



MENIFEE VALLEY PROJECT - BIOLOGICAL RESOURCES AND MSHCP CONSISTENCY REPORT

Menifee, California

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Table of Contents

1	Summary	1
2	Introduction	3
2.1	Project Location	3
2.2	Project Description	3
2.3	Regulatory Framework	3
3	Methods	9
3.1	Database Search	9
3.2	Vegetation Mapping And General Biological Surveys	10
3.3	Special-Status Species Surveys	11
3.4	Aquatic Resources Delineation	12
4	Results	13
4.1	Physical Setting	13
4.2	Vegetation Communities And Land Uses	13
4.3	Plants And Wildlife	15
4.4	Jurisdictional Aquatic Resources	24
4.5	Wildlife Movement and Corridors	26
4.6	Local Policies and Ordinances	27
4.7	Habitat Conservation Plans/Natural Communities Conservation Plan	27
5	Impact Analysis	28
5.1	Impacts On Native Vegetation	29
5.2	Impacts On Federally/State Listed Or MSHCP Narrow Endemic Plant Species	29
5.3	Impacts on Non-Listed Special-Status Plant Species	29
5.4	Impacts on Special-Status Animals	29
5.5	Impacts on Nesting Birds	30
5.6	Impacts on Jurisdictional Aquatic Resources	30
5.7	Impacts on Wildlife movement and corridors	31
5.8	Impacts on Local Policies and Ordinances	32
5.9	Impacts on Habitat Conservation Plans/Natural Communities Conservation Plans	32
5.10	Indirect Impacts on Biological Resources	32
5.11	Cumulative Impacts on Biological Resources	33
6	Mitigation and Avoidance Measures	34
6.1	Development Fees	34

6.2	Nesting Birds	34
6.3	Burrowing Owl	34
6.4	Stephens' Kangaroo Rat	35
6.5	Jurisdictional Aquatic Resources	35
7	MSHCP Consistency Analysis.....	37
7.1	Relationship Of The Project Site To The MSHCP	37
7.2	Protection Of Species Associated With Riparian/Riverine Areas And Vernal Pools	37
8	Protection of Narrow Endemic Plants.....	39
9	Additional Survey Needs and Procedures	39
9.1	Criteria Area Plant Species	39
9.2	Amphibians	39
9.3	Burrowing Owl	39
9.4	Mammals	40
10	Guidelines Pertaining to the Urban/Wildland Interface	40
11	Conclusion of MSHCP Consistency	40
12	References	41

TABLES

Table 1.	Survey Dates and Types within the Meniffee Valley Project Site	11
Table 2.	BUOW Survey Dates and Types within the Meniffee Valley Project Site	12
Table 3.	Summary of Vegetation within the Meniffee Valley Project Site.....	14
Table 4.	Assessment of Special-Status Plant Species Potential to Occur	16
Table 5.	CRPR Definitions.....	18
Table 6.	Assessment of Special-Status Wildlife Species Potential to Occur	19
Table 7.	Potential RWQCB Jurisdictional Resources	25
Table 8.	Potential CDFW Jurisdictional Resources	25
Table 9.	Meniffee Valley Project Site Vegetation Communities/Land Use Impacts	29
Table 10.	Potential RWQCB and CDFW Aquatic Resource Impacts.....	31

FIGURES

Figure 1. Project Location

Figure 2a. CNDDDB Plants and Wildlife

Figure 2b. USFWS Plants and Wildlife

Figure 3. Biological Resources

Figure 4a. Jurisdictional Delineation – Corps

Figure 4b. Jurisdictional Delineation – RWQCB and CDFW

Figure 5. Impacts

Figure 6. Jurisdictional Delineation – MSHCP Riparian/Riverine

Figure 7. MSHCP Areas

APPENDICES

Appendix A. Site Photographs

Appendix B. Plant and Wildlife Species Observed

Appendix C. Menifee Valley Project Jurisdictional Delineation Report

Appendix D. Menifee Valley Project - Focused Burrowing Owl Survey Report

1 Summary

This report presents the results of a biological resource assessment and Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) consistency analysis conducted by Rocks Biological Consulting (RBC) for the Menifee Valley Project (project) in the City of Menifee, Riverside County, California. This report also uses information from the initial MSHCP Consistency Analysis prepared by Cadre Environmental (Cadre; Cadre 2019). The approximately 578-acre project site is not located within an MSHCP Criteria Area cell, group or linkage area and is not subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) or Joint Project Review (JPR) processes. The project is not located within a Criteria Area Species Survey Area or Narrow Endemic Plant Species Survey Area but is located within the MSHCP Burrowing Owl Survey Area. Protocol burrowing owl (*Athene cunicularia*; BUOW) surveys were conducted by Cadre in 2016 and 2018 and by RBC in 2022, all of which were negative for BUOW.

Additionally, RBC conducted a formal jurisdictional delineation for the project in August 2018 and April 2019 to identify areas potentially jurisdictional under the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act (CWA); the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; and the California Department of Fish and Wildlife (CDFW) pursuant to Section 1602 of the California Fish and Game Code (CFGC).

The project site contains 1.96 acres of riparian/riverine habitat as defined by Section 6.1.2 of the MSHCP. The riparian habitat on site is limited, isolated, disturbed and not anticipated to support riparian bird species, including least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*). There is also no suitable vernal pool habitat that could support Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), Riverside fairy shrimp (*Streptocephalus woottoni*), or vernal pool fairy shrimp (*Branchinecta lynchi*).

The project site supports drainages expected to be considered jurisdictional under the RWQCB and the CDFW as further defined under separate cover in the 2019 *Menifee Valley Project Jurisdictional Delineation Report* (2019 JD Report; Appendix C). Note that RBC completed and submitted the 2019 JD Report and an associated request for an Approved Jurisdictional Determination (AJD) to the Corps to conclude that the on-site drainages are not Corps-jurisdictional, in July 2019 under the 2015 Clean Water Rule, which was the regulatory framework in effect at the time, and prior to the RWQCB's *The State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (the Procedures; State Water Resources Control Board [SWRCB] 2021). The Corps issued the AJD in October 2019 confirming that none of the on-site drainages are Corps-jurisdictional resources, along with written confirmation that no Corps permitting will be required for the project.

Although the definition of "waters of the U.S." has changed since the Corps issued the 2019 AJD, the AJD remains valid for five years from date of issuance (i.e., until October 10, 2024) despite

repeal of the 2015 Clean Water Rule on October 22, 2019 and subsequent changes in the regulatory framework that define “waters of the U.S.” per the Corps, including the vacatur of the 2020 Navigable Waters Protection Rule (NWPR) per the 2021 ruling in *Pascua Yaqui Tribe v. U.S. Environmental Protection Agency* (Pascua Yaqui Tribe; Case No. CV-20-00266-TUC-RM). Nevertheless, based on a 2021 follow-up site visit and review of additional recent aerial imagery, all observed aquatic resources on site would also qualify as non-jurisdictional waters per the Corps’ current definition of “waters of the U.S.” (i.e., pre-2015 regulations and guidance. The limits of anticipated RWQCB and CDFW jurisdictions also remain as documented in the 2019 JD Report (Appendix C).

If construction within the observed aquatic resources on site has not been completed by October 10, 2024 (i.e., once the 2019 AJD expires), the project team will need to reassess the jurisdictional nature of the on-site aquatic resources based on the regulatory framework in place at that time; as such, the extent of Corps jurisdiction within the project site may change once the AJD expires in October 2024. Additionally, a formal request for an AJD based on the regulatory framework in place at that time (i.e., in October 2024) would need to be submitted to the Corps to receive confirmation that any on-site aquatic resources (that were also included in the 2019 AJD) are not jurisdictional per the Corps, along with written confirmation that Corps permitting is still not required for the project.

The project would be consistent with the goals/objectives of the MSHCP with an approved DBESP and the implementation of the proposed avoidance and mitigation measures included in this report.

2 Introduction

2.1 PROJECT LOCATION

The project site is located east of Interstate 215 on California State Route 74 (CA-74) between Menifee Road and Briggs Road in the City of Menifee, Riverside County, California (Figure 1). CA-74 borders the northern boundary of the site, and Case Road and a railroad corridor border the southern boundary of the site. Briggs Road borders the eastern boundary, and Menifee Road borders the western boundary. The project site occurs within Section 13 and 24, Township 5S, Range 3W on the U.S. Geological Survey (USGS) 7.5-minute Romoland quadrangle map.

2.2 PROJECT DESCRIPTION

The project entails the proposed construction of a master planned community consisting of a mix of uses including residential, commercial business park, public utility corridor, public facility, and open space recreational amenities and conservation on the 578-acre project site.

2.3 REGULATORY FRAMEWORK

Federal, state, and local agencies have established several regulations to protect and conserve biological resources. The descriptions below provide a brief overview of agency regulations that may be applicable to the project. The regulating agencies make the final determination as to what types of permits are required.

FEDERAL REGULATIONS

Federal Endangered Species Act

The federal Endangered Species Act of 1973 (ESA; 16 U.S. Code [U.S.C.] § 1531 et seq.), as amended, provides for listing of endangered and threatened species of plants and animals and designation of critical habitat for listed species. The ESA regulates the “take” of any endangered fish or wildlife species, per Section 9. As development is proposed, the responsible agency or individual landowner is required to consult with the U.S. Fish and Wildlife Service (USFWS) to assess potential impacts on listed species (including plants) or their critical habitat, pursuant to Sections 7 and 10 of the ESA. USFWS is required to make a determination as to the extent of impact a project would have on a particular species. If it is determined that potential impacts on a species would likely occur, measures to avoid or reduce such impacts must be identified. USFWS may issue an incidental take statement, following consultation and the issuance of a Biological Opinion. This allows for take of the species that is incidental to another authorized activity, provided that the action will not adversely affect the existence of the species. Section 10 of the ESA provides for issuance of incidental take permits to non-federal parties with the development of a habitat conservation plan (HCP); Section 7 provides for permitting of federal projects.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA; 16 U.S.C. § 703 et seq.) is a federal statute that implements treaties with several countries on the conservation and protection of migratory birds. The number of bird species covered by the MBTA is extensive and listed at 50 Code of Federal Regulations (CFR) 10.13. The USFWS enforces the MBTA, which prohibits “by any means or in any manner, to pursue, hunt, take, capture, [or] kill” any migratory bird, or attempt such actions, except as permitted by regulation.

Clean Water Act

Pursuant to Section 404 of the CWA (33 U.S.C. § 1251 et seq.), the Corps is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 CFR 328.3 (51 Federal Register [FR] 41217, November 13, 1986; 53 FR 20764, June 6, 1988) and further defined by the 2001 *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers* (SWANCC; 531 U.S. 159) decision and the 2006 *Rapanos v. United States* (Rapanos; 547 U.S. 715) decision (i.e., 2015 regulations and guidance). The Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits. The Corps would require a Standard Individual Permit (SIP) for more than minimal impacts to waters of the U.S. as determined by the Corps. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit (NWP).

A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The RWQCB, a division of the SWRCB, provides oversight of the Section 401 certification process in California. The RWQCB must certify “that there is a reasonable assurance that the activity will be conducted in a manner which will not violate water quality standards” (40 CFR 121.2(a)(3)). Water Quality Certification's must be based on the finding that a proposed discharge will comply with applicable water quality standards.

The National Pollutant Discharge Elimination System (NPDES) is the permitting program for discharge of pollutants into surface waters of the U.S. under Section 402 of the CWA (33 U.S.C. § 1342).

STATE REGULATIONS

California Environmental Quality Act

The California Environmental Quality Act (CEQA; California Public Resources Code § 21000 et seq.) was established in 1970 as California’s counterpart to the National Environmental Policy Act (NEPA). CEQA requires state and local agencies to identify significant environmental impacts of their actions and to avoid or mitigate those impacts, where feasible.

CEQA applies to certain activities of state and local public agencies. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a “project.” A project is an activity undertaken by a public agency or a private activity, which must receive some discretionary approval

(meaning that the agency has the authority to deny the requested permit or approval) from a government agency that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

California Endangered Species Act and Natural Community Conservation Planning Act

The California Endangered Species Act of 1984 (CESA; CFGC § 2050 et seq.), in combination with the California Native Plant Protection Act of 1977 (CFGC § 1900 et seq.), regulates the listing and take of plant and animal species designated as endangered, threatened, or rare within the state. California also lists species of special concern based on limited distribution; declining populations; diminishing habitat; or unusual scientific, recreational, or educational value. The CDFW is responsible for assessing development projects for their potential to impact listed species and their habitats. State-listed special-status species are addressed through the issuance of a 2081 permit (Memorandum of Understanding).

In 1991, the California Natural Community Conservation Planning (NCCP) Act (CFGC § 2800 et seq.) was approved and the NCCP Coastal Sage Scrub program was initiated in Southern California. The NCCP program was established “to provide for regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development and growth.” The NCCP Act encourages preparation of plans that address habitat conservation and management on an ecosystem basis rather than one species or habitat at a time.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the CFGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Notification of Lake or Streambed Alteration must be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake” (CFGC § 1602). CDFW has jurisdiction over riparian habitats associated with watercourses and wetland habitats supported by a river, lake, or stream. Jurisdictional waters are delineated by the outer edge of riparian vegetation or at the top of the bank of streams or lakes, whichever is wider. CDFW jurisdiction does not include tidal areas or isolated resources (e.g., riparian or wetland areas not supported by a river, lake, or stream). CDFW reviews the proposed actions and, if necessary, submits (to the applicant) a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement.

California Fish and Game Code Sections 3503, 3511, 3513, 3801, 4700, 5050, and 5515

CDFW protects and manages fish, wildlife, and native plant resources within California. The California Fish and Game Commission and/or CDFW are responsible for issuing permits for the take or possession of protected species. The following sections of the CFGC address protected species: Section 3511 (birds), Section 4700 (mammals), Section 5050 (reptiles and amphibians), and Section 5515 (fish). In addition, the protection of birds of prey is provided for in Sections 3503, 3513, and 3800 of the CFGC.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code § 13000 et seq.) provides for statewide coordination of water quality regulations. The State Water Resources Control Board was established as the statewide authority and nine separate RWQCBs were developed to oversee water quality on a day-to-day basis. The RWQCBs have primary responsibility for protecting water quality in California. As discussed above, the RWQCBs regulate discharges to surface waters under the CWA. In addition, the RWQCBs are responsible for administering the Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 permit is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

REGIONAL AND LOCAL PLANS***Western Riverside Multiple Species Habitat Conservation Plan***

The MSHCP is a comprehensive habitat conservation/planning program for Western Riverside County. The intent of the MSHCP is to preserve native vegetation and meet the habitat needs of multiple species, rather than focusing preservation efforts on one species at a time. The MSHCP provides coverage (including take authorization for listed species) for special-status plant and animal species, as well as mitigation for impacts on special-status species and associated native habitats.

Through agreements with the USFWS and CDFW, the MSHCP designates 146 special-status animal and plant species as Covered Species, of which the majority have no project-specific survey/conservation requirements. The MSHCP provides mitigation for project-specific impacts on these species for projects that are compliant/consistent with MSHCP requirements, such that the impacts are reduced to below a level of significance pursuant to CEQA.

The Covered Species that are not yet adequately conserved have additional requirements for these species to ultimately be considered ‘adequately conserved’. A number of these species have survey requirements based on a project’s occurrence within a designated MSHCP survey area and/or based on the presence of suitable habitat. These include Narrow Endemic Plant Species (MSHCP Volume I, Section 6.1.3), as identified by the Narrow Endemic Plant Species Survey Areas (NEPSSA); Criteria Area Plant Species (MSHCP Volume I, Section 6.3.2) identified by the Criteria Area Plant Species Survey Areas (CAPSSA); animal species (BUOW, mammals, amphibians) identified by survey areas (MSHCP Volume I, Section 6.3.2); and species associated with riparian/riverine areas and vernal pool habitats, including least Bell’s vireo, southwestern willow flycatcher, western yellow-billed cuckoo, and three species of listed fairy shrimp (MSHCP Volume I, Section 6.1.2). An additional 28 species (MSHCP Volume I, Table 9.3) not yet adequately

conserved have species-specific objectives for the species to become adequately conserved. However, these species do not have project-specific survey requirements.

The goal of the MSHCP is to have a total Conservation Area in excess of 500,000 acres, including approximately 347,000 acres on existing Public/Quasi-Public (PQP) Lands, and approximately 153,000 acres of Additional Reserve Lands targeted within the MSHCP Criteria Area. The MSHCP is divided into 16 separate Area Plans, each with its own conservation goals and objectives. Within each Area Plan, the Criteria Area is divided into Subunits, and further divided into Criteria Cells and Cell Groups (a group of criteria cells). Each Cell Group and ungrouped, independent Cell has designated “criteria” for the purpose of targeting additional conservation lands for acquisition. Projects located within the Criteria Area are subject to the Habitat Evaluation and Acquisition Negotiation Strategy (HANS) process to determine if lands are targeted for inclusion in the MSHCP Reserve. In addition, all projects located within the Criteria Area are subject to the Joint Project Review (JPR) process, where the project is reviewed by the Regional Conservation Authority (RCA) to determine overall compliance/consistency with the biological requirements of the MSHCP.

Stephens’ Kangaroo Rat Habitat Conservation Plan and Riverside County Ordinance No. 663

The Stephens’ Kangaroo Rat (SKR) Habitat Conservation Plan (HCP) was completed in 1996 by the Riverside County Habitat Conservation Agency, the CDFW, and the USFWS (County of Riverside 1996). The HCP was created as a region-wide plan for species permitting and conservation so that individual projects could receive ESA take authority for the species through the County, rather than individually. The HCP established 7 “core reserves,” totaling more than 41,000 acres, within a planning area of 533,000 acres. The Riverside County Habitat Conservation Agency is responsible for “completing” the reserves through the addition of land in fee simple or through the acquisition of easements. The HCP also calls for the addition of 2,500 acres of occupied Stephens’ kangaroo rat habitat into the reserves, for a total of 15,000 acres of occupied Stephens’ kangaroo rat habitat within core reserves (Chamberlin 1998).

Riverside County Ordinance No. 663 also provides a funding mechanism for establishing sufficient habitat areas which can be effectively protected and managed for SKR’s survival and recovery (County of Riverside n.d.). The site occurs within the SKR Fee Area outlined in the Riverside County SKR HCP.

Riverside County Ordinance No. 499 and Tree Removal

The City of Menifee has adopted Riverside County Ordinance Number 499 for use within the city (City of Menifee 2021). Chapter 12.08 of the Riverside County Code of Ordinances provides regulations regarding roadside tree removal and trimming activities (County of Riverside 2003). In accordance with Unincorporated Riverside County Ordinance No. 499 (as amended through 499.11), a person or entity must obtain a permit from the County Transportation Director prior to removing trees or trimming any tree planted in the right of way of a County highway. If such removals are proposed, the County Transportation Director may impose conditions such as requirements for use of a qualified tree surgeon or trimmer; bond, insurance or security to protect from damage; and relocation and/or replacement of one or more other trees.

The project will not impact any right of way trees, therefore, this chapter of the development code does not apply to the proposed project.

City of Menifee Development Code Title 9, Article 4, Chapter 9.200

The purpose of this chapter is to protect trees, considered to be a valuable community resource, from indiscriminate cutting or removal, to ensure and enhance public health, safety and welfare through proper care, maintenance, and preservation of trees (City of Menifee n.d.). Such landscaping, irrigation systems and tree preservation represent a substantial investment in and potential benefit to the community. Heritage trees such as those with certain characteristics (age, size, species, location, historical influence, aesthetic quality or ecological value) are subject to special attention and preservation efforts.

The project will not impact any landscaped, parkway, or heritage trees; this chapter of the development code does not apply to the proposed project.

3 Methods

Cadre conducted general MSHCP habitat assessments and constraints analyses for the project site on May 31, 2016, October 16, 2017, and May 14, 2018 (Cadre 2019).

On December 20, 2017, RBC biologists surveyed the project site and conducted vegetation mapping; a general biological survey; habitat assessments for BUOW and other special-status wildlife species; an assessment for the potential for the project to support MSHCP-riparian/riverine resources and vernal pool habitat with the potential to support fairy shrimp; and a constraints-level assessment for aquatic resources that may be considered jurisdictional under the Corps pursuant to Section 404 of the CWA, the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, and the CDFW pursuant to Division 2, Chapter 6, Section 1600 – 1602 of the CFGC to comply with CEQA and MSHCP requirements. RBC conducted a formal jurisdictional delineation field visit on August 13, 2018 and a supplemental jurisdictional delineation field visit on April 26, 2019 to assess a potential off-site area for potential jurisdictional resources. RBC conducted a follow-up site visit on October 15, 2021 to update results of the biological surveys conducted by Cadre and RBC between 2016 – 2018.

This report summarizes the findings from all surveys conducted by Cadre and RBC from 2016 to 2022 for the project.

3.1 DATABASE SEARCH

Prior to conducting field surveys, existing information regarding biological resources present or potentially present within the project area was obtained through a review of pertinent literature and databases, including, but not limited to:

- CDFW California Natural Diversity Database (Figure 2a; CNDDDB; CDFW 2021)
- California Native Plant Society (CNPS) Electronic Inventory (CNPS 2021)
- USFWS Special-status Species Database (Figure 2b; USFWS 2021a)
- USFWS IPaC Database (USFWS 2021b)
- USFWS National Wetlands Inventory (NWI) Database (USFWS 2019)
- Natural Resources Conservation Service (NRCS) Soils Survey Database (NRCS 2019)
- USGS National Hydrography Dataset (NHD) (USGS 2019)
- *General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California* (Cadre 2019)

The CNDDDB and USFWS database queries were conducted for the project site plus a 1-mile radius. The CNPS Electronic Inventory search was conducted for the USGS 7.5' Romoland quadrangle for an elevation range of 1,265 to 1,760 feet above mean sea level (amsl). The potential for special-status species to occur within the project site was refined by considering the habitat

affinities of each species, field habitat assessments, vegetation mapping, and knowledge of local biological resources.

3.2 VEGETATION MAPPING AND GENERAL BIOLOGICAL SURVEYS

RBC biologists conducted vegetation mapping in the field to provide a baseline of the biological resources that occur or have the potential to occur within the project site on October 15, 2021. RBC conducted vegetation mapping by walking throughout the project site and mapping vegetation communities on aerial photographs at a 1:2400 scale (1 inch = 200 feet).

The extent of each habitat type (delineated as a habitat polygon on the vegetation maps) was calculated using the Geographic Information System (GIS) application ArcGIS Collector. Habitats were classified based on the dominant and characteristic plant species in accordance with vegetation community classifications outlined in Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with MSHCP vegetation mapping classification.

RBC biologists conducted a general biological survey for plants and wildlife concurrently with vegetation mapping on October 15, 2021. Photos taken during the general biological survey are provided in Appendix A. Plant species encountered during the field survey were identified and recorded in field notebooks. Plant species that could not be identified were brought to the laboratory for identification using the dichotomous keys in the *Jepson Manual* (Baldwin et al. 2012) and following the taxonomic treatment of the *Jepson Manual* with input from the *Western Riverside County Annotated Checklist* (Roberts 2004). A list of the vascular plant species observed during all site visits is presented in Appendix B.

Wildlife species were documented during the field survey by sight, calls, tracks, scat, or other signs, and were recorded in field notebooks. Binoculars (8X42 magnification) were used to aid in the identification of wildlife. In addition to species observed during the surveys, RBC assessed the expected wildlife use of the project site based on known habitat preferences of local species and knowledge of their biogeographic distribution in the region. A complete list of wildlife species observed during all visits to the project site is presented in Appendix B; scientific and common names of wildlife follow CDFW's Special Animals List (CDFW 2022).

RBC surveyed the project site for habitat with the potential to support special-status plant and wildlife species. The locations of observed biological resources designated as special-status by the USFWS, CDFW, and/or CNPS, were recorded in field notebooks, on aerial maps, and/or using ArcGIS Collector. Site visit dates and survey types between 2016-2021 are presented in Table 1, below.

Table 1. Survey Dates and Types within the Menifee Valley Project Site

Survey Date(s)	Survey Type	Surveyors
May 31, 2016	Field Reconnaissance Survey	Cadre
October 16, 2017	Field Reconnaissance Survey	Cadre
December 20, 2017	General Biological and Aquatic Resources Survey	RBC
May 14, 2018	Field Reconnaissance Survey	Cadre
August 13, 2018	Aquatic Resources Delineation	RBC
October 15, 2021	General Biological Survey	RBC

Methods used by Cadre for their data collection can be referenced in General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California (Cadre 2019).

3.3 SPECIAL-STATUS SPECIES SURVEYS

BURROWING OWL SURVEYS

The project is located within the MSHCP Burrowing Owl Survey Area (RCA MSHCP Information Map 2021). Due to the frequency of soil destabilization on site caused by disking and other active agricultural practices since 2016, several habitat assessments were conducted between 2016 and 2021. Cadre conducted habitat assessments for BUOW on May 31, 2016, October 16, 2017, and May 14, 2018, and RBC conducted habitat assessments for BUOW on December 20, 2017 and October 15, 2021. Each habitat assessment was conducted in accordance with the *Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area* and concluded suitable habitat occurred on site (MSHCP BUOW Survey Instructions; RCA 2005).

In accordance with the MSHCP guidelines, Cadre and RBC conducted protocol BUOW surveys during the breeding season (March 1 to August 31). Specifically, Cadre biologists conducted two different protocol surveys for BUOW between July 22 and August 27, 2016 (Cadre 2016) and May 17 and June 15, 2018 (Cadre 2018), and RBC conducted protocol surveys for BUOW between March 31 and July 1, 2022 due to the presence of suitable habitat within the project site following the habitat assessment on October 15, 2021. The complete methods used by Cadre to conduct focused BUOW surveys can be referenced in *General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California* (Cadre 2019). The complete methods used by RBC are presented in the *Menifee Valley Project – Focused Burrowing Owl Survey Report* (Appendix D).

Burrowing owl survey dates and types conducted between 2016-2022 are presented in Table 2, below.

Table 2. BUOW Survey Dates and Types within the Menifee Valley Project Site

Survey Date(s)	Survey Type	Surveyors
May 31, 2016	BUOW Habitat Assessment	Cadre
July 22-23, 25-27, 29, 2016 August 2-3, 5-6, 9-10, 12-13, 19-20, 22-23, 26-27, 2016	Focused Burrowing Owl Surveys	Cadre
October 16, 2017	BUOW Habitat Assessment	Cadre
December 20, 2017	BUOW Habitat Assessment	RBC
May 14, 2018	BUOW Habitat Assessment	Cadre
May 17-20, 22-27, 29, 31, 2018 June 1-3, 5-10, 13-15, 2018	Focused Burrowing Owl Surveys	Cadre
October 15, 2021	BUOW Habitat Assessment	RBC
March 31-April 1, 2022; April 28-29, 2022; May 26-27, 2022; June 30-July 1, 2022	Focused Burrowing Owl Surveys	RBC

3.4 AQUATIC RESOURCES DELINEATION

RBC conducted a preliminary visual reconnaissance survey of potentially jurisdictional areas on December 20, 2017. RBC conducted a formal jurisdictional delineation field visit within the review area per the Corps guidelines on August 13, 2018 and a supplemental jurisdictional delineation field visit on April 26, 2019 (of a potential off-site area only) to identify any areas that may be considered jurisdictional under the Corps pursuant to Section 404 of the CWA; the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; and the CDFW pursuant to Section 1602 of the CFGC. The review area included a previous version of the proposed project site per the 2019 site plan with a 50-foot buffer for a total of approximately 621 acres. The project has since been reduced to the current 578-acre project site which is still entirely contained within the review area analyzed in the 2019 JD report (Appendix C).

Prior to the on-site delineation, field maps were created using GIS and a color aerial photograph at a 1 inch = 100 feet scale. RBC staff reviewed USGS NHD and topography data and USFWS NWI data to further determine the potential locations of potentially jurisdictional aquatic resources. RBC also utilized Google Earth to assess current and historic presence or absence of flows and/or ponding in the review area (Google Earth Pro 2018). Staff evaluated areas with depressions, drainage patterns, and/or wetland vegetation within the review area, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology. Field staff examined potential wetland waters of the U.S. using the routine determination methods set forth in Part IV, Section D, Subsection 2 of the *Corps 1987 Wetland Delineation Manual* (Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region Version 2.0* (Corps 2008). Complete methods are presented in the 2019 JD Report (Appendix C).

4 Results

Special-status biological resources are those defined as follows: 1) Species that have been given special recognition by federal, state, or local conservation agencies and organizations due to limited, declining, or threatened/endangered population sizes; 2) Species and habitat types recognized by local and regional resource agencies as sensitive; 3) Habitat areas or vegetation communities that are unique, are of relatively limited distribution, or are of particular value to wildlife; 4) Wildlife corridors and habitat linkages; and/or 5) Biological resources that may or may not be considered sensitive, but are regulated under local, state, and/or federal laws.

4.1 PHYSICAL SETTING

Elevations on site range from approximately 1,467 to 1,615 feet above mean sea level (amsl). The project site is predominantly flat with the highest elevation occurring on a hill feature in the southeastern corner of the site. On-site drainage patterns trend east to west, as elevation slightly decreases from east to west. Thirteen soil types occur on site varying in percent slopes (NRCS 2019).

Surrounding land uses include an active substation to the west of the site, active agricultural north of the site, both disturbed and developed (residential housing) east of the site and developed (residential housing) to the south of the site.

4.2 VEGETATION COMMUNITIES AND LAND USES

The project site supports eight vegetation communities and other land covers (Figure 3), as classified in accordance with *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986) and consistent with the MSHCP vegetation mapping classification. Vegetation within the project site is predominantly comprised of active agriculture and disturbed habitat. The most current vegetation mapped within the project site is listed below in Table 3.

Vegetation mapping conducted by RBC in 2021 is largely consistent with the vegetation communities previously mapped by RBC and Cadre. The slight differences between Cadre (2018) and RBC (2021) include the amount of active agriculture versus disturbed habitat which changes frequently based on yearly farming practices on site, the shift from disturbed habitat to non-native grassland in the southeast corner of the project site, the growth of the southern willow scrub on site, and RBC's inclusion of the former disturbed basins and ornamental pepper trees (*Schinus molle*) into disturbed habitat.

Table 3. Summary of Vegetation within the Meniffee Valley Project Site

Vegetation Community/Land Use	Project Site (acres) ^{1, 2}
Active Agriculture	392.2
Developed	3.5
Disturbed	161.5
Ephemeral Streambed - Disturbed	1.9
Mulefat Thicket	<0.01
Non-native Grassland	10.2
Riversidean Sage Scrub	8.7
Southern Willow Scrub - Disturbed	<0.01
Total	578.1

¹ Verified in the field during the October 15, 2021 site visit

² Acreages summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table

Active Agriculture

The project site includes 392.2 acres of active agriculture. These areas have previously been used to cultivate barley (*Triticum* sp.) and watermelon and are routinely disked and plowed.

Developed

The project site includes 3.5 acres of developed land, consisting of paved roads at the perimeter of the site.

Disturbed

The project site includes 161.5 acres of disturbed habitat consisting largely of disked parcels previously used for agriculture (Figure 3) as well as dirt roads used to maintain the active agriculture land on site. These roads are on the perimeter of the site and bisect the site both in an east/west and north/south direction. Three Peruvian pepper trees are located in the disturbed habitat adjacent to Briggs Road. These trees are non-native and classified as a limited invasive species (i.e. invasive but ecological impacts are minor on a statewide level) by the California Invasive Plant Council (Cal-IPC 2022). Additionally, these trees occur on site and are not associated with the Briggs Road right-of-way; therefore, they are not subject to Riverside County Ordinance No. 499 described in Section 2.3.

Ephemeral Streambed - Disturbed

The project site includes 1.9 acres of disturbed ephemeral streambed. Streambeds are kept free of vegetation by at least intermittent water flows and contain an indicator of hydrology such as an ordinary high water mark (OHWM). Ephemeral streambeds on site are highly disturbed by on-site agricultural activities but still show signs of intermittent water flow.

Mulefat Thickets

The mulefat (*Baccharis salicifolia*) thicket within the project site (<0.01 acre) occurs in one small area in the southern portion of the survey area. Mulefat thickets occurs in both seasonally or intermittently flooded habitat, and stands are variable depending on the amount of inundation and scouring. Stands usually form open shrublands or thickets in riparian corridors and along lake margins (CNPS 2021). The mulefat thicket on site is isolated from the ephemeral streambeds and southern willow scrub on site and is immediately surrounded by non-native grassland (Figure 3).

Non-native Grassland

The project site includes 10.2 acres of non-native grassland. Non-native grassland consists of a dense to sparse cover of annual grasses, often with native and non-native annual forbs (Holland 1986). This habitat is a disturbance-related community most often found in old fields or openings within native scrub habitats. The non-native grassland is largely on the slopes of the hill in the southeast corner of the project site and comprised primarily of ripgut brome (*Bromus diandrus*), red brome (*B. madritensis* ssp. *rubens*), slender wild oat (*Avena barbata*), and soft chess (*Bromus hordeaceus*). Some broad-leaved forbs such as tocalote (*Centaurea melitensis*), shortpod mustard (*Hirschfeldia incana*), and tumbleweed (*Salsola australis*) are also present. Non-native grassland now also occurs along Biscayne Road on the northwest side of the project site (Figure 3).

Riversidean Sage Scrub

The project site includes 8.7 acres of Riversidean sage scrub, a sub-type of coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*). Riverside sage scrub is an open sage scrub community found on xeric steep slopes that release stored moisture slowly (Holland 1986). The Riversidean sage scrub on site is concentrated on the large hill in the southeast corner of the project site and has been degraded due to the increased amount of debris and presence of non-native grasses with dense cover within the understory (Figure 3).

Southern Willow Scrub - Disturbed

Southern willow scrub consists of dense, broadleaved, winter-deciduous riparian thickets dominated by several *Salix* species with mulefat. The disturbed southern willow scrub within the project site (<0.01 acre) occurs as an isolated patch on the central/eastern boundary of the project site (Figure 3). The patch is composed of Goodding's black willow (*Salix gooddingii*), sandbar willow (*S. exigua*) and tamarisk (*Tamarix* sp.). An understory of freshwater marsh comprised primarily of broadleaf cattail (*Typha latifolia*) and common spikerush (*Eleocharis palustris*) occurs within the southern willow scrub.

4.3 PLANTS AND WILDLIFE

The project site supports a low diversity of vegetation communities and plant species. A total of 23 plant species (61 percent native, 39 percent non-native) were observed during project biological surveys (Appendix B). A total of 32 bird species, one reptile species, three mammal species, and four invertebrate species were observed or presumed present based on track and/or scat

(Appendix B). Twilight/nighttime surveys were not conducted, therefore crepuscular and nocturnal animals are likely under-represented in the project species list; however, habitat assessments were performed for all special-status species to ensure that any potentially-present rare species are adequately addressed herein.

For the purposes of this report, species are considered to have special-status if they meet one or more of the following criteria:

- Listed or considered for listing or proposed for listing under the ESA or CESA (CDFW 2021; CDFW 2022; USFWS 2021a)
- CDFW Species of Special Concern (CDFW 2021; CDFW 2022)
- CDFW Fully Protected or Watch List Species (CDFW 2021; CDFW 2022)
- Listed as having a California Rare Plant Rank ([CRPR] 1 or 2; formerly CNPS List, CNPS 2021)

4.3.1 NARROW ENDEMIC PLANT SPECIES

The project site does not occur within a Narrow Endemic Plant Species Survey Area. No Western Riverside MSHCP narrow endemic plant species or associated suitable habitat were observed during field surveys conducted by Cadre or RBC between 2016 and 2022, and none are expected to occur on site.

4.3.2 SPECIAL-STATUS PLANT SPECIES

Special-status plant species include those that are: 1) Listed or proposed for listing by federal or state agencies as threatened or endangered; 2) California Rare Plant Rank (CRPR) List 1 or 2 (CNPS 2021); or 3) Considered rare, endangered, or threatened by the CDFW (CDFW 2021) or other local conservation organizations or specialists. Special-status plants with the potential to occur on site are assessed in Table 4.

CNPS is a statewide resource conservation organization that has developed an inventory of California's sensitive plant species. The CRPR system is recognized by the CDFW and essentially serves as an early warning list of potential candidate species for threatened or endangered status. The CRPR system is categorized as outlined in Table 5.

Table 4. Assessment of Special-Status Plant Species Potential to Occur

Species	Status	Habitat Description	Potential to Occur
California Orcutt grass (<i>Orcuttia californica</i>)	FE, SE, CRPR 1B.1	Annual herb. Blooms Apr-Aug. Vernal Pools. Elev. 50-2,165 ft.	No potential to occur. No suitable vernal pool habitat present on site.
Coulter's goldfields (<i>Lasthenia glabrata</i> ssp. <i>coulteri</i>)	CRPR 1B.1	Annual herb. Blooms Feb-Jun. Alkali sink, coastal salt marshes and swamps, playas, vernal pools. Elev. 3-4,002 ft.	No potential to occur. No suitable habitat present on site.

