/0–460	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Baccharis vanessae	Encinitas baccharis	FT/SE/1B.1	Chaparral (maritime), Cismontane woodland; Sandstone/perennial deciduous shrub/ Aug–Nov/195–2,360	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	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/165–1,525	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.
Brodiaea filifolia	thread-leaved brodiaea	FT/SE/1B.1	Chaparral (openings), Cismontane woodland, Coastal scrub, Playas, Valley and foothill grassland, Vernal pools; Clay (often)/ perennial bulbiferous herb/Mar–June/ 80–3,670	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.
Brodiaea orcuttii	Orcutt's brodiaea	None/None/1B.1	Chaparral, Cismontane woodland, Closed-cone coniferous forest, Meadows and seeps, Valley and foothill grassland, Vernal pools; Clay, Mesic/perennial bulbiferous herb/ May–July/100–5,550	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay and conditions are not mesic. Focused surveys were negative.
Calandrinia breweri	Brewer's calandrinia	None/None/4.2	Chaparral, Coastal scrub; Burned areas, Disturbed areas, Loam (sometimes), Sandy (sometimes)/annual herb/(Jan)Mar–June/ 35–4,000	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
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/330–5,575	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Camissoniopsis lewisii	Lewis' evening-primrose	None/None/3	Cismontane woodland, Coastal bluff scrub, Coastal dunes, Coastal scrub, Valley and foothill grassland; Clay (sometimes), Sandy (sometimes)/annual herb/Mar–May(June)/ 0–985	Low potential to occur. This species typically occurs on very sandy substrates near the beach (Reiser 2001). Focused surveys were negative.
Caulanthus simulans	Payson's jewelflower	None/None/4.2	Chaparral, Coastal scrub; Granitic, Sandy/annual herb/(Feb)Mar–May(June)/ 295–7,215	Low potential to occur. Almost all records are north and east of the project site (CCH 2023). Focused surveys were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Ceanothus cyaneus	Lakeside ceanothus	None/None/1B.2	Chaparral, Closed-cone coniferous forest/perennial evergreen shrub/ Apr–June/770–2,475	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Ceanothus verrucosus	wart-stemmed ceanothus	None/None/2B.2	Chaparral/perennial evergreen shrub/ Dec–May/5–1,245	Not expected to occur. No suitable vegetation present.
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	Not expected to occur. Focused surveys for this species were negative. A reference check was conducted for southern tarplant in the project site vicinity immediately prior to the survey to ensure proper timing for focused surveys.
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	Low potential to occur. The grassland habitat on site is dominated by mustards (*Brassica nigra* and *Hirchfeldia incana*) and substrates are not alkaline. Focused surveys were negative.
Chaenactis glabriuscula var. *orcuttiana*	Orcutt's pincushion	None/None/1B.1	Coastal bluff scrub (sandy), Coastal dunes/ annual herb/Jan–Aug/0–330	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, metavolcanic)/ perennial evergreen shrub/Nov–May/ 985–3,345	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Chorizanthe orcuttiana	Orcutt's spineflower	FE/SE/1B.1	Chaparral (maritime), Closed-cone coniferous forest, Coastal scrub; Openings, Sandy/annual herb/Mar–May/10–410	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; Clay (often)/annual herb/Apr–July/ 100–5,015	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Cistanthe maritima	seaside cistanthe	None/None/4.2	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Sandy/annual herb/(Feb)Mar–June(Aug)/15–985	Not expected to occur. Although there is suitable coastal scrub habitat present and sandy loam soils, focused surveys were negative.
Clarkia delicata	delicate clarkia	None/None/1B.2	Chaparral, Cismontane woodland; Gabbroic (often)/annual herb/Apr–June/770–3,280	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Comarostaphylis diversifolia ssp. *diversifolia*	summer holly	None/None/1B.2	Chaparral, Cismontane woodland/perennial evergreen shrub/Apr–June/100–2,590	Not expected to occur. No suitable vegetation present.
Convolvulus simulans	small-flowered morning-glory	None/None/4.2	Chaparral (openings), Coastal scrub, Valley and foothill grassland; Clay, Seeps, Serpentinite/annual herb/Mar–July/100–2,425	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay and there are no seeps or serpentine areas on site. Focused surveys were negative.
Corethrogyne filaginifolia var. *linifolia*	Del Mar Mesa sand aster	None/None/1B.1	Chaparral (maritime, openings), Coastal bluff scrub, Coastal scrub; Sandy/perennial herb/ May–Sep/15–490	Not expected to occur. Although there is suitable coastal scrub habitat present and sandy loam soils, focused surveys were negative.
Cryptantha wigginsii	Wiggins' cryptantha	None/None/1B.2	Coastal scrub; Clay (often)/annual herb/Feb–June/65–900	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.
Deinandra paniculata	paniculate tarplant	None/None/4.2	Coastal scrub, Valley and foothill grassland, Vernal pools; Sandy (sometimes), Vernally Mesic (usually)/annual herb/(Mar)Apr–Nov/ 80–3,080	Not expected to occur. Although there is suitable coastal scrub habitat present and sandy loam soils, no vernally mesic areas were identified during surveys. In addition, focused surveys were negative.
Dichondra occidentalis	western dichondra	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/ perennial rhizomatous herb/(Jan)Mar–July/ 165–1,640	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Dudleya alainae	Banner dudleya	None/None/3.2	Chaparral, Lower montane coniferous forest, Sonoran desert scrub; Rocky/perennial herb/Apr–July/2,425–3,935	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Dudleya blochmaniae ssp. *blochmaniae*	Blochman's dudleya	None/None/1B.1	Chaparral, Coastal bluff scrub, Coastal scrub, Valley and foothill grassland; Clay (often), Rocky, Serpentinite/perennial herb/Apr–June/15–1,475	Not expected to occur. This species occurs along the immediate coastline (CCH 2023).
Dudleya multicaulis	many-stemmed dudleya	None/None/1B.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay (often)/perennial herb/ Apr–July/50–2,590	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.
Dudleya variegata	variegated dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/perennial herb/Apr–June/ 10–1,900	Low potential to occur. No suitable clay soils on site and focused surveys were negative.
Dudleya viscida	sticky dudleya	None/None/1B.2	Chaparral, Cismontane woodland, Coastal bluff scrub, Coastal scrub; Rocky/perennial herb/May–June/35–1,800	Not expected to occur. This species occurs closer to the coast in San Diego County (CCH 2023) and focused surveys were negative.
Ericameria palmeri var. *palmeri*	Palmer's goldenbush	None/None/1B.1	Chaparral, Coastal scrub; Mesic/perennial evergreen shrub/(July)Sep–Nov/100–1,965	Not expected to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative for this conspicuous shrub.
Eryngium aristulatum var. *parishii*	San Diego button-celery	FE/SE/1B.1	Coastal scrub, Valley and foothill grassland, Vernal pools; Mesic/annual/perennial herb/ Apr–June/65–2,030	Not expected to occur. No suitable clay soils or vernal pools or mesic conditions on site. Focused surveys were negative.
Eryngium pendletonense	Pendleton button-celery	None/None/1B.1	Coastal bluff scrub, Valley and foothill grassland, Vernal pools; Clay, Vernally Mesic/perennial herb/Apr–June(July)/ 50–360	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)	Potential to Occur
Erysimum ammophilum	sand-loving wallflower	None/None/1B.2	Chaparral (maritime), Coastal dunes, Coastal scrub; Openings, Sandy/perennial herb/Feb–June(July–Aug)/0–195	Not expected to occur. The site is outside of the species' known elevation range.
Erythranthe diffusa	Palomar monkeyflower	None/None/4.3	Chaparral, Lower montane coniferous forest; Gravelly (sometimes), Sandy (sometimes)/ annual herb/Apr–June/4,000–6,000	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Euphorbia misera	cliff spurge	None/None/2B.2	Coastal bluff scrub, Coastal scrub, Mojavean desert scrub; Rocky/perennial shrub/ (Oct)Dec–Aug/35–1,640	Not expected to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative for this conspicuous shrub.
Ferocactus viridescens	San Diego barrel cactus	None/None/2B.1	Chaparral, Coastal scrub, Valley and foothill grassland, Vernal pools/perennial stem/ May–June/10–1,475	Not expected to occur. Focused surveys were negative for this conspicuous perennial stem succulent.
Githopsis diffusa ssp. *filicaulis*	Mission Canyon bluecup	None/None/3.1	Chaparral (disturbed areas, mesic)/annual herb/Apr–June/1,475–2,295	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Harpagonella palmeri	Palmer's grapplinghook	None/None/4.2	Chaparral, Coastal scrub, Valley and foothill grassland; Clay, Openings/annual herb/ Mar–May/65–3,130	Low potential to occur. Although there is suitable coastal scrub vegetation, soils are not clay. Focused surveys were negative.
Hazardia orcuttii	Orcutt's hazardia	None/ST/1B.1	Chaparral (maritime), Coastal scrub; Clay (often)/perennial evergreen shrub/ Aug–Oct/260–280	Not expected to occur. The site is outside of the species' known elevation range.
