MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP)

Pacifica Cottonwood TTM 38264 Project Site

City of Moreno Valley, Western Riverside County, California

FINAL REPORT

Onsite APN: 478-250-001
Offsite APN: Portions of 478-353-003, 478-362-003 (RCFCD) and Right-of-Ways

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June 2023

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1. EXECUTIVE SUMMARY

The 18.83-acre project site (Tentative Tract Map No. 38264) including 2.62-acre offsite impact area (21.45-acre total) is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Reche Canyon/Badlands Plan Area. The project site is not located within an MSHCP criteria area cell, group, or linkage area. The action area possesses 1.10-acre of "MSHCP" Section 6.1.2 Riverine and Riparian resources.

For purposes of assessing existing conditions and impacts, all resources delineated as California Department of Fish and Wildlife (CDFW) regulated features were also characterized as MSHCP Section 6.1.2 Riverine and Riparian resources (Blackhawk Environmental, Inc. 2022a, 2022b, Cadre Environmental 2023, CDFW 2023). Permanent impacts to 1.10-acre of MSHCP Section 6.1.2 Riverine and Riparian resources located within the existing Riverside County Flood Control and Water Conservation District (RCFCD) channel will occur as a result of project implementation (Blackhawk Environmental, Inc. 2022b, Cadre Environmental 2023, CDFW 2023), as outlined in Table 1, *MSHCP Section 6.1.2 Resources Impacts*. No temporary impacts to MSHCP 6.1.2 Riverine or Riparian resources will result from project implementation.

Table 1.
MSHCP Section 6.1.2 Resources Impacts

Section 6.1.2 Resources	Flood Control Channel Acres TOTAL	Permanent Impacts Acres Onsite	Permanent Impacts Acres Offsite	Permanent Impacts TOTAL	Avoided Acres
Riverine	1.24	0.01	1.00	1.01	0.23
Riparian	0.10	--	0.09	0.09	0.01
TOTALS	**1.34**	**0.01**	**1.09**	**1.10**	**0.24**

Source: Blackhawk Environmental, Inc. 2022a, 2022b, Cadre Environmental 2023, CDFW 2023.

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset permanent impacts to 1.10-acre of MSHCP Section 6.1.2 Riverine and Riparian resources by:

Measure 1: Mitigation for permanent impacts to 1.10-acre of MSHCP Section 6.1.2 riparian and riverine resources would include 1.10-acre of reestablishment and 1.10-acre of rehabilitation credits from the Riverpark Mitigation Bank for a ratio of 2:1, totaling 2.20-acre.

Measure 2: The construction contractor shall install temporary erosion control measures at the downstream and western limits of the flood control channel to reduce impacts to downstream resources from excess sedimentation, siltation, and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, or dikes to protect storm drain inlets and drainages.

Measure 4: During construction of the Project, the construction contractor shall implement the following measures during construction to avoid impacts to downstream resources:

- No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the within or adjacent to the channel.

- Any equipment or vehicles driven and/or operated within or adjacent to the channel shall be checked and maintained daily, to prevent leaks of materials into onsite drainages. No equipment maintenance shall be conducted near the channel.

Measure 4: No impacts shall occur to the onsite RCFCD channel until appropriate permits have been obtained from the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW), as warranted. Specifically, the following permits or certifications will be required:

- USACE Nationwide Permit
- RWQCB 401 Water Quality Certificate
- CDFW Section 1602 Streambed Alteration Agreement

The proposed mitigation option including the purchase of reestablishment and rehabilitation credits through the Riverpark Mitigation Bank for permanent impacts to 1.01-acre of MSHCP Section 6.1.2 Riverine and 0.09-acre of riparian resources (1.10-acre total) is a biologically equivalent or superior alternative to existing conditions. All project related impacts will occur within and immediately adjacent an existing RCFCD channel. Flood control channels require maintenance, repair and occasional vegetation removal to sustain flows and protect private properties from flooding and therefore the channel resources are subject to periodic disturbance and clearing in perpetuity.

2. INTRODUCTION

This document presents the results of a Determination of Biologically Equivalent or Superior Preservation (DBESP) analysis conducted by Cadre Environmental for the Pacifica Cottonwood residential development project as required under Section 6.1.2, *Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools*, of the Western Riverside County MSHCP (MSHCP 2004).

The following report has been primarily extracted, reviewed and updated from the Blackhawk Environmental, Inc. baseline studies and impact reports as follows:

Appendix A Pacifica Cottonwood Project Western Riverside MSHCP Habitat Assessment Report, City of Moreno Valley, Riverside County, California (Blackhawk Environmental, Inc. June 2nd, 2022)

Appendix B Pacifica Cottonwood Project Aquatic Resources Delineation Report, City of Moreno Valley, Riverside County, California (Blackhawk Environmental, Inc. June 7th, 2022)

Appendix C Pacifica Cottonwood Project Focused Burrowing Owl Survey Report, City of Moreno Valley, Riverside County, California (Blackhawk Environmental, Inc. September 15th, 2021)

Appendix D Cottonwood Collection Riverpark Credit Reservation Agreement

2.1 Project Site

The 18.83-acre project site including adjacent 2.62-acre offsite impact area (21.45-acre total) within which the impacts will occur is comprised of Assessor Parcel Number (APN) 478-250-001, offsite portions of 478-353-003 and 478-362-003 (RCFCD channel) and Right-of-Ways (Project Site). The Project Site is located within United States Geological Survey (USGS) 7.5' Series Sunnymead Quadrangle, Riverside County, Township 3 South, Range 3 West, Section 11, extending south of Cottonwood Avenue, east of Quincy Street and north of Bay Avenue as shown in Figure 1, *Regional Location Map* and Figure 2, *Vicinity Map.*

The Project Site is located within the MSHCP Reche Canyon/Badlands Plan Area and is not located within an MSHCP criteria area cell, group, or linkage area. The Project Site is not located within or adjacent to Public/Quasi-Public (PQP) or Regional Conservation Authority (RCA) conserved land.

The Project Site is located completely within the predetermined MSHCP burrowing owl survey area (RCA GIS Data Downloads 2022). The Project Site is not located within a predetermined survey area for MSHCP narrow endemic or criteria area plant species (RCA GIS Data Downloads 2022). The Project Site is not located within a predetermined survey area for criteria area, mammal or amphibian species (RCA GIS Data Downloads 2022).

2.2 Project Description

As stated by Blackhawk Environmental, Inc.:

"*Proposed development engineering plans involve the construction of residential homes, paved streets and sidewalks, landscaped areas and all associated infrastructure and would convert the currently vacant land to residential development. The proposed Project also includes a new bridge from Bay Avenue at the southwest end of the Project site, as well as channel improvements to the existing drainage feature."* (Blackhawk Environmental, Inc. 2022a)

2.3 Existing Conditions

Blackhawk Environmental, Inc. biologist Kris Alberts conducted the initial habitat assessment on May 5th, 2021 to evaluate existing conditions and potential for both direct and indirect impacts. The assessment included all proposed Project Site features as well as an additional 150-meter (492 feet) survey buffer surrounding the proposed Project Site (Blackhawk Environmental, Inc. 2022a)

As stated by Blackhawk Environmental, Inc. and illustrated in Figures 3 to 10, *Current Project Site Photographs*:

"*The Project site consists of a mostly flat, vacant, rectangular area characterized by previously disturbed lands, including areas subject to various types and levels of anthropogenic modification, generally lacking native vegetation. The greatest concentrations of native vegetation were associated with the western drainage feature. Overall, the site shows evidence of recent and previous soil disturbances through both intentional earth-moving activities, trash/debris dumping, and mowing. Review of historic aerials of the Project site indicate that the site has undergone periodic vegetation maintenance in the form of mowing and disking or farming since at least as far back as 1985 (Google Earth 2021). Commercial, residential and agricultural development over time adjacent to the Project site has rendered the area relatively isolated from native habitats.*

Absolute vegetative cover averaged over 80 percent, and non-native plant species were dominant in all portions of the Project site. Shrubs and trees were absent from the uppermost portion of the Project site where annual, non-native plant species accounted for an average vegetation height of one foot. The only observed trees within the Project site occurred within the drainage feature, and included only scattered small Goodding's willow (Salix gooddingii), mulefat (Baccharis salicifolia), salt cedar (Tamarix ramosissima) and California walnut (Juglans californica) trees in concentrations not substantial enough to warrant a designation of riparian habitat. Other trees in the Survey Area consisted of scattered ornamental species such as Mexican fan palm (Washingtonia robusta) associated with roads and residential developments to the north, east, and south of the parcel. The Project site provides marginally suitable habitat for common plant and wildlife species known to occur in the region and is restricted to species associated with disturbed areas.

Hydrology within the Project is characteristic of previously graded areas proposed for urban development with flat topography, isolated from surface run-off by municipal storm drain systems surrounding the site or that utilize the drainage feature at the west end of the Project site. The site generally slopes from northwest to southeast; however, signs of surface water runoff (erosional features, rills, etc.) were not observed on the uppermost elevations of the Project site, indicating that run-on to the site is absent and precipitation penetrates the course porous soils before running off. Soils throughout the Project are broadly described as "well drained", comprised of sandy loams. Except for the man-altered drainage feature at the west end of the Project site, natural hydrologic features were not observed within the Project boundary." (Blackhawk Environmental, Inc. 2022a)

The Soil Survey of Western Riverside Area has the following soils mapped within the boundary of the Project Site as shown on Figure 11, *Soils Association Map*:

- SeA San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost
- SeC2 San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded
- SgA San Emigdio loam, 0 to 2 percent slopes
- SgC San Emigdio loam, 2 to 8 percent slopes

Onsite APN 478-250-001
Offsite APNs Portions of 478-353-003 and 478-362-003 and Right-of-Ways

Figure 1 Regional Location Map
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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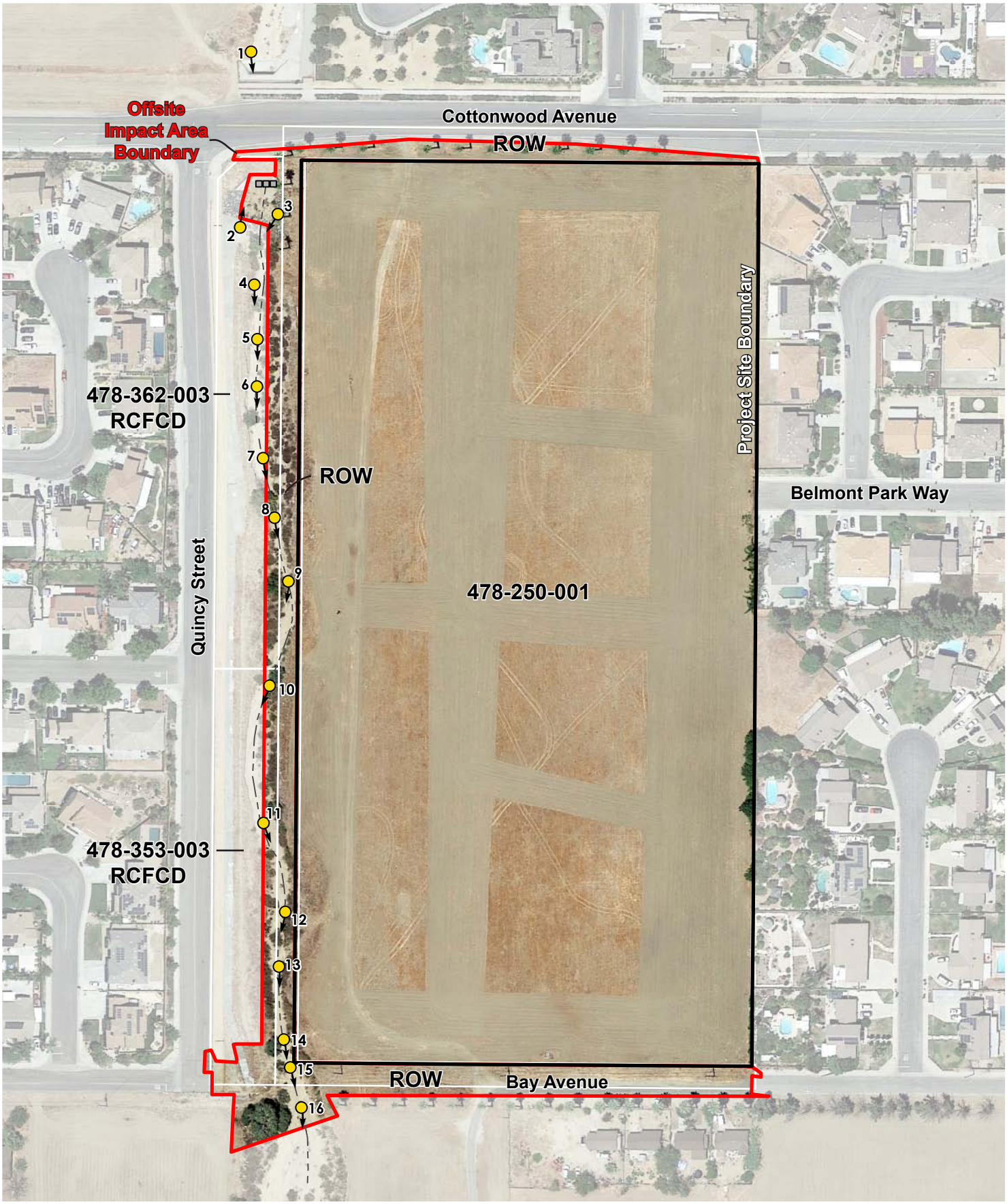
not to scale



Onsite APN 478-250-001
Offsite APNs Portions of 478-353-003 and 478-362-003 and Right-of-Ways

Figure 2 Project Site Map
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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N

1" = 180 feet

Photograph 1: South-facing view of Reach 1, from Photo Point 1, where three concrete-encased culverts pass under Cottonwood Avenue.

Photograph 2: North-facing view from Photo Point 2 at the southern boundary of Reach 1.

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 3 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 3: South-facing view into Reach 2 from Photo Point 3
foreground is at the southern boundary of Reach 1.

Photograph 4: South-facing view of channel in Reach 2 from Photo Point 4

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 4 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 5: South-facing view of channel in Reach 2 from Photo Point 5

Photograph 6: South-facing view of channel in Reach 2 from Photo Point 6

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 5 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 7: South-facing view of channel in Reach 3 from Photo Point 7.

Photograph 8: South-facing view of channel in Reach 3 from Photo Point 8.

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 6 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 9: South-facing view of channel in Reach 3 from Photo Point 9.

Photograph 10: South-facing view of channel at the southern boundary of Reach 3, looking into Reach 4 from Photo Point 10.

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 7 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 11: South-facing view of channel in Reach 4 from Photo Point 11.

Photograph 12: South-facing view of channel in Reach 4 from Pho

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 8 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 13: South-facing view of channel near the southern boundary of Reach 4 from Photo Point 13.

Photograph 14: South-facing view of channel near the northern boundary of Reach 5 from Photo Point 14.

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 9 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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Photograph 15: South-facing view of channel through Reach 5 from Photo Point 15.

Photograph 16: South-facing view of channel in Reach 5 from Photo Point 16.

Photograph and Text Source: Blackhawk Environmental 2022

Refer to Figure 2 for Photographic Key

Figure 10 - Current Project Site Photographs
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

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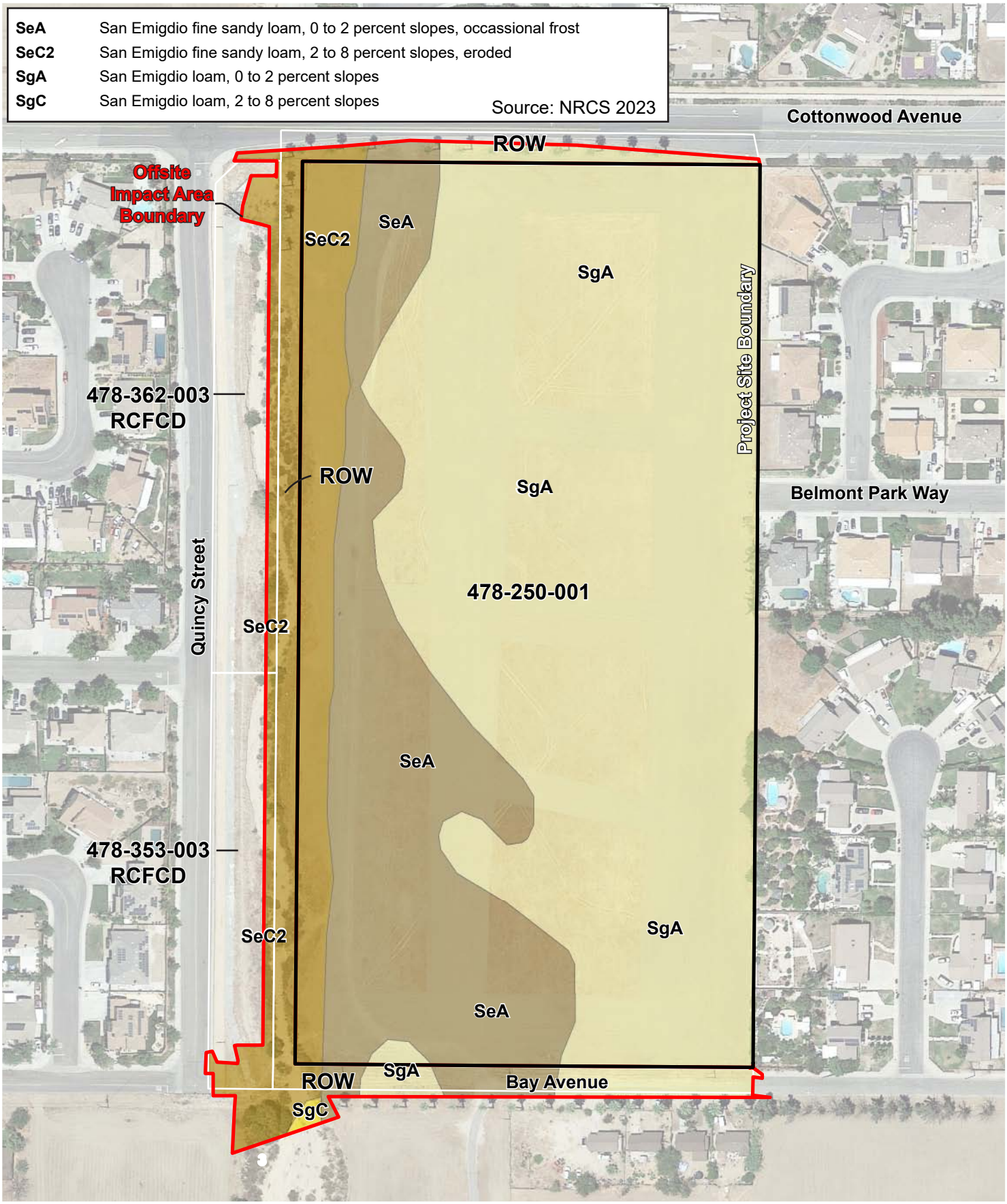

Onsite APN 478-250-001
Offsite APNs Portions of 478-353-003 and 478-362-003 and Right-of-Ways

Figure 11 - Soils Association Map
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

CADRE Environmental

N

1" = 180 feet

Residential/Urban/Exotic – Disturbed Areas (Holland code 11300)

As stated by Blackhawk Environmental, Inc.:

"*According to the Plan descriptions of Residential/Urban/Exotic areas, weed communities occur commonly in roadside areas and abandoned lots, such as the upper elevations of the proposed Project site. Within the Survey Area, these areas are further characterized according to the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as "Disturbed Lands", which may result from anthropogenic or natural causes and can take on many forms in context of the surrounding vegetation communities, available seed banks, and disturbance factors. These areas can result from previous grading, vehicular traffic, or temporary land uses such as previous adjacent project staging. If disturbance variables are removed, and Disturbed Land is left to natural processes, these areas have the capacity to revegetate in the short term, but do not function as native vegetation communities. This contrasts with Urban/Developed Areas described herein, that do not have the capacity to revegetate in the short term or consist of maintained landscaping. The majority of the parcel (20.019 acres) can be characterized by Residential/Urban/Exotic - Disturbed Lands in the form of non-native grasses, ruderal vegetation, and recently disturbed soils with very low absolute vegetative cover of native species. Dominant and sub-dominant vegetation in this habitat included foxtail barley (Hordeum murinum), red stemmed filaree (Erodium cicutarium), ripgut brome (Bromus diandrus), red brome (Bromus madritensis), and short-pod mustard (Hirschfeldia incana). Generally low numbers of native plant species were observed in Residential/Urban/Exotic areas and included common fiddleneck (Amsinckia menziesii). A full list of plant species observed within the Project is presented in Attachment D.*

Herbaceous ground cover in these areas was observed to provide groundcover in excess of 80 percent. Average height of vegetation was low, ranging from one half to two feet above ground.

Visible signs of recent mechanical disking and consistent anthropogenic disturbance were observed within this habitat type, precluding the potential for most special-status species of plants and wildlife (Attachment B, Photograph 1). The regional value of disturbed Residential/Urban/Exotic – Disturbed Lands on site is low; having potential as foraging habitat for raptors, some passerine bird species and use by rodents capable of withstanding frequent anthropogenic disturbance" (Blackhawk Environmental, Inc. 2022a)

Urban/Developed Areas (Holland code 12000)

As stated by Blackhawk Environmental, Inc.:

"*Urban/Developed Areas include those areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban/Developed (e.g., car recycling plant, quarry) (Oberbauer 2008). The Project site includes 0.291 acre of Urban/Developed Areas associated with*

unvegetated rip rap, pavement and concrete along the western drainage feature. Wildlife usage of developed areas may be limited to California ground squirrels and other rodents utilizing the rip rap for burrows and shelter." (Blackhawk Environmental, Inc. 2022a)

California Buckwheat Scrub (Holland code 32800)

As stated by Blackhawk Environmental, Inc.:

"*California Buckwheat Scrub is a near monoculture community usually resulting from disturbance and transitioning to coastal sage scrub or chaparral. Species characteristic of these communities appear over time. The dominant species is California buckwheat (Eriogonum fasciculatum) (Oberbauer 2008). The Project site includes 0.460 acre of California Buckwheat Scrub associated with several patches along the upper terraces of the western drainage feature. Annual herbaceous ground cover in these areas was observed to provide minimal groundcover while California buckwheat provided over 50 percent cover. Average height of vegetation was moderate, ranging from two to four feet above ground. Owing to small patch sizes on the Project site, the regional value of California Buckwheat Scrub stands on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species*." (Blackhawk Environmental, Inc. 2022a)

California Walnut Scrub (Holland code 71200)

As stated by Blackhawk Environmental, Inc.:

"*California Walnut Scrub is similar to and intergrades with Interior Live Oak Woodland or Coast Live Oak Woodland, but with a more open tree canopy locally dominated by California walnut. The open tree canopy allows development of a grassy understory. In most sites, this understory is comprised of introduced winter-active annuals that complete most of their growth cycle before the deciduous Juglans leafs out in spring. It tends to occur on relatively moist, fine-textured soils of valley slopes and bottoms, as well as encircling rocky outcrops. These drier, rocky sites often support Venturan or Riversidian Sage Scrub (Oberbauer 2008). The Project site includes 0.007 acre of California Walnut Scrub associated with one individual along the western drainage feature. Annual herbaceous ground cover in this area was observed to provide minimal groundcover while California walnut provided over 85 percent cover. Average height of vegetation was moderate, at about twelve feet above ground. Owing to the small patch size on the Project site, the regional value of California Walnut Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species."* (Blackhawk Environmental, Inc. 2022a)

Mule Fat Scrub (Holland code 63310)

As stated by Blackhawk Environmental, Inc.:

"*Within the Survey Area, Mulefat Scrub is characterized according to the Preliminary Descriptions of the Terrestrial Natural Communities of California (Holland 1986) as a "depauperate, tall, herbaceous riparian scrub strongly dominated by Baccharis salicifolia (Holland 1986)". This vegetation community is associated with areas of frequent flooding*

and generally occurs along intermittent streams or beside rivers. Mulefat Scrub requires channels with fairly coarse substrate and moderate depth to the water table (Holland1986). The banks of the drainage feature located along the western boundary of the Project Site includes several stands of Mulefat Scrub (0.113 acre) and Disturbed Mulefat Scrub (0.145 acre). Dominant and sub-dominant vegetation in this habitat included mulefat and short-pod mustard, and disturbed portions also contained tree tobacco (Nicotiana glauca). A full list of plant species observed within the Project is presented in Attachment D. Herbaceous ground cover in these areas was observed to provide groundcover in excess of fifty percent. Average height of vegetation was moderate, ranging from five to eight feet above ground. Owing to small patch sizes on the Project site, the regional value of Mulefat Scrub stands on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species." (Blackhawk Environmental, Inc. 2022a)

Southern Willow Scrub (Holland code 63310)

As stated by Blackhawk Environmental, Inc.:

"*Southern Willow Scrub includes dense, broadleafed, winter-deciduous riparian thickets dominated by several willow (Salix) species, with scattered emergent Fremont cottonwood (Populus fremontii) and California sycamore (Platanus racemosa). Most stands are too dense to allow much understory development. It tends to occur on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This early seral type requires repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest (Oberbauer 2008). The western bank of the drainage feature located along the western boundary of the Project Site includes one 0.021-acre stand of Southern Willow Scrub. The dominant species is Goodding's black willow. Underlying annual herbaceous coverage included primarily non-native brome grasses at over 100% ground cover. Average height of vegetation was moderate, at about 12 to 15 feet above ground. Owing to the small patch size on the Project site, the regional value of Southern Willow Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species*." (Blackhawk Environmental, Inc. 2022a)

Tamarisk Scrub (Holland code 63810)

As stated by Blackhawk Environmental, Inc.:

"*Tamarisk scrub is a weedy, virtual monoculture of any of several Tamarix species, usually supplanting native vegetation following major disturbance. It tends to occur on sandy or gravelly braided washes or intermittent streams, often in areas where high evaporation increases the stream's saltiness. Tamarisk is a strong phreatophyte and a prolific seeder, attributes which predispose the species to be aggressive competitors in disturbed riparian corridors (Oberbauer 2008). The western bank of the drainage feature located along the western boundary of the Project Site includes three small stands of Tamarisk Scrub that totals 0.047 acre. The dominant species is salt cedar. Underlying annual herbaceous coverage included primarily non-native brome grasses at less than 20% ground cover. Average height of vegetation was moderate, at about eight to 15 feet above ground. Owing to the small patch sizes on the Project site and its invasive, non-*

native status, the regional value of Tamarisk Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species." (Blackhawk Environmental, Inc. 2022a)

Unvegetated Channel (Holland code 64200)

As stated by Blackhawk Environmental, Inc.:

"*Unvegetated Channel includes the sandy, gravelly, or rocky fringes of waterways or flood channels that remain unvegetated on a relatively permanent basis. Variable water lines inhibit the growth of vegetation, although some weedy species of grasses may grow along the outer edges of the wash. Vegetation may exist, but it is usually less than 10% total cover. This classification is not appropriate when sand or alluvium is an artifact of a very recent or uncommon flood event in the upper parts of watersheds (Oberbauer 2008). Unvegetated channel within the Project site includes 0.381 acre of the stream channel that courses through the length of the lowest portions of the man-altered drainage feature at the western end of the Project site. Vegetative cover is negligible to nonexistent, with a sandy meandering channel defining this land cover type at this location. The regional value of Unvegetated Channel on site is low, offering limited potential as foraging or sheltering habitat for commonly occurring wildlife species*." (Blackhawk Environmental, Inc. 2022a)

3. RIPARIAN, RIVERINE, VERNAL POOL MITIGATION (SECTION 6.1.2)

Regulated activities within inland streams, wetlands and riparian areas in Western Riverside County California fall under the jurisdiction of the MSHCP 6.1.2. The MSHCP requires, among other things, assessments for riparian/riverine and vernal pool resources. As projects are proposed within the MSHCP Plan Area, an assessment of the potentially significant effects of those projects on riparian/riverine areas, and vernal pools are required, as currently mandated by CEQA, using available information augmented by project-specific mapping provided to and reviewed by the permittee's biologist(s). Riparian/riverine areas and vernal pools are defined for this section as follows in accordance with Section 6.1.2, Vol. I, of the Final MSHCP Plan:

> "*Riparian/Riverine Areas are lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year*." (MSHCP 2004)

It is assumed the first part of the definition defines riparian habitat, and the second part defines riverine areas. Vernal pools are defined as:

> "…*seasonal wetlands that occur in depression areas that have wetlands indicators of all three parameters (soils, vegetation and hydrology) during the wetter portion of the growing season but normally lack wetlands indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetlands plant species are normally dominant during the wetter portion of the growing*

season, while upland species (annuals) may be dominant during the drier portion of the growing season". (MSHCP 2004)

3.1 Methods

A formal jurisdictional delineation was conducted by Blackhawk Environmental, Inc., Inc. on August 18th 2021 and April 1st, 2022. The delineation determined the boundaries or absence of potential wetland and non-wetland waters of the United States subject to the regulatory jurisdiction of the U.S. Army Corps of Engineers pursuant to Clean Water Act (CWA) Section 404; wetland and non-wetland waters of the State subject to the regulatory jurisdiction of the Regional Water Quality Control Board pursuant to CWA Section 401 and State Porter-Cologne Water Quality Control Act (Porter-Cologne); streambed and riparian habitat subject to the regulatory jurisdiction of the CDFW pursuant Sections 1600 *et seq*. of the California Fish and Game Code (CDFG Code). As stated by Blackhawk Environmental, Inc.:

"*Aerial imagery, the NWI and NHD databases, and USGS topographic maps of the Project site were reviewed to identify any known or potential drainage features, riparian/riverine habitat types, water bodies and/or other features that may fall under USACE, RWQCB, and/or CDFW jurisdictions and that may require investigation during the field survey. Per the MSHCP, riparian/riverine habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The presence of any potentially jurisdictional features, including associated vegetation/communities, presence of ordinary high watermarks (OHWMs) or streambeds, substrates, hydrological indicators and potential connectivity, were documented during the field survey. Based on findings during the literature review and habitat assessment, a jurisdictional delineation was performed on August 18, 2021 by Blackhawk wetland specialists Ian Maunsell and Ryan Quilley. Following a design change after the first delineation survey, a second delineation survey was conducted on April 1st, 2021 by Blackhawk wetland specialists Kris Alberts and Seth Reimers. The delineation efforts followed guidelines set forth by USACE (1987, 2008) and were performed to gather field data at potentially jurisdictional Waters of the U.S. and Waters of the State that may be subject to USACE, RWQCB, and/or CDFW jurisdictions within or adjacent to the Project as well as an assessment of riverine/riparian habitats as defined by the Plan*."

"*The habitat assessment included a review of the proposed Project and Survey Area for stock ponds, ephemeral pools, road ruts, and other seasonally ponded areas which may support listed fairy shrimp species. The survey was performed during the 2021 summer season. The biologist noted any areas which may support standing water more than two centimeters. If and where presence of standing water was not noted, the biologist was to record any indicators of non-riverine seasonally ponded areas such as water marks, soil cracks, algal mats, or other indicators which may indicate intermittent ponding. As part of the notation of floral species, the biologist recorded any observed vernal pool indicator species per USACE guidance (USACE 1997). Methods included the review of historic aerial imagery to determine if inundation was readily visible*." (Blackhawk Environmental, Inc. 2022a)

All resources delineated as CDFW jurisdictional features were also defined as Western Riverside County MSHCP Section 6.1.2 Riverine and Riparian resources.

The delineation of MSHCP Section 6.1.2 riparian and riverine resources was updated in June 2023 following comments received from CDFW during review of the draft DBESP (CDFW 2023).

3.2 Results/Impacts

Vernal Pool Resources

No evidence of vernal pools, seasonal depressions or seasonally inundated road ruts were documented within the Project Site. Vernal pools are depressions in areas where a hard-underground layer prevents rainwater from draining downward into the subsoils. When rain fills the pools in the winter and spring, the water collects and remains in the depressions. In the springtime, the water gradually evaporates away, until the pools became completely dry in the summer and fall. Vernal pools tend to have an impermeable layer that results in ponded water. The soil texture (the amount of sand, silt, and clay particles) typically contains higher amounts of fine silts and clays with lower percolation rates. Pools that retain water for a sufficient length of time will develop hydric cells. Hydric cells form when the soil is saturated from flooding for extended periods of time and anaerobic conditions (lacking oxygen or air) develop.

Consistent with conditions documented onsite and as previously stated, the Project Site is characterized as San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost. San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded, San Emigdio loam, 0 to 2 percent slopes, and San Emigdio loam, 2 to 8 percent slopes, all types possessing well drained substrates (drainage class). No indication of clay substrates or hydric soils were documented within the Project Site.

A review of historic aerials was conducted to determine if inundated features were present during years of high rainfall when features would certainly be documented. Historic aerials taken in 2011 represent an ideal baseline during which know (previously documented) inundated vernal pools, seasonal depressions and road ruts can easily be seen. No sign or indication of inundation was documented within the Project Site during a review of historic aerials. In summary, none of the conditions (i.e., no inundated depressions including road ruts, historic inundation, etc.) were observed or documented within the Project Site permanent impact area. No features are present that would support fairy shrimp.

Riverine and Riverine Resources

A total of 1.24-acre of MSHCP Section 6.1.2 Riverine and 0.10-acre Riparian resources (1.34-acre total) are located within the Project Site and offsite impact area as outlined in Table 2, *MSHCP Section 6.1.2 Resources Impacts*, and shown in Figure 12, *MSHCP Section 6.1.2 Resources Map.* (Blackhawk Environmental, Inc. 2022b, Cadre Environmental 2023, CDFW 2023)

As stated by Blackhawk Environmental, Inc.:

"*The aquatic resources delineation surveys identified one ephemeral drainage feature along the western edge of the Project site that supports likely jurisdictional streambed and riparian areas. The drainage is best characterized as an ephemeral drainage feature with an unvegetated primary channel that supports limited riparian vegetation along its banks among a dominance of upland-associated vegetation. Flow within the drainage is ephemeral in nature, and likely consists of low to high velocity flow regimes (depending on rainfall amounts and durations), as evidenced by distinctly cut banks, scouring, definable ordinary high-water marks (OHWM), sparse riparian plant species coverage, and a lack of 3-parameter wetlands throughout the drainage. The primary hydrological input to the drainage is via three 8-foot concrete culverts below Cottonwood Avenue at the northwestern corner of the Project site. These culverts are hydrologically fed from natural and man-altered drainage features that continue northward and upgrade from the Project site. Bank-to-bank and/or riparian canopy widths of the drainage ranged from 16 to 98 feet; these widths equate to MSHCP Riverine Habitat and are considered California Department of Fish & Wildlife (CDFW)-jurisdictional. A strong OHWM was observed within most of the drainage feature, as most of the feature was best characterized as an unvegetated, sandy channel with several observed hydrological indicators, including strongly incised, cut banks. No emergent wetland vegetation was observed within the drainage; however, several scattered riparian-associated trees [i.e., salt cedar (Tamarix ramosissima), Goodding's willow (Salix gooddingii), mulefat (Baccharis salicifolia) and Fremont cottonwood (Populus fremontii)] were observed growing within and/or adjacent to the drainage with canopy drip lines extending beyond the channel banks.*

Once water flows enter the Project site, the culverts outflow to a concrete-lined spillway and riprap. Modifications via the culvert have resulted in channelization of the drainage at the north end of the Project site, resulting in heavily incised channels/top of bank widths. The drainage characterized by low to high velocity flows, with velocity reducing as flow continues south. The OHWM is defined by flow lines, drift deposits, sediment sorting, scouring and destruction of vegetation, and except for the northernmost portion of the Project site, remains largely undisturbed. Many portions along the top of bank along the sides of the drainage remain in disturbed condition but maintain natural/historic function. Above the top of the banks on the west side, the habitat is primarily disturbed within the floodplain zone before transitioning westward to a developed concrete flood control wall sloped at 45 degrees and fitted with weep holes to drain from the adjacent Quincy Street. The top of bank along the west side is generally the same as the OHWM, characterized by a defined, vertically incised bank to bench ranging from one to seven feet tall at the cut. The eastern top of bank is more diffuse, characterized by a general transition in elevation from the OHWM to a low benched floodplain of native and disturbed habitat types. In many areas, the top of bank is defined by hydrology indicated by erosion of the adjacent upland slope. Where slopes have been modified, the top of bank is inferred by adjacent upstream and downstream reaches. The top of bank on the east side interfaces primarily with a terraced floodplain of California Buckwheat Scrub dominated by California buckwheat (Eriogonum fasciculatum) and tarragon (Artemisia dracunculus). Generally, the western top of bank equates to the vertically incised, eroded unvegetated channel line, and the eastern top of bank equates to the naturally vegetated bench. Within the top of bank widths, the lowest elevations where primary water flows occur is best characterized as an unvegetated, sandy channel, while the streambed is variously

dominated by California buckwheat, tarragon, mulefat, salt cedar, Goodding's willow and Fremont cottonwood within and/or adjacent to the unvegetated channel.

Additional hydrological input into the drainage feature exists at the southwestern end of the Project site where a man-made, concrete stormwater swale feature funnels road runoff and enters the channel from Bay Avenue to the west. The concrete swale is four feet wide, with outflow directly to an erosional gully at the swale's terminus before entering the drainage proper.

