

The Cubes at Placentia

October 2023

General Biological Resources Assessment

Perris United States Geological Survey
7.5-Minute Topographic Quadrangle Map

Prepared By



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1.0 INTRODUCTION AND EXECUTIVE SUMMARY

NOREAS Inc. (NOREAS) is pleased to provide this *General Biological Resources Assessment* for The Cubes at Placentia (hereafter referred to as the “Project”). The Project is located north of Placentia Avenue, west of the Perris Valley Storm Drain, and east of Wilson Avenue - in Riverside County, California. (Assessor's Parcel Numbers [APN's] 300-170-003, 300-170-004, 300-170-005, 300-170-006 and 300-170-010, Figures 1 and 2). This document details the methods and results of baseline biological resources surveys and habitat assessments for the Project. The intended use of this document is to disclose and evaluate the Project's biological conditions, and determine the potential for occurrence of common and special-status species¹ - and their habitats. For the purposes of this document, the “study area” includes the Project's proposed ground disturbance footprint (hereafter referred to as the Project Site), and a buffer (Figure 2).

During pedestrian surveys in 2022 and 2023, it was determined that the majority of the Project Site was comprised of developed, disturbed and/or non-native land cover types. Land use in the vicinity of the Project includes commercial, agriculture, residential and industrial endeavors. Agricultural and other commercial development activities were historically operated within the Project Site. There is also evidence of recent disking, and trash from illegal dumping throughout the Project's ground disturbance footprint. The Project is not collocated with any United States Fish and Wildlife Service (USFWS) designated critical habitat, nor were any special status species detected during the 2022 or 2023 field surveys. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either.

The Project Site includes Waters of the State (WoS), but avoids Waters of the United States (WoUS) at its eastern terminus. Notably, any location within the Perris Valley Storm Drain bearing signs of an ordinary high-water mark, have been specifically circumvented by the design of the Project's disturbance footprint. But the Project Site does extend into the upper earthen western exterior boundaries of the aforesaid man-made storm drainage facility. This area is void of vegetation and is regularly maintained to allow access to the structure. This location is nonetheless coincident with a discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream. Therefore, the Project Site includes 0.002-acres of WoS - non-riparian ephemeral streambed, which constitute a total of 13 linear feet. For the analysis within this report, all features that qualify as California Department of Fish and Wildlife (CDFW) Section 1600 (et seq.) jurisdictional as WoS, are considered Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) riparian/riverine resources.

The Project Site's developed and disturbed land cover has substantially decreased its value as suitable breeding, nesting, and foraging habitat for native species. Furthermore, the Project Site has limited – if any, value as a low-quality migration corridor or overland dispersal habitat for wildlife, because it is severely movement constrained by the surrounding residential, industrial, and commercial developments, and public infrastructure. Even so, the substantive habitat requirements needed to support Burrowing Owl were observed within the Project's ground disturbance footprint. Burrowing Owl is of limited distribution - or occurs infrequently, throughout California, and their status is therefore

¹ For the purposes of this analysis, “special-status species” refers to any species that has been afforded special protection by federal, state, or local resource agencies (e.g., U.S. Fish and Wildlife Service [USFWS], California Department of Fish and Wildlife [CDFW]) or resource conservation organizations (e.g., California Native Plant Society [CNPS], Western Riverside County Regional Conservation Authority [RCA], etc.). The term “special-status species” excludes those avian species solely identified under Section 10 of the Migratory Bird Treaty Act (MBTA) for federal protection. Nonetheless, MBTA Section 10 protected species are afforded avoidance and minimization protections per state and federal requirements.

monitored by resource agencies². The Burrowing Owl is not a Federal or State listed species. Therefore, measures are recommended for implementation during the Project as a means of avoiding and minimizing adverse effects to Burrowing Owl and other biological resources, that have a reasonable presumption of occurrence within the Project Site, and on adjacent lands.

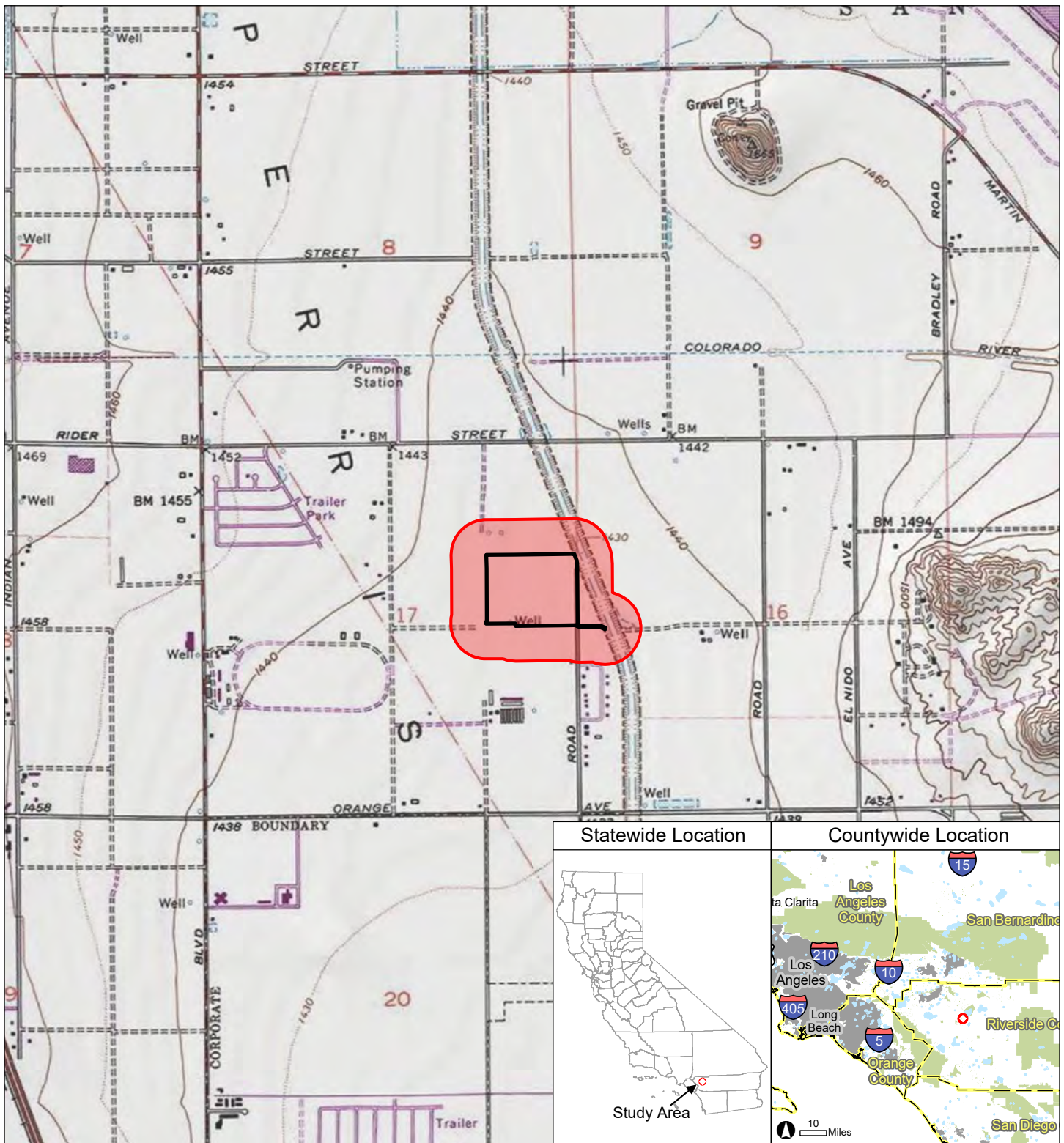
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² This species could be important locally with deference to preparation of environmental documents relating to the California Environmental Quality Act (CEQA) - based on CEQA Guidelines §15125 (c), and/or §15380.

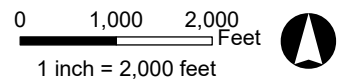
2.0 PROJECT AND PROPERTY DESCRIPTION

For the purposes of this document, the “study area” includes the Project’s proposed ground disturbance footprint (Project Site) and a buffer (Figure 2). The Project can be found on the Perris United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS 1981). The Project involves the construction of an industrial building and associated landscaping, parking, and drive aisles. Additionally, the Project is located within the Stephens’ Kangaroo Rat (*Dipodomus stephensi*) Habitat Conservation Plan (SKR HCP), and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) - within the Mead Valley Area Plan, and the San Jacinto Habitat Management Unit (Figures 3 and 4).

The Project Site is not within the boundaries of any MSHCP established Subunit, Cell Group, Criteria Cell, Linkages/Cores, Conserved Lands, or Regional Conservation Authority (RCA) Easements. According to the RCA MSHCP Information Map, Project limits lie partially or completely within predetermined survey areas for the Burrowing Owl (*Athene cunicularia*), Narrow Endemic and Criteria Area Sensitive Plant Species. That said, the Project is not within an MSHCP survey area for amphibians, invertebrates or mammals. Based on the results of a habitat assessment conducted in March and April of 2022, and August of 2023, potential habitat is not present within the Project Site for the Narrow Endemic or Criteria Area Sensitive Plant Species. But the Project Site contains suitable habitat for Burrowing Owl and is within the Stephens’ Kangaroo Rat (*Dipodomus stephensi*) Habitat Conservation Plan (SKR HCP), and the SKR HCP Mitigation Fee Assessment Area. No focused survey is required under the MSHCP or SKR HCP, for SKR. Any potential impacts to SKR are mitigated through payment of the SKR fee. Even so, since the Project Site is within a mapped survey area for Burrowing Owl - in accordance with MSHCP Figure 6-4, owl surveys are required.



- Study Area
- Project Site
- County Boundary (inset)
- Urban Area (inset)
- Interstate or State Highway (inset)
- Water Body (inset)
- Park or National Forest (inset)



Data Sources:
 - Bureau of Land Management Cadastral GIS 2015
 - USGS 7.5-minute quadrangle map
 - ESRI US Topo Maps accessed Aug 2023
 Map Prepared: 8-17-23

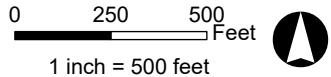
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The Study Area is located in San Bernardino County on the Perris USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 4 South, Range 3 West, in Section 17: Center coordinate (WGS 1984): Latitude 33.824, Longitude -117.211

Figure 1. Regional Location



- Project Site (29.85 ac)
- Study Area (108.59 ac)

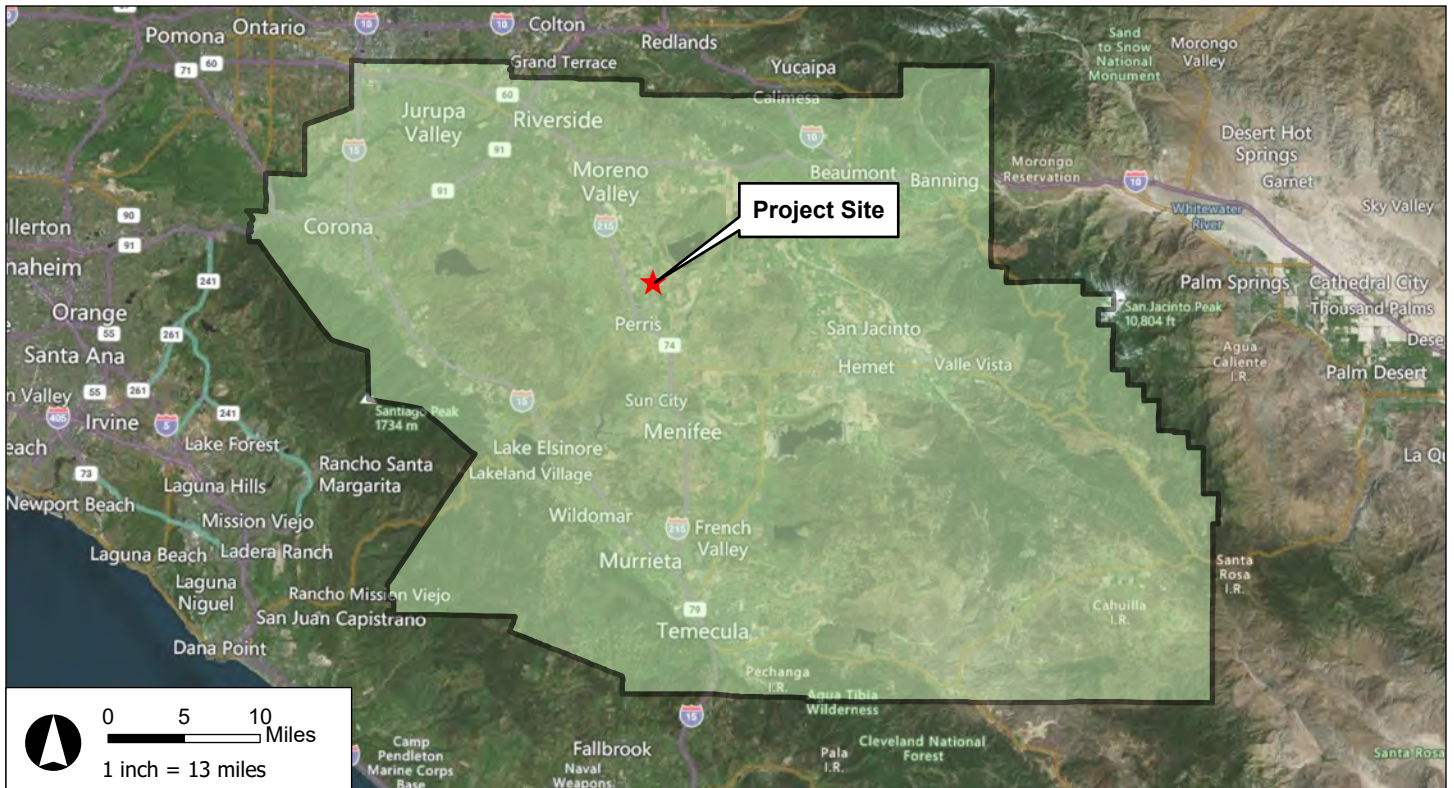


Data Sources:
 - ESRI World Imagery accessed Aug 2023,
 imagery date: 2/26/2022

Map Prepared: 8-17-23

Prepared by:
NOREAS
 Environmental Engineering and Science

Figure 2. Site Vicinity



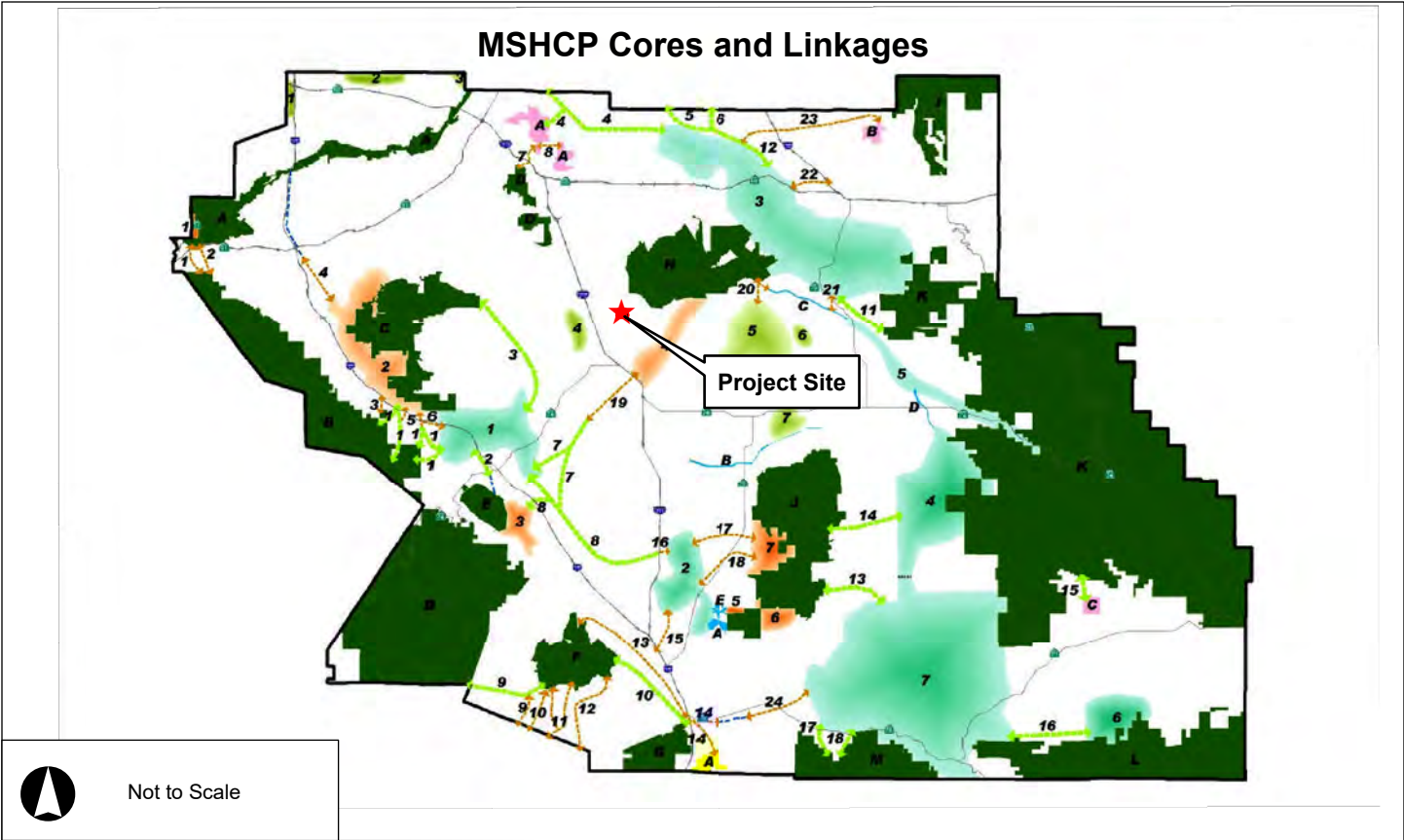
- Project Site
- MSHCP Plan Area
- Study Area
- MSHCP Criteria Cells

Data Sources:
 - Bing Maps Hybrid accessed Aug 2023
 - Western Riverside MSHCP accessed Aug 2023, data date: 2020

Map Prepared: 8-17-23

Prepared by:
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Figure 3. MSHCP Criteria Cells



<ul style="list-style-type: none"> Project Site Study Area <p>MSHCP Conserved Lands</p> <ul style="list-style-type: none"> Public/Quasi-Public Conserved Lands Multiple Species Habitat Conserved Lands 	<p>Proposed Cores & Habitat Blocks</p> <ul style="list-style-type: none"> Core Proposed Extension of Existing Cores Noncontiguous Habitat Block <p>Proposed Linkages</p> <ul style="list-style-type: none"> Constrained Linkage Linkage 	<p>Existing Cores & Linkages</p> <ul style="list-style-type: none"> Constrained Linkage Core Linkage Noncontiguous Habitat Block Existing Channel 	<p>Data Sources:</p> <ul style="list-style-type: none"> - Bing Maps Hybrid accessed Aug 2023 - Western Riverside MSHCP accessed Aug 2023, data date: 2002, 2018 <p style="text-align: center;">Map Prepared: 8-17-23</p> <hr/> <p style="text-align: center;">Prepared by:</p> <p style="text-align: center;">NOREAS <small>Environmental Engineering and Science</small></p>
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Figure 4. Cores, Linkages, and Conserved Lands

3.0 FOCUSED STUDY/SPECIES OF CONCERN

Prior to beginning field surveys, resource specialists were consulted and available information from resource management plans, databases and relevant documents were reviewed to determine the locations and types of biological resources³ that have the potential to exist within - and adjacent to the study area. Biological resources were evaluated within several miles of the Project.