Species	Status	Habitat Description	Potential to Occur
Long-spined spineflower (<i>Chorizanthe polygonoides</i> var. <i>longispina</i>)	CRPR 1B.2	Annual herb. Blooms Apr-Jul. Chaparral, coastal scrub, meadows and seeps, valley and foothill grasslands, vernal pools. Elev. 100-5,020 ft.	Very low potential to occur. Potential suitable habitat on site is highly disturbed.
Munz's onion (<i>Allium munzii</i>)	FE, ST, CRPR 1B.1	Perennial bulbiferous herb. Blooms Mar-May. Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. Elev. 975-3,510 ft. Often associated with intact, rocky clay substrates	No potential to occur. No suitable habitat present on site.
Parry's spineflower (<i>Chorizanthe parryi</i> var. <i>parryi</i>)	CRPR 1B.1	Annual herb. Blooms Apr-Jun. Chaparral, cismontane woodland, coastal scrub, and valley and foothill grassland. Elev. 900-4,000 ft.	Very low potential to occur. Potential suitable habitat on site highly disturbed.
Smooth tarplant (<i>Centromadia pungens</i> ssp. <i>laevis</i>)	CRPR 1B.1	Annual herb. Blooms Apr-Sep. Chenopod scrub, meadows and seeps, playa, riparian woodland, valley and foothill grassland. Elev. 0-2,100 ft.	Low potential to occur. Potential suitable habitat on site minimal.
Spreading navarretia (<i>Navarretia fossalis</i>)	FT; CRPR 1B.1	Annual herb. Blooms April-June. Chenopod scrub, shallow freshwater marshes and swamps, playas, and vernal pools. Elevation 98-2,150 feet.	No potential to occur. No vernal pool habitat present on site.
Thread-leaved brodiaea (<i>Brodiaea filifolia</i>)	FT; SE; CRPR 1B.1	Perennial bulbiferous herb. Blooms March-June. Chaparral, cismontane woodlands, coastal scrub, playas, valley/foothill grasslands, vernal pools. Elevation 82-3,675 feet.	No potential to occur. No suitable habitat present on site.
CRPR: California Rare Plant Rank FE: Federally Endangered FT: Federally Threatened SE: State Endangered ST: State Threatened			

Table 5. CRPR Definitions

CRPR	1A	presumed extirpated in California and rare or extinct elsewhere
	1B	rare, threatened, or endangered in California and elsewhere
	2a	presumed extirpated in California but more common elsewhere
	2b	rare, threatened, or endangered in California but more common elsewhere
	3	plants for which more information needed
	4	plants of limited distribution
CRPR Threat Ranks	0.1	Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
	0.2	Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
	0.3	Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Threatened and Endangered Plant Species

No federally or state-listed threatened or endangered plants were observed during general biological surveys conducted by Cadre (Cadre 2019) and RBC. The CNDDDB and USFWS database results identified one federally or state-listed plant species, Munz's onion (*Allium munzii*; federally endangered [FE], state threatened [ST], CRPR 1B.1) within one mile of the project site (Figures 2a-b; USFWS 2021a; CDFW 2021). The CNPS database search listed three additional federally or state-listed plant species within the USGS 7.5' Romoland quadrangle (CNPS 2021). No focused surveys for listed plant species were conducted on the project site, and no federally or state-listed threatened or endangered plants have a moderate or high potential to occur based on the disturbed nature of the project site and lack of suitable habitats and soil conditions.

Other Special-Status Plant Species

No non-federally/state-listed special-status plant species were observed on site during project surveys conducted by Cadre and RBC. The CNDDDB results do not identify any non-federally/state-listed special-status plant species within or immediately adjacent to the project site and there are no historical occurrences of non-federally/state-listed special-status plant species within one mile of the project site (Figure 2a; CDFW 2021). The CNPS database search listed four non-federally/state-listed special-status plant species with a CRPR of 1 or 2 within the USGS 7.5' Romoland quadrangle (CNPS 2021). No focused surveys for special-status plants were conducted on the

project site, and no non-federally/state-listed special-status plant species have a moderate or high potential to occur within the project site based on the disturbed nature of the site and lack of suitable habitats and soil conditions (Table 4).

4.3.3 SPECIAL-STATUS WILDLIFE SPECIES

One federally threatened species, coastal California gnatcatcher (*Polioptila californica californica*), was observed within the Riversidean sage scrub in the southeast corner of the project site during surveys conducted in 2012 (USFWS 2021a). However, no federally or state-listed wildlife species, including coastal California gnatcatcher, have been documented on site during surveys conducted by Cadre or RBC. Two additional listed species, San Bernardino kangaroo rat (*Dipodomys merriami parvus*; SBKR), and Stephens' kangaroo rat (*Dipodomys stephensi*; SKR), have been documented within one mile of the project site (Figures 2a-b; USFWS 2021a; CDFW 2021).

Two CDFW Watch List species, California horned lark (*Eremophila alpestris actia*) and Cooper's hawk (*Accipiter cooperi*) were observed within the project site during biological surveys in 2018 and 2021 respectively. Additionally, five California Species of Special Concern (SSC) including western spadefoot (*Spea hammondi*), loggerhead shrike (*Lanius ludovicianus*), Dulzura pocket mouse (*Chaetodipus californicus femoralis*), Los Angeles pocket mouse (*Perognathus longimembris brevinasus*), and southern grasshopper mouse (*Onychomys torridus ramona*) were documented within one mile of the project site (CDFW 2021, Figure 2a-b).

An assessment of the potential for special-status wildlife to occur within the project site is provided in Table 6

Table 6. Assessment of Special-Status Wildlife Species Potential to Occur

Species	Status	Habitat Description	Potential to Occur
REPTILES			
Western spadefoot (<i>Spea hammondi</i>)	SSC	Temporary ponds, vernal pools, and backwaters of flowing creeks, as well as adjacent upland habitats such as grasslands and coastal sage scrub for burrowing.	No potential to occur. Slow flowing ephemeral feature on site is disturbed and active disking and agriculture prevents suitable soils for burrowing.
BIRDS			
Burrowing owl (<i>Athene cunicularia</i>)	SSC (at burrowing sites & some wintering sites)	Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (<i>Otospermophilus beecheyi</i>) and other fossorial mammal burrows.	Low potential to occur. Suitable burrows and California ground squirrels are present on site. However, 2016 and 2018 protocol surveys were negative (Cadre 2019), as well as protocol surveys conducted in 2022 (Appendix D).

Species	Status	Habitat Description	Potential to Occur
California horned lark (<i>Eremophila alpestris actia</i>)	WL	Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous or chaparral habitats.	Present within disturbed habitat during surveys conducted by Cadre (Cadre 2019) as well as RBC in 2021.
Coastal California gnatcatcher (<i>Polioptila californica californica</i>)	FT, SSC	Found in coastal sage scrub, usually at elevations less than 1,600 feet. However, can be observed at high elevation at inland scrub sites.	Moderate potential to occur. This species was observed on site in 2012 (USFWS 2021a). However, suitable habitat on site is slightly degraded and isolated.
Cooper's hawk (<i>Accipiter cooperii</i>)	WL (when nesting)	Usually in oak woodlands but occasionally in willow or eucalyptus woodlands.	Present. Observed perched within disturbed habitat along Biscayne Avenue. However, no suitable nesting habitat present on site.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	SSC (when nesting)	Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting.	Low potential to occur. Suitable foraging habitat is present, but no dense nesting habitat present on site.
Least Bell's vireo (<i>Vireo bellii pusillus</i>)	FE; SE (when nesting)	Riparian woodland with understory of dense young willows or mulefat and willow canopy. Nests often placed along internal or external edges of riparian thickets.	No potential to occur. No suitable riparian habitat present on site.
Southwestern willow flycatcher (<i>Empidonax traillii extimus</i>)	FE, SE (when nesting)	Forage and breed in thick riparian areas with willows near standing or running water.	No potential to occur. No suitable riparian habitat present on site.
Western yellow-billed cuckoo (<i>Coccyzus americanus occidentalis</i>)	FT, SE (when nesting)	Forage and breed in thick riparian areas with willows near standing or running water.	No potential to occur. No suitable riparian habitat present on site.
MAMMALS			
Dulzura pocket mouse (<i>Chaetodipus californicus femoralis</i>)	SSC	In its southern range, found at border zones between grassland and chaparral habitats.	Low potential to occur. No suitable habitat present on site.

Species	Status	Habitat Description	Potential to Occur
Los Angeles pocket mouse (<i>Perognathus longimembris brevinasus</i>)	SSC	Found in low elevation grassland, alluvial sage scrub, and coastal sage scrub.	Low potential to occur. Suitable habitat on site is degraded and isolated.
San Bernardino kangaroo rat (<i>Dipodomys merriami parvus</i>)	FE, CSE, SSC	Primarily found in alluvial scrub and floodplain habitats containing sandy loam substrate and open vegetative cover.	No potential to occur. No suitable alluvial fan sage scrub habitat present on site.
Southern California grasshopper mouse (<i>Onychomys torridus ramona</i>)	SSC	Occurs primarily in desert scrub habitats. Habitats with low open and semi-open scrubs habitats including coastal sage scrub, mixed chaparral, low sagebrush, riparian scrub. Annual grassland with scattered shrubs, are less frequently inhabited by this species.	No potential to occur. No suitable desert scrub habitats present on site.
Stephens' kangaroo rat (<i>Dipodomys stephensi</i>)	FT; ST	Habitats include annual grassland and coastal sage scrub with sparse shrub cover. Commonly in areas with loose, friable, well-drained soil, and flat or gently rolling terrain.	Very low potential to occur. Repeated diskings of the project site would likely preclude this species.
CSE: Candidate Endangered Species under the California Endangered Species Act FE: Federally Endangered FT: Federally Threatened SE: State Endangered ST: State Threatened SSC: CDFW Species of Special Concern WL: CDFW Watch List Species			

Threatened and Endangered Wildlife Species

Coastal California Gnatcatcher

Coastal California gnatcatcher is federally listed as threatened and a CDFW SSC. This species is a year-round resident of southern California and is found in the six southernmost California counties located within the coastal plain (San Bernardino, Ventura, Los Angeles, Orange, San Diego, and Riverside).

The primary cause of this species' decline is conversion of coastal sage scrub vegetation to urban and agricultural uses. USFWS has estimated that coastal sage scrub habitat has been reduced by 70 to 90 percent of its historical extent (USFWS 1993). Coastal California gnatcatcher generally inhabits coastal sage scrub habitats such as California buckwheat scrub dominated by California sagebrush and flat-topped buckwheat, generally below 1,500 feet in elevation along the coastal

slope. When nesting, this species typically avoids slopes greater than 25 percent with dense, tall vegetation. Coastal California gnatcatcher pairs will attempt several nests each year (average of four), each placed in a different location inside their breeding territory, but most nest attempts are unsuccessful because of depredation by a variety of species (Preston et al. 1998; Atwood and Bontrager 2001). Clutch size ranges from one to five eggs, with three or four eggs most common. Males and females will remain paired through the nonbreeding season and will often expand their home range when not breeding.

This species is particularly vulnerable to habitat destruction and fragmentation because of its low dispersal rate, reliance on a specific habitat type, and low breeding success. Coastal California gnatcatcher has been described as “an obligate resident of coastal sage scrub” (Atwood and Bontrager 2001), a vegetation community that is vulnerable to urban pressures. The destruction of coastal sage scrub by wildfire also has a detrimental effect on local populations. This species also inhabits chaparral vegetation where adjacent to coastal sage scrub.

During the literature review, the species was documented within the Riversidean sage scrub habitat on site during a 2012 survey (USFWS 2021a). The species was not documented during biological surveys conducted by either Cadre or RBC between 2016 and 2021. The Riversidean sage scrub habitat on site has become slightly degraded due to the presence of increased trash/debris and an understory of non-native grasses compared to previous year’s site conditions. Several factors, including the degree of slope on which the Riversidean sage scrub occurs, the isolated and degraded nature of the Riversidean sage scrub, the elevation range of the project site, the lack of incidental observations on the project site over the last six years, and encroachment of residential development to the east, contribute to the moderate potential for coastal California gnatcatcher to occur and nest on site.

Stephens’ Kangaroo Rat

Stephens’ kangaroo rat is federally and state-listed as threatened. There are three distinct regions with SKR populations: western Riverside County, western San Diego County, and central San Diego County. Stephens’ kangaroo rat historically occurred in southwestern San Bernardino County but is believed to be extirpated from that area (USFWS 1997).

Habitat for SKR includes open grasslands, fallow agricultural fields, and sparse coastal sage scrub in areas with penetrable soils and flat to steep sloping topography (USFWS 1997). Stephens’ kangaroo rat is found at elevations of 180 to 4,100 feet amsl, with most populations located at elevations below 2,000 feet amsl (USFWS 1997). Habitat for SKR varies in composition and density from place to place and season to season. Filaree (*Erodium* spp.) frequently dominates the best SKR habitat areas, especially during and shortly after the rainy season (RECON 1989). Areas with dense grass cover are typically not suitable for SKR (USFWS 1997). A nocturnal species, SKR consumes a diet primarily of seeds. The decline of this species is attributed in large part to habitat loss and fragmentation due to urban development and agriculture. Other factors contributing to the loss of the species include off-road vehicles, rodent control, and predation by feral and domestic cats (USFWS 1997).

Stephens' kangaroo rat has been reported within one mile of the project site (CDFW 2021; Figure 2a-b). Due to the highly disturbed nature (disked soil) of the site, the probability of an extant, on-site SKR population is not as high as it might have been historically; therefore, this species has a very low potential to occur on site.

Wildlife Species of Special Concern & Watch List Species

Burrowing Owl

Both Cadre and RBC documented suitable foraging habitat for BUOW throughout the project site including agricultural areas and open areas of disturbed habitat with a sparse, low-growing shrub layer. However, suitable BUOW nesting habitat on site has been greatly reduced due to the soil destabilization caused by frequent disking and other active agricultural activities on site.

Cadre biologists conducted protocol BUOW surveys between July 22, 2016 and August 27, 2016 (Cadre 2016) and between May 17, 2018 and June 15, 2018 (Cadre 2018) in accordance with the MSHCP BUOW Survey Instructions (RCA 2005). Survey results for BUOW were negative.

RBC conducted an additional habitat assessment for BUOW on October 15, 2021 followed by focused breeding season BUOW surveys between March 31 and July 1, 2022 in accordance with the MSHCP BUOW Survey Instructions (RCA 2005). Survey results for BUOW in 2022 were also negative. Complete survey results are presented in the *Menifee Valley Project – Focused Burrowing Owl Survey Report* (Appendix D). Although suitable habitat does occur on site, this species has a low potential to occur.

California horned lark

California horned lark is designated a CDFW Watch List species, which is found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline, and in coniferous or chaparral habitats. It is a common to abundant resident in a variety of open habitats, usually found in habitats where trees and large shrubs are absent. Within southern California, California horned larks nest on the ground in open fields, grasslands, and rangelands. Horned larks forage in areas with low-growing vegetation and feed primarily on grains and other seeds, shifting to mostly insects in the summer months. California horned lark breeds from March through July, with a peak in activity in May. Pairs do not maintain territories outside of the breeding season and instead form large gregarious, somewhat nomadic flocks.

Threats to California horned lark include habitat destruction and fragmentation. Habitats preferred by California horned lark are easily converted to other landscapes and human uses such as farmland and development. Pesticides have also been shown to poison and kill horned larks (Beason 1995). As a ground nester, California horned lark is vulnerable to mowing in a variety of habitats and pesticide use in agricultural fields.

California horned lark was observed during general biological surveys conducted by Cadre and RBC in 2021 (Cadre 2019; Appendix B).

Cooper's Hawk

Cooper's hawk is a CDFW watch list species when nesting. Cooper's hawk breeds throughout the United States and into Canada and Mexico. In California, Cooper's hawk nests in live oak, riparian, and other forest habitats from sea level to 9,000 feet. The Cooper's hawk is tolerant of human disturbance and habitat fragmentation, and nests in suburban and urban settings (Murphy et al. 1988). Cooper's hawks hunt in open woodland and habitat edges, catching avian prey in the air, on the ground, and in vegetation. The Cooper's hawk hunts a variety of small birds and may also hunt small mammals, reptiles, and amphibians. Their nest is typically a platform of sticks and twigs lined with bark (Call 1978) and eggs are laid in February through June with the clutch size of 4 to 5 eggs (Brown and Amadon 1968).

Declining populations of Cooper's hawks in southern California is attributed to habitat loss, especially in riparian areas. Other threats include direct or indirect human disturbances at nest sites, and eggshell thinning from pesticide use, although this threat is largely abated through the change in pesticide chemicals used after the 1970's (Terres 1980).

An individual Cooper's hawk was observed along Biscayne Road within the project site during the October 2021 survey (Figure 3; Appendix B). While this species may use the site as a foraging ground, due to the absence of suitable nesting habitat on site, Cooper's hawk is not anticipated to nest within the project site.

4.4 JURISDICTIONAL AQUATIC RESOURCES

Based on the formal aquatic resources delineation conducted by RBC in 2018 and 2019, all observed aquatic resources on site were determined to not be Corps-jurisdictional under the 2015 Clean Water Rule, which was the regulatory framework that was in effect at the time RBC submitted the 2019 JD Report and associated request for an AJD to the Corps in July 2019. Note that the Corps issued the AJD on October 10, 2019 confirming that none of the on-site drainages are Corps-jurisdictional resources, along with written confirmation that no Corps permitting will be required for the project. Although the definition of "waters of the U.S." has changed since the Corps issued the AJD, the AJD remains valid for five years from date of issuance (i.e., until October 10, 2024) despite repeal of the 2015 Clean Water Rule on October 22, 2019 and subsequent changes to the regulatory framework that defines "waters of the U.S." per the Corps. Nevertheless, all observed aquatic resources on site would also qualify as non-jurisdictional waters per the Corps' current definition of "waters of the U.S." (i.e., pre-2015 regulations and guidance).

Per the formal aquatic resources delineation conducted by RBC in 2018 and 2019, potential RWQCB- and CDFW-jurisdictional resources occur on site. The limits of anticipated RWQCB jurisdiction, under the RWQCB Procedures, and CDFW jurisdiction remain as documented in the 2019 JD Report based on a 2021 follow-up site visit and review of additional recent aerial imagery. The review area, which includes a previous version of the proposed project site per the 2019 site plan and a 50-foot buffer, supports approximately 2.23 acres (10,035 linear feet) of potential non-wetland waters of the State jurisdictional by the RWQCB and approximately 0.03 acre (120 linear feet) of potential wetland waters of the State jurisdictional by the RWQCB (Table 7 and Figure 4b);

and approximately 2.64 acres (10,035 linear feet) of unvegetated streambed and 0.03 acre (120 linear feet) of associated wetland habitat jurisdictional by the CDFW (Table 8 and Figure 4b) (Appendix C).

Table 7. Potential RWQCB Jurisdictional Resources

Feature Name	Cowardin Code	Presence of OHWM/Average Width (feet)	Wetland Presence	Dominant Vegetation	Location (lat, long)	Acreage	Linear Feet
Feature 1	R6	Yes/10	No	Unvegetated/ Disturbed Ephemeral Streambed	33.739778, -117.148818	1.03	4,666
Feature 2 ¹	R6	Yes/12	No	Unvegetated/ Disturbed Ephemeral Streambed	33.737052, -117.142810	1.20	5,369
Feature 2 Wetland	PEM	No/10	Yes	Freshwater Marsh	33.737122, -117.140836	0.03	120
Total						2.26	10,155

¹ Includes previous version of the proposed project site per the 2019 site plan and a 50-foot buffer.

Table 8. Potential CDFW Jurisdictional Resources

Feature Name	Cowardin Code	Presence of OHWM/Average Width (feet)	Wetland Presence	Dominant Vegetation	Location (lat, long)	Acreage	Linear Feet
Feature 1	R6	Yes/10	No	Unvegetated/ Disturbed Ephemeral Streambed	33.739778, - 117.148818	1.03	4,666
Feature 2 ¹	R6	Yes/12	No	Unvegetated/ Disturbed Ephemeral Streambed	33.737052, - 117.142810	1.61	5,369
Feature 2 Wetland	PEM	No/10	Yes	Freshwater Marsh	33.737122, - 117.140836	0.03	120
Total						2.67	10,155

¹ Includes previous version of the proposed project site per the 2019 site plan and a 50-foot buffer.

During the biological survey conducted by RBC on October 15, 2021, OHWM/streambed indicators on Feature 1 (Figure 4a-b) were not observed, likely due to recent disking and drought

conditions; however, based on a review of historic and current aerial imagery Feature 1 has been mapped consistent with the 2019 JD Report and RBC does not expect the limits of RWQCB and CDFW jurisdiction to differ from that in the 2019 JD Report, despite recent regulatory changes (Appendix C).

Based on the formal aquatic resources delineation surveys conducted by RBC in 2018 and 2019 and pre-application meetings RBC led with the Corps, RWQCB, and/or CDFW on March 6, 2018, April 10, 2019, and January 22, 2020, the survey area also supports three upland ditches (Ditch 1, Ditch 2, and Ditch 3) (Figure 4a-4b) that are not jurisdictional by the Corps, RWQCB, or CDFW. These features appear to be man-made ditches excavated wholly in and draining only in uplands for agricultural and/or runoff-conveyance purposes that do not show indicators of an OHWM, federal wetland parameters, or a bed and bank. Complete results of the formal aquatic resources delineation are presented under separate cover in the 2019 JD Report (Appendix C).

Please note, the Corps' October 2019 AJD concluded that Feature 1, Feature 2, Feature 2 Wetland, Ditch 1, Ditch 2, and Ditch 3 are not Corps-jurisdictional. The AJD will remain valid until October 10, 2024; furthermore, all on-site features would also qualify as non-jurisdictional waters per the Corps' current definition of "waters of the U.S." (i.e., pre-2015 regulations and guidance). Specifically, Feature 1, Feature 2, and Feature 2 Wetland would not be jurisdictional waters of the U.S. under the pre-2015 regulations and guidance because they are not tributary to either a traditional navigable water or an (a)(3) water and not (a)(3) waters themselves. Furthermore, Feature 1, Feature 2, and Feature 2 Wetland flow into the off-site Line A, which is considered an intrastate isolated water without a surface water connection to commerce; as such, Feature 1, Feature 2, and Feature 2 Wetland would also qualify as intrastate isolated waters without a surface connection to commerce (EPA & Corps 2003). Additionally, Ditch 1, Ditch 2, and Ditch 3 would not be considered jurisdictional waters of the U.S. under pre-2015 regulations and guidance as they would be considered "ditches (including roadside ditches) excavated wholly in and draining only uplands...that do not carry a relatively permanent flow of water," which "are generally not waters of the United States because they are not tributaries or they do not have a significant nexus to downstream traditional navigable waters" per Rapanos guidance (EPA & Corps 2007).

4.5 WILDLIFE MOVEMENT AND CORRIDORS

A wildlife corridor can be defined as a physical feature that links wildlife habitat, often consisting of native vegetation that joins two or more larger areas of similar wildlife habitat. Corridors enable migration, colonization, and genetic diversity through interbreeding and are therefore critical for the movement of animals and the continuation of viable populations. Corridors can consist of large, linear stretches of connected habitat (such as riparian vegetation) or as a sequence of stepping-stones across the landscape (discontinuous areas of habitat such as wetlands and ornamental vegetation), or corridors can be larger habitat areas with known or likely importance to local fauna.

Regional corridors are defined as those linking two or more large patches of habitat, and local corridors are defined as those allowing resident animals to access critical resources (food, cover, and water) in a smaller area that might otherwise be isolated by urban development. A viable wildlife

migration corridor consists of more than an unobstructed path between habitat areas. Appropriate vegetation communities must be present to provide food and cover for both transient species and resident populations of less mobile animals. There must also be a sufficient lack of stressors and threats within and adjacent to the corridor for species to use it successfully.

The project site is not located adjacent to extensive native open space habitats and does not represent a wildlife travel route, crossing, or regional movement corridor between large open space habitats as identified by South Coast Wildlands (South Coast Wildlands 2008) and/or the California Essential Habitat Connectivity Project (Spencer et al. 2010). The project site is bordered by State Route 74 to the north and residential, utility, industrial and disturbed lands on the east, west and southern boundaries. Open space in the form of Double Butte Mountain occurs farther east from the project site, but the project does not interfere with any regional movement corridors between Double Butte Mountain and other areas of native open space habitats. The project site is not located within an MSHCP designated core, extension or existing core, non-contiguous habitat block, constrained linkage, or linkage area.

4.6 LOCAL POLICIES AND ORDINANCES

The City of Menifee has adopted several Riverside County ordinances for use within the city, including Riverside County Ordinance 499 and 663 (Section 2.3). Riverside County Ordinance 449 does not apply to this project, as tree removal from the right-of-way is not anticipated for the project. Riverside County Ordinance 663 is the Stephens' Kangaroo Rat Mitigation Fee Ordinance which is discussed below (Section 4.7, 5.9, and 6.4).

4.7 HABITAT CONSERVATION PLANS/NATURAL COMMUNITIES CONSERVATION PLAN

The project site is within the Western Riverside MSHCP Plan Area. The project's consistency with the MSHCP is discussed in Section 7 of this report. The project also occurs within a Fee Area outlined in the Riverside County SKR HCP.

5 Impact Analysis

Direct impacts are caused by the project and occur at the same time and place as the project. Any alteration, disturbance, or destruction of biological resources that would result from project-related activities is considered a direct impact. Direct impacts would include direct losses to native habitats, potential jurisdictional waters, wetlands, and special-status species; and diverting natural surface water flows. Direct impacts on wildlife could include injury, death, and/or harassment of listed and/or special-status species. Direct impacts could also include the destruction of habitats necessary for species breeding, feeding, or sheltering. Direct impacts on plants can include crushing of adult plants, bulbs, or seeds.

Indirect impacts can result from project-related activities where biological resources are affected in a manner that is not direct. Indirect impacts may occur later in time or at a place that is farther removed in distance from the project than direct impacts, but indirect impacts are still reasonably foreseeable and attributable to project-related activities. Examples include habitat fragmentation; elevated noise, dust, and lighting levels; changes in hydrology, runoff, and sedimentation; decreased water quality; soil compaction; increased human activity; and the introduction of invasive wildlife (domestic cats and dogs) and plants (weeds).

Cumulative impacts refer to incremental individual environmental effects of two or more projects when considered together. Such impacts taken individually may be minor but are collectively significant considering regional impacts.

California Environmental Quality Act (CEQA) Guidelines Form J thresholds of significance have been used to determine whether project implementation would result in a significant direct, indirect, and/or cumulative impact. These thresholds are based on Appendix G of the state CEQA Guidelines (CCR Title 14, Division 6, Chapter 3, Sections 15000–15387). A significant biological resources impact would occur if the project would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFW or USFWS;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy, or ordinance;
- Conflict with the provisions of an adopted Habitat Conservation Plan; Natural Community Conservation Plan; or other approved local, regional, or state habitat conservation plan.

5.1 IMPACTS ON NATIVE VEGETATION

The proposed project will result in permanent impacts on upland vegetation communities including mulefat thickets, non-native grassland, and Riversidean sage scrub as well as riparian vegetation.

Table 9. Meniffee Valley Project Site Vegetation Communities/Land Use Impacts

Vegetation Community/Land Use	Project Site Impacts (acres)	On-Site Preservation (acres)
Active Agriculture	392.2	--
Developed	3.5	--
Disturbed	161.3	0.3
Ephemeral Streambed - Disturbed	1.9	--
Mulefat Thicket	<0.01	--
Non-native Grassland	6.3	3.9
Riversidean Sage Scrub	1.5	7.2
Southern Willow Scrub - Disturbed	<0.01	--
Total¹	566.8	11.3

¹ Acreages summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table

Although impacts on native vegetation communities will occur with project implementation, such impacts can be offset through payment of MSHCP Local Development Mitigation Fees (Section 6.1) that would be used to acquire and maintain high-quality habitat within the MSHCP Reserve. With payment of such fees, impacts on native vegetation communities would be less than significant.

5.2 IMPACTS ON FEDERALLY/STATE LISTED OR MSHCP NARROW ENDEMIC PLANT SPECIES

The proposed project will not impact federally and/or state listed or MSHCP Narrow Endemic Plant species as none have potential to occur within the project site.

5.3 IMPACTS ON NON-LISTED SPECIAL-STATUS PLANT SPECIES

The proposed project will not impact special-status plants as none are present or have a moderate to high potential to occur with the project site.

5.4 IMPACTS ON SPECIAL-STATUS ANIMALS

The federally listed threatened coastal California gnatcatcher was documented within the project site in 2012 (USFWS 2021a). However, no protocol surveys for the coastal California gnatcatcher were conducted on site because the species is considered to be adequately covered by the MSHCP. Additionally, coastal California gnatcatcher was not incidentally observed during any biological surveys conducted by Cadre (Cadre 2019) or RBC between 2016 and 2022. Additionally,

CDFW special-status species and Western Riverside County MSHCP covered species documented on the project site include California horned lark and Cooper's hawk. The proposed project is expected to result in a loss of foraging habitat for Cooper's hawk and a loss of both foraging and nesting habitat for California horned lark and coastal California gnatcatcher (Figure 5). However, these species are considered adequately covered under the MSHCP and with payment of MSHCP Local Development Mitigation Fees (Section 6.1) to mitigate impacts on native vegetation, habitat-based impacts on these species would be considered less than significant. Additionally, impacts to nesting birds, including coastal California gnatcatcher, and California horned lark, are also anticipated to be less than significant with the implementation of pre-construction surveys as detailed in the following Section 5.5 and MM2.

Consistent with MSHCP Objective 5 for BUOW, focused breeding season surveys for BUOW were conducted for the project per MSHCP BUOW Survey Instructions and were negative for BUOW. However, the project site still has potential to support BUOW and is within the MSHCP Burrowing Owl Survey Area. To avoid direct impacts, a pre-construction BUOW survey will be required prior to construction activities pursuant to the MSHCP. Through compliance with the MSHCP Objective 6 for BUOW and MM3 (Section 6.4), impacts on BUOW would be less than significant.

Although there is very low potential for SKR to occur within the project site, the project site is within the SKR HCP Fee Area. The project shall provide payment to the Riverside County Habitat Conservation Agency resulting from the removal of potential SKR habitat as discussed in MM4.

Through compliance with appropriate mitigation measures discussed in Section 6 of this report, impacts on special status species would be avoided or minimized and therefore less than significant.

5.5 IMPACTS ON NESTING BIRDS

The proposed project has the potential to impact active bird nests if vegetation is removed or ground disturbing activities are initiated during the nesting season (February 1 to August 31). The disturbed habitat on site, both vegetated and unvegetated, has the potential to support ground nesting avian species. Impacts on nesting birds are prohibited by the MBTA and CFGC. A project-specific measure (MM5) that will avoid project impacts on nesting birds is identified in Section 6.5 of this report. With the implementation of this measure, impacts on nesting birds would be less than significant.

5.6 IMPACTS ON JURISDICTIONAL AQUATIC RESOURCES

Based upon the results of the 2019 JD Report (Appendix C) and the current impact footprint, RBC expects that the project would permanently impact 1.93 acres (8,761 linear feet) of non-wetland waters of the State jurisdictional by the RWQCB and unvegetated streambed jurisdictional by the CDFW, and 0.03 acre (120 linear feet) of wetland waters of the State jurisdictional by the RWQCB and associated wetland habitat jurisdictional by the CDFW (Table 10; Figure 5).

Permitting through the RWQCB and the CDFW would be required for impacts on non-wetland and wetland waters of the State jurisdictional by the RWQCB, and unvegetated streambed and associated wetland habitat jurisdictional by the CDFW. The project applicant will be responsible for acquiring the necessary authorizations required by the RWQCB and the CDFW and associated compensatory mitigation requirements, if applicable.

As noted above in Section 4.4, the Corps issued the AJD in October 2019 confirming that none of the on-site drainages are Corps-jurisdictional resources, along with written confirmation that no Corps permitting will be required for the project. Although the definition of “waters of the U.S.” has changed since the Corps issued the AJD, the AJD remains valid for five years from date of issuance (i.e., until October 10, 2024) despite repeal of the 2015 Clean Water Rule on October 22, 2019 and subsequent changes to the regulatory framework that defines “waters of the U.S.” per the Corps, including the vacatur of the 2020 NWPR per the 2021 Pascua Yaqui Tribe decision. Nevertheless, all observed aquatic resources on site would also qualify as non-jurisdictional waters per the Corps’ current definition of “waters of the U.S.” (i.e., pre-2015 regulations and guidance), as detailed above in Section 4.4. If all construction within the observed aquatic resources on site has not been completed by October 10, 2024 (i.e., once the 2019 AJD expires), the project team will need to reassess the jurisdictional nature of the on-site aquatic resources based on the regulatory framework in place at that time; as such, the extent of Corps jurisdiction within the project site may change once the AJD expires in October 2024. Additionally, a formal request for an AJD based on the regulatory framework in place at that time (i.e., in October 2024) would need to be submitted to the Corps to receive confirmation that any on-site aquatic resources (that were also included in the 2019 AJD) are not jurisdictional per the Corps, along with written confirmation that Corps permitting is still not required for the project.

Table 10. Potential RWQCB and CDFW Aquatic Resource Impacts

Feature Name	Acreage¹	Linear Feet
Feature 1	1.01	4,586
Feature 2 ¹	0.92	4,175
Feature 2 Wetland	0.03	120
Total	1.96	8,881

¹ Acreages rounded to the hundredths based on raw numbers provided during GIS analysis, which are available upon request.

5.7 IMPACTS ON WILDLIFE MOVEMENT AND CORRIDORS

The project site does not serve as part of a regional wildlife corridor. As such, the project would not result in impacts to wildlife movement and regional corridors.

5.8 IMPACTS ON LOCAL POLICIES AND ORDINANCES

Outside of County ordinances pertaining to SKR as discussed below, the project is not subject to any local policies or ordinances protecting biological resources as outlined in Section 2.3. As such, the project would not result in impacts to local policies and ordinances.

5.9 IMPACTS ON HABITAT CONSERVATION PLANS/NATURAL COMMUNITIES CONSERVATION PLANS

The project is located within the Western Riverside MSHCP. Determinations of consistency with the MSHCP are discussed in Section 7. Additionally, the site is within a Fee Area of the Riverside County SKR HCP. As such, the project is required to pay fees pursuant to County Ordinance 663.10 as outlined in Section 6.3.

5.10 INDIRECT IMPACTS ON BIOLOGICAL RESOURCES

In the context of biological resources, indirect impacts are those effects associated with developing areas adjacent to native open space. Potential indirect effects associated with development include water quality impacts from site drainage into adjacent open space/downstream aquatic resources; lighting effects; noise effects; invasive plant species from landscaping; and effects from human access into adjacent open space, such as recreational activities (including off-road vehicles and hiking), pets, dumping, etc. Temporary, indirect effects may also occur as a result of construction-related activities.

Volume I, Section 6.1.4 of the MSHCP (Urban/Wildland Interface Guidelines) identifies guidelines that are intended to address indirect effects associated with locating projects (particularly development) in proximity to the MSHCP Conservation Area. To minimize potential edge effects, the guidelines are to be implemented in conjunction with review of individual public and private development projects in proximity to the MSHCP Conservation Area. The proposed project is not located in proximity to the MSHCP Conservation Area (Figure 6). As such, the proposed project will not result in significant indirect effects on biological resources. Furthermore, the Urban/Wildland Interface Guidelines do not apply to the proposed project.

The project area receives regular disturbance from agricultural operations. Portions of Riversidean sage scrub and non-native grassland, located in the southeast corner of the project site, are not included within the project impact footprint and will be preserved (Table 9; Figure 5). This preserved habitat may be subject to indirect impacts resulting from the proposed project. However, this habitat already receives indirect impacts resulting from the current agricultural land use of the project site. Indirect impacts to adjacent habitat in the southeast corner of the project site will not differ significantly as a result of the proposed project. Additionally, although this habitat may be suitable for nesting birds, pre-construction nesting birds surveys detailed in Section 6 (MM2) of this report would cover habitat in buffer areas surrounding the impact footprint so that impacts to nesting birds would be avoided. Therefore, indirect impacts would be less than significant.

5.11 CUMULATIVE IMPACTS ON BIOLOGICAL RESOURCES

Cumulative impacts are defined as the direct and indirect effects of a proposed project which, when considered alone, would not be deemed a substantial impact, but when considered in addition to the impacts of related projects in the area, would be considered potentially significant. 'Related projects' refers to past, present, and reasonably foreseeable probable future projects, which would have similar impacts to the proposed project. Considering the current level of disturbance at the project site, adjacent development, and the lack of sensitive biological resources, the proposed project will not result in significant cumulative effects on biological resources. Additionally, the project will be required to pay MSHCP Local Development Mitigation Fees as described in Section 6.1. Payment of MSHCP Local Development Mitigation Fees provides habitat-based mitigation within the plan area for all wildlife and plant species impacted due to the loss of suitable habitat from covered projects. As such, loss of habitat resulting from covered projects within the plan area will be offset through this habitat-based mitigation under the MSHCP. Therefore, the proposed project will not result in significant cumulative impacts.