The entirety of flow within the drainage is directed offsite to the south, to Canyon Lake (Railroad Canyon Reservoir), which outflows into the San Jacinto River watershed and ultimately terminates at Lake Elsinore. Canyon Lake and Lake Elsinore are both considered a Traditionally Navigable Water (TNW). As such, hydrology of the drainage in the Project site and its associated scattered, riparian vegetation are not isolated from a TNW and have demonstrable connectivity to two TNWs (Canyon Lake and Lake Elsinore) and the San Jacinto River. With demonstrable connectivity to a TNW, but a lack of wetland characteristics and a classification as an ephemeral drainage, the drainage feature meets the jurisdictional criteria for USACE Non-Wetland Waters of the United States and a RWQCB Non-Wetland Waters of the State. The upland vegetation that characterizes most of the drainage, hydrology patterns, and non-hydric soils are consistent with natural ephemeral watercourses of the region. Scattered riparian trees and shrubs do not occur robustly enough to support habitats for riparian-associated native species such as aquatic crustaceans, amphibians, and other fauna that may forage on these species, as the drainage is only expected to hold water for a few days at best. Additionally, the drainage is likely considered a streambed under the jurisdiction of CDFW, with the driplines of several observed riparian trees extending beyond the channel banks that adds CDFW riparian habitat beyond the streambed limits." (Blackhawk Environmental, Inc. 2022a)

Permanent impacts to 0.86-acre of MSHCP Section 6.1.2 Riverine and 0.04-acre Riparian resources (0.90-acre total) will occur as a result of project implementation (Blackhawk Environmental, Inc. 2022b) as outlined in Table 2, *MSHCP Section 6.1.2 Resources Impacts*, and shown in Figure 13, *MSHCP Section 6.1.2 Resources Impact Map*. The impacts to MSHCP Riparian and Riverine resources will occur within an existing RCFCD channel. Flood control channels require maintenance, repair and occasional vegetation removal to sustain flows and protect private properties. Therefore, no temporary impacts to MSHCP 6.1.2 Riverine or Riparian resources within the RCFCD channel will result from project implementation. As stated by Blackhawk Environmental, Inc.:

"*The Project site supports one natural drainage feature, albeit man-altered, as evidenced by the USGS blue-line drainage that exists along the western portion of the Project site. Though the drainage feature is considered natural, it has been man-altered through repeated agricultural and/or disking activities since at least 1966 (Historic Aerials 2022), as well as being fitted with a concrete flood control wall adjacent to Quincy Street. This has resulted in a drainage feature that now has its observable hydrological indicators and flows confined to the lowest portions of the overall channel between the earthen banks of the eastern side and the disturbed and developed banks of the western side*." (Blackhawk Environmental, Inc. 2022b)

PQP Impacts

The Project Site is not located within or adjacent to PQP or RCA conserved land.

Table 2.
MSHCP Section 6.1.2 Resources Impacts

Section 6.1.2 Resources	Flood Control Channel Acres TOTAL	Permanent Impacts Acres Onsite	Permanent Impacts Acres Offsite	Permanent Impacts TOTAL	Avoided Acres
Riverine	1.24	0.01	1.00	1.01	0.23
Riparian	0.10	--	0.09	0.09	0.01
TOTALS	**1.34**	**0.01**	**1.09**	**1.10**	**0.24**

Source: Blackhawk Environmental, Inc. 2022a, 2022b, Cadre Environmental 2023, CDFW 2023.

3.3 Mitigation and Equivalency

To meet the criteria of a biologically equivalent or superior alternative, the applicant will offset permanent impacts to 1.10-acre of MSHCP Section 6.1.2 Riverine and Riparian resources by:

Measure 1: Mitigation for permanent impacts to 1.10-acre of MSHCP Section 6.1.2 riparian and riverine resources would include 1.10-acre of reestablishment and 1.10-acre of rehabilitation credits from the Riverpark Mitigation Bank for a ratio of 2:1, totaling 2.20-acre.

Measure 2: The construction contractor shall install temporary erosion control measures at the downstream and western limits of the flood control channel to reduce impacts to downstream resources from excess sedimentation, siltation, and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, or dikes to protect storm drain inlets and drainages.

Measure 4: During construction of the Project, the construction contractor shall implement the following measures during construction to avoid impacts to downstream resources:

- No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the within or adjacent to the channel.

- Any equipment or vehicles driven and/or operated within or adjacent to the channel shall be checked and maintained daily, to prevent leaks of materials into onsite drainages. No equipment maintenance shall be conducted near the channel.

Measure 4: No impacts shall occur to the onsite RCFCD channel until appropriate permits have been obtained from the USACE, RWQCB, and CDFW, as warranted. Specifically, the following permits or certifications will be required:

- USACE Nationwide Permit

- RWQCB 401 Water Quality Certificate
- CDFW Section 1602 Streambed Alteration Agreement

The proposed mitigation option including the purchase of reestablishment and rehabilitation credits through the Riverpark Mitigation Bank for permanent impacts to 1.01-acre of MSHCP Section 6.1.2 Riverine and 0.09-acre of riparian resources (1.10-acre total) is a biologically equivalent or superior alternative to existing conditions. All project related impacts will occur within and immediately adjacent an existing RCFCD channel. Flood control channels require maintenance, repair and occasional vegetation removal to sustain flows and protect private properties from flooding and therefore the channel resources are subject to periodic disturbance and clearing in perpetuity.

3.3.1 Direct Effects

Direct impacts are considered to be those that involve the loss, modification, or disturbance of natural resources or habitats (i.e., vegetative communities or substrate) that in turn, directly affect plant and wildlife species dependent on that habitat. Direct impacts include the destruction of individual plants or wildlife of low mobility (i.e., plants, amphibians, reptiles, and small mammals). The collective loss of individuals may also directly affect area-wide population numbers or result in the physical isolation of populations thereby reducing genetic diversity and population stability. As stated by Blackhawk Environmental, Inc.:

"*Direct impacts to the drainage feature specifically include the vegetation removal, grading, recontouring and rechanneling of the drainage to maintain the existing ephemeral water regime at the west end of the Project site while also facilitating full residential buildout on the upland portion of the Project to the east. The drainage feature is proposed to be partially graded, recontoured, and redesigned to maintain the current north to south hydrological gradient. Most impacts are considered permanent with lesser amounts of temporary impacts.*" (Blackhawk Environmental, Inc. 2022b)

Permanent impacts to 1.10-acre of MSHCP Section 6.1.2 Riverine and Riparian resources will occur as a result of project implementation (Blackhawk Environmental, Inc. 2022b, Cadre Environmental 2023, CDFW 2023) as outlined in Table 2, *MSHCP Section 6.1.2 Resources Impacts*, and shown in Figure 13, *MSHCP Section 6.1.2 Resources Impact Map*. The impacts to MSHCP Riparian and Riverine resources will occur within an existing RCFCD channel. Flood control channels require periodic maintenance, repair and occasional vegetation removal to sustain flows and protect private properties. Therefore, no temporary impacts to MSHCP 6.1.2 Riverine or Riparian resources within the RCFCD channel will result from project implementation.

3.3.2 Indirect Effects

Indirect impacts are considered to be those impacts associated with the project that involve the effects of alteration of the existing habitat and an increase in human population and or landuse within the Project Site. These impacts are commonly referred to as "edge effects" and may result in changes in the behavioral patterns of wildlife and reduced wildlife diversity and abundance in habitats adjacent to the Project Site.

Indirect impacts also include the effects of increases in ambient levels of sensory stimuli (e.g., noise and light), unnatural predators (e.g., domestic cats and other non-native animals), competitors (e.g., exotic plants and non-native animals), and trampling and unauthorized recreational use due to the increase in human population. Other permanent indirect effects may occur that are related to water quality and storm water management, including trash/debris, toxic materials, and dust.

The MSHCP Urban/Wildlands Interface guidelines presented in Section 6.1.4 are intended to address indirect effects associated with locating commercial, mixed uses and residential developments in proximity to an MSHCP Conservation Area. As stated by Blackhawk Environmental, Inc.:

"*Indirect impacts are not anticipated as a result of the Project. As designed, the Project storm water system is not expected to significantly reduce, increase or otherwise modify flow regimes to Canyon Lake, the San Jacinto River or Lake Elsinore as a result of surface water from or through the Project site. Furthermore, during long term operations and maintenance, the drainage feature will likely be periodically maintained to ensure flow patterns remain consistent with the current conditions, and any surface water entering the drainage feature via its existing drainage network to the north would likewise not be altered by the Project. Adverse water quality impacts, such as increased pollutant or increased sediment transport, are not anticipated to result from the Project due to construction of ancillary drainage features from the Project site, which are anticipated to facilitate sediments, pollutants, and ephemeral flows from upstream areas of the Project site through the stormwater conveyance system and allow filtration and/or passage to the drainage feature. In addition, a Storm Water Pollution Prevention Plan (SWPPP) that contains detailed construction Best Management Practices (BMPs), such as sediment and erosion controls, would be implemented during construction and incorporated into the Project design to avoid temporary indirect impacts to water quality of the drainage feature as a result of offsite sediment transport associated with the vegetation removal and grading of the Project*." (Blackhawk Environmental, Inc. 2022b)

The Project Site is not located within or adjacent to an existing or proposed MSHCP Conservation Area. No mitigation proposed or required. The project is consistent with MSHCP Section 6.1.4. However, the proposed action will implement the following best management practices (BMP's) to ensure no indirect impacts occur to the adjacent RCFCD channel western blue-line drainage.

4. NARROW ENDEMIC PLANT SPECIES MITIGATION (SECTION 6.1.3)

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for narrow endemic plants if suitable habitat is documented and the assessment area is located within a predetermined "Survey Area" (MSHCP 2004).

The Project Site does not occur within a predetermined Survey Area for MSHCP narrow endemic plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project will be consistent with MSHCP Section 6.1.3.

MSHCP Section 6.1.2 Resources Source: Blackhawk Environmental 2022, Cadre Environmental 2023, CDFW 2023.
Onsite APN 478-250-001
Offsite APNs Portions of 478-353-003 and 478-362-003 and Right-of-Ways

Figure 12 - MSHCP Section 6.1.2 Riparian & Riverine Resources Map
Determination of Biologically Equivalent or Superior Preservation
Pacifica Cottonwood Project Site

CADRE Environmental

N

1" = 180 feet

MSHCP Section 6.1.2 Resources Source: Blackhawk Environmental 2022, Cadre Environmental 2023, CDFW 2023.

Onsite APN 478-250-001, Offsite APNs Portions of 478-353-003 and 478-362-003 and Right-of-Ways

Figure 13 - MSHCP Section 6.1.2 Riparian & Riverine Resources Impact Map

Determination of Biologically Equivalent or Superior Preservation

Pacifica Cottonwood Project Site

CADRE Environmental

N

1" = 180 feet

4.1 Methods

The Project Site does not occur within a predetermined Survey Area for MSHCP narrow endemic plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project will be consistent with MSHCP Section 6.1.3

4.2 Results/Impacts

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site.

4.3 Mitigation and Equivalency

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site.

4.3.1 Direct Effects

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site.

4.3.2 Indirect Effects

Compliance with Section 6.1.3 respective of MSHCP narrow endemic plants is not applicable to the proposed Project Site.

5. CRITERIA AREA SPECIES MITIGATION (SECTION 6.3.2)

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required for criteria area species if suitable habitat is documented onsite and the assessment areas are located within a predetermined “Survey Area” (MSHCP 2004).

5.1 Criteria Area Species Survey Area – Plants

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

5.1.1 Methods

The Project Site does not occur within a predetermined Survey Area for MSHCP criteria area plant species; therefore, no surveys are required (RCA GIS Data Downloads 2022). The project is consistent with MSHCP Section 6.3.2.

5.1.2 Results/Impacts

Compliance with Section 6.3.2 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.1.3 Mitigation and Equivalency

Compliance with Section 6.3.2 respective of MSHCP criteria area plants is not applicable to the proposed Project Site.

5.2 Criteria Area Species Survey Area – Burrowing Owl

The MSHCP has determined that all of the sensitive species potentially occurring onsite have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required wildlife species if suitable habitat is documented onsite and/or if the property is located within a predetermined "Survey Area" (MSHCP 2004).

Suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within the property including foraging habitat documented throughout the project site. Therefore, focused surveys were conducted by Blackhawk Environmental, Inc. during the spring/summer of 2021 (Blackhawk Environmental, Inc. 2021).

5.2.1 Methods

Burrowing Owl Habitat Assessment and Focused Surveys

In accordance with the MSHCP Burrowing Owl Survey Instructions (2006), survey protocol consists of two steps, Step I – Habitat Assessment and Step II – Locating Burrows and Burrowing Owls. Step II is comprised of two parts, Part A: Focused Burrow Surveys and Part B: Focused Burrowing Owl Surveys.

Each step is briefly outlined below, followed by the methodology and results of each survey conducted within the Project Site. All initial habitat assessment, burrow and focused surveys were conducted by Blackhawk Environmental, Inc.

Surveys were conducted during weather that is conducive to observing owls outside their burrows and detecting burrowing owl sign. Surveys were not conducted during rain, high winds (> 20 mph), dense fog, or temperatures over 90 °F. None of the surveys were conducted within five (5) days of measurable precipitation.

In addition to the MSHCP guidelines, field notes were taken daily. These notes recorded the date, location, animal species observed, and general habitat characteristics of each area and habitat examined that day.

Step I – Habitat Assessment

Step 1 of the MSHCP habitat assessment for burrowing owl consists of a walking survey to determine if suitable habitat is present onsite. Blackhawk Environmental, Inc.

conducted the habitat assessment on May 5th, 2021. Upon arrival at the Project Site, and prior to initiating the assessment survey, Blackhawk Environmental, Inc. used binoculars to scan all suitable habitats on and adjacent to the property, including perch locations, to ascertain owl presence.

All suitable areas of the Project Site were surveyed on foot by walking slowly and methodically while recording/mapping areas that may represent suitable owl habitat onsite. Primary indicators of suitable burrowing owl habitat in western Riverside County include, but are not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial mammals, such as ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*), but they often utilize man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or in close proximity to man-made structures.

According to the MSHCP guidelines, if suitable habitat is present the biologist should also walk the perimeter of the property, which consists of a 150-meter (approximately 500 feet) buffer zone around the Project Site boundary. If permission to access the buffer area cannot be obtained, the biologist shall not trespass, but visually inspect adjacent habitats with binoculars.

Results from the habitat assessment indicated that suitable burrowing owl burrows potentially utilized for refugia and/or nesting were documented within the property including foraging habitat documented throughout the Project Site. Accordingly, if suitable habitat is documented onsite, both Step II surveys and the 30-day pre-construction surveys are required in order to comply with the MSHCP guidelines.

Step II – Locating Burrows and Burrowing Owls

Concurrent with the initial habitat assessment, a detailed focused burrow survey was conducted and included documentation of appropriately sized natural burrows or suitable man-made structures that may be utilized by burrowing owl - as part of the MSHCP protocol, which is described below under Part A. Focused Burrow Survey. The MSHCP protocol indicated that no more than 100 acres should be surveyed per day/per biologist.

Part A: Focused Burrow Survey

A systematic survey for burrows, including burrowing owl sign, was conducted by walking across all suitable habitats mapped within the Project Site on May 5th 2021. Pedestrian survey transects were spaced to allow 100% visual coverage of the ground surface. The distances between transect centerlines were no more than 20 meters (approximately 66 ft.) apart, and owing to the terrain, often much smaller. Transect routes were also adjusted to account for topography and in general ground surface visibility.

All observations of suitable burrows or dens, natural or man-made, or sightings of burrowing owl, were recorded and mapped during the survey.

Part B: Focused Burrowing Owl Surveys

Four (4) focused burrowing owl surveys (in addition to the initial focused burrow survey – Step II, Part A) were conducted on June 22nd, 30th, July 8th, and 15th 2021 from one hour before sunrise to two hours after sunrise as outlined in Table 3, *Burrowing Owl Survey Schedule*. During visual surveys, all potentially suitable burrow or structure entrances were investigated for signs of owl occupation, such as feathers, tracks, or pellets, and carefully observed to determine if burrowing owls utilize these features, when present. All burrows are monitored at a short distance from the entrance, and at a location that would not interfere with potential owl behavior, when present. In addition to monitoring potential burrow locations, all suitable habitats in the Project Site were walked along transects averaging 20 meters (approximately 66 feet) between centerlines.

An existing residence is located in the northwest corner of the Project Site. This area was adequately surveyed from the boundaries for the presence/absence of individuals within and adjacent to this region.

Table 3.
Burrowing Owl Survey Schedule

Biologist	Date	Time	Temp (°F)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
Seth Reimers, Hayley Milner	6/22/2021	0554-0739	64-67	1-3	60-70	none
Hayley Milner, Katie Quint	6/30/2021	0542-0740	63-71	0-2	5-35	none
Hayley Milner, Katie Quint	7/8/2021	0545-0744	73-76	0-2	0	none
Hayley Milner, Katie Quint	7/15/2021	0545-0746	74-78	0-1	0-5	none

Source: Blackhawk Environmental, Inc. 2021.

5.2.2 Results/Impacts

No burrowing owl or characteristic sign such as white-wash, feathers, tracks, or pellets were detected within or immediately adjacent to the Project Site during the spring 2021 MSHCP focused survey effort (Blackhawk Environmental, Inc. 2021).

5.2.3 Mitigation and Equivalency

A 30-day MSHCP preconstruction survey will also be required immediately prior to the initiation of construction to ensure protection for this species and compliance with the conservation goals as outlined in MSHCP Section 6.3.2.

Following submittal, review and approval of the 30-day burrowing owl preconstruction survey report by the City of Moreno Valley and compliance with all species-specific

conservation goals, if detected within or adjacent to the Project Site, the project will be consistent with MSHCP Section 6.3.2.

If burrowing owls are detected onsite during the 30-day preconstruction survey, during the breeding season (February 1st to August 31st) then construction activities shall be limited to beyond 300 feet of the active burrows until a qualified biologist has confirmed that nesting efforts are competed or not initiated. In addition to monitoring breeding activity, if construction is proposed to be initiated during the breeding season or active relocation is proposed, a burrowing owl mitigation plan will be developed based on the City of Moreno Valley, CDFW and USFWS requirements for the relocation of individuals to predetermined preserve.

Following submittal, review and approval of the 30-day burrowing owl preconstruction survey report by the City of Moreno Valley and compliance with all species-specific conservation goals, if detected within or adjacent to the Project Site, the project will be consistent with MSHCP Section 6.3.2.

5.3 Criteria Area Species Survey Area – Mammals

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2 Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required if suitable habitat for mammals is documented onsite and the property is located within a predetermined "Survey Area" (MSHCP 2004).

The Project Site does not occur within a predetermined Survey Area for mammal species. Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.3.1 Methods

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.3.2 Results/Impacts

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.3.3 Mitigation and Equivalency

Compliance with Section 6.1.3 respective of MSHCP mammals is not applicable to the proposed Project Site.

5.4 Criteria Area Species Survey Area – Amphibians

The MSHCP has determined that all of the sensitive species potentially occurring onsite or within the offsite Project Site have been adequately covered (MSHCP Table 2-2

Species Considered for Conservation Under the MSHCP Since 1999, 2004). However, additional surveys may be required if suitable habitat for amphibian species is documented onsite and the property is located within a predetermined "Survey Area" (MSHCP 2004).

The Project Site does not occur within a predetermined Survey Area for amphibian species. Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

5.4.1 Methods

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

5.4.2 Results/Impacts

Compliance with Section 6.1.3 respective of MSHCP amphibians is not applicable to the proposed Project Site.

6. REFERENCES

Blackhawk Environmental, Inc. 2021. Pacifica Cottonwood Focused Burrowing Owl Survey Report, City of Moreno Valley, Riverside County, California

Blackhawk Environmental, Inc. 2022a. Pacifica Cottonwood Project Western Riverside MSHCP Habitat Assessment Report, City of Moreno Valley, Riverside County, California

Blackhawk Environmental, Inc. 2022b. Pacifica Cottonwood Project Aquatic Resources Delineation Report, City of Moreno Valley, Riverside County, California

California Department of Fish and Wildlife. 2023. Proposed DBESP for the Pacifica Cottonwood Project (TTM 38264), City of Moreno Valley – FWS/CDFW-WRIV-2023-0074367 (Dated May 23rd, 2023).

California Department of Fish and Wildlife. 2012. Staff Report on Burrowing Owl Mitigation, State of California Natural Resources Agency.

County of Riverside. 2006. Burrowing Owl Survey Instructions – Western Riverside Multiple Species Habitat Conservation Plan Area.

Regional Conservation Authority. 2022. Online GIS Database - https://www.wrc-rca.org/

Riverside County Integrated Project (RCIP) Multiple Species Habitat Conservation Plan (MSHCP), March 2004.

U.S. Department of Agriculture. 2022. Custom Soil Resources Report for Western Riverside Area, California. Natural Resources Conservation Service.

Certification "*I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge."*

Author:_____Date:_____

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PACIFICA COTTONWOOD PROJECT

WESTERN RIVERSIDE MSHCP HABITAT ASSESSMENT REPORT

CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

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June 2, 2022

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Blackhawk Environmental (Blackhawk) conducted a literature review, field reconnaissance survey, and biological assessment of the proposed Pacifica Cottonwood Project site (Project) to assess existing site conditions, as well as assess the potential for special-status species or habitats to occur within the Project site and surrounding area. This report is intended to fulfill requirements for determining Project consistency with the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; Plan).

The proposed Project calls for the development of 21.484 acres of undeveloped lands in the City of Moreno Valley, Riverside County, California. The Project site is located on Assessor's Parcel Numbers (APN) 478-250-001 (Figure 1), approximately 1 mile south of Interstate 60 and 0.4 miles west of Redlands Boulevard (Figure 1).

The Project site is not located within any Criteria Cell and is located outside of Plan Conservation Areas. The Project area is not located within areas requiring assessment for special-status mammals, amphibians, invertebrates, narrow endemic plants, or other criteria area species. The Project site requires an assessment and/or surveys for burrowing owl (*Athene cunicularia*), if suitable habitat is identified during a habitat assessment; the habitat assessment determined that suitable habitat for this species exists on the Project site and surrounding Survey Area and therefore, focused burrowing owl surveys were conducted. Findings of the focused burrowing owl survey can be found in the *Pacifica Cottonwood Project – Focused Burrowing Owl Survey Report* (Blackhawk 2021).

The Project site predominantly contains two MSHCP vegetation communities and/or land cover types (Residential/Urban/Exotic – Disturbed Lands and MSHCP Riverine Habitat) composed of non-native grasses and non-native ruderal plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees amongst development. Vegetation communities within these land cover types include Disturbed Habitat (20.019 acres), Developed Habitat (0.291 acre), California Buckwheat Scrub (0.460 acre), California Walnut Scrub (0.007 acre), Disturbed Mulefat Scrub (0.145 acre), Mulefat Scrub (0.113 acre), Southern Willow Scrub (0.021 acre), Tamarisk Scrub (0.047 acre) and Unvegetated Channel (0.381 acre). MSHCP Riverine Habitat includes a subset of the acreage of each of the vegetation communities that totals 1.099 acres. The MSHCP Riverine Habitat includes 1.099 acres of California Department of Fish and Wildlife (CDFW) jurisdiction and 0.501 acre of United States Army Corps of Engineers/Regional Water Quality Control Board (USACE/RWQCB) jurisdiction that would be impacted by Project activities.

A literature review conducted for the Project site identified documented occurrences from within three miles of the Project site for a total of 13 special-status wildlife species, two special-status plant species, and zero special-status natural communities. A field reconnaissance survey and habitat assessment were conducted on June 22, 2021. During the survey, each of these "target species" were evaluated for their potentials for occurrence (PFO) within and/or adjacent to the Project site. To evaluate habitat that may be suitable for burrowing owl, and to evaluate the potential for both direct and indirect impacts to burrowing owl, the assessment included all proposed Project features as well as an additional 150-meter (492 feet) survey buffer surrounding the proposed Project (Survey Area). During the field reconnaissance survey and assessment, no additional special-status species were observed or detected within or adjacent to the Project site.

Of the 13 special-status wildlife species documented to occur within the Project vicinity, three were found to have a moderate potential for occurrence, and two were found to have a low potential for occurrence, based on proximity of historic records and/or quality of habitat on site. The remaining eight special-status wildlife species were determined to have no potential for occurrence due to lack of suitable habitat on the Project site. Species identified in the literature review and evaluated included: ferruginous hawk (*Buteo regalis*; moderate PFO [wintering only]), western mastiff bat (*Eumops perotis californicus*; moderate PFO [foraging only]), western yellow bat (*Lasiurus xanthinus*; moderate PFO [foraging only], burrowing owl (low PFO), silvery legless lizard (*Anniella stebbinsi*; low PFO), tricolored blackbird (*Agelaius tricolor*; no PFO), northwestern San Diego pocket mouse (*Chaetodipus fallax fallax*; no PFO), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*; no PFO), San Bernardino kangaroo rat (*Dipodomys merriami parvus*; no PFO), Stephens' kangaroo rat (*Dipodomys stephensi*; no PFO), red-diamond rattlesnake (*Crotalus ruber*; no PFO), western spadefoot (*Spea hammondii*; no PFO), and coast horned lizard (*Phrynosoma blainvillii*; no PFO). **Of the five species with potential to occur, two are covered under the MSHCP (burrowing owl and ferruginous hawk) and three are not functionally covered under the Plan (silvery legless lizard, western yellow bat and western mastiff bat)**.

The Survey Area does support suitable habitat for burrowing owl and therefore, additional surveys are required pursuant to the Burrowing Owl Survey Instructions for the Western Riverside County MSHCP. Focused burrowing owl surveys were conducted between June 22 and July 15, 2021 and confirmed that suitable burrowing owl burrows exist within the Project site and Survey Area; however, burrowing owl were not found to occupy the site (Blackhawk 2021).

The Project does not occur within a narrow endemic plant survey area. The literature review resulted in two special-status plant species occurrences within three miles of the Project site: smooth tarplant (*Centromadia pungens ssp. laevis*) and Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*). Both plant species are considered to have no potential to occur based on the lack of appropriate habitat, lack of suitable soils, and/or regular disking activities. Furthermore, the field survey did not identify any special-status plant species with a California Rare Plant Rank (CRPR) rank of at least 2 on the Project site. **Therefore, special-status plant species with a CRPR rank of at least 2 have no potential for occurrence on the Project site.**

The Project site and surrounding areas support limited suitable nesting substrates for various general migratory bird and raptor species common to the region. Take authorization for migratory bird and raptor species is not provided by the Plan. The Plan functionally covers the remaining special-status species identified with potentials to occur, as well as impacts to their habitats. No other special-status resources are present or are expected to occur. **Mitigation for potential Project-related impacts to the species identified to occur or with the potentials to occur during the literature review and assessment can be achieved through payment of a mitigation fee to the appropriate MSHCP authority. No significant adverse impacts to special-status biological resources of the region are anticipated with implementation of Project mitigation contained herein.**

The habitat assessment identified one drainage feature that runs parallel to the western boundary of the Project site that contains MSHCP Riparian/Riverine Habitat under the likely jurisdiction of the USACE, RWQCB and the CDFW. Based on these findings, and following two Project design changes, jurisdictional delineation surveys were performed on August 18, 2021 and April 1, 2022. The delineation survey identified 1.099 acres of MSHCP Riparian/Riverine Habitat within the Project boundary. It was determined that this feature will be impacted by Project activities, including 0.190 acre of temporary impacts and 0.909 acre of permanent impacts. Additional permitting from the USACE, RWQCB, and

CDFW will be required for Project authorization before impacting the drainage feature. In addition, a MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP) report will be required per the County of Riverside that will detail the offsite and/or onsite compensatory mitigation strategy.

1.0 INTRODUCTION

Blackhawk was contracted under EPD Solutions, Inc. to conduct environmental surveys and provide a Habitat Assessment Report (HAR) for the Pacifica Cottonwood Project (Project) site, located on approximately 21.484 acres of previously undeveloped lands in the City of Moreno Valley, Riverside County, California. The Project site is within the MSHCP area; however, the Project is not located within a MSHCP Cell Group or MSHCP Criteria Cell(s).

The purpose of this survey effort and consistency analysis is to identify and document sensitive biological resources potentially occurring within the Project site and surrounding areas. The Project site is not located within a MSHCP Cell Group or MSHCP Criteria Cell(s), Amphibian Survey Area, Criteria Area Species Survey Area, Mammal Survey Area, or Narrow Endemic Plant Survey Area (RCA MSHCP Map, 2021). The survey effort focused on documentation of existing site conditions, such as soils, topography, vegetation communities, riverine/riparian habitats, vernal pools, and potentially jurisdictional aquatic resources as required for review under the MSHCP. Specifically, the assessment was conducted to determine if habitat was present for species identified by the County of Riverside's MSHCP Information Application (RCA 2021), including burrowing owl. Findings of the jurisdictional delineation survey are summarized herein and can be found in the *Pacifica Cottonwood Project – Jurisdictional Delineation Survey Report* (Blackhawk 2022).

1.1 Project Description

The Project proposes the complete buildout of 20.708 acres as permanent impacts, plus 0.776 acre of temporary impacts, in the overall 21.484-acre area, in the City of Moreno Valley. Proposed development engineering plans involve the construction of residential homes, paved streets and sidewalks, landscaped areas and all associated infrastructure and would convert the currently vacant land to residential development. The proposed Project also includes a new bridge from Bay Avenue at the southwest end of the Project site, as well as channel improvements to the existing drainage feature. The Project site is within Assessor's Parcel Number (APN) 478-250-001.

Except for the drainage feature at the west end, the proposed Project is located within previously graded/disked, regularly mowed, vacant land dominated by low-growing non-native and ruderal vegetation. The Project site is surrounded by urban development in addition to several scattered vacant lots. The site is bounded to the west by a concrete-lined and earthen drainage channel running parallel to Quincy Street, to the east by private residential homes, to the north by Cottonwood Avenue and to the south by Bay Avenue and additional vacant lands (Figure 2). The Project site shows signs of recent anthropogenic impacts such as mowing, trash dumping, disking, and off-road vehicle use. The Project site consists of a mostly flat lot; elevations within the Project site range from 1,639 feet above mean sea level (AMSL) in the southeast corner at its lowest point, and up to 1,664 feet AMSL at the northwestern corner at its highest point.

2.0 REGULATORY SETTING

The proposed Project is subject to a host of state and federal regulations associated with a number of regulatory programs. These programs often overlap and were developed to protect natural resources, including: state and federally listed plants and animals; aquatic resources, including rivers and creeks, ephemeral streambeds, wetlands, and areas of riparian habitat; other special-status species that are not listed as threatened or endangered by the state or federal governments; and other special-status vegetation communities.

2.1 State and/or Federally Listed Plant and Wildlife Species

2.1.1 State of California Endangered Species Act

California's Endangered Species Act (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." The State 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 commission as rare on or before January 1, 1985 is a threatened species." Candidate species are 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." Candidate species may be afforded temporary protection as though they were already listed as threatened or endangered at the discretion of the Fish and Game Commission. Unlike the Federal Endangered Species Act (FESA), CESA does not list invertebrate species.

Article 3, Sections 2080 through 2085, of the CESA addresses the taking of threatened, endangered, or candidate species by stating "No person shall import into this state, export out of this state, or take, possess, purchase, or sell within this state, any species, or any part or product thereof, that the commission determines to be an endangered species or a threatened species, or attempt any of those acts, except as otherwise provided." Under the CESA, "take" is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." Exceptions authorized by the state to allow "take" require permits or memoranda of understanding and can be authorized for endangered species, threatened species, or candidate species for scientific, educational, or management purposes and for take incidental to otherwise lawful activities. Sections 1901 and 1913 of the California Fish and Game Code provide that notification is required prior to disturbance.

2.1.2 Federal Endangered Species Act

The FESA of 1973 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 provisions of Section 9(a)(1)(B) of the FESA it is unlawful to "take" any listed species. "Take" is defined in Section 3(18) of FESA: "...harass, harm, pursue, hunt, shoot,

wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." Further, the United States Fish and Wildlife Service (USFWS), through regulation, has interpreted the terms "harm" and "harass" to include certain types of habitat modification that result in injury to, or death of species as forms of "take." These interpretations, however, are generally considered and applied on a case-by-case basis and often vary from species to species. In a case where a property owner seeks permission from a Federal agency for an action that could affect a federally listed plant and animal species, the property owner and agency are required to consult with USFWS. Section 9(a)(2)(b) of the FESA addresses the protections afforded to listed plants.

2.1.3 State and Federal Take Authorizations for Listed Species

Federal or state authorizations of impacts to or incidental take of a listed species by a private individual or other private entity would be granted in one of the following ways:

- Section 7 of the FESA stipulates that any federal action that may affect a species listed as threatened or endangered requires a formal consultation with USFWS to ensure that the action is not likely to jeopardize the continued existence of the listed species or result in destruction or adverse modification of designated critical habitat. 16 U.S.C. 1536(a)(2).

- In 1982, the FESA was amended to give private landowners the ability to develop Habitat Conservation Plans (HCP) pursuant to Section 10(a) of the FESA. Upon development of an HCP, the USFWS can issue incidental take permits for listed species where the HCP specifies at minimum, the following: (1) the level of impact that will result from the taking, (2) steps that will minimize and mitigate the impacts, (3) funding necessary to implement the plan, (4) alternative actions to the taking considered by the applicant and the reasons why such alternatives were not chosen, and (5) such other measures that the Secretary of the Interior may require as being necessary or appropriate for the plan.

- Sections 2090-2097 of the California Endangered Species Act (CESA) require that the state lead agency consult with CDFW on projects with potential impacts on state-listed species. These provisions also require CDFW to coordinate consultations with USFWS for actions involving federally listed as well as state- listed species. In certain circumstances, Section 2080.1 of the California Fish and Game Code allows CDFW to adopt the federal incidental take statement or the 10(a) permit as its own based on its findings that the federal permit adequately protects the species under state law.

2.2 California Environmental Quality Act

Shortly after the United States federal government passed the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA) was passed in 1970 to institute a statewide policy of environmental protection. CEQA does not directly regulate land uses, but instead requires state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and adopt all feasible measures to mitigate those impacts. CEQA makes environmental protection a mandatory part of every California state and local agency's decision-making process.

2.2.1 CEQA Thresholds of Significance

Environmental impacts relative to biological resources are assessed using impact significance threshold criteria, which reflect the policy statement contained in CEQA, Section 21001(c) of the California Public Resources Code. Accordingly, the State Legislature has established it to be the policy of the State of California to:

> *"Prevent the elimination of fish or wildlife species due to man's activities, insure that fish and wildlife populations do not drop below self- perpetuating levels, and preserve for future generations representations of all plant and animal communities..."*

Determining whether a project may have a significant effect, or impact, plays a critical role in the CEQA process. According to CEQA, Section 15064.7 (Thresholds of Significance), each public agency is encouraged to develop and adopt (by ordinance, resolution, rule, or regulation) thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. In the development of thresholds of significance for impacts to biological resources CEQA provides guidance primarily in Section 15065, Mandatory Findings of Significance, and the CEQA Guidelines, Attachment G, Environmental Checklist Form. Section 15065(a) states that a project may have a significant effect where:

> *"The project has the potential to: substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or wildlife community, substantially reduce the number or restrict the range of an endangered, rare, or threatened species, ..."*

Therefore, for the purpose of this analysis, impacts to biological resources are considered potentially significant (before considering offsetting mitigation measures) if one or more of the following criteria discussed below would result from implementation of the proposed project.

2.2.2 Criteria for Determining Significance Pursuant to CEQA

Attachment G of the 1998 State CEQA guidelines indicate that a project may be deemed to have a significant effect on the environment if the project is likely to:

> *a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
>
> *b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.*
>
> *c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through*

direct removal, filling, hydrological interruption, or other means.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

2.2.3 CEQA Guidelines Section 15380

The CEQA requires evaluation of a project's impacts on biological resources and provides guidelines and thresholds for use by lead agencies for evaluating the significance of proposed impacts. Sections 5.1.1 and 5.2.2 below set forth these thresholds and guidelines. Furthermore, pursuant to the CEQA Guidelines Section 15380, CEQA provides protection for non-listed species that could potentially meet the criteria for state listing. For plants, CDFW assigns California Rare Plant Ranks (CRPR) to species categorized as List 1A, 1B, or 2 of the California Native Plant Society (CNPS) *Inventory of Rare and Endangered Plants in California* may meet the criteria for listing and should be considered under CEQA. CDFW also recommends protection of plants, which are regionally important, such as locally rare species, disjunct populations of more common plants, or plants on the CNPS Lists 3 or 4.

2.3 Special-Status Species Designations

2.3.1 Federally Designated Special-Status Species

Some years ago, the USFWS instituted changes in the listing status of candidate species. Former C1 (candidate) species are now referred to simply as candidate species and represent the only candidates for listing. All references to federally protected species in this report (whether listed, proposed for listing, or candidate) include the most current published status or candidate category to which each species has been assigned by USFWS. Additionally, the USFWS *Birds of Conservation Concern 2008* report was published to identify the migratory and non-migratory bird species (beyond those already federally listed) that represent the highest conservation priorities for USFWS.

For this report, the following acronyms are used for federal special-status species:

- **FE**: Federally listed as Endangered
- **FT**: Federally listed as Threatened
- **FPE**: Federally proposed for listing as Endangered
- **FPT**: Federally proposed for listing as Threatened
- **FC**: Federal Candidate species (Former Category 1 candidates)
- **BCC**: USFWS Birds of Conservation Concern

2.3.2 State-Designated Special-Status Species

Some mammals and birds are protected by the state as Fully Protected (FP) Mammals or Fully Protected Birds, as described in the California Fish and Game Code, Sections 4700 and 3511, respectively. California Species of Special Concern (SSC) are species designated as vulnerable to extinction due to declining population levels, limited ranges, and/or continuing threats. This list is primarily a working document for the CDFW's California Natural Diversity Database (CNDDB) project. Informally listed taxa are not protected but warrant consideration in the preparation of biotic assessments. For some species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nest sites. For this report the following acronyms are used for State special-status species:

- **SE**: State-listed as Endangered
- **ST**: State-listed as Threatened
- **SCE**: State candidate for listing as Endangered
- **SCT**: State candidate for listing as Threatened
- **FP**: State Fully Protected
- **SSC**: Species of Special Concern

2.3.3 California Rare Plant Rank

The California Native Plant Society (CNPS) is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. The CNPS's *California Native Plant Society's Inventory of Rare and Endangered Plants of California* separates plants of interest into five categories. CNPS has compiled an inventory comprised of the information focusing on geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California (Tibor 2001). The list serves as the candidate list for listing as threatened and endangered by CDFW.