The materials reviewed included - but were not limited to, the following:

- ✓ US Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- ✓ USFWS Riverside County Field Office Species List (USFWS 2023b);
- ✓ USFWS National Wetlands Inventory database (USFWS 2023c);
- ✓ Regional South Coast Missing Linkages Project Report (South Coast Wildlands 2008);
- ✓ California Natural Diversity Database maintained by the California Department of Fish and Wildlife (CDFW) (CDFW 2023);
- ✓ Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2023a);
- ✓ California Native Plant Society (CNPS) Electronic Inventory (CNPS 2023);
- ✓ MSHCP Transportation and Land Management Agency Geographic Information Services Database (GISD 2023);
- ✓ Regional Conservation Authority GIS Data Mapping Tool (RCA 2023, <https://www.wrc-rca.org/rcamaps/>);
- ✓ Western Riverside County Multiple Species Habitat Conservation Plan (Dudek 2003); and
- ✓ Aerial Photographs (Microsoft Corporation 2023).

³ For the purposes of this analysis, “biological resources” refers to the plants, wildlife, and habitats that occur, or have the potential to occur, within the study area.

4.0 METHODS

To support the analysis detailed within Section 3.0 above, pedestrian-based field surveys were performed to assess land cover, general and dominant vegetation communities, habitat types, and species present within communities in 2022, and again in 2023. Community descriptions were based on observed dominant vegetation composition, and derived from the criteria and definitions of widely accepted vegetation classification systems (Holland 1986 and Sawyer et al. 2009).

Plants were identified to the lowest taxonomic level sufficient to determine whether the species observed were non-native, native, or special-status. Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded according to The Jepson Manual (Baldwin et al. 2012). The presence of a wildlife species was based on direct observation and/or detection of wildlife sign (e.g., tracks, burrows, nests, scat, skeletal remains or vocalization). Field data compiled for wildlife species included scientific name, and common name. Wildlife of uncertain identity were documented and subsequently identified from specialized field guides and related literature (Burt and Grossenheider 1980; Halfpenny 2000; Sibley 2000; Elbroch 2003 and Stebbins 2003).

Additionally, the Project Site was assessed for its potential to support special-status species based on habitat⁴ suitability comparisons with reported occupied habitats (Appendix A). The following potential for occurrence definitions were utilized within Appendix A:

- **Absent [A]** – Species distribution is restricted by substantive habitat requirements which do not occur – or are negligible within the Project Site, and no further survey or study is necessary to determine likely presence or absence of this species.
- **Habitat Present [HP]** – Species distribution is restricted by substantive habitat requirements which occur within the Project Site, and further study may be necessary to determine likely presence or absence of species.
- **Present [P]** – Species or species sign were observed within the Project Site, or historically has been documented within Project limits.
- **Critical Habitat [CH]** – The Project Site is located within a USFWS-designated critical habitat unit.

4.1 Focused Surveys

As a result of literature reviews and general biological surveys, additional targeted census activities were performed for Burrowing Owl. Survey methods for Burrowing Owl were derived from generally accepted professional standards including – but not limited to, the 1993 California Burrowing Owl Consortium Survey Protocol and Mitigation Guidelines (CBOC 1993), the 1995, 2012 California Department of Fish and Game Staff Reports on Burrowing Owl Mitigation (CDFG 1995 and 2012) and the 2006 *Western Riverside County MSHCP Burrowing Owl Survey Instructions*. Detailed Burrowing Owl survey methods, results, and assumptions are presented within Appendix E.

4.2 Evaluation of Wetlands and Waterways

Based on the aforementioned review of commercially available literature and habitat assessments, the presence and/or absence of surface water conveyance features, riparian plant communities, riverine land cover types and wetlands - including vernal pools, were evaluated. The study area was evaluated via field surveys in March and April of 2022, and August of 2023 for the presence of riverine/riparian and vernal pool areas, and jurisdictional waters (i.e.,

⁴ A “habitat” is defined as the place or type of locale where a plant or animal naturally or normally lives and grows.

waters as regulated by the United States Army Corps of Engineers [USACE] and Regional Water Quality Control Board [RWQCB], streambeds and associated riparian habitat as regulated by the CDFW, and those resources defined under Section 6.1.2 of the MSHCP for Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools). This evaluation was completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, and physical on the ground analyses/measurements by subject matter experts. Historic and current aerial photography of the study area were reviewed, prior to and during the field assessments. Detailed delineation methods, results, and assumptions are presented within Appendix F.

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5.0 GENERAL BIOLOGICAL SURVEY RESULTS

Weather conditions during the February, March and April 2022 and August of 2023 surveys included clear to cloudy skies, temperatures ranging from 44–77 °F, and winds fluctuating from 0 to 10 miles per hour (mph). Representative photos of the study area are provided in Appendix B.

5.1 Vegetation Communities and Land Cover Types

Three land cover types were observed within the study area: Disturbed/Developed, Ruderal and Non-native Grassland (Figure 5). These types are described below. Nonetheless, please note that in 2012, the MSHCP mapped the vegetation within the Project Site as entirely Copland and Urban (GISD 2023; Figure 6).

Developed/Disturbed

Disturbed/Developed lands within the study area include locales that have been developed, paved, cleared, graded, or otherwise altered by anthropogenic activities (i.e., industrial warehouses, access roads, ornamental landscaping, residential houses, industrial facilities, commercial enterprises, etc.). Common non-native plants species detected within this type included ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigaa*) and Schismus (*Schismus barbatus*).

Ruderal

The ruderal community includes locales that have been subject to recent grading, clearing, or other physical human modification of soils and/or vegetation. These lands also include areas with exposed soils with minimal vegetation, and moderate cover by various non-native annual grasses, and weeds (adapted for growth on substrates subject to disturbance). Common non-native plants species detected within this type included Maltese star-thistle (*Centaurea melitensis*), stinknet (*Oncosiphon piluliferum*), bur clover (*Medicago polymorpha*), and slender oat (*Avena barbata*).

River Wash

The River Wash type within the study area is limited to the Perris Valley Storm Drain. This manmade constructed earthen drainage structure is a maintained flood control facility - dominated by low growing Bermuda grass (*Cynodon dactylon*). Other vegetation observed includes Baltic rush (*Juncus balticus*), narrow leaf plantain (*Plantago lanceolata*), red-stem filaree (*Erodium cicutarium*), and red brome (*Bromus madritensis*).

5.2 Wildlife

Wildlife species observed within the study area consisted of commonly-occurring species - including, but not limited to, rock pigeon (*Columba livia*), Red-tailed hawk (*Buteo jamaicensis*) common raven (*Corvus corax*), and Side-blotched Lizard (*Uta stansburiana*). Wildlife detected during the surveys are identified in Appendix D.

5.3 Special-Status Plants

No Federal or State listed plant species were observed within the study area during the field surveys. However, several have been documented within 10 miles of the Project (Figure 7). The study area includes no USFWS-designated critical habitat for plants (Figure 8), and the Project Site does not include the substantive habitat requirements necessary to support special-status flora. To that end, the results of a habitat assessment conducted in March and April of 2022 and August of 2023, imply that there is no habitat present within the Project Site for MSHCP Narrow Endemic, and Criteria Area Sensitive Plant

Species⁵ either. Be that as it may, special-status species known to occur within 10 miles of the Project, and their potential for occurrence within the Project Site, are detailed within Appendix A. Plant species observed during the field surveys are listed in Appendix C.

5.4 Special-Status Wildlife

No special status wildlife species were observed within the study area during the field survey events. The study area includes no USFWS-designated critical habitat for wildlife (Figure 8). Nonetheless, the Project Site is within a mapped MSHCP Survey Area for Burrowing Owl (MSHCP Figure 6-4). Therefore, focused surveys for Burrowing Owl were warranted. Detailed Burrowing Owl methods, results, and assumptions are presented within Appendix E. Additionally, special-status species known to occur within 10 miles of the Project, and their potential for occurrence within the Project Site, are detailed within Appendix A, and Figure 7. Wildlife species detected during the surveys are listed in Appendix D.

The substantive habitat requirements needed to support the Burrowing Owl were observed within portions of the Project Site. But no Burrowing Owls, or their characteristic sign were detected. The Burrowing Owl is not a Federal or State listed species. But they are of limited distribution, and occur infrequently throughout portions of their range in California.

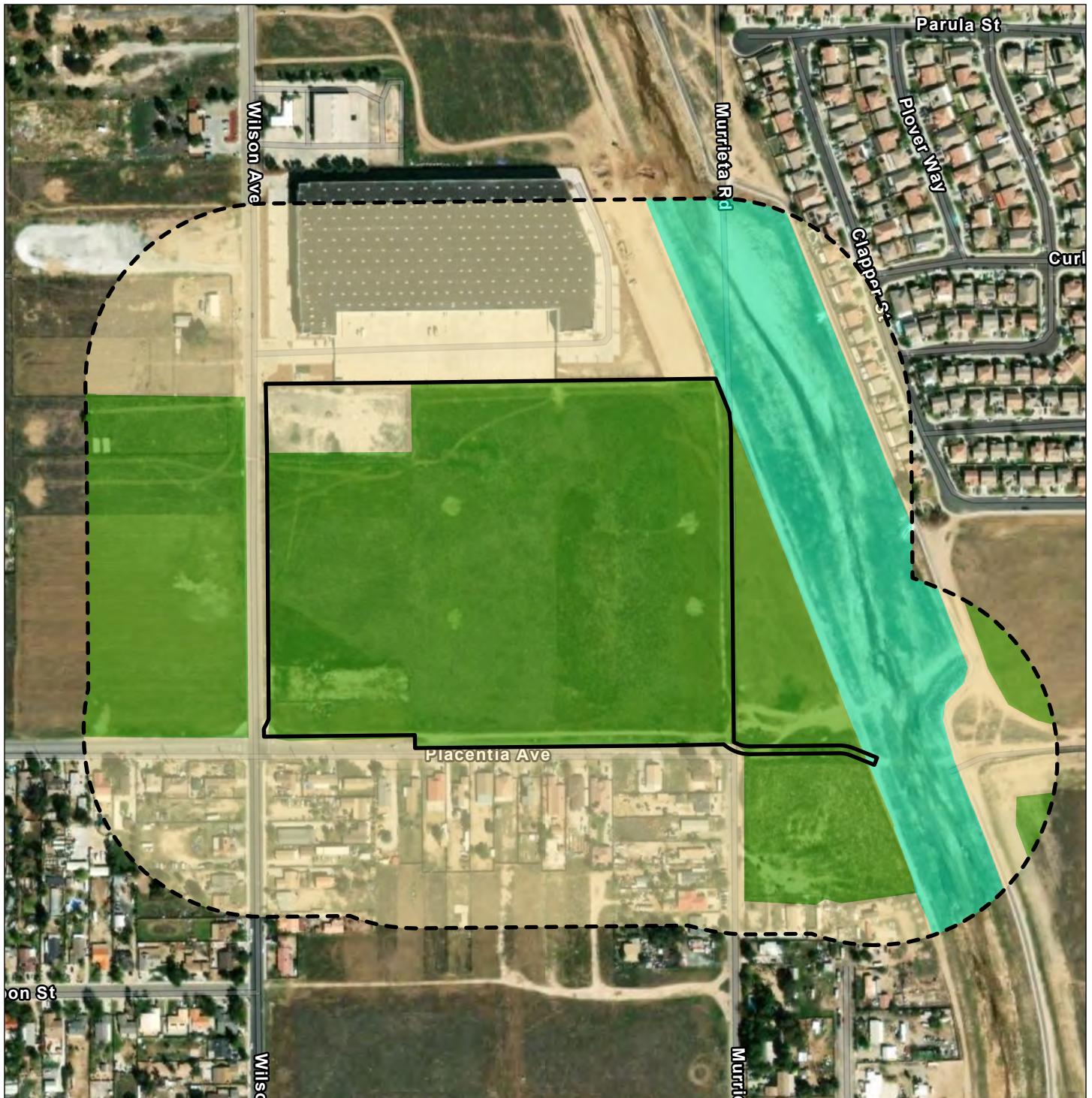
Notably, the Project Site does not include Delhi Fine Sands either – which would be needed to support the Delhi Sands Flower-loving Fly (*Rhaphiomidas terminatus abdominalis* [DSF]) (Figure 9). To that end, Project Site conditions are inconsistent with those known to support DSF populations in the region.


5.5 Wetlands and Waterways

The evidence provided herein implies that the Project Site includes WoS, but avoids WoUS (Appendix F). Notably, any location within the Perris Valley Storm Drain bearing signs of an ordinary high-water mark, have been specifically circumvented by the design of the Project's disturbance footprint. While flows from the Perris Valley Storm Drain do eventually merge with Canyon Lake, all impacts to WoUS are being deliberately avoided. But the Project Site does extend into the upper earthen western exterior boundaries of the aforesaid man-made storm drainage facility. This area is void of vegetation and is regularly maintained to allow access to the structure. Even so, this location is coincident with a discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream.

Therefore, the Project Site includes 0.002-acres of WoS - non-riparian ephemeral streambed, which constitute a total of 13 linear feet (Appendix F). For the analysis within this report, all features that qualify as CDFW Section 1600 (et seq.) jurisdictional as WoS, are considered MSHCP riparian/riverine resources. Detailed delineation methods, results, and assumptions are presented within Appendix F.


⁵ According to MSHCP guidelines, focused surveys are not required for MSHCP Narrow Endemic and Criteria Area Sensitive Plant Species when suitable habitat is not present within a proposed Project's ground disturbance footprint - even if the project is located within a predetermined MSHCP Narrow Endemic and Criteria Area Sensitive Plant Species Survey Area (MSHCP 2004).




 Project Site (29.85 ac)

 Study Area (108.59 ac)

Vegetation Communities

 Developed/Disturbed (46.96 ac)

 River Wash (15.30 ac)

 Ruderal (46.36 ac)

0 200 400 Feet

1 inch = 400 feet



Data Sources:
- ESRI World Imagery accessed Aug 2023,
imagery date: 2/26/2022





Map Prepared: 8-17-23

Prepared by:



Figure 5. Vegetation Communities and Land Cover Types



- | | |
|--|--|
|  Project Site | RCA MSHCP Vegetation 2012 |
|  Study Area |  Cropland, Orchard - Vineyard |
| |  Urban |

0 200 400 Feet
 1 inch = 400 feet

Data Sources:
 - ESRI World Imagery accessed Aug 2023, imagery date: 2/26/2022
 - Western Riverside Co Regional Conservation Authority accessed Aug 2023
 Map Prepared: 8-17-23

Prepared by:

 Environmental Engineering and Science

Figure 6. RCA MSHCP Vegetation 2012

Special-Status Species Occurrences

Map Code	Common Name (Scientific Name)
Plants	
P1	California Orcutt grass <i>Orcuttia californica</i>
P2	California screw moss <i>Tortula californica</i>
P3	chaparral sand-verbena <i>Abronia villosa</i> var. <i>aurita</i>
P4	Coulter's goldfields <i>Lasthenia glabrata</i> ssp. <i>coulteri</i>
P5	Davidson's saltscale <i>Atriplex serenana</i> var. <i>dauidsonii</i>
P6	little mousetail <i>Myosurus minimus</i> ssp. <i>apus</i>
P7	long-spined spineflower <i>Chorizanthe polygonoides</i> var. <i>longispina</i>
P8	mud nama <i>Nama stenocarpa</i>
P9	Munz's onion <i>Allium munzii</i>
P10	Palmer's grapplinghook <i>Harpagonella palmeri</i>
P11	Parish's brittlescale <i>Atriplex parishii</i>
P12	Parry's spineflower <i>Chorizanthe parryi</i> var. <i>parryi</i>
P13	Payson's jewelflower <i>Caulanthus simulans</i>
P14	Plummer's mariposa-lily <i>Calochortus plummerae</i>
P15	Robinson's pepper-grass <i>Lepidium virginicum</i> var. <i>robinsonii</i>
P16	San Diego ambrosia <i>Ambrosia pumila</i>
P17	San Jacinto Valley crownscale <i>Atriplex coronata</i> var. <i>notator</i>
P18	smooth tarplant <i>Centromadia pungens</i> ssp. <i>laevis</i>
P19	Southern Coast Live Oak Riparian Forest <i>Southern Coast Live Oak Riparian Forest</i>
P20	Southern Cottonwood Willow Riparian Forest <i>Southern Cottonwood Willow Riparian Forest</i>
P21	Southern Riparian Scrub <i>Southern Riparian Scrub</i>
P22	Southern Sycamore Alder Riparian Woodland <i>Southern Sycamore Alder Riparian Woodland</i>
P23	spreading navarretia <i>Navarretia fossalis</i>
P24	thread-leaved brodiaea <i>Brodiaea filifolia</i>
P25	woven-spored lichen <i>Texosporium sancti-jacobi</i>
P26	Wright's trichocoronis <i>Trichocoronis wrightii</i> var. <i>wrightii</i>
Invertebrates	
I1	Crotch bumble bee <i>Bombus crotchii</i>
I2	Ioconogle's socialchemmis spider <i>Socialchemmis ioconoglei</i>
I3	quino checkerspot butterfly <i>Euphydryas editha quino</i>
I4	Riverside fairy shrimp <i>Streptocephalus woottoni</i>
I5	white cuckoo bee <i>Neolarra alba</i>
Mammals	
M1	American badger <i>Taxidea taxus</i>
M10	Stephens' kangaroo rat <i>Dipodomys stephensi</i>
M11	western mastiff bat <i>Eumops perotis californicus</i>
M12	western yellow bat <i>Lasiurus xanthinus</i>
M2	Dulzura pocket mouse <i>Chaetodipus californicus femoralis</i>
M3	Los Angeles pocket mouse <i>Perognathus longimembris brevinasus</i>
M4	northwestern San Diego pocket mouse <i>Chaetodipus fallax fallax</i>
M5	pocketed free-tailed bat <i>Nyctinomops femorosaccus</i>
M6	San Bernardino kangaroo rat <i>Dipodomys merriami parvus</i>
M7	San Diego black-tailed jackrabbit <i>Lepus californicus bennettii</i>
M8	San Diego desert woodrat <i>Neotoma lepida intermedia</i>
M9	southern grasshopper mouse <i>Onychomys torridus ramona</i>
Birds	
B1	bald eagle <i>Haliaeetus leucocephalus</i>
B2	Bell's sage sparrow <i>Artemisospiza belli belli</i>
B3	burrowing owl <i>Athene cucularia</i>
B4	California horned lark <i>Eremophila alpestris actia</i>
B5	coastal California gnatcatcher <i>Poliotilia californica californica</i>
B6	Cooper's hawk <i>Accipiter cooperii</i>
B7	ferruginous hawk <i>Buteo regalis</i>
B8	golden eagle <i>Aquila chrysaetos</i>
B9	Lawrence's goldfinch <i>Spinus lawrencei</i>
B10	least Bell's vireo <i>Vireo bellii pusillus</i>
B11	loggerhead shrike <i>Lanius ludovicianus</i>
B12	long-eared owl <i>Asio otus</i>
B13	southern California rufous-crowned sparrow <i>Aimophila ruficeps canescens</i>
B14	tricolored blackbird <i>Agelaius tricolor</i>
B15	western yellow-billed cuckoo <i>Coccyzus americanus occidentalis</i>
B16	white-faced ibis <i>Plegadis chihi</i>
B17	white-tailed kite <i>Elanus leucurus</i>
B18	yellow-breasted chat <i>Icteria virens</i>
B19	yellow warbler <i>Setophaga petechia</i>
Reptiles	
R1	California glossy snake <i>Arizona elegans occidentalis</i>
R2	coast horned lizard <i>Phrynosoma blainvillii</i>
R3	coastal whiptail <i>Aspidoscelis tigris stejnegeri</i>
R4	orange-throated whiptail <i>Aspidoscelis hyparythra</i>
R5	red-diamond rattlesnake <i>Crotalus ruber</i>
R6	San Bernardino ringneck snake <i>Diadophis punctatus modestus</i>
R7	Southern California legless lizard <i>Anniella stebbinsi</i>
R8	western pond turtle <i>Emys marmorata</i>
Amphibians	
A1	western spadefoot <i>Spea hammondi</i>