Heterotheca sessiliflora ssp. *sessiliflora*	beach goldenaster	None/None/1B.1	Chaparral (coastal), Coastal dunes, Coastal scrub/perennial herb/Mar–Dec/0–4,015	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Holocarpha virgata ssp. *elongata*	graceful tarplant	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland/annual herb/May–Nov/195–3,605	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Hordeum intercedens	vernal barley	None/None/3.2	Coastal dunes, Coastal scrub, Valley and foothill grassland (depressions, saline flats), Vernal pools/annual herb/Mar–June/ 15–3,280	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Horkelia cuneata var. *puberula*	mesa horkelia	None/None/1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub; Gravelly (sometimes), Sandy (sometimes)/perennial herb/Feb–July(Sep)/ 230–2,655	Not expected to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative.
Horkelia truncata	Ramona horkelia	None/None/1B.3	Chaparral, Cismontane woodland; Clay, Gabbroic/perennial herb/May–June/ 1,310–4,265	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Isocoma menziesii var. *decumbens*	decumbent goldenbush	None/None/1B.2	Chaparral, Coastal scrub (often disturbed areas, sandy)/perennial shrub/Apr–Nov/ 35–820	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Iva hayesiana	San Diego marsh-elder	None/None/2B.2	Marshes and swamps, Playas/perennial herb/Apr–Oct/0–1,640	Not expected to occur. No suitable vegetation present.
Juglans californica	Southern California black walnut	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland/perennial deciduous tree/Mar–Aug/165–2,950	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Juncus acutus ssp. *leopoldii*	southwestern spiny rush	None/None/4.2	Coastal dunes (mesic), Coastal scrub, Marshes and swamps (coastal salt), Meadows and seeps (alkaline seeps)/perennial rhizomatous herb/(Mar)May–June/10–2,950	Not expected to occur. No suitable vegetation present.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None/1B.1	Marshes and swamps (coastal salt), Playas, Vernal pools/annual herb/Feb–June/ 5–4,000	Not expected to occur. No suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Lathyrus splendens	pride-of-California	None/None/4.3	Chaparral/perennial herb/Mar–June/ 655–5,000	Not expected to occur. No suitable vegetation present.
Lepechinia cardiophylla	heart-leaved pitcher sage	None/None/1B.2	Chaparral, Cismontane woodland, Closed-cone coniferous forest/perennial shrub/ Apr–July/1,705–4,490	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Lepidium virginicum var. *robinsonii*	Robinson's pepper-grass	None/None/4.3	Chaparral, Coastal scrub/annual herb/ Jan–July/5–2,900	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Leptosyne maritima	sea dahlia	None/None/2B.2	Coastal bluff scrub, Coastal scrub/perennial herb/Mar–May/15–490	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Lycium californicum	California box-thorn	None/None/4.2	Coastal bluff scrub, Coastal scrub/perennial shrub/Mar–Aug(Dec)/15–490	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Microseris douglasii ssp. *platycarpha*	small-flowered microseris	None/None/4.2	Cismontane woodland, Coastal scrub, Valley and foothill grassland, Vernal pools; Clay/annual herb/Mar–May/50–3,510	Low potential to occur. No suitable clay soils or vernal pools on site. In addition, focused surveys were negative.
Monardella hypoleuca ssp. *intermedia*	intermediate monardella	None/None/1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest (sometimes)/ perennial rhizomatous herb/Apr–Sep/ 1,310–4,100	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Monardella hypoleuca ssp. *lanata*	felt-leaved monardella	None/None/1B.2	Chaparral, Cismontane woodland/perennial rhizomatous herb/June–Aug/985–5,165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Myosurus minimus ssp. *apus*	little mousetail	None/None/3.1	Valley and foothill grassland, Vernal pools (alkaline)/annual herb/Mar–June/ 65–2,095	Low potential to occur. No suitable clay soils or vernal pools on site. In addition, focused surveys were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Nama stenocarpa	mud nama	None/None/2B.2	Marshes and swamps (lake margins, riverbanks)/annual/perennial herb/ Jan–July/15–1,640	Not expected to occur. No suitable vegetation present.
Navarretia fossalis	spreading navarretia	FT/None/1B.1	Chenopod scrub, Marshes and swamps (shallow freshwater), Playas, Vernal pools/ annual herb/Apr–June/100–2,145	Not expected to occur. No suitable vegetation present.
Nemacaulis denudata var. *denudata*	coast woolly-heads	None/None/1B.2	Coastal dunes/annual herb/Apr–Sep/ 0–330	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Nemacaulis denudata var. *gracilis*	slender cottonheads	None/None/2B.2	Coastal dunes, Desert dunes, Sonoran desert scrub/annual herb/(Mar)Apr–May/ -,165–1,310	Not expected to occur. No suitable vegetation present.
Nolina cismontana	chaparral nolina	None/None/1B.2	Chaparral, Coastal scrub; Gabbroic (sometimes), Sandstone (sometimes)/ perennial evergreen shrub/(Mar)May–July/ 460–4,180	Not expected to occur. No suitable gabbroic or sandstone microhabitats. This conspicuous shrub would have been observed during focused surveys if present.
Ophioglossum californicum	California adder's-tongue	None/None/4.2	Chaparral, Valley and foothill grassland, Vernal pools (margins); Mesic/perennial rhizomatous herb/Jan–June(Dec)/ 195–1,720	Low potential to occur. The grassland habitat on site is dominated by mustards (*Brassica nigra* and *Hirchfeldia incana*) and conditions are not mesic. Focused surveys were negative.
Orcuttia californica	California Orcutt grass	FE/SE/1B.1	Vernal pools/annual herb/Apr–Aug/ 50–2,165	Not expected to occur. No suitable vegetation present.
Pentachaeta aurea ssp. *aurea*	golden-rayed pentachaeta	None/None/4.2	Chaparral, Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Riparian woodland, Valley and foothill grassland/annual herb/Mar–July/ 260–6,065	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Pinus torreyana ssp. *torreyana*	Torrey pine	None/None/1B.2	Chaparral, Closed-cone coniferous forest; Sandstone/perennial evergreen tree/ 100–525	Not expected to occur. No suitable vegetation present.
Pogogyne abramsii	San Diego mesa mint	FE/SE/1B.1	Vernal pools/annual herb/Mar–July/ 295–655	Not expected to occur. No suitable vegetation present.
Pseudognaphalium leucocephalum	white rabbit-tobacco	None/None/2B.2	Chaparral, Cismontane woodland, Coastal scrub, Riparian woodland; Gravelly, Sandy/perennial herb/(July)Aug–Nov(Dec)/ 0–6,885	Not expected to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative.
Psilocarphus brevissimus var. *multiflorus*	Delta woolly-marbles	None/None/4.2	Vernal pools/annual herb/May–June/ 35–1,640	Not expected to occur. No suitable vegetation present.
Quercus dumosa	Nuttall's scrub oak	None/None/1B.1	Chaparral, Closed-cone coniferous forest, Coastal scrub; Clay, Loam, Sandy/perennial evergreen shrub/Feb–Apr(May–Aug)/ 50–1,310	Not expected to occur. Although there is suitable coastal scrub habitat present, focused surveys were negative for this conspicuous shrub.
Quercus engelmannii	Engelmann oak	None/None/4.2	Chaparral, Cismontane woodland, Riparian woodland, Valley and foothill grassland/ perennial deciduous tree/Mar–June/ 165–4,265	Not expected to occur. Focused surveys were negative for this conspicuous tree.
Rupertia rigida	Parish's rupertia	None/None/4.3	Chaparral, Cismontane woodland, Lower montane coniferous forest, Meadows and seeps, Pebble (Pavement) plain, Valley and foothill grassland/perennial herb/ June–Aug/2,295–8,200	Not expected to occur. The site is outside of the species' known elevation range.
Salvia munzii	Munz's sage	None/None/2B.2	Chaparral, Coastal scrub/perennial evergreen shrub/Feb–Apr/375–3,490	Not expected to occur. Almost all records of this species are south of SR-52 (CCH 2023). Focused surveys for this conspicuous shrub were negative.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Selaginella cinerascens	ashy spike-moss	None/None/4.1	Chaparral, Coastal scrub/perennial rhizomatous herb//65–2,095	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Sidalcea neomexicana	salt spring checkerbloom	None/None/2B.2	Chaparral, Coastal scrub, Lower montane coniferous forest, Mojavean desert scrub, Playas; Alkaline, Mesic/perennial herb/ Mar–June/50–5,015	Low potential to occur. No suitable alkaline mesic habitat on site. Focused surveys were negative.
Sphaerocarpos drewiae	bottle liverwort	None/None/1B.1	Chaparral, Coastal scrub; Openings/ ephemeral liverwort/295–1,965	Not expected to occur. Although there is suitable coastal scrub habitat present, this species is known from only Kearny Mesa and Mission Valley areas (CCH 2023). In addition, focused surveys were negative
Sphenopholis interrupta ssp. *californica*	prairie false oat	None/None/1B.1	Chaparral (coastal); Clay/annual herb/Apr/ 50–50	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Stemodia durantifolia	purple stemodia	None/None/2B.1	Sonoran desert scrub (often mesic, sandy)/ perennial herb/(Jan)Apr–Dec/590–985	Not expected to occur. No suitable vegetation present.
Stipa diegoensis	San Diego County needle grass	None/None/4.2	Chaparral, Coastal scrub; Mesic (often), Rocky/perennial herb/Feb–June/35–2,620	Not expected to occur. This species occurs in southern San Diego County (CCH 2023).
Suaeda esteroa	estuary seablite	None/None/1B.2	Marshes and swamps (coastal salt)/ perennial herb/(Jan–May)July–Oct/0–15	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.
Suaeda taxifolia	woolly seablite	None/None/4.2	Coastal bluff scrub, Coastal dunes, Marshes and swamps (coastal margins)/perennial evergreen shrub/Jan–Dec/0–165	Not expected to occur. The site is outside of the species' known elevation range and there is no suitable vegetation present.