- **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**: Plants about which more information is needed
- **CRPR 4**: Plants of limited distribution

2.4 Additional Applicable State and Federal Regulations

Each of the following regulations bears some applicability toward assessing the natural resources of the Project Site and any effects that construction and long-term operations and maintenance activities may have upon such resources. These are included for informational and referential purposes only.

2.4.1 Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (PL 95-616; 16 USC §§ 668 et seq.) provides for protection for the bald and golden eagles by prohibiting taking, possession, and commerce in the birds.

2.4.2 Clean Water Act

The Clean Water Act (CWA) regulates the discharge of pollutants to waters of the United States in order to protect water quality and the beneficial uses of these waters. Through a permit application process, CWA Section 404 regulates dredge and fill discharges to waters of the United States.

2.4.3 Fish and Wildlife Conservation Act of 1980

The Fish and Wildlife Conservation Act of 1980 (PL 96-366; 16 USC §§2901 et seq.) provides for conservation, protection, restoration and propagation of certain species, including migratory birds threatened with extinction.

2.4.4 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (PL 65-186, as amended; 16 USC §§ 703 et seq.) protects most birds, whether or not they migrate. Birds, their nests, eggs, parts, or products may not be killed or possessed. Game birds are listed and protected except where specific seasons, bag limits, and other features govern their hunting. Exceptions are made for some agricultural pests, which require a USFWS permit (yellow-headed, red-winged, bi-colored red-winged, tri-colored red-winged, Rusty and Brewer's blackbirds, cowbirds, all grackles, crows and magpies). Some other birds that injure crops in California may be taken under the authority of the County Agricultural Commissioner (meadowlarks, horned larks, golden-crowned sparrows, white- and other crowned sparrows, goldfinches, house finches, acorn woodpeckers, Lewis' woodpeckers and flickers). Permits may be granted for various non-commercial activities involving migratory birds and some commercial activities involving captive-bred migratory birds.

2.4.5 California Fish & Game Codes 3500 Series

California Fish & Game Codes 3500, 3503, 3503.5, 3505, 3511 and 3513 are State regulations that cover resident and non-resident game birds, protected bird nests, protected raptor nests, egrets, ospreys, Fully Protected bird species, and take considerations for Migratory Bird Treaty Act birds.

- **Code 3500:** "(a) Resident game birds are as follows:
  (1) Doves of the genus Streptopelia, including, but not limited to, spotted doves, ringed turtledoves, and Eurasian collared-doves.
  (2) California quail and varieties thereof.
  (3) Gambel's or desert quail.
  (4) Mountain quail and varieties thereof.
  (5) Sooty or blue grouse and varieties thereof.
  (6) Ruffed grouse.
  (7) Sage hens or sage grouse.
  (8) Hungarian partridges.
  (9) Red-legged partridges including the chukar and other varieties.

(10) Ring-necked pheasants and varieties thereof.
(11) Wild turkeys of the order Galliformes.
(b) Migratory game birds are as follows:
(1) Ducks and geese.
(2) Coots and gallinules.
(3) Jacksnipe.
(4) Western mourning doves.
(5) White-winged doves.
(6) Band-tailed pigeons.
(c) References in this code to "game birds" means both resident game birds and migratory game birds."

- **Code 3503:** "It is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto."

- **Code 3503.5:** "It is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto."

- **Code 3505:** "It is unlawful to take, sell, or purchase any aigrette or egret, osprey, bird of paradise, goura, numidi, or any part of such a bird."

- **Code 3511:** "(a) (1) Except as provided in Section 2081.7 or 2835, fully protected birds or parts thereof may not be taken or possessed at any time. No provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected bird, and no permits or licenses heretofore issued shall have any force or effect for that purpose. However, the department may authorize the taking of those species for necessary scientific research, including efforts to recover fully protected, threatened, or endangered species, and may authorize the live capture and relocation of those species pursuant to a permit for the protection of livestock. Prior to authorizing the take of any of those species, the department shall make an effort to notify all affected and interested parties to solicit information and comments on the proposed authorization. The notification shall be published in the California Regulatory Notice Register and be made available to each person who has notified the department, in writing, of his or her interest in fully protected species and who has provided an e-mail address, if available, or postal address to the department. Affected and interested parties shall have 30 days after notification is published in the California Regulatory Notice Register to provide any relevant information and comments on the proposed authorization.
(2) As used in this subdivision, "scientific research" does not include any actions taken as part of specified mitigation for a project, as defined in Section 21065 of the Public Resources Code.
(3) Legally imported fully protected birds or parts thereof may be possessed under a permit issued by the department.
(b) The following are fully protected birds:
(1) American peregrine falcon (Falco peregrinus anatum).
(2) Brown pelican.
(3) California black rail (Laterallus jamaicensis coturniculus).
(4) California clapper rail (Rallus longirostris obsoletus).

(5) California condor (Gymnogyps californianus).
(6) California least tern (Sterna albifrons browni).
(7) Golden eagle.
(8) Greater sandhill crane (Grus canadensis tabida).
(9) Light-footed clapper rail (Rallus longirostris levipes).
(10) Southern bald eagle (Haliaeetus leucocephalus leucocephalus).
(11) Trumpeter swan (Cygnus buccinator).
(12) White-tailed kite (Elanus leucurus).
(13) Yuma clapper rail (Rallus longirostris yumanensis)."

- **Code 3513:** "It is unlawful to take or possess any migratory nongame bird as designated in the Migratory Bird Treaty Act or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the Migratory Treaty Act."

2.4.6 Native Plant Protection Act

The Native Plant Protection Act (NPPA) was enacted in 1977 and allows the California Fish and Game Commission to designate plants as rare or endangered. There are 64 species, subspecies, and varieties of plants that are protected as rare under the NPPA. The NPPA prohibits take of endangered or rare native plants, but includes some exceptions for agricultural and nursery operations, emergencies, and/or with proper notification to the CDFW for vegetation removal from canals, roads, and other sites, changes in land use, and in certain other situations.

2.4.7 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code §§13000 et seq.) is the State's primary water law. It gives the State Water Resources Control Board (SWRCB) and the nine regional water quality control boards authority to regulate water use of surface and sub-surface waters.

2.5 Local Regulations

2.5.1 Western Riverside Multiple Species Habitat Conservation Plan

The Western Riverside County Multiple Species Habitat Conservation Plan is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County.

The MSHCP will serve as an HCP pursuant to Section 10(a)(1)(B) of the FESA, as well as a NCCP under the NCCP Act of 2001. The MSHCP will be used to allow the participating jurisdictions to authorize "take" of plant and wildlife species identified within the MSHCP area. USFWS and CDFW (Wildlife Agencies) have authority to regulate the take of threatened, endangered, and rare species. Under the MSHCP, the Wildlife Agencies will grant "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the MSHCP Conservation Area, in exchange for the assembly and management of a coordinated MSHCP Area. The MSHCP is designed to provide mitigation compliance under the FESA, CESA, CEQA, and National Environmental Protection Act (NEPA) with payment of a development mitigation fee to the appropriate local jurisdiction and completion of requisite habitat assessments/focused surveys for projects within those jurisdictions.

3.0 METHODS

Methods described below focused on determination of potential for occurrence of special-status plant and wildlife species. Specific consideration was given for species not covered or functionally covered under the MSHCP. Species are considered to be special-status, and are therefore subject to analysis in this section, if they meet one or more of the following criteria:

- Plant and animal species listed as endangered (FE), threatened (FT), or candidates (FPE or FPT) for listing under the Federal Endangered Species Act (FESA);
- Plant and animal species listed as endangered (SE), threatened (ST), or candidates (SCE or SCT) for listing under the California Endangered Species Act (CESA);
- Animals designated as Fully Protected Species (FP), as defined in California Fish and Game Code Sections 3511, 4700, 5050, and 5515;
- Animal species designated as Species of Special Concern (SSC) by the CDFW;
- Bat species designated as High Priority (H) by the Western Bat Working Group;
- Plants that are state-listed as Rare[1]; or
- Plant species ranked by the California Native Plant Society (CNPS) as having a California Rare Plant Rank (CRPR) of 1 or 2.[2]

Sensitive natural communities are communities that have a limited distribution and are often vulnerable to the environmental effects of projects. These communities may or may not contain sensitive species or their habitats. For purposes of this assessment, sensitive natural communities are considered to be any of the following:

- Vegetation communities listed in the California Natural Diversity Database (CNDDB);
- Communities listed in the Natural Communities List with a rarity rank of S1 (critically imperiled), S2 (imperiled), or S3 (vulnerable).

3.1 Literature Review

As a foundation for MSHCP requirements, the Riverside County Parcel Report was considered for information regarding sensitive habitat types and potential survey requirements applicable to portions of the Project occurring within private land. The Riverside County MSHCP Information Application was further used to review Plan Survey Areas and Criteria Species areas which may overlay portions of the Project occurring within County ROW. Additional sources of information included the National Wetlands Inventory database (NWI), National Hydrography Dataset (NHD), the US Department of Agriculture (USDA) Web Soil Mapper, Calflora database (Calflora 2021), US Geological Service (USGS) topographic maps, and Google Earth aerial imagery.

Blackhawk conducted an additional database records search (May 2021) centered on the US Geological Service (USGS) 7.5-minute quadrangle for Sunnymead, APN 478-250-001 including a three-mile radius surrounding the Project. The database records search included the CDFW California Natural Diversity Database (CNDDB) (CDFW 2021), the US Fish & Wildlife Service (USFWS) Species Occurrence

[1] Plants that were previously state listed as "Rare" have been re-designated as state threatened.

[2] Under the CEQA review process, only CRPR 1 and 2 species are considered, as these are the only CNPS species that meet CEQA's definition of "rare" or "endangered." Impacts to List 3 and 4 species do not meet CEQA's definition of "rare" or "endangered."

Database (USFWS 2021), and the California Native Plant Society's (CNPS) Electronic Inventory (EI) of Rare and Endangered Vascular Plants of California (CNPS 2021). The CNDDB contains records of reported occurrences of federal- and state-listed species, candidate endangered or threatened species, Federal Birds of Conservation Concern (BCC), California Species of Special Concern (SSC) and otherwise special-status species or communities that may occur within and/or in the vicinity of a Project (Figure 3). The USFWS Species Occurrence Database records federal-listed and candidate species. The CNPS Electronic inventory was filtered for CRPR 2.B and higher species. For the purposes of the habitat assessment, all historic records identified using the methods above, as well as MSHCP species with additional survey needs and procedures, were considered "target species".

The USDA Web Soil Survey was used to review soil types documented to occur within the Project site, as soil types often relate to the PFOs for a number of special-status species and habitat types. Also, a synoptic review was conducted of the NWI and NHD databases, Google Earth imagery and USGS topographic maps for documented or potential water features on and adjacent to the Project site. These databases and literature reviews were used to provide details on special-status species that have potentials to occur within the proposed Project site and/or its surrounding area prior to conducting habitat assessment or focused survey efforts.

Utilizing the background data described above, Blackhawk Environmental biologist Kris Alberts conducted a field assessment and biological data collection exercise of the Project site on May 5, 2021, to assess the Project site for existing conditions and the capacity to potentially harbor sensitive biological resources identified in the literature review (target species). Representative photos of the Project site, habitats, and existing site conditions are included in Attachment B.

Following the habitat assessment, potentials for special-status species to occur were evaluated based on proximity, connectivity, recency and abundance of known occurrences, availability of suitable habitats, historic distributions of the species, and existing site conditions. Potentials for occurrence were generally evaluated based on the following criteria:

- **Present** – The species was observed within the Project area during the survey effort.
- **High** – Historic records indicate that the species has been known to occur within the vicinity of the Project (1 mile), and suitable habitat occurs onsite.
- **Moderate** – Historic records indicate that the species has been known to occur within the vicinity of the Project, but low-quality suitable habitat occurs onsite, or; no historic records occur within the Project, but the Project occurs within the historic range of the species, and moderate to high quality habitat occurs.
- **Low** – Historic records indicate that the species has not been known to occupy the immediate vicinity of the Project, and low-quality habitat for the species exists onsite.
- **No Potential** – The species is restricted to habitats not occurring within the Project or is considered extirpated from the Project area.

3.2 Habitat Assessment

Blackhawk Environmental biologist Kris Alberts conducted the initial habitat assessment on May 5, 2021. To evaluate the potential for both direct and indirect impacts, the assessment included all proposed Project features as well as an additional 150-meter (492 feet) survey buffer surrounding the proposed

Parcel (Survey Area). Fully developed areas were excluded from the Survey Area due to lack of potential habitat for special-status species. The biologist performed a pedestrian survey of the entire originally designed 17.98-acre Project area and surrounding Survey Area. The survey was conducted between 2:50 P.M. and 3:50 P.M. Survey conditions are included in Table 1 below.

Table 1. Habitat Assessment Conditions

Biologist(s)	Date	Time	Air Temperature (°F)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
Kris Alberts	5/5/2021	1450-1550	90-91	4-10	80-70	None

Methods used during the habitat assessment included slowly walking the entire Project site while documenting flora and fauna species and using Global Positioning System (GPS) technology to map dominant vegetation communities and potential hydrologic features. Where appropriate, the biologist paused at select vantage points to provide full visual coverage of the Project site and Survey Area. During the field survey, all plant and wildlife species observed or detected were recorded in a field notebook. Binoculars were used as needed to identify wildlife species. Plant species observed were identified to species or subspecies level when feasible according to the nomenclature in The Jepson Manual: Vascular Plants of California Edition 2 (Baldwin et al. 2012). Vegetation communities were described according to dominant plant species and annotated on a high-resolution aerial photograph of the Project site for GIS interpolation of Figure 2 provided in this report (Attachment A). With the exception of a burrowing owl habitat assessment, the habitat assessment did not include focused or protocol level surveys for any special-status plant or wildlife species, as allowed by the Plan.

3.3 Jurisdictional Water Bodies and Riverine/Riparian Habitats

Aerial imagery, the NWI and NHD databases, and USGS topographic maps of the Project site were reviewed to identify any known or potential drainage features, riparian/riverine habitat types, water bodies and/or other features that may fall under USACE, RWQCB, and/or CDFW jurisdictions and that may require investigation during the field survey. Per the MSHCP, riparian/riverine habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The presence of any potentially jurisdictional features, including associated vegetation/communities, presence of ordinary high watermarks (OHWMs) or streambeds, substrates, hydrological indicators and potential connectivity, were documented during the field survey. Based on findings during the literature review and habitat assessment, a jurisdictional delineation was performed on August 18, 2021 by Blackhawk wetland specialists Ian Maunsell and Ryan Quilley. Following a design change after the first delineation survey, a second delineation survey was conducted on April 1, 2021 by Blackhawk wetland specialists Kris Alberts and Seth Reimers. The delineation efforts followed guidelines set forth by USACE (1987, 2008) and were performed to gather field data at potentially jurisdictional Waters of the U.S. and Waters of the State that may be subject to USACE, RWQCB, and/or CDFW jurisdictions within or adjacent to the Project as well as an assessment of riverine/riparian habitats as defined by the Plan.

3.3.1 Vernal Pools and Listed Fairy Shrimp Habitat

The habitat assessment included a review of the proposed Project and Survey Area for stock ponds, ephemeral pools, road ruts, and other seasonally ponded areas which may support listed fairy shrimp

species. The survey was performed during the 2021 summer season. The biologist noted any areas which may support standing water more than two centimeters. If and where presence of standing water was not noted, the biologist was to record any indicators of non-riverine seasonally ponded areas such as water marks, soil cracks, algal mats, or other indicators which may indicate intermittent ponding. As part of the notation of floral species, the biologist recorded any observed vernal pool indicator species per USACE guidance (USACE 1997). Methods included the review of historic aerial imagery to determine if inundation was readily visible.

3.4 MSHCP Additional Survey Needs and Procedures

The proposed Project falls within an MSHCP Survey Areas for burrowing owl. Assessment of habitat suitability for burrowing owl was performed per accepted protocols. These methods are discussed below. The proposed Project does not occur within areas requiring additional assessment and surveys for mammals, amphibians, invertebrates, narrow endemic plants, or Criteria Areas.

3.4.1 Burrowing Owl

A habitat assessment for burrowing owl was performed throughout the Survey Area, as the entirety of the Project falls within areas designated as MSHCP survey areas for the species. Blackhawk performed a habitat assessment for burrowing owl concurrently with the habitat assessment on May 5, 2021. The assessment was performed per the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area – Step 1 Habitat Assessment* (2006), by walking meandering transects through the entire Survey Area (excluding urban development). Pedestrian survey transects were spaced in a manner which allowed 100% visual coverage of the ground surface and transect centerlines were no more than 30 meters (approximately 100 ft.) apart. Transect spacing was adjusted as necessary to account for differences in terrain, vegetation density and ground surface visibility. Suitable habitat, as defined by the MSHCP, consists of a variety of natural and modified habitats for nesting and foraging that is typically characterized by low growing vegetation. Burrowing owl habitat includes, but is not limited to, native and non-native grassland, interstitial grassland within shrub lands, shrub lands with low density shrub cover, golf-courses, drainage ditches, earthen berms, unpaved airfields, pastureland, dairies, fallow fields, and agricultural use areas. Burrowing owls typically use burrows made by fossorial (adapted for burrowing or digging) mammals, such as California ground squirrels (*Otospermophilus beecheyi*) or badgers (*Taxidea taxus*). They often utilize manmade structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles, or openings beneath cement or asphalt pavement. Burrowing owls are often found within, under, or near man-made structures. To assess potential burrowing owl habitat, the biologist focused on the identification of suitable burrows within and adjacent to the Project site. Per the MSHCP, if burrowing owl habitat is not present on-site (e.g., if the site is completely covered by chaparral, woodlands, cement or asphalt), Step II of the survey is not necessary, and no pre-construction surveys are necessary.

4.0 ENVIRONMENTAL SETTING AND RESULTS

4.1 Literature Review Results

The literature review resulted in a total of **13** special-status wildlife species, **two** special-status plant species, and **zero** special-status natural communities known to occur within three miles of the Project site. Two of these wildlife species are Federally Endangered [San Bernardino kangaroo rat (*Dipodomys merriami parvus*) and Stephen's kangaroo rat (*Dipodimys stephensi*)]. No plant species are listed as Threatened or Endangered under the CESA or FESA. In addition to the above-mentioned FESA and CESA designations, the remaining 11 wildlife species had a CDFW listing status of at least Species of Special Concern (SSC) and/or are MSHCP-covered. A CNDDB map of all sensitive wildlife and plant species known to occur within three miles of the Project site can be found in Attachment A, Figure 3. The resulting lists of species are included in Tables 3 and 4 and discussed in Section 4.2.5 and 4.2.6 below.

4.1.1 MSHCP Requirements (criteria cells, fee areas, narrow endemic plants, jurisdictional areas)

The Project site is located on APN 478-250-001 within the City of Moreno Valley. The Riverside County MSHCP Information Application indicates that the Project is not located within a Plan Cell Group or Plan Criteria Cell; however, the Project is located within a City of Moreno Valley Development Impact Fee (DIF) area and is subject to payment of said fees as compliance. The MSHCP requires a burrowing owl habitat assessment and surveys (if suitable habitat is present) be conducted on the Project site, but it does not require additional surveys for criteria areas species, amphibian species, mammal species, invertebrate species, narrow endemic plant species, and/or special linkage areas.

4.2 Habitat Assessment Results

The proposed Project includes 21.484 acres of previously graded/disked, regularly mowed, undeveloped land and a man-altered drainage channel in the incorporated City of Moreno Valley. The site is bounded to the west by the western portion of the man-altered drainage channel and Quincy Street, to the east by private residential homes, to the north by Cottonwood Avenue and to the south by Bay Avenue and a vacant lot (Figure 2). The site shows signs of historic and recent anthropogenic impacts such as mowing, trash dumping, disking, and vehicle use. Few native vegetation communities exist on the upland portion of the Project site, and very few native plants were documented during the surveys, mostly consisting of species capable of tolerating high levels disturbance.

The Project site consists of a mostly flat lot. Elevations within the Project site range from 1,639 feet above mean sea level (AMSL) in the southeast corner at its lowest point, and up to 1,664 feet AMSL at the northwestern corner at its highest point.

4.2.1 Soils

Mapped soil units within the Project Survey Area include San Emigdio loams with slopes ranging between zero to eight percent. Three distinct soil series are present within the Project area. These soil units are included in Table 2.

Table 2. Soils Occurring Within the Initial Project Site

Map Unit Symbol	Map Unit Name	Acres (Percent) of Project Site
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost	4.34 (24.1%)
SeC2	San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded	1.42 (7.9%)
SgA	San Emigdio loam, 0 to 2 percent slopes	12.22 (68.0%)

4.2.2 Existing Land Use and Site Conditions

The Project site consists of a mostly flat, vacant, rectangular area characterized by previously disturbed lands, including areas subject to various types and levels of anthropogenic modification, generally lacking native vegetation. The greatest concentrations of native vegetation were associated with the western drainage feature. Overall, the site shows evidence of recent and previous soil disturbances through both intentional earth-moving activities, trash/debris dumping, and mowing. Review of historic aerials of the Project site indicate that the site has undergone periodic vegetation maintenance in the form of mowing and disking or farming since at least as far back as 1985 (Google Earth 2021). Commercial, residential and agricultural development over time adjacent to the Project site has rendered the area relatively isolated from native habitats.

Absolute vegetative cover averaged over 80 percent, and non-native plant species were dominant in all portions of the Project site. Shrubs and trees were absent from the uppermost portion of the Project site where annual, non-native plant species accounted for an average vegetation height of one foot. The only observed trees within the Project site occurred within the drainage feature, and included only scattered small Goodding's willow (*Salix gooddingii*), mulefat (*Baccharis salicifolia*), salt cedar (*Tamarix ramosissima*) and California walnut (*Juglans californica*) trees in concentrations not substantial enough to warrant a designation of riparian habitat. Other trees in the Survey Area consisted of scattered ornamental species such as Mexican fan palm (*Washingtonia robusta*) associated with roads and residential developments to the north, east, and south of the parcel. The Project site provides marginally suitable habitat for common plant and wildlife species known to occur in the region and is restricted to species associated with disturbed areas.

Hydrology within the Project is characteristic of previously graded areas proposed for urban development with flat topography, isolated from surface run-off by municipal storm drain systems surrounding the site or that utilize the drainage feature at the west end of the Project site. The site generally slopes from northwest to southeast; however, signs of surface water runoff (erosional features, rills, etc.) were not observed on the uppermost elevations of the Project site, indicating that run-on to the site is absent and precipitation penetrates the course porous soils before running off. Soils throughout the Project are broadly described as "well drained", comprised of sandy loams. Except for the man-altered drainage feature at the west end of the Project site, natural hydrologic features were not observed within the Project boundary.

4.2.3 Vegetation Communities and Land Use Types

The Project is broadly composed of two MSHCP vegetation communities and/or land use types: Residential/Urban/Exotic – Disturbed Lands and MSHCP Riverine Habitat. Several vegetation communities were mapped within these boundaries. Land use types are described according to *Volume II, Section C Habitat Accounts – Vegetation Associations of the Plan* and further described based on dominant plant species present and land uses in order to further distinguish existing vegetation communities. A total of 20.019 acres of Residential/Urban/Exotic – Disturbed Areas, 0.291 acre of Urban/Developed Areas, 0.460 acre of California Buckwheat Scrub, 0.007 acre of California Walnut Scrub, 0.145 acre of Disturbed Mulefat Scrub, 0.113 acre of Mulefat Scrub, 0.021 acre of Southern Willow Scrub, 0.047 acre of Tamarisk Scrub, and 0.381 acre of Unvegetated Channel occurs on the Project site. Of this, 1.099 acres of MSHCP Riverine Habitat were mapped within the Project site, synonymous with CDFW Streambed and Riparian jurisdiction and which includes 0.501 acre of USACE/RWQCB jurisdiction. Vegetation mapping showing the distribution of the vegetation communities identified within the Project site is shown in Figure 2. MSHCP Riverine Habitat is shown in Figure 3. The vegetation community/land cover uses present on the Project site and their acreages include:

Project Site Vegetation Community Acreages:

- 20.019 acres of Residential/Urban/Exotic – Disturbed Lands
- 0.291 acre of Urban/Developed Areas
- 0.460 acre of California Buckwheat Scrub
- 0.007 acre of California Walnut Scrub
- 0.145 acre of Disturbed Mulefat Scrub
- 0.113 acre of Mulefat Scrub
- 0.021 acre of Southern Willow Scrub
- 0.047 acre of Tamarisk Scrub
- 0.381 acre of Unvegetated Channel
- Subset of above includes 1.099 acres of MSHCP Riverine Habitat

Residential/Urban/Exotic – Disturbed Areas (Holland code 11300)

According to the Plan descriptions of Residential/Urban/Exotic areas, weed communities occur commonly in roadside areas and abandoned lots, such as the upper elevations of the proposed Project site. Within the Survey Area, these areas are further characterized according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) as "Disturbed Lands", which may result from anthropogenic or natural causes and can take on many forms in context of the surrounding vegetation communities, available seed banks, and disturbance factors. These areas can result from previous grading, vehicular traffic, or temporary land uses such as previous adjacent project staging. If disturbance variables are removed, and Disturbed Land is left to natural processes, these areas have the capacity to revegetate in the short term, but do not function as native vegetation communities. This contrasts with Urban/Developed Areas described herein, that do not have the capacity to revegetate in the short term or consist of maintained landscaping.

The majority of the parcel (20.019 acres) can be characterized by Residential/Urban/Exotic - Disturbed Lands in the form of non-native grasses, ruderal vegetation, and recently disturbed soils with very low absolute vegetative cover of native species. Dominant and sub-dominant vegetation in this habitat

included foxtail barley (*Hordeum murinum*), red stemmed filaree (*Erodium cicutarium*), ripgut brome (*Bromus diandrus*), red brome (*Bromus madritensis*), and short-pod mustard (*Hirschfeldia incana*). Generally low numbers of native plant species were observed in Residential/Urban/Exotic areas and included common fiddleneck (*Amsinkia menziesii)*. A full list of plant species observed within the Project is presented in Attachment D.

Herbaceous ground cover in these areas was observed to provide groundcover in excess of 80 percent. Average height of vegetation was low, ranging from one half to two feet above ground.

Visible signs of recent mechanical disking and consistent anthropogenic disturbance were observed within this habitat type, precluding the potential for most special-status species of plants and wildlife (Attachment B, Photograph 1). The regional value of disturbed Residential/Urban/Exotic – Disturbed Lands on site is low; having potential as foraging habitat for raptors, some passerine bird species and use by rodents capable of withstanding frequent anthropogenic disturbance.

Urban/Developed Areas (Holland code 12000)

Urban/Developed Areas include those areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation. Areas where no natural land is evident due to a large amount of debris or other materials being placed upon it may also be considered Urban/Developed (e.g., car recycling plant, quarry) (Oberbauer 2008).

The Project site includes 0.291 acre of Urban/Developed Areas associated with unvegetated rip rap, pavement and concrete along the western drainage feature. Wildlife usage of developed areas may be limited to California ground squirrels and other rodents utilizing the rip rap for burrows and shelter.

California Buckwheat Scrub (Holland code 32800)

California Buckwheat Scrub is a near monoculture community usually resulting from disturbance and transitioning to coastal sage scrub or chaparral. Species characteristic of these communities appear over time. The dominant species is California buckwheat (*Eriogonum fasciculatum*) (Oberbauer 2008).

The Project site includes 0.460 acre of California Buckwheat Scrub associated with several patches along the upper terraces of the western drainage feature. Annual herbaceous ground cover in these areas was observed to provide minimal groundcover while California buckwheat provided over 50 percent cover. Average height of vegetation was moderate, ranging from two to four feet above ground.

Owing to small patch sizes on the Project site, the regional value of California Buckwheat Scrub stands on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species.

California Walnut Scrub (Holland code 71200)

California Walnut Scrub is similar to and intergrades with Interior Live Oak Woodland or Coast Live Oak Woodland, but with a more open tree canopy locally dominated by California walnut. The open tree

canopy allows development of a grassy understory. In most sites, this understory is comprised of introduced winter-active annuals that complete most of their growth cycle before the deciduous *Juglans* leafs out in spring. It tends to occur on relatively moist, fine-textured soils of valley slopes and bottoms, as well as encircling rocky outcrops. These drier, rocky sites often support Venturan or Riversidian Sage Scrub (Oberbauer 2008).

The Project site includes 0.007 acre of California Walnut Scrub associated with one individual along the western drainage feature. Annual herbaceous ground cover in this area was observed to provide minimal groundcover while California walnut provided over 85 percent cover. Average height of vegetation was moderate, at about twelve feet above ground.

Owing to the small patch size on the Project site, the regional value of California Walnut Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species.

Mulefat Scrub (Holland code 63310)

Within the Survey Area, Mulefat Scrub is characterized according to the *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) as a "depauperate, tall, herbaceous riparian scrub strongly dominated by *Baccharis salicifolia* (Holland 1986)". This vegetation community is associated with areas of frequent flooding and generally occurs along intermittent streams or beside rivers. Mulefat Scrub requires channels with fairly coarse substrate and moderate depth to the water table (Holland1986).

The banks of the drainage feature located along the western boundary of the Project Site includes several stands of Mulefat Scrub (0.113 acre) and Disturbed Mulefat Scrub (0.145 acre). Dominant and sub-dominant vegetation in this habitat included mulefat and short-pod mustard, and disturbed portions also contained tree tobacco (*Nicotiana glauca*). A full list of plant species observed within the Project is presented in Attachment D.

Herbaceous ground cover in these areas was observed to provide groundcover in excess of fifty percent. Average height of vegetation was moderate, ranging from five to eight feet above ground.

Owing to small patch sizes on the Project site, the regional value of Mulefat Scrub stands on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species.

Southern Willow Scrub (Holland code 63310)

Southern Willow Scrub includes dense, broadleafed, winter-deciduous riparian thickets dominated by several willow (*Salix*) species, with scattered emergent Fremont cottonwood (*Populus fremontii*) and California sycamore (*Platanus racemosa*). Most stands are too dense to allow much understory development. It tends to occur on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. This early seral type requires repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest (Oberbauer 2008).

The western bank of the drainage feature located along the western boundary of the Project Site includes one 0.021-acre stand of Southern Willow Scrub. The dominant species is Goodding's black

willow. Underlying annual herbaceous coverage included primarily non-native brome grasses at over 100% ground cover. Average height of vegetation was moderate, at about 12 to 15 feet above ground.

Owing to the small patch size on the Project site, the regional value of Southern Willow Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species.

Tamarisk Scrub (Holland code 63810)

Tamarisk scrub is a weedy, virtual monoculture of any of several *Tamarix* species, usually supplanting native vegetation following major disturbance. It tends to occur on sandy or gravelly braided washes or intermittent streams, often in areas where high evaporation increases the stream's saltiness. Tamarisk is a strong phreatophyte and a prolific seeder, attributes which predispose the species to be aggressive competitors in disturbed riparian corridors (Oberbauer 2008).

The western bank of the drainage feature located along the western boundary of the Project Site includes three small stands of Tamarisk Scrub that totals 0.047 acre. The dominant species is salt cedar. Underlying annual herbaceous coverage included primarily non-native brome grasses at less than 20% ground cover. Average height of vegetation was moderate, at about eight to 15 feet above ground.

Owing to the small patch sizes on the Project site and its invasive, non-native status, the regional value of Tamarisk Scrub on site is low, offering limited potential as foraging habitat for commonly occurring wildlife species and limited nesting potential for commonly occurring avian species.

Unvegetated Channel (Holland code 64200)

Unvegetated Channel includes the sandy, gravelly, or rocky fringes of waterways or flood channels that remain unvegetated on a relatively permanent basis. Variable water lines inhibit the growth of vegetation, although some weedy species of grasses may grow along the outer edges of the wash. Vegetation may exist, but it is usually less than 10% total cover. This classification is not appropriate when sand or alluvium is an artifact of a very recent or uncommon flood event in the upper parts of watersheds (Oberbauer 2008).

Unvegetated channel within the Project site includes 0.381 acre of the stream channel that courses through the length of the lowest portions of the man-altered drainage feature at the western end of the Project site. Vegetative cover is negligible to nonexistent, with a sandy meandering channel defining this land cover type at this location.

The regional value of Unvegetated Channel on site is low, offering limited potential as foraging or sheltering habitat for commonly occurring wildlife species.

MSHCP Riverine Habitat

Per Section 6.1.2 of the MSHCP, Riparian/Riverine Habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to, or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The western edge of the parcel (1.099 acres) can be characterized as MSHCP

Riverine Habitat in the form of the unvegetated channel and its adjacent small stands of riparian shrubs and ruderal vegetation with low to moderate absolute vegetative cover of native species in certain areas. The riparian canopy is not subjectively substantial enough to support riparian-associated wildlife species; therefore, the classification of Riverine Habitat is more appropriate in this instance. Where vegetation does occur, dominant and sub-dominant vegetation in the Riverine Habitat included California buckwheat, mulefat, tree tobacco, tamarisk and short-pod mustard. Generally low numbers of native plant species were observed throughout the MSHCP Riverine Habitat and included California buckwheat, Goodding's black willow, southern black walnut and mulefat. The extent of the MSHCP Riverine Habitat is equivalent to the limits of CDFW jurisdiction. A full list of plant species observed within the Project is presented in Attachment D.

Herbaceous ground cover in these areas was observed to provide groundcover in excess of 50 percent in some areas. Average height of vegetation ranged from two to 15 feet above ground.

This habitat contained visible signs of consistent natural disturbance in the form of scouring following rain events, precluding the potential for most special-status species of plants and wildlife (Attachment B, Photograph 4). The regional value of MSHCP Riverine Habitat on site is low; having limited potential as foraging and nesting habitat for passerines and raptors and use by wildlife capable of withstanding occasional flow events.

4.2.4 Jurisdictional Waters and Riverine/Riparian Habitats

USACE, RWQCB and CDFW regulate discharge into and impacts to wetland and non-wetland water bodies meeting certain criteria. The MSHCP regulates impacts to riverine/riparian communities and vernal pools, as well as species associated with these habitat types, as outlined in section 6.1.2 of the MSHCP. The MSHCP specifically describes riverine/riparian habitats as "lands which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with freshwater flow during all or a portion of the year".

The habitat assessment and follow-up jurisdictional delineation surveys identified one man-altered jurisdictional drainage feature that meets the MSHCP criteria for Riverine Habitat along the western boundary of the Project site that is also regulated by USACE, RWQCB and the CDFW. Because a portion of the jurisdictional feature lies within the Project footprint and is proposed for both temporary and permanent impacts through Project activities, a formal jurisdictional delineation and accompanying report was completed (Blackhawk 2022).

4.2.5 Sensitive and Observed Wildlife Species

The literature review resulted in a list of 13 special-status wildlife species with the potential to occur within three miles of the Project site. These species and their potentials for occurrence are further described in Table 3. A complete list of wildlife species observed on the Project site and/or in the Project vicinity is presented in Attachment C.

Table 3. Special-Status Wildlife Species Potentially Occurring Within the Project Site

Species Name	Status	Habitat Requirements	Potential for Occurrence
BIRDS			
Burrowing owl *Athene cunicularia*	Federal: **BCC** State: **SSC** Local: **MSHCP-covered**	Shortgrass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors and some artificial, open areas as a year-long resident. Occupies abandoned ground squirrel burrows as well as artificial structures such as culverts and pipes.	**Low.** Focused surveys for this species were conducted between June 22 and July 15, 2021, and confirmed the site is not currently occupied by this species. This species has been historically documented to occur within 3 miles of the Project vicinity and low-quality habitat occurs on the Project site, due to frequent anthropogenic disturbances to soil.
Tricolored blackbird *Agelaius tricolor* (nesting colony)	Federal: **BCC** State: **ST, SSC** Local: **MSHCP-covered**	Nests in colonies and prefers freshwater marshes dominated by cattails or bulrushes and occasionally in willows, blackberries, thistles and nettles. Breeding habitat now includes diverse upland and agricultural areas. Small breeding colonies in southern California occur at lakes, reservoirs, and parks surrounded by urban development. Adults from such colonies may forage in nearby undeveloped uplands.	**No Potential.** Historical occurrences are recorded within 3 miles of the Project site; however, suitable habitat for this species is absent from the Project site. Sufficient marsh habitat does not exist on site or within surrounding areas to support this species.
Ferruginous hawk *Buteo regalis* (wintering)	Federal: **BCC** State: None Local: **MSHCP-covered**	Winters in open grasslands, fields, open desert scrub and savannah habitats. Forages on a variety of mammals.	**Moderate.** This species has been recorded within 3 miles of the Project site, and the site contains low-quality habitat for winter foraging by this species.

MAMMALS			
Northwestern San Diego pocket mouse *Chaetodipus fallax fallax*	Federal: None State: **SSC** Local: **MSHCP-covered**	Prefers loose, sandy, and gravelly soils, or mixed rocks, on moderate to steep rocky slopes with nearby shrubs. Habitats include coastal scrub, chamise-redshank chaparral, mixed chaparral, sagebrush, desert wash, desert scrub, desert succulent shrub, pinyon-juniper and annual grassland. Known range extends north to the San Bernardino and San Gabriel mountains, east to the San Jacinto Mountains, and south into Baja California.	**No Potential.** This species has been recorded within 3 miles of the Project site; however, decades of anthropogenic disturbances have rendered the site unsuitable. Furthermore, pocket mouse burrows were not observed.
Los Angeles pocket mouse *Perognathus longimembris brevinasus*	Federal: None State: **SSC** Local: **MSHCP-covered**	This species is associated with sparsely vegetated lower elevation grasslands, alluvial sage scrub and coastal sage scrub, where it tends to occur in patches with fine sandy soils, such as dry washes and aeolian deposits.	**No Potential.** This species has been recorded within 3 miles of the Project site; however, decades of anthropogenic disturbances have rendered the site unsuitable. Furthermore, pocket mouse burrows were not observed.
San Bernardino kangaroo rat *Dipodomys merriami parvus*	Federal: **FE** State: **SCE**, **SSC** Local: **MSHCP-covered**	Found in alluvial scrub/coastal sage scrub habitats on gravelly and sandy soils adjoining river and stream terraces and on alluvial fans. Rarely occurs in dense vegetation or rocky washes.	**No Potential.** Historical occurrences are recorded within 3 miles of the Project site; however, the Project site lacks suitable habitat to support this species and lacks connectivity to higher quality habitat. Additionally, no kangaroo rat burrows were observed, and there is a lack of reasonable connectivity to known populations.