6 Mitigation and Avoidance Measures

The following discussion provides project-specific mitigation/avoidance measures (MM) for actual or potential impacts on special-status resources.

6.1 DEVELOPMENT FEES

MM1 – Implementation of the proposed project will require payment of MSHCP ‘Local Development Mitigation Fees.’ Based on the local development mitigation fee schedule for fiscal year 2022 (effective January 1, 2022 – June 30, 2022), fees for residential density less than 8.0 dwelling units per acre would be \$3,635 per dwelling unit and fees for commercial and/or industrial development would be \$16,358 per acre (RCA 2021b). The ‘Local Development Mitigation Fees’ are subject to change following each fiscal year. As such, the applicant shall refer to the updated fee amounts once the schedule for project construction is finalized.

6.2 NESTING BIRDS

As noted above, the project site has the potential to support nesting birds, including the federally threatened coastal California gnatcatcher and CDFW SSC California horned lark. To avoid impacts on nesting birds, the following measure is recommended:

MM2 – Vegetation, including suitable nesting habitat for birds, should be removed outside the bird nesting season (February 15 through August 31).

If vegetation cannot be removed outside the bird nesting season (February 15 through August 31), nesting bird surveys should be conducted within 3 days prior to project ground disturbance or vegetation removal to ensure that nesting birds protected under the MBTA and California Fish and Game Code are not disturbed by construction-related activities (i.e., brush clearing and noise).

If nesting birds are documented on or in the immediate vicinity (approximately 300 feet) of the project site, no construction or clearing will be conducted within an appropriate avoidance buffer surrounding the active nest(s), as determined by a qualified biologist, until the project biologist determines that the young have fledged or the nest is no longer active.

6.3 BURROWING OWL

The project is within the MSHCP Survey Area for BUOW. The project is consistent with MSHCP Objective 5 for BUOW and as noted above, BUOW or BUOW sign were not observed within the project site during the protocol presence/absence surveys conducted in 2016 or 2018 (Cadre 2019) or in 2022 (Appendix D). However, California ground squirrels are active on site and suitable burrows and refugia occur within the project site.

Pursuant to MSHCP Objective 6 for BUOW, projects are required to conduct pre-construction presence/absence surveys for BUOW within the survey area where suitable habitat is present. As such, the following mitigation and avoidance measure (MM) is recommended to avoid direct impacts on BUOW:

MM3 – A qualified biologist will conduct a pre-construction presence/absence survey for burrowing owls within 30 days prior to site disturbance. If burrowing owls are documented on site, the owls will be relocated/excluded from the site outside of the breeding season following accepted protocols, as specified in the MSHCP.

6.4 STEPHENS' KANGAROO RAT

As noted above, SKR have a very low potential to occur on the project site due to regular disking and the disturbed nature of the site; however, the project site falls within the SKR Fee Area outlined in the Riverside County SKR Habitat Conservation Plan (HCP). As such the following mitigation measure is recommended to avoid impacts on SKR.

MM4 – The project applicant shall pay the fees pursuant to County Ordinance 663.10 for the SKR HCP Fee Assessment Area as established and implemented by the County of Riverside. The mitigation fee is \$500 per gross acre of the parcels proposed for development. However, for single-family residential development wherein all lots within the development are greater than one-half (1/2) acre in size, the mitigation fee is \$250 per residential unit (Riverside County Habitat Conservation Authority 2022).

6.5 JURISDICTIONAL AQUATIC RESOURCES

As noted above, the proposed project would permanently impact 1.93 acres (8,761 linear feet) of non-wetland waters of the State jurisdictional by the RWQCB and unvegetated streambed jurisdictional by the CDFW, and 0.03 acre (120 linear feet) of wetland waters of the State jurisdictional by the RWQCB and associated wetland habitat jurisdictional by the CDFW (Table 10; Figure 5). Impacts on RWQCB- and CDFW-jurisdictional aquatic resources would require Waste Discharge Requirements (WDR) from the RWQCB and a Streambed Alteration Agreement from the CDFW. Additionally, compensatory mitigation may be required by the regulatory agencies to offset the proposed project impacts. With implementation of the following mitigation measure, impacts on jurisdictional aquatic resources would be reduced to less than significant:

MM5 – Prior to any ground-disturbing activity near jurisdictional aquatic resources, applicable permits shall be obtained through the RWQCB and the CDFW for impacts on aquatic resources. Based on the results of the aquatic resources delineation for the proposed project, the proposed project would permanently impact 1.93 acres of RWQCB-jurisdictional non-wetland waters of the State and CDFW-jurisdictional unvegetated streambed (i.e., Feature 1 and Feature 2), and 0.03 acre of RWQCB-jurisdictional wetland waters of the State and CDFW-jurisdictional associated wetland habitat (i.e., Feature 2 Wetland). The Applicant shall be obligated to implement/comply with the permit conditions and mitigation measures required by the resource agencies regarding impacts on their respective jurisdictions.

The proposed mitigation strategy is the purchase of 2.94 rehabilitation credits (1.5:1 mitigation ratio) from the Riverpark Mitigation Bank. The proposed mitigation strategy will prioritize in-kind and in-watershed options per the regulatory agencies' preferences. The regulatory agencies will

make the final determination of the final compensatory mitigation requirements during the permit evaluation process.

7 MSHCP Consistency Analysis

The purpose of this section is to provide an analysis of the proposed project's compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the proposed project's consistency with MSHCP Reserve assembly requirements, Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools), Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), and Section 6.3.2 (Additional Survey Needs and Procedures).

7.1 RELATIONSHIP OF THE PROJECT SITE TO THE MSHCP

The project site is not located within the MSHCP Criteria Area. As such, the project site is not targeted for conservation by the MSHCP to meet Reserve Assembly goals and the project is not subject to the HANS or JPR processes. The project site is located within the MSHCP Burrowing Owl Survey Area but is not located within the Criteria Area Plant Species Survey Areas, Narrow Endemic Plant Species Survey Areas, Mammal or Amphibian Survey Areas (Figure 6).

Within the designated Survey Areas, the MSHCP requires habitat assessments and focused surveys within areas of suitable habitat. For locations with positive survey results, the MSHCP requires that 90 percent of those portions of the property that provide for long-term conservation value for the identified species be avoided until it is demonstrated that conservation goals for the particular species have been met throughout the MSHCP.

7.2 PROTECTION OF SPECIES ASSOCIATED WITH RIPARIAN/RIVERINE AREAS AND VERNAL POOLS

7.2.1 RIPARIAN/RIVERINE

Section 6.1.2 of the MSHCP defines riparian/riverine areas as those "lands that 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." Note that areas that were artificially created are not included in this definition unless they are wetlands "created for the purpose of providing wetlands habitat or resulting from human actions to create open waters or from the alteration of natural stream courses." (County of Riverside 2003).

Based on the formal aquatic resources delineation conducted by RBC in 2018 and 2019, the project site supports approximately 1.93 acres of MSHCP riverine features in Features 1 and 2 within the northern and central portions of the site (Figure 6) and approximately 0.03 acre of MSHCP riparian habitat associated with Feature 2 Wetland (Figure 6). Because the CDFW-jurisdictional resources within the project site meet the definition of MSHCP riparian/riverine areas, impacts on CDFW-jurisdictional resources are equal to impacts on MSHCP riparian/riverine areas. Therefore, the proposed project would permanently impact 1.93 acres (8,761 linear feet) of MSHCP riverine features and 0.03 acre (120 linear feet) of MSHCP riparian habitat.

RBC prepared and submitted a Determination of Biologically or Superior Preservation (DBESP) memo to the CDFW on August 8, 2019. The memo addressed project impacts on potential MSHCP riparian/riverine areas per the 2019 site plan and initial pre-application coordination with the agencies (RBC 2019). An updated DBESP memo will be drafted per the current site plan.

7.2.2 VERNAL POOLS

Section 6.1.2 of the MSHCP defines vernal pools as “seasonal wetlands that occur in depression areas that have wetland indicators of all three parameters (soils, vegetation, and hydrology) during the wetter portion of the growing season, but normally lack wetland indicators of hydrology and/or vegetation during the drier portion of the growing season. Obligate hydrophytes and facultative wetland 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.”

Based on field visits conducted by Cadre and RBC in 2016, 2017, 2018, 2019, and 2021, the project site does not support vernal pools as defined by Section 6.1.2 of the MSHCP due to the lack of suitable soils and characteristic hydrophytic vegetation (Cadre 2019; RBC 2020). Cadre identified two heavily disturbed basins along the southern boundary with the potential to support the common versatile fairy shrimp (*Branchinecta lindahli*); however, these depressions were not observed during the most recent October 15, 2021 survey conducted by RBC. Neither Cadre nor RBC documented any features on site capable of supporting MSHCP fairy shrimp species including Santa Rosa Plateau fairy shrimp, Riverside fairy shrimp, or vernal pool fairy shrimp (Cadre 2019).

7.2.3 RIPARIAN BIRDS

Based on an initial database review, no riparian birds have historical occurrences within one mile of the project site (Figure 2a-b). The project site was assessed for its potential to support riparian bird species including least Bell’s vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. The southern willow scrub on site is isolated and disturbed; therefore, due to the lack of suitable riparian habitat, no riparian bird species have reasonable potential to occur on site and therefore will not be affected by the project.

8 Protection of Narrow Endemic Plants

Volume I, Section 6.1.3 of the MSHCP requires that within identified Narrow Endemic Plant Species Survey Area, site-specific focused surveys for Narrow Endemic Plant Species will be required for all public and private projects where appropriate soils and habitat are present.

The project site is not located within a Narrow Endemic Plant Species Survey Area (Figure 7). No narrow endemic plant species were documented within the project site and the project site does not contain suitable habitat for these species. As such, the project will not impact Narrow Endemic Plants.

9 Additional Survey Needs and Procedures

Volume I, Section 6.3.2 of the MSHCP requires habitat assessments and focused surveys for projects located within the Criteria Area Plant Species Survey Areas, BUOW, mammal, and amphibian survey areas. The project site is located within the MSHCP Burrowing Owl Survey Area, but not the Criteria Area plant species, mammal, or amphibian survey areas. As noted above in Section 6.1 of this report, pre-construction BUOW surveys will be required to comply with MSHCP Objective 6 for BUOW. With the implementation of this measure, the project will be consistent with Volume I, Section 6.3.2 of the MSHCP.

9.1 CRITERIA AREA PLANT SPECIES

The project site does not fall within a mapped survey area for Criteria Area plant species (Figure 7) and no surveys for Criteria Area plant species were required. No Criteria Area plant species were observed on site, and none are expected to occur due to inadequate soil conditions and lack of suitable habitat on site. Impacts on Criteria Area plant species are not anticipated. The project will be consistent with section 6.3.2.

9.2 AMPHIBIANS

The project site does not fall within a mapped survey area for amphibian species (Figure 7). Based on a database review, there is a historical occurrence of western spadefoot within one mile of the project site (Figure 2a); however, the species does not have a moderate or high potential to occur based on a lack of suitable habitat and is considered adequately covered under the MSHCP.

No amphibian species were observed on site during biological surveys and the project site lacks suitable habitat for listed species arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana draytonii*) or mountain yellow-legged frog (*R. muscosa*). Impacts (if they occur) would be on common amphibian species and be less than significant.

9.3 BURROWING OWL

The project site is located within the MSHCP Burrowing Owl Survey Area (Figure 7). Cadre and RBC conducted focused breeding season BUOW surveys in accordance with the MSHCP BUOW Survey Instructions (RCA 2005) in 2016, 2018, and 2022. Survey results for BUOW were negative

and the project is consistent with MSHCP Objective 5 for BUOW. As noted above, the project site has potential to support BUOW. A pre-construction BUOW survey will be required prior to construction activities pursuant to the MSHCP. Through compliance with the MSHCP guidelines, impacts on BUOW would be avoided or minimized and be less than significant, and the project would be consistent with MSHCP Objective 6 for BUOW.

9.4 MAMMALS

The project does not fall within a mapped survey area for mammal species (Figure 6). Based on a database review, there are historical occurrences of Los Angeles pocket mouse and San Bernardino kangaroo rat within one mile of the project site (Figure 2a-b). However, the project site lacks suitable Riversidean alluvial fan sage scrub habitat capable of supporting Los Angeles pocket mouse or SBKR and neither species is expected to occur on site; therefore, impacts on Criteria Area mammal species will be avoided.

10 Guidelines Pertaining to the Urban/Wildland Interface

The MSHCP Urban/Wildland Interface Guidelines are intended to address indirect impacts associated with locating development in proximity to the MSHCP Conservation Area. The proposed project is not located in proximity to the MSHCP Conservation Area, and therefore the Urban/Wildland Guidelines do not apply to the project.

11 Conclusion of MSHCP Consistency

The proposed project is consistent with Section 6.1.3 (Protection of Narrow Endemic Plant Species), Section 6.1.4 (Guidelines Pertaining to the Urban/Wildlands Interface), Section 6.3.2 (Additional Survey Needs and Procedures), and MSHCP Reserve assembly requirements. With implementation of the proposed mitigation approach discussed in MSHCP Sections 6.1.2 and 6.3.2 Determination of Biologically Equivalent or Superior Preservation (DBESP) for the Menifee Valley Project, the proposed project will be consistent with the biological requirements of Section 6.1.2 (Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools) and the goals/objectives of the MSHCP with the implementation of the proposed mitigation and avoidance measures described in Section 6 of this report.

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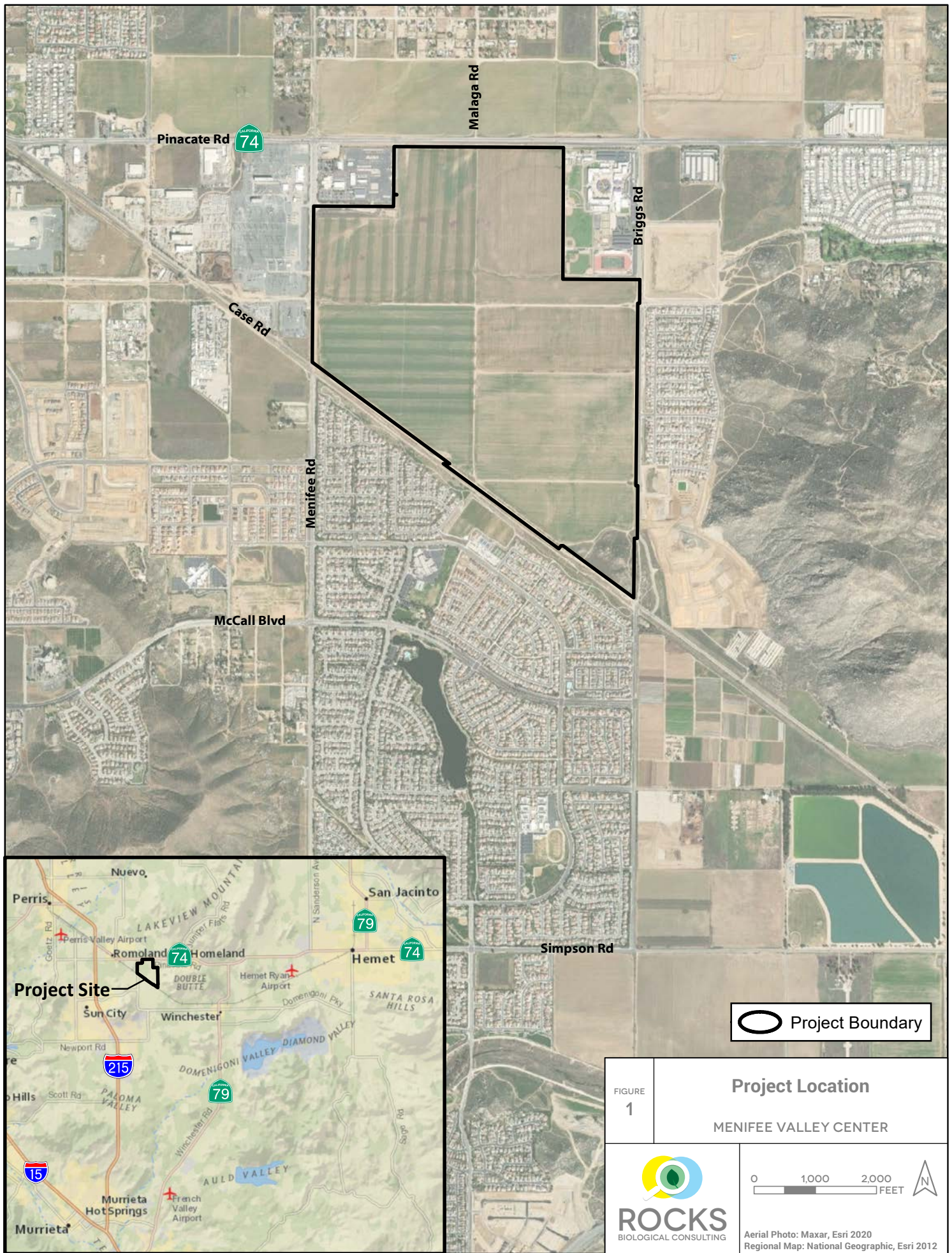
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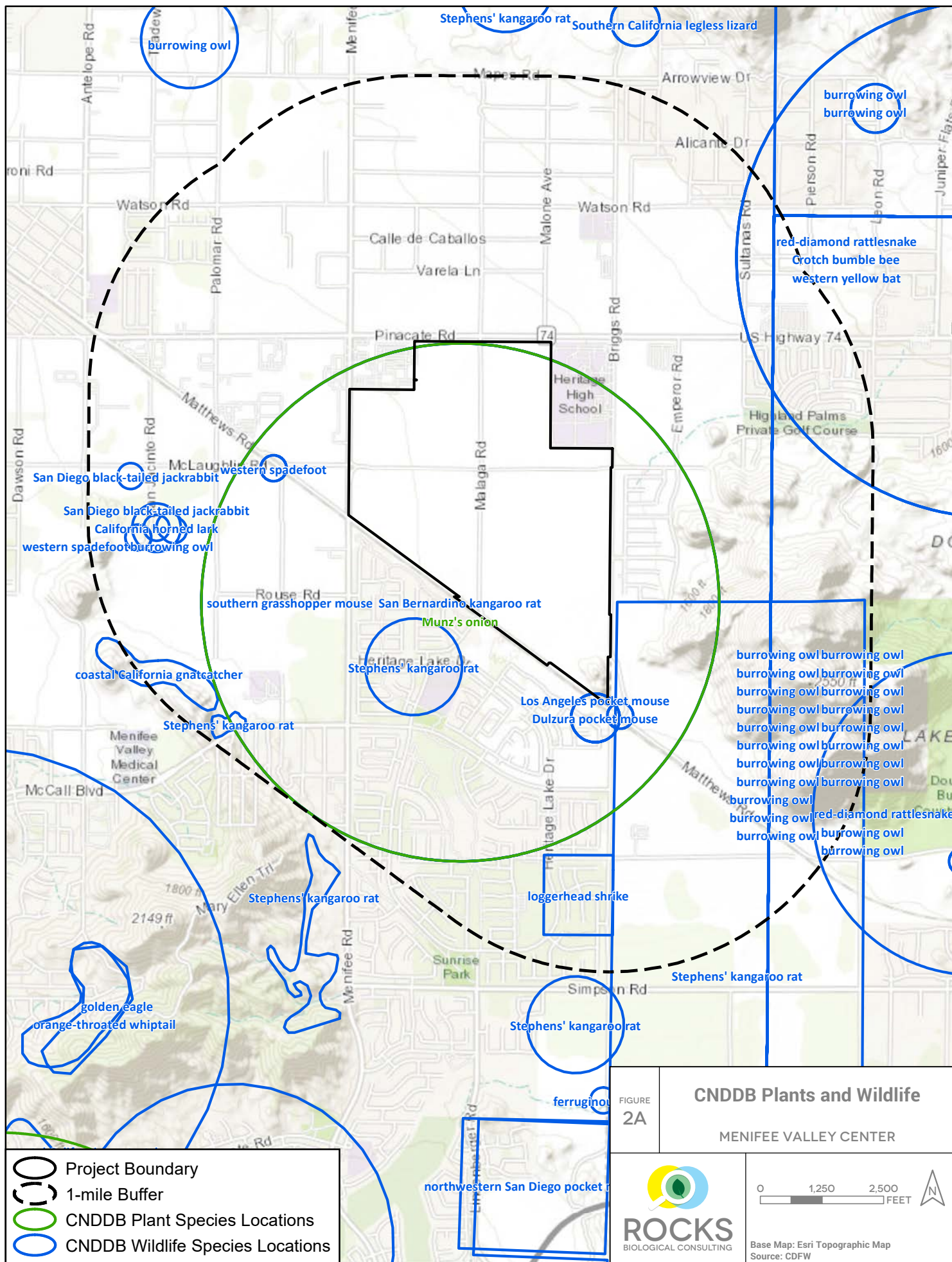
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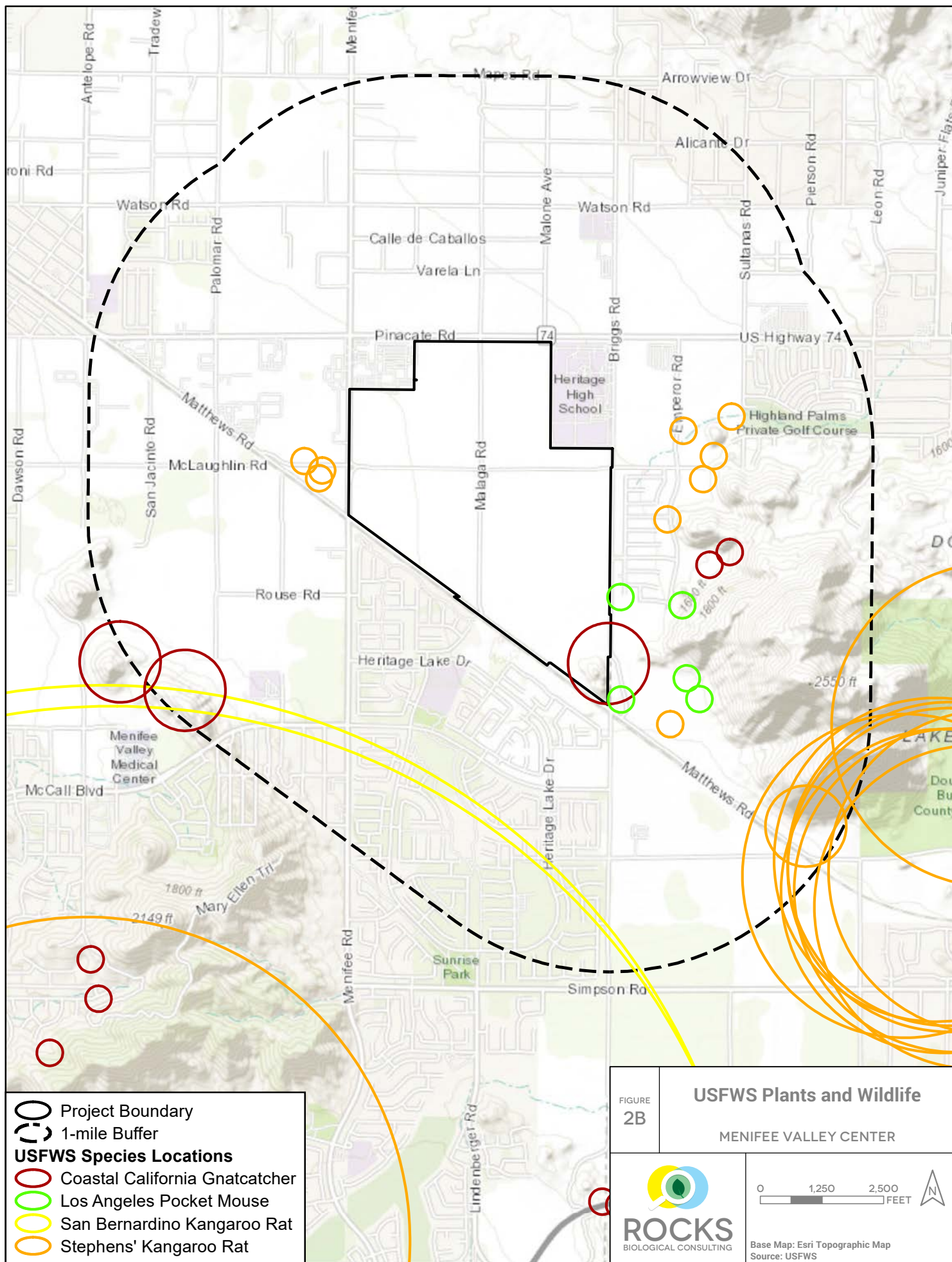
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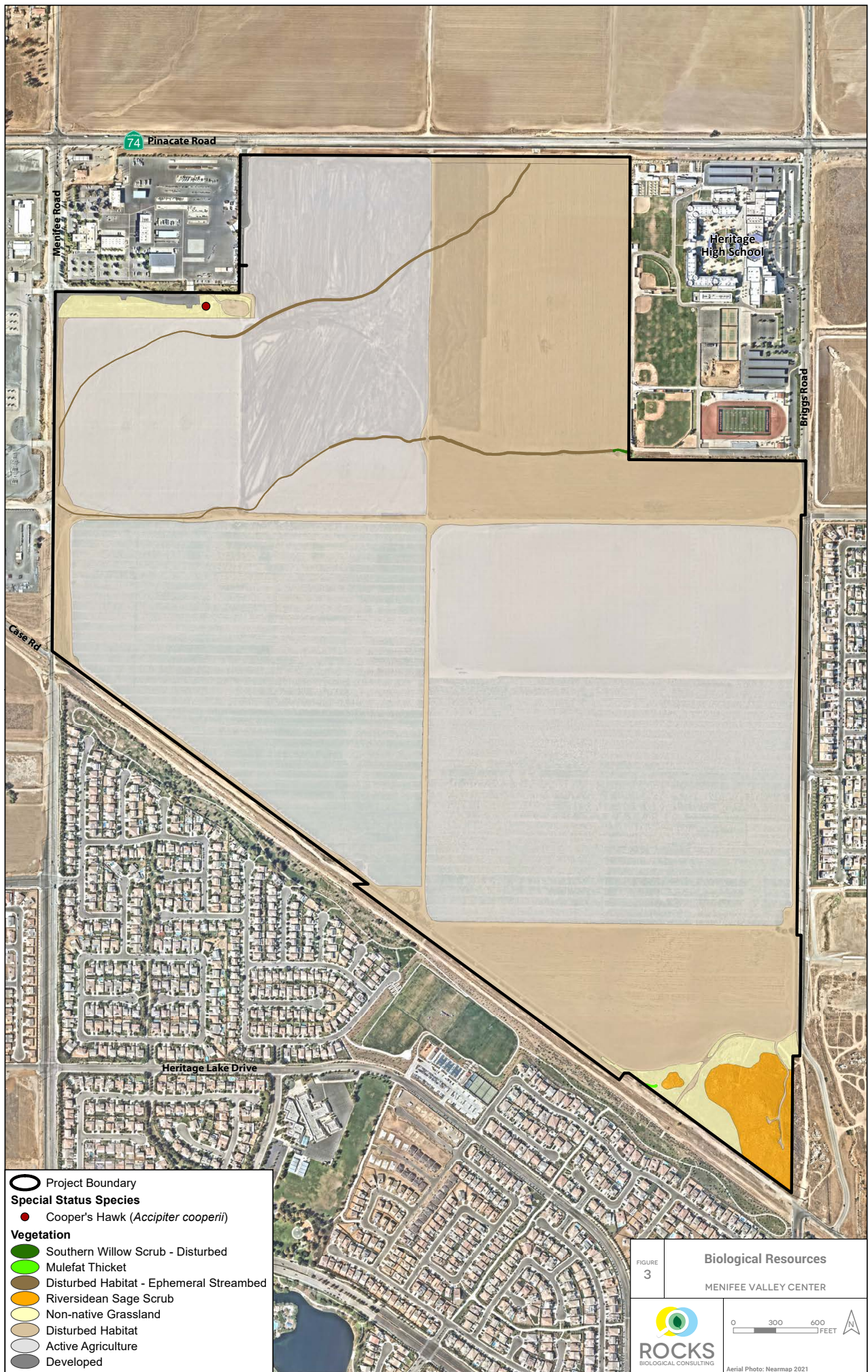
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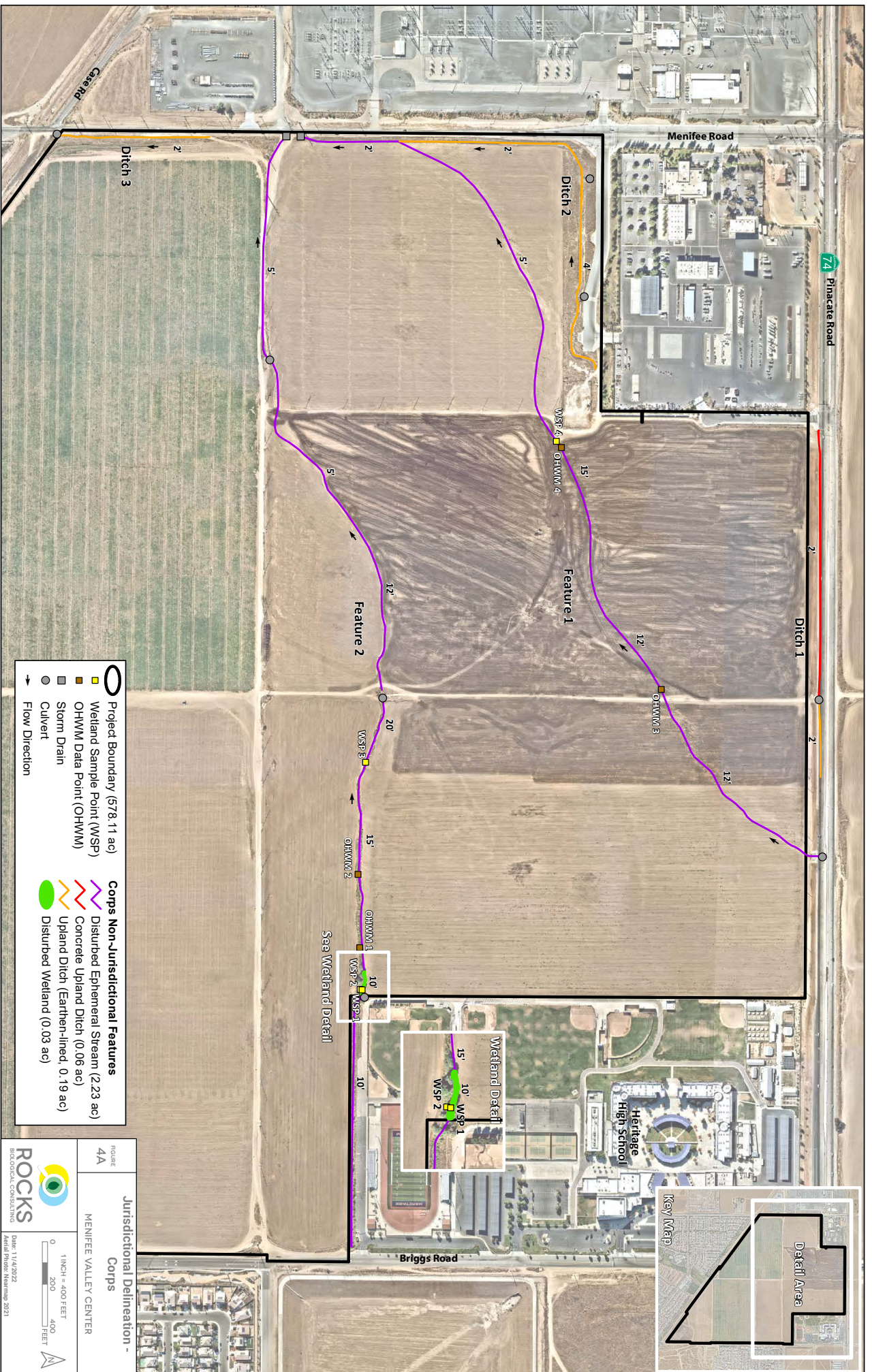
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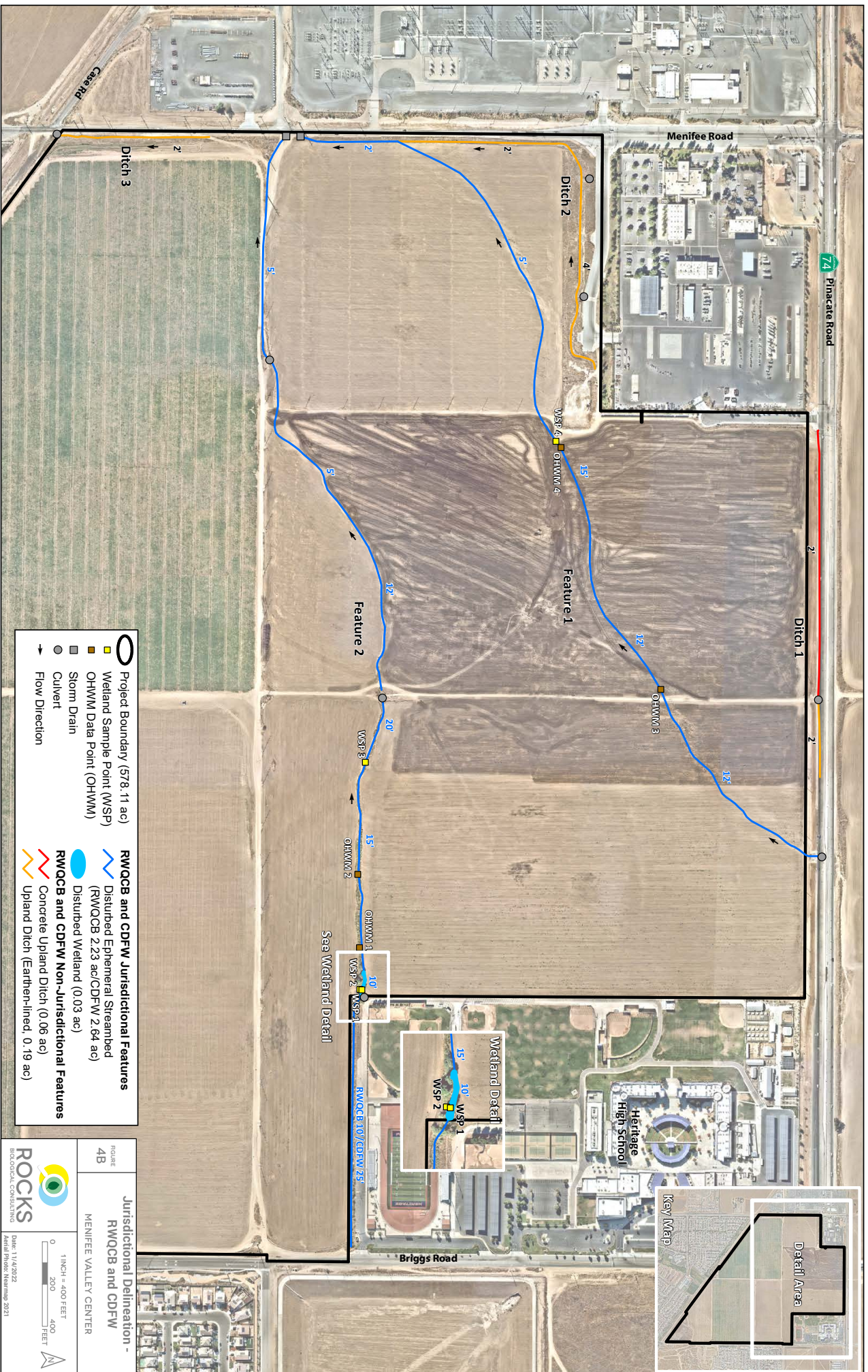