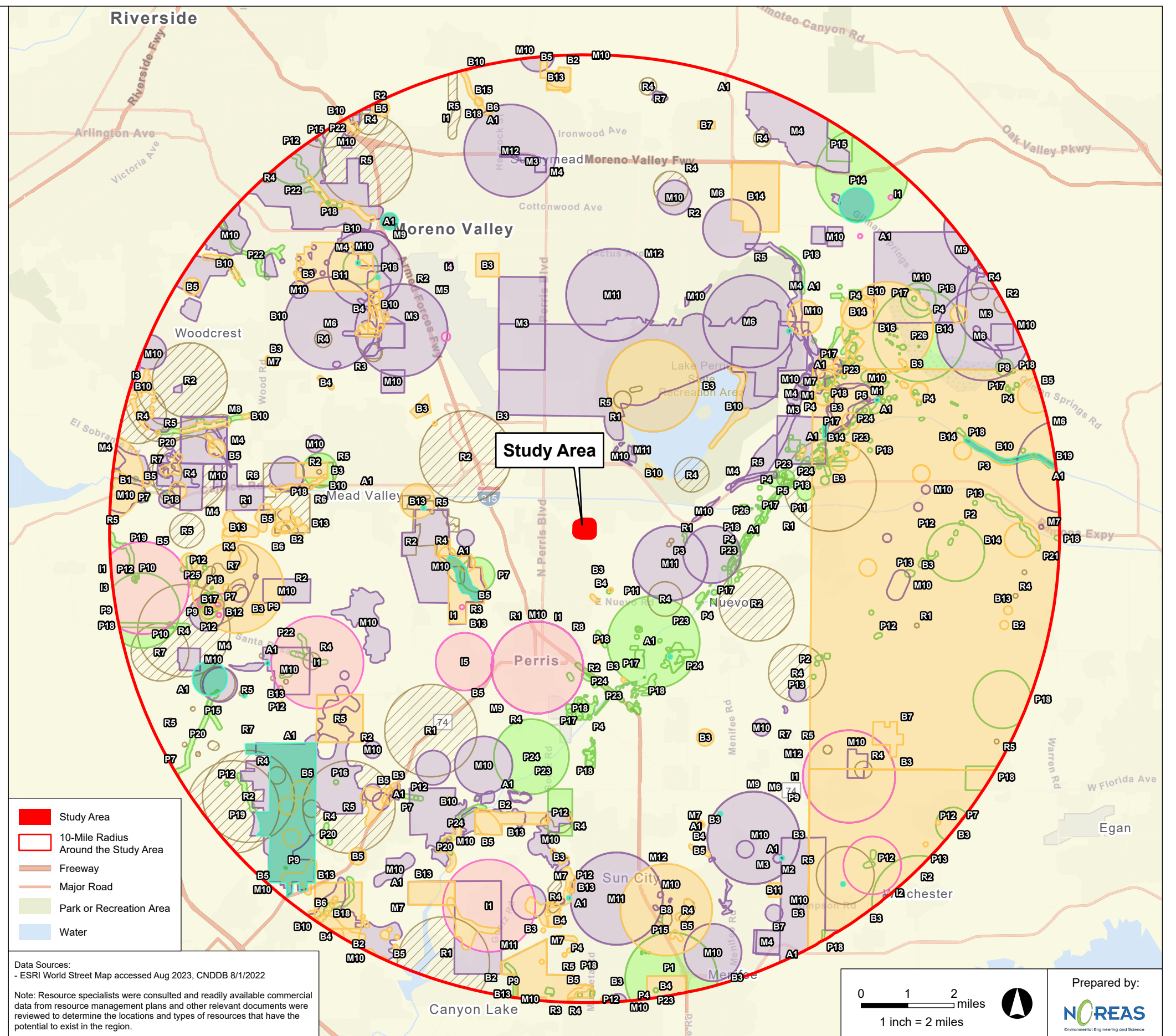
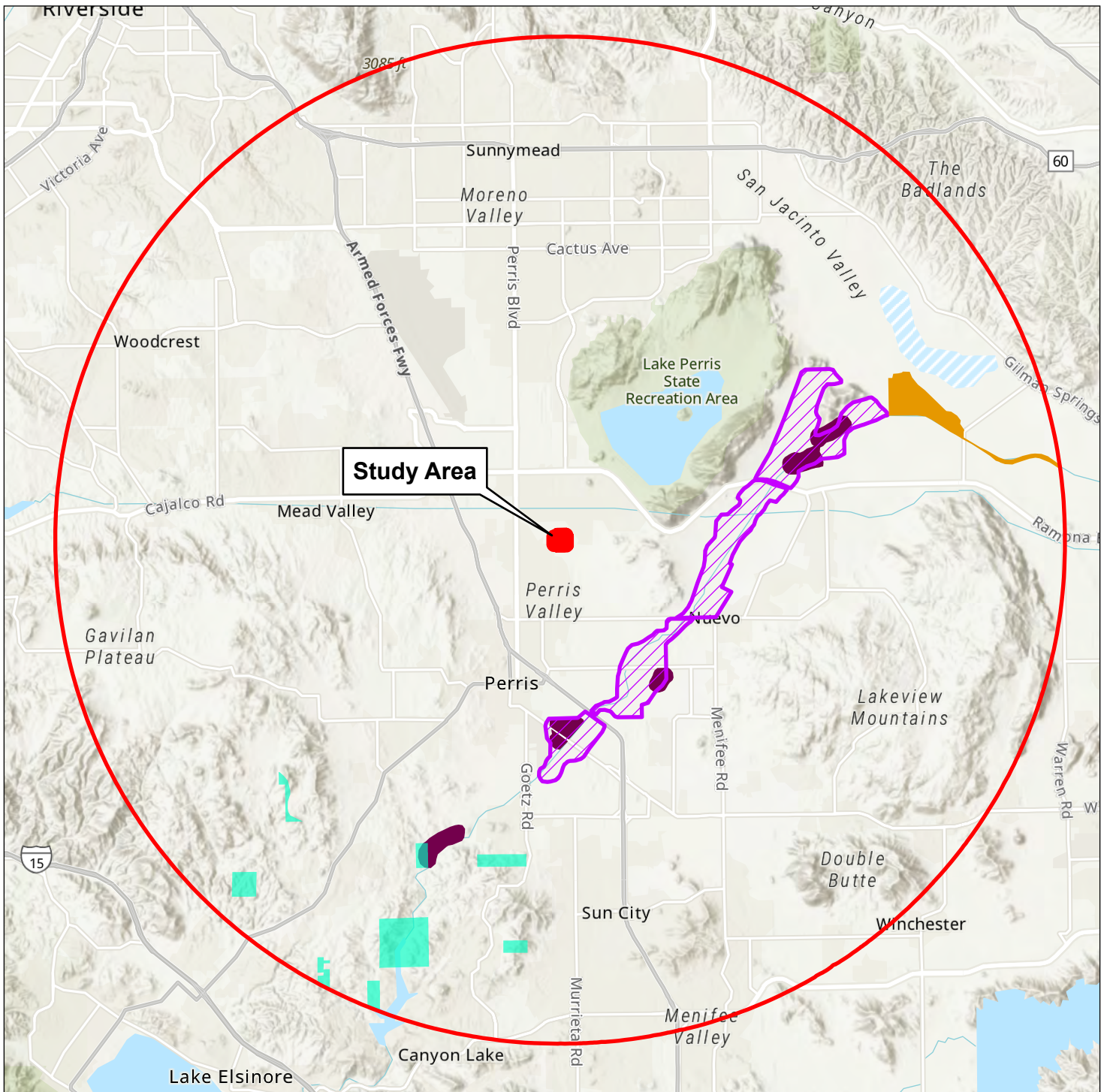


Figure 7. Literature Review



■ Study Area

10-Mile Radius Around the Study Area

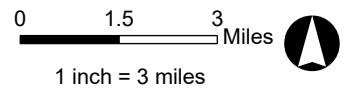
Critical Habitat

■ Coastal California gnatcatcher (*Catostomus santaanae*)

■ San Bernardino Merriam's kangaroo rat (*Dipodomys merriami parvus*)

Spreading navarretia (*Navarretia fossalis*)

■ Thread-leaved brodiaea (*Brodiaea filifolia*)

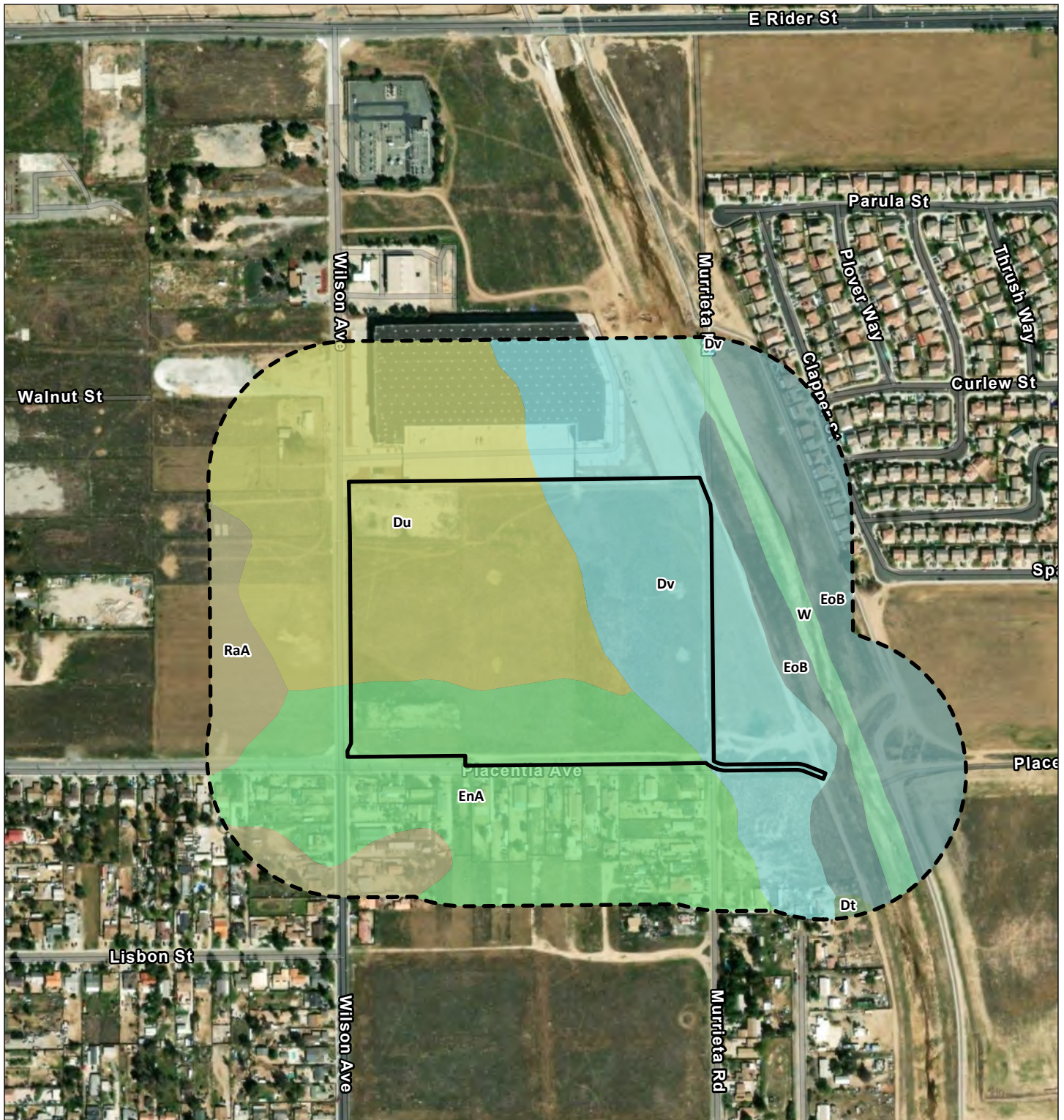


Data Sources:
 - ESRI World Topographic Map accessed Aug 2023
 - US Fish and Wildlife Service Critical Habitat accessed Aug 2023
 Map Prepared: 8-17-23

Prepared by:



Figure 8. Critical Habitat



Project Site

Study Area

Soil Types

Dt - Domino fine sandy loam, saline-alkali

Du - Domino silt loam

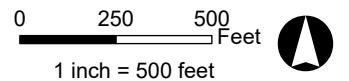
Dv - Domino silt loam, saline-alkali

EnA - Exeter sandy loam, 0 to 2 percent slopes

EoB - Exeter sandy loam, slightly saline-alkali, 0 to 5 percent slopes

RaA - Ramona sandy loam, 0 to 2 percent slopes, MLRA 19

W - Water





Data Sources:
 - ESRI World Imagery accessed 8/17/2023, imagery date: 2/26/2022
 - NRCS Web Soil Survey accessed 8/17/2023
 Map Prepared: 8-17-23

Prepared by:
 NOREAS
 Environmental Engineering and Science

Figure 9. Soils Map



 Project Site
 Study Area

USA Wetlands
 River

0 200 400 Feet
 1 inch = 400 feet

Data Sources:
 - ESRI World Imagery accessed Aug 2023, imagery date: 2/26/2022
 - US Fish and Wildlife Service National Wetland Inventory accessed Aug 2023
 Map Prepared: 8-17-23

Prepared by:

 Environmental Engineering and Science

Figure 10. National Wetland Inventory

6.0 CONCLUSION AND RECOMMENDATIONS

It has been determined that the majority of the Project Site is comprised of developed, disturbed and non-native habitats. Additionally, the Project is not collocated with any USFWS designated critical habitat, nor were any special status species detected during field surveys. No nesting birds, remnant raptor nests, or bat guano were detected within the Project Site either. The Project Site's developed and disturbed land cover has substantially decreased its value as suitable breeding / nesting, and foraging habitat for native species as well. Furthermore, the Project Site has limited – if any, value as a low-quality migration corridor or overland dispersal habitat for wildlife, because it is severely movement constrained by the surrounding residential, industrial and commercial developments, and public infrastructure.

However, the Project Site contains suitable habitat for Burrowing Owl – albeit low quality, and is within the SKR HCP, and SKR HCP Mitigation Fee Assessment Area. But surveys for Burrowing Owl were negative, and no focused survey is required under the MSHCP - or SKR HCP, for SKR. The Burrowing Owl, is not a Federal or State listed species, but it is of limited distribution throughout its range California. Therefore, their status is monitored by resource agencies. Potential impacts to SKR should be mitigated through payment of the SKR fee; and measures are recommended for implementation during the Project to avoid and minimize adverse effects to Burrowing Owl, and other biological resources that have a reasonable presumption of occurrence within the Project Site, and on adjacent lands.

The following are recommended for implementation during the Project:

- Training of all field staff on applicable or relevant and appropriate local, state, and federal regulatory agency requirements, environmental laws, and regulations associated with working within special status species habitats and biological resources.
- No personnel working within Project limits will “take” or destroy plants, animals, or active nests (or eggs) of birds that are protected under the Federal or State Endangered Species Acts and Migratory Bird Treaty Act (MBTA)
- No personnel working within Project limits will handle or relocate flora or fauna.
- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any necessary vegetation clearing should take place outside of the typical avian nesting season (e.g., March 15th until September 1st).
 - If work needs to take place between March 15th and September 1st, a pre – activity clearance survey for nesting birds should be completed prior to the onset of ground disturbance.
 - An activity exclusion buffer zone around occupied nests should be maintained during physical ground disturbing undertakings. Once nesting has ended, the buffer may be removed.
- Prior to undertaking ground-disturbing activities within - or immediately adjacent to the Perris Valley Storm Drian, consult with the appropriate responsible resource agency (i.e., CDFW, the Regional Water Quality Control Board, etc.) to verify the results detailed within Appendix F (Delineation of Wetlands and Waterways), and complete any necessary discretionary permits/authorizations if avoidance of special aquatic resource areas is not possible.
- No more than 72 hours prior to initiation of ground-disturbing activities, a pre-construction clearance survey should be completed by a professional biologist. The survey will identify (if

any) special status species (e.g., Burrowing Owl) are present within locales proposed for disturbance within the Project Site. In the event no special status species are identified within the limits of disturbance, no further action is required.

- If special status species are determined to occupy the Project Site within an area proposed for disturbance, no Project activity shall take place within 100 feet of the species, the location will be flagged for avoidance until the resource is no longer present, delineated on maps, photographed, and reported to the appropriate resource agency to determine how to proceed.
- A detailed MSHCP Consistency Analysis Report should be provided under a separate cover to Riverside County. As the Project is subject to a determination that proposed activities are consistent with the policies within Section 6.0 of the MSHCP.

With the implementation of the measures recommended herein, there would be no presumption that the Project would result in the loss of individual species, nor that it would adversely affect local or regional populations of them.

7.0 CERTIFICATION

I hereby certify that the statements furnished above and in the attached figures present the data and information required for this resource assessment, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this investigation was performed by me and under my direct supervision. I certify that I have not signed a nondisclosure or consultant confidentiality agreement with Lake Creek Industrial LLC representatives, and that I have no financial interest in the Project. The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report.