Stephen's kangaroo rat *Dipodomys stephensi*	Federal: **FE** State: **ST** Local: **MSHCP-covered**	Occurs primarily in low-growing annual and perennial grassland habitats but may occur in coastal scrub or sagebrush with sparse canopy cover and low herbaceous growth, or in disturbed areas. Preferred perennials are buckwheat and chamise; preferred annuals are brome grass and filarees.	**No Potential.** Historical occurrences are recorded within 3 miles of the Project site; however, the Project site lacks suitable habitat to support this. Additionally, no kangaroo rat burrows were observed, and there is a lack of reasonable connectivity to known populations.
Western yellow bat *Lasiurus xanthinus*	Federal: None State: **SSC** Local: None	Roosts are commonly in palm trees, and occasionally in cottonwood trees or yuccas, often near surface water in open grassy areas or scrub habitat. Forages over water and among trees in coastal, foothill, and desert riparian areas, and in suburban neighborhoods.	**No Potential (Roosting), Moderate (Foraging).** This species has been documented within 3 miles of the Project site; however, no suitable roosting sites occur within the Project site, but the species may use the Project site for foraging.
Western mastiff bat *Eumops perotis californicus*	Federal: None State: **SSC** Local: None	Occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban. Crevices in cliff faces, high buildings, trees, and tunnels are required for roosting. When roosting in rock crevices, it needs vertical faces to drop off to take flight. Reproduction: Nursery roosts described as tight rock crevices at least 35 inches deep and two inches wide, or crevices in buildings. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings. Is known to forage over 25 miles away from its roost site (Zeiner et al 1988).	**No Potential (Roosting), Moderate (Foraging).** This species has been documented within 3 miles of the Project site; however, no suitable roosting sites occur within the Project site, but the species may use the Project site for foraging.

REPTILES			
Red-diamond rattlesnake *Crotalus ruber*	Federal: None State: **SSC** Local: **MSHCP-covered**	Inhabits arid scrub, coastal chaparral, oak and pine woodlands, rocky grassland, cultivated areas. On the desert slopes of the mountains, it ranges into rocky desert flats.	**No Potential.** This species has been documented within 3 miles of the Project site; however, suitable habitat is absent from the Project site. Furthermore, due to island effects and a lack of shrub cover further precludes occupation by this species.
Silvery legless lizard *Anniella stebbinsi* (formerly *Anniella pulchra pulchra)*	Federal: None State: **SSC** Local: None	Occurs in moist, loose soils with some plant cover in coastal sand dunes, suburban gardens, chaparral, pine-oak woodlands, stream terraces with sycamores, cottonwoods, or oaks, oak woodlands, Joshua/juniper woodland, mixed conifer forest, desert scrub, sandy washes, and alluvial fans.	**Low.** This species has been documented within 3 miles of the Project site; however, suitable habitat is present only in the drainage feature. Furthermore, due to island effects and a lack of shrub cover, further precludes occupation by this species away from the channel.
Western spadefoot *Spea hammondii*	Federal: None State: **SSC** Local: **MSHCP-covered**	Prefer areas of open vegetation and short grasses with sandy or gravelly soil. Found in valley and foothill grasslands, open chaparral, and pine-oak woodlands. Upland habitat is required for feeding and burrow construction near permanent and temporary wetlands that include rivers, creeks, and pools in intermittent streams.	**No Potential.** This species has been documented within 3 miles of the Project site; however, suitable habitat is absent from the Project site. Sufficient wetlands do not exist on site or surrounding areas to support the reproductive cycle of this species.
Coast horned lizard *Phrynosoma blainvillii* (formerly *Phrynosoma coronatum blainvillei*)	Federal: None State: **SSC** Local: **MSHCP-covered**	Occurs widely in sage scrub, woodlands, grasslands and chaparral communities within microhabitats of loose granitic soils and open areas for sunning and foraging. This species is commonly associated with the presence of native harvester ants.	**No Potential.** This species has been documented within 3 miles of the Project site; however, suitable habitat is absent from the Project site. Furthermore, island effects and a lack of shrub cover further precludes occupation by this species.

Of the 13 special-status wildlife species documented to occur within the Project vicinity, three (ferruginous hawk, western yellow bat, and western mastiff bat) were considered to have a moderate potential to occur (foraging and/or wintering only) based on proximity of historic records and marginal quality habitat on site. Two additional species (burrowing owl and silvery legless lizard) were found to have a low potential for occurrence based on proximity of historic records and marginal quality habitat on site. There are numerous burrowing owl-suitable burrows on and within 150 meters of the Project site, however, findings of the focused burrowing owl surveys conducted between June 22 and July 15, 2021 indicate that the site is not currently occupied by this species (Blackhawk 2021). However, given the abundance of suitable burrows, it is possible that the site could become occupied by burrowing owl.

Tricolored blackbird, northwestern San Diego pocket mouse, Los Angeles pocket mouse, San Bernardino kangaroo rat, Stephen's kangaroo rat, red-diamond rattlesnake, western spadefoot and coast horned lizard are considered to have no potential to occur based on the lack of appropriate habitat, lack of suitable soils, regular disking activities, and/or presumed extirpation from the Project area due to island effects.

4.2.6 Special Status and Observed Plant Species

The literature review resulted in two special-status plant species with the potential to occur within the Project site. These species and their potentials for occurrence are further described in Table 4. The complete list of plant species can be found in Attachment D.

Table 4. Sensitive Plant Species Potentially Occurring Within the Project Site

Species Name	Status	Habitat Requirements	Potential for Occurrence
PLANTS			
Smooth tarplant *Centromadia pungens ssp. laevis*	Federal: None State: **CRPR-1B.1** Local: **MSHCP-covered**	Annual herb that occurs in alkali soils within chenopod scrub, meadows and seeps, playas, riparian woodland, valley and foothill grassland. Blooms: Apr-Sep Elevation: 0-640 m	**No Potential.** This species has been recorded within 3 miles of the Project site; however, most soil within the site is regularly tilled and disturbed precluding occupation by this species. Additionally, the site does not have alkali soils and is surrounded by development, further precluding occupation by this species.

Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	Federal: None State: **CRPR- 1B.1** Local: **MSHCP-covered**	Small, annual yellow-flowering herb typically occurs in alkali scrub, alkali playas, vernal pools and alkali grasslands. Most Riverside County populations are associated with the Willows soil series. Blooms: Feb-Jun Elevation: 1-1,220 m	**No Potential.** This species has been documented within 3 miles of the Project site; however, suitable habitat and soil types do not exist on the Project site. Additionally, the HAR was conducted during the blooming period of this species, and this species was not found on site.

Smooth tarplant (*Centromadia pungens ssp. laevis*) and Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) are considered to have no potential to occur based on the lack of appropriate habitat, lack of suitable soils and/or regular disking activities.

4.2.7 Special-Status Natural Communities

The literature review did not result in any special-status natural community occurrences documented within three miles of the Project site. The field survey confirmed that the Project site does not contain any sensitive natural communities.

4.3 Migratory Birds

Except for small stands in the western drainage feature, the Project site is devoid of woody vegetation and dominated by low growing, frequently maintained non-native plants. The surrounding areas contain limited pockets of ornamental shrubs and trees, as well as grasses and other ground cover that provide suitable nesting and foraging habitat for common avian species. Nearly all native nesting birds are protected by the Migratory Bird Treaty Act (MBTA) and CDFW Codes 3500 through 3516.

Common native avian species observed during the habitat assessment and field surveys with the potential to nest within the Project area include mourning dove (*Zenaida macroura*), horned lark (*Eremophila alpestris*) and house finch (*Haemorhous mexicanus*). The large open nature of the Project site may also provide suitable habitat for ground nesting birds such as western meadowlark (*Sturnella neglecta*) and killdeer (*Charadrius vociferans*), among others. Ornamental trees and shrubs within the immediate vicinity of the Project site provide suitable nest sites for various other MBTA-covered species such as hooded oriole (*Icterus cucullatus*), common raven (*Corvus corax*), and northern mockingbird (*Mimus polyglottos*), among others.

4.4 Reserve Interface and Wildlife Movement Corridors

Tracks, sign, burrows and/or direct visual observation of various small mammal species, such as California ground squirrel, Botta's pocket gopher (*Thomomys bottae*) and desert cottontail (*Sylvillagus audubonii*), were observed throughout the Project site. No concentrations of wildlife tracks or sign were observed, and no established corridors or connectivity to larger conservation areas of the region were observed. The Project site does not contain large natural areas and/or habitat fragments, and it is isolated by surrounding development, precluding wildlife corridors and connectivity to large conservation areas. The Project does not occur within Plan Conservation Areas or Public/Quasi Public Lands (PQP).

5.0 WESTERN RIVERSIDE MSHCP CONSISTENCY ANALYSIS

The Project is not located within a MSHCP Criteria Cell or Cell Group. The MSHCP establishes habitat assessments for certain plant and wildlife species. The Project is located within an area of the MSHCP requiring habitat assessments for burrowing owl and burrowing owl surveys, if suitable habitat is present; a focused burrowing owl habitat assessment and burrowing owl surveys were conducted between June 22 and July 15, 2021. Findings of these surveys concluded that burrowing owl does not currently occupy the site, though suitable burrowing owl burrows exist within the Project site and Survey Area (Blackhawk 2021). The Project supports MSHCP riparian/riverine habitat in the western drainage channel. The Project does not exist adjacent to Public/Quasi Public Lands. The Project is not located within an area requiring surveys for mammals, amphibians, invertebrates, narrow endemic plant species, or criteria area species.

5.1 Reserve Assembly Analysis

The proposed Project is not located within a Plan Criteria Cell or Cell Group, and therefore will not directly impact Conservation Areas or long-term reserve assembly. The proposed Project does not occur immediately adjacent to Plan Conservation Areas and therefore will avoid direct impacts to these areas. Potential indirect impacts associated with the proposed Project adjacent to these areas is discussed in Section 5.2 below.

5.2 Urban Wildlands Interface

According to the Plan, the Urban/Wildlands Interface Guidelines are intended to address indirect effects associated with locating development in proximity to Plan Conservation Areas. The Project site is not adjacent to a Plan Conservancy Area and thus does not pose a risk of causing indirect effects to any Plan Conservancy Areas. Therefore, no further analysis is required under section 6.1.4 of the MSHCP.

5.3 Additional Survey Needs and Procedures

Additional surveys are not anticipated in conjunction with Plan implementation to achieve coverage for species discussed in 6.3.2 of the Plan, since these species either were determined to have no potential to occur on the Project site, or potential impacts to species with a PFO will be limited to a level that is below levels considered significant under CEQA/NEPA guidelines and the MSHCP.

The Project falls within the MSHCP Survey Area for burrowing owl. The habitat assessment included consideration of this species, discussed below.

5.3.1 Burrowing Owl

The Project site is located within a MSHCP burrowing owl survey area, if suitable habitat is identified during the burrowing owl habitat assessment. A habitat assessment during a site visit conducted on May 5, 2021, identified Disturbed Areas which may be considered suitable for burrowing owl. Based on the potential for suitable habitat, a habitat assessment was performed as described in section 3.4.1 above. The habitat assessment identified suitable foraging and nesting habitat for burrowing owl within the Project site and the Survey Area. Due to the presence of suitable habitat, focused surveys were conducted and are presented in the *Pacifica Cottonwood Project – Focused Burrowing Owl Survey Report* (Blackhawk 2021). This report finds that the site is not currently occupied by burrowing owl, but

suitable burrows exist on the Project. Therefore, a pre-construction survey for burrowing owl will be required within 30 days of initiating construction per section 6.3.2 of the MSHCP. No additional species requiring focused survey efforts or non-covered sensitive wildlife species with the potential to occur on site were identified during the literature review and site assessment.

5.4 Special-Status and Narrow Endemic Plant Species

The Project site is not located within a Narrow Endemic Plants Survey Area under section 6.1.3 of the Plan. The Project site is not located within a Criteria Area Species Survey for special-status plant species under section 6.3.2 of the Plan. A formal narrow endemic plant survey was not conducted, nor a rare plant inventory; however, all observed plant species were documented from within the Project site. No additional non-covered special-status or narrow endemic plant species with the potential to occur on site were identified during the literature review, site assessment and/or field surveys.

5.5 Jurisdictional Waters

One potentially jurisdictional feature was observed running parallel to the western boundary of the Project site in the form of a partially vegetated, man-altered, concrete and earthen-bermed drainage. During the initial assessment, the biologist mapped the preliminary top of bank extent to determine whether the drainage could be impacted by Project activities. The habitat assessment did not include a formal jurisdictional delineation effort, as potentially jurisdictional water bodies that may be subject to USACE, RWQCB, and/or CDFW jurisdictions were not documented to occur within the Project at the time of the initial assessment. However, Project design changes following the initial assessment clearly showed that the Project would both temporarily and permanently impact the drainage feature. The drainage observed at the western edge of the Project site has a small portion of riparian/riverine habitat that falls within the Project boundaries. Therefore, a formal aquatic resources delineation survey was required to determine if specific areas of the Project site meet either 1) criteria to be considered a relatively permanent water or tributary of a TNW providing meeting significant nexus standards that fall under the jurisdiction of the USACE, RWQCB and/or CDFW as a non-wetland water and streambed, or 2) meet the three-parameter criteria of a wetland and fall under the jurisdiction of the USACE, RWQCB and/or CDFW as wetland areas.

5.5.1 Riverine/Riparian Habitats

Per Section 6.1.2 of the MSHCP, riverine/riparian habitats are lands containing habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens which occur close to or which depend upon soil moisture from a nearby fresh water source or areas with freshwater flow during all or a portion of the year. The habitat assessment included a review of areas which may meet criteria as riverine/riparian habitats per the Plan. One drainage feature containing riverine/riparian habitat was documented running north to south along the western boundary of the Project site. During the initial habitat assessment, it was determined that the drainage feature would not be impacted by Project activities. However, Project design changes following the initial assessment clearly showed that the Project would both temporarily and permanently impact the drainage feature. Therefore, the Project will impact MSHCP riverine/riparian habitats.

5.5.2 Riverine/Riparian Species

One drainage feature containing riverine/riparian habitat was documented running north to south along the western boundary of the Project site. No MSHCP-covered or riverine/riparian-associated species were directly observed during the May 5, 2021 field survey or any subsequent survey, nor are any anticipated.

5.6 Vernal Pool and Fairy Shrimp

No vernal pools or habitat that could potentially support fairy shrimp species were observed on the Project site. No vernal pools were observed, and there are no known recent historical records within three miles of the Project site. The Project is surrounded by urban development and lacks any connectivity to known populations of listed fairy shrimp, further precluding the potential for occurrence. In addition to the absence of historical records of occurrence, native soil types mapped for the Project include well drained fine sandy loams, not expected to support natural formation of vernal pools or fairy shrimp habitat. As a result, these areas are not expected to support vernal pool species.

6.0 IMPACTS AND MITIGATION

This section of the report includes a discussion of the potential direct and indirect impacts to onsite plant and wildlife resources that may result upon the construction and implementation of the Project. Direct impacts include those involving the loss, alteration, and/or disturbance of plant communities, and consequently, the flora and fauna of the affected area. Direct impacts also include the destruction of individual plants and/or wildlife. Direct impacts may adversely affect regional populations of certain species, or result in isolated populations, reducing genetic diversity and range-wide population stability; conversely, direct impacts may also have intended or unintended positive effects in some cases.

Indirect impacts include a variety of effects related to areas or habitats that are not directly removed by project development, such as loss of foraging habitat, increased ambient noise, artificial light, introduced predators (e.g., domestic cats, dogs and other non-native animals), competition with exotic plants and animals, increased human presence and associated disturbances (e.g., trash, green waste, physical intrusion). Indirect impacts may include long and/or short-term daily activities associated with project build-out, such as increased traffic, permanent barriers or fences, buildings, exotic seed-bearing ornamental plantings, irrigated landscapes and human presence, among others. These types of impacts are known as edge effects and over time, may result in some encroachment on native plants by exotic plants, altered behavioral wildlife patterns, reduced wildlife diversity, and decreased wildlife abundance in habitats adjacent to a given project site. However, as is the case with direct impacts, indirect impacts may also have intended or unintended positive effects for certain species.

The potential for significant adverse effects, either directly or indirectly through habitat modification or conversion, on any special-status vegetation community, plant species or wildlife species, or that could occur as a result of the development of this Project is discussed within this section.

6.1 Project Impacts

This section provides definitions and discussion of the various Project-related impacts that are anticipated to occur.

6.1.1 Habitat Impacts

Construction of the proposed Project would include the permanent loss of 20.708 acres of primarily Residential/Urban/Exotic – Disturbed Areas, and an additional 0.776 acre of temporary impacts of primarily Residential/Urban/Exotic – Disturbed Areas. This total includes 0.909 acre of permanent impacts to MSHCP Riverine Habitat and 0.190 acre of temporary impacts to MSHCP Riverine Habitat. Habitat impacts are associated with the complete clearing, grading and/or transformation of the overall 21.484-acre Project Site. The majority of the currently undeveloped site is comprised of a Residential/Urban/Exotic – Disturbed Lands vegetation community. A small portion of MSHCP Riverine Habitat would be completely and permanently converted to suit residential development, with additional temporary impacts associated with build out. This area is shown in Attachment A – Figure 2.

The estimated acreages of proposed impacts resulting from implementation as described above are summarized in Tables 5 and 6.

Table 5. Summary of Proposed Project Impacts to Vegetation Communities/Land Use Types

Vegetation Community/ Land Use Type	Impact	
	Temporary (Acres)	Permanent (Acres)
Residential/Urban/Exotic – Disturbed Lands	*0.628*	*19.391*
Developed	*0.023*	*0.268*
Tamarisk Scrub	*0.021*	*0.026*
Subtotals: Non-Native Vegetation Communities	**0.672**	**19.685**
California Buckwheat Scrub	*0.006*	*0.454*
California Walnut Scrub	*0.007*	*0*
Disturbed Mulefat Scrub	*0*	*0.145*
Mulefat Scrub	*0.001*	*0.113*
Southern Willow Scrub	*0*	*0.021*
Unvegetated Channel	*0.091*	*0.289*
Subtotals: Native Vegetation Communities	**0.105**	**1.022**
TOTAL	**0.777**	**20.707**

Table 6. Summary of Proposed Project Impacts to MSHCP Riverine Habitat

Vegetation Community/ Land Use Type	Impact	
	Temporary (Acres)	Permanent (Acres)
Residential/Urban/Exotic – Disturbed Lands	*0.060*	*0.137*
Developed	*0.005*	*0.017*
Tamarisk Scrub	*0.021*	*0.026*
Subtotals: Non-Native Vegetation Communities	**0.086**	**0.180**
California Buckwheat Scrub	*0.005*	*0.161*
California Walnut Scrub	*0.007*	*0*
Disturbed Mulefat Scrub	*0*	*0.145*
Mulefat Scrub	*0.001*	*0.113*
Southern Willow Scrub	*0*	*0.021*
Unvegetated Channel	*0.091*	*0.289*
Subtotals: Native Vegetation Communities	**0.104**	**0.729**
TOTAL	**0.190**	**0.909**

6.1.2 Construction-Related Impacts

Short-term (Temporary) Construction-Related Direct Impacts

Potential direct impacts to special-status biological resources, absent mitigation measures, which may occur as a result of construction of the proposed Project, include wildlife entrapment, killed or injured wildlife, and unauthorized grading or vegetation removal. These activities have the potential to occur for any number of reasons, including lack or absence of Project design staking, inadequate or unmaintained demarcation of proposed impact areas, misinterpretation of Project designs, and human error in operating equipment. Dependent on construction methodology and sequencing, impacts resulting from wildlife entrapment may occur at any Project site where excavations remain open and un-sealed for extended periods. Wildlife injuries and mortalities have the potential to occur because of the previously discussed reasons but are also an inherent risk when working in proximity to undeveloped areas during activities such as initial vegetation clearing and ground disturbance.

Short-term (Temporary) Construction-Related Indirect Impacts

Potential temporary indirect impacts as a result of construction of the proposed Project include non-storm-water discharges resulting from spills or leaks, attracting predators, fugitive dust generation, and storm-water discharges from sediment-laden runoff into adjacent municipal storm drain systems.

6.1.3 Operations and Maintenance-Related Impacts

The proposed Project would include the near complete development of the proposed parcel. As the Project site is surrounded mostly by previously developed lands, there are no anticipated operations and maintenance-related impacts from the Project, once development is complete.

Long-term (Permanent) Operations and Maintenance-Related Direct Impacts

Direct impacts associated with the completion of the Project would be restricted to the permanent loss of 20.708 acres of mapped vegetation communities (19.31 acres of which includes Disturbed Habitat). Included within this overall impact analysis are 0.909 acres of permanent impacts and 0.190 acre of temporary impacts to MSHCP Riverine Habitat. Additional impacts to special-status biological resources are not anticipated to result from operations and maintenance activities.

Long-term (Permanent) Operations and Maintenance-Related Indirect Impacts

Indirect impacts associated with the long-term operation of the Project may include similar impacts to those resulting from construction, such as noise generated by new development, dust generated from maintenance activities, site lighting, and increased anthropogenic activities within the new residential development.

6.1.4 MSHCP Urban Wildlands Interface Impacts

As discussed in Section 5.2 above, the proposed Project is not adjacent to any Plan Conservancy Area or PQP lands and thus does not pose a risk of causing indirect effects to any Plan Conservancy Areas. Therefore, no further analysis is required under section 6.1.4 of the MSHCP.

6.2 Special-Status Species

6.2.1 MSHCP-Covered Special Status Species

Of the 13 special-status target wildlife species evaluated, five have the potential to occur. Of these five wildlife species, two are functionally covered under the Plan:

- burrowing owl (low PFO; SSC)
- ferruginous hawk (moderate PFO [wintering/foraging only]; BCC)

Of the two special-status target plant species, neither were found present.

Absent mitigation, Project-related impacts to these species are potentially significant. The following mitigation measures are recommended to reduce potential impacts to below significant levels for Plan-covered special-status species:

- **MM-BIO 1: Payment of MSHCP Mitigation Fees.** Prior to issuance of a grading or building permit, the Project applicant will be required to pay relevant MSHCP mitigation fees. These fees will be determined in consultation with the Riverside Conservation Authority based on final Project classification and impacts. As of January 2022, the applicable MSHCP fee this Project is $3,635 per unit, for proposed residential development projects with less than eight dwelling units per acre.

6.2.2 Special-Status Species Not Functionally Covered Under the MSHCP

Of the special-status species expected to have the potential to occur, the following three species are not functionally covered under the Plan:

- western yellow bat (Moderate PFO [foraging only]; SSC)
- western mastiff bat (Moderate PFO [foraging only]; SSC)
- silvery legless lizard (Low PFO; SSC)

Focused surveys for these special-status species were not performed, and potential for impacts is assumed based on extent and availability of habitat. These species may be subject to both temporary and permanent, direct and indirect impacts, as a result of the proposed Project. Absent mitigation, Project-related impacts to these species is potentially significant. However, due to moderate or low potentials for occurrence of these species, with the implementation of MM BIO-1 above, which will contribute to the ongoing reserve assembly of the region, impacts are likely to be less than significant.

6.3 Species Requiring Additional Surveys and/or Habitat Assessments

6.3.1 Burrowing Owl

The habitat assessment identified suitable foraging and nesting habitat for burrowing owl within the Project site and the Survey Area. Focused surveys were conducted and are presented in the *Pacifica Cottonwood Project – Focused Burrowing Owl Survey Report* (Blackhawk, 2021). This report finds that the site is not currently occupied by burrowing owl, but suitable burrows exist on the Project. Permanent impacts to suitable burrowing owl habitat as a result of the Project may include habitat loss, nesting habitat removal, roosting site loss and/or loss of individuals. Indirect impacts may include fugitive dust,

excess noise, increased artificial lighting, and the attraction of predators to the Project site. The following mitigation measure is recommended to reduce potential impacts to burrowing owl below significant levels:

- **MM-BIO 2: Perform Pre-Construction Burrowing Owl Surveys -** Conduct a pre-construction take avoidance survey for burrowing owl within 30 days of initiating construction per section 6.3.2 of the MSHCP.

6.4 Migratory Birds

The assessment identified suitable habitat and substrate for migratory birds protected under the MBTA and CDFW Codes 3503 and 3503.5. Permanent impacts to migratory birds as a result of the Project may include habitat loss, nesting habitat removal, roosting site loss and/or loss of individuals. Indirect impacts may include fugitive dust, excess noise, increased artificial lighting, and the attraction of predators to the Project site. The following mitigation measure is recommended to reduce potential impacts to migratory bird species below significant levels:

- **MM-BIO 3: Perform Pre-Construction Nesting Bird Surveys.** To the extent feasible, conduct vegetation removal outside of the nesting bird season (generally between February 15 and August 31). If vegetation removal is required during the nesting bird season, conduct take avoidance surveys for nesting birds within 100-feet of areas proposed for vegetation removal. Surveys should be conducted by a qualified biologist(s) within three days of vegetation removal. If active nests are observed, a qualified biologist will determine appropriate minimum disturbance buffers or other adaptive mitigation techniques (e.g., biological monitoring of active nests during construction-related activities, staggered schedules, etc.) to ensure that impacts to nesting birds are avoided until the nest is no longer active.

6.5 Riparian/Riverine Habitat and/or Potentially Jurisdictional Areas

The habitat assessment identified one potentially jurisdictional drainage feature containing MSHCP Riverine habitat that is likely subject to regulation by USACE, RWQCB, and CDFW within the Project site. The feature was documented on the western boundary of the Project site with 1.099 acres falling within the Project boundaries. Therefore, a formal jurisdictional delineation survey was performed, and additional coordination with the appropriate regulatory agencies will be required to determine presence/absence of potentially jurisdictional aquatic features within the Project or to determine if features within the Project may qualify as "exempt". Findings of the jurisdictional delineation survey can be found in the *Pacifica Cottonwood Project – Jurisdictional Delineation Survey Report* (Blackhawk 2022).

7.0 CONCLUSION

The Project site is located within the boundaries of the Western Riverside County MSHCP but not within any Criteria Cell and is located outside of Plan Conservation Areas. The Project site is not located within areas requiring assessment for special-status mammals, amphibians, invertebrates, narrow endemic plants, or other criteria area species. The Project site requires assessment and surveys for burrowing owl, which were completed between June 22, 2021 and July 15, 2021 (Blackhawk 2021).

The Project site does not provide suitable habitat for riverine/riparian associated species. The Project site does not contain vernal pools or potential listed fairy shrimp habitat. The Project site does not harbor any special-status plant species of CRPR 2 or higher, and none are reasonably expected to occur on site.

The Project site contains one likely USACE/RWQCB/CDFW jurisdictional drainage containing MSHCP Riverine Habitat documented on the west side of the Project site. Project development will result in significant impacts to this feature and will require coordination and permitting through the USACE, RWQCB, CDFW and the Western Riverside County Regional Conservation Authority before any Project activities can occur within MSHCP Riverine Habitat.

The Project site provides suitable habitat for burrowing owl (not present during focused surveys, June-July 2021). The Project site also provides suitable nesting habitat for numerous protected ground-nesting avian species.

Impacts to special-status species and nesting birds are anticipated to be less than significant with mitigation proposed herein to offset any direct and/or indirect impacts.

By adhering to the recommendations provided in this Report (and resulting additional actions, if required), payment of the MSHCP mitigation fees and fulfillment of the stipulations set forth by the County of Riverside, this Project is fully consistent with the Plan and would fulfill requirements for biological resources pursuant to CEQA, FESA and CESA.

8.0 SURVEYOR CERTIFICATION

All data, statements, analyses, findings and attachments within this report are accurate and truthful in terms of describing the existing conditions and the Project as proposed to Blackhawk Environmental. By adhering to the mitigation measures proposed within this habitat assessment report and payment of appropriate fees to the Western Riverside County Regional Conservation Authority, compensatory mitigation related to the complete the Project will be met to CEQA significance thresholds.

Kris Alberts
Principal Biologist

REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors.
2012 The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley, CA.

Blackhawk Environmental, Inc.
2021 *Pacifica Cottonwood Focused Burrowing Owl Survey Report.* Prepared for EPD Solutions, July 2021.

Blackhawk Environmental, Inc.
2021 *Pacifica Cottonwood Aquatic Resources Delineation Survey Report.* Prepared for EPD Solutions, June 2022.

Calflora
2021 Information on California plants for education, research and conservation. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/. Accessed May 2021.

California Department of Fish and Wildlife (CDFW)
2021 California Natural Diversity Database (CNDDB). RareFind Version 3.1.0. Database Query for the Moreno Valley, California USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch.

California Native Plant Society (CNPS)
2021 Inventory of Rare and Endangered Plants (online edition, v8-02). California Native Plant Society. Sacramento, CA. Accessed May 2021 from: http://www.cnps.org/inventory.

Google
2021 Google Earth. US Department of State Geographer. Data SIO, U.S. Navy, NGA, GEBCO. Available: *earth.google.com/*.

Holland, R.F.
1986 *Preliminary Descriptions of the Terrestrial Natural Communities of California*. State of California, The Resources Agency, Department of Fish and Game, Natural Heritage Division, Sacramento, California.

Oberbauer, T., Kelly, M., and Buegge, J.
2008 *Draft Vegetation Communities of San Diego County*. Based on "*Preliminary Descriptions of the Terrestrial Natural Communities of California*". Robert F. Holland, Ph.D., October 1986.

Regional Conservation Authority - Western Riverside County (RCA)
2021 Western Riverside County MSHCP Information Application https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd May 2021

Transportation and Land Management Agency (TLMA)
2004 Western Riverside Multiple Species Habitat Conservation Plan.

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
2021 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available: http://soils.usda.gov/technical/classification/osd/index.html. May 2021.

United States Fish and Wildlife Services (USFWS)
2021 National Wetlands Inventory (NWI). Available: http://www.fws.gov/wetlands/Data/Mapper.html. Accessed May 2021.

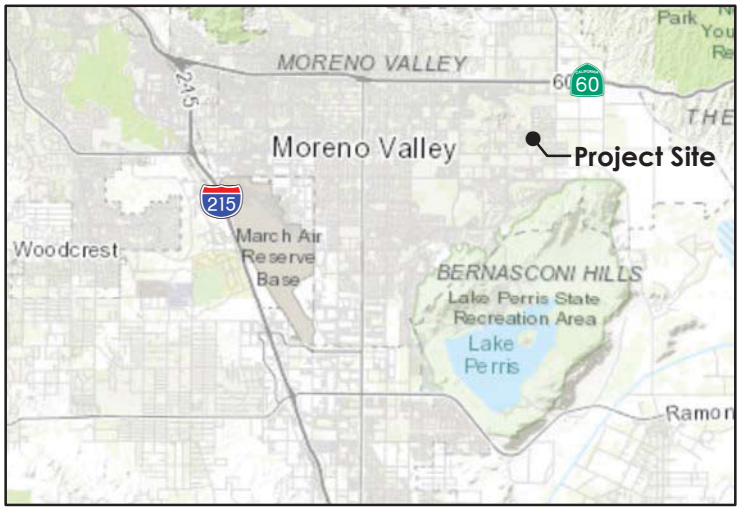
United States Geological Survey (USGS)
1967 7.5-minute topographic quadrangle map for Sunnymead, California.

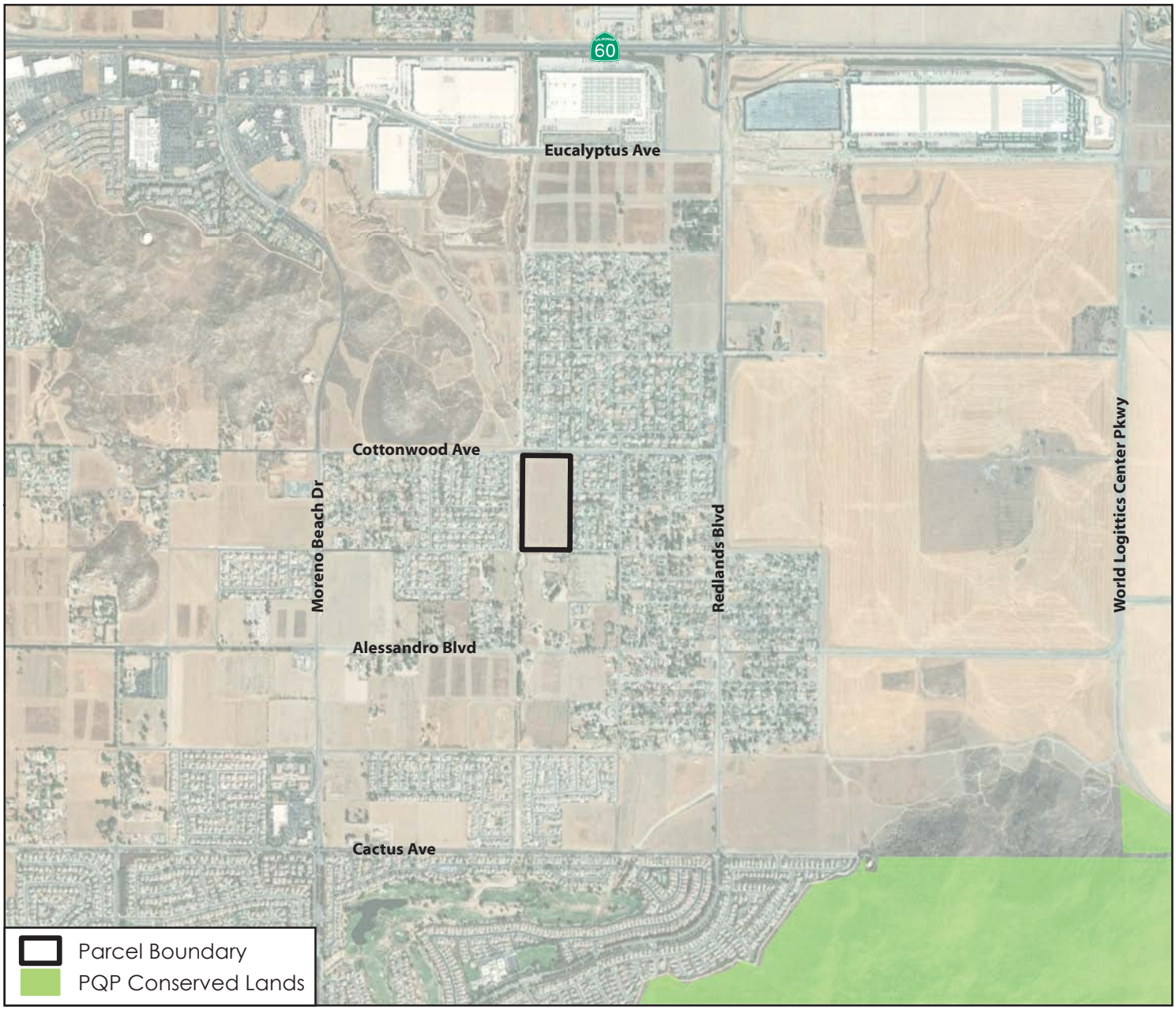
Western Riverside County Regional Conservation Authority
2006 Burrowing Owl Survey Instructions for Western Riverside Multiple Species Habitat Conservation Plan Area.