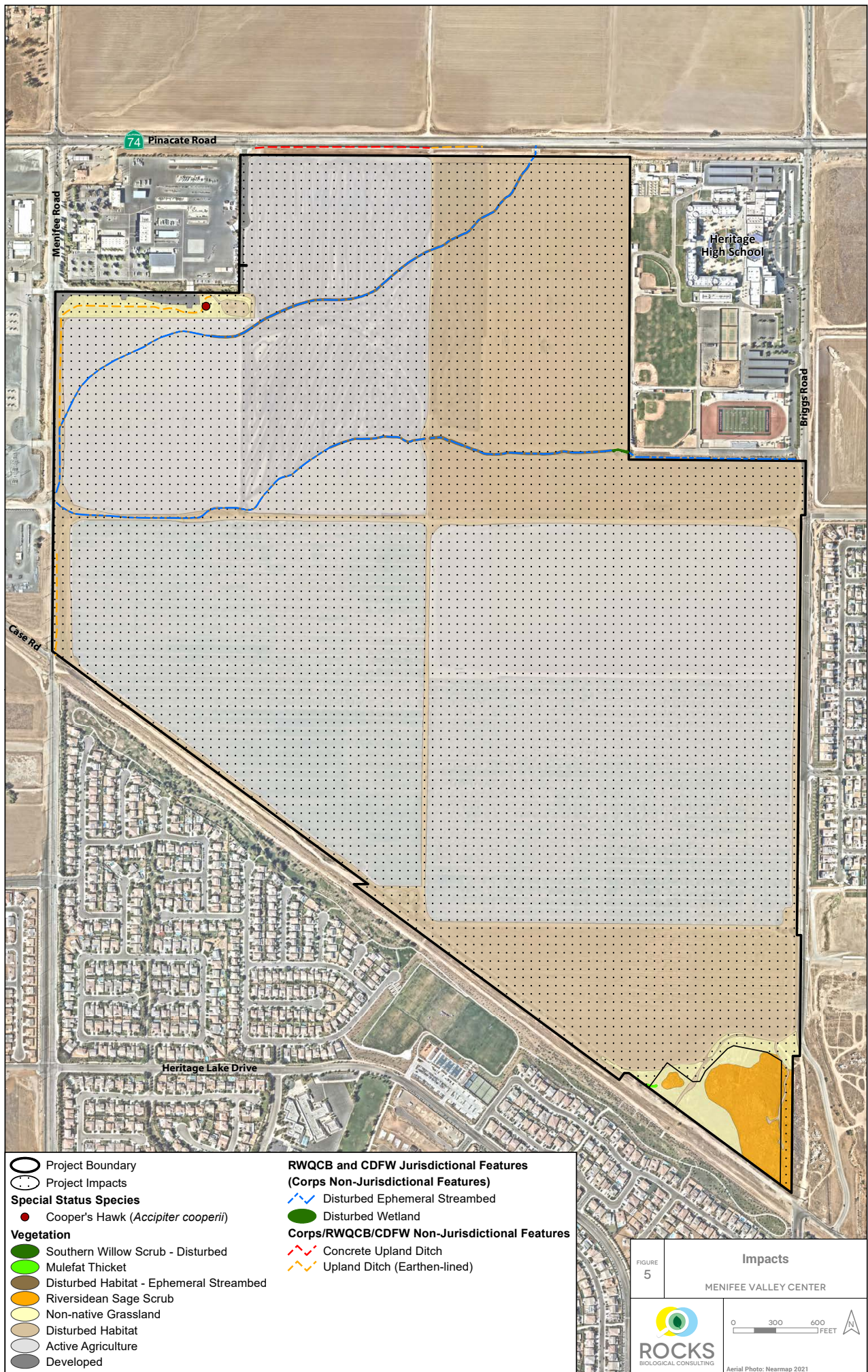


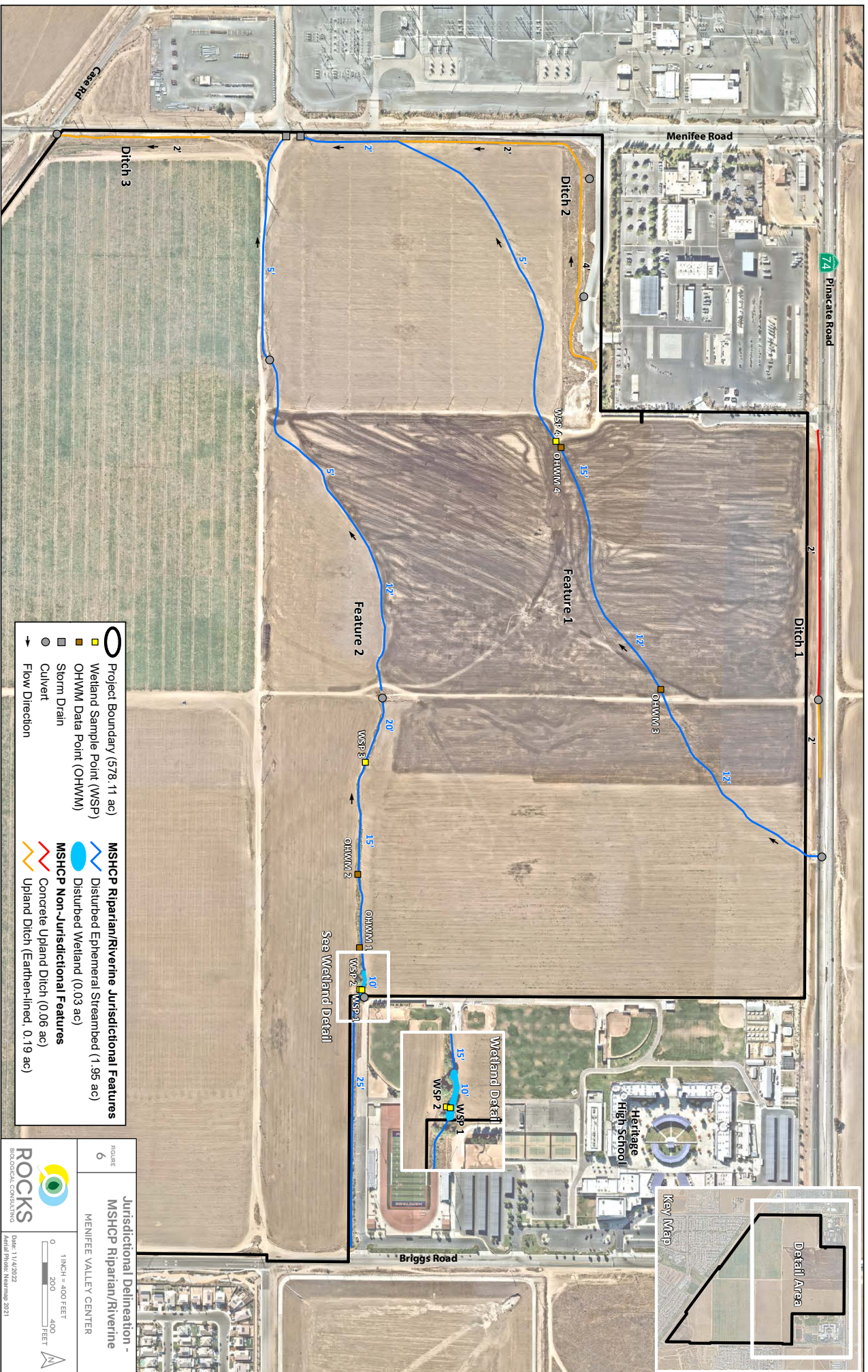


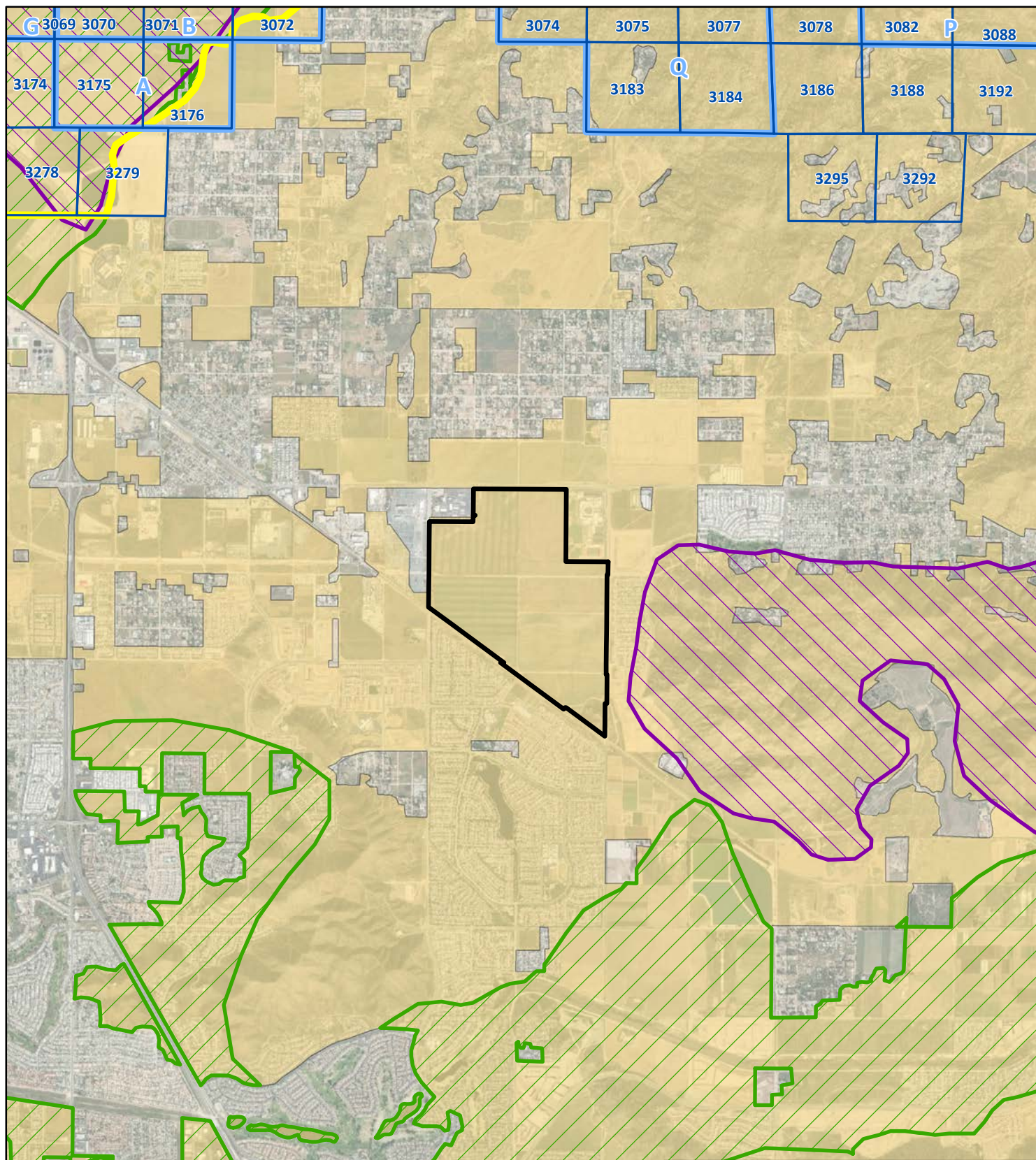










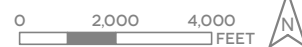


- Project Boundary
- Criteria Cells
- Criteria Cell Group
- Burrowing Owl Survey Area
- Mammal Species Survey Area 2
- Narrow Endemic Plant Species Survey Area 3
- Criteria Area Species Survey Area 3

FIGURE
7

MSHCP Areas

MENIFEE VALLEY CENTER



Aerial Photo: Maxar, Esri 2020
Source: Riverside County MSHCP

APPENDIX A

SITE PHOTOGRAPHS



Photo 1. View facing northeast of active agriculture in the southeastern portion of the project site. October 15, 2021.



Photo 2. View facing southwest of mulefat (*Baccharis salicifolia*) thicket in the southern portion of the project site surrounded by non-native grassland. October 15, 2021.



Photo 3. View facing southwest of non-native grassland in the foreground and Riversidean sage scrub habitat in the background in the southern portion of the project site. October 15, 2021.



Photo 4. View facing northeast of disturbed southern willow scrub habitat in central/eastern portion of the project site. October 15, 2021.



Photo 5. View facing northeast of disturbed southern willow scrub habitat on the northeastern portion of the project site. October 15, 2021.



Photo 6. View facing north of disturbed habitat (foreground) and disturbed southern willow scrub along Feature 2 (background). October 15, 2021.



Photo 7. View facing southwest of mapped ephemeral streambed (Feature 2) running east to west through the center of the project site. October 15, 2021.



Photo 8. Representative photo facing southeast of disturbed habitat throughout the project. October 15, 2020.



Photo 9. View facing north of disturbed habitat on the northern side of the project site. October 15, 2021.



Photo 10. View facing south of non-native grassland along Biscayne Avenue. October 15, 2021.

APPENDIX B

PLANT AND WILDLIFE SPECIES OBSERVED

Family	Common Name	Scientific Name
Plants		
Amaranthaceae	Pigweed amaranth*	<i>Amaranthus albus</i>
Asteraceae	annual bursage	<i>Ambrosia acanthicarpa</i>
Asteraceae	brittlebush	<i>Encelia farinosa</i> var. <i>farinosa</i>
Asteraceae	California sagebrush	<i>Artemisia californica</i>
Asteraceae	common sunflower	<i>Helianthus annuus</i>
Asteraceae	mule fat	<i>Baccharis salicifolia</i>
Asteraceae	stinknet*	<i>Oncosiphon piluliferum</i>
Asteraceae	Castor bean*	<i>Ricinus communis</i>
Boraginaceae	Rancher's fiddleneck	<i>Amsinckia menziesii</i>
Brassicaceae	short-pod mustard*	<i>Hirschfeldia incana</i>
Chenopodiaceae	Tumbleweed*	<i>Salsola australis</i>
Malvaceae	Cheeseweed*	<i>Malva parviflora</i>
Poaceae	Deergrass	<i>Muhlenbergia rigens</i>
Poaceae	red brome*	<i>Bromus rubens</i>
Poaceae	Soft brome*	<i>Bromus hordeaceus</i>
Polygonaceae	California buckwheat	<i>Eriogonum fasciculatum</i>
Polygonaceae	Prostrate knotweed	<i>Polygonum aviculare</i>
Salicaceae	Arroyo willow	<i>Salix lasiolepis</i>
Salicaceae	Goodding's black willow	<i>Salix gooddingii</i>
Salicaceae	Narrow-leaved willow	<i>Salix exigua</i>
Solanaceae	Jimson weed	<i>Datura wrightii</i>
Tamaricaceae	Tamarisk*	<i>Tamarix ramosissima</i>
Typhaceae	Cattail	<i>Typha latifolia</i>
Invertebrates		
Lycaenidae	western pygmy blue	<i>Brephidium exilis</i>
Nymphalidae	Monarch	<i>Danaus plexippus</i>
Nymphalidae	painted lady	<i>Vanessa cardui</i>
Pieridae	Checkered white	<i>Pontia protodice</i>
Reptiles		
Phrynosomatidae	Common side-blotched lizard	<i>Uta stansburiana</i>
Birds		
Accipitridae	Cooper's hawk (WL; nesting)	<i>Accipiter cooperii</i>
Accipitridae	Red-tailed hawk	<i>Buteo jamaicensis</i>
Aegithalidae	bushtit	<i>Psaltirparus minimus</i>

Alaudidae	California horned lark (WL)	<i>Eremophila alpestris actia</i>
Cathartidae	turkey vulture	<i>Cathartes aura</i>
Charadriidae	killdeer	<i>Charadrius vociferus</i>
Columbidae	Mourning dove	<i>Zenaida macroura</i>
Columbidae	Rock pigeon*	<i>Columba livia</i>
Corvidae	American crow	<i>Corvus brachyrhynchos</i>
Corvidae	common raven	<i>Corvus corax</i>
Cuculidae	Greater roadrunner	<i>Geococcyx californianus</i>
Falconidae	American kestrel	<i>Falco sparverius</i>
Fringillidae	house finch	<i>Haemorhous mexicanus</i>
Fringillidae	lesser goldfinch	<i>Spinus psaltria</i>
Hirundinidae	Cliff swallow	<i>Petrochelidon pyrrhonata</i>
Hirundinidae	Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Hirundinidae	Violet-green swallow	<i>Tachycineta thalassina</i>
Icteridae	Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Icteridae	Red-winged blackbird	<i>Agelaius phoeniceus</i>
Icteridae	Western meadowlark	<i>Sturnella neglecta</i>
Parulidae	Yellow-rumped warbler	<i>Setophaga coronata</i>
Passeridae	House sparrow*	<i>Passer domesticus</i>
Passerellidae	California towhee	<i>Melospiza crissalis</i>
Passerellidae	Lincoln's sparrow	<i>Melospiza lincolnii</i>
Passerellidae	Savannah sparrow	<i>Passerculus sandwichensis</i>
Strunidae	European starling*	<i>Sturnus vulgaris</i>
Trochillidae	Allen's hummingbird	<i>Selasphorus sasin</i>
Trochillidae	Anna's humminbird	<i>Calypte anna</i>
Troglodytidae	Bewick's wren	<i>Thryomanes bewickii</i>
Tyrannidae	Black phoebe	<i>Sayornis nigricans</i>
Tyrannidae	Say's phoebe	<i>Sayornis saya</i>
Tyrannidae	Western kingbird	<i>Tyrannus verticalis</i>
Mammals		
Canidae	Coyote (scat)	<i>Canis latrans</i>
Leporidae	Audubon's cottontail	<i>Sylvilagus audubonii</i>
Sciuridae	California ground squirrel	<i>Otospermophilus beecheyi</i>
WL: CDFW Watch List		
* Introduced Species		

APPENDIX C

MENIFEE VALLEY PROJECT JURISDICTIONAL DELINEATION REPORT



MENIFEE VALLEY PROJECT JURISDICTIONAL DELINEATION REPORT

Riverside County, California

July 15, 2019

Prepared for:
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TABLE OF CONTENTS

1	Introduction	1
1.1	Project Location	1
1.2	Project Description.....	1
1.3	Regulatory Background.....	1
1.4	Contact Information	3
2	Methods	3
3	Results	5
3.1	Topography.....	5
3.2	Watershed.....	5
3.3	Hydrology.....	6
3.4	Soils	7
3.5	Features Observed	9
3.6	Potentially Jurisdictional Resources and Analysis	11
3.7	Potentially Non-Jurisdictional Resources and Analysis.....	13
4	Conclusion	14
5	References	16

TABLES

Table 1.	Precipitation Data.....	7
Table 2.	Potential RWQCB Jurisdictional Resources	12
Table 3.	Potential CDFW Jurisdictional Resources	12
Table 4.	Vegetation Communities within Project Boundary.....	13
Table 5.	Potential Corps, RWQCB, and CDFW Non-Jurisdictional Resources.....	14

FIGURES

Figure 1.	Project Location
Figure 2.	USGS Topo and NHD
Figure 3.	Watershed
Figure 4.	NRCS Soils Survey Data and National Wetlands Inventory
Figure 5A.	Jurisdictional Delineation - Corps
Figure 5B.	Jurisdictional Delineation - RWQCB and CDFW
Figure 6.	Vegetation Communities
Figure 7A.	Photo Locations/Jurisdictional Delineation - Corps
Figure 7B.	Photo Locations/Jurisdictional Delineation - RWQCB and CDFW

APPENDICES

Appendix A.	Checklist: Minimum Standards for Acceptance of Aquatic Resources Delineation Reports, Los Angeles District Regulatory Division, USACE
Appendix B.	Arid West Wetland Delineation and Ephemeral and Intermittent Streams OHWM Datasheets

Appendix C. Site Photographs

Appendix D. JD Request Form

Appendix E. On-site Recent and Historic Aerials Analysis

Appendix F. Bulk Upload Form

Appendix G. Line A Figures and Aerials Analysis

Appendix H. GIS Data

1 INTRODUCTION

Rocks Biological Consulting (RBC) conducted a formal jurisdictional delineation for the Menifee Valley Project (project) to identify areas potentially jurisdictional under the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act; the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the Clean Water Act and the Porter-Cologne Act; and the California Department of Fish and Wildlife (CDFW) pursuant to California Fish and Game Code (§1602). The information provided in this jurisdictional delineation report is necessary to evaluate jurisdictional impacts and permit requirements associated with the project, can be used by the agencies to assess project conformance with state and federal regulations, and supplements our request for the Corps to complete an Approved Jurisdictional Determination (AJD; see Sections 3.6 and 3.7 and Appendix D for further details) based on the information provided in this report. Furthermore, Appendix A provides a checklist of the information contained in this report in compliance with the Corps *Los Angeles District's Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (Corps 2017a).

1.1 PROJECT LOCATION

The project study area is located east of Interstate 215 on California State Route 74 (CA-74) between Menifee Road and Briggs Road in the City of Menifee, Riverside County, California (Figure 1). CA-74 and Case Road borders the northern and southern portions of the site. Briggs Road borders the eastern boundary, and Menifee Road borders the western boundary. The project area occurs within Township 05S, Range 03W, Section 13 on the U.S. Geological Survey (USGS) 7.5-minute Romoland quadrangle with a center point latitude and longitude of 33.7349, -117.1447.

1.2 PROJECT DESCRIPTION

The project proposes to construct a master planned community consisting of a mix of uses including residential, commercial uses, public facilities, open space recreational amenities, and open space conservation on the 594-acre project area in independent phases. In addition to the on-site infrastructure improvements proposed as part of the project, a 3,350-foot water main extension will occur along Menifee Road entirely within the road right-of-way. A project description specific to the proposed phased impacts on aquatic resources deemed jurisdictional by the applicable regulatory agencies shall be provided with subsequent permitting applications.

1.3 REGULATORY BACKGROUND

Several regulations have been established by federal, state, and local agencies to protect and conserve aquatic resources. The following surface water/aquatic resource regulations may be applicable to the project, which are summarized below: Section 404 and 401 of the Clean Water Act (33 U.S. Code [USC] § 1251 et seq.; CWA), the Porter-Cologne Water Quality Control Act (Water Code § 13000 et seq.), and California Fish and Game Code (CFGF) Sections 1600-1602. The applicable regulatory agencies make the final determination of whether permits would be required for the proposed project pursuant to these regulations.

1.3.1 APPLICABLE AQUATIC RESOURCE PROTECTION REGULATIONS

Clean Water Act

Pursuant to Section 404 of the CWA, the Corps is authorized to regulate any activity that would result in the discharge of dredged or fill material into waters of the U.S. (including wetlands), which include those waters listed in 33 Code of Federal Regulations (CFR) 328.3 (as amended at 80 Federal Register (FR) 37104, June 29, 2015). The Corps, with oversight from the U.S. Environmental Protection Agency (USEPA), has the principal authority to issue CWA Section 404 permits. The Corps would require a Standard Individual Permit (SIP) for more than minimal impacts to waters of the U.S. as determined by the Corps. Projects with minimal individual and cumulative adverse effects on the environment may meet the conditions of an existing Nationwide Permit (NWP).

A water quality certification or waiver pursuant to Section 401 of the CWA is required for all Section 404 permitted actions. The RWQCB, a division of the State Water Resources Control Board, provides oversight of the 401-certification process in California. The RWQCB is required to provide “certification that there is reasonable assurance that an activity that may result in the discharge to waters of the United States will not violate water quality standards.” Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. As discussed above, the RWQCB regulates discharges to surface waters under the federal CWA. In addition, the RWQCB is responsible for administering the Porter-Cologne Water Quality Control Act.

Pursuant to the Porter-Cologne Water Quality Control Act, the state is given authority to regulate waters of the state, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if Section 404 is not required for the activity. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

California Fish and Game Code Sections 1600-1602

Pursuant to Division 2, Chapter 6, Section 1602 of the CFGC, CDFW regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream or lake that supports fish or wildlife. A Notification of Lake or Streambed Alteration must be submitted to CDFW for “any activity that may substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake.” CDFW has jurisdiction over riparian habitats associated with watercourses and wetland habitats supported by a river, lake, or stream. Jurisdictional waters are delineated by the outer edge of riparian vegetation (i.e., drip line) or at the top of the bank of streams or lakes, whichever is wider.

1.4 CONTACT INFORMATION

Applicant:

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Agency access to the project site can be coordinated with the applicant and/or agent upon request.

2 METHODS

Prior to the on-site delineation, field maps were created using a Geographic Information System (GIS) and a color aerial photograph at a 1 inch = 100 feet scale. RBC staff also reviewed U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and topography data (Figure 2) and U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data (Figure 4) to further determine the potential locations of potentially jurisdictional aquatic resources.

RBC regulatory specialist Shanti Santulli and biologist Ian Hirschler conducted the jurisdictional delineation field visit on August 13, 2018, in addition to a visual reconnaissance of potentially jurisdictional areas and biological resources on December 20, 2017. RBC regulatory specialist Sarah Krejca conducted a supplemental jurisdictional delineation field visit on April 26, 2019 to assess the off-site area for potential jurisdictional resources. The project survey area included the proposed project area with a 50-foot buffer for a total of approximately 621 acres. All areas with depressions, drainage patterns, and/or wetland vegetation within the survey area (including a 50-foot buffer area surrounding the proposed project limits of disturbance) were evaluated for potential jurisdictional status, with focus on the presence of defined channels and/or wetland vegetation, soils, and hydrology. Field staff examined potential jurisdictional wetland areas on site using the methods set forth in the 1987 Corps *Wetland Delineation Manual* (Wetland Manual) (Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of*

Engineers Wetland Delineation Manual: Arid West Region Version 2.0 (Arid West Supplement) (Corps 2008a).

Areas that met the three parameters per the Arid West Supplement (i.e., hydrophytic vegetation, hydric soils, and wetland hydrology) were considered wetland waters of the U.S./State. RBC staff based wetland plant indicator status (i.e., Obligate [OBL], occurs 99+% in wetlands; Facultative Wetland [FACW], occurs 67-99% in wetlands; Facultative [FAC], occurs 34-66% in wetlands; Facultative Upland [FACU], occurs 1-33% in wetlands; Upland [UPL], occurs 99+% in uplands) on the National Wetland Plant List (NWPL; Corps 2016) and hydric soils indicators on *Field Indicators of Hydric Soils in the United States, Version 8.1* (NRCS 2017). Soil chromas were identified in the field according to *Munsell's Soil Color Charts* (Munsell 2015) and using protocols per the Arid West Supplement.

Note that in April 2019 the State Water Resources Control Board adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (the Procedures) which are anticipated to become effective in 2020, nine months after the Office of Administrative Law approves the Procedures. Although the Procedures are not yet applicable to this project, the delineation methods used by RBC for the proposed project follow the methodology outlined in the Procedures.

Lateral limits of potential non-wetland waters of the U.S./State for the Corps and RWQCB, respectively, were identified using field indicators of an ordinary high water mark (OHWM). An OHWM is defined in 33 CFR 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." RBC staff used *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (OHWM Field Guide; Corps 2008b) to estimate the extent of an OHWM in the field. For each feature exhibiting the potential presence of an OHWM, RBC completed a 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet following the guidance provided in the *Updated Datasheet for the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (OHWM Datasheet; Corps 2010). Per the 2010 OHWM Datasheet, common indicators of an OHWM include a break in slope (i.e., abrupt cut in bank slope created by hydrogeomorphic processes across the landscape), changes in average sediment texture between floodplain units (i.e., low-flow, active floodplain, low terrace), and changes in vegetation species and/or cover between floodplain units.

CDFW potential jurisdictional boundaries were determined based on the presence of streambed and associated riparian habitat and/or wetland areas. Streambeds considered within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). Riparian habitat refers to vegetation and habitat associated with a stream. The CDFW jurisdictional habitat includes all riparian shrub or tree canopy that may extend beyond the banks of a stream. Isolated riparian habitat (i.e., where

riparian vegetation did not appear associated with an ephemeral wash) were not considered CDFW-jurisdictional. CDFW follows the USFWS wetland definition and classification system, which defines a wetland as transitional land between terrestrial and aquatic systems having one or more of the following attributes: “(1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year” (USFWS 1979). A wetland is presumed when all three attributes are present; if less than three attributes are present the presumption of a wetland must be supported by “the demonstrable use of wetland areas by wetland associated fish or wildlife resources, related biological activity, and wetland habitat values” (CFGC 1994).

While in the field, potentially jurisdictional features were recorded using a hand-held Global Positioning Satellite (GPS) unit with a level of accuracy ranging from four to 12 feet. RBC staff refined the data using aerial photographs and topographic maps to ensure accuracy. Off-site portions of drainages were visited to confirm the presence of the indicators above, if appropriate. Plants were identified according to The Jepson Manual 2nd edition (Baldwin et al. 2012). The vegetation community classifications follow Holland (1986) and nomenclature follows Jepson flora (Jepson Flora Project 2017).

All figures generated for this jurisdictional delineation report follow the Corps’ *Updated Final Map and Drawing Standards for the South Pacific Division Regulatory Program* (Corps 2016).

3 RESULTS

3.1 TOPOGRAPHY

Elevations on site range from approximately 1,467 to 1,615 feet (Figure 2). The survey area is predominantly flat with the highest elevation occurring on a hill feature on the southeastern corner of the site. On-site drainage patterns trend east to west, as elevation slightly decreases from east to west.

3.2 WATERSHED

The proposed project area is within the San Jacinto Hydrologic Unit Code [HUC] 8 (18070202), Lower San Jacinto River HUC 10 (1807020203), and both San Jacinto Valley HUC 12 (180702020303) and Perris Valley-San Jacinto River HUC 12 (180702020306) watersheds (Figure 2).

The headwaters of the San Jacinto River originate in the San Jacinto Mountains and flow through the San Bernardino National Forest. The San Jacinto watershed is comprised primarily of open space (67%), followed by residential use (25%), agriculture (5%), and commercial/industrial use (3%) (RCFCWCD 2017).

The Lower San Jacinto River HUC 10 encompasses 364 square miles; the Perris Valley Channel and Salt Creek Channel are its major tributaries. The Lower San Jacinto River HUC 10 outlets at Lake Elsinore, located less than 12 miles away from the project site (RWQCB 2017).

3.3 HYDROLOGY

USGS NHD maps two “blue-line streams” within the project survey area (Figure 2), which occur in the general locations of Feature 1 and Feature 2 on site (Figure 5). USFWS NWI maps one feature within the project survey area as Riverine habitat classified as Riverine Intermittent Streambed Temporary Flooded (R4SBA), which occurs near the mapped extent of Feature 2 along the eastern project boundary (Figure 4).

On-site features appear to be fed primarily by direct precipitation and several culvert outlets (as mapped on Figure 5) from adjacent roads and developed areas. Drainage from a large culvert from the adjacent school property provides the main hydrologic influence into Feature 2, outputting near the Wetland Sample Point [WSP] 1 where flowing and standing water were observed; upstream of WSP 1, field staff did not observe flows or standing water. With respect to hydrology from the ongoing agricultural operation on site, the current farmer has been growing grain crops such as wheat and barley using dry irrigation practices. Previous crops grown on site (during the years prior to the site visits for this report) included potatoes and pumpkins which required standard irrigation and watering practices.

Flows from the vicinity of the project area end up in the Juniper Flats and Briggs Detention Basins which occur upstream of the project area and were constructed as part of the Romoland Master Drainage Plan (MDP). The basins intercept surface water drainage that historically flowed onto project site. This MDP also included underground storm drains Line 1 and Line A (a portion of which run under the project site) designed to carry watershed runoff toward the San Jacinto River. Features 1 and Features 2 delineated on site appear to flow northeast to west across the project site into drain inlets along Meniffee Road on the western project boundary (Figure 4) which then drain into Line A. Section 3.7 provides additional information regarding Line A and its downstream hydrology.

Table 1 describes the estimated monthly total and average precipitation for the project area between 2007 and 2018 to provide the pertinent pre-site visit precipitation data. RBC staff accessed precipitation data through the Natural Resources Conservation Service (NRCS) Agricultural Applied Climate Information System (AgACIS) database from the Elsinore Station in Riverside County on September 10, 2018. Table 1 utilizes the Elsinore Station precipitation data (as opposed to a closer data station located at Murrieta 3.6 NNE) due to its comprehensive data and proximity to the project site (less than 12 miles).

Table 1. Precipitation Data

Monthly Total Precipitation (inches) for Elsinore, CA													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2007	M	M	M	0.32	0	M	0	M	M	M	M	0	M
2008	M	0	0	M	M	0	0	0	0	0	M	4.05	M
2009	0.18	3.97	0.13	0.05	0	0	0	0.01	0	0.22	0.07	3.76	8.39
2010	8.88	1.81	0.44	1.23	0.13	0	0	0	0	1.61	1.06	11.7	26.83
2011	0.7	3.07	2.96	0.46	0.78	0.0	0.1	0.09	0.03	0.44	1.37	0.74	10.81
2012	0.55	0.67	1.51	1.18	0	0	0.3	0.05	0.24	0.36	0.3	1.78	6.94
2013	0.91	0.46	0.46	0	0.14	0	0	0	0	0.16	0.53	0.7	3.36
2014	0.13	1.28	1.27	0.5	0	0	0	0.66	0.45	0	0.21	3.65	8.15
2015	0.55	0.37	0.44	0.11	0.96	0	1.29	0	1.08	0.11	0.12	0.58	5.61
2016	2.79	0.3	0.74	0.28	0.06	0	0	0	0.1	0.39	1.18	3.81	9.65
2017	8.23	3.27	0.08	0.02	0.29	0	0	0.26	0.04	0.01	0.05	0	12.25
2018	2.01	0.2	1.11	0.02	0.05	0	0	0	M	M	M	M	M
Mean	2.49	1.40	0.83	0.38	0.22	0.0	0.14	0.10	0.19	0.33	0.54	2.79	10.22

*Per AgACIS database: "Monthly summarized data - means, sums, daily extremes or frequencies for the selected variable for each month of the year for the selected range of years. HDD, CDD and GDD are heating, cooling and growing degree days, respectively. Note: trace precipitation/snowfall/snow depth amounts are treated as zero in sums, means, and frequency counts. Annual average temperatures are the average of the twelve-monthly values. Values of 'M' indicate missing data and 'T' indicates a trace."

Table 1 indicates that the field survey date of August 13, 2018 occurred during below average annual historic precipitation for the month of August, which averaged 0.10 inches between 2007-2018. The 2017 total precipitation of 12.25 inches was 2.03 inches above the annual mean precipitation of 10.22 inches between 2007-2017 (not including 2007-2008, as annual data for those years are missing).

3.4 SOILS

Based on the NRCS map of the project area (Figure 4), the following soils occur within the project site boundary and are described below per the USDA's Official Soil Description and Series Classification database:

Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded (CkF2) – The Cieneba series consists of very shallow to shallow soils primarily formed in material weathered from granitic rock. These soils are typically found on hills and mountains in areas with a dry subhumid climate. The NRCS does not list Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded (CkF2), which occurs on site, as hydric.

Exeter sandy loam, 0 to 2 percent slopes (EnA) – The Exeter series consists of moderately well drained soils that are typically formed in alluvial fans and primarily used for the irrigation of croplands. The NRCS does not list Exeter sandy loam, 0 to 2 percent slopes (EnA), which occurs on site, as hydric.

Exeter sandy loam, 2 to 8 percent slopes, eroded (EnC2) – The Exeter series consists of moderately well drained soils that are typically formed in alluvial fans and primarily used for the irrigation of croplands. The NRCS does not list Exeter sandy loam, 2 to 8 percent slopes, eroded (EnC2), which occurs on site, as hydric.

Exeter sandy loam, deep, 0 to 2 percent slopes (EpA) – The Exeter series consists of moderately well drained soils that are typically formed in alluvial fans and primarily used for the irrigation of croplands. The NRCS does not list Exeter sandy loam, deep, 0 to 2 percent slopes (EpA), which occurs on site, as hydric.

Exeter very fine sandy loam, 0 to 5 percent slopes (EwB) – The Exeter series consists of moderately well drained soils that are typically formed in alluvial fans and primarily used for the irrigation of croplands. The NRCS does not list Exeter very fine sandy loam, 0 to 2 percent slopes (EwB), which occurs on site, as hydric.

Exeter very fine sandy loam, deep, 0 to 5 percent slopes (EyB) – The Exeter series consists of moderately well drained soils that are typically formed in alluvial fans and primarily used for the irrigation of croplands. The NRCS does not list Exeter very fine sandy loam, deep, 0 to 2 percent slopes (EyB), which occurs on site, as hydric.

Greenfield sandy loam, 0 to 2 percent slopes (GyA) – The Greenfield series consists of deep, well drained soils, typically found on alluvial fans and terraces and are formed in moderately coarse and coarse textured alluvium. These soils are typically used for the production of a variety of irrigated fields. The NRCS does not list Greenfield sandy loam, 0 to 2 percent slopes (GyA), which occurs on site, as hydric.

Hanford coarse sandy loam, 0 to 2 percent slopes (HcA) – The Hanford series consists of very deep, well drained soils typically found on stream bottoms, floodplains and alluvial fans. These soils are typically used for growing general farm crops and vegetation in uncultivated areas mainly consists of annual grasses and herbaceous plants. The NRCS does not list Hanford coarse sandy loam, 0 to 2 percent slopes (HcA), which occurs on site, as hydric.

Hanford coarse sandy loam, 2 to 8 percent slopes (HcC) – The Hanford series consists of very deep, well drained soils typically found on stream bottoms, floodplains and alluvial fans. These soils are typically used for growing general farm crops and vegetation in uncultivated areas mainly consists of annual grasses and herbaceous plants. The NRCS does not list Hanford coarse sandy loam, 2 to 8 percent slopes (HcC), which occurs on site, as hydric.