Scientific Name	Common Name	Status (Federal/State/CRPR)	Primary Habitat Associations/ Life Form/ Blooming Period/ Elevation Range (feet)	Potential to Occur
Tetracoccus dioicus	Parry's tetracoccus	None/None/1B.2	Chaparral, Coastal scrub/perennial deciduous shrub/Apr–May/540–3,280	Not expected to occur. Focused surveys for this conspicuous shrub were negative.
Viguiera laciniata	San Diego County viguiera	None/None/4.3	Chaparral, Coastal scrub/perennial shrub/Feb–June(Aug)/195–2,460	Low potential to occur. Although there is suitable coastal scrub, focused surveys for this species were negative.
Xanthisma junceum	rush-like bristleweed	None/None/4.3	Chaparral, Coastal scrub/perennial herb/Jan–Oct/785–3,280	Not expected to occur. The site is outside of the species' known elevation range.

Status Legend:
FE: Federally listed as endangered
FT: Federally listed as threatened
FC: Federal Candidate for listing
DL: Delisted
SE: State listed as endangered
ST: State listed as threatened
SC: State Candidate for listing
SR: State Rare
CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California but more common elsewhere
CRPR 3: Review List: Plants about which more information is needed
CRPR 4: Watch List: Plants of limited distribution
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20–80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