ATTACHMENT A

Figures and Site Plan

Blackhawk Environmental





Source: Maxar, Esri 2020

Figure 1

Project Vicinity and Location

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 2,000 Feet

Aerial Photo: Nearmap 2022

Figure 2

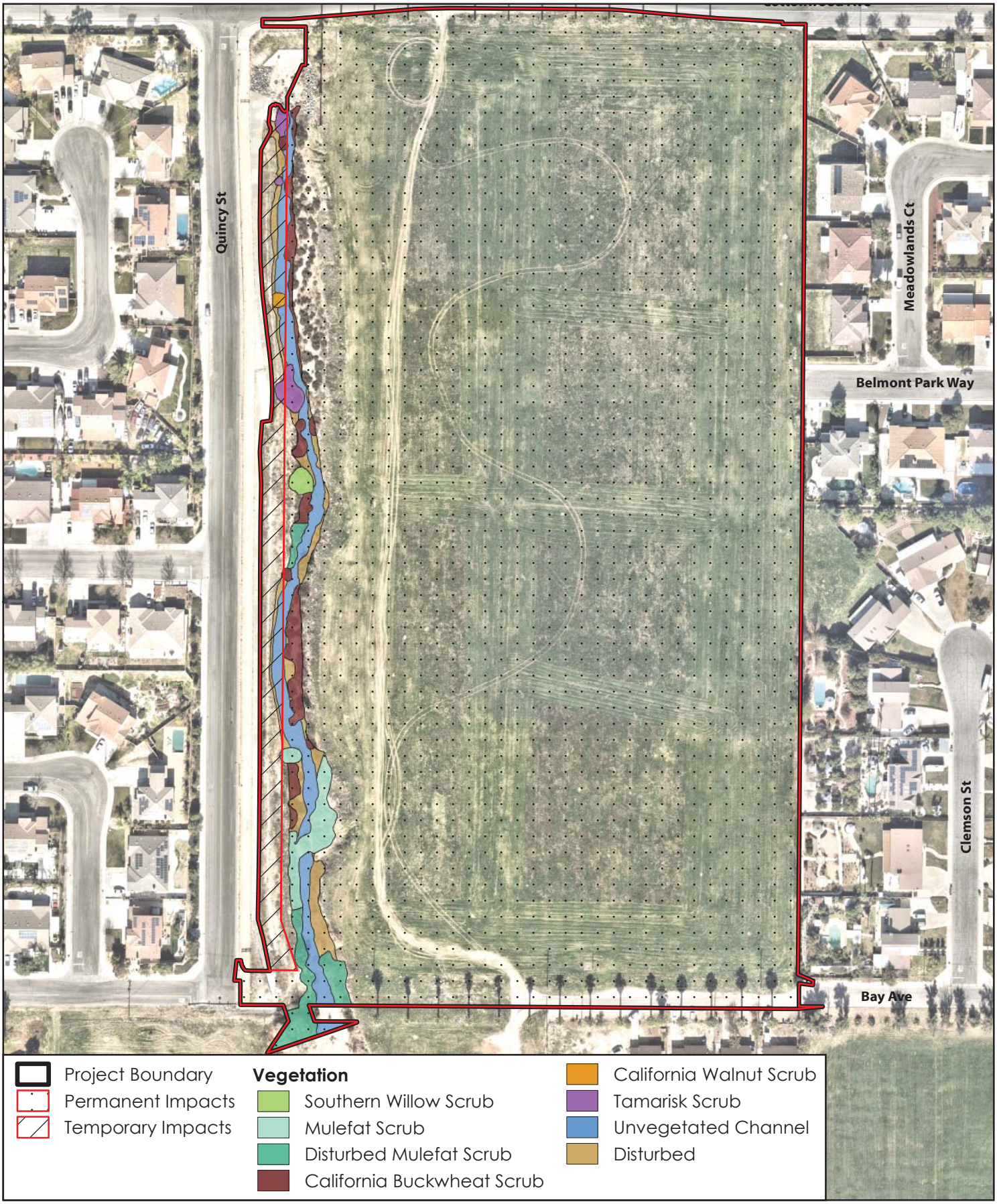
Vegetation Map

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 180 Feet



Aerial Photo: Nearmap 2022

BLACKHAWK Environmental

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MSHCP Riverine Habitat

Pacifica Cottonwood Project

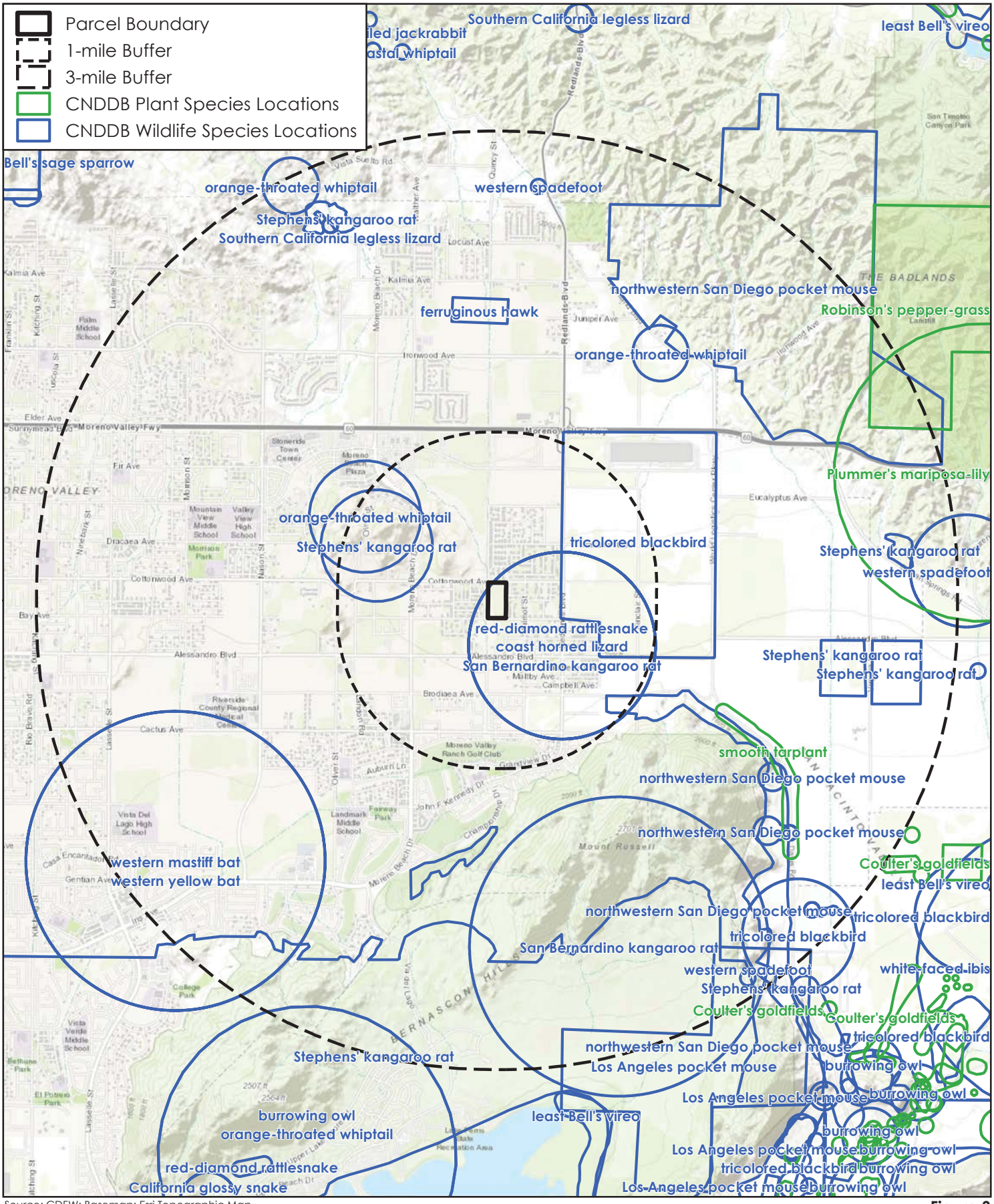
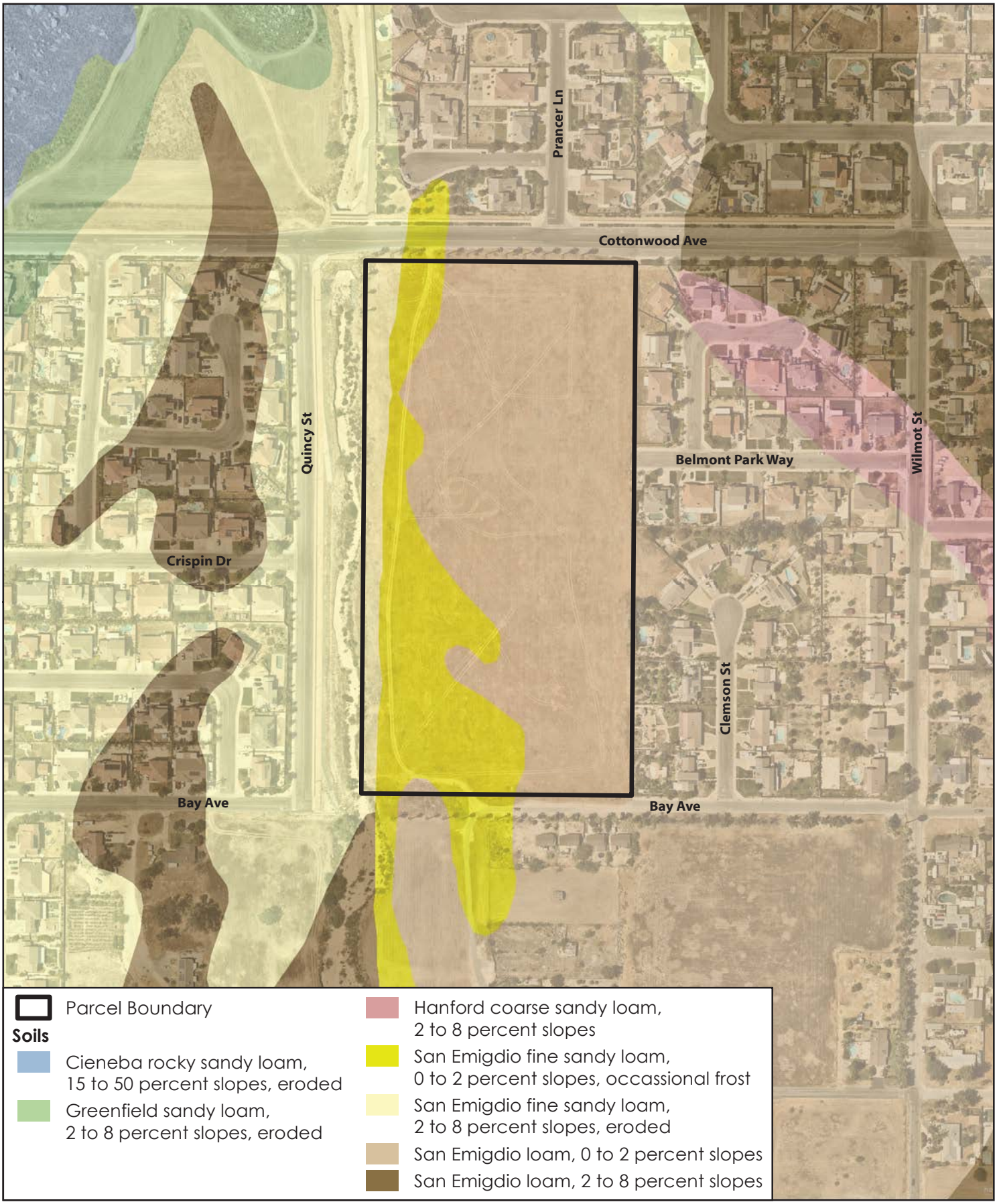


Figure 3

CNDDB Results Map

Pacifica Cottonwood Project

BLACKHAWK Environmental



Source: Nearmap 2021

Figure 4

Soils Map

Blackhawk Environmental

N

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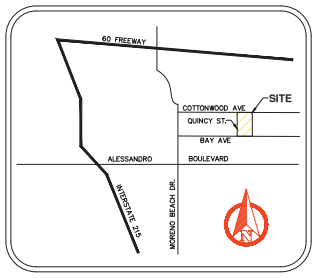
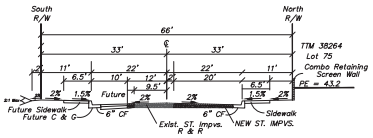
Pacifica Cottonwood Project

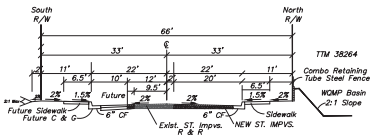
TTM 38264
City of Moreno Valley



VICINITY MAP
N.T.S.



Typical Section MVSI-106B-0
Bay Street
3" AC over 6" AB (PRELIM SECTION)
Section E-E
n.t.s.



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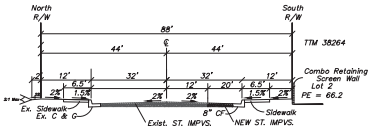
Bay Street
3" AC over 6" AB (PRELIM SECTION)
Section F-F
n.t.s.



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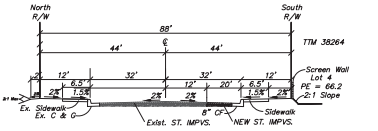
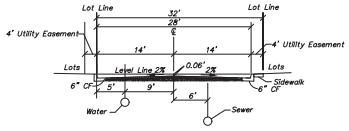
Cottonwood Avenue
4" AC over 6" AB (PRELIM SECTION)
Section J-J
n.t.s.



Typical Section MVSI-105A-0
Cottonwood Avenue
4" AC over 6" AB (PRELIM SECTION)
Section K-K
n.t.s.



TYPICAL SECTION – PRIVATE STREETS
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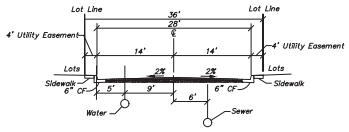
N.T.S.



TYPICAL SECTION – PRIVATE STREETS
3" AC over 6" AB
N.T.S.

Area of Disturbance

40 0 20 40 80 160

ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

Date Robert M. Beers R.C.E. 39405

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 38264
Preliminary Grading Plan
Cottonwood Collection
City of Moreno Valley
California

DATE Jan. 10, 2022
JOB NO. .
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-3

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ATTACHMENT B

Photo Pages

Blackhawk Environmental

Photograph 1: South-facing photo of the Project Site consisting of disturbed habitat of non-native grasses, part of which was recently disked.

Photograph 2: Southeast-facing photo of the Project Site and adjacent residential developments.

Photograph 3: South-facing photo of disturbed habitat within the Project Site.

Photograph 4: South-facing photo of the riverine habitat in the flood channel located along the western boundary of the Project Site.

Photograph 5: North-facing photo of riverine habitat along the western boundary of the Project Site.

Photograph 6: Representative photo of a BUOW-suitable burrow located within the Project Site.

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ATTACHMENT C

Observed Wildlife Species List

AVES	BIRDS
ACCIPITRIDAE	**Kites, Hawks, Eagles, and Allies**
Buteo jamaicensis	red-tailed hawk
Falco sparverius	American kestrel
AEGITHALIDAE	**Bushtits**
Psaltriparus minimus	bushtit
COLUMBIDAE	**Pigeons & Doves**
*Streptopelia decaocto**	Eurasian-collared dove
CORVIDAE	**Crows & Jays**
Corvus corax	common raven
FRINGILLIDAE	**Finches and Allies**
Haemorhous mexicanus	house finch
Spinus psaltria	lesser goldfinch
MIMIDAE	**Mockingbirds & Thrashers**
Mimus polyglottos	northern mockingbird
PASSERIDAE	**Old World Sparrows**
*Passer domesticus**	house sparrow
STURNIDAE	**Starlings and Mynas**
*Sturnus vulgaris**	European starling
TROCHILIDAE	**Hummingbirds**
Calypte anna	Anna's hummingbird
TYRANNIDAE	**Tyrant Flycatchers**
Tyrannus vociferans	Cassin's kingbird

MAMMALIA	MAMMALS
GEOMYIDAE	**Gophers**
Thomomys bottae	Botta's pocket gopher
LEPORIDAE	**Rabbits and Hares**
Sylvillagus audubonii	desert cottontail
SCIURIDAE3	**Squirrels**
Otospermophilus beecheyi	California ground squirrel

**Non-native*

ATTACHMENT D

Observed Plant Species List

BLACKHAWK
Environmental

MONOCOTS	
ARECACEAE	**Palm Family**
*Washingtonia robusta**	Mexican fan palm
POACEAE	**Grass Family**
*Avena fatua**	wild oat
*Bromus diandrus**	ripgut brome
*Bromus madritensis**	red brome
*Hordeum murinum**	smooth barley
*Schismus barbatus**	Mediterranean grass

DICOTS	
ASTERACEAE	**Aster Family**
Artemisia dracunculus	wild tarragon
Baccharis salicifolia	mulefat
Encelia farinosa	brittlebush
Heterotheca grandiflora	telegraph weed
*Oncosiphon piluliferum**	stinknet
BORAGINACEAE	**Borage Family**
Amsinckia intermedia	common fiddleneck
Cryptantha sp.	popcorn flower
Phacelia ramosissima	branching phacelia
BRASSICACEAE	**Mustard Family**
*Hirschfeldia incana**	short-pod mustard
*Sisymbrium irio**	London rocket
CHENOPODIACEAE	**Goosefoot Family**
*Salsola tragus**	Russian thistle
GERANIACEAE	**Geranium Family**
*Erodium cicutarium**	redstem filaree
JUGLANDACEAE	**Walnut Family**
Juglans californica[1]	southern black walnut
MALVACEAE	**Mallow Family**
*Malva parviflora**	cheeseweed
OLEACEAE	**Olive Family**
*Olea europaea**	olive
POLYGONACEAE	**Buckwheat Family**
Eriogonum fasciculatum	California buckwheat
SALICACEAE	**Willow Family**
Salix gooddingii	Goodding's black willow
SOLANACEAE	**Nightshade Family**
Datura wrightii	jimsonweed

*Nicotiana glauca**	tree tobacco
TAMARICACEAE	**Tamarisk Family**
*Tamarix ramosissima**	tamarisk

**Non-native*
[1] *CRPR 4.2*

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PACIFICA COTTONWOOD PROJECT

AQUATIC RESOURCES DELINEATION REPORT

CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

Prepared for:

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June 7, 2022

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Blackhawk Environmental (Blackhawk) conducted a literature review, field reconnaissance survey, biological assessment, focused burrowing owl surveys and an aquatic resources delineation survey of the proposed Pacifica Cottonwood Project site (Project) to assess existing site conditions, as well as assess the potential for special-status species and/or habitats to occur within the Project site and the surrounding area. This report is intended to fulfill requirements for determining Project consistency with the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP; Plan) regarding aquatic resources and potentially jurisdictional waters. The proposed Project calls for the development of 21.484 acres of undeveloped lands in the City of Moreno Valley, Riverside County, California. The Project site is located on Assessor's Parcel Numbers (APN) 478-250-001 (Figure 1), approximately 1 mile south of Interstate 60 and 0.4 miles west of Redlands Boulevard (Figure 1). Current and recent land use is best characterized as open space/vacant land.

A habitat assessment for the Project was performed by Blackhawk biologist Kris Alberts on May 5, 2021. During this assessment, Mr. Alberts noted the presence of MSHCP Riverine Habitat in the form of one ephemeral drainage feature along the western boundary of the Project site. Based on findings during the literature review conducted for the Project and the habitat assessment, an initial aquatic resources delineation survey was performed on August 18, 2021 by Blackhawk wetland specialists Ian Maunsell and Ryan Quilley. After this initial survey, the Project design changed, necessitating a second delineation survey that was conducted on April 1, 2022 by Blackhawk wetland specialists Kris Alberts and Seth Reimers. The delineation surveys followed guidelines set forth by the United States Army Corps of Engineers (USACE) (1987, 2008) and were performed to gather field data at potentially jurisdictional Waters of the United States and Waters of the State that may be subject to USACE, Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW) jurisdictions within or adjacent to the Project as well as an assessment of riverine/riparian habitats as defined by the Plan. The aquatic resources delineation surveys included the Project site footprint, plus a 100-foot buffer. Methods for delineating the drainage feature followed guidelines set forth by the USACE (USACE 1987), including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid Supplement; USACE 2008). All figures depicting the Project site and delineation results are shown in Attachment A. Representative photographs are shown in Attachment B. Data forms are included in Attachment C.

The Project site predominantly contains two MSHCP vegetation communities and/or land cover types (Residential/Urban/Exotic – Disturbed Lands and MSHCP Riverine Habitat) composed of non-native grasses and non-native ruderal plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees amongst development. Vegetation communities within these land cover types include Disturbed Habitat (20.019 acres), Developed Habitat (0.291 acre), California Buckwheat Scrub (0.460 acre), California Walnut Scrub (0.007 acre), Disturbed Mulefat Scrub (0.145 acre), Mulefat Scrub (0.113 acre), Southern Willow Scrub (0.021 acre), Tamarisk Scrub (0.047 acre) and Unvegetated Channel (0.381 acre). MSHCP Riverine Habitat includes a subset of the acreage of each of the vegetation communities that totals 1.099 acres. The MSHCP Riverine Habitat includes 1.099 acres of likely California Department of Fish and Wildlife (CDFW) jurisdiction and 0.501 acre of likely United States Army Corps of Engineers/Regional Water Quality Control Board (USACE/RWQCB) jurisdiction that would be impacted by Project activities. By analyzing the site plan (Attachment A), It was determined that this feature will be impacted by Project activities, including 0.190 acre of temporary impacts and 0.909 acre of permanent impacts. Additional permitting from the USACE, RWQCB, and CDFW will be required

for Project authorization before impacting the drainage feature. In addition, a MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP) report will be required per the County of Riverside that will detail the offsite and/or onsite compensatory mitigation strategy.

The aquatic resources delineation surveys identified one ephemeral drainage feature along the western edge of the Project site that supports likely jurisdictional streambed and riparian areas. The drainage is best characterized as an ephemeral drainage feature with an unvegetated primary channel that supports limited riparian vegetation along its banks among a dominance of upland-associated vegetation. Flow within the drainage is ephemeral in nature, and likely consists of low to high velocity flow regimes (depending on rainfall amounts and durations), as evidenced by distinctly cut banks, scouring, definable ordinary high-water marks (OHWM), sparse riparian plant species coverage, and a lack of 3-parameter wetlands throughout the drainage. The primary hydrological input to the drainage is via three 8-foot concrete culverts below Cottonwood Avenue at the northwestern corner of the Project site. These culverts are hydrologically fed from natural and man-altered drainage features that continue northward and upgrade from the Project site. Bank-to-bank and/or riparian canopy widths of the drainage ranged from 16 to 98 feet; these widths equate to MSHCP Riverine Habitat and are considered California Department of Fish & Wildlife (CDFW)-jurisdictional. A strong OHWM was observed within most of the drainage feature, as most of the feature was best characterized as an unvegetated, sandy channel with several observed hydrological indicators, including strongly incised, cut banks. No emergent wetland vegetation was observed within the drainage; however, several scattered riparian-associated trees [i.e., salt cedar (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), mulefat (*Baccharis salicifolia*) and Fremont cottonwood (*Populus fremontii*)] were observed growing within and/or adjacent to the drainage with canopy drip lines extending beyond the channel banks.

Once water flows enter the Project site, the culverts outflow to a concrete-lined spillway and riprap. Modifications via the culvert have resulted in channelization of the drainage at the north end of the Project site, resulting in heavily incised channels/top of bank widths. The drainage characterized by low to high velocity flows, with velocity reducing as flow continues south. The OHWM is defined by flow lines, drift deposits, sediment sorting, scouring and destruction of vegetation, and except for the northernmost portion of the Project site, remains largely undisturbed. Many portions along the top of bank along the sides of the drainage remain in disturbed condition but maintain natural/historic function. Above the top of the banks on the west side, the habitat is primarily disturbed within the floodplain zone before transitioning westward to a developed concrete flood control wall sloped at 45 degrees and fitted with weep holes to drain from the adjacent Quincy Street. The top of bank along the west side is generally the same as the OHWM, characterized by a defined, vertically incised bank to bench ranging from one to seven feet tall at the cut. The eastern top of bank is more diffuse, characterized by a general transition in elevation from the OHWM to a low benched floodplain of native and disturbed habitat types. In many areas, the top of bank is defined by hydrology indicated by erosion of the adjacent upland slope. Where slopes have been modified, the top of bank is inferred by adjacent upstream and downstream reaches. The top of bank on the east side interfaces primarily with a terraced floodplain of California Buckwheat Scrub dominated by California buckwheat (*Eriogonum fasciculatum*) and tarragon (*Artemisia dracunculus*). Generally, the western top of bank equates to the vertically incised, eroded unvegetated channel line, and the eastern top of bank equates to the naturally vegetated bench. Within the top of bank widths, the lowest elevations where primary water flows occur is best characterized as an unvegetated, sandy channel, while the streambed is variously dominated by California buckwheat, tarragon, mulefat, salt cedar, Goodding's willow and Fremont cottonwood within and/or adjacent to the unvegetated channel.

Additional hydrological input into the drainage feature exists at the southwestern end of the Project site where a man-made, concrete stormwater swale feature funnels road runoff and enters the channel from Bay Avenue to the west. The concrete swale is four feet wide, with outflow directly to an erosional gully at the swale's terminus before entering the drainage proper.

The entirety of flow within the drainage is directed offsite to the south, to Canyon Lake (Railroad Canyon Reservoir), which outflows into the San Jacinto River watershed and ultimately terminates at Lake Elsinore. Canyon Lake and Lake Elsinore are both considered a Traditionally Navigable Water (TNW). As such, hydrology of the drainage in the Project site and its associated scattered, riparian vegetation are not isolated from a TNW and have demonstrable connectivity to two TNWs (Canyon Lake and Lake Elsinore) and the San Jacinto River. With demonstrable connectivity to a TNW, but a lack of wetland characteristics and a classification as an ephemeral drainage, the drainage feature meets the jurisdictional criteria for USACE Non-Wetland Waters of the United States and a RWQCB Non-Wetland Waters of the State. The upland vegetation that characterizes most of the drainage, hydrology patterns, and non-hydric soils are consistent with natural ephemeral watercourses of the region. Scattered riparian trees and shrubs do not occur robustly enough to support habitats for riparian-associated native species such as aquatic crustaceans, amphibians, and other fauna that may forage on these species, as the drainage is only expected to hold water for a few days at best. Additionally, the drainage is likely considered a streambed under the jurisdiction of CDFW, with the driplines of several observed riparian trees extending beyond the channel banks that adds CDFW riparian habitat beyond the streambed limits. All the CDFW jurisdiction includes all the MSHCP Riverine Habitat, as the riparian trees and shrubs are not occurring abundantly enough or in proximity to one another to warrant a classification of MSHCP riparian habitat.

Permanent and temporary direct impacts to the drainage feature specifically include the removal of vegetation, grading and development of the drainage to maintain the existing flow regime while facilitating Project development. The existing drainage feature will be partially graded but maintained within its existing gradient from north to south so that the ephemeral water regime can still flow between the Project site and Quincy Street to the west. Indirect impacts to the drainage feature are not anticipated as a result of the Project.

- The Project is expected to directly and permanently impact a total of 0.375 acre (1,280 linear feet) of USACE Non-Wetland Waters of the United States and RWQCB Won-wetland Waters of the State. The Project is also expected to temporarily impact an additional 0.126 acre (562 linear feet) of USACE Non-Wetland Waters of the United States and RWQCB Won-wetland Waters of the State.

- The Project is expected to directly and permanently impact a total of 0.909 acre (1,280 linear feet) of CDFW streambeds, which includes 0.041 acre of CDFW riparian habitat and 0.868 acre of CDFW bank to bank jurisdiction. The Project is also expected to temporarily impact a total of 0.190 acre (562 linear feet) of CDFW streambeds, which includes 0.008 acre of CDFW riparian habitat and 0.182 acre of CDFW bank to bank jurisdiction.

The aquatic resources delineation survey determined that waters under the likely jurisdiction of USACE, RWQCB and CDFW occur on the Project site. Impacts to Non-Wetland Waters of the United States would likely require a Section 404 permit from the USACE under the federal Clean Water Act. Impacts to Non-Wetland Waters of the State would likely require a Waste Discharge Requirement (WDR) or Section 401 permit from the RWQCB under the state Clean Water Act. Impacts to CDFW-jurisdictional

streambeds and riparian areas may be authorized by CDFW through a Section 1602 Streambed Alteration Agreement.

The delineation survey identified 1.099 acres of MSHCP Riverine Habitat within the Project boundary. It was determined that this feature will be impacted by Project activities, including 0.190 acre of temporary impacts and 0.909 acre of permanent impacts. Additional permitting and/or approvals from the USACE, RWQCB, and CDFW will be required for Project authorization before impacting the drainage feature. In addition, a MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP) report will be required per the County of Riverside that will detail the offsite and/or onsite compensatory mitigation strategy.

1.0 INTRODUCTION

Blackhawk Environmental was contracted by EPD Solutions Inc. to provide biological and aquatic resources surveys and an Aquatic Resources Delineation Report for the proposed Pacifica Cottonwood Project (Project), located on approximately 21.484 acres of previously undeveloped lands in the City of Moreno Valley, Riverside County, California (Attachment A – Figure 1). The Project site is within the MSHCP area; however, the Project is not located within a MSHCP Cell Group or MSHCP Criteria Cell(s).

A habitat assessment for the Project was performed by Blackhawk biologist Kris Alberts on May 5, 2021. During this assessment, Mr. Alberts noted the presence of riverine habitat in the form of one ephemeral drainage feature on the Project site. Based on this finding, and following two Project design changes, aquatic resources delineation surveys were performed on August 18, 2021 and April 1, 2022 to delineate potentially jurisdictional areas and map the extent of MSHCP Riverine Habitat within the Project development footprint. Methods for delineating the drainage feature followed guidelines set forth by the United States Army Corps of Engineers ([USACE] 1987], including the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Arid Supplement; USACE 2008). The jurisdictional delineation survey effort focused on documenting existing site conditions, such as soils, topography, hydrology, vegetation and potentially jurisdictional aquatic resources, in the areas proposed for Project development, direct, indirect, permanent and/or temporary impacts. All figures depicting the Project site and delineation results are shown in Attachment A. Representative photographs are shown in Attachment B. Data forms are included in Attachment C.

Except for the drainage feature at the west end, the proposed Project is located within previously graded/disked, regularly mowed, vacant land dominated by low-growing non-native and ruderal vegetation. The Project site is surrounded by urban development in addition to several scattered vacant lots. The site is bounded to the west by a concrete-lined and earthen drainage channel running parallel to Quincy Street, to the east by private residential homes, to the north by Cottonwood Avenue and to the south by Bay Avenue and additional vacant lands (Attachment A - Figure 2). The Project site shows signs of recent anthropogenic impacts such as mowing, trash dumping, disking, and off-road vehicle use. The Project site consists of a mostly flat lot; elevations within the Project site range from 1,639 feet above mean sea level (AMSL) in the southeast corner at its lowest point, and up to 1,664 feet AMSL at the northwestern corner at its highest point. Current and recent land use is best characterized as open space/vacant land.

The purpose of the jurisdictional delineation was to identify any changes in existing site conditions and document waters occurring within the Project site that may be considered jurisdictional by the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and/or California Department of Fish and Wildlife (CDFW), and to provide necessary background information for avoidance measures by engineering and for analysis by USACE, CDFW, the RWQCB and Riverside County staff, if permits are required.

No potential vernal pools, seasonal depressions or fairy shrimp habitat were observed during the field surveys. Therefore, no further assessment of vernal pools or fairy shrimp habitat was performed during the aquatic resources delineation surveys.

1.1 Project Description

The Project proposes the complete buildout of 20.708 acres as permanent impacts, plus 0.776 acre of temporary impacts, in the overall 21.484-acre area, in the City of Moreno Valley. Proposed development engineering plans involve the construction of residential homes, paved streets and sidewalks, landscaped areas and all associated infrastructure and would convert the currently vacant land to residential development. The proposed Project also includes a new bridge from Bay Avenue at the southwest end of the Project site, as well as channel improvements to the existing drainage feature. The Project site is within Assessor's Parcel Number (APN) 478-250-001.

2.0 REGULATORY SETTING

2.1 USACE Waters of the U.S.

According to the USACE Wetland Delineation Manual, wetlands are defined as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions."

2.1.1 Regulatory Definition

In accordance with Section 404 of the Clean Water Act (CWA), USACE regulates the discharge of dredged or fill material into Waters of the United States. The term "Waters of the United States" is defined as:

- All traditional navigable waters (TNW) currently used, or used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters subject to the ebb and flow of the tide;
- All interstate waters including interstate wetlands;
- All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation, or destruction of which could affect foreign commerce including any such waters, (1) which could be used by interstate or foreign travelers for recreational or other purposes; or (2) from which fish or shellfish are, or could be, taken and sold in interstate or foreign commerce; or (3) which are used or could be used for industries in interstate commerce;
- All other impoundments of waters otherwise defined as waters of the United States under the definition;
- Tributaries of waters identified above;
- The territorial seas; and
- Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in the paragraphs above (33 Code of Federal Regulations [CFR] Part 328.3[a]).

Non-navigable tributaries that do not constitute relatively permanent waters (RPW; exhibit at least seasonal flow, typically three months) may be considered Waters of the U.S. based on significant nexus standards, which may include assessment of downstream hydrologic and ecological functions of the tributary, as well as connectivity to receiving waters (RPWs and/or TNWs).

2.1.2 Wetland Parameters

Wetlands are delineated using three parameters: hydrophytic vegetation, wetland hydrology and hydric soils. According to USACE, indicators for all three parameters must normally be present to qualify as a wetland.

2.1.2.1 Hydrophytic Vegetation

Hydrophytic vegetation is defined as "the sum total of macrophytic plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content" (USACE 1987). Potential wetland areas were surveyed by walking through the Survey Area and making observations of those areas exhibiting characteristics of jurisdictional waters or wetlands. Vegetation

units with potential wetland areas were examined, and data for each vegetation stratum (i.e., tree, shrub, herb and vine) were recorded on the datasheet provided in the Arid West Supplement (USACE 2008). The percent absolute cover of each species present was visually estimated and recorded.

The wetland indicator status of each species recorded was determined by using the National Wetland Plant List (Lichvar, et. al. 2016). An obligate (OBL) indicator status refers to plants that are almost always hydrophytic and rarely in uplands. A facultative wet (FACW) indicator status refers to plants that usually are hydrophytic but are occasionally found in non-wetlands. A facultative (FAC) indicator status refers to plants that commonly occur as either a hydrophyte or non-hydrophyte. Facultative upland (FACU) species occasionally are hydrophytic but usually occur in uplands. Upland (UPL) species almost always occur in uplands and are rarely hydrophytic. A not indicated (NI) status refers to species that have insufficient data available to determine an indicator status at this time for the local region.

Plant species nomenclature follows that contained in *the Jepson Online Interchange* (Jepson Flora Project 2018). Dominant species with an indicator status of NI or not listed in the 2016 National Wetland Plant List were evaluated as either wetland or upland indicator species based on local professional knowledge of where the species are most often observed in habitats characteristic of southern California.

2.1.2.2 Hydric Soils

A hydric soil is a soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions that favor the growth and regeneration of hydrophytic vegetation (USACE 1987). Hydric soil indicators are formed predominantly by the accumulation or loss of iron, manganese, sulfur or carbon compounds (USACE 2008). The hydric soil criterion is considered fulfilled at a location if soils in the area can be inferred to have a high groundwater table, evidence of prolonged soil saturation exists, or any indicators suggesting a long-term reducing environment in the upper 18 inches of the soil profile are present. Additionally, soils mapped by the United States Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) as hydric were referenced prior to field verification.

A sampling point was selected within a potential wetland area where the apparent boundary between wetland and upland was inferred based on changes in the composition of the vegetation and topography. The soil pit was dug to a depth of at least 10 inches or to a depth necessary to determine soil color, evidence of soil saturation, depth to groundwater, and indicators of a reducing soil environment (e.g., mottling, oxidation, gleying, sulfidic odor).

2.1.2.3 Wetland Hydrology

The presence of wetland hydrology indicators confirm that inundation or saturation has occurred on a site, but may not provide information about the timing, duration, or frequency of the event. Hydrology features are generally the most ephemeral of the three wetland parameters (USACE 2008). Hydrologic information for the site was obtained by reviewing USGS topographic maps, historic and current aerial photographs, and by directly observing hydrology indicators in the field. The wetland hydrology criterion is considered fulfilled at a location if, based upon the conclusions inferred from the field observations, an area has a high probability of being periodically inundated or has soils saturated to the surface at some time during the growing season to develop anaerobic conditions in the surface soil environment, especially the root zone (USACE 1987). If at least one primary indicator or at least two

secondary indicators are found at a sample point, the wetland hydrology criterion is considered fulfilled.

2.1.3 Atypical Situations

Because there are situations in which one or more of the wetland parameters has been removed or altered as a result of recent natural events or human activities, the definition of a wetland includes the phrase "under normal circumstances" (USACE 1987). To describe these conditions, USACE uses definitions for atypical situations and problem areas. They are as follows:

> Atypical situation: . . . refers to areas in which one or more parameters (vegetation, soil, and/or hydrology) have been sufficiently altered by recent human activities or natural events to preclude the presence of wetland indicators of the parameter (USACE 1987).
>
> Problem areas: . . . wetland types in which wetland indicators of one or more parameters may be periodically lacking due to normal seasonal or annual variations in environmental conditions that result from causes other than human activities or catastrophic natural events. Representative examples of problem areas include seasonal wetlands, wetlands on drumlins, prairie potholes, and vegetated flats (USACE 1987).

Atypical situations and problem areas may lack one or more of the three criteria, yet still may be considered wetlands. Background information on the previous condition of the area, field observations and/or the identification of undisturbed reference sites adjacent to atypical sites may indicate that the site met the wetland criteria prior to disturbance. Additional delineation procedures would be employed if normal circumstances did not occur on a site.

2.1.4 Vernal Pools

Vernal pools are considered "problem areas" because vegetation or hydric soils may be lacking due to seasonal filling by rainfall and eventual drying. As described in the Arid Supplement, "the species composition of some wetland plant communities in the Arid West can change in response to seasonal weather patterns and long-term climatic fluctuations. Wetland types that are influenced by these shifts include vernal pools, playa edges, seeps and springs. Lack of hydrophytic vegetation during dry periods should not immediately eliminate a site from further consideration as a wetland." In addition, since they support seasonally ponded soils, when soil investigations are performed within vernal pools, they may lack hydric soil indicators. The USACE includes problem soils as "seasonally ponded, depressional wetlands (that) occur in basins and valleys throughout the Arid West. Most are perched systems, with water ponding above a restrictive soil layer, such as a hardpan or clay layer, that is at or near the surface (e.g., in Vertisols). Some of these wetlands lack hydric soil indicators due to limited saturation depth, saline conditions or other factors."

2.2 USACE Non-Wetland Waters of the U.S.

The USACE also requires the delineation of non-wetland jurisdictional Waters of the U.S. These waters must have strong hydrology indicators, such as the presence of seasonal flows and an ordinary high watermark (OHWM). An ordinary high watermark is defined as:

> . . . that line on the shore established by the fluctuations of water and indicated by physical characteristics such as [a] clear, natural line impressed on the bank, shelving,

> changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas (33 CFR Part 328.3).

Areas delineated as non-wetland jurisdictional waters may lack wetland vegetation or hydric soil characteristics. Hydric soil indicators may be missing because topographic position precludes ponding and subsequent development of hydric soils. Absence of wetland vegetation can result from frequent scouring due to rapid water flow. These types of jurisdictional waters are delineated by the lateral and upstream/downstream extent of the OHWM of the particular drainage or depression.