Hanford coarse sandy loam, 8 to 15 percent slopes, eroded (HcD2) – The Hanford series consists of very deep, well drained soils typically found on stream bottoms, floodplains and alluvial fans. These soils are typically used for growing general farm crops and vegetation in uncultivated areas mainly consists of annual grasses and herbaceous plants. The NRCS does not list Hanford coarse sandy loam, 8 to 15 percent slopes, eroded (HcD2), which occurs on site, as hydric.

Hanford fine sandy loam, 0 to 2 percent slopes (HgA) – The Hanford series consists of very deep, well drained soils typically found on stream bottoms, floodplains and alluvial fans. These soils are typically used for growing general farm crops and vegetation in uncultivated areas

mainly consists of annual grasses and herbaceous plants. The NRCS does not list Hanford fine sandy loam, 0 to 2 percent slopes (HgA), which occurs on site, as hydric.

Pachappa fine sandy loam, 0 to 2 percent slopes (PaA) - The Pachappa series consists of well drained soils, typically found on gently sloping alluvial fans and flood plains. These soils are typically used for growing general farm crops and vegetation in uncultivated areas mainly consists of annual grasses and herbaceous plants. The NRCS does not list Pachappa fine sandy loam, 0 to 2 percent slopes (PaA), which occurs on site, as hydric.

Ramona sandy loam, 0 to 2 percent slopes, MLRA 19 (RaA) – The Ramona series consists of well drained soils with moderately slow permeability. These soils are typically found in dry subhumid climates and are used for cropland irrigation. The NRCS does not list Ramona sandy loam, 0 to 2 percent slopes, MLRA 19 (RaA), which occurs on site, as hydric.

Ramona sandy loam, 2 to 5 percent slopes, eroded (RaB2) – The Ramona series consists of well drained soils with moderately slow permeability. These soils are typically found in dry subhumid climates and are used for cropland irrigation. The NRCS does not list Ramona sandy loam, 2 to 5 percent slopes, eroded (RaB2) which occurs on site, as hydric.

As stated in the Arid West Supplement, RBC used the hydric soils list as a tool and made final hydric soils determinations based on field-collected data at wetland delineation sample points, as recorded on the attached Arid West Wetland Delineation Forms (Appendix B) discussed further below.

3.5 FEATURES OBSERVED

Potentially jurisdictional features observed on the project site during the formal jurisdictional delineation field effort, further discussed in Section 3.6, include a northeast-west trending feature within the northern portion of the project site (Feature 1) and an east-west trending feature that bisects the center of the project site from north to south (Feature 2). Some on-site features may not be jurisdictional by an agency or agencies as detailed in Section 3.7.

RBC biologists investigated four wetland sampling points to determine the presence or absence of federally jurisdictional wetlands (Figure 5; Appendix B). RBC also conducted four OHWM Data Points in areas observed to have defined drainage patterns in the project survey boundary (Figure 5; Appendix B). Note that all impacts associated with the off-site water line will occur within the highly disturbed shoulder along the western boundary of Menifee Road and not within any potentially jurisdictional features. Appendix C provides site photographs of the features, and Figure 7 displays representative photo points also discussed below.

Feature 1

Feature 1 (F1) occurs in the northern portion of the project area, initiating on site at a box-culverted crossing at CA-74 and flowing in the southwesterly direction at a 0-1% slope. Feature 1 eventually meets the western project boundary and flows south where it flows into a storm drain near Menifee Road and the dirt road which bisects the property from north to south (referred to as McLaughlin Road). The width of the OHWM of Feature 1 and the estimated top of bank of Feature 1 varies in width between two to 15 feet. WSP 4, taken within Feature 1, did not meet the hydrophytic vegetation, hydric soil, or wetland hydrology parameters (Appendix B,

Figure 5). RBC staff noted faint indicators of an OHWM at OHWM Data Points 3 and 4 (Appendix B, Figure 5) and bed and bank amidst the ongoing agricultural activities on site. Observed indicators of flow included a minor break in slope and shift in sediment and vegetation cover between the upland areas and active channel. Feature 1 was overall unvegetated, surrounded by recently planted grain crops and weedy annual plant species (e.g., Bermuda grass [*Cynodon dactylon*; FACU], lamb's quarters [*Chenopodium album*; FACU], stinknet [*Oncosiphon piluliferum*; FACU], and short-pod mustard [*Hirschfeldia incana*; NL].

Feature 2

Feature 2 receives flows from two culverts, one from under the adjacent Heritage High School, and one along Briggs Road, as noted on Figure 5. Based on field observations, Feature 2 flows west through the project area, eventually onto the dirt road which bisects the property from north to south (referred to as McLaughlin Road) and into a set of storm drain inlets along Menifee Road. The width of the OHWM of Feature 2 and the estimated top of bank of Feature 2 varies in width between five to 20 feet within the project boundary, with one area off site but within the survey buffer having up to 25-foot wide banks and a 10-foot wide OHWM within a constructed trapezoidal, earthen-lined channel. RBC staff observed both non-wetland and wetland features within Feature 2, the latter of which is discussed further below under "Feature 2 Wetland." The majority of Feature 2 had recently been disced but still showed faint indicators of an OHWM and bed and bank as documented on OHWM Data Points 1 and 2 (Appendix B, Figure 5). Observed indicators of flow included a minor break in slope and shift in sediment and vegetation cover between the upland areas and active channel. Feature 2, similar to Feature 1, was overall unvegetated, surrounded by recently planted grain crops and weedy annual plant species (e.g., Bermuda grass [FACU] and lamb's quarters [FACU]). WSP 3 was taken within Feature 2, downstream of the Feature 2 Wetland area, and did not meet any of the federal wetland parameters.

Feature 2 Wetland

WSP 1 was taken adjacent to a culvert from under the adjacent Heritage High School, in the eastern most section of Feature 2 within the project boundary, where ponding was observed along with hydrophytes. The Feature 2 wetland appeared slightly depressional with a 0% slope throughout a majority of the feature. WSP 1 met the three federal wetland parameters with a strong presence of wetland hydrology and hydrophytic vegetation (e.g., broadleaf cattail [*Typha latifolia*; OBL] and common spikerush [*Eleocharis palustris*; OBL]); RBC staff assumed indicators of hydric soils given the presence of ponding/surface water during the August 2018 jurisdictional delineation site visit as well as the December 2017 visual reconnaissance site visit (Appendix C). WSP 2, which did not meet the three federal wetland parameters, was also taken to determine the boundary of the wetland area (Appendix C). Occurring within the larger extent of Feature 2, eventually the Feature 2 Wetland begins sloping (0-1%) at the west end of the area of inundation where it flows into the drier portions of the active agricultural field (see above, Feature 2).

Ditch 1

Ditch 1 is approximately two feet wide and appears to be a manmade ditch along the northern boundary of the project survey area. The feature drains east to west and is earthen-lined for approximately 365 feet. The feature flows into a culvert under a dirt road and continues west as a concrete-lined ditch for approximately 1,263 feet. RBC staff did not observe any drainage patterns, OHWM, and/or streambed within Ditch 1. Vegetation within the ditch was primarily stinknet (FACU) and short-pod mustard (NL). The feature appeared to be a ditch created in uplands partially for agricultural purposes and also to convey some flows from the adjacent roads.

Ditch 2

Ditch 2 ranges between two to four feet wide and appears to be a manmade drainage ditch created to reroute flows from the road and development directly to the north of the project area. Two culverts drain into Ditch 2, which initially drains from east to west until it makes a 90 degree turn and flows to the south along the western boundary of the project area. Areas near the culvert outlets into the feature have rip-rap; however, evidence of regular flows were not present. Vegetation within the ditch was primarily stinknet (FACU) and short-pod mustard (NL). The feature had more swale-like characteristics and lacked a clear or natural bed and bank or OHWM.

Ditch 3

Ditch 3 is approximately two feet wide and is located along the western boundary of the project survey area. Similar to Ditch 1, Ditch 3 appears to be a manmade ditch along the northern boundary of the project survey area. The feature drains north to south and flows into a culvert located at Case and Menifee Roads. RBC staff did not observe a clear or natural bed and bank or OHWM; instead, the feature appeared to be a ditch created in uplands for agricultural purposes. Vegetation within the ditch was primarily short-pod mustard (NL) and jimsonweed (*Datura wrightii*; UPL).

3.6 POTENTIALLY JURISDICTIONAL RESOURCES AND ANALYSIS

Feature 1 and Feature 2 are potential non-wetland, ephemeral waters of the State/surface waters (RWQCB) and ephemeral streambed (CDFW); Feature 2 Wetland is a wetland waters of the State/surface waters potentially jurisdictional by the RWQCB and CDFW. Table 2 provides additional information regarding Feature 1 and Feature 2 (wetland and non-wetland) including acreages, linear feet, and average widths.

The above initial jurisdictional findings are further justified by the recent and historic aerials analysis of the project area (Appendix E). In sum, the proposed project site has been under active agricultural operations since before 1938 as documented by the earliest historic aerial RBC was able to obtain. Given the constant manipulation/disturbance of the site through the ongoing agricultural operations, site conditions are expected to fluctuate from year to year. Over the years, Feature 1 and Feature 2 appear to be the only consistent and persistent aquatic features on site. Other features detectable on recent and historic aerials include potential agricultural ponds, water diversions on site, and/or ditches used to continuously recycle water

used on site for agricultural uses, most of which were not observed during the visual reconnaissance site visit on December 28, 2017 and the jurisdictional delineation field visit on August 13, 2018.

While potentially jurisdictional by the RWQCB and CDFW, Section 3.7 provides details on why Features 1 and 2 are not jurisdictional by the Corps. Furthermore, Ditches 1, 2, and 3 are discussed below in Section 3.7 as features that should not be considered jurisdictional. The ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet is included as Appendix F.

Table 2. Potential RWQCB Jurisdictional Resources

Feature Name	Acreage	Linear Feet	Cowardin Code	Presence of OHWM/Average Width (feet)	Wetland Presence	Dominant Vegetation	Location (lat, long)
Feature 1	1.03	4,666	R6	Yes/10	No	Unvegetated/ Disturbed Ephemeral Streambed	33.739778790, -117.148818640
Feature 2*	1.20	5,369	R6	Yes/12	No	Unvegetated/ Disturbed Ephemeral Streambed	33.737052989, -117.142810471
Feature 2 Wetland	0.03	120	PEM	No/10	Yes	Freshwater Marsh	33.737122040, -117.140836418
Total	2.26	10,155					

*Includes project boundary and 50-foot buffer.

Table 3. Potential CDFW Jurisdictional Resources

Feature Name	Acreage	Linear Feet	Cowardin Code	Presence of OHWM/Average Width (feet)	Wetland Presence	Dominant Vegetation	Location (lat, long)
Feature 1	1.03	4,666	R6	Yes/10	No	Unvegetated/ Disturbed Ephemeral Streambed	33.739778790, -117.148818640
Feature 2*	1.61	5,369	R6	Yes/12	No	Unvegetated/ Disturbed Ephemeral Streambed	33.737052989, -117.142810471
Feature 2 Wetland	0.03	120	PEM	No/10	Yes	Freshwater Marsh	33.737122040, -117.140836418
Total	2.67	10,155					

* Includes project boundary and 50-foot buffer.

Table 4. Vegetation Communities* within Project Boundary

Habitat Type	Acres
Active Agriculture	543.55
Disturbed Habitat	25.14
Riversidian Sage Scrub	9.98
Non-native Grassland	7.11
Developed	6.75
Ephemeral Streambed - Disturbed	1.96
Freshwater Marsh	0.03
Total	594.53**

* Vegetation mapping conducted by RBC during the August 13, 2018 site visit.

** Acreage rounded to the nearest hundredth based on raw numbers provided during GIS analysis of project, which are available upon request.

3.7 POTENTIALLY NON-JURISDICTIONAL RESOURCES AND ANALYSIS

Features 1 and 2, including the associated wetland area, are ephemeral drainages located within the proposed project site that would not qualify as a jurisdictional water per the criteria set forth at 33 CFR 328.3(a)(1) - (a)(4) and (a)(7). Features 1 and 2 also do not meet the definition of “tributary” (as defined at 33 CFR 328.3(c)(3)) to qualify as a jurisdictional water per 33 CFR 328.3(a)(5) because Features 1 and 2 do not flow, either directly or indirectly, into a 33 CFR 328.3(a)(1) - (a)(3) water. Features 1 and 2 drain into Line A (via storm drain inlets along Menifee Road; Figure 5); Line A is an excluded ditch per 33 CFR 328.3(b)(3)(i) and (b)(3)(iii) with no downstream connectivity.

More specifically, and to confirm Features 1 and 2 via Line A would not be jurisdictional waters per 33 CFR 328.3(a)(5), Line A is a storm drain system created as a part of the Romoland Master Drainage Plan (MDP) for the area and begins just east of the project site at the Briggs Detention Basin. A portion of Line A, including the on-site portion, runs underground until daylighting east of Case Road (Appendix G). Line A qualifies as an excluded water per 33 CFR 328.3(b)(3)(i) and (b)(3)(iii) for the following reasons: (1) Line A is a ditch with ephemeral flows which receives flows from upstream waters for storm water conveyance purposes but does not itself relocate a tributary nor is it excavated in a tributary (Appendix G); and (2) Line A does not flow, either directly or indirectly, into a 33 CFR 328.3(a)(1) - (a)(3) waters. Line A is physically separated from the San Jacinto River (a tributary water per 33 CFR 328.3(a)(5)) as shown in Appendix G and thus cannot contribute flows into Canyon Lake or Lake Elsinore (a traditional navigable water per 33 CFR 328.3(a)(1)).

Features 1 and 2 are also not an “adjacent” water (as defined at 33 CFR 328.3(c)(1)) per 33 CFR 328.3(a)(6) since they are both over 20,000 feet from and not within the 100-year floodplain of the nearest (a)(5) water, the San Jacinto River (Appendix G). Finally, Features 1 and 2 would not qualify as a jurisdictional water per 33 CFR 328.3(a)(8); the associated significant nexus analysis could not be applied because, in this case, the terminus of Features 1 and 2 is over 20,000 feet away from the San Jacinto River and thus not within 4,000 feet of the OHWM of the nearest applicable (a)(5) water, the San Jacinto River.

Given the above rationale, Features 1 and 2, including the associated wetland area, are not jurisdictional by the Corps as these features do not meet the criteria of jurisdictional waters per 33 CFR 328.3(a)(1) - (a)(8).

Additionally, Ditch 1 (earthen-lined portion), 2, and 3 were overgrown with non-hydrophytic, weedy vegetation and did not display evidence of hydrology. More specifically, none of the delineated ditches displayed an observable OHWM or bed and bank and instead appeared excavated to route flows and/or on-site water for agricultural purposes. Personal communication with the current farmer confirmed the on-going agricultural operations require ditching, usually along the perimeter of the site (such as Ditch 1 and Ditch 3), to maintain compliance with on-site water recycling requirements. The concrete-lined portion of Ditch 1 also did not show evidence of regular flows and appears to have been put in (within uplands) with the construction of a cul-de-sac road to the east of the Southern California Edison (SCE) facility between 2014-2016. Similarly, Ditch 2 appears to have been created in uplands between 2007-2009 with the construction of the Biscayne Road to the south of the SCE facility. None of the ditches appeared to convey flows into Features 1 and 2. Ditch 2 terminated just north of westernmost segment of Feature 1.

Given the above rationale, RBC does not expect Ditches 1, 2, and 3 would be considered jurisdictional by the regulatory agencies as these features appear to be man-made ditches excavated wholly in and draining only uplands for agricultural and/or runoff-conveyance purposes that do not show indicators of an OHWM, federal wetland parameters, or a bed and bank. Ditches 1, 2, and 3 should be considered “ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary” per 33 CFR 332.3(b)(3)(i) and “ditches that do not flow, either directly or through another water,” into a 33 CFR 328.3 (a)(1)-(a)(3) water per 33 CFR 332.3(b)(3)(iii).

Table 5. Potential Corps, RWQCB, and CDFW Non-Jurisdictional Resources

Feature Name	Acreage	Linear Feet	Cowardin Code	Location (lat, long)(lat, long)
Feature 1*	1.03	4,666	R6	33.739778790, -117.148818640
Feature 2*	1.20	5,369	R6	33.737052989, -117.142810471
Feature 2 Wetland*	0.03	120	PEM	33.737122040, -117.140836418
Ditch 1	0.08	1,628	UPL	33.743004030, -117.147438868
Ditch 2	0.14	1,955	UPL	33.739854967, -117.152147807
Ditch 3	0.03	728	UPL	33.734024233, -117.153979579
Total	2.51	14,466		

*Non-jurisdictional by Corps; however, potentially jurisdictional by the RWQCB and CDFW as shown above in -Tables 3 and 4.

4 CONCLUSION

The Menifee Valley Project area and 50-foot buffer do not support any potential Corps wetland or non-wetland, ephemeral waters of the U.S. (Table 5). Feature 1, Feature 2, and Feature 2 Wetland should not be considered jurisdictional by the Corps; these features are isolated, non-jurisdictional waters because they do not meet the criteria of jurisdictional waters per 33 CFR 328.3 (a)(1) - (a)(8). Feature 1 and Feature 2 are potential non-wetland, ephemeral waters of the

State/surface waters (RWQCB) and ephemeral streambed (CDFW); Feature 2 Wetland is a wetland waters of the State/surface waters potentially jurisdictional by the RWQCB and CDFW (Tables 2 and 3).

Ditches 1, 2, and 3 (Table 5) should not be considered jurisdictional by the Corps, RWQCB, and CDFW per 33 CFR 328.3 (b)(3)(i) and (b)(3)(iii) as these features appear to be man-made ditches excavated wholly in and draining only uplands for localized agricultural and/or runoff-conveyance purposes on site (i.e., do not appear to connect to Features 1 and 2) with ephemeral flow and are not relocated natural drainages or excavated tributaries.

Assuming the Corps finalizes the AJD that none of the on-site features are considered jurisdictional, no Corps permitting would be required for the project. Impacts on jurisdictional features per other agencies (if deemed jurisdictional) would require Waste Discharge Requirements (WDR) from RWQCB and a Streambed Alteration Agreement from CDFW. The RWQCB and/or CDFW may also require a functional assessment (e.g., California Rapid Assessment Method [CRAM]) to quantitatively estimate the stream/wetland condition for the evaluation of the proposed project. Additionally, compensatory mitigation would also be required by the regulatory agencies to offset the proposed project impacts.

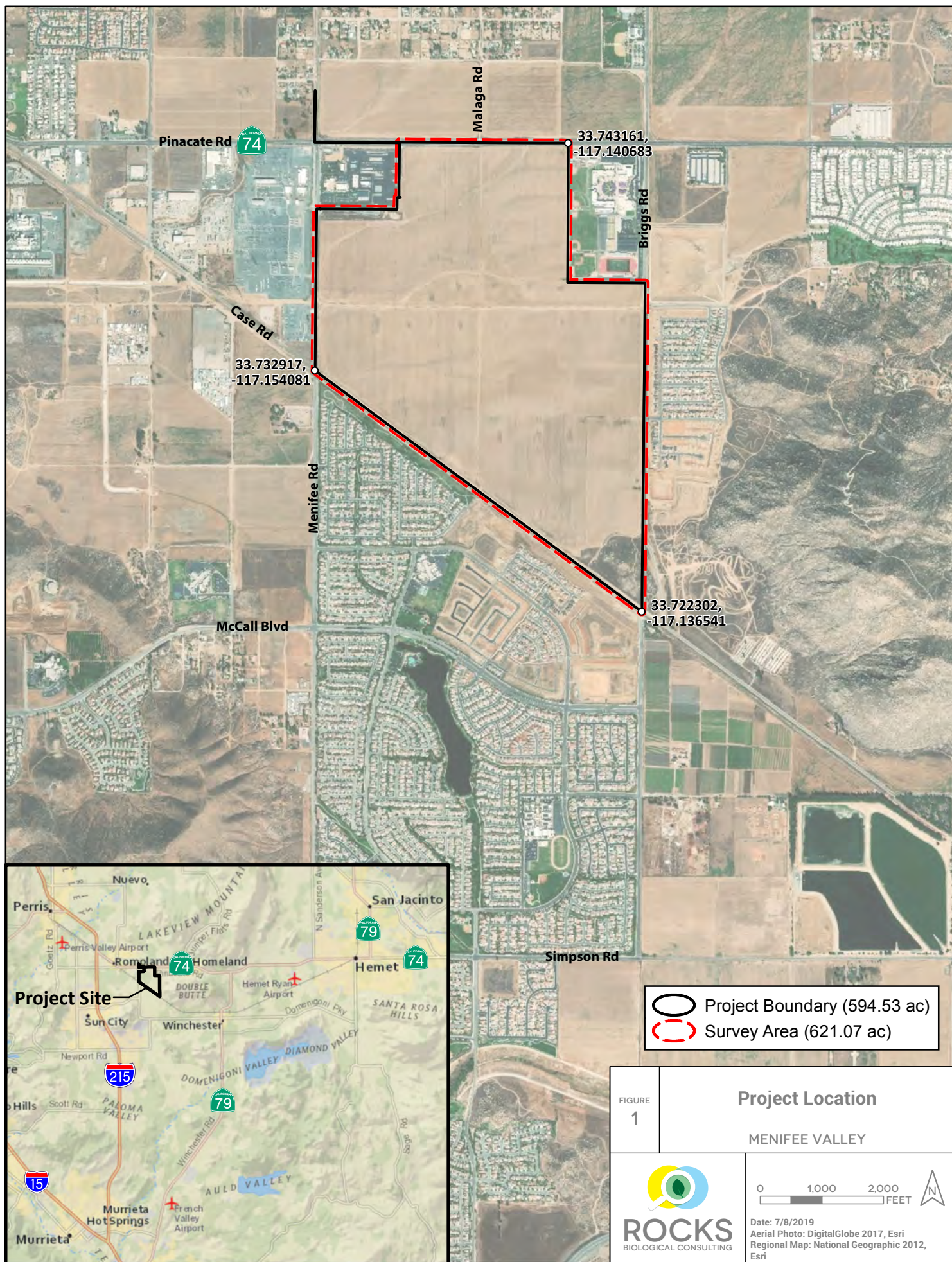
Please note that the applicable agencies will determine the final jurisdictional limits associated with the project area and the associated permitting requirements, if applicable. RBC recommends early coordination with the resource agencies to determine the final jurisdictional boundaries, applicable permitting processes, compensatory mitigation requirements, and other potential permitting issues specific to the proposed project. Agency representatives may request to access the site to field-verify the results of this jurisdictional delineation report with the project applicant, or a designated representative.

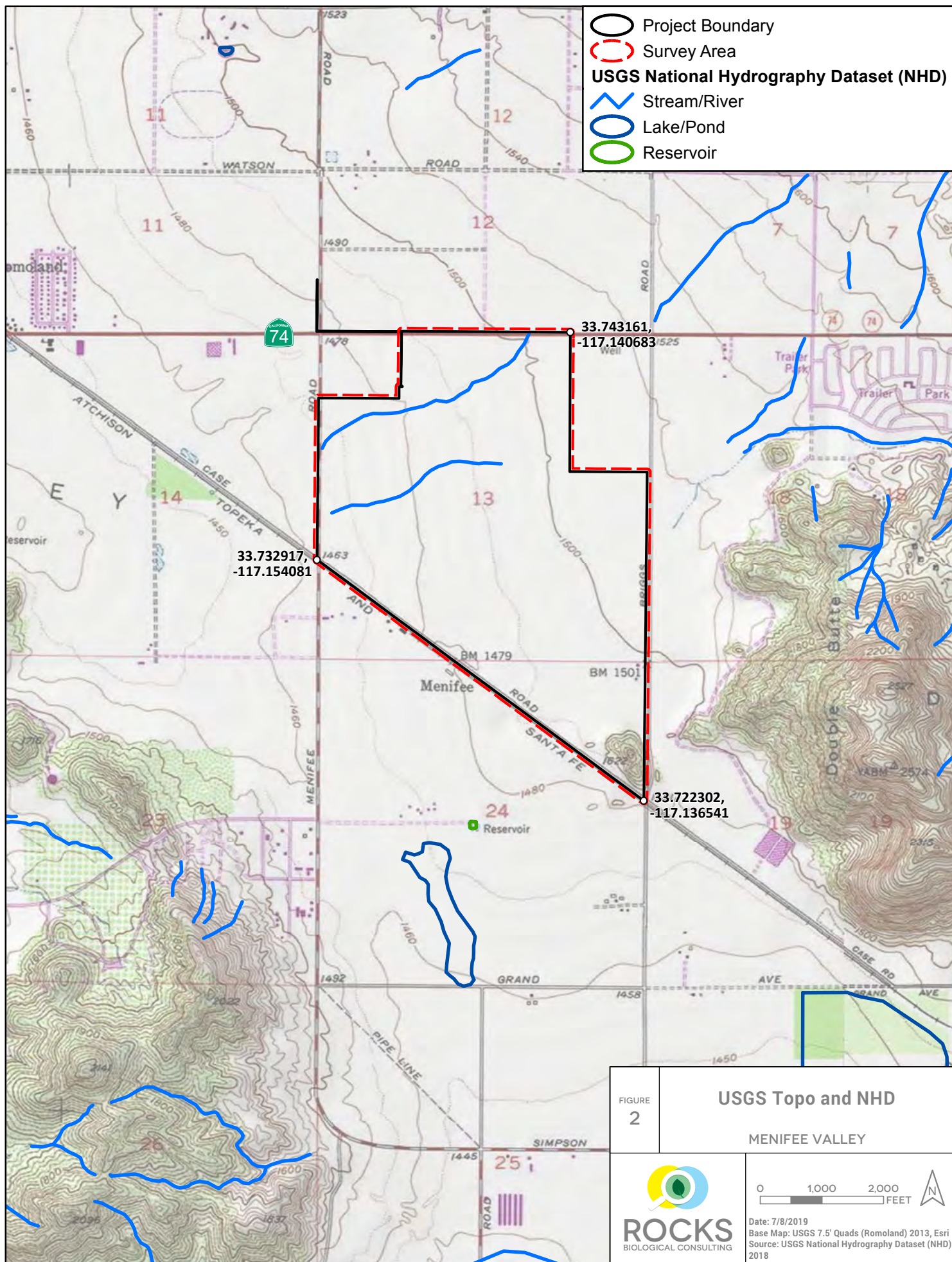
The information provided in this report should remain valid for up to five years from the date of the field effort for the jurisdictional delineation unless site conditions change substantially, or a regulatory agency requires an updated report.

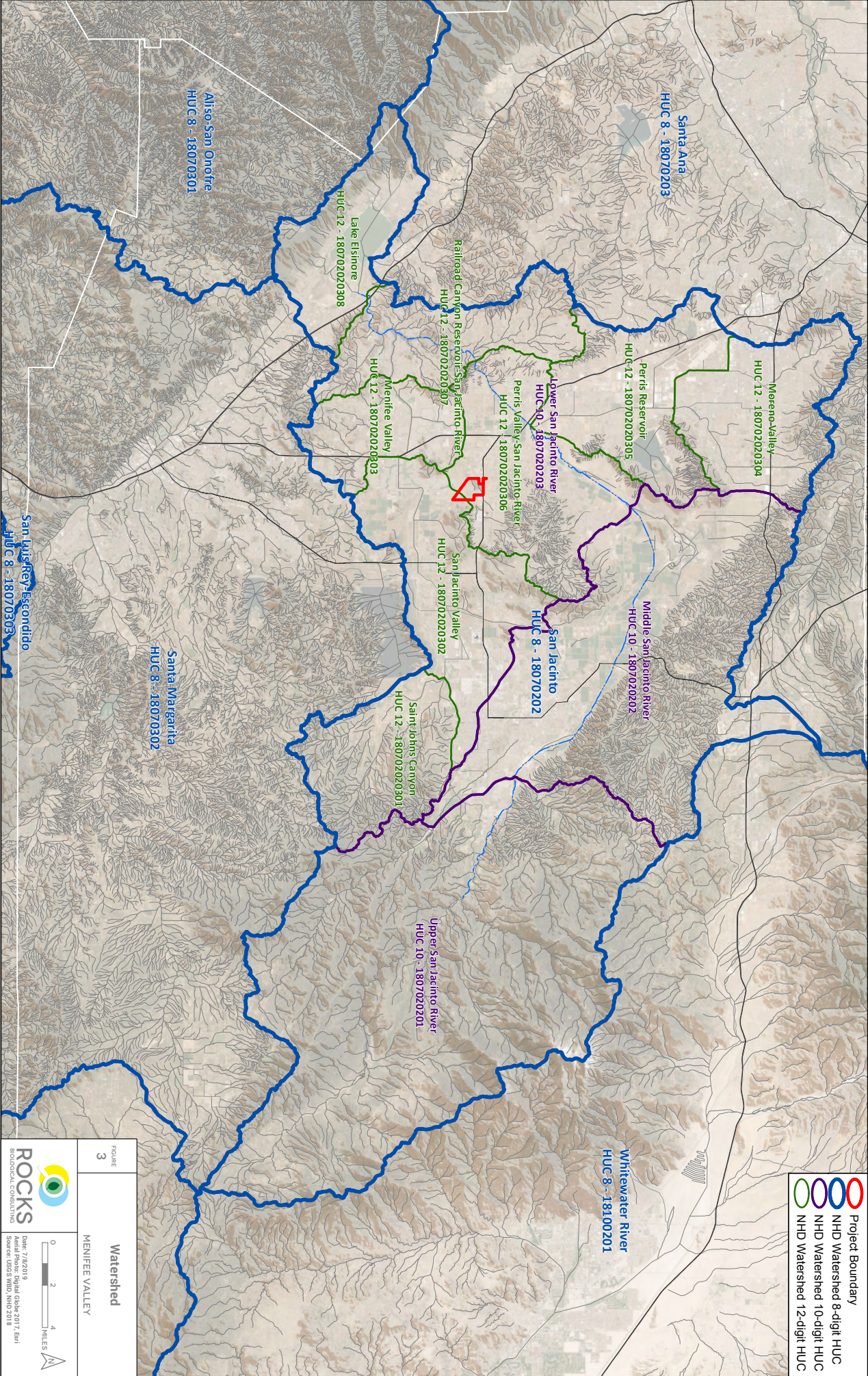
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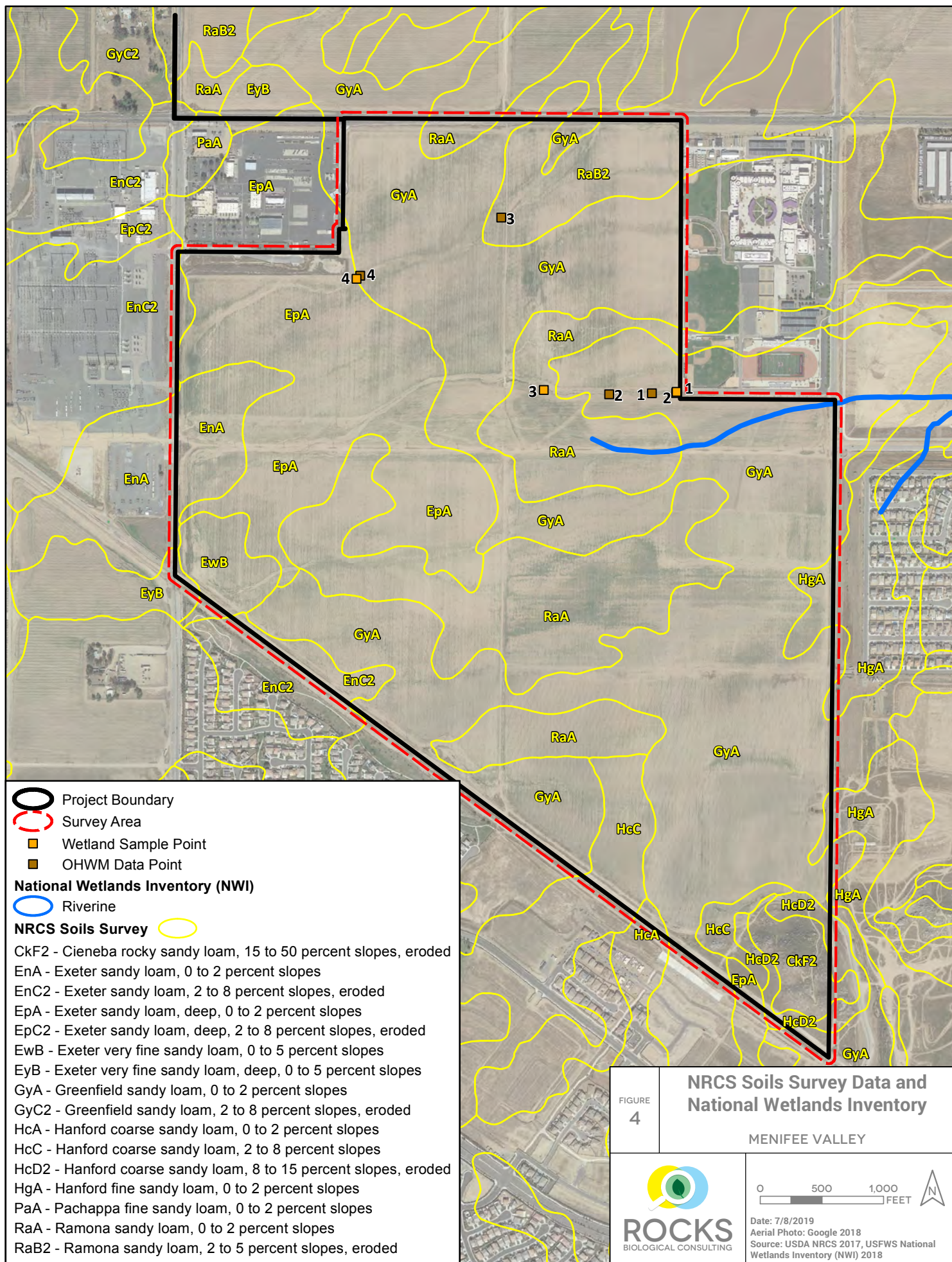