DATE: October 09, 2023

SIGNED: _____

Lenny Malo, MS

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**APPENDIX A
SPECIAL-STATUS SPECIES POTENTIAL FOR
OCCURRENCE WITHIN THE PROJECT SITE**

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	CNPS list	Number of records within 10 miles	Year(s) sighted
HP	Burrowing owl (<i>Athene cunicularia</i>)	None	None		66	1980 - 2017
A	Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	Endangered	Threatened		82	1923 - 2011
A	Western mastiff bat (<i>Eumops perotis californicus</i>)	None	None		5	1957 - 2001
A	California horned lark (<i>Eremophila alpestris actia</i>)	None	None		8	1992 - 2015
A	Smooth tarplant (<i>Centromadia pungens ssp. laevis</i>)	None	None	1B.1	45	1969 - XXXX
A	California glossy snake (<i>Arizona elegans occidentalis</i>)	None	None		9	1929 - 2016
A	Least Bell's vireo (<i>Vireo bellii pusillus</i>)	Endangered	Endangered		20	2007 - 2015
A	Parish's brittlescale (<i>Atriplex parishii</i>)	None	None	1B.1	2	1999 - XXXX
A	Orange-throated whiptail (<i>Aspidoscelis hyperythra</i>)	None	None		32	1918 - 2005
A	Coast horned lizard (<i>Phrynosoma blainvillii</i>)	None	None		18	1929 - XXXX
A	Chaparral sand-verbena (<i>Abronia villosa var. aurita</i>)	None	None	1B.1	2	2004 - 2014
A	Long-spined spineflower (<i>Chorizanthe polygonoides var. longispina</i>)	None	None	1B.2	8	1980 - 2015
A	Crotch bumble bee (<i>Bombus crotchii</i>)	None	None		9	1938 - 2020
A	Southern grasshopper mouse (<i>Onychomys torridus ramona</i>)	None	None		4	1908 - 1938
A	Western pond turtle (<i>Emys marmorata</i>)	None	None		1	1987
A	Southern California rufous-crowned sparrow (<i>Aimophila ruficeps canescens</i>)	None	None		13	1992 - 2011
A	San Jacinto Valley crowscale (<i>Atriplex coronata var. notatior</i>)	Endangered	None	1B.1	13	2000 - 2015
A	Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	Threatened	None		34	1980 - 2015
A	Coastal whiptail (<i>Aspidoscelis tigris stejnegeri</i>)	None	None		3	1993 - 2001
A	Western spadefoot (<i>Spea hammondi</i>)	None	None		34	1958 - 2019
A	Red-diamond rattlesnake (<i>Crotalus ruber</i>)	None	None		29	1923 - XXXX
A	Spreading navarretia (<i>Navarretia fossalis</i>)	Threatened	None	1B.1	12	1995 - 2020
A	Coulter's goldfields (<i>Lasthenia glabrata ssp. coulteri</i>)	None	None	1B.1	20	2000 - 2017
A	White cuckoo bee (<i>Neolarra alba</i>)	None	None		1	1938

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	CNPS list	Number of records within 10 miles	Year(s) sighted
A	Northwestern San Diego pocket mouse (<i>Chaetodipus fallax fallax</i>)	None	None		13	1992 - 2017
A	Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	Threatened	Endangered	1B.1	8	2000 - 2017
A	Wright's trichocoronis (<i>Trichocoronis wrightii</i> var. <i>wrightii</i>)	None	None	2B.1	4	1937 - 2011
A	Davidson's saltscale (<i>Atriplex serenana</i> var. <i>davidsonii</i>)	None	None	1B.2	7	1991 - 2013
A	Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)	None	None		8	1940 - 2016
A	Western yellow bat (<i>Lasiurus xanthinus</i>)	None	None		4	1981 - 1992
A	San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)	Endangered	Candidate Endangered		6	1908 - 1957
A	Pocketed free-tailed bat (<i>Nyctinomops femorosaccus</i>)	None	None		1	1985
A	Tricolored blackbird (<i>Agelaius tricolor</i>)	None	Threatened		12	2011 - 2015
A	Riverside fairy shrimp (<i>Streptocephalus woottoni</i>)	Endangered	None		2	2009
A	San Bernardino ringneck snake (<i>Diadophis punctatus modestus</i>)	None	None		1	2000
A	American badger (<i>Taxidea taxus</i>)	None	None		2	1990
A	Payson's jewelflower (<i>Caulanthus simulans</i>)	None	None	4.2	7	1902 - 1982
A	Parry's spineflower (<i>Chorizanthe parryi</i> var. <i>parryi</i>)	None	None	1B.1	15	1936 - 2012
A	California screw moss (<i>Tortula californica</i>)	None	None	1B.2	2	2012 - 2013
A	San Diego black-tailed jackrabbit (<i>Lepus californicus bennettii</i>)	None	None		8	1998 - 2015
A	Southern California legless lizard (<i>Anniella stebbinsi</i>)	None	None		13	1967 - 2018
A	Bell's sage sparrow (<i>Artemisiospiza belli belli</i>)	None	None		7	1998 - 2002
A	loggerhead shrike (<i>Lanius ludovicianus</i>)	None	None		2	1994 - 2007
A	Southern Sycamore Alder Riparian Woodland (<i>Southern Sycamore Alder Riparian Woodland</i>)	None	None		6	1980 - 1985
A	Munz's onion (<i>Allium munzii</i>)	Endangered	Threatened	1B.1	6	1897 - 2016
A	Cooper's hawk (<i>Accipiter cooperii</i>)	None	None		3	1983 - 2001
A	White-faced ibis (<i>Plegadis chihi</i>)	None	None		1	1993

Potential for occurrence	Common name (Scientific name)	Federal listing status	State listing status	CNPS list	Number of records within 10 miles	Year(s) sighted
A	Golden eagle (<i>Aquila chrysaetos</i>)	None	None		1	1974
A	Ferruginous hawk (<i>Buteo regalis</i>)	None	None		3	1989 - 2008
A	San Diego ambrosia (<i>Ambrosia pumila</i>)	Endangered	None	1B.1	1	2009
A	Long-eared owl (<i>Asio otus</i>)	None	None		2	1983
A	San Diego desert woodrat (<i>Neotoma lepida intermedia</i>)	None	None		1	1999
A	Round-leaved filaree (<i>California macrophylla</i>)	None	None	2.2	2	1987
A	Quino checkerspot butterfly (<i>Euphydryas editha quino</i>)	Endangered	None		4	1945 - 1998
A	Palmer's grapplinghook (<i>Harpagonella palmeri</i>)	None	None	4.2	3	1986 - 1990
A	Little mousetail (<i>Myosurus minimus ssp. apus</i>)	None	None	3.1	1	1981
A	Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	None	None		1	1993
A	White-tailed kite (<i>Elanus leucurus</i>)	None	None		1	1983
A	Yellow warbler (<i>Setophaga petechia</i>)	None	None		1	2014
A	Woven-spored lichen (<i>Texosporium sancti-jacobi</i>)	None	None	3	1	2002
A	Robinson's pepper-grass (<i>Lepidium virginicum var. robinsonii</i>)	None	None	4.3	4	1962 - 2008
A	Southern Riparian Scrub (<i>Southern Riparian Scrub</i>)	None	None		1	1980
A	Plummer's mariposa-lily (<i>Calochortus plummerae</i>)	None	None	4.2	1	1989
A	California Orcutt grass (<i>Orcuttia californica</i>)	Endangered	Endangered	1B.1	1	1941
A	Icenogle's socialchemmis spider (<i>Socalchemmis icenoglei</i>)	None	None		1	1997
A	Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	Threatened	Endangered		1	2001
A	Yellow-breasted chat (<i>Icteria virens</i>)	None	None		2	2001 - 2015
A	Lawrence's goldfinch (<i>Spinus lawrencei</i>)	None	None		1	2001
A	Mud nama (<i>Nama stenocarpa</i>)	None	None	2B.2	1	2010
A	Bald eagle (<i>Haliaeetus leucocephalus</i>)	Delisted	Endangered		2	1975 - 1981

CNPS List Definitions

List 1A: Plants presumed extinct in California

List 1B.1: Plants rare, threatened, or endangered in California and elsewhere; seriously threatened in California

List 1B.2: Plants rare, threatened, or endangered in California and elsewhere, fairly threatened in California

List 1B.3: Plants rare, threatened, or endangered in California and elsewhere, not very threatened in California

List 2.1: Plants rare, threatened, or endangered in California, but more common elsewhere; seriously threatened in California

List 2.2: Plants rare, threatened, or endangered in California, but more common elsewhere; fairly threatened in California

Potential for Occurrence Definitions

Absent [A] – Species distribution is restricted by substantive habitat requirements, which do not occur – or are negligible within the Project Site, and no further survey or study is obligatory to determine likely presence or absence of this species.

Habitat Present [HP] – Species distribution is restricted by substantive habitat requirements, which occur within the Project Site, and further survey or study may be necessary to determine likely presence or absence of species.

Present [P] – Species or species sign were observed within the Project Site, or historically has been documented within Project limits

Critical Habitat [CH] – The Project Site is located within a USFWS-designated critical habitat unit.

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**APPENDIX B
PHOTOGRAPH LOG**



Photograph 1. Facing Southeast.



Photograph 2. Facing West.



Photograph 3. Facing Southwest.



Photograph 4. Facing North.

APPENDIX C
PLANT SPECIES OBSERVED WITHIN THE STUDY AREA

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Scientific Name	Common Name
Amaranthaceae (Amaranth family)	
<i>Amaranthus albus</i> *	Tumbleweed
<i>Chenopodium album</i> *	Goosefoot
Arecaceae (Palm family)	
<i>Washingtonia Robusta</i> *	Mexican fan palm
Asteraceae (Aster family)	
<i>Anthemis cotula</i> *	Mayweed
<i>Centaurea melitensis</i> *	Maltese star-thistle
<i>Erigeron canadensis</i>	Canadian horseweed
<i>Helianthus annuus</i>	Sunflower
<i>Heterotheca grandiflora</i>	Telegraphweed
<i>Lactuca serriola</i> *	Prickly lettuce
<i>Matricaria discoidea</i> *	Pineapple weed
<i>Oncosiphon piluliferum</i> *	Stinknet
<i>Silybum marianum</i> *	Milk thistle
Boraginaceae (Forget-me-not family)	
<i>Amsinckia intermedia</i>	Fiddleneck
Brassicaceae (Mustard family)	
<i>Brassica nigra</i> *	Black mustard
<i>Hirschfeldia incana</i> *	Shortpod mustard
<i>Sisymbrium irio</i> *	London rocket
Chenopodiaceae (Goosefoot family)	
<i>Salsola tragus</i> *	Prickly Russian thistle
Euphorbiaceae (Spurge family)	
<i>Ricinus communis</i> *	Caster bean
Geraniaceae (Geranium family)	
<i>Erodium cicutarium</i> *	Redstem stork's bill
Fabaceae (Pea family)	
<i>Melilotus indicus</i> *	Sourclover
<i>Hordeum murinum</i> *	Mouse barley
<i>Medicago polymorpha</i> *	Bur clover
Juncaceae (Rush family)	
<i>Juncus balticus</i>	Baltic rush
Malvaceae (Mallow family)	
<i>Malva parviflora</i> *	Cheese mallow
Montiaceae (Montia family)	
<i>Calandrinia menziesii</i>	Red maids
Plantaginaceae (Plantain family)	

Scientific Name	Common Name
<i>Plantago lanceolata</i> *	Narrow leaf plantain
Pinaceae (Pine family)	
<i>Pinus sp.</i> *	Pine tree
Poaceae (Grass family)	
<i>Avena barbata</i> *	Slender oats
<i>Bromus diandrus</i> *	Ripgut brome
<i>Bromus madritensis subsp. Rubens</i> *	Red brome
<i>Cynodon dactylon</i> *	Bermuda grass
<i>Hordeum marinum</i> *	Mediterranean barley
<i>Festuca perennis</i> *	Italian ryegrass
<i>Schismus barbatus</i> *	Schismus
Solanaceae (Nightshade family)	
<i>Datura sp</i> *	Jimsonweed
<i>Nicotiana glauca</i> *	Tree tobacco

Nomenclature follows the Jepson Manual, Second Edition (Baldwin et al 2011).

* = naturalized, non- native plant species.

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APPENDIX D
WILDLIFE SPECIES OBSERVED WITHIN THE STUDY AREA

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General Biological Resources Assessment

Scientific Name	Common Name
Birds	
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Buteo jamaicensis</i>	Red-Tailed hawk
<i>Cathartes aura</i>	Turkey vulture
<i>Corvus corax</i>	Common Raven
<i>Calypte anna</i>	Anna's hummingbird
<i>Chondestes grammacus</i>	Lark sparrow
<i>Corvus brachyrhynchos</i>	American crow
<i>Sturnus vulgaris</i>	European Starling
<i>Carpodacus mexicanus</i>	House Finch
<i>Charadrius vociferus</i>	Killdeer
<i>Sturnella neglecta</i>	Western Meadowlark
<i>Petrochelidon pyrrhonota</i>	Cliff swallow
<i>Columba livia</i>	Rock Pigeon
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
<i>Falco sparverius</i>	American kestrel
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Sayornis saya</i>	Say's phoebe
<i>Passer domesticus</i>	House Sparrow
<i>Sayornis nigricans</i>	Black phoebe
<i>Quiscalus quiscula</i>	Common Grackle
<i>Zenaida macroura</i>	Mourning Dove
Mammals	
<i>Otospermophilus beecheyi</i>	California ground squirrel
Reptiles	
<i>Uta stansburiana</i>	Common Side-blotched Lizard

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APPENDIX E
BURROWING OWL SURVEY REPORT

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The Cubes at Placentia
October 2023

BURROWING OWL SURVEY

Perris United States Geological Survey
7.5-Minute Topographic Quadrangle Map

Prepared By



16361 Scientific Way, Irvine, CA 92618
(949) 467-9100

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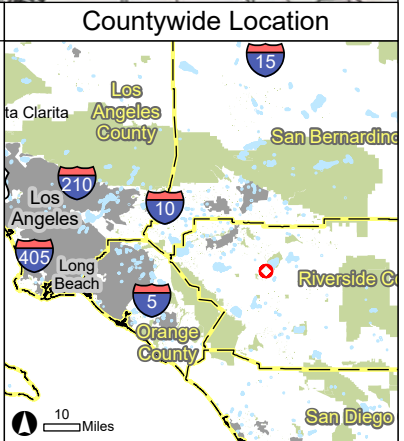
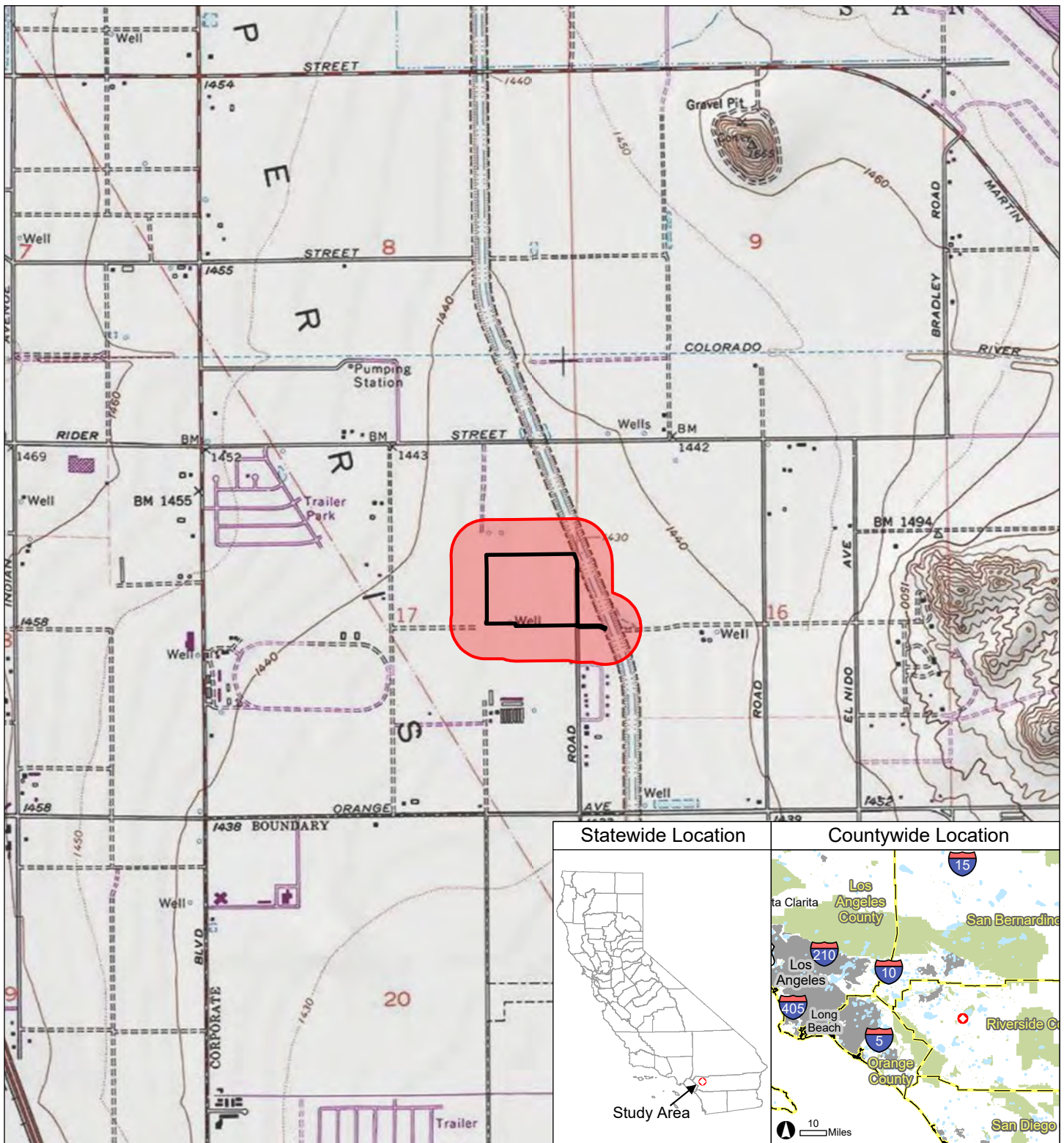
1.0 SUMMARY / INTRODUCTION

CRG Services Management, LLC (CRG) is proposing to develop the Cubes at Placentia (hereafter referred to as the Project). The Project is located north of Placentia Avenue, west of the Perris Valley Storm Drain, and east of Wilson Avenue, in Riverside County, California. (Assessor's Parcel Numbers [APN's] 300-170-003, 300-170-004, 300-170-005, a300-170-006 and 300-170-010). This report provides the methods, assumptions, and results of focused surveys for Burrowing Owl (*Athene cunicularia*). The Project is located within Township 04 South and Range 03 West - Section 17, of the Perris United States Geological Survey (USGS) 7.5-Minute Topographic Quadrangle Map (USGS 1988).

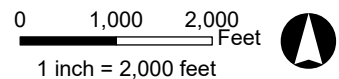
The Project occurs at an approximate elevation of 1,440 ft. above mean sea level (msl). Land use in the vicinity of the Project includes commercial, agriculture, residential and industrial endeavors. Agricultural and other commercial development activities were historically operated within the Project's proposed ground disturbance footprint (Project Site). There is also evidence of recent disking, and trash from illegal dumping throughout the Project Site.

For the purposes of this report, the "study area" includes the Project Site, plus a 500-foot buffer where practical (Figures 1 and 2). The Project is located within the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Mead Valley Area Plan. According to the Regional Conservation Authority (RCA) MSHCP Information Map, the Project Site is also within a predetermined survey area for the Burrowing Owl.

No Burrowing Owls were detected nesting, foraging, or dispersing within the study area during any of the 2022 or 2023 survey events. Numerous low quality potential burrows and burrow complexes were detected (Figure 3). The burrows observed lacked evidence of owl sign (i.e., tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, and nest burrow decoration materials). The lack of Burrowing Owl within the study area is likely a result of the depauperate landscape, and the presence of owl predators. Although the Project has the potential to impact lands that could be utilized by Burrowing Owl as habitat – under the appropriate suite of environmental conditions, surveys for the species are negative. Therefore, there is no presumption that Project implementation would result in the loss of individual Burrowing Owls, or that it would adversely affect local or regional populations of them.



- Study Area
- Project Site
- County Boundary (inset)
- Urban Area (inset)
- Interstate or State Highway (inset)
- Water Body (inset)
- Park or National Forest (inset)



Data Sources:
 - Bureau of Land Management Cadastral GIS 2015
 - USGS 7.5-minute quadrangle map
 - ESRI US Topo Maps accessed Aug 2023
 Map Prepared: 8-17-23

Prepared by:

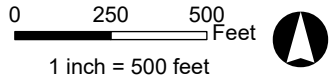
 Environmental Engineering and Science

The Study Area is located in San Bernardino County on the Perris USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 4 South, Range 3 West, in Section 17: Center coordinate (WGS 1984): Latitude 33.824, Longitude -117.211

Figure 1. Regional Location



- Project Site (29.85 ac)
- Study Area (108.59 ac)



Data Sources:
 - ESRI World Imagery accessed Aug 2023,
 imagery date: 2/26/2022

Map Prepared: 8-17-23

Prepared by:
NOREAS
 Environmental Engineering and Science

Figure 2. Site Vicinity

2.0 BURROWING OWL BACKGROUND

The Burrowing Owl has been designated by the California Department of Fish and Wildlife (CDFW) as a species of special concern. “State Species of Special Concern” status applies to animals not listed for protection under the federal Endangered Species Act or the California Endangered Species Act. The designation denotes that a species is declining at a rate that could result in State listing or that a species has historically occurred in low numbers and known threats to their persistence currently exist. The designation is intended to result in “special consideration” for these animals during the environmental review and discretionary permitting processes. In addition, the designation is also intended to focus research and management attention on poorly-known, potentially at-risk species, by stimulating the collection of additional information on their biology, distribution and status.