2.3 CDFW Jurisdictional Waters

Under Sections 1600–1607 of the Fish and Game Code, CDFW regulates activities that would divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake that supports fish or wildlife. CDFW has jurisdiction over riparian habitats (e.g., riparian woodland) associated with watercourses. CDFW jurisdictional waters are delineated by the distances between the outer edges of riparian vegetation or at the tops of the banks of streams or lakes, whichever is wider. Although CDFW does not regulate vernal pools under Section 1602 of the Fish and Game Code, CDFW will assert jurisdiction over isolated riparian features (including vernal pools) if California state threatened and/or endangered species are present via the California Endangered Species Act, or which provide resources directly or indirectly to fish and wildlife of the region. CDFW may also assert jurisdiction over modified or man-made waterways; such jurisdiction is generally based on the value of such features to support riparian or aquatic plant or animal species. For clarification, of features that may be subject to CDFW jurisdiction, the CDFW Legal Advisor has prepared the following opinion (CDFG ESD 1994):

- Natural waterways that have been subsequently modified and which have the potential to contain fish, aquatic insects, and riparian vegetation will be treated like natural waterways.
- Artificial waterways that have acquired the physical attributes of natural stream courses and which have been viewed by the community as natural stream courses should be treated by [CDFW] as natural waterways.
- Artificial waterways without the attributes of natural waterways should generally not be subject to Fish and Game Code provisions.

CDFW jurisdictional limits may also include artificial stock ponds and irrigation ditches constructed within uplands, and outer drip line limits of adjacent riparian habitat supported by a river, stream, or lake regardless of the riparian area's federal wetland status or its location beyond the defined bed, bank or channel.

2.4 RWQCB Jurisdictional Waters

RWQCB is the regional agency responsible for protecting water quality in California. The jurisdiction of this agency includes Waters of the State as mandated by the federal CWA Section 401. When CWA Section 404 jurisdiction is not present for isolated water, the RWQCB may assert jurisdiction via the California Porter-Cologne Water Quality Control Act. Waters of the State are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state". The Porter-Cologne Water Quality Control Act provides a regulatory framework to provide comprehensive protections for surface and groundwater within the State of California. Waters subject to jurisdiction under the Porter-

Cologne Water Quality Control Act require that any discharge that may negatively impact or otherwise affect a Water of the State must coordinate with RWQCB. During coordination, RWQCB may require implementation of mitigation measures or other requirements to protect overall water quality.

The term "Waters of the State" includes "any surface water or groundwater, including saline waters, within the boundaries of the state." "Waters of the State" includes all "Waters of the United States". The following wetlands are Waters of the State:

1. Natural wetlands.
2. Wetlands created by modification of a surface Water of the State, and
3. Artificial wetlands that meet the following criteria:
    a. Approved by an agency as compensatory mitigation for impacts to other Waters of the State, except where the approving agency explicitly identifies the mitigation as being of limited duration;
    b. Specifically identified in a water quality control plan as a Wetland or other Water of the State;
    c. Resulted from historic human activity, is not subject to ongoing operation and maintenance, and has become a relatively permanent part of the natural landscape; or
    d. Greater than or equal to one acre in size, unless the artificial wetland was constructed, and is currently used and maintained, primarily for one or more of the following purposes (i.e., the following artificial wetlands are not Waters of the State unless they also satisfy the criteria set forth in 2, 3a, or 3b):
        i. Industrial or municipal wastewater treatment or disposal,
        ii. Settling of sediment,
        iii. Detention, retention, infiltration, or treatment of stormwater runoff and other pollutants or runoff subject to regulation under a municipal, construction, or industrial stormwater permitting program,
        iv. Treatment of surface waters,
        v. Agricultural crop irrigation or stock watering,
        vi. Fire suppression,
        vii. Industrial processing or cooling,
        viii. Active surface mining – even if the site is managed for interim wetlands functions and values,
        ix. Log storage,
        x. Treatment, storage, or distribution of recycled water, or
        xi. Maximizing groundwater recharge (this does not include wetlands that have incidental groundwater recharge benefits); or
        xii. Fields flooded for rice growing.

All artificial wetlands that are less than an acre in size and do not satisfy the criteria set forth in 2, 3.a, 3.b, or 3.c are not Waters of the State. If an aquatic feature meets the wetland definition, the burden is on the applicant to demonstrate that the wetland is not a Water of the State.

2.5 MSHCP Riparian/Riverine Habitat

The MSHCP defines Riparian/Riverine Habitat as those areas "which contain habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which

depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year." If riparian/riverine habitat will be impacted by a project, the MSHCP requires that a Determination of Biologically Superior or Equivalent Preservation report (DBESP) be prepared to outline mitigation ratios and strategies for the provision of compensatory mitigation.

3.0 METHODS

A jurisdictional delineation, following the guidelines set forth by USACE (1987, 2008), was performed to gather field data at potentially jurisdictional Waters of the United States and Waters of the State within the proposed Project site. To account for all potential Project impact areas and provide a greater landscape context to sensitive aquatic resources, all areas inside the Project site, plus a 100-foot buffer, were initially assessed for jurisdictional resources, including all areas proposed for Project development and/or impact (Attachment A – Site Plan). Potential wetlands were then delineated within the Project site based on commonality among vegetation community characteristics and three-parameter testing methodology (i.e., soils, vegetation, hydrology). Blackhawk Environmental wetland specialists Ian Maunsell and Ryan Quilley conducted an aquatic resources delineation survey on August 18, 2021. Then, a Project design change after the initial survey necessitated a second aquatic resources delineation survey on April 1, 2022 conducted by Blackhawk Environmental wetland specialists Kris Alberts and Seth Reimers. Both surveys were conducted to delineate potentially jurisdictional areas and map the extent of MSHCP Riverine Habitat within the Project development footprint, using submeter Global Positioning System (GPS) equipment to map jurisdictional limits to within one meter of accuracy.

Prior to conducting the field delineation, the following sources were consulted to identify land use history and provide additional context to potentially atypical and problematic jurisdictional wetlands within the Survey Area, including:

- USGS *Sunnymead, California* quadrangle topographic map (USGS 1967)
- Historical aerial photographs (NETR 1947) (Historic Aerials 2022)
- Current and historical aerial photographs (Google 2022)
- National Wetland Inventory (USFWS 2022)
- National Hydrography Dataset (2022)
- California Natural Diversity Database (CNDDB) search for sensitive riverine, riparian and/or aquatic species (CDFW 2021)

Once on site, the potential wetland locations were examined to determine the presence of any of the three wetland parameters or drainage channels. Soil type and classification data used in the delineation were provided by the Natural Resource Conservation Service's web soil survey (United States Department of Agriculture [USDA] 2010). Remote sensing was not utilized for this Project.

Potential waters and/or wetland locations observed within the Project site were evaluated using the methodology set forth in the USACE Wetland Delineation Manual (USACE 1987) and the Arid West Supplement (USACE 2008). Wetland hydrology indicators may include evidence of inundation, saturation, watermarks, drainage patterns, soil cracks, drift lines, sediment deposits, presence of aquatic invertebrates and/or other elements. Vegetation was analyzed using dominant species wetland indicator status (USDA 2018). Ordinary high water marks were examined following procedures detailed in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2010). Suspected non-wetland jurisdictional areas were evaluated for the presence of definable channels, ordinary high-water marks, and connectivity to a TNW or RPW.

4.0 RESULTS

A discussion of the local hydrology in the Project site, description of the major vegetation units observed in delineated areas within the Project site, and soil types encountered are presented below. Copies of the field data forms summarizing information on hydrology, vegetation, and soils observed at each sample site are provided in Attachment C. Ordinary High Water Mark data sheets and Beta Arid West Streamflow Duration Assessment Method data sheets are also included in Attachment C. The NRCS Climate Analysis for Wetlands table, also known as WETS table, is included as Attachment D and details precipitation data across decades prior to this delineation survey of the Project site.

4.1 Hydrology

Elevations within the Project site range from 1,639 feet above mean sea level (AMSL) in the southeast corner at its lowest point, and up to 1,664 feet AMSL at the northwestern corner at its highest point. The Project site drains from the north to the south, with the drainage ultimately terminating at Lake Elsinore. The Project site predominantly contains two MSHCP vegetation communities and/or land cover types (Residential/Urban/Exotic – Disturbed Lands and MSHCP Riverine Habitat) composed of non-native grasses and non-native ruderal plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees amongst development. Vegetation communities within these land cover types include Disturbed Habitat (20.019 acres), Developed Habitat (0.291 acre), California Buckwheat Scrub (0.460 acre), California Walnut Scrub (0.007 acre), Disturbed Mulefat Scrub (0.145 acre), Mulefat Scrub (0.113 acre), Southern Willow Scrub (0.021 acre), Tamarisk Scrub (0.047 acre) and Unvegetated Channel (0.381 acre). MSHCP Riverine Habitat includes a subset of the acreage of each of the vegetation communities that totals 1.099 acres.

The aquatic resources delineation surveys identified one ephemeral drainage feature along the western edge of the Project site that supports likely jurisdictional streambed and riparian areas. The drainage is best characterized as an ephemeral drainage feature with an unvegetated primary channel that supports limited riparian vegetation along its banks among a dominance of upland-associated vegetation. Flow within the drainage is ephemeral in nature, and likely consists of low to high velocity flow regimes (depending on rainfall amounts and durations), as evidenced by distinctly cut banks, scouring, definable ordinary high-water marks (OHWM), sparse riparian plant species coverage, and a lack of 3-parameter wetlands throughout the drainage. The primary hydrological input to the drainage is via three 8-foot concrete culverts below Cottonwood Avenue at the northwestern corner of the Project site. These culverts are hydrologically fed from natural and man-altered drainage features that continue northward and upgrade from the Project site. Bank-to-bank and/or riparian canopy widths of the drainage ranged from 16 to 98 feet; these widths equate to MSHCP Riverine Habitat and are considered California Department of Fish & Wildlife (CDFW)-jurisdictional. A strong OHWM was observed within most of the drainage feature, as most of the feature was best characterized as an unvegetated, sandy channel with several observed hydrological indicators, including strongly incised, cut banks. No emergent wetland vegetation was observed within the drainage; however, several scattered riparian-associated trees [i.e., salt cedar (*Tamarix ramosissima*), Goodding's willow (*Salix gooddingii*), mulefat (*Baccharis salicifolia*) and Fremont cottonwood (*Populus fremontii*)] were observed growing within and/or adjacent to the drainage with canopy drip lines extending beyond the channel banks.

Once water flows enter the Project site, the culverts outflow to a concrete-lined spillway and riprap. Modifications via the culvert have resulted in channelization of the drainage at the north end of the Project site, resulting in heavily incised channels/top of bank widths. The drainage characterized by low to high velocity flows, with velocity reducing as flow continues south. The OHWM is defined by flow lines, drift deposits, sediment sorting, scouring and destruction of vegetation, and except for the northernmost portion of the Project site, remains largely undisturbed. Many portions along the top of bank along the sides of the drainage remain in disturbed condition but maintain natural/historic function. Above the top of the banks on the west side, the habitat is primarily disturbed within the floodplain zone before transitioning westward to a developed concrete flood control wall sloped at 45 degrees and fitted with weep holes to drain from the adjacent Quincy Street. The top of bank along the west side is generally the same as the OHWM, characterized by a defined, vertically incised bank to bench ranging from one to seven feet tall at the cut. The eastern top of bank is more diffuse, characterized by a general transition in elevation from the OHWM to a low benched floodplain of native and disturbed habitat types. In many areas, the top of bank is defined by hydrology indicated by erosion of the adjacent upland slope. Where slopes have been modified, the top of bank is inferred by adjacent upstream and downstream reaches. The top of bank on the east side interfaces primarily with a terraced floodplain of California Buckwheat Scrub dominated by California buckwheat (*Eriogonum fasciculatum*) and tarragon (*Artemisia dracunculus*). Generally, the western top of bank equates to the vertically incised, eroded unvegetated channel line, and the eastern top of bank equates to the naturally vegetated bench. Within the top of bank widths, the lowest elevations where primary water flows occur is best characterized as an unvegetated, sandy channel, while the streambed is variously dominated by California buckwheat, tarragon, mulefat, salt cedar, Goodding's willow and Fremont cottonwood within and/or adjacent to the unvegetated channel.

The entirety of flow within the drainage is directed offsite to the south, to Canyon Lake (Railroad Canyon Reservoir), which outflows into the San Jacinto River watershed and ultimately terminates at Lake Elsinore. Canyon Lake and Lake Elsinore are both considered a Traditionally Navigable Water (TNW). As such, hydrology of the drainage in the Project site and its associated scattered, riparian vegetation are not isolated from a TNW and have demonstrable connectivity to two TNWs (Canyon Lake and Lake Elsinore) and the San Jacinto River. With demonstrable connectivity to a TNW, but a lack of wetland characteristics and a classification as an ephemeral drainage, the drainage feature meets the jurisdictional criteria for USACE Non-Wetland Waters of the United States and a RWQCB Non-Wetland Waters of the State. The upland vegetation that characterizes most of the drainage, hydrology patterns, and non-hydric soils are consistent with natural ephemeral watercourses of the region. Scattered riparian trees and shrubs do not occur robustly enough to support habitats for riparian-associated native species such as aquatic crustaceans, amphibians, and other fauna that may forage on these species, as the drainage is only expected to hold water for a few days at best. Additionally, the drainage is likely considered a streambed under the jurisdiction of CDFW, with the driplines of several observed riparian trees extending beyond the channel banks that adds CDFW riparian habitat beyond the streambed limits. All the CDFW jurisdiction includes all the MSHCP Riverine Habitat, as the riparian trees and shrubs are not occurring abundantly enough or in proximity to one another to warrant a classification of MSHCP riparian habitat.

The literature review results broadly reflect the results of the aquatic resources delineation surveys. A review of historic aerials indicate that the upland portions of the Project site were farmed prior to 1985 at least as far back as 1966, and then left fallow to the present day. The drainage feature on the Project site is a USGS blue line drainage feature that has been subjected to adjacent agricultural, disking and/or fuel reduction practices over many decades (Attachment A). The drainage feature on the

Project site is also listed as an ephemeral stream/river of the National Hydrography Dataset (Attachment A) and as an intermittent, seasonally flooded, intermittent streambed (classification code: RS4BC) by the National Wetland Inventory (Attachment A).

4.1.1 Tributaries & Natural Drainages

The Project site supports one natural drainage feature, albeit man-altered, as evidenced by the USGS blue-line drainage that exists along the western portion of the Project site. Though the drainage feature is considered natural, it has been man-altered through repeated agricultural and/or disking activities since at least 1966 (Historic Aerials 2022), as well as being fitted with a concrete flood control wall adjacent to Quincy Street. This has resulted in a drainage feature that now has its observable hydrological indicators and flows confined to the lowest portions of the overall channel between the earthen banks of the eastern side and the disturbed and developed banks of the western side.

4.1.2 Man-made Features

Additional hydrological input into the drainage feature exists at the southwestern end of the Project site where a man-made, concrete stormwater swale feature funnels road runoff and enters the channel from Bay Avenue to the west. The concrete swale is four feet wide, with outflow directly to an erosional gully at the swale's terminus before entering the drainage proper.

4.2 Vegetation

A total of nine vegetation communities and land cover types were identified in the *Pacifica Cottonwood Project Habitat Assessment Report* to occur in the Project area (Blackhawk 2022). Vegetation communities were described according to *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and/or *Draft Vegetation Communities of San Diego County* (Oberbauer 2008). The Project site predominantly contains two MSHCP vegetation communities and/or land cover types (Residential/Urban/Exotic – Disturbed Lands and MSHCP Riverine Habitat) composed of non-native grasses and non-native ruderal plant species commonly associated with anthropogenically-altered landscapes, while areas surrounding the Project site contain sparse ornamental shrubs and trees amongst development. Vegetation communities within these land cover types include Disturbed Habitat (20.019 acres), Developed Habitat (0.291 acre), California Buckwheat Scrub (0.460 acre), California Walnut Scrub (0.007 acre), Disturbed Mulefat Scrub (0.145 acre), Mulefat Scrub (0.113 acre), Southern Willow Scrub (0.021 acre), Tamarisk Scrub (0.047 acre) and Unvegetated Channel (0.381 acre). Of the nine vegetation communities mapped in the Project site, Disturbed Mulefat Scrub, Mulefat Scrub, Southern Willow Scrub and Tamarisk Scrub support hydrophytic vegetation and/or concentrated riparian vegetation.

MSHCP Riverine Habitat includes a subset of the acreage of each of the vegetation communities that totals 1.099 acres: Disturbed Habitat (0.197 acre), Developed Habitat (0.022 acre), California Buckwheat Scrub (0.166 acre), California Walnut Scrub (0.007 acre), Disturbed Mulefat Scrub (0.145 acre), Mulefat Scrub (0.113 acre), Southern Willow Scrub (0.021 acre), Tamarisk Scrub (0.047 acre) and Unvegetated Channel (0.381 acre).

4.2.1 Areas Lacking Hydrophytic Vegetation or Hydric Soils

Four upland vegetation communities and/or land cover types occur within the Project site: Disturbed Habitat, Developed Habitat, California Buckwheat Scrub and California Walnut Scrub. One additional

lowland land cover type also exhibited little to no hydrophytic plant species coverage and a lack of hydric soils: Unvegetated Channel. These vegetation communities/land cover types are composed of upland plant species or bare ground with no to very sparse hydrophytic vegetative cover and do not meet the hydrophytic vegetation criteria for wetlands. Complete descriptions of these vegetation communities/land cover types are provided in the *Pacifica Cottonwood Project Habitat Assessment Report* (Blackhawk 2022).

4.3 Soils

Mapped soil units within the Project Survey Area include San Emigdio loams with slopes ranging between zero to eight percent. Three distinct soil series are present within the Project area. These soil units are included in Table 1.

Table 1. Soils Occurring Within the Initial Project Site

Map Unit Symbol	Map Unit Name	Acres (Percent) of Project Site
SeA	San Emigdio fine sandy loam, 0 to 2 percent slopes, occasional frost	4.34 (24.1%)
SeC2	San Emigdio fine sandy loam, 2 to 8 percent slopes, eroded	1.42 (7.9%)
SgA	San Emigdio loam, 0 to 2 percent slopes	12.22 (68.0%)

During the August 28, 2021 aquatic resources delineation survey, four soil pits were excavated to determine if conditions for hydric soils existed on site (i.e., Soil Pits 1, 2, 3 and 4). During the April 1, 2022 aquatic resources delineation survey that followed a Project design change, four more soil pits were excavated to determine if conditions for hydric soils existed on the now-expanded Project site (i.e., Soil Pits 5, 6, 7 and 8). Data sheets describing field soils conditions are included in Attachment C.

The soil pits were selected to represent all potential wetland areas across the width of the channel, as well as upland habitats that were hypothesized not to support wetlands. Each pit was dug to at least 18 inches below the soil surface, and all soil horizons were examined for the presence/absence of hydric soil indicators.

Soil Pits (SP) 1 and 2 were dug in stands of Mulefat Scrub toward the southern end of the drainage feature. SP-3 was dug in a stand of Mulefat Scrub with Fremont cottonwood at the southwest edge of the Project site. SP-4 was dug in California Buckwheat Scrub at the northern end of the drainage feature. SP-5 was dug in an upland area of Disturbed Habitat at the west-central portion of the drainage feature. SP-6 was dug in Southern Willow Scrub at the central portion of the drainage feature. SP-7 was dug in Disturbed habitat along the eastern bank above grade from the OHWM in the central portion of the drainage feature. SP-8 was dug in California Buckwheat Scrub along the eastern bank above grade from the OHWM at the northern end of the drainage feature.

No hydric soils were observed anywhere on the Project site.

5.0 JURISDICTIONAL DELINEATION

Figures 3 and 4 identify the locations of likely USACE, CDFW, RWQCB and MSHCP jurisdictional waters within the Project site. Table 2 summarizes the acreages of each jurisdiction.

Table 2. Jurisdictional Waters Within the Survey Area

Jurisdictional Waters	Acres (Linear Feet)
USACE Jurisdiction	
Wetland Waters of the United States	0
Non-Wetland Waters of the United States	0.501 (1,280)
USACE Total Jurisdiction	**0.501 (1,280)**
RWQCB Jurisdiction	
Wetland Waters of the State	0
Non-Wetland Waters of the State	0.501 (1,280)
RWQCB Total Jurisdiction	**0.501 (1,280)**
CDFW Jurisdiction	
Wetlands	0
Riparian	0.049 (106)
Bank to Bank	1.050 (1,280)
CDFW Total Jurisdiction	**1.099 (1,280)**
MSHCP Jurisdiction	
Wetlands	0
Riparian Habitat	0
Riverine Habitat	1.099 (1,280)
MSHCP Total Jurisdiction	**1.099 (1,280)**

5.1 USACE Jurisdiction

USACE jurisdictional waters were present within the OHWM of the ephemeral drainage feature on the Project site. Potential USACE jurisdiction was measured to submeter accuracy by the widths of the observable OHWMs. The USACE jurisdictional limits include the Unvegetated Channel and peripheral portions of most other mapped vegetation communities within the OHWM. The drainage feature includes 0.501 acre (1,280 linear feet) of USACE-jurisdictional non-RPW. The drainage feature meets the current definition of federal non-wetland areas as an ephemeral drainage feature with a lack of hydrophytic vegetation over most of its extent, an absence of hydric soils, but has hydrological indicators and documentation as a USGS blue-line drainage and NWI/NHD mapped ephemeral feature. The ephemeral feature is natural, albeit man-altered, through historic agricultural and disking activities, and connects to two TNWs (Canyon Lake and Lake Elsinore) in the San Jacinto River watershed. Therefore, the drainage feature functions as part of the tributary system to Canyon Lake, the San Jacinto River and Lake Elsinore as a USACE-jurisdictional ephemeral drainage. Impacts to the drainage feature as a result of the Project are not anticipated to impact interstate commerce but could adversely impact the downstream TNWs. Project-related impacts to the drainage feature are subject to regulation under the federal Clean Water Act. Table 3 is an aquatic resources summary table specific to USACE minimum standards for delineation surveys.

Table 3. USACE Aquatic Resources Summary Table

Aquatic Resource Name	Cowardin Code[1]	Active Channel Width Range (feet)	Observed OHWM Indicators[2]	Observed Wetland Parameters[3]	Presence of OHWM/ Wetland	Dominant Vegetation[4]	Location (lat, long)	Total Acre(s)[5]	Total Linear Feet
Drainage Feature	R4SB4	6-38	CAST, CVS, CVC, BBS	HV, WH	Yes/No	Unvegetated Channel, Mulefat Scrub, Disturbed Mulefat Scrub, Tamarisk Scrub, Disturbed, California Walnut Scrub, Southern Willow Scrub, California Buckwheat Scrub	33.922655 -117.16540	0.501	1,280

[1] Dominant Cowardin code utilized to represent each feature based on field observations and available data.
[2] OHWM Indicators: CAST = Change in average sediment texture; CVS = Change in vegetation species; CVC = Change in vegetation cover; BBS = Break in bank slope; WS = Water staining
[3] Wetland Indicators: HV = Hydrophytic vegetation; HS = Hydric soil; WH = Wetland hydrology
[4] See Figure 2 for all vegetation communities present within each aquatic resource.
[5] Acreages summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.

5.2 RWQCB Jurisdiction

RWQCB jurisdictional waters within the Project site total 0.501 acre of non-wetland Waters of the State within the drainage feature. The RWQCB jurisdictional limits include the Unvegetated Channel and peripheral portions of most other mapped vegetation communities within the OHWM. The drainage feature includes 0.501 acre (1,280 linear feet) of RWQCB-jurisdictional ephemeral non-RPW. Project-related impacts to the drainage feature are subject to regulation under the Porter Cologne Water Quality Control Act.

5.3 CDFW Jurisdiction

CDFW jurisdictional waters within the Project site total 1.099 acres (1,280 linear feet) of the ephemeral drainage feature and scattered, adjacent riparian vegetation. The drainage feature includes 1.050 acres (1,280 linear feet) of CDFW-jurisdictional streambed with an adjacent total of 0.049 acre (106 linear feet) of riparian canopy dripline habitat. Project-related impacts to the drainage feature and its associated riparian habitat would be subject to the terms and conditions of a CDFW Section 1602 Streambed Alteration Agreement under California Department of Fish and Game (CDFG) Code 1600.

5.4 MSHCP Riverine Habitat Jurisdiction

MSHCP jurisdictional Riverine Habitat is equal to the CDFW jurisdictional area on the Project site. As such, the MSHCP Riverine Habitat includes all USACE and RQWQCB jurisdictional limits, as defined by the OHWM, plus adjacent CDFW bank to bank widths and CDFW riparian drip line extents. Therefore, MSHCP jurisdictional Riverine Habitat includes 1.099 acres (1,280 linear feet) in the drainage feature that includes 0.049 acre (106 linear feet) of CDFW riparian canopy dripline habitat plus 1.050 acres (1,280 linear feet) of CDFW bank-to-bank streambed, within which lies all USACE and RWQCB

jurisdiction. The scattered, riparian trees and shrubs are included in the MSHCP Riverine Habitat classification, as the trees and shrubs are not growing in such proximity or abundance as to warrant a distinct MSHCP Riparian classification.

6.0 PROJECT IMPACTS

The Project would include 20.708 acres of permanent impacts and 0.776 acre of temporary impacts associated with the construction and implementation of the entire 21.484-acre parcel for the proposed residential development project. Included within this overall impacted acreage are 0.501 acre (1,280 linear feet) of USACE/RWQCB jurisdictional Non-Wetland Waters of the U.S./State, 1.099 acres (1,280 linear feet) of CDFW jurisdictional Streambed and Riparian Habitat, and 1.099 acres (1,280 linear feet) of MSHCP Riverine Habitat. The Project area was analyzed for both direct and indirect impacts to potentially jurisdictional wetlands and/or waters that would be associated through the construction and long-term use of the proposed Project. Direct impacts are correlated with the construction footprint, while indirect impacts are correlated with the altered hydrological regimes that the Project would entail for the drainage feature and associated downstream features.

Direct impacts to the drainage feature specifically include the vegetation removal, grading, recontouring and rechanneling of the drainage to maintain the existing ephemeral water regime at the west end of the Project site while also facilitating full residential buildout on the upland portion of the Project to the east. The drainage feature is proposed to be partially graded, recontoured, and redesigned to maintain the current north to south hydrological gradient. Most impacts are considered permanent with lesser amounts of temporary impacts.

Indirect impacts are not anticipated as a result of the Project. As designed, the Project storm water system is not expected to significantly reduce, increase or otherwise modify flow regimes to Canyon Lake, the San Jacinto River or Lake Elsninore as a result of surface water from or through the Project site. Furthermore, during long term operations and maintenance, the drainage feature will likely be periodically maintained to ensure flow patterns remain consistent with the current conditions, and any surface water entering the drainage feature via its existing drainage network to the north would likewise not be altered by the Project. Adverse water quality impacts, such as increased pollutant or increased sediment transport, are not anticipated to result from the Project due to construction of ancillary drainage features from the Project site, which are anticipated to facilitate sediments, pollutants, and ephemeral flows from upstream areas of the Project site through the stormwater conveyance system and allow filtration and/or passage to the drainage feature. In addition, a Storm Water Pollution Prevention Plan (SWPPP) that contains detailed construction Best Management Practices (BMPs), such as sediment and erosion controls, would be implemented during construction and incorporated into the Project design to avoid temporary indirect impacts to water quality of the drainage feature as a result of offsite sediment transport associated with the vegetation removal and grading of the Project.

The proposed Project includes the partial vegetation removal, grading, recontouring and rechanneling of the drainage feature that includes both permanent and temporary impacts. As shown in Table 4, construction of the Project is expected to directly and permanently impact a total of 0.375 acre (1,280 linear feet) of USACE Non-Wetland Waters of the United States while temporarily impacting an additional 0.190 acre (562 linear feet) of USACE Non-Wetland Waters of the United States. Construction of the Project is expected to directly and permanently impact a total of 0.375 acre (1,280 linear feet) of RWQCB Non-Wetland Waters of the United States while temporarily impacting an additional 0.190 acre (562 linear feet) of RWQCB Non-Wetland Waters of the United States. The Project is expected to directly and permanently impact a total of 0.909 acre (1,280 linear feet) of CDFW streambeds, which includes 0.041 acre of CDFW riparian habitat and 0.868 acre of CDFW bank to bank jurisdiction. The Project is also expected to temporarily impact a total of 0.190 acre (562 linear feet) of

CDFW streambeds, which includes 0.008 acre of CDFW riparian habitat and 0.182 acre of CDFW bank to bank jurisdiction. MSHCP Riverine Habitat impacts are identical to the CDFW impacts.

Table 4. Summary of Impacts to Potentially Jurisdictional Waters

Jurisdictional Waters	Permanent (acres)	Temporary (acres)
Proposed Impacts to USACE Jurisdiction		
Open Water	0	0
Wetland Waters of the United States	0	0
Non-Wetland Waters of the United States	0.375	0.126
USACE Total Impacts	**0.501 (1,280 linear feet)**	
Proposed Impacts to RWQCB Jurisdiction		
Open water	0	0
Wetland Waters of the State	0	0
Non-Wetland Waters of the State	0.375	0.126
RWQCB Total Impacts	**0.501 (1,280 linear feet)**	
Proposed Impacts to CDFW Jurisdiction		
Open water	0	0
Wetlands	0	0
Riparian	0.041	0.008
Bank to Bank	0.868	0.182
CDFW Total Impacts	**1.099 (1,280 linear feet)**	
Proposed Impacts to MSHCP Jurisdiction		
MSHCP Riverine Habitat	0.909	0.190
MSHCP Total Impacts	**1.099 (1,280 linear feet)**	

6.1 Permit Authorization

The Project site contains one likely USACE/RWQCB/CDFW jurisdictional drainage containing MSHCP Riverine Habitat documented on the west side of the Project site. USACE, RWQCB and CDFW jurisdictional waters are regulated by the United States and State of California governments, while MSHCP Riverine Habitat is regulated at the regional level. To avoid permitting requirements of these agencies, all impacts to jurisdictional waters would need to be avoided. However, since this Project as proposed cannot avoid impacting the drainage feature within the Project site, the Project proponent will pursue onsite and/or offsite mitigation to offset Project-related impacts and the requisite USACE, RWQCB, CDFW and MSHCP jurisdictional waterway permits and/or authorizations to facilitate legally permitted construction activities in the jurisdictional drainage feature. Project development will result in significant impacts to this drainage feature and will require coordination, permitting and/or work authorization clearances through the USACE, RWQCB, CDFW and the Western Riverside County Regional Conservation Authority before any Project activities can occur within MSHCP Riverine Habitat.

The aquatic resources delineation survey determined that waters under the likely jurisdiction of USACE, RWQCB and CDFW occur on the Project site. Impacts to Non-Wetland Waters of the United States would likely require a Section 404 permit from the USACE under the federal Clean Water Act. Impacts to Non-Wetland Waters of the State would likely require a Waste Discharge Requirement (WDR) or Section 401 permit from the RWQCB under the state Clean Water Act. Impacts to CDFW-jurisdictional streambeds and riparian areas may be authorized by CDFW through a Section 1602 Streambed Alteration Agreement.

The delineation survey identified 1.099 acres of MSHCP Riverine Habitat within the Project boundary, within which lie all USACE, RWQCB and CDFW jurisdictional areas. It was determined that this feature will be impacted by Project activities, including a total of 0.190 acre of temporary impacts and 0.909 acre of permanent impacts. Additional permitting and/or approvals from the USACE, RWQCB, and CDFW will be required for Project authorization before impacting the drainage feature. In addition, a MSHCP Determination of Biologically Equivalent or Superior Preservation (DBESP) report will be required per the County of Riverside that will detail the offsite and/or onsite compensatory mitigation strategy.

7.0 SURVEYOR CERTIFICATION

This report was prepared for EPD Solutions, Inc. All data, statements, analyses, findings and attachments within this report are accurate and truthful in terms of describing the existing conditions and the Project as proposed to Blackhawk Environmental and are based on best available knowledge at the time of the report. This delineation was conducted in accordance with the 1987 United States Army Corps of Engineers Wetland Delineation Manual and the applicable Arid West regional supplement. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Blackhawk Environmental accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Kris Alberts
Principal Biologist

8.0 REFERENCES

Baldwin, B. G., D. H. Goldman, D. J. Keil, R. Patterson, T. J. Rosatti, and D. H. Wilken, editors.
2012 The Jepson Manual: Vascular Plants of California, Second Edition. University of California Press, Berkeley, CA.

Blackhawk Environmental
2022 Pacifica Cottonwood Project Habitat Assessment Report.

Calflora
2022 Information on California plants for education, research and conservation. [web application]. Berkeley, California: The Calflora Database [a non-profit organization]. Available: http://www.calflora.org/. Accessed April 2018.

California Department of Fish and Game (CDFG) Environmental Services Division (ESD)
1994 A Field Guide to Lake and Streambed Alteration Agreements, Sections 1600-1607, California Fish and Game Code.

California Department of Fish and Wildlife (CDFW)
2021 California Natural Diversity Database (CNDDB). RareFind Version 5.0. Database Query for the *Heber*, USGS 7.5-minute quadrangles. Wildlife and Habitat Data Analysis Branch.

Google
2022 Google Earth. US Department of State Geographer. Data SIO, U.S. Navy, NGA, GEBCO. *earth.google.com/*

Holland, R.
1986 Preliminary descriptions of the terrestrial natural communities of California. Unpublished document, California Department of Fish and Game, Natural Heritage Division. Sacramento, California.

Jepson Online Interchange
2022 Jepson Flora Project 2022. http://ucjeps.berkeley.edu/jepson_flora_project.html.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin. 2016. *The National Wetland Plant List: 2016 wetland ratings.* Phytoneuron 2016-30: 1-17. Published 28 April 2016. ISSN 2153 733X

Munsell Color
2009 Munsell Soil Color Charts. X-rite. Grand Rapids, Michigan.

NETR Online
1947 Available on www.historicaerials.com. Accessed April 2022.

Oberbauer, T., Kelly, M., and Buegge, J.
2008 *Draft Vegetation Communities of San Diego County*. Based on "*Preliminary Descriptions of the Terrestrial Natural Communities of California*". Robert F. Holland, Ph.D., October 1986.

Regional Conservation Authority - Western Riverside County (RCA)
2021 Western Riverside County MSHCP Information Application https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd May 2021

State Water Resources Control Board
2020 State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Available URL: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/procedures_conformed.pdf

Transportation and Land Management Agency (TLMA)
2004 Western Riverside Multiple Species Habitat Conservation Plan.

United States Army Corps of Engineers (USACE)
1987 *Wetlands Delineation Manual, Technical Report* Y-87-1, U.S. Army Engineer Waterways Experiment Station Vicksburg, MS.

2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

2010 *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States.*

2018 Navigable Waters in Los Angeles District. Available URL: https://www.spl.usace.army.mil/Missions/Regulatory/Jurisdictional-Determination/Navigable-Waterways/ [Accessed September 2018].

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS)
2021 Soil Survey Staff, Natural Resources Conservation Service, United States Department of Agriculture. Official Soil Series Descriptions. Available: http://soils.usda.gov/technical/classification/osd/index.html. May 2021.

2018 Natural Resources Conservation Service. Wetland Indicator Status Plants Database. https://plants.usda.gov/wetinfo.html

United States Environmental Protection Agency (EPA) and the Department of the Army (Army)
2020 Final Rule: The Navigable Water Protections Rule. Available URL: https://www.federalregister.gov/documents/2020/04/21/2020-02500/the-navigable-waters-protection-rule-definition-of-waters-of-the-united-states.

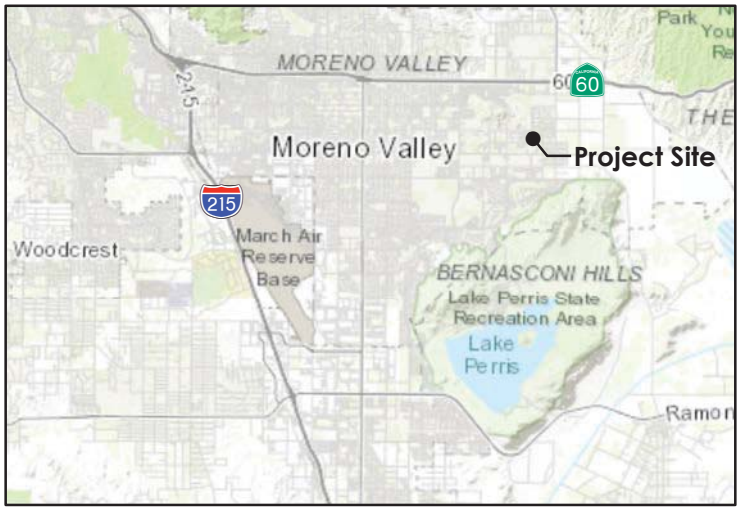
United States Fish & Wildlife Service (USFWS)
2021 National Wetlands Inventory. https://www.fws.gov/wetlands/data/mapper.html. Accessed May 2021.