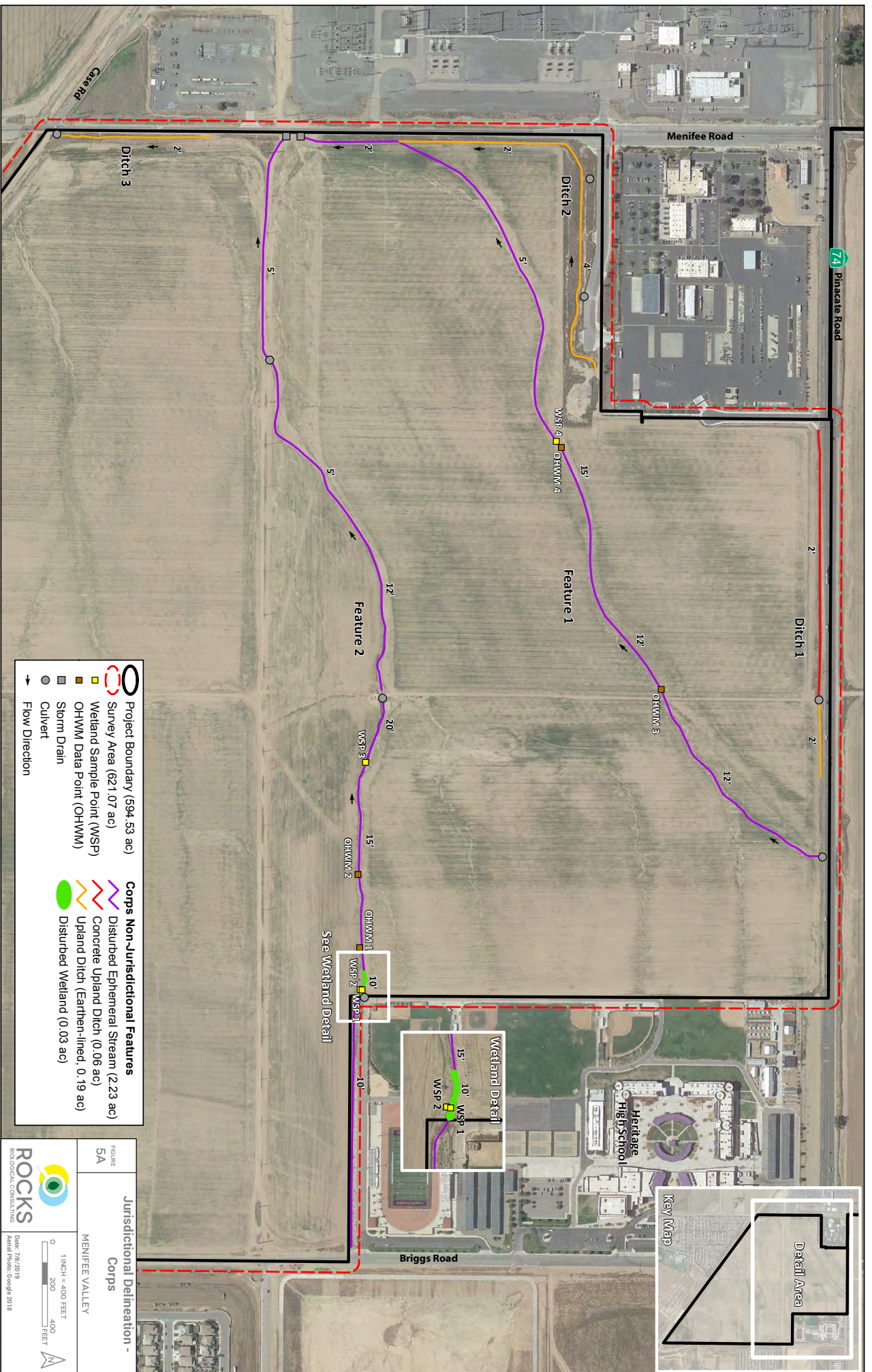


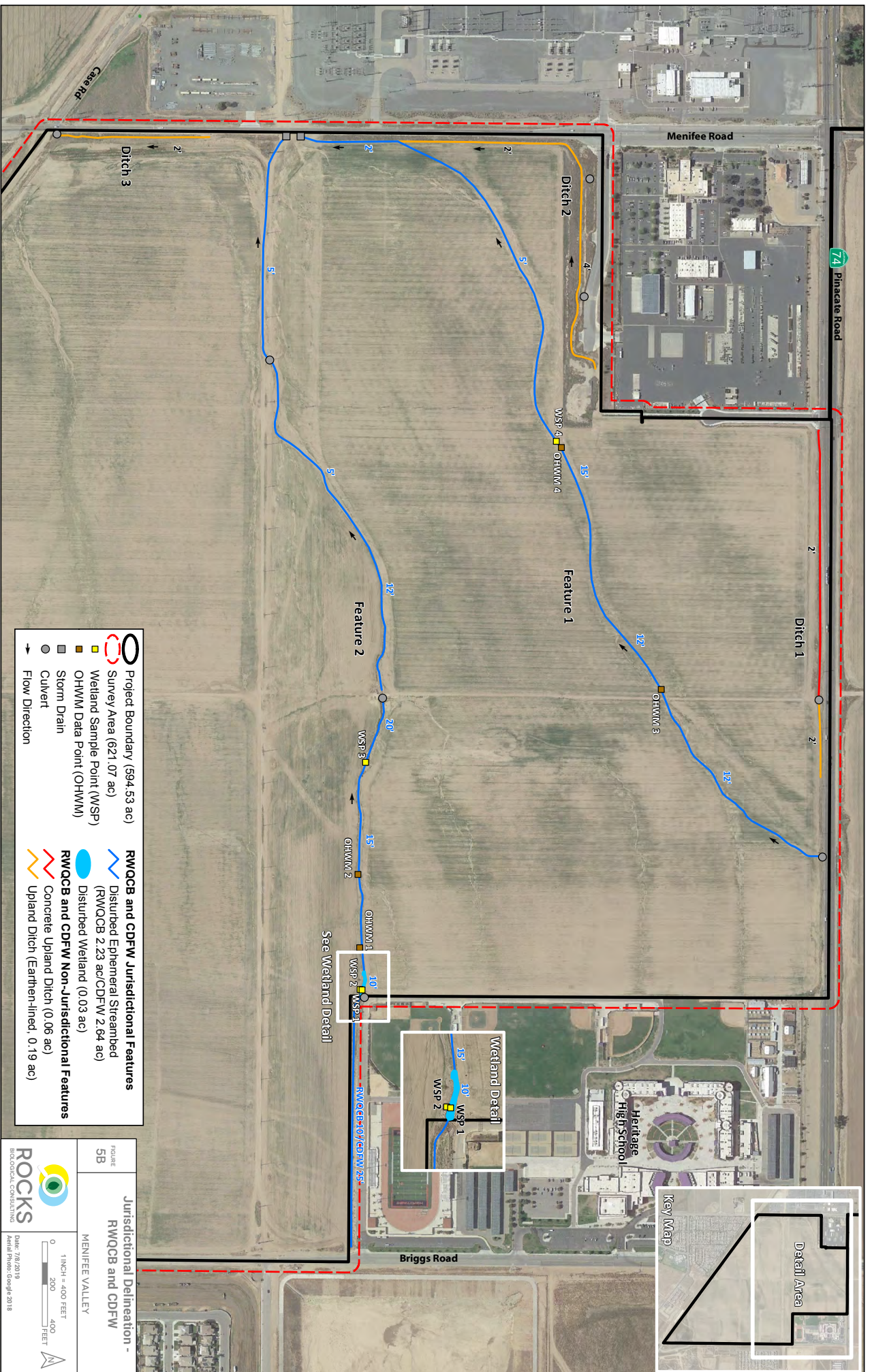
 ROCKS BIOLOGICAL CONSULTING	FIGURE 3
	Watershed MENIFEE VALLEY

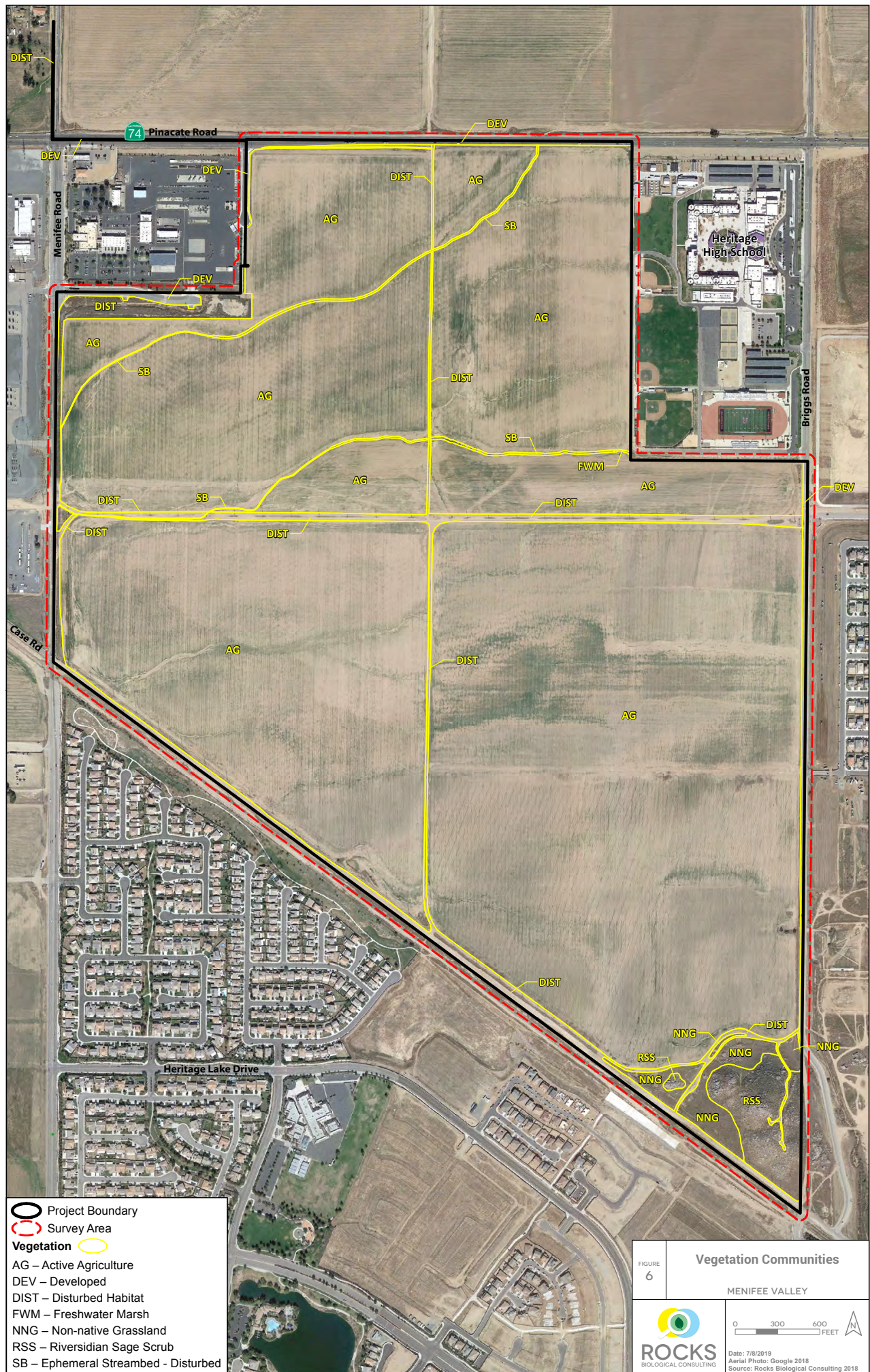
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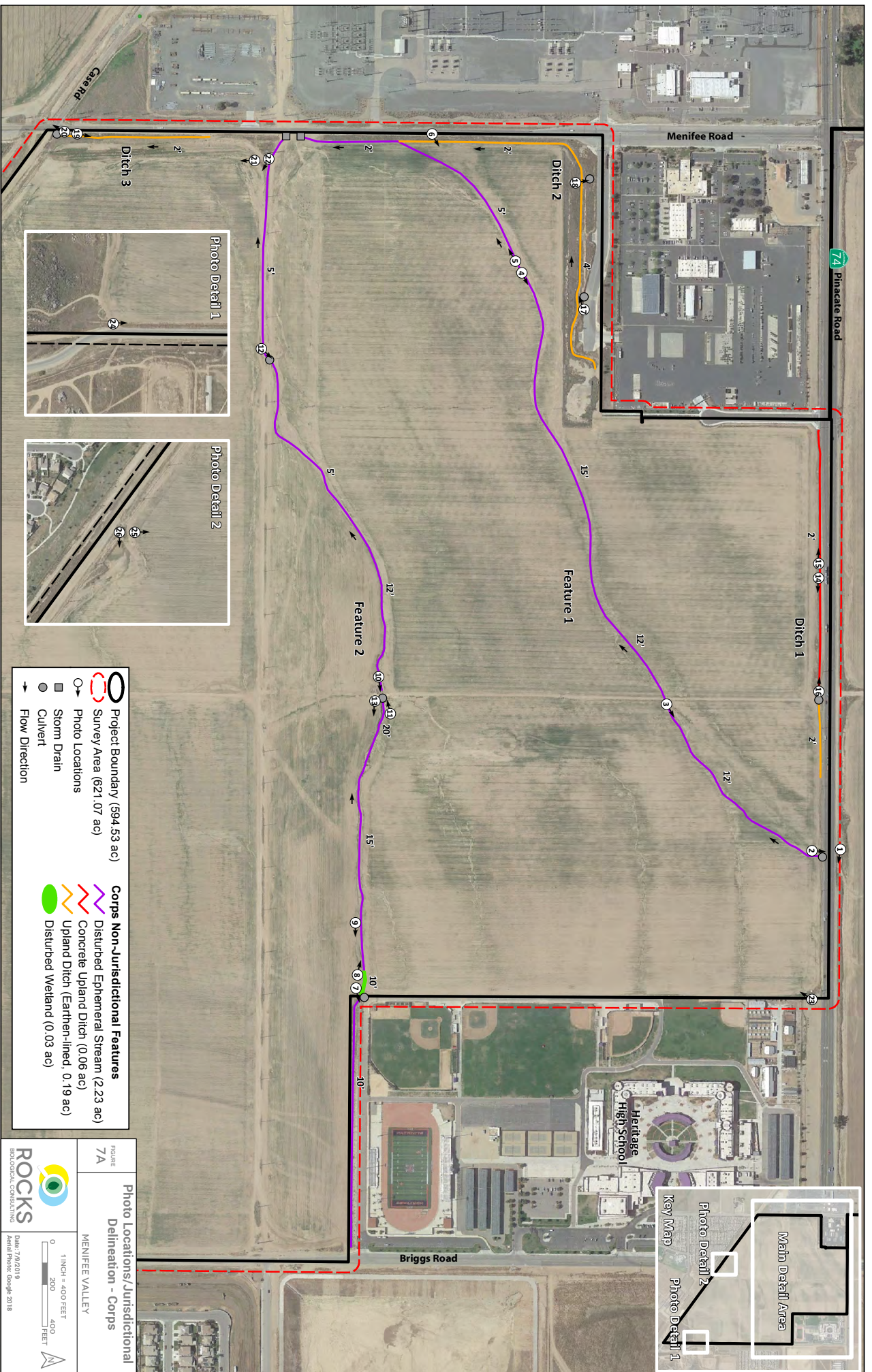
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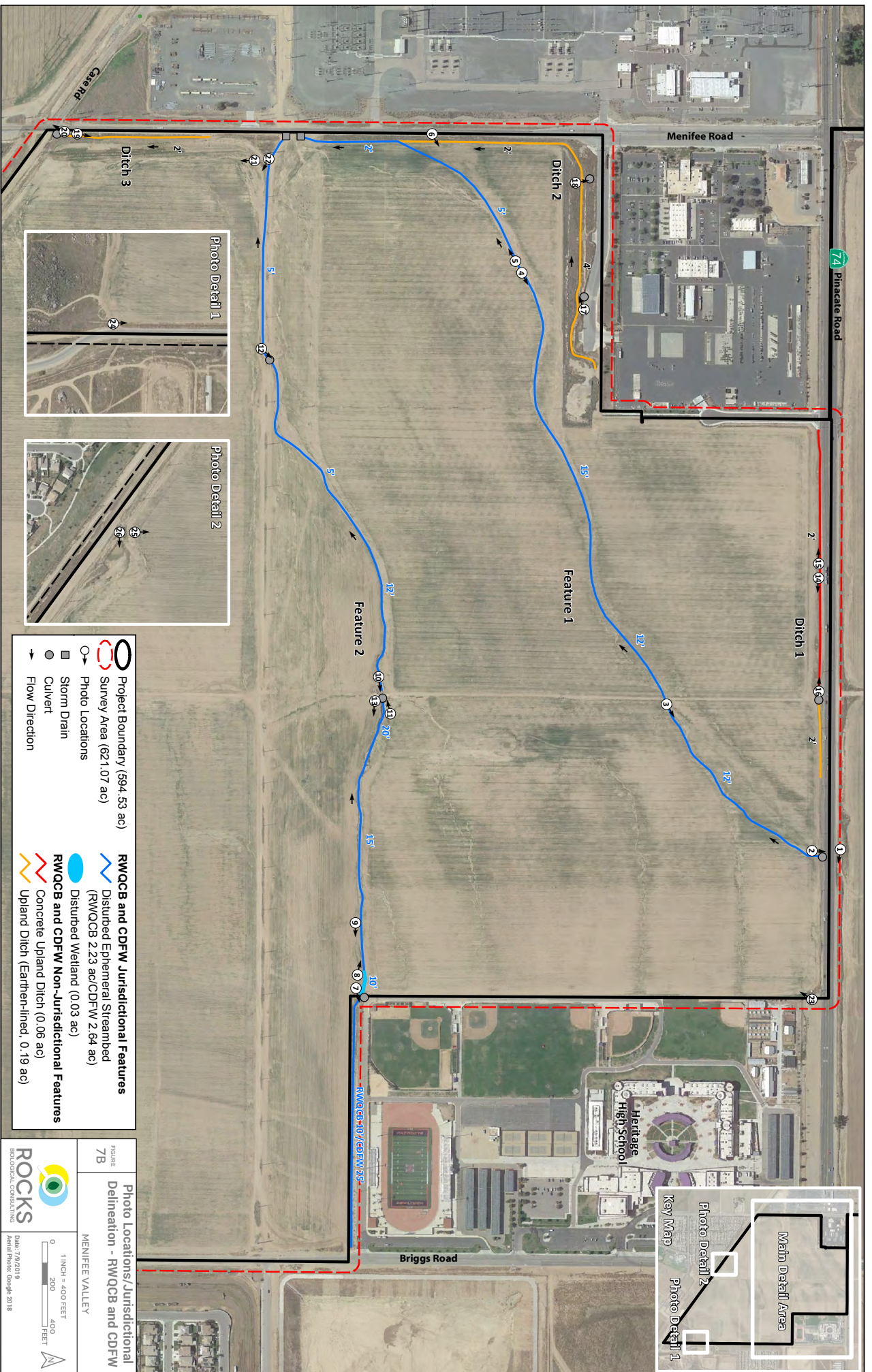












APPENDIX A

**CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE
OF AQUATIC RESOURCES DELINEATION REPORTS, LOS
ANGELES DISTRICT REGULATORY DIVISION, USACE**

CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS, LOS ANGELES DISTRICT REGULATORY DIVISION, USACE, MARCH 16, 2017

REPORT SECTION/ PAGE NUMBER	MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS	ADDITIONAL NOTES
Section 1; Appendix D	JD REQUEST AND FORMS: A cover letter indicating whether you are requesting a jurisdictional determination (JD). If you are requesting a JD, you must complete, sign, and return the Request for Corps Jurisdictional Determination (JD) sheet. For preliminary jurisdictional determinations the Preliminary Jurisdictional Determination Form must be signed and submitted.	
Section 1.4	CONTACT INFORMATION: Contact information for the applicant(s), property owner(s), and agent(s).	
N/A	SITE ACCESS: If the property owner or their representatives will not accompany the Corps to the site, a signed statement from the property owner(s) allowing Corps personnel to enter the property and to collect samples during normal business hours. If the property lacks direct access by public roads (in other words, access requires passage through private property not owned by the applicant), the owner or proponent must obtain permission from the adjacent property owner(s) to provide access for Corps personnel.	Property owner and/or representatives will accompany the Corps for a site visit upon request.
Section 1.1	LOCATION: Directions to the survey area, an address (if available) and one or more set of geographic coordinates expressed in decimal degrees.	
Section 2, Paragraphs 2 and 5	DELINEATION MANUAL CONFIRMATION: A statement confirming the delineation has been conducted in accordance with the 1987 Corps of Engineers Wetlands Delineation Manual and applicable regional supplement(s). The regional supplement(s) used must be identified. For OHWM delineations, a statement must be included confirming the use of the OHWM field guide or that it is not applicable.	
Section 3.5	AQUATIC RESOURCES DESCRIPTION: A narrative describing all aquatic resources on-site and an explanation of the mapped boundaries and any complex transition zones. If the site contains resources that only meet one or two of the three wetland criteria or do not exhibit a clear OHWM, describe the rationale for their inclusion or exclusion from the delineation. Also explain if any erosional features, upland swales, ditches and other potential aquatic features were considered but not included in the delineation.	
Figures 5A and 5B; Tables 2 and 3	AQUATIC RESOURCE MAPPING AND ACREAGE: Map the outside survey boundary, total extent of aquatic and proposed non-aquatic features, type of feature(s) (waters of the United States or wetland), and include the total acreage for each polygon.	
Section 2, Paragraph 2	FIELD WORK DATES: Date(s) field work was completed.	
Tables 2 and 3	AQUATIC RESOURCE TABLE: A table listing all aquatic resources. The table must include the name of each aquatic resource (actual or arbitrary), its Cowardin type, acreage, summary of OHWM/wetland presence, dominant vegetation for each, and location (latitude/longitude in decimal degrees). For linear features, the table must show both acreage and linear feet as well as channel measurements (active channel width).	
Section 1.1 and 2	FIELD CONDITIONS: A description of existing field conditions, including current land use, normal conditions, flood/drought conditions, irrigation practices, past or recent manipulation to the site, and	



CHECKLIST: MINIMUM STANDARDS FOR ACCEPTANCE OF AQUATIC RESOURCES DELINEATION REPORTS, LOS ANGELES DISTRICT REGULATORY DIVISION, USACE, MARCH 16, 2017

	characteristics considered atypical (for criteria see OHWM and wetland supplement guides). Include WETS tables or pre-site visit precipitation data as appropriate: https://www.wcc.nrcs.usda.gov/climate/wets_doc.html .	
Section 3.3	HYDROLOGY: A discussion of the hydrology at the site, including all known surface or subsurface sources, drainage gradients, downstream connections to the nearest traditional navigable waterway or interstate water, and any influence from manmade water sources such as irrigation.	
N/A	REMOTE SENSING: If remote sensing was used in the delineation, provide an explanation of how it was used and include the name, date and source of the tools and data used and copies of the maps/photographs.	
Section 3.4; Figure 4; Appendix C	SOILS: Soil descriptions, soil map(s), soil photos, and a discussion of hydric soils (for wetland delineations only).	
Figure 2	USGS QUADRANGLE: A site location map on a 7.5-minute USGS quadrangle. The map must provide the name of the USGS quadrangle, Section, Township, Range, and the latitude and longitude in decimal degree format.	
Appendix F	BULK UPLOAD FORM: For sites with 3 or more separate aquatic features a completed copy of the ORM Bulk Upload Aquatic Resources or Consolidated Excel spreadsheet must be submitted.	
Figures 5A and 5B	FIGURES: Map(s) of all delineated aquatic resources in accordance with the Final Map and Drawing Standards for the South Pacific Division Regulatory Program, available at: http://www.spd.usace.army.mil/Missions/Regulatory/Public-Notices-and-References/Article/651327/updated-map-and-drawing-standards/	
Figure 7A and 7b; Appendix C	SITE PHOTOGRAPHS: Ground photographs showing representative aquatic resource sites (or lack of), as well as an accompanying map of photo-points and table of photographic information (see Final Map and Drawing Standards for the South Pacific Division Regulatory Program item no. 8 a-c).	
Appendix B	DATA FORMS: Completed data forms including all essential information to make a jurisdictional determination (e.g. 2006 Wetland Determination Data Form -- Arid West Supplement; 2010 Arid West Ephemeral and Intermittent Streams OHWM Datasheet).	
Section 2	METHODS: A description of the methods used to survey the aquatic resource boundaries. If GPS data is used, the level of accuracy must be included. Ideally, the GPS equipment should have the capability of sub-meter (≤ 1 meter) level horizontal accuracy.	
Appendix H	GIS DATA: Digital data for the site, aquatic resource boundaries, and data point locations must be provided in a geographic information system (GIS) format, preferably either ESRI shapefiles or Geodatabase format, but GoogleEarth KMZ or KML files may be acceptable non-complex projects. Each GIS data file must be accompanied by a metadata file containing the appropriate geographic coordinate system, projection, datum, and labeling description. If GIS data is unavailable or otherwise cannot be produced and the Corps determines a site visit is necessary, the aquatic resource boundaries should be physically marked with numbered flags or stakes to facilitate verification by the Corps.	

APPENDIX B

ARID WEST WETLAND DELINEATION AND EPHEMERAL AND INTERMITTENT STREAMS ORDINARY HIGH WATER MARK (OHWM) DATASHEETS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley City/County: Menifee/Riverside Sampling Date: 08/13/2018
 Applicant/Owner: Brookfield Residential State: CA Sampling Point: 1
 Investigator(s): Shanti Santulli, Ian Hirschler Section, Township, Range: S13, T05S, R03W
 Landform (hillslope, terrace, etc.): Adjacent to channel Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): LRRC - Mediterranean California Lat: 33.737104097 Long: -117.140748335 Datum: WGS84
 Soil Map Unit Name: Greenfield sandy loam, 0 to 2 percent slopes NWI classification: N/A

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 ☒	No ☐	Is the Sampled Area within a Wetland?	Yes ☒	No ☐
Hydric Soil Present?	Yes ☒	No ☐			
Wetland Hydrology Present?	Yes ☒	No ☐			
Remarks: Active agriculture site; manipulated channel; adjacent to high school. Hydrology appears to come from culvert at high school - dry upstream.					

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>3</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>3</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
4. _____					
				= Total Cover	
Sapling/Shrub Stratum (Plot size: <u>10'</u>)				Prevalence Index worksheet:	
1. <u>Salix gooddingii</u>	<u>20</u>	<u>Y</u>	<u>FACW</u>	Total % Cover of:	Multiply by:
2. _____				OBL species _____	x 1 = _____
3. _____				FACW species _____	x 2 = _____
4. _____				FAC species _____	x 3 = _____
5. _____				FACU species _____	x 4 = _____
	<u>20</u>			UPL species _____	x 5 = _____
				Column Totals:	(A) _____ (B) _____
				Prevalence Index = B/A = _____	
Herb Stratum (Plot size: <u>10'</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Eleocharis palustris</u>	<u>30</u>	<u>Y</u>	<u>OBL</u>	☒ Dominance Test is >50%	
2. <u>Typha latifolia</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	☐ Prevalence Index is ≤3.0 ¹	
3. <u>Cynodon dactylon</u>	<u>5</u>	<u>N</u>	<u>FACU</u>	☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Ephilobium ciliatum</u>	<u>2</u>	<u>N</u>	<u>FACW</u>	☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
				= Total Cover	
Woody Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>N/A</u>				Hydrophytic Vegetation Present?	
2. _____				Yes ☒ No ☐	
				= Total Cover	
% Bare Ground in Herb Stratum <u>15</u>	% Cover of Biotic Crust _____				

Remarks:

Bare ground = open water.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
n/a								

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ Stratified Layers (A5) (LRR C) | ☐ Depleted Matrix (F3) |
| ☐ 1 cm Muck (A9) (LRR D) | ☐ Redox Dark Surface (F6) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Dark Surface (F7) |
| ☐ Thick Dark Surface (A12) | ☐ Redox Depressions (F8) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Vernal Pools (F9) |
| ☐ Sandy Gleyed Matrix (S4) | |

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☒ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ☒ No ☐

Remarks:

Hydric soils assumed within standing water and with dominance of OBL and FACW vegetation (per methodology in 1987 Corps Wetland Delineation Manual, p. 58).

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- | | |
|--|--|
| ☒ Surface Water (A1) | ☐ Salt Crust (B11) |
| ☐ High Water Table (A2) | ☐ Biotic Crust (B12) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) |
| ☐ Water Marks (B1) (Nonriverine) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Sediment Deposits (B2) (Nonriverine) | ☐ Oxidized Rhizospheres along Living Roots (C3) |
| ☐ Drift Deposits (B3) (Nonriverine) | ☐ Presence of Reduced Iron (C4) |
| ☐ Surface Soil Cracks (B6) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (Riverine)
- ☐ Sediment Deposits (B2) (Riverine)
- ☐ Drift Deposits (B3) (Riverine)
- ☒ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☒ FAC-Neutral Test (D5)

Field Observations:

- Surface Water Present? Yes ☒ No ☐ Depth (inches): 0-5 inches
- Water Table Present? Yes ☐ No ☐ Depth (inches): n/a
- Saturation Present? Yes ☐ No ☐ Depth (inches): n/a
(includes capillary fringe)

Wetland Hydrology Present? Yes ☒ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface/standing water present. Presence of water table or saturation from water table unknown given presence of standing water (i.e., no soil pit dug). Area inundated during December visual reconnaissance site visit as well. Water from adjacent school culvert - dry upstream.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley City/County: Menifee/Riverside Sampling Date: 08/13/2018
 Applicant/Owner: Brookfield Residential State: CA Sampling Point: 2
 Investigator(s): Shanti Santulli, Ian Hirschler Section, Township, Range: S13, T05S, R03W
 Landform (hillslope, terrace, etc.): Adjacent to channel Local relief (concave, convex, none): Convex Slope (%): 0-1%
 Subregion (LRR): LRRC - Mediterranean California Lat: 33.737077991 Long: -117.140755537 Datum: WGS84
 Soil Map Unit Name: Greenfield sandy loam, 0 to 2 percent slopes NWI classification: N/A

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 ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: Upland pit associated with WSP 1; Active agriculture site; manipulated channel; adjacent to high school	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1. <u>N/A</u>				Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0%</u> (A/B)
4. _____					
				= Total Cover	
Sapling/Shrub Stratum (Plot size: _____)				Prevalence Index worksheet:	
1. <u>N/A</u>				Total % Cover of:	Multiply by:
2. _____				OBL species <u>1</u>	x 1 = <u>1</u>
3. _____				FACW species <u>0</u>	x 2 = <u>0</u>
4. _____				FAC species <u>5</u>	x 3 = <u>15</u>
5. _____				FACU species <u>27</u>	x 4 = <u>108</u>
				UPL species <u>0</u>	x 5 = <u>0</u>
				Column Totals:	<u>33</u> (A) <u>124</u> (B)
				Prevalence Index = B/A = <u>3.75</u>	
Herb Stratum (Plot size: <u>10 ft.</u>)				Hydrophytic Vegetation Indicators:	
1. <u>Cynodon dactylon</u>	<u>25</u>	<u>Y</u>	<u>FACU</u>	☐ Dominance Test is >50%	
2. <u>Pulicaria paludosa</u>	<u>5</u>	<u>N</u>	<u>FAC</u>	☐ Prevalence Index is ≤3.0 ¹	
3. <u>Chenopodium album</u>	<u>2</u>	<u>N</u>	<u>FACU</u>	☐ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
4. <u>Typha latifolia</u>	<u>1</u>	<u>N</u>	<u>OBL</u>	☐ Problematic Hydrophytic Vegetation ¹ (Explain)	
5. _____					
6. _____					
7. _____					
8. _____					
				= Total Cover	
Woody Vine Stratum (Plot size: _____)				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
1. <u>N/A</u>				Hydrophytic Vegetation Present? Yes ☐ No ☒	
2. _____					
				= Total Cover	
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____				

Remarks:

Upland sample point adjacent to ponded area meeting hydrophytic vegetation parameter.

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-20	10 YR 4/2	100	n/a				LS	loamy sand

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) **(LRR C)**
- ☐ 1 cm Muck (A9) **(LRR D)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) **(LRR C)**
- ☐ 2 cm Muck (A10) **(LRR B)**
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

Uniform soils, no redox present adjacent to ponded area.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) **(Nonriverine)**
- ☐ Sediment Deposits (B2) **(Nonriverine)**
- ☐ Drift Deposits (B3) **(Nonriverine)**
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)

- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) **(Riverine)**
- ☐ Sediment Deposits (B2) **(Riverine)**
- ☐ Drift Deposits (B3) **(Riverine)**
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____

Water Table Present? Yes _____ No ☒ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ☒ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

No ponding, on upland bank of wetland area described in WSP 1. No other signs of hydrology on upland bank of feature.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley City/County: Menifee/Riverside Sampling Date: 08/13/2018
 Applicant/Owner: Brookfield Residential State: CA Sampling Point: 3
 Investigator(s): Shanti Santulli, Ian Hirschler Section, Township, Range: S13, T05S, R03W
 Landform (hillslope, terrace, etc.): In channel Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): LRRC - Mediterranean California Lat: 33.737124076 Long: -117.144289362 Datum: WGS84
 Soil Map Unit Name: Ramona sandy loam, 0 to 2 percent slopes NWI classification: N/A

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 ☐ No ☒	Is the Sampled Area within a Wetland? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒	
Wetland Hydrology Present? Yes ☐ No ☒	
Remarks: Pit taken within a disturbed channel within an active ag site that has been farmed since pre-1938. Area not expected to function as a wetland absent disturbance or return to "normal circumstances."	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>N/A</u> (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>N/A</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>N/A</u>				Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: _____)				
1. <u>N/A</u>				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			

Remarks:

unvegetated/disc'd - disturbed vegetation. Absent hydric soils and wetland hydrology, problematic hydrophytic vegetation would not apply. See remarks under "Soils" and "Hydrology" for further rationale.

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| ☐ Histosol (A1) | ☐ Sandy Redox (S5) | ☐ 1 cm Muck (A9) (LRR C) |
| ☐ Histic Epipedon (A2) | ☐ Stripped Matrix (S6) | ☐ 2 cm Muck (A10) (LRR B) |
| ☐ Black Histic (A3) | ☐ Loamy Mucky Mineral (F1) | ☐ Reduced Vertic (F18) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Gleyed Matrix (F2) | ☐ Red Parent Material (TF2) |
| ☐ Stratified Layers (A5) (LRR C) | ☐ Depleted Matrix (F3) | ☐ Other (Explain in Remarks) |
| ☐ 1 cm Muck (A9) (LRR D) | ☐ Redox Dark Surface (F6) | |
| ☐ Depleted Below Dark Surface (A11) | ☐ Depleted Dark Surface (F7) | |
| ☐ Thick Dark Surface (A12) | ☐ Redox Depressions (F8) | |
| ☐ Sandy Mucky Mineral (S1) | ☐ Vernal Pools (F9) | |
| ☐ Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators; uniform and sandy. Despite disturbance, area would not be expected to sustain sandy hydric soils with ephemeral riverine flows and slope; no mapped hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|---|
| ☐ Surface Water (A1) | ☐ Salt Crust (B11) | ☐ Water Marks (B1) (Riverine) |
| ☐ High Water Table (A2) | ☐ Biotic Crust (B12) | ☐ Sediment Deposits (B2) (Riverine) |
| ☐ Saturation (A3) | ☐ Aquatic Invertebrates (B13) | ☐ Drift Deposits (B3) (Riverine) |
| ☐ Water Marks (B1) (Nonriverine) | ☐ Hydrogen Sulfide Odor (C1) | ☒ Drainage Patterns (B10) |
| ☐ Sediment Deposits (B2) (Nonriverine) | ☐ Oxidized Rhizospheres along Living Roots (C3) | ☐ Dry-Season Water Table (C2) |
| ☐ Drift Deposits (B3) (Nonriverine) | ☐ Presence of Reduced Iron (C4) | ☐ Crayfish Burrows (C8) |
| ☐ Surface Soil Cracks (B6) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) | ☐ Shallow Aquitard (D3) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) | ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)

Wetland Hydrology Present? Yes No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Weak hydrology observed, even in areas noted with an OHWM. Absent discing/agriculture, additional secondary indicators may have been observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley City/County: Menifee/Riverside Sampling Date: 08/13/2018
 Applicant/Owner: Brookfield Residential State: CA Sampling Point: 4
 Investigator(s): Shanti Santulli, Ian Hirschler Section, Township, Range: S13, T05S, R03W
 Landform (hillslope, terrace, etc.): In channel Local relief (concave, convex, none): Concave Slope (%): 0-1%
 Subregion (LRR): LRRC - Mediterranean California Lat: 33.739565295 Long: -117.149307878 Datum: WGS84
 Soil Map Unit Name: Exeter sandy loam, deep, 0 to 2 percent slopes NWI classification: N/A
 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 ☐ No ☒	Is the Sampled Area within a Wetland?	Yes ☐ No ☒
Hydric Soil Present?	Yes ☐ No ☒		
Wetland Hydrology Present?	Yes ☐ No ☒		
Remarks: Pit taken within a disturbed channel within an active ag site that has been farmed since pre-1938. Area not expected to function as a wetland absent disturbance or return to "normal circumstances."			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>N/A</u> (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = <u>N/A</u>
Sapling/Shrub Stratum (Plot size: _____)				
1. <u>N/A</u>				
2. _____				
3. _____				
4. _____				Hydrophytic Vegetation Indicators: ___ Dominance Test is >50% ___ Prevalence Index is ≤3.0 ¹ ___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain)
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Herb Stratum (Plot size: _____)				
1. <u>N/A</u>				Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____				
3. _____				Hydrophytic Vegetation Present? Yes ☐ No ☒
4. _____				
5. _____				Hydrophytic Vegetation Present? Yes ☐ No ☒
6. _____				
7. _____				Hydrophytic Vegetation Present? Yes ☐ No ☒
8. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
Woody Vine Stratum (Plot size: _____)				
1. <u>N/A</u>				Hydrophytic Vegetation Present? Yes ☐ No ☒
2. _____				
_____ = Total Cover				Hydrophytic Vegetation Present? Yes ☐ No ☒
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

unvegetated/disc'd - disturbed vegetation. Absent hydric soils and wetland hydrology, problematic hydrophytic vegetation would not apply. See remarks under "Soils" and "Hydrology" for further rationale.

SOIL

Sampling Point: 4**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-25	10 YR 4/4	100	n/a				Sand	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains.²Location: PL=Pore Lining, M=Matrix.**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (**LRR C**)
☐ 1 cm Muck (A9) (**LRR D**)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)

- ☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
☐ 2 cm Muck (A10) (**LRR B**)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No hydric soil indicators; uniform and sandy. Despite disturbance, area would not be expected to sustain sandy hydric soils with ephemeral riverine flows and slope; no mapped hydric soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☒ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No _____ Depth (inches): _____

Water Table Present? Yes _____ No _____ Depth (inches): _____

Saturation Present? Yes _____ No _____ Depth (inches): _____
(includes capillary fringe)**Wetland Hydrology Present?** Yes _____ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

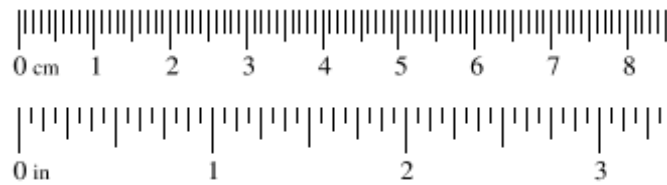
Weak hydrology observed, even in areas noted with an OHWM. Absent disking/agriculture, additional secondary indicators may have been observed.