Burrowing Owls prefer open, dry annual or perennial grasslands, agricultural and rangelands, deserts, and scrublands characterized by low-growing vegetation. Burrowing Owls also prefer areas inhabited by small mammals as they predominately depend on mammal burrows (particularly ground squirrels) for subterranean nesting. Owls can be found at elevations ranging from 200 ft. below sea level to 9,000 ft. above (CDFG 1995). Burrowing Owls commonly perch on fence posts or on mounds outside their burrows. Northern populations of Burrowing Owls are usually migratory, while more southern populations may move short distances or not at all (Haug et al. 1993, Botelho 1996). Little is known about the winter ranges of migratory populations, although migratory Burrowing Owls are believed to mix with resident populations in California during the winter months (Coulombe 1971, Haug et al. 1993).

Burrowing Owls tend to be resident where food sources are stable and available year-round (Rosenberg et al. 1998). Typically, they disperse or migrate south in areas when food becomes seasonally scarce. Burrowing Owls tend to be opportunistic feeders. Large arthropods, mainly beetles and grasshoppers, comprise a substantial portion of their diet (Rosenberg et al. 1998). Small mammals, especially mice, rats, gophers, and ground squirrels, are also important food items. Other prey animals include reptiles and amphibians, scorpions, young cottontail rabbits, bats, and birds such as sparrows and Horned Larks. Consumption of insects increases during the breeding season. Burrowing Owls hover while hunting; after catching their prey they return to perches on fence posts or the ground. Burrowing Owls are primarily active at dusk and dawn, but, if necessary, will hunt at any time of day (CBOC 1993, CDFG 1995; Rosenberg et al. 1998).

The breeding season for Burrowing Owls is March to late August; the season tends to last later in the northern part of the range (CBOC 1993, CDFG 1995, Klute et al. 2003). Clutch size (number of birds hatched at the same time) ranges from 1 to 12 and averages about 7 (Ehrlich 1988). The incubation period is 28–30 days (Ehrlich 1988). The female performs all the incubation and brooding (sitting on eggs to hatch them by the warmth of the body) and is believed to remain continually in the burrow while the male does all the hunting (Rosenberg et al. 1998). The young fledge (take their first flight out of the nest) at 44 days but remain near the burrow and join the adults in foraging flights at dusk (Ehrlich 1988). The maximum life span recorded for a banded bird in the wild is approximately 8.5 years (Rosenberg et al. 1998).

In resident populations, nest site fidelity is common, with many adults nesting each year in their previous year’s burrow; young from the previous year often establish nest sites near (<900 ft) their natal sites (Trulio 1997, Rosenberg et al. 1998). Burrowing Owls in migratory populations also often nest in the same burrow, particularly if the previous year’s breeding was successful (Belthoff and King 1997). Other birds in the same population may move to burrows near their previous year’s burrow. The species is

threatened primarily by loss, degradation, and fragmentation of habitat, although they do readily inhabit anthropogenic landscapes such as agricultural fields, golf courses, and airport grasslands (Korfanta et al. 2005).

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3.0 METHODS

Prior to beginning field surveys, resource specialists were consulted and available information (i.e., resource management plans and relevant documents) was reviewed to determine the locations and types of resources that have the potential to exist within - and adjacent to, the study area. Resources were evaluated within several miles of the Project. The materials reviewed included, but were not limited to, the following:

- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Mapper and File Data (USFWS 2023a);
- USFWS Carlsbad Field Office Species List for Riverside County (USFWS 2023b);
- California Natural Diversity Database maintained by the CDFW (CDFW 2023);
- 1993 California Burrowing Owl Consortium (CBOC) Burrowing Owl Survey Protocol and Mitigation Guidelines;
- 2012 California Department of Fish and Game (CDFG) Staff Report on Burrowing Owl Mitigation;
- Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP 2003); and
- Aerial Photographs (Microsoft Corporation 2023).

A Burrowing Owl habitat suitability assessment and burrow survey, were conducted on 18 February 2022, in accordance with the *29 March 2006 Western Riverside County MSHCP Burrowing Owl Survey Instructions*. Natural and non-natural substrates were examined for potential burrow sites. All potential burrows encountered were examined for shape, size, molted feathers, whitewash, cast pellets and/or prey remains. Disturbance characteristics and all other animal sign encountered within the study area were documented to the greatest extent practical as well.

Since suitable habitat was detected for Burrowing Owl within the study area, six (6) additional surveys were performed (details are presented within *TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS*). A hand-held, global positioning system (GPS) unit with sub meter accuracy was used to survey predetermined transects that were prepared within a Geographic Information System (Figure 3). Survey transects were spaced at appropriate intervals to allow for complete visual coverage of the Project Site and study area. Where necessary, transect spacing was reduced or expanded in the field - to account for differences in terrain, vegetation density, visibility and access considerations (i.e., private property). Where access was limited, observations were made from the nearest appropriate vantage points by means of public rights-of-way with the use of binoculars, and spotting scopes. The presence of a species was based on direct observations of individual(s), sign, and/or vocalization. Avian scientific nomenclature and common names follows Sibley (2000).

Field surveys were conducted when weather conditions were conducive to observing birds. Surveys were not performed during rain, extreme temperatures, high winds (> 25 miles per hour), or dense fog. Targeted owl surveys were conducted on 08 and 15 March, 01 and 21 April 2022, and 21 June and 06 July 2023. Surveys were performed from approximately 1 hour before sunrise to 2 hours after sunrise, when weather conditions were conducive to observing owls outside of burrows.

4.0 BURROWING OWL SURVEY RESULTS

The majority of the study area consists of heavily disturbed ruderal vegetation with no substantial native stands of vegetation. Agricultural, commercial development, and residential activities were historically operated within the Project Site. There is also evidence of recent disking, and trash from illegal dumping throughout the Project’s proposed disturbance footprint.

No Burrowing Owls were detected nesting, foraging, or dispersing within the study area during the 2022 and 2023 survey events. Nonetheless, potential burrows and burrow complexes – albeit low quality, were detected (Figure 3). The burrows observed lacked evidence of owl tracks, molted feathers, cast pellets, prey remains, egg shell fragments, owl white wash, or nest burrow decoration materials. The presence of several burrows and burrow complexes >11 cm in diameter (height and width), and >150 cm in depth warranted recording and reporting; even though the aforementioned burrows lacked owl sign or owls. Survey conditions during the field events are presented in Table No. 1.

TABLE NO. 1 - SUMMARY OF SURVEY CONDITIONS FOR SURVEYS

Survey Dates	Surveyors	Survey Type	Time ¹ Start/End	Temperature °Fahrenheit Start/End	Wind Speed (MPH)	Start/End Cloud Cover (%)	Date of last precipitation prior to survey
2/18/22	Lincoln Hulse and Brent Helm	Burrow Survey	0730 - 1600	50/73	0-05	Clear/Clear	2/15/22
3/08/22	Lincoln Hulse and Brent Helm	Crepuscular BUOW (Morning) Survey 1)	0515- 1145	45/66	0-05	Clear/Clear	02/23/22
3/15/22	Lincoln Hulse	Crepuscular BUOW (Morning) Survey 2)	0530- 1115	48/77	0-05	Clear/Clear	03/04/22
4/01/22	Lincoln Hulse and Brent Helm	Crepuscular BUOW (Morning) Survey 3)	0530- 1100	54/64	0-05	60/40	03/28/22
4/21/22	Lincoln Hulse	Crepuscular BUOW (Morning) Survey 4)	0530- 1130	49/70	0-05	40/40	03/28/22
6/21/2023	Lincoln Hulse	Crepuscular BUOW (Morning) Survey 5)	0545- 1130	57/77	0-05	Clear/Clear	05/31/23
7/07/2023	Lincoln Hulse	Crepuscular BUOW (Morning) Survey 6)	0515- 1100	59/84	0-05	Clear/Clear	05/31/23

BUOW = Burrowing Owl
MPH = Miles Per Hour

¹ While targeted owl surveys were limited to approximately 1 hour before sunrise to 2 hours after sunrise, and 2 hours before sunset to 1 hour after sunset; the start and end times presented within this table detail all time spent within the study area on any given day - which include setup, reporting and demobilization activities.

The lack of Burrowing Owls within the study area is likely a result of the depauperate landscape, and the presence of owl predators (e.g., Red-Tailed Hawk [*Buteo jamaicensis*] and Cooper's hawk [*Accipiter cooperii*]). Although the Project has potential to impact lands that could be utilized by Burrowing Owl as habitat – under the appropriate suite of environmental conditions, surveys for the species are negative. Therefore, there is no presumption that Project implementation would result in the loss of individual Burrowing Owl, or that it would adversely affect local or regional populations of them.

Representative photographs of the study area are provided below, and wildlife detected during the surveys are provided within Table No. 2.

	<p>Photograph 1. Facing East.</p>
	<p>Photograph 2. Facing West.</p>



Photograph 3. Facing South.



Photograph 4. Potential Burrow

TABLE NO. 2 – WILDLIFE DETECTED DURING FIELD SURVEYS

Scientific Name	Common Name
Birds	
<i>Agelaius phoeniceus</i>	Red-winged blackbird
<i>Accipiter cooperii</i>	Cooper's hawk
<i>Buteo jamaicensis</i>	Red-Tailed hawk
<i>Cathartes aura</i>	Turkey vulture
<i>Corvus corax</i>	Common Raven
<i>Calypte anna</i>	Anna's hummingbird
<i>Chondestes grammacus</i>	Lark sparrow
<i>Corvus brachyrhynchos</i>	American crow
<i>Sturnus vulgaris</i>	European Starling
<i>Carpodacus mexicanus</i>	House Finch
<i>Charadrius vociferus</i>	Killdeer
<i>Sturnella neglecta</i>	Western Meadowlark
<i>Petrochelidon pyrrhonota</i>	Cliff swallow
<i>Columba livia</i>	Rock Pigeon
<i>Euphagus cyanocephalus</i>	Brewer's Blackbird
<i>Zonotrichia leucophrys</i>	White-crowned sparrow
<i>Falco sparverius</i>	American kestrel
<i>Mimus polyglottos</i>	Northern mockingbird
<i>Sayornis saya</i>	Say's phoebe
<i>Passer domesticus</i>	House Sparrow
<i>Sayornis nigricans</i>	Black phoebe
<i>Quiscalus quiscula</i>	Common Grackle
<i>Zenaida macroura</i>	Mourning Dove
Mammals	
<i>Otospermophilus beecheyi</i>	California ground squirrel
Reptiles	
<i>Uta stansburiana</i>	Common Side-blotched Lizard

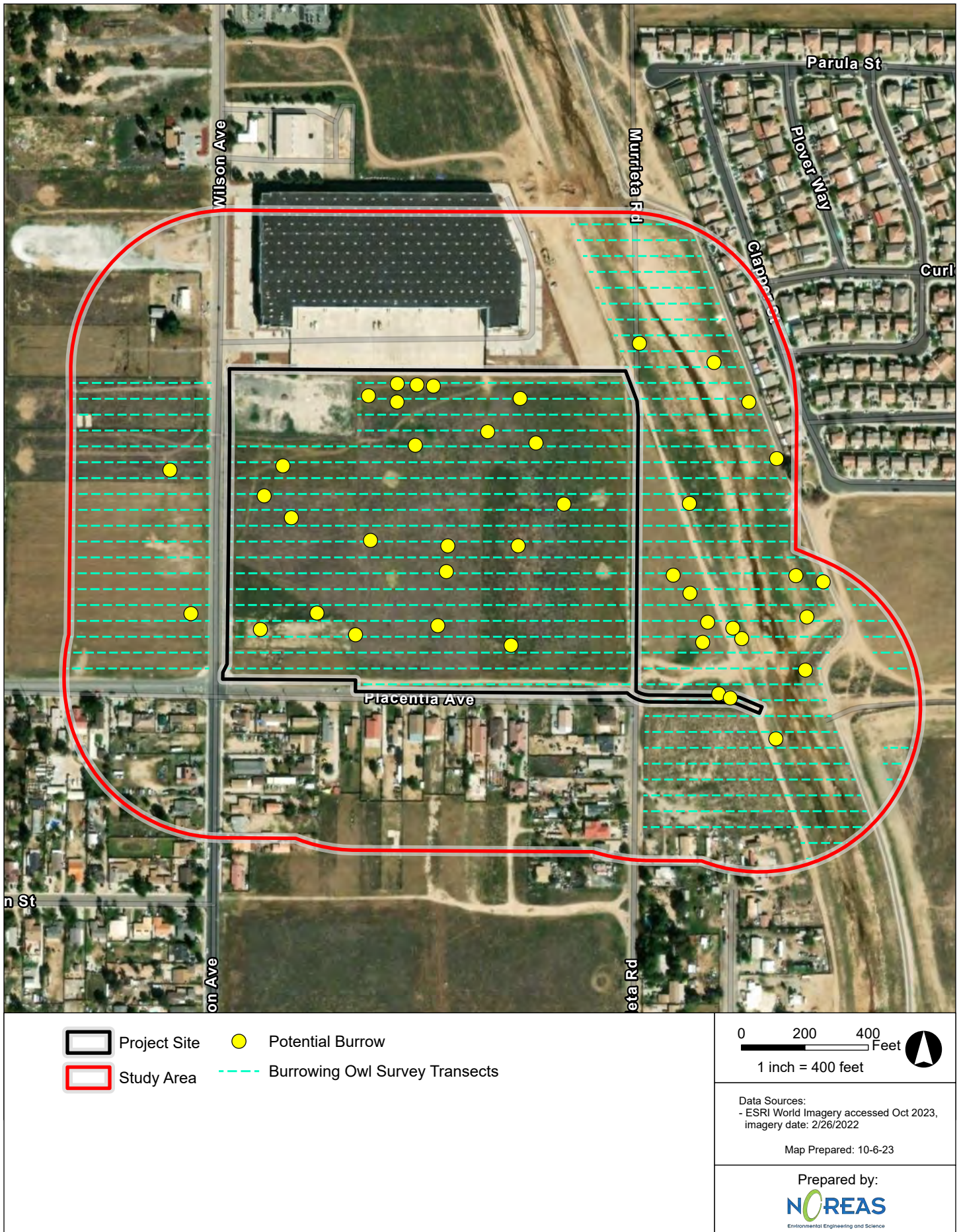


Figure 3. Burrowing Owl Potential Burrows

5.0 RECOMMENDED MEASURES TO AVOID AND MINIMIZED IMPACTS TO NESTING BIRDS

The following measures are recommended as a means of avoiding and minimizing adverse impacts to nesting birds that have the potential to occur within the Project Site, and on adjacent lands:

- Due to the presence of potentially suitable Burrowing Owl habitat within the Project Site, a 30-day pre-construction survey for owls is warranted prior to initial ground-disturbing activities (including vegetation clearing, clearing and grubbing, tree removal, site watering, equipment staging, grading, etc.). This is an MSHCP requirement, as it safeguards that no owls have colonized the Project Site in the days - or weeks, preceding the ground-disturbing activities.
 - If Burrowing Owls have colonized the Project Site prior to the initiation of ground-disturbing activities, the Project shall immediately inform the RCA and the appropriate wildlife agencies, to coordinate regarding the need for a Project specific Burrowing Owl Protection, Management and/or Relocation Plan.
 - If ground-disturbing activities occur, but the Project Site is left undisturbed for more than 30 days, a pre-construction survey will again be warranted to safeguard that Burrowing Owl has not colonized the Project Site since it was last disturbed. If Burrowing Owl is found, the same coordination described above is necessary
- In order to comply with Section 10 of the Migratory Bird Treaty Act and relevant sections of the California Fish and Game Code, any vegetation clearing within the Project Site should take place outside of the typical avian nesting season (e.g., March 15th until September 1st) – to the maximum extent practical. If work needs to take place between March 15th and September 1st, a pre-activity survey for nesting birds would be warranted prior to the onset of Project activities. To the maximum extent practicable, a buffer zone from occupied nests should be maintained during physical ground disturbing activities. Once nesting has ended, the buffer may be removed.
- Limits of grading and Project activities shall be clearly delineated with temporary construction staking, flagging, or similar materials.
- To avoid attracting predators and nuisance species, the Project Site shall be clear of debris, where possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from the Project.

6.0 CERTIFICATION

The services performed and documented in this report have been conducted in a manner consistent with the level of care and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied and no warranty or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of biological resources are based on limited data and actual conditions may vary from those encountered at the times and locations where the data were obtained despite due professional care.

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 and belief.

DATE: October 9, 2023

SIGNED: 
Lincoln Hulse

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APPENDIX F
DELINEATION OF WETLANDS, WATERWAYS, & RIPARIAN/RIVERINE RESOURCES

DRAFT

The Cubes at Placentia

Wetland and Waterways Assessment

October 2023

Prepared By



16361 Scientific Way
Irvine, CA 92618
(949) 467-9116

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APPENDICES

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COMMON ACRONYMS AND ABBREVIATIONS

CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CWA	Clean Water Act
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
GIS	Geographic Information System
GPS	Global Positioning Systems
HUC	Hydrologic Unit Code
MESA	Mapping Episodic Stream Activity Field Guide
MSHCP	Western Riverside Multiple Species Habitat Conservation Plan
NRCS	National Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate Wetland
OHWM	Ordinary High Water Mark
RHA	Rivers and Harbors Act
RPW	Relatively Permanent Waters
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
UPL	Upland
USACE	U.S. Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WoS	Waters of the State
WoUS	Waters of the United States

1.0 INTRODUCTION

This assessment of *Waters of the United States* (WoUS) and *Waters of the State* (WoS) was prepared for The Cubes at Placentia (hereafter referred to as the “Project”). The Project occurs at an approximate elevation of 1,440 feet above mean sea level within the Perris U.S. Geographic Survey 7.5-Minute Quadrangle Maps (USGS 1981). The Project is located north of Placentia Avenue, and east of Wilson Avenue, in Riverside County, California. (Assessor's Parcel Numbers [APN's] 300-170-003, 300-170-004, 300-170-005, 300-170-006 and 300-170-010, Figures 1 and 2). This report is intended to delineate the extent of features that may be subject to the following within the Project Site:

- ✓ Regulation by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA) and the Regional Water Quality Control Board's (RWQCB) legal authority in accordance with Section 401 of the CWA as WoUS;
- ✓ California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Section 1600 (et seq.) of the California Fish and Game Code (CFG Code) and Section 13260 of the California Water Code (CWC) as WoS; and
- ✓ Protection as defined under Section 6.1.2 of the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) as Species Associated with Riparian/Riverine Areas and Vernal Pools.

For the purposes of this analysis, all features that qualify as CDFW Section 1600 (et seq.) jurisdictional as WoS, are considered MSHCP riparian/riverine resources. This evaluation has been completed using data acquired from current and historic imagery, hydrologic databases, analytic tools, physical on the ground analyses/measurements, and a review of the regulations, manuals, and guidance documentation created to identify the geographic limits of WoUS and WoS (including but not limited to surface water conveyance features, riparian plant communities, riverine land cover types and wetlands and vernal pools). To that end, subject matter experts assessed the Project and its localized watershed for the presence of riparian/riverine resources, lakes, rivers, streambeds, surface waters, and wetlands on February 18, 2022 and September 25, 2023.

Historic and current aerial photography of the Project were reviewed, prior to and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. The U.S. Environmental Protection Agency (EPA) WATERS GeoViewer tool also provided access to spatial data sets - such as interactive Upstream/Downstream search capabilities, to assist in determining the jurisdictional status of resources detected within the region. Additionally, the Federal Emergency Management Agency (FEMA) flood zone was reviewed, and the National Wetland Inventory – which is maintained by the U.S. Fish and Wildlife Service (USFWS). This was all done to support the identification of potential aquatic resources within Project limits.