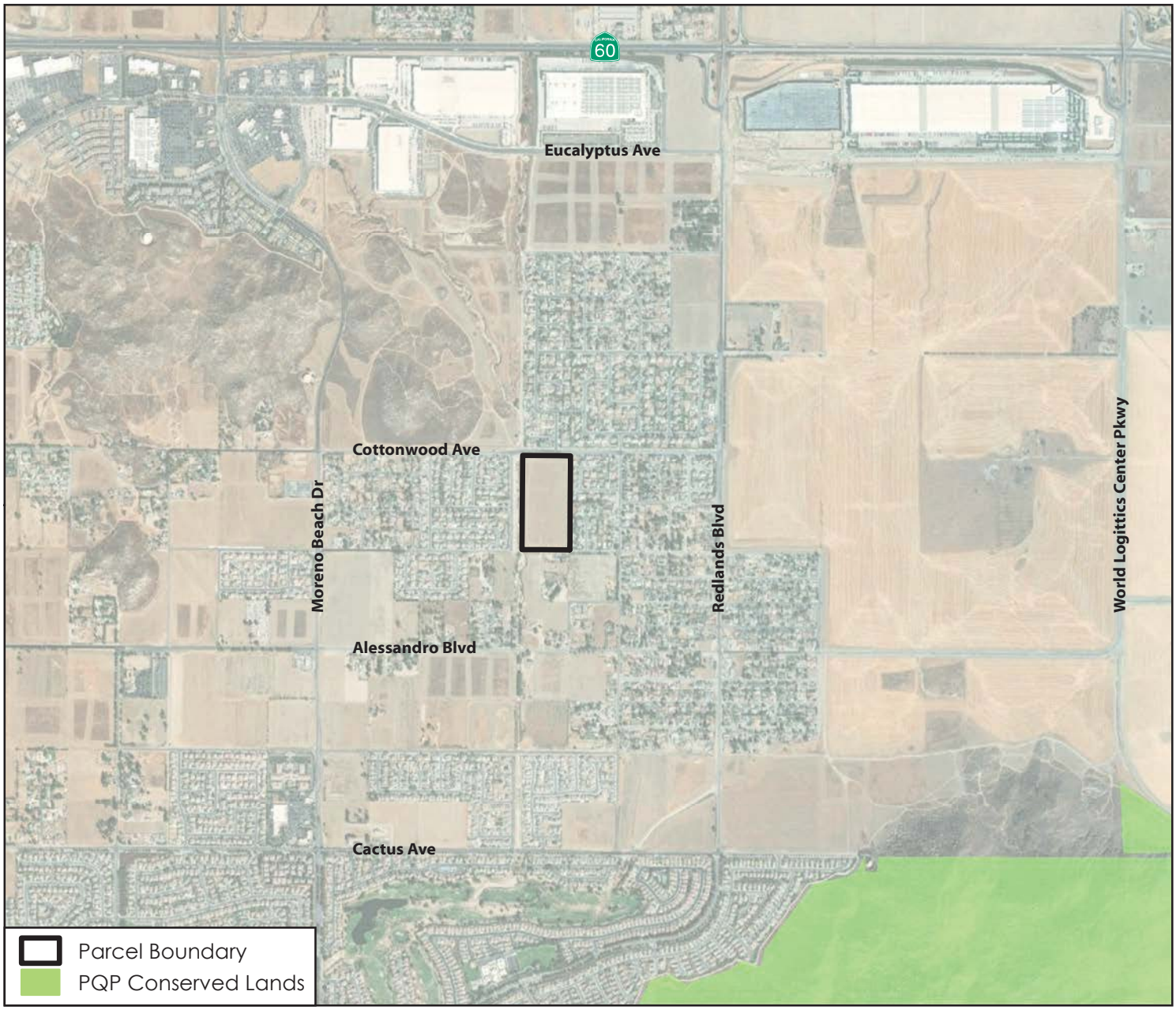
United States Geological Survey (USGS)
1967 7.5-minute topographic quadrangle map for *Sunnymead*, California.

ATTACHMENT A

Figures, Exhibits and Site Plan

Blackhawk Environmental





Source: Maxar, Esri 2020

Figure 1

Project Vicinity and Location

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 2,000 Feet

Aerial Photo: Nearmap 2022

Figure 2

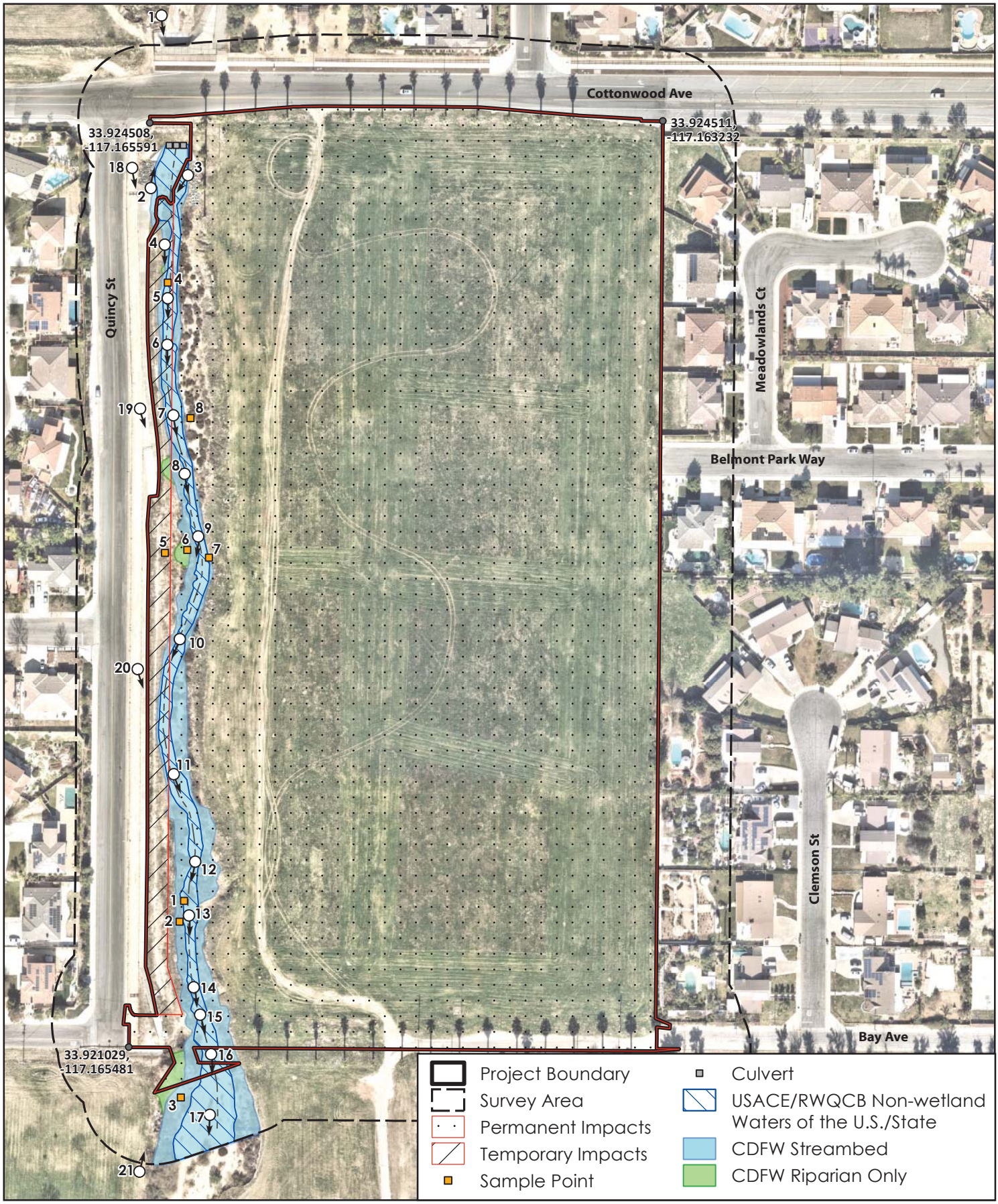
Vegetation Map

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 180 Feet



Source: Nearmap 2022

Figure 3

Jurisdictional Delineation

Pacifica Cottonwood Project

BLACKHAWK Environmental

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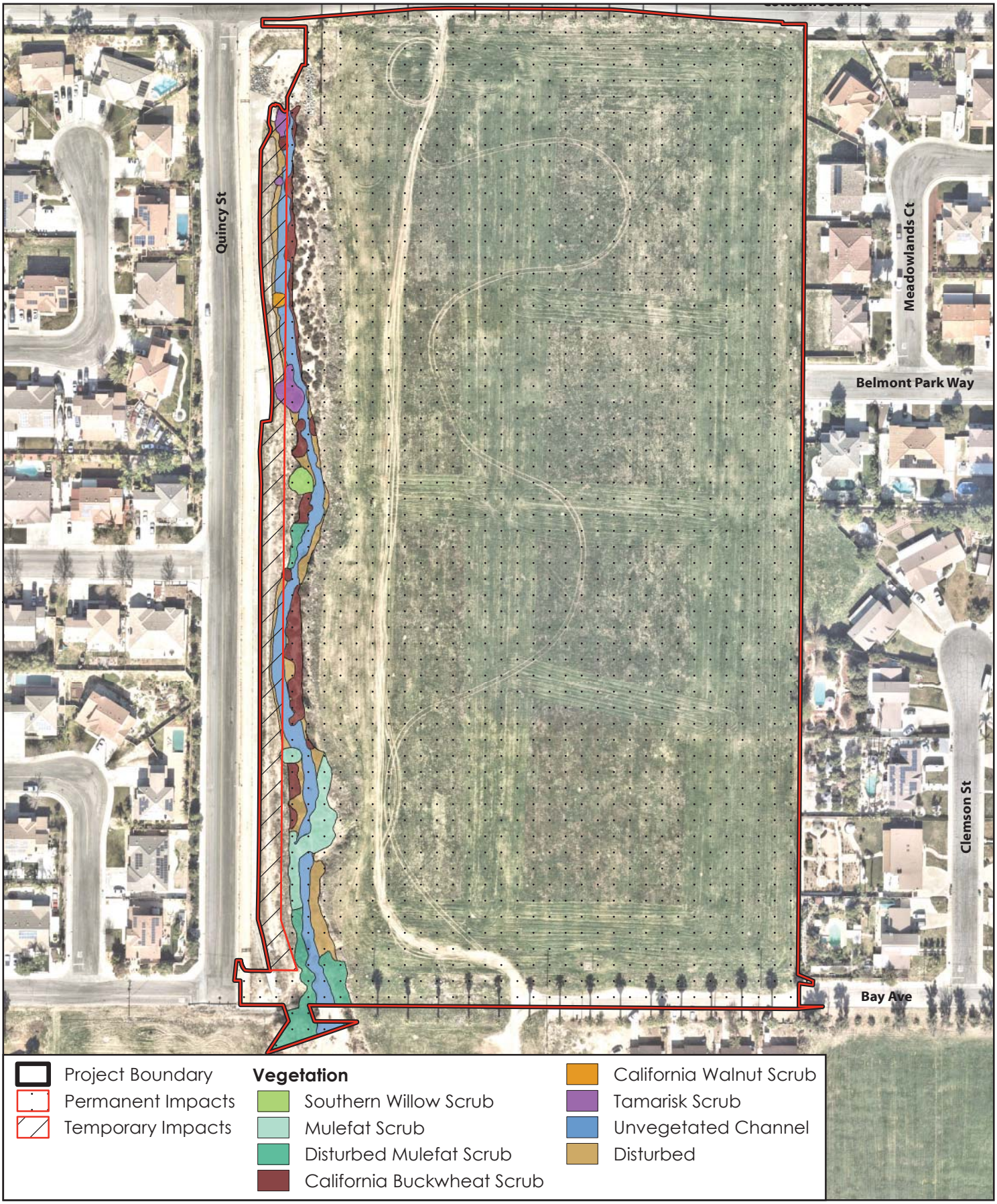


Aerial Photo: Nearmap 2022

Figure 4

MSHCP Riverine Habitat

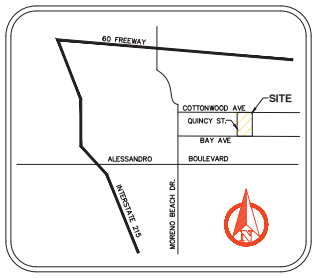
Pacifica Cottonwood Project

BLACKHAWK Environmental

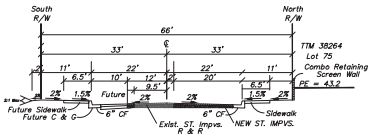
N

0 160 Feet

TTM 38264
City of Moreno Valley



VICINITY MAP
N.T.S.



Typical Section MVSI-106B-0
Bay Street
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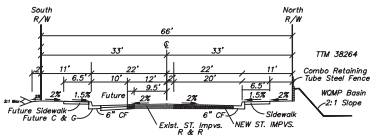
Section E-E
n.t.s.



Typical Section MVSI-106B-0
Bay Street
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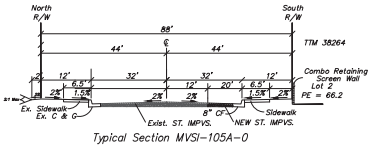
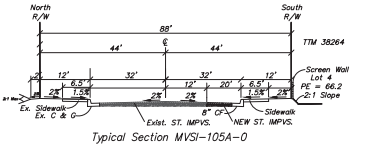
Section F-F
n.t.s.



Typical Section MVSI-105A-0
Cottonwood Avenue
4" AC over 6" AB (PRELIM SECTION)
Section J-J
n.t.s.



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Cottonwood Avenue
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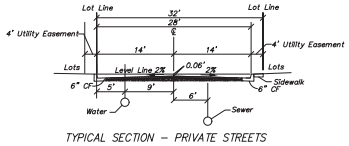
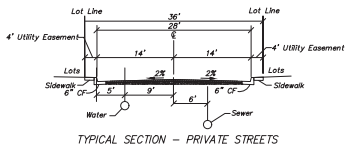
Section K-K
n.t.s.



TYPICAL SECTION – PRIVATE STREETS
3" AC over 6" AB
N.T.S.



TYPICAL SECTION – PRIVATE STREETS
3" AC over 6" AB
N.T.S.

Area of Disturbance

40 0 20 40 80 160

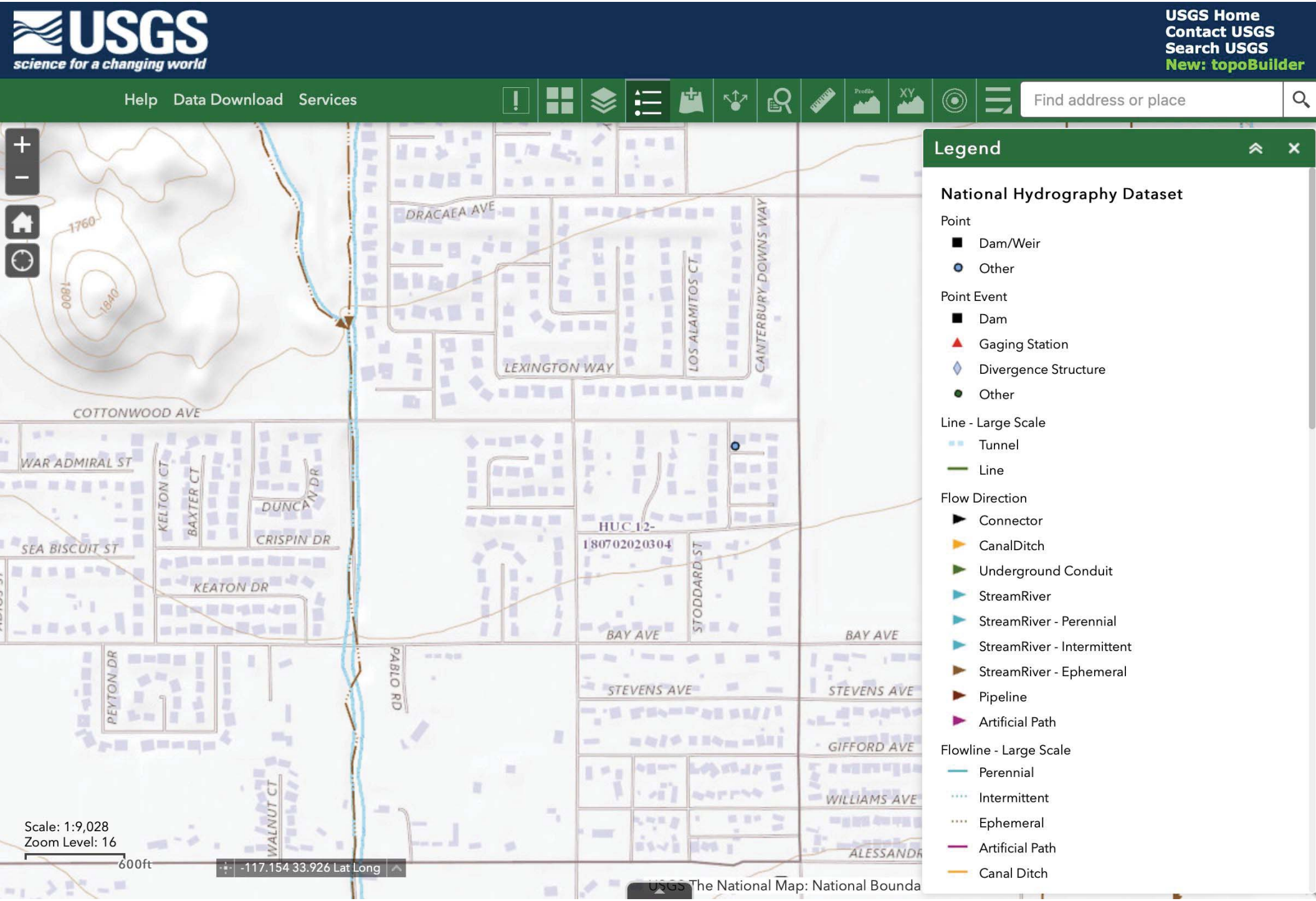
ROBERT BEERS
8175 Limonite Avenue, Suite E
Jurupa Valley, CA 92509
Ph. (951) 317-2041 Fax (909) 360-2070

Date Robert M. Beers R.C.E. 39405

PREPARED FOR:
Passco Pacifica LLC
333 City Boulevard West
17th Floor
Orange, CA 92866
PHONE: (714) 609-7257

TTM 38264
Preliminary Grading Plan
Cottonwood Collection
City of Moreno Valley
California

DATE Jan. 10, 2022
JOB NO. .
DRAWN BY R.A.H.
CHECKED BY R.M.B.
SHEET C-3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Help
Data Download
Services
Find address or place
Legend
National Hydrography Dataset
Point
Dam/Weir
Other
Point Event
Dam
Gaging Station
Divergence Structure
Other
Line - Large Scale
Tunnel
Line
Flow Direction
Connector
CanalDitch
Underground Conduit
StreamRiver
StreamRiver - Perennial
StreamRiver - Intermittent
StreamRiver - Ephemeral
Pipeline
Artificial Path
Flowline - Large Scale
Perennial
Intermittent
Ephemeral
Artificial Path
Canal Ditch
DRACAEA AVE
LEXINGTON WAY
LOS ALAMITOS CT
CANTERBURY DOWNS WAY
COTTONWOOD AVE
WAR ADMIRAL ST
KELTON CT
BAXTER CT
DUNCAN DR
CRISPIN DR
SEA BISCUIT ST
KEATON DR
HUC 12-
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BAY AVE
PEYTON DR
PABLO RD
STEVENS AVE
GIFFORD AVE
WILLIAMS AVE
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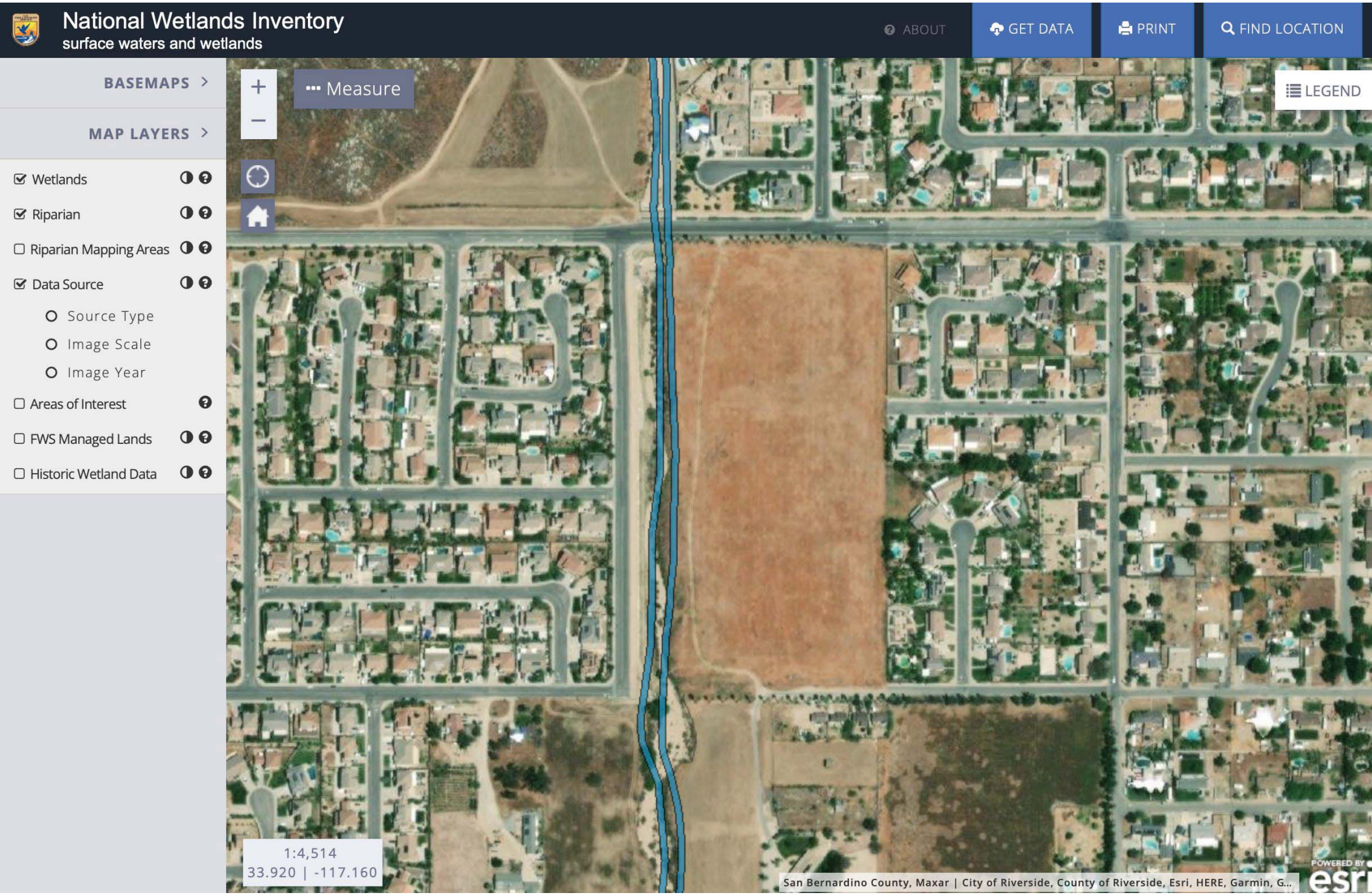
USGS The National Map: National Bounda


National Wetlands Inventory
surface waters and wetlands
ABOUT
GET DATA
PRINT
FIND LOCATION
BASEMAPS
MAP LAYERS
Wetlands
Riparian
Riparian Mapping Areas
Data Source
Source Type
Image Scale
Image Year
Areas of Interest
FWS Managed Lands
Historic Wetland Data
Measure
LEGEND
1:4,514
33.920 | -117.160
San Bernardino County, Maxar | City of Riverside, County of Riverside, Esri, HERE, Garmin, G...
POWERED BY esri

ATTACHMENT B

Photo Pages

Blackhawk Environmental

Photograph 1: South-facing view of Reach 1, from Photo Point 1, where three concrete-encased culverts pass under Cottonwood Avenue.

Photograph 2: North-facing view from Photo Point 2 at the southern boundary of Reach 1.

Photograph 3: South-facing view into Reach 2 from Photo Point 3. Riprap in the photo foreground is at the southern boundary of Reach 1.

Photograph 4: South-facing view of channel in Reach 2 from Photo Point 4.

Photograph 5: South-facing view of channel in Reach 2 from Photo Point 5.

Photograph 6: South-facing view of channel in Reach 2 from Photo Point 6.

Photograph 7: South-facing view of channel in Reach 3 from Photo Point 7.

Photograph 8: South-facing view of channel in Reach 3 from Photo Point 8.

Photograph 9: South-facing view of channel in Reach 3 from Photo Point 9.

Photograph 10: South-facing view of channel at the southern boundary of Reach 3, looking into Reach 4 from Photo Point 10.

Photograph 11: South-facing view of channel in Reach 4 from Photo Point 11.

Photograph 12: South-facing view of channel in Reach 4 from Photo Point 12.

Photograph 13: South-facing view of channel near the southern boundary of Reach 4 from Photo Point 13.

Photograph 14: South-facing view of channel near the northern boundary of Reach 5 from Photo Point 14.

Photograph 15: South-facing view of channel through Reach 5 from Photo Point 15.

Photograph 16: South-facing view of channel in Reach 5 from Photo Point 16.

Photograph 17: South-facing view of channel near the southern boundary of Reach 5 from Photo Point 17.

Photograph 18: Overview of Reach 1 into Reach 2 from Photo Point 18.

Photograph 19: Overview of Reach 3 from Photo Point 19.

Photograph 20: Overview of Reach 4 and Reach 5 from Photo Point 20.

Photograph 21: Overview looking upstream through Reach 5 from Photo Point 21.

Photograph 22: Soil pit at Sample Point 1.

Photograph 23: Soil pit at Sample Point 2.

Photograph 24: Soil pit at Sample Point 3.

Photograph 25: Soil pit at Sample Point 4.

Photograph 26: Soil pit at Sample Point 5.

Photograph 27: Soil pit at Sample Point 6.

Photograph 28: Soil pit at Sample Point 7.

Photograph 29: Soil pit at Sample Point 8.

Photograph 30: East-facing view of concrete swale that runs east-west at the south end of the intersection of Bay Street and Quincy Street, ultimately emptying into Reach 5 of the channel.

Photograph 31: Weep holes at the base of a concrete flood control wall on the west side of the channel.

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PACIFICA COTTONWOOD PROJECT

(APN 478-250-001)

FOCUSED BURROWING OWL SURVEY REPORT

CITY OF MORENO VALLEY, RIVERSIDE COUNTY, CALIFORNIA

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September 15, 2021

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ATTACHMENTS

EXECUTIVE SUMMARY

Blackhawk Environmental conducted a literature review, field reconnaissance survey and biological assessment of the proposed Pacifica Cottonwood Project (Project) site on May 5, 2021, to assess existing site conditions, as well as assess the potential for sensitive species or habitats to occur within and/or adjacent to the Project site. The results of this survey effort are summarized in the *Pacifica Cottonwood Western Riverside MSHCP Habitat Assessment Report* (Blackhawk Environmental 2021). The Project is an approximately 23.48-acre development site proposed in the City of Moreno Valley, Riverside County, California. The Project site is located on Assessor's Parcel Number (APN) 478-250-001. The Project is located within the boundaries of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). The site is best characterized as previously graded and/or disked, disturbed land that is regularly mowed. The Project is located within an area necessitating surveys for burrowing owl (*Athene cunicularia*; BUOW). The Blackhawk Environmental Habitat Assessment Report (HAR) identified habitat suitable for burrowing owl during the May 5, 2021 site visit, as well as identified suitable burrows during the Focused Burrow Survey on June 22, 2021. Pursuant to MSHCP Section 6.3.2 *Additional Survey Needs and Procedures*, focused surveys for burrowing owl are required within designated survey areas of the Plan and suitable habitat.

To support Project consistency with Plan guidelines, Blackhawk Environmental was contracted to perform focused surveys for burrowing owl per the Burrowing Owl Survey Instructions for the Plan Area (2006). The initial habitat assessment, focused burrow survey, and this focused burrowing owl survey effort resulted in the detection and mapping of numerous burrows suitable for burrowing owl within the Project and associated 150-meter buffer (Survey Area). **No burrowing owls or sign were observed during the surveys.**

Following the MSHCP recommendation of a preconstruction burrowing owl survey within 30 days prior to construction, no negative impacts to burrowing owl are anticipated. Preconstruction presence/ absence surveys for burrowing owl should be conducted within the Project area within 30 days prior to ground disturbance to avoid direct take of burrowing owls. Preconstruction survey methods should follow those described in the Burrowing Owl Survey Instructions for the MSHCP Plan Area; *Pre-construction Surveys* (2006). If burrowing owls are determined to occupy the site or the immediate vicinity, the City of Moreno Valley Planning Department will be notified, and avoidance measures will be implemented during the breeding season (March 1 through August 31). If burrowing owls are present during the non-breeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan.

1.0 INTRODUCTION

Blackhawk Environmental (Blackhawk) was contracted under EPD Solutions to conduct focused burrowing owl surveys at the Pacifica Cottonwood Project (Project) site, located on approximately 23.48 acres of previously undeveloped lands in the City of Moreno Valley, Riverside County, California. The Project site is within the MSHCP area; however, the Project is not located within a MSHCP Cell Group or MSHCP Criteria Cell(s).

Focused surveys for burrowing owl were required for the Project site as a result of the findings during the initial habitat assessment on May 5, 2021. Specifically, this habitat assessment was conducted to determine if habitat was present for species identified in the Conservation Summary Report Generator that may require additional focused species survey efforts, including burrowing owl.

The initial habitat assessment was conducted on May 5, 2021, which identified suitable habitat for burrowing owl, and was followed by the focused burrow survey, conducted on June 22, 2021, which identified suitable burrows. Based on the presence of suitable habitat and burrows within the Project and surrounding 150-meter buffer (Survey Area), additional focused surveys for burrowing owl were required for consistency with the Plan. This report describes the results of the focused burrowing owl survey effort conducted for the Project site.

The habitat assessment also identified one drainage feature that runs parallel to the western boundary of the Project site that contains MSHCP riparian/riverine habitat that may potentially fall under the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW). Based on these findings, a jurisdictional delineation was performed on August 18, 2021. Findings of the jurisdictional delineation survey can be found in the *Pacifica Cottonwood Project – Jurisdictional Delineation Survey Report* (Blackhawk 2021).

1.1 Project Description

The Project proposes complete buildout for residential and/or commercial development of an approximately 23.48-acre parcel in the City of Moreno Valley. Proposed development engineer plans involve the construction of residential homes, paved streets and sidewalks, landscaped areas and all associated infrastructure and would permanently convert the vacant land to development. The Project site is identified as APN *478-250-001*.

The proposed Project is located within previously graded/disked, regularly mowed, vacant land dominated by low-growing non-native and ruderal vegetation. The site is surrounded by urban development in addition to several scattered vacant lots. The site is bounded to the west by Quincy Street, to the east by private residential development, to the north by Cottonwood Avenue and to the south by Bay Avenue and additional vacant lands. The site shows signs of recent anthropogenic impacts such as mowing, trash dumping, disking, and off-road vehicle use. Habitat within the 150-meter Survey Area to the east of the Project and portions of the north, south, and west were excluded from the survey due to lack of potential habitat within fully developed lands and/or a complete lack of suitable burrows. The Project site consists of a mostly flat lot; elevations within the Project site range from 1,639 feet above mean sea level (AMSL) in the southeast corner at its lowest point, and up to 1,664 feet AMSL at the northwestern corner at its highest point.

2.0 REGULATORY SETTING

The Plan is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on conservation of species and their associated habitats in Western Riverside County.

The Plan serves as an HCP pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act (FESA), as well as the Natural Communities Conservation Planning (NCCP) under the NCCP Act of 2001. The Plan will be used to allow the participating jurisdictions to authorize "take" of plant and wildlife species identified within the Plan area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) (together, Wildlife Agencies) have authority to regulate the take of threatened, endangered, and rare species. Under the Plan, the Wildlife Agencies will grant "take authorization" for otherwise lawful actions, such as public and private development that may incidentally take or harm individual species or their habitat outside of the Plan Conservation Areas, in exchange for the assembly and management of a coordinated MSHCP Area through collection of Plan Mitigation Fees. The Plan is designed to provide mitigation compliance under the Federal Endangered Species Act (FESA), California Endangered Species Act (CESA), California Environmental Quality Act (CEQA), and National Environmental Protection Act (NEPA) with payment of a development mitigation fee to the appropriate local jurisdiction and completion of requisite habitat assessments/focused surveys for projects within those jurisdictions.

Pursuant to MSHCP Section 6.3.2 *Additional Survey Needs and Procedures*, focused surveys for burrowing owl are required within designated survey areas of the Plan and suitable habitat. The Project is located within a Cell requiring habitat assessments for burrowing owl. An initial HAR for the Project site identified the Project site as within a survey area for burrowing owl, and suitable habitat and burrows were identified on site; therefore, focused burrowing owl surveys became required for Project approval (Blackhawk Environmental 2021).

3.0 METHODS

3.1 Step I: Habitat Assessment

An initial habitat assessment was conducted by Blackhawk Principal Biologist Kris Alberts on May 5, 2021 by walking meandering transects throughout the entirety of the Project site. The habitat assessment identified the presence of suitable burrowing owl habitat and suitable burrows within the Survey Area. When it was not possible to access the 150-meter buffer zone, the Survey Area was visually inspected with binoculars. Habitat was mapped in the field on the ESRI ArcGIS Collector application for later use in Geographic Information System (GIS) analysis and figure creation.

Table 1. Habitat Assessment Conditions

Biologist(s)	Date	Time	Air Temperature (°F)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
Kris Alberts	5/5/2021	1450-1550	90-91	4-10	80-70	None

3.2 Step II, Part A: Focused Burrow Survey

A systematic search of the Project Survey Area for BUOW-suitable burrows and burrowing owl sign was conducted on June 22, 2021 by two biologists walking transects through suitable habitat. Survey transects were spaced five to 15 meters apart to provide 100 percent visual ground coverage. Where habitat, terrain or other factors necessitated, transect width was reduced to achieve 100 percent visual ground coverage. For inaccessible areas, biologists scanned the area with binoculars to ascertain presence/absence of burrowing owls. During the search, suitable burrowing owl habitat mapped during the habitat assessment was verified and updated, as needed. All suitable burrowing owl burrows, man-made structures that could potentially support burrowing owls, and potential burrowing owl sign was mapped in the field on aerial photos and Global Positioning System (GPS) coordinates were recorded.

3.3 Step II, Part B: Focused Burrowing Owl Survey

Focused burrowing owl surveys were conducted on four separate days during the burrowing owl breeding season (March 1 through August 31). The first focused burrowing owl survey was conducted concurrently with the focused burrow survey described in *Part A: Focused Burrow Survey*. All surveys were conducted in weather conditions conducive to detecting burrowing owls outside their burrows and observing burrowing owl sign.

Three additional focused surveys for burrowing owl were conducted by walking throughout the entire Survey Area and began within one hour of sunrise and concluded within two hours after sunrise. Survey methods followed those described in the Burrowing Owl Survey Instructions for the Plan Area (2006).

Prior to starting transects and upon arrival to the Project site, the biologist scanned the Survey Area with binoculars to ascertain presence/absence of burrowing owls. Following the initial scan of the Survey Area, the biologists followed the same survey protocol described in Section 3.2. During the focused surveys, all suitable burrows were first scanned for occupation by burrowing owl. If no owls were observed, suitable burrows were directly inspected for changes in status and burrowing owl sign.

4.0 RESULTS

An initial habitat assessment for burrowing owl was conducted during the May 5, 2021 site visit per the *Step 1: Habitat Assessment* of the Burrowing Owl Survey Instructions for the Plan Area (2006). The June 22, 2021 visit included concurrent surveys according to *Step 2 Part A: Focused Burrow Surveys* and to *Step 2 Part B: Focused Burrowing Owl Surveys* of the Burrowing Owl Survey Instructions for the Plan Area (2006). Surveys were conducted in compliance with the Burrowing Owl Survey Instructions for the Plan Area (2006) and were not conducted within five days following a rain event.

Burrowing owl habitat within the Project site includes all Disturbed Areas. While the Project site is composed of regularly disked, open, disturbed vegetation suitable for burrowing owl foraging, nesting opportunities are limited to those areas supporting potential host burrows. Within the Survey Area, the concrete-lined drainage channel along the western edge of the Project Site and the open, disturbed lot northwest of the Project Site were surveyed due to potential for suitable burrows. Developed areas surrounding the Project Site were excluded from the surveys due to lack of suitable burrows or burrow surrogates.

The Project site exhibits previously graded and/or disked soils that are regularly mowed and disturbed through other anthropogenic activities such as trash and debris dumping, off road vehicle use and foot traffic. The site is dominated by low-growing non-native grasses and ruderal vegetation. Suitable burrows occur throughout the entire site and portions of suitable habitat within the Survey Area. All the burrows documented showed no BUOW sign or occupation and the vast majority showed very recent signs of California ground squirrel (*Otospermophilus beecheyi*) use, such as cleared runways between burrows, footprints, scat and dig-outs.

Due to the presence of suitable burrowing owl habitat onsite, four focused burrowing owl surveys were conducted, the first of which was conducted concurrently with Part A described above. Table 2 below summarizes survey conditions for the focused surveys.

Table 2: Focused Burrowing Owl Survey Conditions

Biologist(s)	Date	Time	Temperature (°F)	Wind Speed (mph)	Cloud Cover (%)	Precipitation
Seth Reimers, Hayley Milner	6/22/2021	0554-0739	64-67	1-3	60-70	none
Hayley Milner, Katie Quint	6/30/2021	0542-0740	63-71	0-2	5-35	none
Hayley Milner, Katie Quint	7/8/2021	0545-0744	73-76	0-2	0	none
Hayley Milner, Katie Quint	7/15/2021	0545-0746	74-78	0-1	0-5	none

A total of 101 individual BUOW-suitable burrows and 23 BUOW-suitable burrow complexes were identified within the Survey Area. Burrow complexes (3 or more burrows) were mapped collectively due to the proximity of burrows to one another (generally within two meters). Specific locations of all suitable burrowing owl burrows can be found in Figure 2. No burrowing owls and/or burrowing owl sign

were observed during the focused surveys. Furthermore, most burrows were identified as either having fresh California ground squirrel sign, debris, spiderwebs, and other items partially covering the burrow opening. Burrows were generally evenly distributed throughout the Project Site, apart from a near absence in the southwest quarter and a higher density of BUOW-suitable burrows in the northwest corner of the parcel. Optimally suitable areas were correlated with high California ground squirrel activity.

Burrows ranged in size from 8 to 20 centimeters in diameter, with the vast majority of suitable burrows being California ground squirrel burrows. Ground squirrels were directly observed throughout the site and the majority of potential burrows showed sign of current occupation by ground squirrels (fresh soil aprons, scat, tracks, plant debris, etc.). Burrows were located within areas of non-native grasses, areas of previously disturbed soil, and along the drainage channel bank. Maps depicting all suitable burrowing owl burrows and burrow complexes, as well as potential foraging and nesting habitat, are included in Attachment A – Figures. Representative photographs of the Project site, suitable habitat, and BUOW-suitable burrows observed during the survey period are included in Attachment B – Site Photographs.