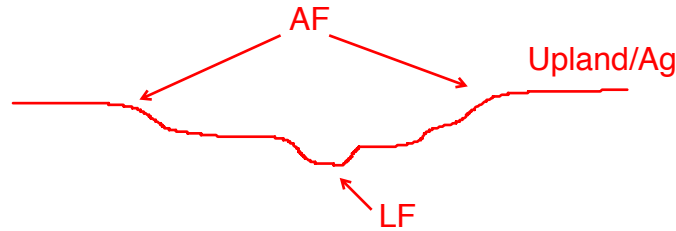
Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Menifee Valley Project Number: -- Stream: OHW M 1 Investigator(s): Shanti Santulli, Ian Hirschler	Date: 08/13/2018 Town: Menifee Photo begin file#:	Time: State: CA Photo end file#:
Y ☐ / N ☒ Do normal circumstances exist on the site? Y ☒ / N ☐ Is the site significantly disturbed?	Location Details: See data below; Figure 5, Figure 7 and Appendix C Projection: Datum: WGS84 Coordinates: See data below	
Potential anthropogenic influences on the channel system: Agriculture field; adjacent to high school; Feature 2		
Brief site description: Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road		
Checklist of resources (if available): ☒ Aerial photography Dates: ☒ Topographic maps ☐ Geologic maps ☐ Vegetation maps ☒ Soils maps ☐ Rainfall/precipitation maps ☐ Existing delineation(s) for site ☒ Global positioning system (GPS) ☐ Other studies ☐ Stream gage data Gage number: Period of record: ☐ History of recent effective discharges ☐ Results of flood frequency analysis ☐ Most recent shift-adjusted rating ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: - Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. - Select a representative cross section across the channel. Draw the cross section and label the floodplain units. - Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. - Record the floodplain unit and GPS position. - Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. - Identify any indicators present at the location. - Repeat for other points in different hydrogeomorphic floodplain units across the cross section. - Identify the OHW M and record the indicators. Record the OHW M position via: ☒ Mapping on aerial photograph ☐ Digitized on computer ☒ GPS ☐ Other:		

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Cross section drawing:**OHWM**

GPS point: -117.141403192 33.737067502

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☐ Other: _____
☐ Other: _____

Comments:

Active channel based on bed/bank topography and change in sediment/veg patterns between active channel and uplands. Flows also present within this segment of Feature 2, with faint break in slope beginning to reform after recent site discing.

Floodplain unit:☒ Low-Flow Channel☐ Active Floodplain☐ Low Terrace

GPS point: Within OHWM

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

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: flow present
☐ Other: _____
☐ Other: _____

Comments:

6 inch. low flow with flowing water

Project ID: Menifee Valley **Cross section ID:** OHWM 1

Date: 08/13/2018

Time:

Floodplain unit: ☐ Low-Flow Channel ☒ Active Floodplain ☐ Low Terrace

GPS point: -117.141403192 33.737067502

Characteristics of the floodplain unit:

Average sediment texture: course sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

Community successional stage:

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

Indicators:

- | | |
|--|---|
| ☐ Mudcracks | ☐ Soil development |
| ☐ Ripples | ☐ Surface relief |
| ☐ Drift and/or debris | ☒ Other: <u>Water marks</u> |
| ☒ Presence of bed and bank | ☐ Other: _____ |
| ☐ Benches | ☐ Other: _____ |

Comments:

highly disturbed, break in slope in August.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: Just above AF

Characteristics of the floodplain unit:

Average sediment texture: Coarse silt

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 2 %

Community successional stage:

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

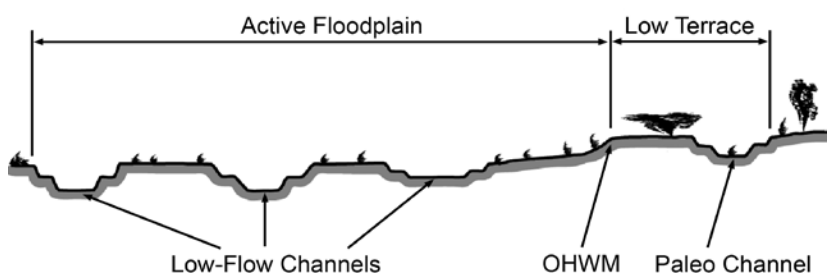
Indicators:

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

Comments:

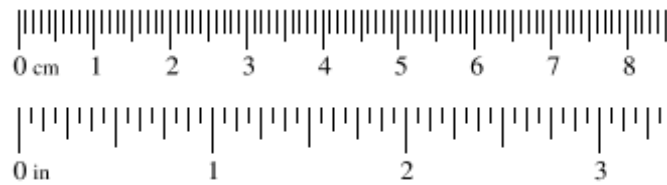
low terrace = uplands. Upland areas flat and used for grain crop planting. No planted crops visible yet at time of site visit, but some seedlings beginning to sprout. Recently disced.

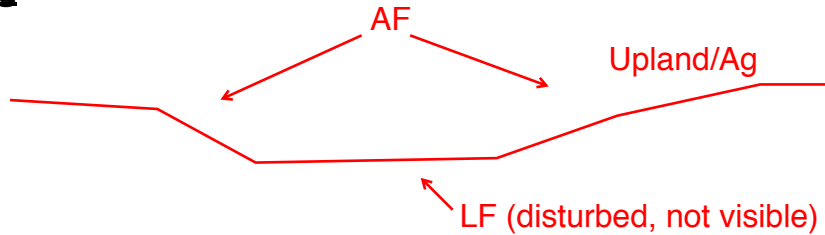
Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Menifee Valley Project Number: -- Stream: OHW M 2 Investigator(s): Shanti Santulli, Ian Hirschler	Date: 08/13/2018 Town: Menifee Photo begin file#:	Time: State: CA Photo end file#:
Y ☐ / N ☒ Do normal circumstances exist on the site? Y ☒ / N ☐ Is the site significantly disturbed?	Location Details: See data below; Figure 5, Figure 7 and Appendix C Projection: Datum: WGS84 Coordinates: See data below	
Potential anthropogenic influences on the channel system: Agriculture field; adjacent to high school; Feature 2		
Brief site description: Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road		
Checklist of resources (if available): ☒ Aerial photography Dates: ☒ Topographic maps ☐ Geologic maps ☐ Vegetation maps ☒ Soils maps ☐ Rainfall/precipitation maps ☐ Existing delineation(s) for site ☒ Global positioning system (GPS) ☐ Other studies ☐ Stream gage data Gage number: Period of record: ☐ History of recent effective discharges ☐ Results of flood frequency analysis ☐ Most recent shift-adjusted rating ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: - Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. - Select a representative cross section across the channel. Draw the cross section and label the floodplain units. - Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. - Record the floodplain unit and GPS position. - Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. - Identify any indicators present at the location. - Repeat for other points in different hydrogeomorphic floodplain units across the cross section. - Identify the OHW M and record the indicators. Record the OHW M position via: ☒ Mapping on aerial photograph ☐ Digitized on computer ☒ GPS ☐ Other:		

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Cross section drawing:**OHWM**

GPS point: -117.142543876 33.737037885

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☒ Change in vegetation cover

- ☐ Break in bank slope
☒ Other: bed and bank
☐ Other: _____

Comments:

Signs of remnant active floodplain based on bed/bank topography and change in sediment/veg patterns between active channel and uplands.

Floodplain unit:☐ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: -117.142543876 33.737037885

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

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:

Low flow not visible, recently disced.

Project ID: Menifee Valley

Cross section ID: OHWM 2

Date: 08/13/2018

Time:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: just above AF

Characteristics of the floodplain unit:

Average sediment texture: course silt

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

Community successional stage:

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

Indicators:

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

Comments:

highly disturbed, break in slope in August; seedlings coming in with AF

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

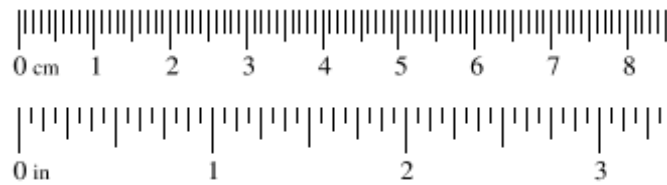
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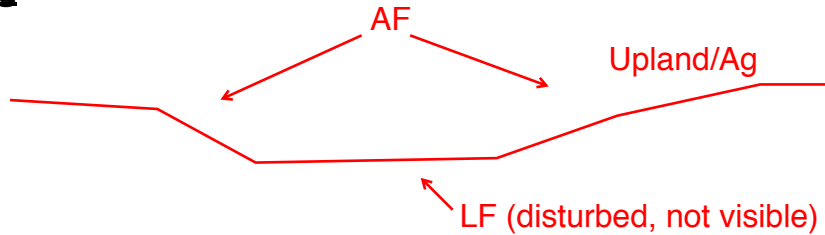
Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Menifee Valley Project Number: -- Stream: OHW M 3 Investigator(s): Shanti Santulli, Ian Hirschler	Date: 08/13/2018 Town: Menifee Photo begin file#:	Time: State: CA Photo end file#:
Y ☐ / N ☒ Do normal circumstances exist on the site? Y ☒ / N ☐ Is the site significantly disturbed?	Location Details: See data below; Figure 5, Figure 7 and Appendix C Projection: Datum: WGS84 Coordinates: See data below	
Potential anthropogenic influences on the channel system: Agriculture field; adjacent to high school; Feature 1		
Brief site description: Area receives flows from an upstream box-culverted crossing under Highway 74		
Checklist of resources (if available): ☒ Aerial photography Dates: ☒ Topographic maps ☐ Geologic maps ☐ Vegetation maps ☒ Soils maps ☐ Rainfall/precipitation maps ☐ Existing delineation(s) for site ☒ Global positioning system (GPS) ☐ Other studies ☐ Stream gage data Gage number: Period of record: ☐ History of recent effective discharges ☐ Results of flood frequency analysis ☐ Most recent shift-adjusted rating ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: - Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. - Select a representative cross section across the channel. Draw the cross section and label the floodplain units. - Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. - Record the floodplain unit and GPS position. - Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. - Identify any indicators present at the location. - Repeat for other points in different hydrogeomorphic floodplain units across the cross section. - Identify the OHW M and record the indicators. Record the OHW M position via: ☒ Mapping on aerial photograph ☐ Digitized on computer ☒ GPS ☐ Other:		

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
		Granule	
0.079	2.00	Very coarse sand	Sand
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625		
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Cross section drawing:**OHWM**

GPS point: -117.145462658 33.740955134

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☒ Other: bed and bank
☐ Other:

Comments:

Signs of remnant active floodplain based on bed/bank topography and change in sediment/veg patterns between active channel and uplands.

Floodplain unit:☐ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: -117.145462658 33.740955134

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

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:

Low flow not visible, recently disced. Very noticable shift in sediment between active floodplain and adjacent uplands.

Project ID: Menifee Valley

Cross section ID: OHWM 3

Date: 08/13/2018

Time:

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☒ Low Terrace

GPS point: just above AF

Characteristics of the floodplain unit:

Average sediment texture: course silt

Total veg cover: 10 % Tree: 0 % Shrub: 0 % Herb: 10 %

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:

highly disturbed, break in slope in August; seedlings/planted crops coming in on upland banks of feature.

Floodplain unit:

☐ Low-Flow Channel

☐ Active Floodplain

☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

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: _____

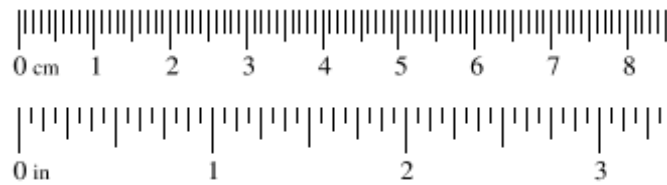
Comments:

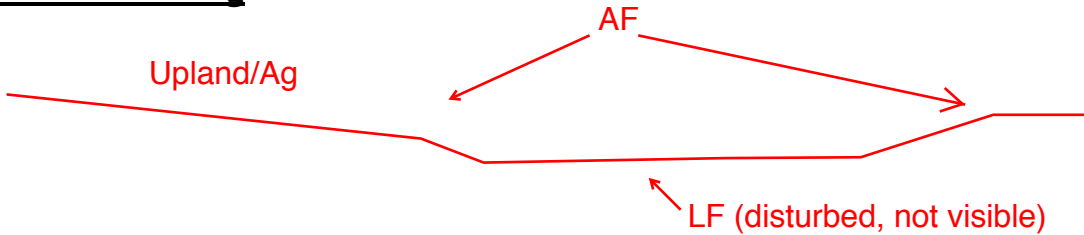
Arid West Ephemeral and Intermittent Streams OHW M Datasheet

Project: Menifee Valley Project Number: -- Stream: OHW M 4 Investigator(s): Shanti Santulli, Ian Hirschler	Date: 08/13/2018 Town: Menifee Photo begin file#:	Time: State: CA Photo end file#:
Y ☐ / N ☒ Do normal circumstances exist on the site? Y ☒ / N ☐ Is the site significantly disturbed?	Location Details: See data below; Figure 5, Figure 7 and Appendix C Projection: Datum: WGS84 Coordinates: See data below	
Potential anthropogenic influences on the channel system: Agriculture field; adjacent to high school; Feature 1		
Brief site description: Area receives flows from an upstream box-culverted crossing under Highway 74		
Checklist of resources (if available): ☒ Aerial photography Dates: ☒ Topographic maps ☐ Geologic maps ☐ Vegetation maps ☒ Soils maps ☐ Rainfall/precipitation maps ☐ Existing delineation(s) for site ☒ Global positioning system (GPS) ☐ Other studies ☐ Stream gage data Gage number: Period of record: ☐ History of recent effective discharges ☐ Results of flood frequency analysis ☐ Most recent shift-adjusted rating ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event		
Hydrogeomorphic Floodplain Units 		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHW M: 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 OHW M and record the indicators. Record the OHW M position via: ☒ Mapping on aerial photograph ☐ Digitized on computer ☒ GPS ☐ Other:		

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
		Granule	
0.079	2.00	Very coarse sand	Sand
0.039	1.00	Coarse sand	
0.020	0.50	Medium sand	
1/2 0.0098	0.25	Fine sand	
1/4 0.005	0.125	Very fine sand	
1/8 0.0025	0.0625		
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Cross section drawing:**OHWM**

GPS point: -117.149211774 33.739631219

Indicators:

- ☒ Change in average sediment texture
☐ Change in vegetation species
☒ Change in vegetation cover

- ☒ Break in bank slope
☒ Other: bed and bank
☐ Other:

Comments:

Signs of remnant active floodplain based on bed/bank topography and change in sediment/veg patterns between active channel and uplands.

Floodplain unit:☐ Low-Flow Channel☒ Active Floodplain☐ Low Terrace

GPS point: -117.149211774 33.739631219

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: 0 % Tree: 0 % Shrub: 0 % Herb: 0 %

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:

Low flow not visible, recently disced. Very noticable shift in sediment between active floodplain and adjacent uplands.

Project ID: Menifee Valley **Cross section ID:** OHWM 4

Date: 08/13/2018

Time:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☒ Low Terrace

GPS point: just above AF _____

Characteristics of the floodplain unit:

Average sediment texture: course silt

Total veg cover: 15 % Tree: 0 % Shrub: 0 % Herb: 15 %

Community successional stage:

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

Indicators:

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

Comments:

highly disturbed, break in slope in August; seedlings/planted crops coming in on upland banks of feature.

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

APPENDIX C

SITE PHOTOGRAPHS

Appendix C – Site Photographs*

Menifee Valley Jurisdictional Delineation
August 13, 2018

SITE FEATURE PHOTOS



Photo 1. Upstream view of off-site flows feeding two culverts on the northside of CA-74, that drain on-site to create Feature 1. Photo taken facing southeast.



Photo 2. Upstream view of Feature 1 at its northern on-site entry point along CA-74.
Photo taken facing north.

*See Corresponding Figure 7 for Photo Point Locations. See Jurisdictional Delineation Report Sections 3.6 and 3.7 for a discussion of jurisdictional status of each feature. Blue dashed lines in photos denote estimated OHWM/bed and bank location where difficult to detect in photo.



Photo 3. Upstream view of the northeast portion of Feature 1, at Ordinary High Water Mark Data Point 3 (OHWM 3). Photo taken facing northeast towards its on-site entry point along CA-74.



Photo 4. Upstream view of Feature 1. Photo taken within the western portion of the feature, facing east.



Photo 5. Downstream view of the western portion of Feature 1, at OHWM 4 and Wetland Sample Point (WSP) 4. Photo taken facing west.



Photo 6. Upstream view of Feature 1, near the western project boundary. The feature continues south along Meniffee Road and flows into a set of on-site storm drains. Photo taken facing northeast.



Photo 7. Upstream view of Feature 2, at the locations of WSP 1 and WSP 2. The feature drains on-site from a culvert along Briggs Road and a culvert near the southwest corner of Heritage High School.



Photo 8. Downstream view of Feature 2 at WSP 1 and WSP 2 at the approximate location of OHWM 1. Photo taken facing northwest.



Photo 9. Upstream view of Feature 2, at OHWM 1.
Photo taken facing east toward the wetland area.



Photo 10. Upstream view of culvert within the center portion of Feature 2. The feature expands to 20 feet wide here. Photo taken facing northeast.



Photo 11. Downstream view of culvert within the center portion of Feature 2.
Photo taken facing west.



Photo 12. Upstream view of a culvert road crossing within Feature 2. The project site contains two centrally located parallel roads that run from the western to eastern project boundary. Feature 2 drains from this culvert outlet onto the southernmost road and continues west along the road into a set of storm drains on the western project boundary. Photo taken facing northeast.



Photo 13. Feature 2 facing upstream, where OHWM 2 was taken within the recently disced area.



Photo 14. Upstream view of Ditch 1, along CA-74. The feature is concrete-lined for approximately 1,263 linear feet. Photo taken facing east.



Photo 15. Downstream view of Ditch 1, along CA-74. Photo taken facing west.



Photo 16. Downstream view of Ditch 1, along CA-74. The feature flows to this culvert for approximately 509 feet and is concrete-lined on the other side. Photo taken facing west.



Photo 17. Downstream view of Ditch 2. Photo taken facing west.



Photo 18. View of a culvert along Ditch 2, under Biscayne Street. Photo taken facing north.



Photo 19. Upstream view of roadside Ditch 3, which runs along Meniffee Road on the western project boundary. Photo taken facing north.



Photo 20. Downstream view of roadside Ditch 3, which runs along Meniffee Road.

SITE OVERVIEW PHOTOS



Photo 21. General view of project site from the corner of the southwest quadrant facing south along Menifee Road. No drainage patterns or potential ponding areas observed.



Photo 22. General view of the project site from the corner of the southwest quadrant facing southeast. No drainage patterns or potential ponding areas observed.



Photo 23. General view of the project site from the northeastern corner, along CA-74 and adjacent to Heritage High School, facing southwest.
No drainage patterns or potential ponding areas observed.



Photo 24. General view of the project site from the southeastern corner, along Briggs Road, facing north. No drainage patterns or potential ponding areas observed.



Photo 25. General view of the project site from the southern project boundary.
Photo taken along Case Road facing northwest.



Photo 26. General view of the project site from the southern project boundary.
Photo taken along Case Road facing southeast.

APPENDIX D

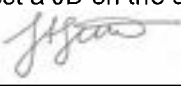
JD REQUEST FORM

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: District Name Here

- I am requesting a JD on property located at: HWY 74 between Menifee Rd. & Briggs Road
(Street Address)
City/Township/Parish: Menifee County: Riverside State: CA
Acreage of Parcel/Review Area for JD: 594.53 acres
Section: S13 Township: T05S Range: R03W
Latitude (decimal degrees): 33.7349 Longitude (decimal degrees): -117.1447
(For linear projects, please include the center point of the proposed alignment.)
- Please attach a survey/plat map and vicinity map identifying location and review area for the JD.
- ☐ I currently own this property. ☐ I plan to purchase this property.
☒ I am an agent/consultant acting on behalf of the requestor.
☐ Other (please explain): _____
- Reason for request: (check as many as applicable)
☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.
☐ I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.
☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.
☐ I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.
☐ I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.
☐ A Corps JD is required in order to obtain my local/state authorization.
☒ I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.
☐ I believe that the site may be comprised entirely of dry land.
☐ Other: _____
- Type of determination being requested:
☒ I am requesting an approved JD.
☐ I am requesting a preliminary JD.
☐ I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.
☐ I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature:  Date: July 15, 2019

- Typed or printed name: Shanti Santulli
Company name: Rocks Biological Consulting
Address: 2621 Denver Street, Suite B
San Diego, CA 92110
Daytime phone no.: 619-674-8067
Email address: shanti@rocksbio.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

APPENDIX E

ON-SITE RECENT AND HISTORIC AERIALS ANALYSIS

Appendix E – On-site Recent and Historic Aerials Analysis (Aerials Attached)

Sources: Google Earth and University of California-Santa Barbara

	D1*	D1T1	D1T2	D2	D2T1	D2T1A	D3	D4	FP1	FP2
1938	Y	F	N	F	N	N	N	N	N	N
1962	Y	F	N	F	N	N	F	N	N	Y
1972	Y	N	N	Y	N	N	N	N	N	Y
1976	Y	N	N	Y	N	N	F	Y	N	--
1980	Y	N	N	Y	N	N	N	Y	N	--
1996**	Y	N	N	Y	Y	N	N	Y	N	--
2002	Y	N	N	Y	Y	N	N	Y	N	--
2003	Y	N	N	Y	Y	N	F	Y	Y	Y
2007***	Y	N	N	Y	N	N	N	Y	N	N
2009	Y	N	Y	Y	Y	N	N	Y	Y	Y
2011	Y	F	Y	Y	Y	F	F	Y	Y	Y
2012	Y	F	Y	Y	Y	N	F	Y	Y	Y
2013	Y	N	Y	Y	F	N	N	Y	Y	Y
2014	Y	F	Y	Y	Y	F	Y	Y	Y	Y
2016****	Y	F	Y	Y	Y	F	F	Y	Y	Y
2018	Y	Y	Y	Y	F	Y	Y	Y	Y	F
Visual Recon	N	N	Y	Y	N	F	N	Y	N	N
JD Site Visit	Y	N	Y	Y	N	N	N	Y	N	N

* See 2018 aerial (last page) on attached aerials for the approximate location of each drainage pattern/farm pond analyzed.

**Diverison of D1, formation of D2.

***Heritage High School constructed in 2005/2006.

****D4 concrete-lined after construction of cul-de-sac road to the west of the SCE facility at the corner of Menifee Road and CA-74.

D = Drainage Patterns visible on 2018 aerial; FP = Farm Pond

No = predominantly undefined feature (N)
 Faint = drainage patterns remain present, but minimally defined or swale-like (F)
 Yes = clearly defined channel present (Y)
 -- = unable to verify due to distorted aerial

Appendix E – On-site Recent and Historic Aerials Analysis (Aerials Attached)

Sources: Google Earth and University of California-Santa Barbara

D1 – Persistently visible feature; 1996 shows the feature being diverted to a created farm pond in the center of the project site; despite heavy manipulation over the years including several diversions, the feature appears to receive sufficient flows to continue west through its original path during most years, exiting the site along the western site boundary.

D1T1 – Feature not present during JD delineation site visit but visible in some aerials. Feature consistently not visible; outline occasionally faint.

D1T2 – Feature not present during JD delineation site visit but visible in some aerials. Feature is not visible in early aerials; becomes persistent after 2007; additions/renovations to the commercial use lot in the northwestern corner bordering the feature were completed between 2007-2009.

D2 – Feature is not visible in early aerials; becomes persistent around 1972. Heavy manipulation of this channel occurs over the years, including the addition of a large farm pond receiving flows from both D1 and D2 between 1996 and 2003, after which D2 bi-cuts the project site toward the western site boundary.

D2T1 – Feature not present during JD delineation site visit but visible in some aerials. Feature is not visible in early aerials; becomes persistent in 1996; feature appears to be an occasional connection/diversion between the D1 and D2 on some years.

D2T1A – Feature not present during JD delineation site visit but visible in some aerials. Feature consistently not visible; outline occasionally faint.

D3 – Feature not present during JD delineation site visit but visible in some aerials. Feature consistently not visible; outline occasionally faint.

D4 – Feature not present during JD delineation site visit but visible in some aerials. Feature is a concrete-lined channel created between 2014 and 2016; prior to its construction the feature is visible as an earthen ditch.

FP1 – Feature not present during JD delineation site visit but visible in some aerials. This feature appears to be a created farm pond used when the agriculture field is active but is not always present.

FP2 – Feature not present during JD delineation site visit but visible in some aerials; the feature appears to be a created farm pond used when the agriculture field is active during some years.

Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



1938



1972

Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



1976



1980

Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



1996

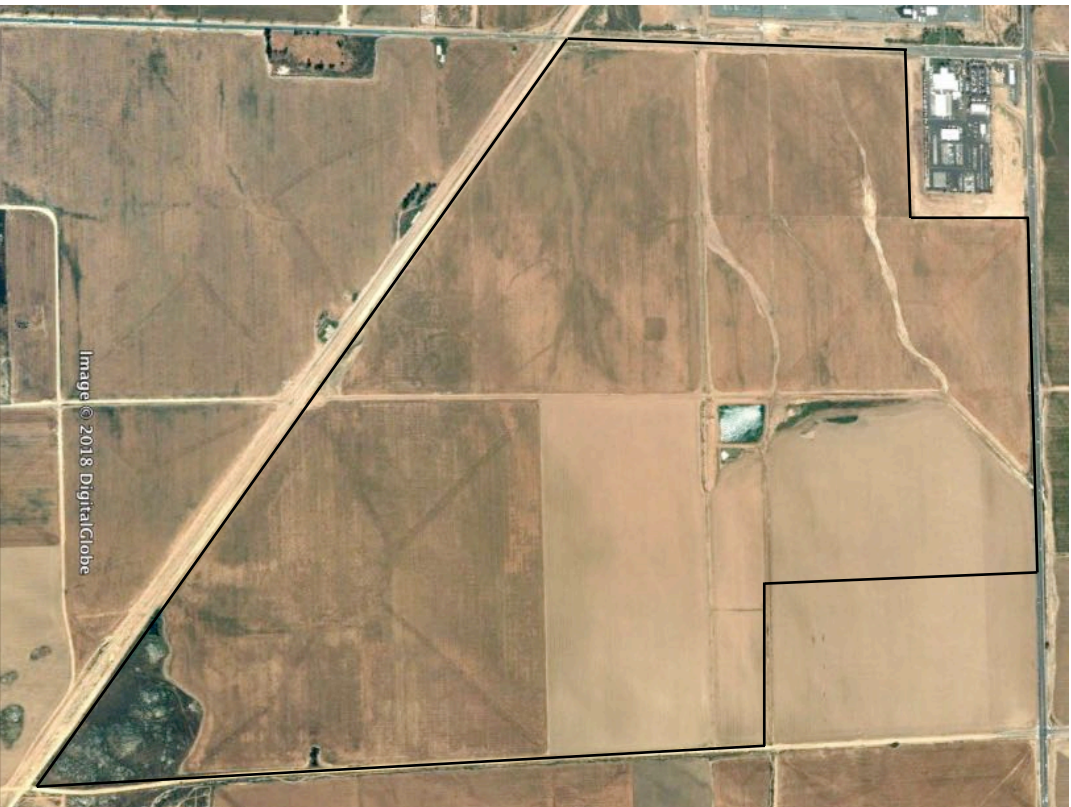


2002

Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2003



2007

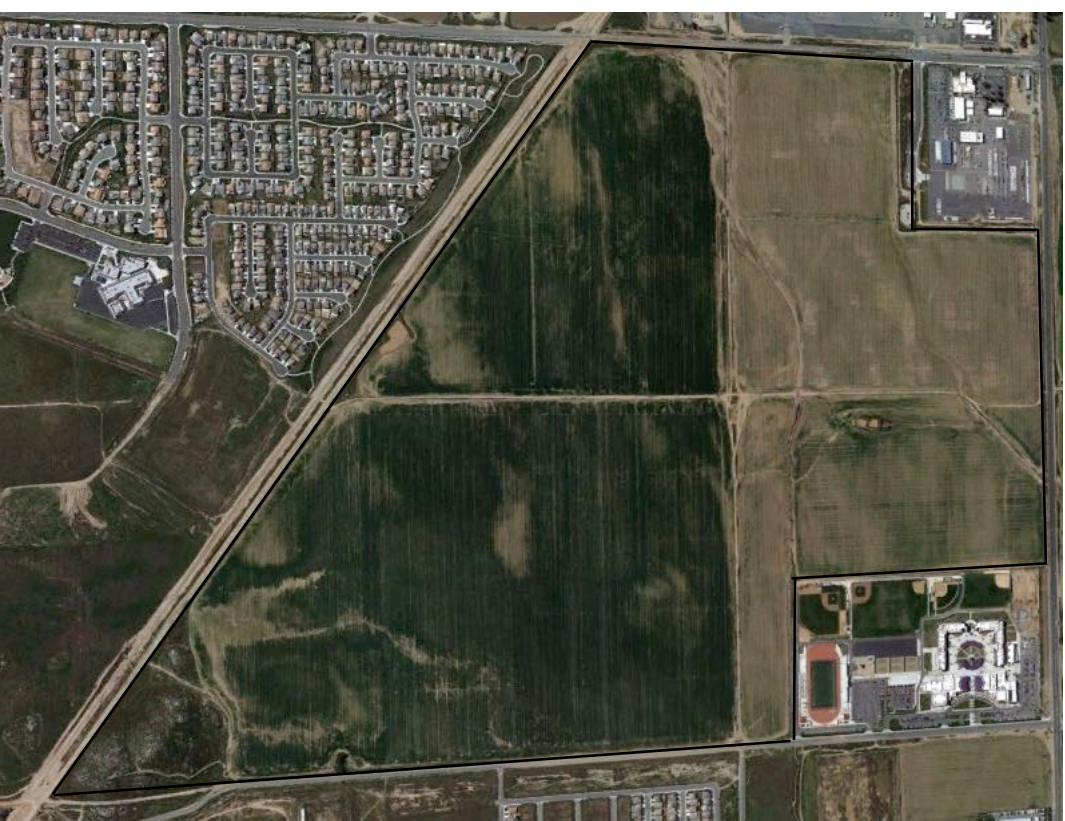
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2009

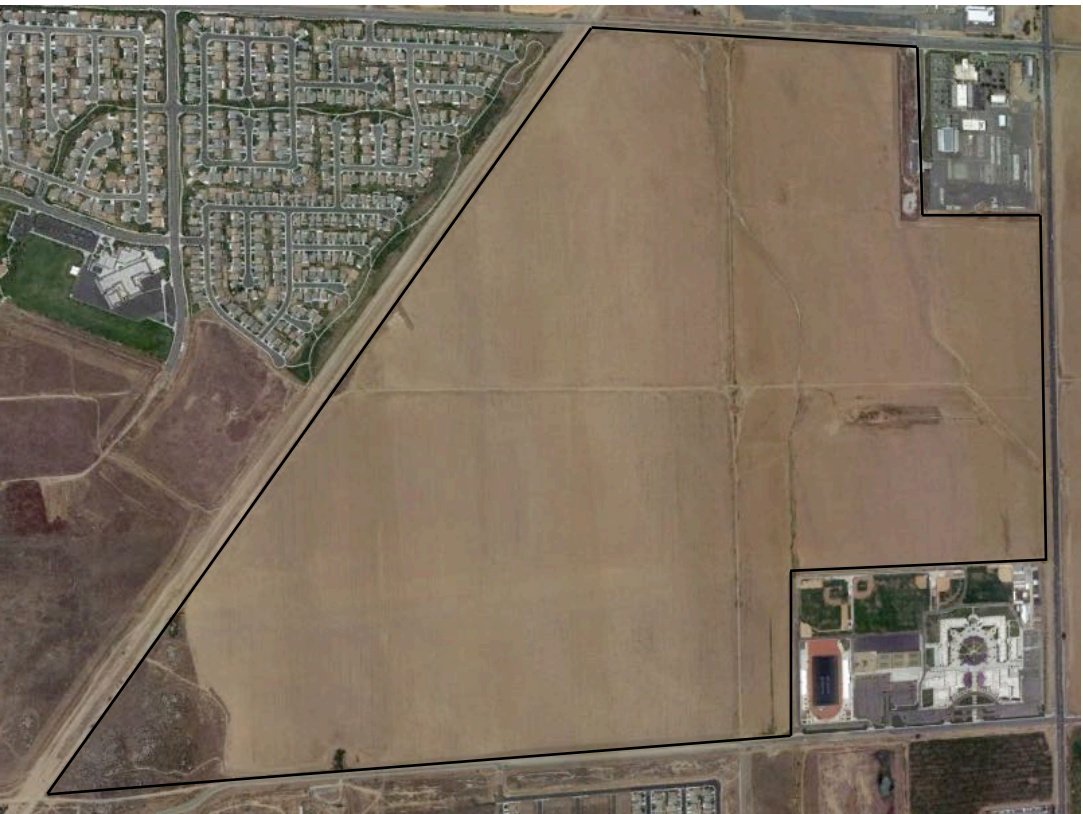


2011

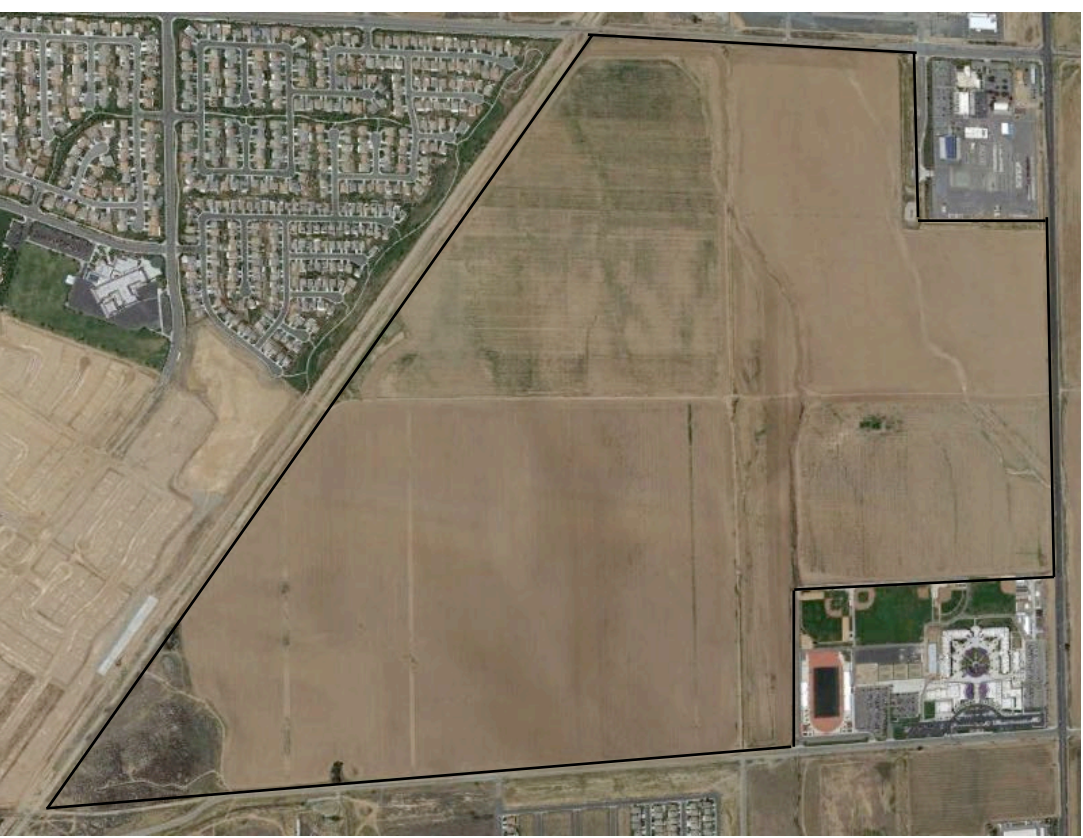
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2012