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Appendix D

Special-Status Wildlife Species Potential to Occur

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	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	Not expected to occur. The Project site lacks aquatic habitat to support this species. In addition, the site is located within a heavily developed area and specialized aquatic habitat is not present in adjacent developed areas.
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	Not expected to occur. The Project site lacks of suitable vernal pools, ephemeral wetlands, or similar aquatic habitats used for breeding. In addition, the site is not expected to be used as terrestrial refugia as the site is located within a heavily developed area and suitable aquatic habitat is not present in adjacent developed areas.
Reptiles				
Anniella stebbinsi	southern California legless lizard	None/SSC	Coastal dunes, stabilized dunes, beaches, dry washes, valley–foothill, chaparral, and scrubs; pine, oak, and riparian woodlands; associated with sparse vegetation and moist sandy or loose, loamy soils	Low potential to occur. Although the site supports suitable scrub habitat, the site has a history of regular disturbance which is likely to have compacted the soils leaving only patches of marginally loose and loamy soils for burrowing. In addition, the site is located within a heavily developed area and suitable habitat is not present in adjacent developed areas.
Aspidoscelis hyperythra	orange-throated whiptail	None/WL	Low-elevation coastal scrub, chaparral, and valley–foothill hardwood	Low potential to occur. Although suitable scrub habitat is present the site is located within a heavily developed area and unlikely to be utilized by this species.