Avian species observed included: American crow (*Corvus brachyrhynchos*), common raven (*Corvus corax*), American kestrel (*Falco* sparverius), hooded oriole (*Icterus cucullatus*), Anna's hummingbird (*Calypte anna*), red-tailed hawk (*Buteo jamaicensis*), bushtit (*Psaltriparus minimus*), house sparrow (*Passer domesticus*), western kingbird (*Tyrranus verticalis*), European starling (*Sturnus vulgaris*), house finch (*Haemorhous mexicanus*), lesser goldfinch (*Spinus psaltria*), mourning dove (*Zenaida macroura*), Eurasian collared-dove (*Streptopelia decaocto*), rock pigeon (*Columba livia*), northern mockingbird (*Mimus polyglottos*), Bewick's wren (*Thryomanes bewickii*), California towhee (*Melozone crissalis*), Costa's hummingbird (*Calypte costae*), northern rough-winged swallow (*Stelgidopteryx serripennis*), Nuttall's woodpecker (*Dryobates nuttallii*), great blue heron (*Ardea herodias*)

5.0 POTENTIAL IMPACTS

No burrowing owls or burrowing owl sign were identified during the survey efforts, therefore, no impacts to burrowing owls are anticipated to occur. Furthermore, while suitable burrows were present onsite, the majority appeared to be currently occupied by California ground squirrels or were covered by debris indicating no occupancy. Based on the Burrowing Owl Survey Instructions for the Plan Area (2006), preconstruction presence/absence surveys for burrowing owls should be conducted within 30 days prior to ground disturbing activities to avoid potential direct impacts to burrowing owls.

6.0 CONCLUSION AND RECOMMENDATIONS

Focused BUOW surveys took place on the 23.48-acre Project Site and associated 150-meter survey buffer for the proposed Pacifica Cottonwood Project in the City of Moreno Valley, Riverside County, California. While there were numerous suitable BUOW burrows mapped in the Survey Area, no burrowing owl or their sign were observed during the focused BUOW surveys. With the recommendation of a preconstruction BUOW survey within 30 days prior to construction, no negative impacts to the species are anticipated. The reported final (fourth) focused BUOW survey conducted on July 15, 2021, satisfies this recommendation if initial ground disturbance for the Project begins within 30 days of this survey. An additional pre-construction BUOW take avoidance survey is therefore only recommended for ground disturbance occurring on or after August 15, 2021.

With the implementation of the proposed mitigation measure for potential Project-related impacts to burrowing owl, the Project will fulfill the requirements related to biological resources pursuant to CEQA and the Plan.

- **MM-BUOW 1:** Within 30 days of construction, conduct take avoidance surveys for burrowing owl per guidelines specified in the Western Riverside County Regional Conservation Authority Burrowing Owl Survey Instructions for the Plan Area (2006).

- **MM-BUOW 2:** If burrowing owls are observed to occupy the Project site and/or adjacent areas during take avoidance surveys or incidentally during construction, the City of Moreno Valley Planning Department will be notified, and avoidance measures may be implemented during the breeding season (March 1 through August 31). If burrowing owls are present during the non-breeding season (September 1 through February 28), burrowing owl exclusion measures may be implemented in accordance with the Plan.

7.0 SURVEYOR CERTIFICATION

All data, statements, analyses, findings, and attachments within this report are accurate and truthful in terms of describing the existing conditions at the time of the surveys and the Project as proposed to Blackhawk Environmental, Inc. By adhering to the mitigation measure proposed within this report and/or payment of appropriate fees, compensatory mitigation related to the complete the Project will be met to CEQA significance thresholds for burrowing owl.

Seth Reimers
Senior Biologist

8.0 REFERENCES

Blackhawk Environmental, Inc.
2021 *Pacifica Cottonwood Western Riverside MSHCP Habitat Assessment Report.* Prepared for EPD Solutions, July 2021.

Google
2021 Google Earth. US Department of State Geographer. Data SIO, U.S. Navy, NGA, GEBCO. *earth.google.com/*

Klute, D.S., L.W. Ayers, M.T. Green, W.H. Howe, S.L. Jones, J.A. Shaffer, S.R. Sheffield, and T.S. Zimmerman
2003 *Status Assessment and Conservation Plan for Western Burrowing Owl in the United States.* United States Fish and Wildlife Service.

Riverside County Land Information System
2021 Western Riverside County MSHCP Report Generator. Accessed from http://www3.tlma.co.riverside.ca.us/pa/rclis/index.html on May 4, 2021.

Sawyer, J.O., Jr., and T. Keeler-Wolf
2009 *A Manual of* California *Vegetation Second Edition*. California Native Plant Society,

State of California Natural Resources Agency
2012 Staff Report on Burrowing Owl Mitigation. Department of Fish and Game. March 2012.

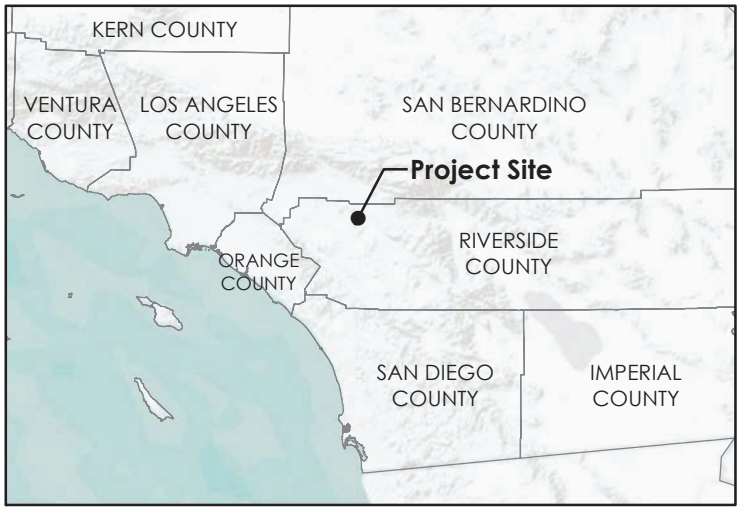
Transportation and Land Management Agency (TLMA)
2006 Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Environmental Programs Department. 4-14-06.

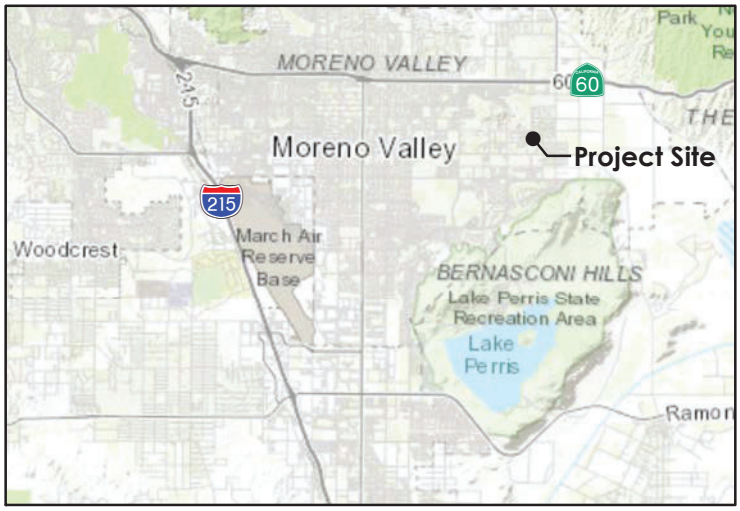
2021 Riverside County Integrated Project (RCIP) Online Services. Accessed by http://www.rctlma.org/online/content/rcip_report_generator.aspx May 2021.

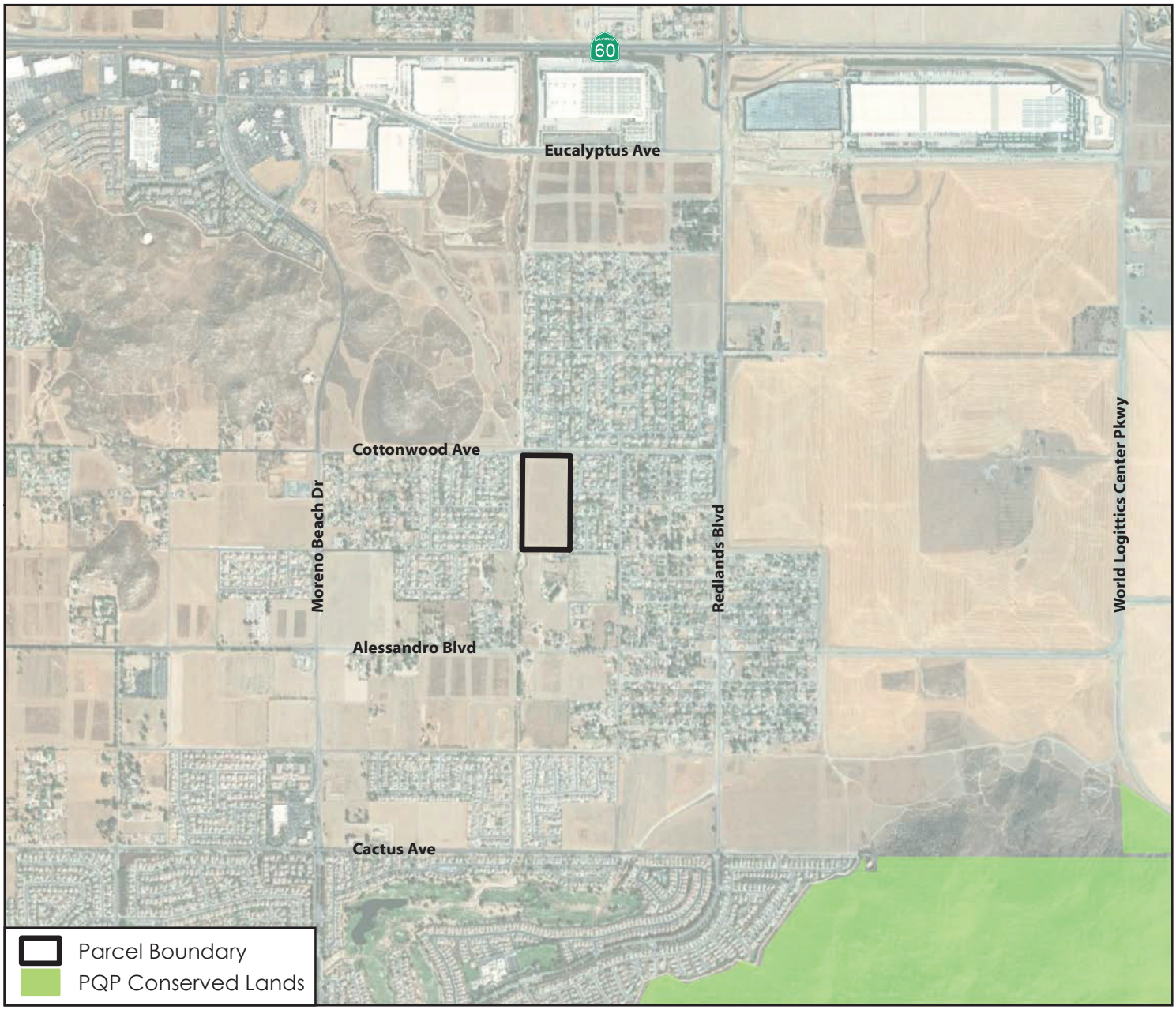
ATTACHMENT A

Figures

Blackhawk Environmental







Source: Maxar, Esri 2020

Figure 1

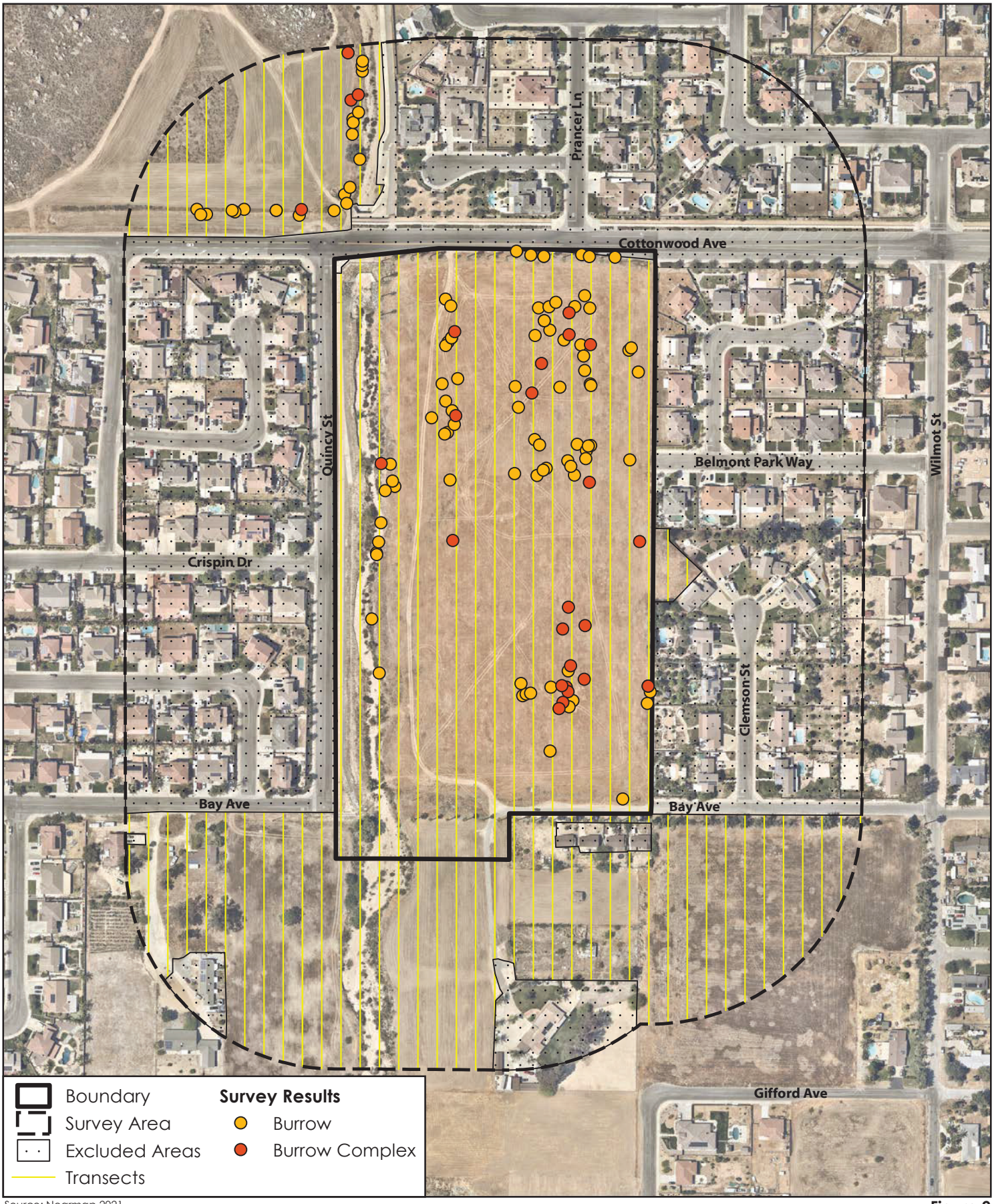
Project Vicinity and Location

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 2,000 Feet



Source: Nearmap 2021

Figure 2

Burrowing Owl Survey Results

Pacifica Cottonwood Project

BLACKHAWK Environmental

N

0 300 Feet

ATTACHMENT B

Photo Pages

Blackhawk Environmental

Photograph 1: South-facing photo of the Project Site consisting of disturbed habitat of non-native grasses and recently disked/graded soils.

Photograph 2: Southeast-facing photo of disturbed habitat in the Project Site, consisting of non-native grasses, vehicle track marks, and recently disked soils.

Photograph 3: Southwest-facing photo of the riverine habitat in the flood channel located along the western boundary of the Project Site.

Photograph 4: East-facing photo of northern boundary of Project Site; disked soils bounded by non-native grasses and ornamental landscaped species.

Photograph 4: East-facing photo of suitable burrowing owl habitat located in the 150-meter buffer northwest of the Project Site.

Photograph 5: Southwest-facing photo of a suitable burrow among non-native grasses located within the Project Site.

Photograph 6: Representative photo of a suitable burrow along the bank of the water channel.

Photograph 7: South-facing photo of a suitable burrow with large apron and ground squirrel tracks.

Photograph 8: Representative photo of a suitable burrow located under a piece of concrete along bank of the drainage channel.

Photograph 9: Representative photo of a burrow complex with ground squirrel dig-outs and tracks.

Photograph 10: Representative photo of burrow with ground squirrel dig outs and runway to another burrow.

Photograph 11: Representative photo of a suitable surrogate burrow (old pipe), located along the western-facing bank of the drainage channel.

Photograph 13: Representative photo of a suitable burrow amongst a rubble pile along the edge of riverine habitat in the Survey Area.

Photograph 14: Representative photo of a suitable burrow entrance covered with spiderwebs and debris, indicating inactiveness.

Riverpark Mitigation Bank

RIVERPARK MITIGATION BANK
CREDIT RESERVATION AGREEMENT

This Reservation Agreement ("Agreement") is made and entered into this ___ day of _____, 2023 ("Effective Date") by and between EIP III Credit Co., LLC, a Delaware limited liability company ("Bank Sponsor") and PASSCO PACIFICA LLC, a Delaware LLC ("Project Proponent"). Bank Sponsor and Project Proponent may be referred to individually as "Party" or collectively as the "Parties." The Parties agree as follows:

1. INTRODUCTION.

1.1. Riverpark Mitigation Bank. The Riverpark Mitigation Bank ("Mitigation Bank" or **"**Bank**")** has been authorized by the Army Corps of Engineers, Los Angeles District ("Corps"), United States Fish and Wildlife Service ("USFWS"), California Regional Water Quality Control Board, Region 8 ("RWQCB") and the California Department of Fish and Wildlife ("CDFW"), collectively the Interagency Review Team, or "IRT", pursuant to a Mitigation Bank Enabling Instrument ("BEI") that was fully executed on October 25, 2019, to operate as a mitigation bank with credits ("Credits") available for sale. The Credits consist of Waters of the U.S., Waters of the State, and Covered Habitat Credits.

1.2. Project Proponent. Project Proponent is seeking to implement the **Cottonwood Collection** project ("Project") located within Riverside County, California, which may impact jurisdictional waters, wildlife, and/or habitat values, and seeks to reserve Credits from the Mitigation Bank to compensate for the loss. Project Proponent alone shall be responsible for obtaining the approval of the applicable agencies to mitigate the impacts of its Project(s). In that regard, Bank Sponsor has made no, and makes no, representation, warranty, or guaranty that the applicable agencies will approve the Mitigation Bank as suitable mitigation for the Project.

1.3. Purpose. The purpose of this Agreement is to grant Project Proponent an exclusive right to purchase 1.1 re-establishment CDFW mitigation Credits, and 1.1 rehabilitation CDFW mitigation Credits from the Bank.

1.4. Purchase and Sale Agreements. Bank Sponsor and Project Proponent shall execute a Purchase and Sale Agreement ("Exhibit A") to provide the Project Proponent with the required Credit amounts indicated in Section 2 below. This form of Purchase and Sale Agreement is as required by the Riverpark Bank Enabling Instrument, and this transaction shall be reported by the Bank Sponsor to the regulatory agencies in accordance with the Riverpark Bank Enabling Instrument.

1.5. Effective Date. The effective date ("Effective Date") of this Agreement shall be the date that a duly executed copy of this Agreement is entered into by both Parties as indicated by the date entered above and equal to the date of the last signature provided on Page 5 of this Agreement.

2. RESERVATION. Upon execution of this Agreement and delivery of the Reservation Payment (defined below), Bank Sponsor hereby grants Project Proponent an exclusive right (the "Reservation") to purchase **1.1 re-establishment CDFW mitigation Credits, and 1.1 rehabilitation CDFW mitigation Credits** from the Bank when they become available as provided for in Section 2.2. Project Proponent must exercise his/her/its right to reserve the Credits and provide the Reservation Payment by **June 26, 2023**.

2.1. Reservation Term. The term ("Reservation Term") of the Reservation shall commence on the Effective Date and, unless sooner terminated as provided herein, shall end March 31, 2024.

2.2. Exercise. The Reservation shall be exercised by executing the Agreement for Sale of Credits, which is attached as Exhibit A. Such exercise and payment of the remaining Purchase Price balance must be made within 14 days of Bank Sponsor providing notice to Project Proponent that the IRT has released a sufficient number of Credits to satisfy the Reservation and all Credits reserved for other project proponents as of the Effective Date ("Credit Release Notice").

3. PURCHASE AND SALE. If Project Proponent exercises the Reservation, Bank Sponsor shall sell, and Project Proponent shall buy, the Credits on the terms and conditions as set forth below and in the Agreement for Sale of Credits (Exhibit A).

3.1. Purchase Price. The purchase price ("Purchase Price") shall be an amount equal to Nine Hundred Thirty-five Thousand dollars (**$935,000.00**), which is based upon Four Hundred Twenty-five Thousand dollars ($425,000.00) per Credit.

3.2. Project Proponent shall provide payment of Ninety-three Thousand Five Hundred dollars (**$93,500.00**), which is 10% of the total Purchase Price ("Reservation Payment"), in accordance with Section 2, above. The Reservation Payment is nonrefundable except as described in Section 3.3 below. The remaining Purchase Price balance, $841,500.00, must be made within 14 days of Bank Sponsor providing Credit Release Notice to Project Proponent. Upon Credit Release Notice, should Project Proponent fail to exercise his/her right to purchase the total number of Credits reserved (i.e., partial purchase), at the election of the Bank Sponsor this reservation may be declared terminated and the Reservation Payment shall remain nonrefundable.

3.3 Refund and Credit Release Requests. If Bank Sponsor receives the full amount of the Reservation Payment in accordance with the Provisions of Section 3.1 but does not provide Project Proponent the Credit Release Notice by the end of the Reservation Term, then Bank Sponsor would, at the election of the Project Proponent, either: (a) extend the Agreement, or (b) refund to the Project Proponent the Reservation Payment.

3.4. Termination. If Bank Sponsor has not received the Reservation Payment by June 26, 2023, Bank Sponsor shall automatically be released from its obligation to reserve the

Credits for Project Proponent, and Project Proponent shall have no further right to any of the Credits from Bank Sponsor.

In the event of a termination under this Section 3.4, the Parties shall have no further rights or obligations with respect to each other.

4. LIMITATION OF OBLIGATIONS, RIGHTS OF PROJECT PROPONENT.

4.1. Limitation of Obligations. Project Proponent shall have no obligation whatsoever by reason of the use of the Mitigation Bank, to support, pay for, monitor, report on, sustain, continue in perpetuity, or otherwise be obligated or liable for the success or continued expense or maintenance in perpetuity of that site.

4.2. Limitation of Rights. Nothing in this Agreement shall result in Project Proponent having any right, title, or interest in the Mitigation Bank greater than that specifically granted by this Agreement. Project Proponent's sole right shall be to purchase Credits from the Bank Sponsor that serve as the required mitigation for the Project.

4.3. Joint Use. Bank Sponsor shall reserve the Credits for the sole use of the Project Proponent. This reservation shall in no way restrain Bank Sponsor from selling mitigation values or credits at the Mitigation Bank to others, so long as the aggregate number of mitigation values or credits sold to all parties, including Project Proponent, does not exceed the aggregate number of mitigation values or credits that are either anticipated in future credit releases or authorized for sale.

4.4. Project Approvals. Project Proponent alone shall be responsible for obtaining the approval of the applicable agencies to mitigate the impacts of the Project with the Mitigation Bank. In that regard, neither Bank Sponsor nor the Bank make any representation, warranty, or guaranty that the applicable agencies will approve the Mitigation Bank as suitable mitigation for the Project. Notwithstanding the foregoing, Bank Sponsor shall reasonably cooperate with Project Proponent's efforts to obtain applicable agencies' approval for use of the Credits by providing information required by applicable agencies and executing documents required by the applicable agencies. Bank Sponsor shall not be obligated to bear any cost greater than a nominal expense or incur any additional liability in connection with such cooperation.

4.5. Limitations on Assignment; Transfer. Project Proponent acknowledges that Bank Sponsor is not willing to sell mitigation values or the Credits which could be resold in competition with the remaining mitigation values or Credits available for sale within the Mitigation Bank. This Reservation Agreement applies solely to the Project and cannot be transferred to another entity or another project.

5. MISCELLANEOUS PROVISIONS

5.1. Notices. Any notices, requests, demands, or other communications required or permitted to be given under this Agreement shall be in writing and shall be deemed to have been duly given on the date of service if served personally (FedEx and similar services shall be considered to be personal service) or by telephone facsimile or other electronic transmission (provided that the sender of a telephone facsimile or other electronic transmission has received a

return receipt signed by the Party so notified, or has other written evidence of receipt), and upon the second business day after mailing, if mailed to the Party to whom notice is to be given, by first-class mail, registered or certified, postage prepaid, return receipt requested, and properly addressed as follows:

Bank Sponsor:

Joseph Williams
EIP III Credit Co., LLC
5550 Newbury Street, Suite B
Baltimore, MD 21209
Telephone: (410) 982-0240
Email: joe@ecosystempartners.com

Project Proponent:

Oscar Graham, Co-Manager
Pacifica Investments
333 City Boulevard West, Suite 1700
Orange, CA 92868
Telephone: (714) 609-7257
Email: oscar@pacificainvest.com

Any Party may change its address for purposes of this section by giving the other Party written notice of the new address in the manner set forth above.

5.2. Modification. No waiver, alteration, modification, or termination of this Agreement shall be valid unless made in writing.

5.3. Payments. Any and all obligations of the Project Proponent under this Agreement, whether financial or otherwise, shall be payable solely from the revenues, income, rents, and receipts earned by the Project Proponent. Nothing herein shall be deemed to prevent the Project Proponent from making any payments from any other legally available source. The financial obligations of the Project Proponent payable after the current fiscal year are contingent upon funds for that purpose being appropriated, budgeted, and otherwise made available.

5.4. Jurisdiction. The Parties hereby consent to the exclusive jurisdiction of Riverside County, California in any action on a claim arising out of, under or in connection with this Agreement or the transactions contemplated by this Agreement. Each Party further agrees that personal jurisdiction over him or her may be effected by service of process by registered or certified mail addressed as provided in Section 5.1 of this Agreement, and that when so made shall be as if served upon him or her personally within the State of California.

5.5. Non-Binding Mediation. In the event that the Parties are unable to resolve any differences concerning the terms of this Agreement, the Parties agree to participate in nonbinding mediation concerning such differences prior to the commencement of litigation.

5.6. Governmental Immunity and Limitations. No term or condition of this Agreement shall be construed or interpreted as a waiver, expressed or implied, of any of the immunities, rights, benefits, protections, or other provisions of the California Constitution or the Federal Tort Claims Act, 28 U.S.C. §§ 1346(b) and 2671 *et seq*., as applicable now and hereafter amended.

5.7. Interpretation; Entire Agreement. The headings or captions to the sections of this Agreement are not a part of the Agreement and shall have no effect upon the construction or interpretation of any part thereof. This Agreement sets forth the entire understanding between the Parties as to the subject matter of the Agreement and merges all prior discussions, negotiations, letters of understanding, or other promises, whether oral or in writing.

5.8. Attorneys' Fees. In the event any of the Parties shall commence legal proceedings for the purpose of enforcing any provision or condition hereof, or by reason of any breach arising under the provisions hereof, then the prevailing Party in such proceeding shall be entitled to court costs and reasonable attorneys' fees. Without limiting the generality of the foregoing, the prevailing Party shall be entitled to recover its attorneys' fees and other legal expenses incurred in connection with a bankruptcy or other insolvency-related proceeding of the other Party (and including such fees and expenses incurred in efforts, whether successful or not, to obtain adequate protection, annulment, modification, or termination of the automatic stay).

IN WITNESS WHEREOF, the Parties have executed this Credit Reservation Agreement as of the Effective Date.

BANK SPONSOR	PROJECT PROPONENT
EIP III CREDIT CO., LLC, a Delaware limited liability company	PASSCO PACIFICA LLC, a Delaware LLC
By: _____	By: _____
Name: Aidan Riordan	Name: Oscar Graham
Its: COO	Its: Co-Manager
Date: _____	Date: _____

EXHIBIT A

DRAFT CREDIT PURCHASE AND SALE AGREEMENT TEMPLATE

Riverpark Mitigation Bank

DRAFT

AGREEMENT FOR SALE OF CREDITS

This Agreement is entered into this ____ day of _____, 2023, by and between EIP III CREDIT CO., LLC, a Delaware limited liability company (Bank Sponsor) and PASSCO PACIFICA LLC, a Delaware LLC (Project Proponent), jointly referred to as the "Parties," as follows:

RECITALS

A. The Bank Sponsor has developed the Riverpark Mitigation Bank (Bank) located in Riverside County, California; and

B. The Bank has been developed pursuant to a Bank Enabling Instrument (BEI) entered into by and between Bank Sponsor, the Los Angeles District of the U.S. Army Corps of Engineers (USACE) (File No. SPL-2015-00318), United States Fish and Wildlife Service (USFWS), the California Regional Water Quality Control Board, Region 8 (Regional Water Boards), and the California Department of Fish and Wildlife (CDFW) (Tracking No. 1798-2015-01-R6), on December 17, 2019, and

C. Project Proponent is seeking to implement the project described on Exhibit "A" attached hereto (Project), which would unavoidably and adversely impact Riverine Wetland, and seeks to compensate for the loss of Riverine Wetland by purchasing Credits from Bank Sponsor; and

D. Project Proponent has been authorized by CDFW: _____ and RWQCB: _____ to purchase from the Bank 1.1 re-establishment CDFW mitigation Credits, and 1.1 rehabilitation CDFW mitigation Credits; and USACE: _____ to purchase from the Bank ____ re-establishment USACE mitigation Credits and ____ rehabilitation USACE mitigation Credits (which is a subset of the 1.1 re-establishment CDFW mitigation Credits and 1.1 rehabilitation CDFW mitigation Credits and not in addition to the 1.1 re-establishment CDFW mitigation Credits and 1.1 rehabilitation CDFW mitigation Credits), upon confirmation by the Bank Sponsor of Credit availability/adequate balance of Credits remaining for Transfer; and

E. Project Proponent desires to purchase from Bank Sponsor and Bank Sponsor desires to sell to Project Proponent 1.1 re-establishment CDFW mitigation Credits and 1.1 rehabilitation CDFW mitigation Credits;

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. Bank Sponsor hereby sells to Project Proponent and Project Proponent hereby purchases from Bank Sponsor 1.1 re-establishment CDFW mitigation Credits and 1.1 rehabilitation CDFW mitigation Credits. The Bank Sponsor will upon receipt of the Purchase Price deliver to Project Proponent an executed Bill of Sale in the manner and form as attached hereto and marked Exhibit "B". The Purchase Price for said Credits shall be paid by ACH payment or wire transfer of funds according to written instructions provided by Bank Sponsor to Project Proponent.

2. The sale and transfer herein are not intended as a sale or transfer to Project Proponent of a security, license, lease, easement, or possessory or non-possessory interest in real property, nor the granting of any interest of the foregoing.

3. Project Proponent shall have no obligation whatsoever by reason of the purchase of the Credits, to support, pay for, monitor, report on, sustain, continue in perpetuity, or otherwise be obligated or liable for the success or continued expense or maintenance in perpetuity of the Credits sold, or the Bank. Pursuant to the BEI and any amendments thereto, Bank Sponsor shall monitor and make reports to the appropriate agency or agencies on the status of any Credits sold to Project Proponent. Bank Sponsor shall be fully and completely responsible for satisfying any and all conditions placed on the Bank or the Credits by all state or federal jurisdictional agencies.

4. The Credits sold and transferred to Project Proponent shall be non-refundable, non-transferable and non-assignable to any project other than the one listed herein and shall not be used as compensatory mitigation for any other project or purpose, except as set forth herein.

5. Project Proponent must exercise his/her/its right to purchase the Credits within 14 days of the date this Agreement is provided to the Project Proponent. Without Bank Sponsor approval, after the 14-day period this Agreement will be considered null and void.

6. Upon purchase of the Credits specified in Recital D above, the Bank Sponsor shall submit to the parties listed in the Notices section of the BEI, copies of the: a) Agreement for Sale of Credits; b) Bill of Sale; c) Payment Receipt; and d) an updated ledger. The updated ledger must detail: i) Project Proponent; ii) Project Name; iii) Status (sale complete/sale not complete); iv) Credit Sale Date; v) Permitting Agency File/Tracking Number; vi); vii) Total Number of Credits Authorized to Sell; viii) Total Number of Credits Sold to Date (inclusive); and ix) Balance of all Credits Available. The ledger should include all sales data from bank establishment to the present.

IN WITNESS WHEREOF, the Parties have executed this Agreement the day and year first above written.

BANK SPONSOR

EIP III CREDIT CO., LLC, a Delaware limited liability company

By: _____
Name: Aidan Riordan
Its: COO

PROJECT PROPONENT

PASSCO PACIFICA LLC, a Delaware LLC

By: _____
Name: Oscar Graham
Its: Co-Manager

Exhibit "A"
DESCRIPTION OF PROJECT TO BE MITIGATED

Name of Project:
Cottonwood Collection

Project Location:
The approximately 20-acre project site including adjacent 2.62-acre offsite impact area within which the impacts will occur is comprised of Assessor Parcel Number (APN) 478-250-001, offsite portions of 478-353-003 and 478-362-003 (RCFCD channel) and Right-of-Ways (Project Site). Specifically, the Project site is located on the north side of Bay Avenue (extended), the south side of Cottonwood Avenue, east of an earthen drainage and Quincy Street, and west of the terminus of Belmont Park Way, in the City of Moreno Valley, Riverside County, California, USGS Section 11, Township 3 South, Range 3 West of the Sunnymead, California (7.5-minute)

Permitting Agencies File/Tracking Number:
CDFW: FWS/CDFW-WRIV-2023-0074367
RWQCB: _____
USACE: _____

Project Description:
The applicant for the proposed Project is requesting approval from the City of Moreno Valley for Tentative Tract Map (TTM) 38264, Conditional Use Permit for a Planned Unit Development, Variance for an increase in perimeter wall heights, and the adoption of this Mitigated Negative Declaration, as well as ministerial approvals and permits necessary to execute the proposed Project including but not limited to grading and building permits. The TTM will subdivide 18.36 net acres into 55 residential lots, eight lettered lots, and private streets A through J. The Project proposes development of 55 (13 single-story and 42 two-story) single-family residential units with private internal streets and common open-space areas.

Species/Habitat Affected:
Impacts to 1.06-acre of Riverine Habitat and 0.04-acre of Riparian Habitat (1.10-acre total).

Credits to be Purchased:
1.1 re-establishment
1.1 rehabilitation

Method of payment:
Wire Transmittal _X_ ACH Payment ___

"Exhibit B"
BILL OF SALE
Riverpark Mitigation Bank

Contract # 23__-RP

Permitting Agency File/Tracking No(s). CDFW: _____, RWQCB: _____, and USACE: _____.

In consideration of $935,000.00, receipt of which is hereby acknowledged, EIP III Credit Co., LLC (Bank Sponsor), does hereby bargain, sell and transfer to PASSCO PACIFICA LLC (Project Proponent), for the Cottonwood Collection project, 1.1 re-establishment CDFW mitigation Credits and 1.1 rehabilitation CDFW mitigation Credits, and ____ re-establishment USACE mitigation Credit (which is a subset of the 1.1 re-establishment CDFW mitigation Credit and 1.1 rehabilitation CDFW mitigation Credit and not in addition to the 1.1 re-establishment CDFW mitigation Credit and 1.1 rehabilitation CDFW mitigation Credit)in the Riverpark Mitigation Bank in Riverside County, California, developed, and approved under the authority of the Los Angeles District of the U.S. Army Corps of Engineers (USACE), United States Fish and Wildlife Service (USFWS), the California Regional Water Quality Control Board, Region 8 (Regional Water Boards), and the California Department of Fish and Wildlife (CDFW), as mitigation for the Project described in Attachment 1.

Bank Sponsor represents and warrants that it has good title to the Credits, has good right to sell the same, and that they are free and clear of all claims, liens, or encumbrances.

Bank Sponsor covenants and agrees with the Project Proponent to warrant and defend the sale of the Credits hereinbefore described against all and every person and persons whomsoever lawfully claiming or to claim the same.

DATED: _____

EIP III CREDIT CO., LLC, a Delaware limited liability company

By: _____
Name: Aidan Riordan
Its: COO

Attachment 1
Riverpark Mitigation Bank
WETLAND CREDITS: PAYMENT RECEIPT

PROJECT PROPONENT INFORMATION

Name:
Passco Pacifica LLC

Address:
Pacifica Investments
333 City Boulevard West, Suite 1700
Orange, CA 92868
Telephone: (714) 609-7257

Contact:
Oscar Graham, Co-Manager
Email: oscar@pacificainvest.com

PROJECT INFORMATION

Project Description:
The applicant for the proposed Project is requesting approval from the City of Moreno Valley for Tentative Tract Map (TTM) 38264, Conditional Use Permit for a Planned Unit Development, Variance for an increase in perimeter wall heights, and the adoption of this Mitigated Negative Declaration, as well as ministerial approvals and permits necessary to execute the proposed Project including but not limited to grading and building permits. The TTM will subdivide 18.36 net acres into 55 residential lots, eight lettered lots, and private streets A through J. The Project proposes development of 55 (13 single-story and 42 two-story) single-family residential units with private internal streets and common open-space areas.

Project Location:
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Agency File/Tracking Number(s):
CDFW: **********
RWQCB: **********
USACE: SPL-**********

Species/Habitat Affected:
Impacts to 1.06-acre of Riverine Habitat and 0.04-acre of Riparian Habitat (1.10-acre total).

Credits to be Purchased:
1.1 re-establishment
1.1 rehabilitation

Contact: Ruben S. Ramirez, Jr. 949-300-0212, r.ramirez@cadreenvironmental.com