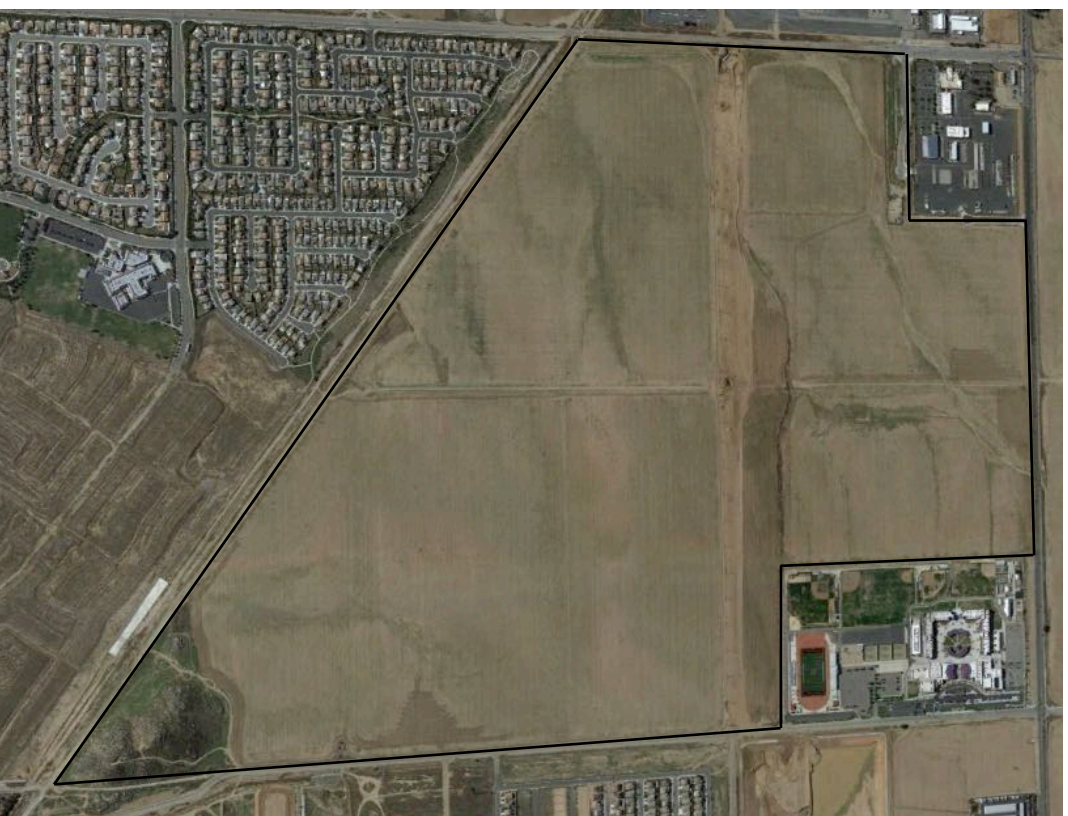


2014

Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2016



2018

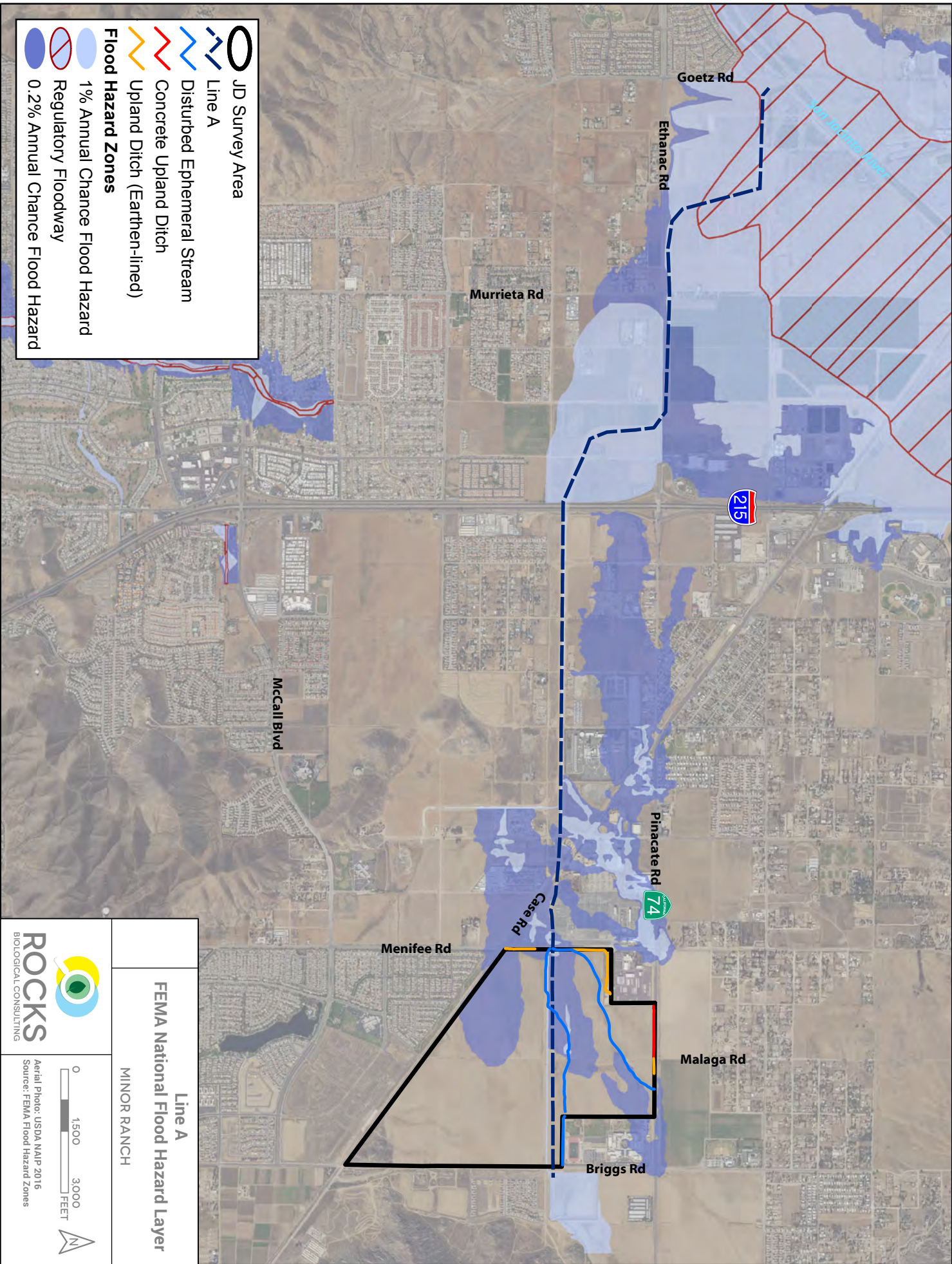
APPENDIX F

BULK UPLOAD FORM

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude
Feature 1	CALIFORNIA	R6	RIVERINE	Area	1.03	ACRE	OTHERDIST	33.739779	-117.148819
Feature 2	CALIFORNIA	R6	RIVERINE	Area	1.19	ACRE	OTHERDIST	33.737053	-117.142810
Feature 2 Wetland	CALIFORNIA	PEM	RIVERINE	Area	0.03	ACRE	OTHERDIST	33.737122	-117.140836
Ditch 1	CALIFORNIA	U	RIVERINE	Area	0.075	ACRE	EXCLDB3I	33.743004	-117.147439
Ditch 2	CALIFORNIA	U	RIVERINE	Area	0.144	ACRE	EXCLDB3I	33.739855	-117.152148
Ditch 3	CALIFORNIA	U	RIVERINE	Area	0.033	ACRE	EXCLDB3I	33.734024	-117.153980

APPENDIX G

LINE A FIGURES AND AERIALS ANALYSIS

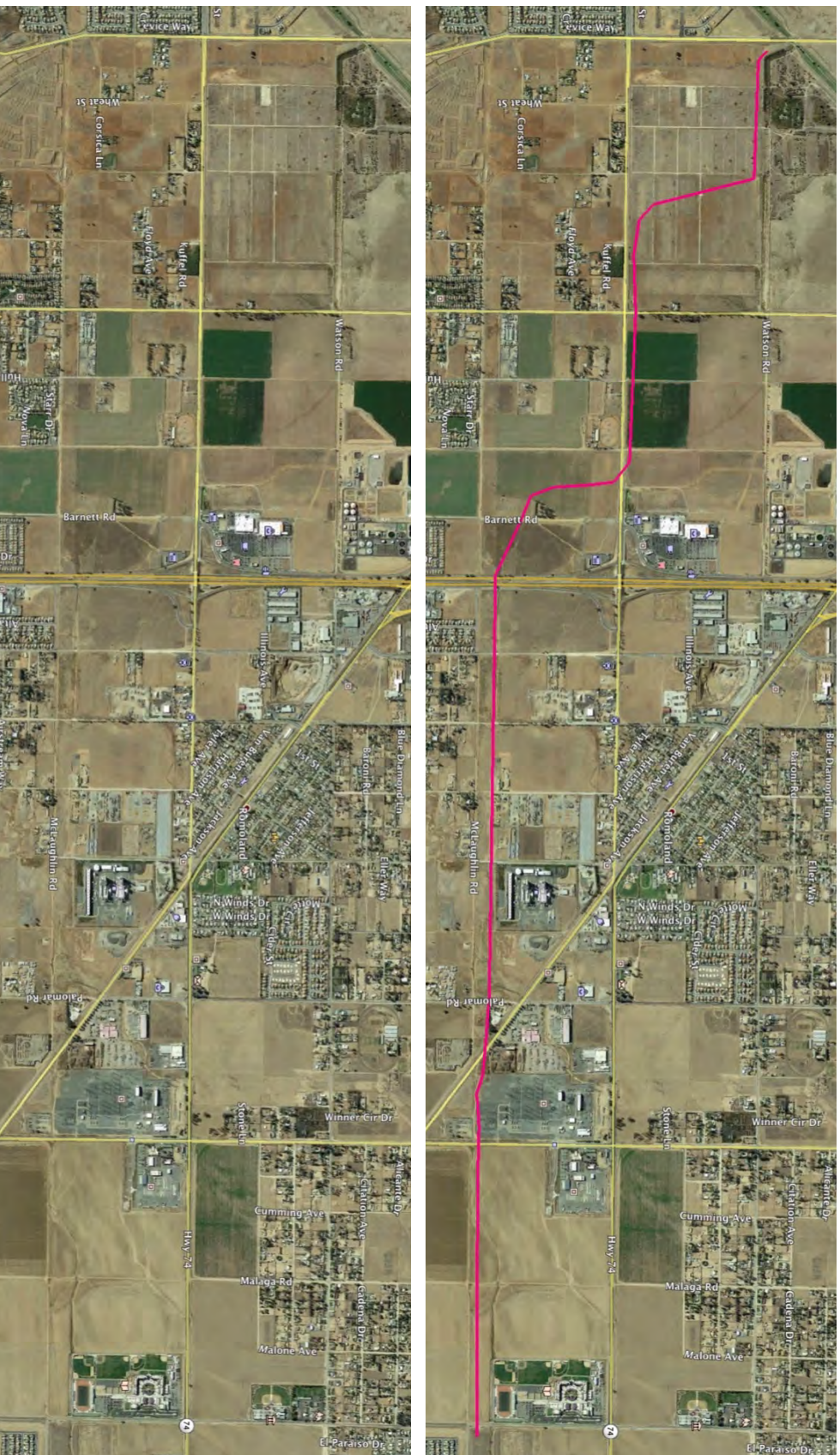


Appendix G – Line A Drone Image



Appendix G – Line A Aerials Analysis

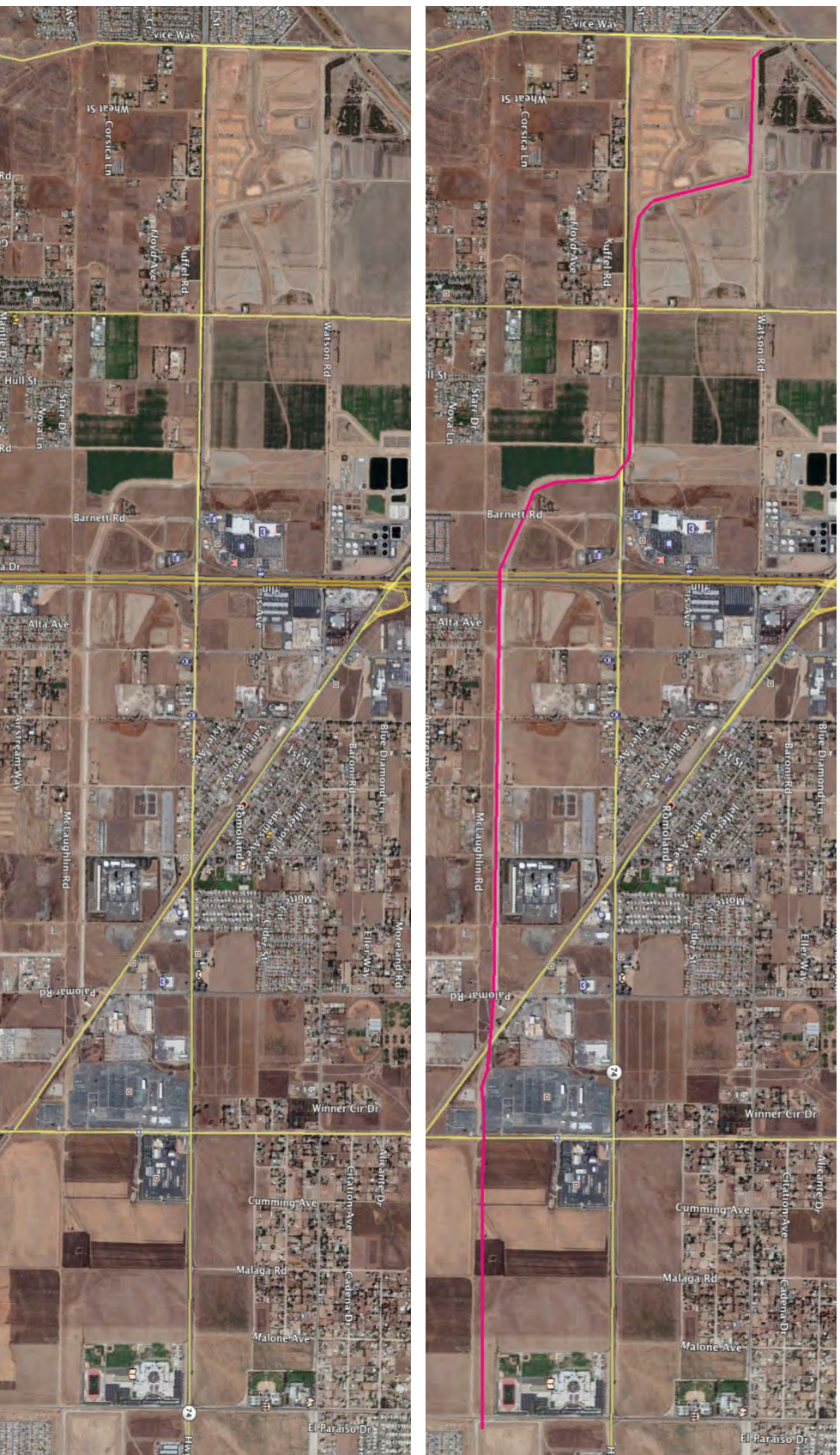
Source: Google Earth



November 2013 (prior to construction of Line A). Pink line denotes existing alignment of Line A, which initiates in the east and drains to the west. Note upstream flows visible in current location of Briggs Detension Basin, directly east where Line A originates.

Appendix G – Line A Aerials Analysis

Source: Google Earth



August 2018 (after construction of Line A). Pink line denotes existing alignment of Line A. Note Briggs Detention Basin is fully constructed just east of the project site where Line A originates as an underground storm drain through the project site, removing upstream hydrology onto the project site (i.e., into Feature 2).

APPENDIX H

GIS DATA (PROVIDED ELECTRONICALLY TO AGENCIES)

APPENDIX D

MENIFEE VALLEY PROJECT – FOCUSED BURROWING OWL SURVEY REPORT



MENIFEE VALLEY PROJECT – FOCUSED BURROWING OWL SURVEY REPORT

Menifee, California

July 29, 2022

Revised: November 23, 2022

Prepared for:
Brookfield Properties
3200 Park Center Drive, Suite 100
Costa Mesa, CA 92626
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4312 Rialto Street
San Diego, CA 92107
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TABLE OF CONTENTS

1	Summary	1
2	Introduction	1
2.1	Project Location & Proposed Activity	1
2.2	Burrowing Owl Natural History	1
3	Methods	2
3.1	Survey Methods.....	2
3.2	Surveyor Qualifications.....	2
4	Results	3
4.1	Existing Conditions & Habitat Assessment	3
4.2	Focused Burrowing Owl Survey Results.....	3
5	Burrowing Owl Mitigation	4
6	Conclusions.....	5
7	References	6

TABLES

Table 1.	Focused Breeding Season Burrowing Owl Survey Dates and Conditions	4
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FIGURES

Figure 1. Survey Area

APPENDICES

Appendix A – Site Photographs

Appendix B – Wildlife Species Observed

1 SUMMARY

This report is a summary of focused burrowing owl (*Athene cunicularia*; BUOW) surveys conducted by Rocks Biological Consulting (RBC) for the Menifee Valley Project (project) in the City of Menifee, Riverside County, California. The project is located within the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP) Burrowing Owl Survey Area (RCA 2021). Focused burrowing owl surveys were conducted by Cadre Environmental (Cadre Environmental 2019) in 2016 and 2018 and were negative for BUOW. Since the completion of the focused surveys in 2018, the project has expanded to include off-site improvement areas along California State Route 74 (CA-74), Menifee Road, Briggs Road, and Matthews Road. RBC re-assessed the project area for the presence of suitable BUOW habitat and conducted focused breeding season BUOW surveys on the updated overall Menifee Valley Project site, including off-site improvements areas, plus a surrounding 500-foot buffer (survey area). Surveys were conducted in accordance with the *Burrowing Owl Survey Instructions for Western Riverside MSHCP Area* (BUOW Survey Instructions; RCA 2006); the California Department of Fish and Wildlife (CDFW) *Staff Report on Burrowing Owl Mitigation* (CDFW 2012) was also used for general guidance. No BUOW, active BUOW burrows, or BUOW sign were documented within the survey area.

2 INTRODUCTION

2.1 PROJECT LOCATION & PROPOSED ACTIVITY

The project is in the northeastern portion of the City of Menifee, California (Figure 1). The project site is approximately 639 acres, located east of Interstate 215 on CA-74 between Menifee Road and Briggs Road. The project entails the proposed construction of a master planned community consisting of a mix of uses including residential, commercial, business park, public facilities, and open space, with additional on-site infrastructure improvements. Off-site improvements include roadway improvements and subsurface utility line installations and connections along CA-74, Menifee Road, Briggs Road, and Matthews Road, in addition to a pedestrian bridge over Matthews Road.

2.2 BURROWING OWL NATURAL HISTORY

Within California, BUOW is listed by the CDFW as a Species of Special Concern (SSC). Suitable habitat for BUOW is generally typified by short, sparse vegetation with few shrubs, level to gentle topography, and well-drained soils, such as naturally occurring grassland, shrub steppe, and desert habitats (Haug et al. 1993). Additionally, BUOW may occur in agricultural areas, ruderal grassy fields, vacant lots and pastures containing suitable vegetation structure and useable burrows and foraging habitat in proximity (Gervais et al. 2008). Typically, BUOW use burrows that have been dug by other species, termed host burrowers. In California, BUOW frequently use burrows dug by California ground squirrel (*Otospermophilus beecheyi*) and round-tailed ground squirrel (*Citellus tereticaudus*) and dens or holes dug by other fossorial species, including badger (*Taxidea taxus*), coyote (*Canis latrans*), and fox (e.g., San Joaquin kit fox [*Vulpes macrotis mutica*]) (Ronan 2002). In addition, BUOW also frequently use natural rock cavities, debris piles, culverts,

and pipes for nesting and roosting (Rosenberg et al. 1998) and have been documented using artificial burrows for nesting and cover (Belthoff and Smith 2003). Occupancy of burrowing owl habitat is confirmed at a site when at least one burrowing owl, or its sign at or near a burrow entrance, is observed within the last three years (Rich 1984).

3 METHODS

3.1 SURVEY METHODS

RBC biologist Ian Hirschler conducted a habitat assessment for BUOW on October 15, 2021 in accordance with Step I of the BUOW Survey Instructions (RCA 2006). Afterwards, the project expanded to include off-site improvement areas along CA-74, Menifee Road, Briggs Road, and Matthews Road; an additional habitat assessment was performed for the off-site improvements footprint on February 24, 2022. Based on the presence of suitable habitat on the project site and surrounding 500-foot buffer, RBC avian biologists Ian Hirschler, Shannon Mindeman, Alec Goodman, Hannah Swarthout, and Kelsey Woldt conducted focused burrow surveys and focused breeding season BUOW surveys between May 31 and July 1, 2022, in accordance with Step II of the BUOW Survey Instructions (RCA 2006).

The survey included four survey ‘passes’; two visits were required for each survey ‘pass’ due to the size of the survey area and survey timing restrictions. During each site visit, RBC biologists walked through suitable BUOW habitat within the survey area via straight-line transects spaced 10 meters (m) to 30 m apart, adjusting for vegetation height and density, and used binoculars to scan the survey area at least every 100 m for BUOW, active burrows, and/or sign of BUOW. No calls were used. Care was taken to minimize disturbance near suitable burrows to avoid flushing any burrowing owls, if any. All observed burrows were examined for sign, including feathers, pellets, whitewash, and prey remains. Burrows were considered active if a BUOW was observed at or near the entrance or if recent sign was present. All BUOW, active BUOW burrows, and BUOW sign were mapped in the geographic information system (GIS) program ArcGIS Collector, if any.

3.2 SURVEYOR QUALIFICATIONS

Mr. Hirschler is a wildlife biologist with over eight years of professional experience and a Bachelor of Science degree in Field and Wildlife Biology. Mrs. Mindeman is a wildlife biologist with over nine years of experience and holds a Master of Science degree in Evolutionary Biology and a Bachelor of Science degree in Biology. Mr. Goodman is a wildlife biologist with over 5 years of professional experience and a Bachelor of Science degree in Environmental Science. Ms. Swarthout is a wildlife biologist with 3 years of professional experience and a Bachelor of Arts degree in Environmental Studies and a minor in Geography. Ms. Woldt is a wildlife biologist with over two years of professional experience and holds a Master of Science degree in Biology and a Bachelor of Science degree in Ecology, Animal Behavior, and Evolutionary Biology. The biologists are experienced at conducting burrowing owl surveys.

4 RESULTS

4.1 EXISTING CONDITIONS & HABITAT ASSESSMENT

The survey area is composed primarily of active agriculture and disturbed habitat, which are dominated by common barley (*Hordeum vulgare*), cheeseweed (*Malva parviflora*), ripgut brome (*Bromus diandrus*), red brome (*B. rubens*), slender wild oat (*Avena barbata*), and soft chess (*Bromus hordeaceus*). Some broad-leaved forbs such as tocalote (*Centaurea melitensis*), short-pod mustard (*Hirschfeldia incana*), and tumbleweed (*Salsola australis*) are also present within the disturbed habitat. The survey area also includes developed habitat, Riversidean sage scrub, non-native grassland, and smaller areas of mulefat thickets, southern riparian forest, and freshwater marsh. The active agriculture and some areas of non-native grassland and disturbed habitat within the survey area are regularly tilled.

During the BUOW habitat assessments, parts of the survey area were determined to be suitable BUOW habitat based on the presence of open grassland, disturbed habitat, and agriculture within the project site and buffers areas (Figure 1). Photographs of site conditions are presented in Appendix A.

4.2 FOCUSED BURROWING OWL SURVEY RESULTS

RBC conducted four focused BUOW surveys during the breeding season (February 1 to August 31) between March 31, 2022, and July 1, 2022. No BUOW, sign, or active BUOW burrows were observed during focused surveys. However, several small mammal burrows suitable for BUOW were observed and are mapped on Figure 1. Survey dates, times, and weather conditions are presented in Table 1, below. Climatic and temporal conditions did not affect BUOW detection or survey scope. Because burrows and active BUOW sign can be observed throughout the daytime, some surveys extended past the recommended timeframe provided in the BUOW Survey Instructions (i.e., surveys conducted several hours past sunrise). Additionally, the 4th dusk survey started when temperatures were over 90° Fahrenheit (F), but that quickly decreased to below 90° F and did not prevent the potential observations of recent BUOW sign or potential BUOW burrows. Therefore, the results of the BUOW surveys were not compromised by the survey conditions and are considered valid.

Table 1. Focused Breeding Season Burrowing Owl Survey Dates and Conditions

Survey Number	Date	Surveyor(s)	Time (Start; End)	Temp (F) (Start; End)	Cloud Cover (%) (Start; End)	Wind Range (mph) (Start; End)	Precip. (Start; End)	Visibility (Lo, Med, High) (Start; End)
1 (dusk)	3/31/22	A. Goodman, H. Swarthout, K. Woldt	1600-1915	63; 57	100; 100	8-10; 8-10	None; None	High; High
1 (dawn)	4/1/22	A. Goodman, H. Swarthout, K. Woldt	0630-1245	54; 66	100; 0	1-3; 2-5	None; None	High; High
2 (dusk)	4/28/22	A. Goodman, S. Mindeman, K. Woldt	1600-1945	68; 58	75; 75	5-10; 10-12	None; None	High; High
2 (dawn)	4/29/22	A. Goodman, S. Mindeman, K. Woldt	0630-1215	52; 72	100; 0	0-2; 1-3	None; None	High; High
3 (dusk)	5/26/22	A. Goodman, I. Hirschler, K. Woldt	1530-1915	88; 68	0; 0	7-12; 5-10	None; None	High; High
3 (dawn)	5/27/22	A. Goodman, I. Hirschler, K. Woldt	0715-1000	55-58	100; 100	2-5; 2-5	None; None	High; High
4 (dusk)	6/30/22	A. Goodman, H. Swarthout, K. Woldt	1630-1945	95-83	10; 5	10-15; 5-12	None; None	High; High
4 (dawn)	7/1/22	A. Goodman, K. Woldt	0715-1100	70-88	40; 5	2-5; 3-5	None; None	High; High

Additionally, 48 bird species, three invertebrate species, and two reptile species were observed during focused surveys as listed in Appendix B.

5 BURROWING OWL MITIGATION

Pursuant to the MSHCP, all project sites containing burrows or suitable habitat require pre-construction surveys, regardless of BUOW presence/absence during previous surveys (RCA 2006). The pre-construction surveys will be conducted in accordance with MSHCP Objective 6 for BUOW and the BUOW Survey Instructions. As such, the following minimization and avoidance measure is required in order to avoid direct impacts on BUOW:

A qualified biologist will conduct a pre-construction presence/absence survey for burrowing owls within 30 days prior to site disturbance. If burrowing owls are documented on site, the owls will be relocated/excluded from the site outside of the breeding season following accepted protocols, as specified in the MSHCP.

If active BUOW nesting is observed, a Burrowing Owl Plan shall be required which describes avoidance, relocation, monitoring, minimization, and/or mitigation actions for the on-site BUOW. If impacts to active nests cannot be avoided, the Burrowing Owl Plan shall include the appropriate method of relocation from the project site (i.e., passive versus active relocation), and must be

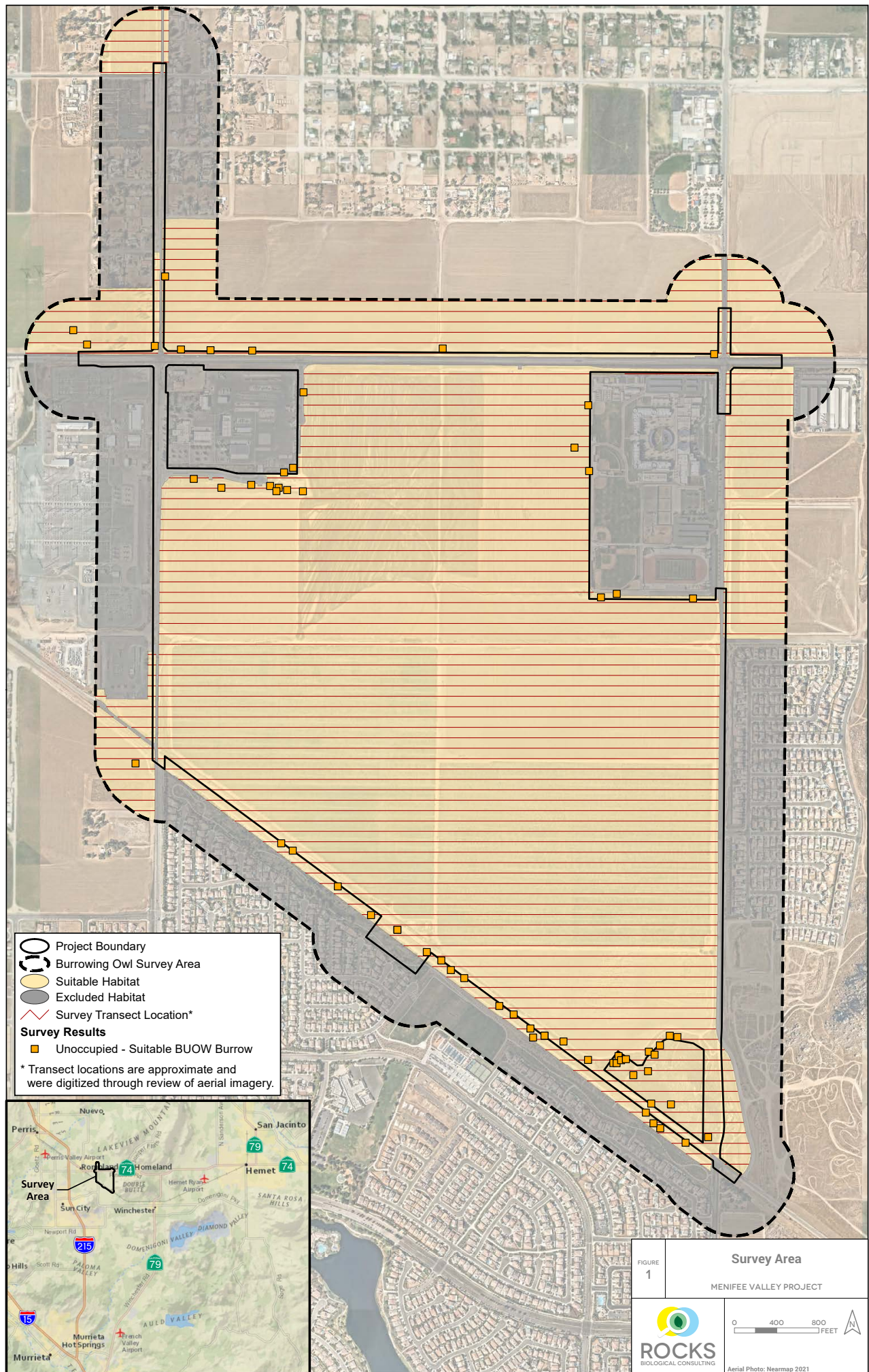
approved by the Western Riverside County Regional Conservation Authority in conjunction with the Wildlife Agencies. Further coordination is needed to determine if passive relocation would be acceptable at this location.

6 CONCLUSIONS

No BUOW, active burrows, or BUOW sign were documented within the survey area during the focused BUOW surveys conducted between March 31, 2022, and July 1, 2022. However, due to the presence of suitable habitat on site and within the surrounding areas, as well as the potential for future occupation of the site, pre-construction surveys will be required to avoid potential direct impacts on BUOW resulting from the project in conformance with the MSHCP.

7 REFERENCES

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2006. Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan Area. Information obtained from <http://www.rctlma.org/mshcp/volume1/index.html>
2021. WRC Information Tool Map. Accessed October 2021.
<https://wrcrca.maps.arcgis.com/apps/webappviewer/index.html?id=a73e69d2a64d41c29ebd3acd67467abd>



Appendix A
Site Photographs



Photo 1. Overview of on-site portion of the project site from the western site boundary facing southeast, showing active agriculture and dirt margins on March 31, 2022.



Photo 2. View of Riversidean sage scrub, non-native grassland, disturbed, and developed habitats in the in the southeastern portion of the project site, facing southeast on March 31, 2022.



Photo 3. View of recently harvested active agriculture within northern portion of the project, facing south on April 28, 2022.



Photo 4. View of non-native grassland within the northwestern portion of the project, facing north on April 29, 2022.



Photo 5. Representative photo from April 29, 2022, of a California ground squirrel (*Otospermophilus beecheyi*) burrow that is suitable but unoccupied by burrowing owl on the eastern boundary of the project site.



Photo 6. East-facing view of disturbed habitat - ephemeral streambed and recent disturbance within the eastern portion of the site, facing east on June 30, 2022.



Photo 7. Representative photo of the disturbed and developed habitats in the southern portion of the project site, facing west on July 1, 2022.



Photo 8. Representative picture of the developed and disturbed habitats in the western boundary of the project site, facing south on June 30, 2022.

Appendix B

Wildlife Species Observed

Family	Common Name	Scientific Name
Invertebrates		
Nymphalidae	painted lady	<i>Vanessa cardui</i>
Pieridae	cabbage white	<i>Pieris rapae</i>
Tenebrionidae	darkling beetle	<i>Coelocnemis spp</i>
Reptiles		
Phrynosomatidae	common side-blotched lizard	<i>Uta stansburiana</i>
Phrynosomatidae	Western fence lizard	<i>Sceloporus occidentalis</i>
Birds		
Accipitridae	Cooper's hawk (SSC when nesting)	<i>Accipiter cooperii</i>
Accipitridae	northern harrier (SSC when nesting)	<i>Circus hudsonius</i>
Accipitridae	red-tailed hawk	<i>Buteo jamaicensis</i>
Accipitridae	sharp-shinned hawk (SSC when nesting)	<i>Accipiter striatus</i>
Aegithalidae	bushtit	<i>Psaltiriparus minimus</i>
Alaudidae	California horned lark (WL)	<i>Eremophila alpestris</i>
Anatidae	Canada goose	<i>Branta canadensis</i>
Anatidae	mallard	<i>Anas platyrhynchos</i>
Apodidae	white-throated swift	<i>Aeronautes saxatalis</i>
Ardeidae	great egret	<i>Ardea alba</i>
Cardinalidae	western tanager	<i>Piranga ludoviciana</i>
Cathartidae	turkey vulture	<i>Cathartes aura</i>
Charadriidae	killdeer	<i>Charadrius vociferus</i>
Columbidae	mourning dove	<i>Zenaida macroura</i>
Columbidae	rock pigeon*	<i>Columba livia</i>
Corvidae	American crow	<i>Corvus brachyrhynchos</i>
Corvidae	common raven	<i>Corvus corax</i>
Cuculidae	greater roadrunner	<i>Geococcyx californianus</i>
Falconidae	American kestrel	<i>Falco sparverius</i>
Fringillidae	house finch	<i>Haemorhous mexicanus</i>
Fringillidae	lesser goldfinch	<i>Spinus psaltria</i>
Hirundinidae	barn swallow	<i>Hirundo rustica</i>
Hirundinidae	cliff swallow	<i>Petrochelidon pyrrhonota</i>
Hirundinidae	northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Hirundinidae	violet-green swallow	<i>Tachycineta thalassina</i>
Icteridae	Brewer's blackbird	<i>Euphagus cyanocephalus</i>

Icteridae	hooded oriole	<i>Icterus cucullatus</i>
Icteridae	red-winged blackbird	<i>Agelaius phoeniceus</i>
Icteridae	western meadowlark	<i>Sturnella neglecta</i>
Mimidae	northern mockingbird	<i>Mimus polyglottos</i>
Motacillidae	American pipit	<i>Anthus rubescens</i>
Parulidae	orange-crowned warbler	<i>Leiothlypis celata</i>
Parulidae	Wilson's warbler	<i>Cardellina pusilla</i>
Parulidae	yellow warbler (SCC when nesting)	<i>Setophaga petechia</i>
Passerellidae	California towhee	<i>Melospiza crissalis</i>
Passerellidae	lark sparrow	<i>Chondestes grammacus</i>
Passerellidae	rufous-crowned sparrow (WL)	<i>Aimophila ruficeps</i>
Passerellidae	savannah sparrow	<i>Passerculus sandwichensis</i>
Passerellidae	song sparrow	<i>Melospiza melodia</i>
Passerellidae	white-crowned sparrow	<i>Zonotrichia leucophrys</i>
Passeridae	house sparrow*	<i>Passer domesticus</i>
Sturnidae	European starling*	<i>Sturnus vulgaris</i>
Trochilidae	Anna's hummingbird	<i>Calypte anna</i>
Troglodytidae	canyon wren	<i>Catherpes mexicanus</i>
Tyrannidae	black phoebe	<i>Sayornis nigricans</i>
Tyrannidae	Cassin's kingbird	<i>Tyrannus vociferans</i>
Tyrannidae	Say's phoebe	<i>Sayornis saya</i>
Tyrannidae	Western kingbird	<i>Tyrannus verticalis</i>
Mammals		
Canidae	coyote	<i>Canis latrans</i>
Leporidae	Audubon's cottontail	<i>Sylvilagus audubonii</i>
Sciuridae	California ground squirrel	<i>Otospermophilus beecheyi</i>
SSC: California Department of Fish and Wildlife (CDFW) Species of Special Concern WL: CDFW Watch List * Introduced Species		