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
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	Low potential to occur. Although suitable scrub habitat is present, the site has a history of regular disturbance which is likely to have compacted the soils leaving only patches of marginally loose, fine soils for burrowing. In addition, the site is surrounded by anthropogenic development, which generally results in high presence of non-native Argentine ants and lack of native harvester ants (Passera and Williams 1994) and this species is negatively associated with Argentine ant presence (Thomson et al. 2016).
Salvadora hexalepis virgultea	coast patch-nosed snake	None/SSC	Brushy or shrubby vegetation; requires small mammal burrows for refuge and overwintering sites	Low potential to occur. Although the site supports shrubby scrub vegetation and small mammal burrows, the site is surrounded by anthropogenic development and unlikely to be utilized by this species.
Birds				
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	Low potential to forage and nest. Although suitable coastal scrub habitat is present to support this species and the species is known to occur in the region (Unitt 2004, eBird 2023), the site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.
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	Low potential to forage and nest. Although suitable coastal scrub habitat is present to support this

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
			more dense patches but uses more open habitat in winter	species and the species is known to occur in the region (Unitt 2004, eBird 2023), the site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.
Athene cunicularia (burrow sites and some wintering sites)	burrowing owl	BCC/SSC	Nests and forages in grassland, open scrub, and agriculture, particularly with ground squirrel burrows	Low potential to occur. Although ground squirrel burrows are present on-site, the majority of the site is composed of brushy coastal sage scrub and lacks suitable open habitat to support this species. In addition, the site is surrounded by anthropogenic development and suitable habitat is not present in adjacent areas.
Campylorhynchus brunneicapillus sandiegensis (San Diego and Orange Counties only)	coastal cactus wren	None/SSC	Southern cactus scrub patches	Not expected to occur. No suitable habitat present (mature swaths of cactus scrub patches) on site. In addition, the site is surrounded by anthropogenic development and suitable habitat is not present in adjacent areas.
Circus hudsonius (nesting)	northern harrier	BCC/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	Not expected to nest. No suitable open wetland, fields, or grassland habitat is present to support the nesting habits of this species.
Empidonax traillii extimus (nesting)	southwestern willow flycatcher	FE/SE	Nests in dense riparian habitats along streams, reservoirs, or wetlands; uses variety of riparian and shrubland habitats during migration	Not expected to occur. No suitable riparian habitat present to support this species.
Polioptila californica californica	coastal California gnatcatcher	FT/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	Low potential to occur. Although the majority of the site is composed of coastal sage scrub and there are multiple species

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
			40%; majority of nesting at less than 1,000 feet above mean sea level	occurrences in the region with the most recent and closest occurrence in 2017 located approximately 2.6 miles southeast of the site (CDFW 2023), focused surveys performed in 2023 for this species within the project site were negative. In addition, the site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.
Rallus obsoletus levipes	Ridgway's rail	FE/FP, SE, SCE	Coastal wetlands, brackish areas, coastal saline emergent wetlands	Not expected to occur. No suitable aquatic habitat present to support this species.
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	Not expected to occur. No suitable low, dense, riparian thicket habitat is present to support this species.
Mammals				
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	Not expected to roost. No suitable habitat is present to support the roosting habitat of this species.
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	Low potential to occur. Although the site supports suitable coastal scrub habitat, the site is surrounded by anthropogenic development and suitable habitat is not present in adjacent areas. The site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
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	Low potential to occur. Although the site supports suitable coastal scrub habitat, the site lacks suitable gravelly or sandy soil typically used for burrows. In addition, the site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.
*Dipodomys stephens*i	Stephens' kangaroo rat	FT/ST	Annual and perennial grassland habitats, coastal scrub or sagebrush with sparse canopy cover, or in disturbed areas	Low potential to occur. While suitable coastal scrub habitat is present, the site is fragmented and not connected to more continuous habitat off site. The site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized.
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	Not expected to occur. No suitable habitat (rocky canyons or cliffs) are present to support the roosting habitat of this species.
Lepus californicus bennettii	San Diego black-tailed jackrabbit	None/None	Arid habitats with open ground; grasslands, coastal scrub, agriculture, disturbed areas, and rangelands	Low potential to occur. While suitable coastal scrub habitat is present, the site is relatively small and isolated from larger undeveloped lands northeast of the site, which are more likely to be utilized. In addition, the site has been previously disturbed and is surrounded by anthropogenic development.
Neotoma lepida intermedia	San Diego desert woodrat	None/SSC	Coastal scrub, desert scrub, chaparral, cacti, rocky areas	Not expected to occur. While suitable coastal scrub habitat is present, the site small and not