For the purposes of this document, the Project Site is defined as the Project's proposed disturbance footprint (Figure 2). Please note that the delineation of potential WoUS was conducted following guidance in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (USACE 2008). The ordinary high-water mark (OHWM) of potential other WoUS was delineated following the guidance in *A Field Guide to the Identification of the Ordinary High-Water Mark in the Arid West Region in the Western United States* (USACE 2008b).

This document presents NOREAS Inc. (NOREAS) best effort at estimating WoUS and WoS boundaries using the most up-to-date regulations, written policies, and guidance from the USACE, RWQCB, CDFW, and the Western Riverside County Regional Conservation Authority (RCA). However, only the USACE, RWQCB, CDFW and RCA can make a final determination of jurisdictional aquatic resource area boundaries.

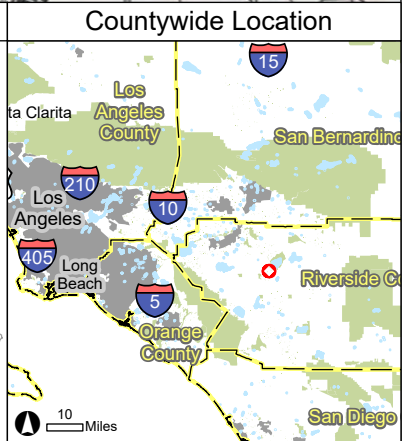
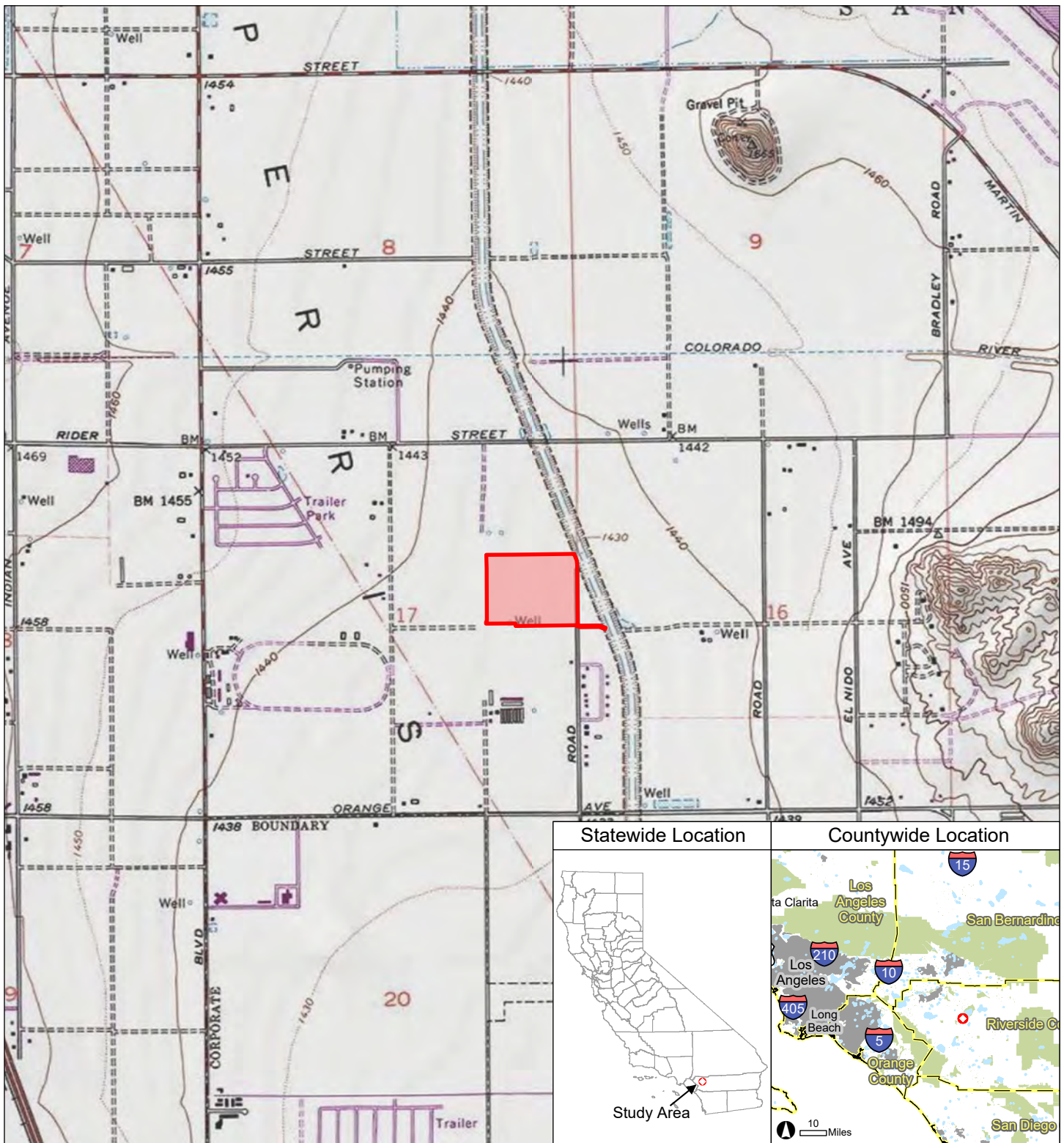
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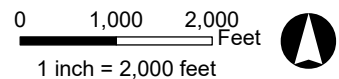
Lake Creek Industrial
Michael Johnson
1302 Brittany Cross Road
Santa Ana, CA 92705
786 200-9681

Please note that one or both individuals will make themselves available to accompany a representative from the USACE, RWQCB, CDFW, or Riverside County personnel to the Project and allow them to enter the Project Site; and to collect samples during normal business hours - if needed.

In summary, the evidence provided herein implies that the Project Site includes WoS, but avoids WoUS (Figure 3). Notably, any location within the Perris Valley Storm Drain bearing signs of an OHWM, have been specifically circumvented by the design of the Project's disturbance footprint. It's important to mention that while flows from the Perris Valley Storm Drain do eventually merge with Canyon Lake, all impacts to WoUS are being deliberately avoided. But the Project Site does extend into the upper earthen western exterior boundaries of the aforesaid man-made storm drainage facility. This area is void of vegetation and is regularly maintained to allow access to the structure. This location is coincident with a discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream. Therefore, the Project Site includes 0.002-acres of WoS - non-riparian ephemeral streambed, which constitute a total of 13 linear feet (Figure 3).



- Project Site
- County Boundary (inset)
- Urban Area (inset)
- Interstate or State Highway (inset)
- Water Body (inset)
- Park or National Forest (inset)



Data Sources:
 - Bureau of Land Management Cadastral GIS 2015
 - USGS 7.5-minute quadrangle map
 - ESRI US Topo Maps accessed Aug 2023
 Map Prepared: 8-16-23

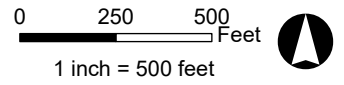
Prepared by:
NOREAS
 Environmental Engineering and Science

The Study Area is located in San Bernardino County on the Perris USGS 7.5-minute quadrangle map; San Bernardino Meridian, Township 4 South, Range 3 West, in Section 17: Center coordinate (WGS 1984): Latitude 33.824, Longitude -117.211

Figure 1. Regional Location



 Project Site (29.85 acres)



Data Sources:
 - ESRI World Imagery accessed 8/16/2023,
 imagery date: 2/26/2022

Map Prepared: 8-16-23

Prepared by:

 Environmental Engineering and Science

Figure 2. Site Vicinity

2.0 METHODS

2.1 Regulatory Review

2.1.1 Army Corps of Engineers

Pursuant to Section 404 of the Clean Water Act, the Corps regulates the discharge of dredged and/or fill material into waters of the United States (WoUS). The term “WoUS” is defined in Corps regulations at 33 CFR Part 328.3(a) as:

- (1) Waters which are:
 - (i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
 - (ii) The territorial seas; or
 - (iii) Interstate waters;
- (2) Impoundments of waters otherwise defined as WoUS under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section;
- (3) Tributaries of waters identified in paragraphs (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;
- (4) Wetlands adjacent to the following waters:
 - (i) Waters identified in paragraph (a)(1) of this section; or
 - (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;
- (5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Corps regulations at 33 CFR Part 328.3(b) exclude the following from being “WoUS” even where they otherwise meet the terms of paragraphs (a)(2) through (5) above:

- (1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;
- (2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area’s status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

-
- (3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;
 - (4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;
 - (5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;
 - (6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;
 - (7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of WoUS; and
 - (8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow.

In the absence of wetlands, the limits of Corps jurisdiction in non-tidal waters, such as intermittent streams, extend to the OHWM which is defined at 33 CFR 328.3(c)(4) as:

...that line on the shore established by the fluctuation of water and indicated by physical characteristics such as 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.

“Adjacent” wetlands are defined by 33 CFR 328.3(c)(2) as having a “continuous surface connection” to other WoUS.

2.1.1.1 Wetland Definition Pursuant to Section 404 of the Clean Water Act

The term “wetlands” (a subset of “WoUS”) is defined at 33 CFR 328.3(c)(1) as “areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.” In 1987 the Corps published the Wetland Manual to guide its field personnel in determining jurisdictional wetland boundaries. The methodology set forth in the Wetland Manual and the Arid West Supplement generally require that, in order to be considered a wetland, the vegetation, soils, and hydrology of an area exhibit at least minimal hydric characteristics. While the Wetland Manual and Arid West Supplement provide great

detail in methodology and allow for varying special conditions, a wetland should normally meet each of the following three criteria:

- More than 50 percent of the dominant plant species at the site must be hydrophytic in nature as published in the most current national wetland plant list;
- Soils must exhibit physical and/or chemical characteristics indicative of permanent or periodic saturation (e.g., a gleyed color, or mottles with a matrix of low chroma indicating a relatively consistent fluctuation between aerobic and anaerobic conditions); and
- Whereas the Wetland Manual requires that hydrologic characteristics indicate that the ground is saturated to within 12 inches of the surface for at least five percent of the growing season during a normal rainfall year, the Arid West Supplement does not include a quantitative criterion with the exception for areas with “problematic hydrophytic vegetation”, which require a minimum of 14 days of ponding to be considered a wetland.

2.1.1.2 Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.

Pursuant to Article I, Section 8 of the U.S. Constitution, federal regulatory authority extends only to activities that affect interstate commerce. In the early 1980s the Corps interpreted the interstate commerce requirement in a manner that restricted Corps jurisdiction on isolated (intrastate) waters. On September 12, 1985, the U.S. Environmental Protection Agency (EPA) asserted that Corps jurisdiction extended to isolated waters that are used or could be used by migratory birds or endangered species, and the definition of “WoUS” in Corps regulations was modified as quoted above from 33 CFR 328.3(a).

On January 9, 2001, the Supreme Court of the United States issued a ruling on *Solid Waste Agency of Northern Cook County v. United States Army Corps of Engineers, et al.* (SWANCC). In this case the Court was asked whether use of an isolated, intrastate pond by migratory birds is a sufficient interstate commerce connection to bring the pond into federal jurisdiction of Section 404 of the Clean Water Act.

The written opinion notes that the court’s previous support of the Corps’ expansion of jurisdiction beyond navigable waters (*United States v. Riverside Bayview Homes, Inc.*) was for a wetland that abutted a navigable water and that the court did not express any opinion on the question of the authority of the Corps to regulate wetlands that are not adjacent to bodies of open water. The current opinion goes on to state:

In order to rule for the respondents here, we would have to hold that the jurisdiction of the Corps extends to ponds that are not adjacent to open water. We conclude that the text of the statute will not allow this.

Therefore, the court’s opinion goes beyond the migratory bird issue and says that no isolated, intrastate water is subject to the provisions of Section 404(a) of the Clean Water Act (regardless of any interstate commerce connection).

2.1.2 Regional Water Quality Control Board

The State Water Resource Control Board and each of its nine Regional Boards regulate the discharge of waste (dredged or fill material) into WoUS and waters of the State (WoS). WoUS are defined above and WoS are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (California Water Code 13050[e]).

Section 401 of the CWA requires certification for any federal permit or license authorizing impacts to waters of the U.S. (i.e., waters that are within federal jurisdiction), such as Section 404 of the CWA and Section 10 of the Safe Rivers and Harbors Act, to ensure that the impacts do not violate state water quality standards. When a project could impact waters outside of federal jurisdiction, the Regional Board has the authority under the Porter-Cologne Water Quality Control Act to issue Waste Discharge Requirements (WDRs) to ensure that impacts do not violate state water quality standards. Clean Water Act Section 401 Water Quality Certifications, WDRs, and waivers of WDRs are also referred to as orders or permits.

2.1.2.1 State Wetland Definition

The State Board Wetland Definition and Procedures define an area as wetland as follows:

An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area’s vegetation is dominated by hydrophytes or the area lacks vegetation.

The following wetlands are WoS:

1. *Natural wetlands;*
2. *Wetlands created by modification of a surface water of the state¹; and*
3. *Artificial wetlands² that meet any of the following criteria:*
 - a. *Approved by an agency as compensatory mitigation for impacts to other WoS, 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*

¹ “Created by modification of a surface water of the state” means that the wetland that is being evaluated was created by modifying an area that was a surface water of the state at the time of such modification. It does not include a wetland that is created in a location where a water of the state had existed historically, but had already been completely eliminated at some time prior to the creation of the wetland. The wetland being evaluated does not become a water of the state due solely to a diversion of water from a different water of the state.

² Artificial wetlands are wetlands that result from human activity.

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 WoS 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 WoS. 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.

2.1.3 California Fish and Game Code

Pursuant to Division 2, Chapter 6, Sections 1600-1603 of the California Fish and Game Code, the CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel, or bank of any river, stream, or lake, which supports fish or wildlife.

CDFW has provided information and practical guidance for consistent and uniform administration of Section 1600 (et seq.) of the CFG Code within *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607* (ESD-CDFG 1994). In its most general sense, CFG Code Sections 1600 (et seq.) establishes a fee-based process to safeguard that projects conducted in and around lakes, rivers, or streams do not adversely impact fish, aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife resources. Or, when adverse impacts cannot be avoided, compliance with the aforesaid CFG Code Sections safeguards that adequate mitigation and/or compensation is provided.

While there is no definition for the term lake in the CFG Code or associated regulations, the term stream, which includes creeks and rivers, is defined within Title 14, California Code of Regulations (CCR), Section 1.72:

- "A stream is a body of water that flows at least periodically or intermittently through a bed or channel having banks and **supports fish or other aquatic life**. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation."

Nonetheless, this definition is not complete with respect to CFG Code Sections 1600 (et seq.) because it does not define the terms bed, channel, or bank and does not define other stream-related features such

as aquatic life, riparian vegetation, etc. As a result, CDFW published the following concepts with deference to what constitutes a stream for the purposes of implementing and enforcing CFG Code Sections 1600 (et seq.) (ESD-CDFG 1994).

1. The term stream can include intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (United States Geological Survey maps, USGS), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be ***considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife.***
2. Biologic components of a stream may ***include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system.***
3. As a physical system, a stream not only includes water (at least on an intermittent or ephemeral basis) ***but also a bed or channel, a bank and/or levee, instream features such as logs or snags, and various flood plains depending on the return frequency of the flood event being considered (i.e., 10, 50, or 100 years, etc.).***
4. The lateral extent of a stream can be measured in several ways depending on a particular situation and the type of fish or wildlife resource at risk. The following criteria are presented in order from the most inclusive to the least inclusive:
 - a. The flood plain of a stream can be the broadest measurement of a stream's lateral extent depending on the return frequency of the flood event used. For most flood control purposes, the 100-year flood event is the standard measurement and maps of the 100-year flood plain exist for many streams. However, the 100-year flood plain may include significant amounts of upland or urban habitat and therefore may not be appropriate in many cases.
 - b. The outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats and is therefore a reasonable and identifiable boundary for the lateral extent of a stream. In most cases, the use of this criterion should result in protecting the fish and wildlife resources at risk.
 - c. Most streams have a natural bank which confines flows to the bed or channel except during flooding. In some instances, particularly on smaller streams or dry washes with little or no riparian habitat, the bank should be used to mark the lateral extent of a stream.
 - d. A levee or other artificial stream bank could also be used to mark the lateral extent of a stream. However, in many instances, there can be extensive areas of valuable riparian habitat located behind a levee.

Any of the above criteria could be applicable in determining what constitutes a stream depending on the potential for the proposed activity to adversely affect fish and other stream-dependent wildlife resources.

2.1.4 Western Riverside County Multiple Species Habitat Conservation Plan Riparian Riverine Resources & Vernal Pools

According to Section 6.1.2 of the MSHCP:

- “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.”
- “Vernal pools are 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. The determination that an area exhibits vernal pool characteristics, and the definition of the watershed supporting vernal pool hydrology, must be made on a case-by-case basis. Such determinations should consider the length of the time the area exhibits upland and wetland characteristics and the manner in which the area fits into the overall ecological system as a wetland. Evidence concerning the persistence of an area's wetness can be obtained from its history, vegetation, soils, and drainage characteristics, uses to which it has been subjected, and weather and hydrologic records.”

As defined under Section 6.1.2 of the MSHCP, Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools, riparian/riverine areas are areas dominated by trees, shrubs, persistent emergent plants, or emergent mosses and lichens which occur close to or are dependent upon nearby freshwater, or areas with freshwater flowing during all or a portion of the year. Conservation of these areas is intended to protect habitat that is essential to several listed or special-status water-dependent fish, amphibian, avian, and plant species.

For this analysis, all features that qualify as CDFW jurisdiction are considered MSHCP riparian/riverine resources, and WoS.

2.2 Literature Review

For the purposes of this document, the “Project Site” is defined as the Project’s proposed ground disturbance footprint (Figure 2). Prior to conducting fieldwork, the following information was reviewed to determine watershed characteristics, locations and types of aquatic resources that may be present within the Project Site:

- Perris Topographic Map 7.5-minute USGS Map (USGS 1981);
- Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants (Brady et al. 2013);
- 2023 color aerial photographs (Bing Maps 2023);
- Google Earth version 5.2.1.1588 (May 2023);
- MSHCP Transportation and Land Management Agency Geographic Information Services Database (GISD 2023);
- Regional Conservation Authority GIS Data Mapping Tool (RCA 2023, <https://www.wrc-rca.org/rcamaps/>);
- Natural Resource Conservation Service, Soil Survey Geographic Database (SSURGO) (USDA-NRCS 2023a);
- Natural Resource Conservation Service, Watershed Boundary Dataset (USDA-NRCS 2023b);

-
- Environmental Protection Agency Enviromapper for Water (EPA 2023);
 - Federal Emergency Management Agency (FEMA 2023);
 - National Wetlands Inventory (NWI) maintained by the US Fish and Wildlife Service (USFWS) (USFWS 2023);
 - 2023 U.S. Environmental Protection Agency (EPA) WATERS GeoViewer Tool (epa.maps.arcgis.com/apps/webappviewer/);
 - 2023 EPA Antecedent Precipitation Tool (APT) (epa.gov/wotus/antecedent-precipitation-tool-apt);
 - California Department of Water Resources Weather Station #240 (CIMIS 2023).

The Project Site and adjacent lands were examined to assess the presence of a discernable bed and bank, riparian or aquatic habitat, aquatic fish and wildlife resources, *Traditional Navigable Waters* (TNW), *Relatively Permanent Waters* (RPW), or evidence of a change in vegetation type, density, or vigor. The intent of this assessment was to determine where water may flow, or may not flow - or terminate, and was used to determine efficient locations for visual inspections to occur in the field.