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
				connected to more continuous habitat off site. In addition, the site has been previously disturbed and is surrounded by anthropogenic development.
Perognathus longimembris pacificus	Pacific pocket mouse	FE/SSC	Fine-grained sandy substrates in open coastal strand, coastal dunes, and river alluvium	Low potential to occur. The site lacks suitable open coastal area or coastal dune habitat to support this species.
Taxidea taxus	American badger	None/SSC	Dry, open, treeless areas; grasslands, coastal scrub, agriculture, and pastures, especially with friable soils	Not expected to occur. The site relatively small and surrounded by anthropogenic development. This species is wide ranging and not expected to occur in developed areas with high levels of human disturbance.
Invertebrates				
Bombus crotchii	Crotch's Bumble Bee	None/SCE	Open grassland and scrub communities supporting suitable floral resources.	Low potential to occur. The site is small and located within an urbanized setting surrounded by development. Although potentially suitable coastal sage scrub habitat is present, the site shows evidence of anthropogenic disturbance and past grading activities, and is largely depauperate, lacking many of the diverse floral resources prefered by Crotch's bumble bee such as milkweeds, lupines, medics, phacelias, clarkias, poppies, and larkspurs. Furthermore, the closest known records of this species occur in the Lake Calavera area, approximately 5.5 miles northwest from the site (CDFW 2025).

Scientific Name	Common Name	Status (Federal/State)	Primary Habitat	Potential to Occur
Branchinecta sandiegonensis	San Diego fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. Field studies in 2023 confirm that there is no vernal pool habitat or other suitable ephemerally-pooling habitat present to support this species.
Streptocephalus woottoni	Riverside fairy shrimp	FE/None	Vernal pools, non-vegetated ephemeral pools	Not expected to occur. Field studies in 2023 confirm that there is no vernal pool habitat or other suitable ephemerally-pooling habitat present to support this species.

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Appendix E

2023 Focused California Gnatcatcher Survey Report for the Armorlite Drive Property, City of San Marcos, San Diego County, California

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

April 6, 2023 14875

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

Subject: Focused California Gnatcatcher Survey Report for the Armorlite Drive Property, City of San Marcos, San Diego County, California

Dear Recovery Permit Coordinator:

This report documents the results of nine protocol-level presence/absence surveys for the coastal California gnatcatcher (*Polioptila californica californica*) conducted by Dudek biologists between October 28, 2022 and February 20, 2023 on an undeveloped 2.44-acre property with Assessor's Parcel Number 219-162-57-00 in the City of San Marcos, California. The property is located immediately north of Armorlite Drive, generally to the east of North Las Posas Road and south of West Mission Road and is situated adjacent to the Palomar Station mixed-use development.

The California gnatcatcher is a federally listed threatened species and a California Department of Fish and Wildlife (CDFW) Species of Special Concern. It is closely associated with coastal sage scrub habitat and is therefore threatened primarily by loss, degradation, and fragmentation of this habitat. The California gnatcatcher typically occurs below 820 feet above mean sea level (amsl) within 22 miles of the coast and 1,640 feet amsl for inland regions (Atwood and Bolsinger 1992). Studies have suggested that gnatcatchers avoid nesting on very steep slopes (greater than 40%) (Bontrager 1991). California gnatcatcher is also impacted by brown-headed cowbird (*Molothrus ater*) nest parasitism (Braden et al. 1997).

This report is intended to satisfy reporting requirements for surveys conducted by Kamarul Muri as a listed authorized individual under permit number #TE-813545.

Project Location and Existing Conditions

The subject property occupies approximately 2.44 acres and is located on Armorlite Drive, east of North Las Posas Road and south of West Mission Road in the City of San Marcos, California. The site is mapped in Section 10, Township 12 South, Range 3 West of the San Marcos U.S. Geological Survey 7.5-minute quadrangle and is centered at longitude 117°11'17.60" W and latitude 33°8'49.48" N. The site is adjacent to the Palomar Station mixed-use development to the east and south, a drive-thru restaurant and AT&T switch gear facility to the west, and the North County Transit District railroad right-of-way and West Mission Road to the north.

The undeveloped site is enclosed by chain-link fencing along the north, south and western property boundary and open cable railing situated atop a small retaining wall along the eastern property boundary. A gated driveway onto the site is located on Armorlite Drive, and a second gated driveway in the northwestern portion of the property provides vehicular access via the adjacent AT&T facility to the west. Well-used foot paths and a hole in the chain-link fencing along the northern property limits indicate informal east-west walk-through access across the property. Other signs of site disturbance include pet waste and miscellaneous trash and litter. The site is generally flat with two small, paved drive aisles but slopes downward along its edges.

Two soils are identified on the US Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) soil survey within the proposed project area: Fallbrook sandy loam (FaC), 5 to 9 percent slopes; and Placentia sandy loam (PfA), 0 to 2 percent slopes. Most of the site is mapped as Fallbrook sandy loam (FaC). This soil type is characterized by 5 to 9 percent slopes, and is a member of the fine-loamy, mixed, superactive, thermic Typic family of Haploxeralfs. Typically, Fallbrook soils have dark brown to yellowish brown A horizons, and dominantly reddish brown B2t horizons, and are slightly acidic or neutral (USDA 2023). Fallbrook soils are typically found on gently rolling hills to very steep and have slopes of 5 to 75 percent. Elevations are 200 to 3,000 feet. These soils formed in residuum weathered from granitic and closely related granitic rocks. Clay content increases at depth to 25% in the soil profile for Fallbrook sandy loam.