2.2.1 Aerial Photography

Historic and current aerial photography of the Project and adjacent areas were reviewed, prior to and during the field assessments. Aerial photography was informative with deference to the state and function of land resources in both the present, and historic context. Inundation and vegetative signatures on aerial images can imply the presence - or absence, of lakes, rivers, or streambed systems within a discrete location.

2.2.2 U.S. Fish and Wildlife Service National Wetland Inventory Data and Environmental Protection Agency WATERS GeoViewer

The Federal Emergency Management Agency (FEMA) flood zone is depicted in Figure 6. Furthermore, the National Wetland Inventory (NWI) – which is maintained by the U.S. Fish and Wildlife Service (USFWS), was reviewed to support the identification of potential aquatic resources within Project limits (Figure 7). However, this database (i.e., the NWI) specifically rejects its use for regulatory jurisdictional review. Additionally, the U.S. Environmental Protection Agency (EPA) WATERS GeoViewer tool provided access to spatial data sets - such as interactive Upstream/Downstream search capabilities, and interactive watersheds, to assist in determining the jurisdictional status of resources detected within and adjacent to the Project (epa.maps.arcgis.com/apps/webappviewer/).

2.2.3 Antecedent Precipitation Tool

The Antecedent Precipitation Tool (APT) was also utilized to determine whether field observations are representative of typical climatic conditions (i.e., those that have been experienced over the past thirty years). This tool is informative when assessing whether certain field conditions are observed during typical, as opposed to atypical rainfall cycles. The APT queries data from weather stations that are located within a 30-mile radius from the Project.

2.2.4 Topography

USGS topographic maps were reviewed as well. These maps tend to illustrate elevation contours, drainage patterns, and hydrography within the Project limits and on adjacent lands. USGS 7.5-Minute Topographic Quadrangle Perris was evaluated to facilitate identification of potential drainage features within the Project Site and on adjacent lands - as indicated from topographic changes, blue-line features, or visible drainage patterns in order to characterized features.

2.3 Procedures and Field Data Collection

Potential USACE-defined wetlands, WoUS, WoS and other riverine resources were delineated in the field with a handheld Global Positioning System (GPS) receiver. The surface area of each feature was then calculated within a Geographic Information System (GIS) to determine total jurisdiction area within the Project Site. KMZ (Keyhole Markup Language Zipped) files and GIS/ESRI shapefiles are available for all mapped resources, upon request, as aquatic resource boundaries were not permanently flagged or demarked within the Project Site at the time of delineation in 2023.

2.3.1 Waters of the United States Delineation Techniques

The specific delineation of signatures tied to WoUS was conducted within the Project Site using a combination of on the ground quantification, remote sensing and ground verification via pedestrian surveys in 2022 and 2023. Assessment of the presence of an OHWM was based on observations - or evidence of flow, and unique characteristics indicating the presence of active water flow, shelving, drift lines, and disturbed vegetation. Or other indicators identified in the “Field Guide to Identification of the OHWM in the Arid West Region of the Western United States” (USACE 2008). OHWM characteristics in this region would primarily consist of sediment sorting, destruction of terrestrial vegetation, and a change in substrate in the feature as compared to the surrounding upland area. However, features were excluded from this assessment if they exhibited swales and erosional characteristics in accordance with USACE CWA Regulations Title 33 CFR Part 328.3(b) Not Waters of the United State³.

Data collected included digital format GPS locations, and photos of the Project Site. Both a routine off-site and on-site field determination was conducted for USACE-defined wetlands, and non-wetland WoUS and other published guidelines.

Typically, an area must meet criteria for hydrophytic vegetation, hydric soils, and wetland hydrology to be identified as a potential wetland under USACE jurisdiction. Features that did not meet the hydrophytic vegetation wetland criteria are reviewed to determine if they met the definition of other WoUS (i.e., had evidence of an OHWM). Data collected from georeferenced aerial photographs, topographic maps, and soils data are viewed on handheld mobile devices, and used to target areas with potential WoUS. During fieldwork, all accessible areas within the Project Site were visually surveyed for hydrophytic vegetation, standing water, scoured areas, etc. Inaccessible areas were viewed from the elevated locales with the aid of binoculars, aerial photographs, and so forth.

Areas that were determined to have an OHWM and/or defined bed/bank and suspected of being WoUS, wetlands or other sensitive riparian/riverine communities were further analyzed for a dominance of hydrophytic vegetation, hydric soils, and hydrology as described below. The evaluation process for USACE-defined wetlands considered vegetation, soils, and hydrological parameters of suspected features. The location of the OHWM was defined based on clear lines visible on banks; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; and differences in vegetation species, composition or structure.

2.3.2 Waters of the State Delineation Techniques

The field delineation for WoS was conducted within the Project Site as well areas using a combination of on the ground quantification, and remote sensing with on the ground verification via pedestrian surveys in in 2022 and 2023. With respect to suspected jurisdictional features; they were assessed in the field

³ USACE CWA Regulations Title 33 CFR Part 328.3(b) Not Waters of the United States – In summary, b(8) Swales and erosional features (e.g., gullies, small washes) characterized by low volume, infrequent, or short duration flow, are not WoUS.

for the presence of definable streambeds (i.e., having a bed, bank, and channel) and any associated riparian habitat. Streambeds and suspected riparian habitats were evaluated using the CFGC Section 1600 (et seq.), direction described in *A Field Guide to Lake and Streambed Alteration Agreements Sections 1600-1607* (ESD-CDFG 1994) and the recommendations detailed within the Mesa Field Guide: Mapping Episodic Stream Activity (Vyverberg et al. 2014) (MESA).

Accordingly, CFGC Section 1600 (et seq.) jurisdiction is presumed to extend to the following features:

- 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 as natural waterways.
- Artificial waterways without the attributes of natural waterways should generally not be subject to CFGC provisions.

MESA was also used to assist with identification and mapping of episodic streams; and identification of locations where water is absent and/or has been absent for several years - or more. To that end, total WoS jurisdictional limits were delineated for surface waters, lakes, rivers, streams (i.e., defined bed, bank, and channel) or other land cover types used by fish, aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife resources within the Project Site. The dimensions (i.e., linear length, width, and area) of each feature were generally determined based on the top-of-bank limits. If adjacent bank, floodplain, and/or terrace areas are included within the cover types that could be used by fish, aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife resources, then the feature plus any associated land cover was mapped and included as WoS.

However, within the Project Site signatures which meet the general definition and description for topographic lows, rills, gullies, swales, features excavated wholly in - and that drain only upland areas, and erosional signatures. These features were determined not to be WoS. The majority of these features are a result of road improvements, explicitly those related to drainage infrastructure, where roadside swales and culverts are created out of uplands, and are maintained to prevent street flooding; by merely conveying water away from the impermeable roads and other developed surfaces. These features are engineered and designed to collect precipitation and urban runoff along the roadway and other infrastructure. But more importantly, these features lack connectivity - or the capacity to interact with the larger landscape, as they are not tributary to any larger drainage system. Nonetheless, they disperse water away from vital infrastructure after significant rainfall events, etc., resulting in notable erosion or sedimentation issues. Not surprisingly, this category of feature is routinely subject to anthropogenic disturbance in the form of repairs, clean-outs, enlargements, maintenance and other modifications. These are not natural streams, washes or rivers, etc. – to the contrary, they are artificial features without the attributes of natural waterways; nor do they connect downstream habitats with other aquatic resources. As a result, none of the aforesaid signatures were determined to be subject to regulation under Section 1600 (et seq.) of the CFG Code; California Water Code section 13000 et seq.; or considered riparian/riverine resources as defined under Section 6.1.2 of the MSHCP.

2.3.3 Vegetation

Plants observed were identified to the taxonomic level sufficient to determine their wetland indicator status based on the National List of Plant Species that occurs in the Arid West Region National List of

Plant Species that Occur in Wetlands⁴ (EL 1987, Reed 1998, Lichvar 2012, and Table 1). Plants of uncertain identity were subsequently identified from taxonomic keys (Baldwin et al. 2012). Scientific and common species names were recorded per Baldwin et al. (2012) and Lichvar (2012).

Table 1. Summary of Wetland Indicator Status

Category	Probability
Obligate Wetland (OBL)	Plants that occur almost always (estimated probability > 99%) in wetlands under natural conditions
Facultative Wetland (FACW)	Plants that occur usually (estimated probability >67% to 99%) in wetlands, but also occur (estimated probability 1% to 33%) in non-wetlands
Facultative (FAC)	Plants with a similar likelihood (estimated probability 33% to 67%) of occurring in both wetlands and non-wetlands
Facultative Upland (FACU)	Plants that occur sometimes (estimated probability 1% to <33%) in wetlands, but occur more often (estimated probability >67% to 99%) in non-wetlands
Obligate Upland (UPL)	Plants that occur rarely (estimated probability < 1%) in wetlands, but occur almost always (estimated probability >99%) in non-wetlands under natural conditions
No Indicator (NI)	Wetland indicator status not assigned. Species is assumed to be upland.

Within this Report, the hydrophytic vegetation indicators criterion was met if the USACE's Dominance Test and/or Prevalence Index –using absolute, rather than relative vegetation cover, were satisfied. Vegetation communities were evaluated for each WoS, WoUS, wetland and other sensitive riparian / riverine location or water conveyance feature detected within the Project Site. Evaluations of vegetation communities were primarily limited to regions present within the OHWM and/or top of bed/bank, in addition to the outer limits of associated riparian / riverine vegetation. Vegetation communities were identified according to the percent cover of dominant plant species observed within each community. Vegetation classifications were based on a visual estimation of characteristic dominant flora within a type following Holland (1986) and/or Sawyer et al. (2009).

2.3.4 Soils

Soil texture, matrix, redoximorphic features (i.e., mottles), and any presence of subsoil layers impervious to water infiltration were documented from hand-excavated soil pits to the greatest extent practical. Soils were examined for positive hydric soil indicators such as low chroma, mottles (e.g., iron or manganese concretions), histic epipedons, organic layers, gleization, sulfidic odor or other primary hydric soil indicators listed on an Arid West Wetland Determination Data Form. Soil color and characteristics were determined from moist soil peds using Munsell Soil Color Book (Munsell Color 2000). When warranted, soils are evaluated in the field to a depth of approximately 8-20 inches, where possible. GPS position data are collected at each soil pit and detailed within Project figures – when this type of sampling is appropriate. If warranted, upland and wetland soil pits are evaluated as well to delineate the wetland/upland boundary – when necessary. Hydric soil assessments were predominately based upon the guidance provided in the Arid West Regional Supplement (USACE 2008b). General soil information for Project Components was obtained from the Soil Survey for Riverside County (USDA-NRCS 2023a).

⁴ USACE 2018 [https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html].

2.3.5 Hydrology & Impounded Features

Hydrology was evaluated in areas suspected of seasonal inundation and/or saturation to the surface during the growing season. Recent precipitation data was analyzed to evaluate the frequency and amount of rainfall events within the Project Site, and on surrounding lands. Hydrological information was also determined for features by signatures on aerial photographs over time, as well as field analysis of the presence/absence of primary - or secondary hydrological indicators (i.e., surface water, saturation, sediment or drift deposits, watermarks, soil cracks, oxidized root channels, and/or biotic or salt crusts). Additionally, impounded features – if observed, were assessed to determine if they possessed natural characteristics with indicators of all three (3) wetland parameters: 1) dominance of hydrophytic vegetation (or Facultative Neutral), 2) possess hydric soils in the upper part, and 3) wetland hydrology.

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3.0 SURVEY RESULTS

The topography within the Project Site is generally flat at about 1,440 feet above mean sea level (amsl). The Project Site is predominately comprised of developed, disturbed and/or non-native land cover types. Land use in the vicinity of the Project includes commercial, agriculture, residential and industrial endeavors. Agricultural and other commercial development activities were historically operated within the Project Site. There is also evidence of recent disking, and trash from illegal dumping throughout the Project's ground disturbance footprint. Nonetheless, Project implementation will slightly impact the Perris Valley Storm Drain (Figure 3). Notably, any location within the Perris Valley Storm Drain bearing signs of an OHWM, have been specifically circumvented by the design of the Project's disturbance footprint. But the Project Site does extend into the upper earthen western exterior boundaries of the aforesaid man-made storm drainage facility. This area is void of vegetation and is regularly maintained to allow access to the drainage structure. This location is coincident with a discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream to Canyon Lake.

3.1 Soils

The Web Soil Survey is an online Geographic Information System (GIS) that provides the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) with online soil data (NRCS 2023). This website was used to assess soil characteristics and soil types within the Project Site. This database was also used to determine if the Project Site's mapped soils were likely to include any hydrologically influenced areas.

According to the USDA NRCS, the Project Site consists of the following soil complexes (Appendix, Figure 4):

- Domino silt loam;
- Domino silt loam, saline-alkali; and
- Exeter sandy loam, 0 to 2 percent slopes.

Of the above referenced soil types, Domino silt loam, saline-alkali is formally classified as hydric. But please note that the NRCS Soil mapped units do not provide precise information, about the locations of soil types - or their inclusions. NRCS Soil Survey data users are cautioned that due to the limitations of mapping – primarily through aerial photo interpretation, a percentage of unique soil types may have gone unidentified, or misidentified.

3.2 Hydrology

The Project Site is located within the San Jacinto Regional Watershed (Hydrologic Unit Code 18070202) (Figure 5). Both EPA WATERS GeoViewer results, and USGS 7.5 Quadrangle Map evidence the Perris Valley Storm Drain within the Project Site (Figures 1 and 5).

It is also important to notice that although the NWI was reviewed (Figure 7), it was not considered indicative of the resources observed within the Project Components for the following reasons:

- 1) NWI users are cautioned that the features displayed therein show wetland type and extent using a biological definition. There is no attempt to define the limits of proprietary jurisdiction of any Federal, State, or local government - or to establish the geographical scope of the regulatory programs of government agencies. Therefore, the data should not be relied upon for jurisdictional identification.

- 2) NWI maps have been prepared from limited analysis of high-altitude imagery in conjunction with collateral data sources focusing on wetlands. When imagery is conflicting, the Environmental Systems Research Institute (ESRI) Base imagery is used.
- 3) The features within the Project Components are relatively small, and do not have obvious vegetation species variability, making they are indistinguishable from other signatures (e.g., off highway vehicle tracks), at high altitude.

The FEMA (2023) flood zone is depicted in Figure 6. Notably, the regional climate within the vicinity of the Project Site consists of warm and dry summer months with relatively cool and wetter winters. Seasonal rainfall and snow occur predominantly in the winter and spring months (November – April). U.S. Climate (U.S. Climate Data, 2022) precipitation data for the Perris/Menifee (Station 240) are detailed below:

- Seasonal precipitation prior to the field surveys measured 5.3 inches (February 2022 – March 2022); and
- Average annual precipitation within the region is 11.1 inches.

3.3 Waters of the United States & Waters of the State

The evidence provided herein implies that the Project Site includes WoS, but avoids WoUS (Figure 3). Notably, any location within the Perris Valley Storm Drain bearing signs of an OHWM, have been specifically circumvented by the design of the Project’s disturbance footprint. It's important to mention that while flows from the Perris Valley Storm Drain do eventually merge with Canyon Lake, all impacts to WoUS are being deliberately avoided. But the Project Site does extend into the upper earthen western exterior boundaries of the aforesaid man-made storm drainage facility. This area is void of vegetation and is consistently maintained to allow access to the drainage structure. This location is coincident with a discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream to Canyon Lake; which strengthen its potential status as a WoS. *Therefore, the Project Site includes 0.002-acres of WoS - non-riparian ephemeral streambed, which constitute a total of 13 linear feet (Figure 3).*

Graphics depicting the limits of WoUS and WoS are provided as Figure 3, and photographs are provided as Appendix B. Tables 2 and 3 below summarizes WoUS and WoS jurisdiction and impacts in more detail, and is followed by a description of the Perris Valley Storm Drain.

Table 2. Summary of WoUS and Project Impacts

Feature	Permanent Impacts – Project Site	Temporary Impacts – Project Site	Total
	(Acres)	(Acres)	(Acres)
Perris Valley Storm Drain	0.00	0.00	0.00
Total	0.00	0.00	0.00

Table 3. Summary of WoS and Project Impacts

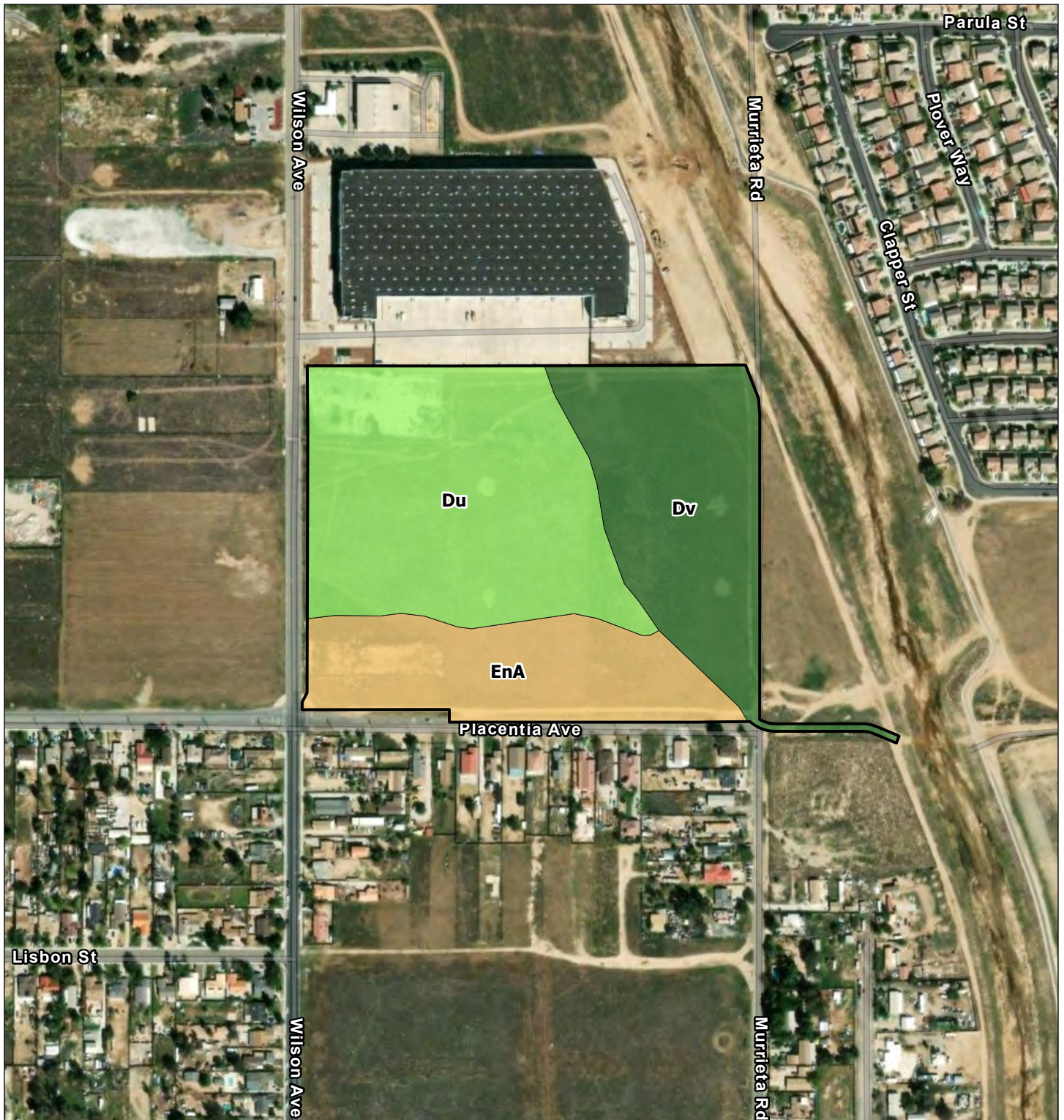
Feature	Permanent Impacts – Project Site	Temporary Impacts – Project Site	Total
	(Acres)	(Acres)	(Acres)
Perris Valley Storm Drain	0.002	0.00	0.002
Total	0.002	0.00	0.002

Perris Valley Storm Drain

The Perris Valley Storm Drain is a water conveyance feature within the Project Site’s eastern boundary. The drainage is intermittent, includes a low flow channel and exhibits an OHWL which is approximately 250 feet wide. There is also evidence of water marks, sediment deposits, drainage patterns and debris. This drainage facility has been constructed, but has earthen exterior banks which are void of vegetation and are regularly maintained to allow access to the structure. This engineered drainage includes discernable bank line with topographic relief, and contributes – albeit in a limited capacity, to water conveyance and connectivity downstream to Canyon Lake. Vegetation within and along the banks of the Perris Valley Storm Drain are dominated by Bermuda grass (*Cynodon dactylon*) and English plantain (*Plantago lanceolata*). Bermuda grass is a perennial species widely used for lawns, pastures, and sports fields in warmer climates. The English plantain is also a perennial, but it is commonly found in grasslands, meadows, and other disturbed areas. That said, trace amounts of Baltic rush (*Juncus balticus*), were observed within the low flow channel. Baltic rush is a perennial which is typically found in wet habitats, including marshes, wet meadows, and along the edges of ponds and streams.




Figure 3. Delineation of Waters and Wetlands




 Project Site

Soil Types

 Du - Domino silt loam

 Dv - Domino silt loam, saline-alkali

 EnA - Exeter sandy loam, 0 to 2 percent slopes

0 200 400 Feet

1 inch = 400 feet



Data Sources:

- ESRI World Imagery accessed 8/16/2023, imagery date: 2/26/2022

- NRCS Web Soil Survey accessed 8/16/2023

Map Prepared: 8-16-23

Prepared by:

NOREAS
Environmental Engineering and Science

Figure 4. Soils Map

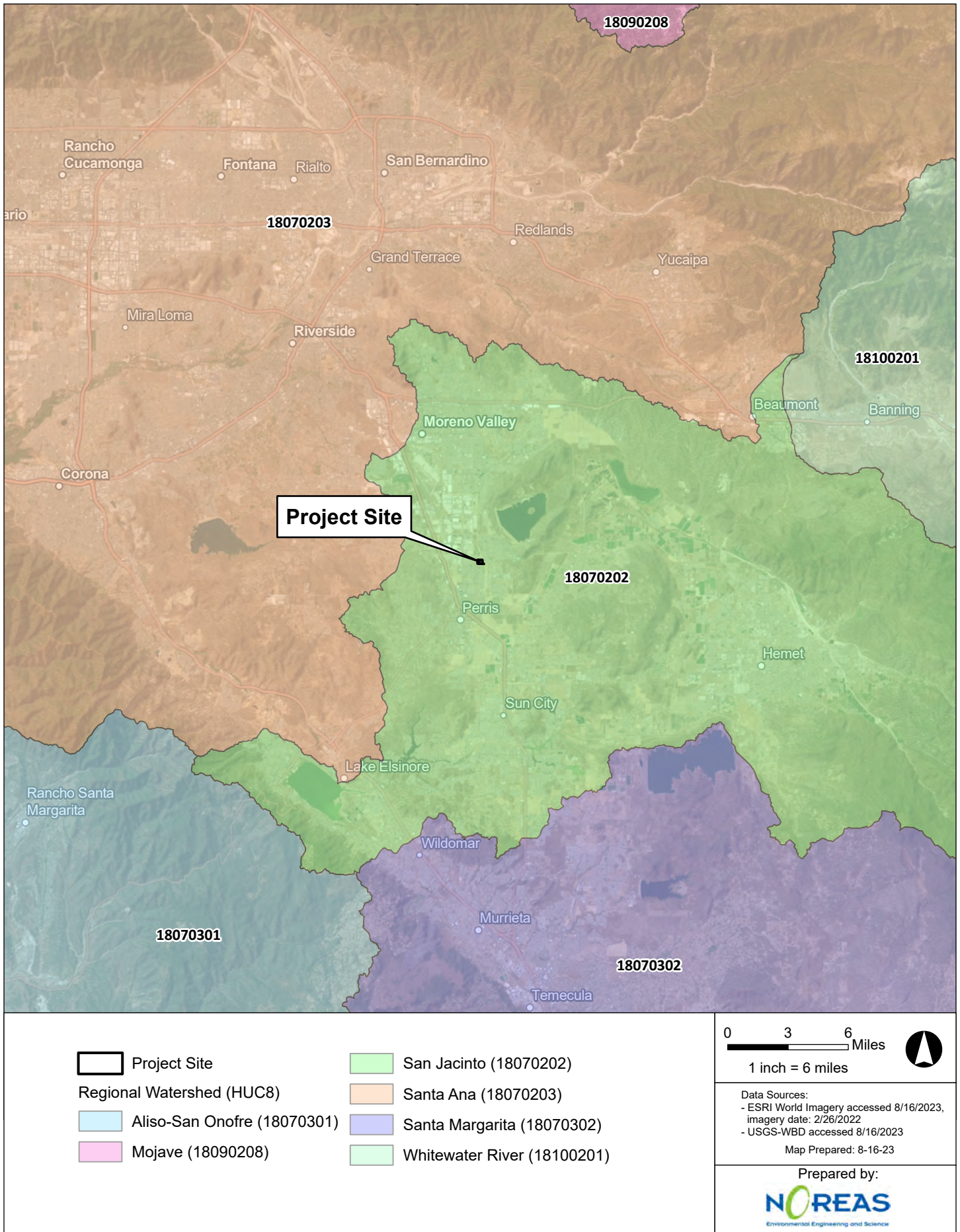
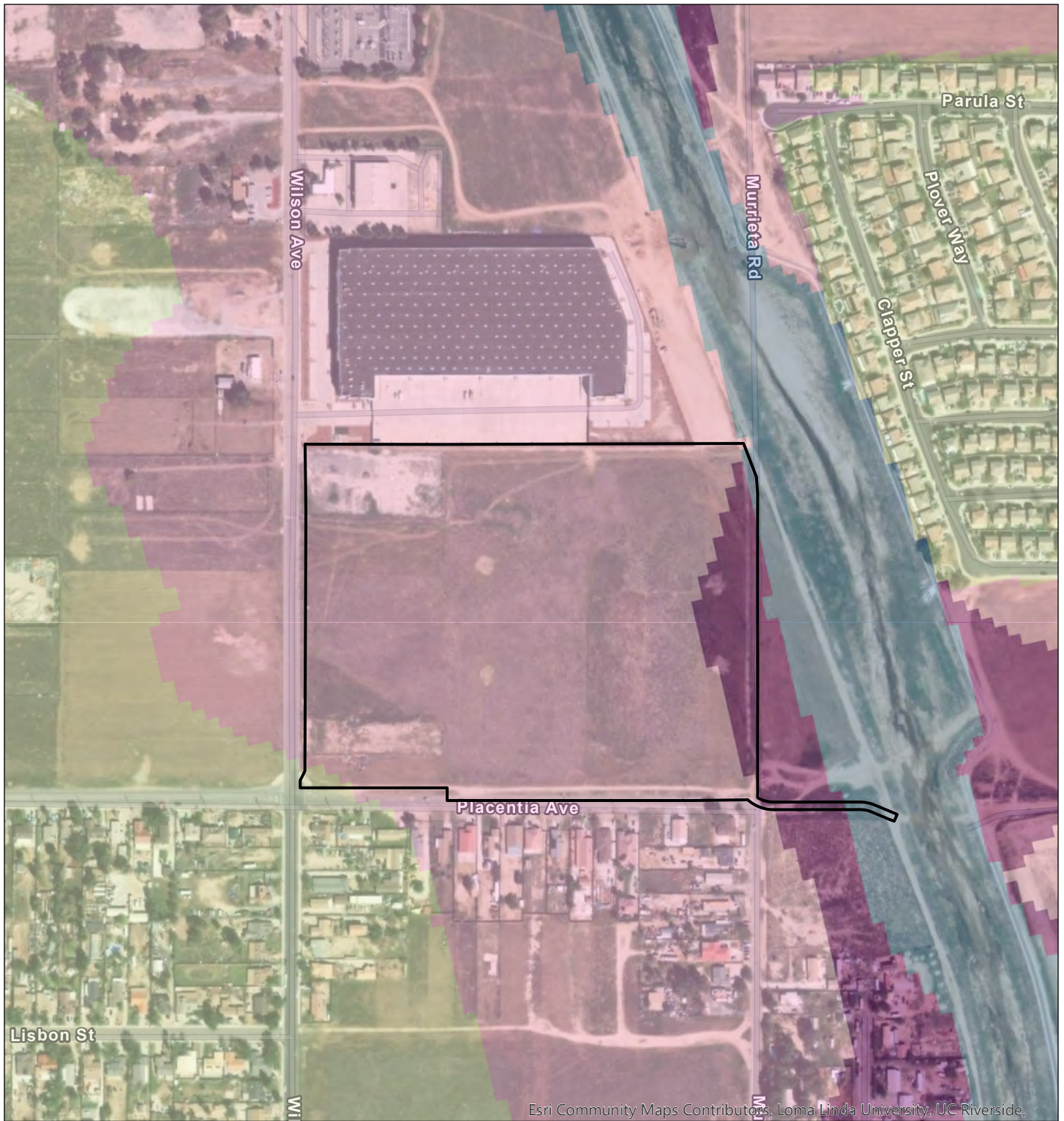



Figure 5. Regional Watershed Map




Esri Community Maps Contributors, Loma Linda University, UC Riverside,

 Project Site

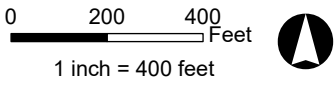
FEMA Flood Hazard Zone

 1% Annual Chance Flood Hazard

 Regulatory Floodway

 Area of Minimal Flood Hazard

 0.2% Annual Chance Flood Hazard



Data Sources:
 - ESRI World Imagery accessed 8/16/2023, imagery date: 2/26/2022
 - FEMA National Flood Hazard Layer accessed 8/16/2023

Map Prepared: 8-16-23

Prepared by:



Figure 6. FEMA 100-Year Flood Zone



 Project Site	0 200 400 Feet 1 inch = 400 feet
USA Wetlands	Data Sources: - ESRI World Imagery accessed 8/16/2023, imagery date: 2/26/2022 - US Fish and Wildlife Service National Wetland Inventory accessed 8/16/2023 Map Prepared: 8-16-23
 River	Prepared by:  Environmental Engineering and Science

Figure 7. National Wetland Inventory

4.0 PROPOSED RECOMMENDATIONS AND MEASURES TO OFFSET ADVERSE IMPACTS TO SPECIAL AQUATIC RESOURCE AREAS

This document presents NOREAS' best effort at estimating special aquatic resource area boundaries using the most up-to-date regulations, written policies, and guidance from the USACE, RWQCB, CDFW and RCA. However, only the USACE, RWQCB, CDFW and RCA personnel can make a final determination of special aquatic resource area boundaries.

The following measures are recommended as a means of avoiding and minimizing adverse effects to special aquatic resource areas that have the potential to occur within Project limits, and on adjacent lands:

- Prior to undertaking ground-disturbing activities within or immediately adjacent to any special aquatic resource areas, consult with the appropriate responsible resource agency to verify the results detailed herein, and complete any necessary discretionary permits/ authorizations if avoidance of special aquatic resource areas is not possible.

The services performed and documented in this report have been conducted in a manner consistent with the level of care, and skill ordinarily exercised by other professional consultants under similar circumstances. No other representations are either expressed or implied, and no warranty - or guarantee is included or intended in this report. Opinions relating to presence, absence, or potential for occurrence of special aquatic resource areas are based on limited data despite due professional care.

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**APPENDIX A
PHOTOGRAPH LOG**

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APPENDIX A
PHOTOGRAPH LOG

	<p>Photograph 1. Facing Southeast.</p>
	<p>Photograph 2. Facing West</p>

APPENDIX A
PHOTOGRAPH LOG

	<p>Photograph 3. Facing Southwest</p>
	<p>Photograph 4. Facing North.</p>

APPENDIX A
PHOTOGRAPH LOG



Photograph 5. Data Point 1. Associated with the Perris Valley Storm Drain.



Photograph 6. Perris Valley Storm Drain - Facing East.

**APPENDIX B
DATA FORMS**

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WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Placentia Avenue Industrial Project City/County: Perris/Riverside Sampling Date: 02-18-22
 Applicant/Owner: Lake Creek Industrial State: CA Sampling Point: DP 1
 Investigator(s): Lincoln Hulse, Brent Helm Section, Township, Range: S 17 T4 S, R3 W
 Landform (hillslope, terrace, etc.): Floodplain/Drainage Local relief (concave, convex, none): Concave Slope (%): >1%
 Subregion (LRR): Mediterranean California Lat: 33.82467 Long: -117.20766 Datum: NAD 83
 Soil Map Unit Name: Exeter sandy loam, slightly saline-alkali NWI classification: Riverine

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
Remarks: Data point is within the Perris Valley Storm Drain - outside of the Project's disturbance footprint.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>None</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____	_____	_____	_____	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A)
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>2</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
4. _____	_____	_____	_____	
0 = Total Cover				
Sapling/Shrub Stratum (Plot size: <u>None</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. _____	_____	_____	_____	Total % Cover of: _____ Multiply by: _____
2. _____	_____	_____	_____	OBL species <u>0</u> x 1 = <u>0</u>
3. _____	_____	_____	_____	FACW species <u>2</u> x 2 = <u>4</u>
4. _____	_____	_____	_____	FAC species <u>10</u> x 3 = <u>30</u>
5. _____	_____	_____	_____	FACU species <u>25</u> x 4 = <u>100</u>
0 = Total Cover				UPL species <u>8</u> x 5 = <u>40</u>
				Column Totals: <u>45</u> (A) <u>174</u> (B)
				Prevalence Index = B/A = <u>3.86</u>
Herb Stratum (Plot size: <u>10 x 10</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Cynodon dactylon</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	<input type="checkbox"/> Dominance Test is >50%
2. <u>Juncus balticus</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	<input type="checkbox"/> Prevalence Index is ≤3.0 ¹
3. <u>Plantago lanceolata</u>	<u>10</u>	<u>Y</u>	<u>FAC</u>	<input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
4. <u>Erodium cicutarium</u>	<u>5</u>	<u>N</u>	<u>UPL</u>	<input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Bromus madritensis</u>	<u>3</u>	<u>N</u>	<u>UPL</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
45 = Total Cover				
Woody Vine Stratum (Plot size: <u>None</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Footnote:
1. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. _____	_____	_____	_____	
0 = Total Cover				
% Bare Ground in Herb Stratum <u>55</u> % Cover of Biotic Crust <u>0</u>				
				Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>

Remarks:
 Hydrophytic vegetation is not present, as the Dominance Text is not >50% and the Prevalence Index is >3.0.

Arid West Ephemeral and Intermittent Streams OTHM Datasheet

Project: <i>Perris</i>	Date: <i>2/18/2022</i>	Time: <i>11:44am</i>
Project Number:	Town:	State: <i>California</i>
Stream:	Photo begin file#:	Photo end file#:
Investigator(s): <i>Helm</i>		

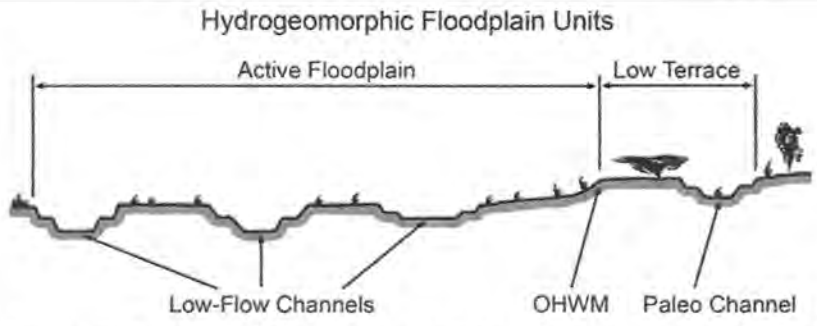
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Do normal circumstances exist on the site?	Location Details:
Y <input checked="" type="checkbox"/> / N <input type="checkbox"/> Is the site significantly disturbed?	Projection: Datum:
	Coordinates:

Potential anthropogenic influences on the channel system:
 Channel is human-made for flood water conveyance. Several 3 to 6 foot diameter culverts discharge storm water into the system. Site is utilized by pedestrians, bicyclists, and wagons. The site is littered with trash.

Brief site description:
 Large excavated channel with relatively flat bottom, except for meanders of low-flow channel and water discharges from numerous culverts.

Checklist of resources (if available):

<input checked="" type="checkbox"/> Aerial photography Dates:	<input type="checkbox"/> Stream gage data Gage number:
<input checked="" type="checkbox"/> Topographic maps	Period of record:
<input type="checkbox"/> Geologic maps	<input type="checkbox"/> History of recent effective discharges
<input type="checkbox"/> Vegetation maps	<input type="checkbox"/> Results of flood frequency analysis
<input checked="" type="checkbox"/> Soils maps	<input type="checkbox"/> Most recent shift-adjusted rating
<input type="checkbox"/> Rainfall/precipitation maps	<input type="checkbox"/> Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event
<input type="checkbox"/> Existing delineation(s) for site	
<input checked="" type="checkbox"/> Global positioning system (GPS)	
<input type="checkbox"/> Other studies	



Procedure for identifying and characterizing the floodplain units to assist in identifying the OTHM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
 - a) Record the floodplain unit and GPS position.
 - b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
 - c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OTHM and record the indicators. Record the OTHM position via:

<input type="checkbox"/> Mapping on aerial photograph	<input checked="" type="checkbox"/> GPS
<input type="checkbox"/> Digitized on computer	<input type="checkbox"/> Other:

Project ID: Perris Cross section ID: OHWM # A Date: 2/18/2022 Time: 11:48

Cross section drawing:



OHWM

GPS point: _____

Indicators:

- Change in average sediment texture
- Change in vegetation species
- Change in vegetation cover
- Break in bank slope
- Other: Rock line of vegetation and debris
- Other: _____

Comments:

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sand
Total veg cover: 20 % Tree: _____ % Shrub: _____ % Herb: 20 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank (sometimes)
- Benches
- Soil development
- Surface relief
- Other: standing water
- Other: _____
- Other: _____

Comments:

Water was present in portions of the low-flow channel from a storm event that happened on Tuesday (2/15/2022) which was roughly 1/4 to 1/8 ".

Cynodon dactylon
Plantago lanceolata

Project ID: Perris Cross section ID: OHWM# A Date: 2/18/2022 Time: 11:53

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sand

Total veg cover: 35 % Tree: _____ % Shrub: _____ % Herb: 35 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: Scours
- Other: _____
- Other: _____

Comments:

Transient depending on storm events in the greater watershed.

Floodplain unit: Low-Flow Channel Active Floodplain Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Sand to loamy sand

Total veg cover: _____ % Tree: _____ % Shrub: _____ % Herb: 90 %

Community successional stage:

- NA
- Early (herbaceous & seedlings)
- Mid (herbaceous, shrubs, saplings)
- Late (herbaceous, shrubs, mature trees)

Indicators:

- Mudcracks
- Ripples
- Drift and/or debris
- Presence of bed and bank
- Benches
- Soil development
- Surface relief
- Other: _____
- Other: _____
- Other: _____

Comments:

The low-terrace is artificial "terrace" due to the excavation of the channel in a desert basin.