Placentia sandy loam (PfA) is found as a small inclusion in the extreme southwestern corner of the site. It is characterized by 0 to 2 percent slopes, and is a member of the fine, smectitic, thermic Typic Natrixeralfs. Typically, Placentia soils have brown, medium acid, sandy loam A horizons, dark reddish brown, clay and heavy sandy clay loam B2t horizons with prismatic structure in the upper part and strong brown, gravelly sandy loam C horizons (USDA 2023). Placentia soils are nearly level to moderately sloping and are on fans and terraces at elevations of 50 to 2,500 feet. They formed in alluvium from granite and other rocks of similar composition and texture. This soil type has a claypan (43% clay) approximately 16 inches below ground surface.

Vegetation Communities

The 2.44-acre site consists mostly of Diegan coastal sage scrub, but also includes disturbed/developed lands. Coastal sage scrub on site is dominated by California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), coyote brush (*Baccharis pilularis*), and black sage (*Salvia mellifera*). Developed areas on site include an asphalt driveway off Armorlite Drive that extends north towards the center of the site. The portion of the site along the northern fence is fairly disturbed with a well-worn footpath, trash, pet waste and openings in the chain-link fence suggesting frequent pass-through foot traffic through the site between the residential areas to the east and North Las Posas Road to the west. Two roughly linear areas of disturbed, cleared land intersect and run roughly perpendicular to each other through the center of the site.

Methods

The entire property was surveyed nine times by Dudek biologist Kamarul Muri (Permit # TE-813545) between October 2022 and February 2023, with Dudek biologist Shana Carey accompanying as a California gnatcatcher trainee on December 9, 2022. The schedule of surveys and a summary of conditions is provided in Table 1. The surveys were conducted in conformance with the currently accepted protocol of the U.S. Fish and Wildlife Service (USFWS 1997) for projects that are not within an NCCP jurisdiction.

Table 1. Schedule of Surveys

Date	Time	Surveyor	Survey Conditions
10/28/22	9:00 AM–10:59 AM	K. Muri	62–67°F; 0% cloud cover; 0–2 mph wind
11/11/22	10:00 AM–11:45 AM	K. Muri	66–69°F; 30% cloud cover; 1–4 mph wind
11/25/22	7:13 AM–9:08 AM	K. Muri	56–67°F; 0% cloud cover; 0–2 mph wind
12/9/22	8:35 AM–10:32 AM	K. Muri, S. Carey	51–58°F; 0% cloud cover; 0–1 mph wind
12/23/22	7:00 AM–8:54 AM	K. Muri	47–52°F; 0% cloud cover; 0–2 mph wind
1/6/23	9:00 AM–11:14 AM	K. Muri	50-52°F; 0% cloud cover; 1–2 mph wind
1/20/23	8:45 AM–10:55 AM	K. Muri	48–59°F; 0% cloud cover; 0–1 mph wind
2/6/23	8:38 AM–11: AM	K. Muri	53–60°F; 0% cloud cover; 0–2 mph wind
2/20/23	9:30 AM–11:27 AM	K. Muri	63–65°F; 0% cloud cover; 1–6 mph wind

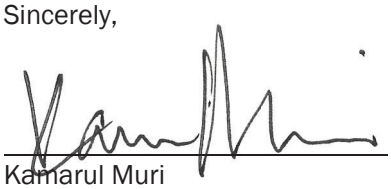
A tape of recorded California gnatcatcher vocalizations played approximately every 50 to 100 feet was used to induce responses from potentially present gnatcatchers. If a gnatcatcher was detected, the recorded playback was immediately terminated to minimize potential for harassment. Aerial coverage of the area in the esri Field Maps mobile application was used to navigate the site and map any gnatcatchers detected. Binoculars (10 x 42) were used to aid in detecting and identifying bird species. Weather conditions, time of day, and season were appropriate for the detection of gnatcatchers. Survey routes are shown in Figure 2.

Results

California gnatcatcher was not observed during the focused survey (Figure 2). While coastal sage scrub vegetation on site is superficially suitable for California gnatcatcher based on the overall habitat structure and the presence of primary constituent species such as California sagebrush, the available habitat patch on site is small, is substantially degraded by physical disturbances and non-native species, and lies in an urbanized setting isolated on all sides from larger, intact habitat areas.

A full list of wildlife species observed during the surveys is provided in Appendix A. I certify that the information in this survey report and attached exhibits fully and accurately represents my work. Feel free to contact me at kmuri@dudek.com with questions or if you require additional information.

Sincerely,



Kamarul Muri
Senior Biologist; Permit # TE-813545

Att.: Figures 1-2

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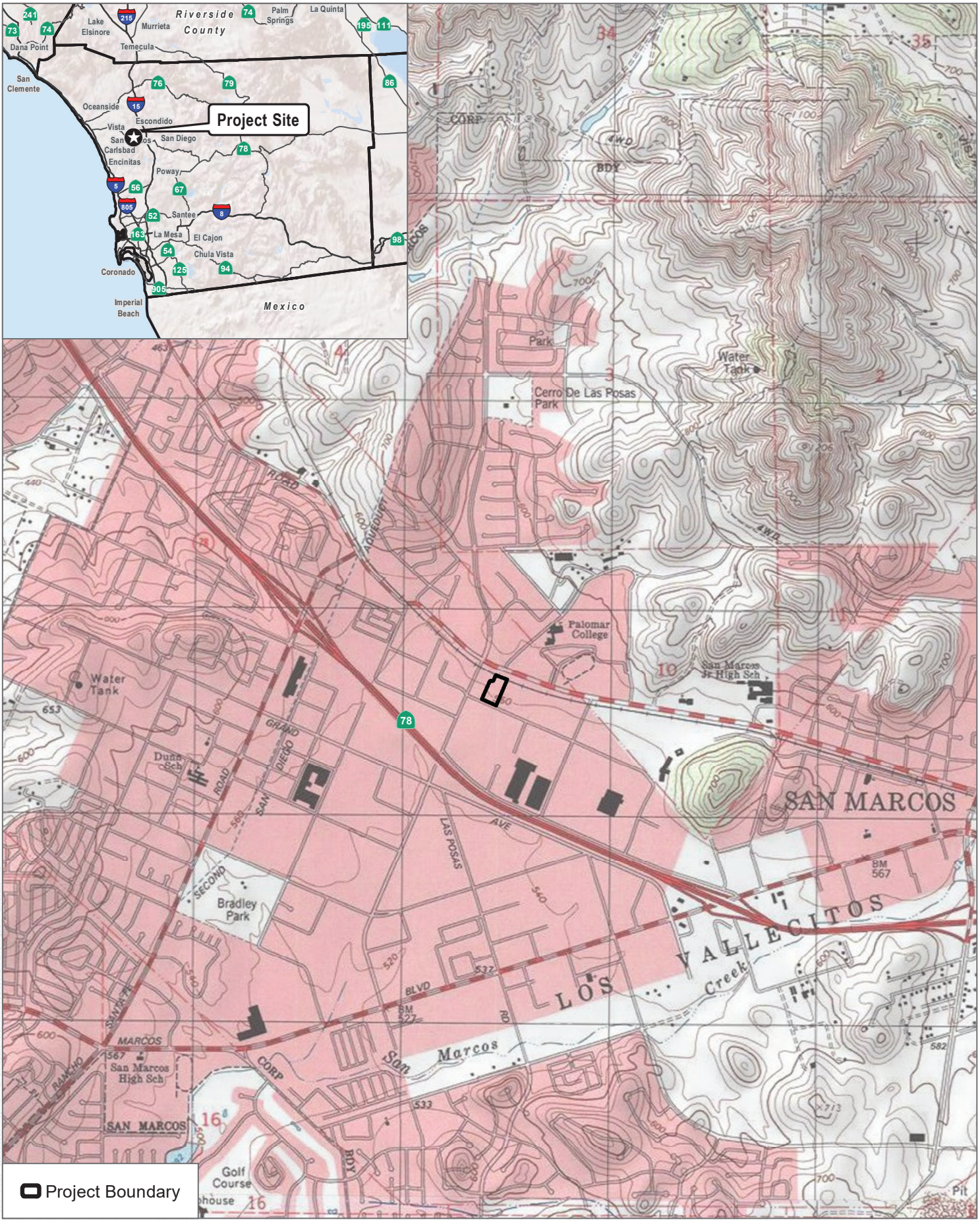

SOURCE: USGS 7.5-minute Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 1

Project Location

North Las Posas Project

SOURCE: SANGIS 2020, 2021

DUDEK

0 50 100 Feet

FIGURE 2

Survey Results

North Las Posas Project

Appendix A

Comprehensive Wildlife Species List

Appendix A
Comprehensive Wildlife Species List

BIRDS

FINCHES

FRINGILLIDAE—FRINGILLINE & CARDUELINE FINCHES & ALLIES

Haemorhous mexicanus—house finch

Spinus psaltria—lesser goldfinch

FLYCATCHERS

TYRANNIDAE—TYRANT FLYCATCHERS

Tyrannus vociferans—Cassin's kingbird

HUMMINGBIRDS

TROCHILIDAE—HUMMINGBIRDS

Calypte anna—Anna's hummingbird

JAYS, MAGPIES & CROWS

CORVIDAE—CROWS & JAYS

Corvus brachyrhynchos—American crow

MOCKINGBIRDS & THRASHERS

MIMIDAE—MOCKINGBIRDS & THRASHERS

Mimus polyglottos—northern mockingbird

OLD WORLD WARBLERS & GNATCATCHERS

POLIOPTILIDAE—GNATCATCHERS

Polioptila caerulea—blue-gray gnatcatcher

PIGEONS & DOVES

COLUMBIDAE—PIGEONS & DOVES

Zenaida macroura—mourning dove

WOOD WARBLERS & ALLIES

PARULIDAE—WOOD-WARBLERS

Setophaga coronata—yellow-rumped warbler

WRENS

TROGLODYTIDAE—WRENS

Thryomanes bewickii—Bewick's wren

NEW WORLD SPARROWS

PASSERELLIDAE—NEW WORLD SPARROWS

Melozone crissalis—California towhee

Zonotrichia leucophrys—white-crowned sparrow

MAMMALS

HARES & RABBITS

LEPORIDAE—HARES & RABBITS

Sylvilagus bachmani—brush rabbit

SQUIRRELS

SCIURIDAE—SQUIRRELS

Otospermophilus beecheyi—California ground squirrel

REPTILES

LIZARDS

PHRYNOSOMATIDAE—IGUANID LIZARDS

Sceloporus occidentalis—western fence lizard

Sceloporus orcutti—granite spiny lizard