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# MENIFEE VALLEY PROJECT – OFF-SITE IMPROVEMENTS FOOTPRINT BIOLOGICAL RESOURCES AND MSHCP CONSISTENCY REPORT

Menifee, California

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Prepared for:
Brookfield Properties
3200 Park Center Drive, Suite 100
Costa Mesa, CA 92626
(714) 200-1609

Prepared by:
Rocks Biological Consulting
4312 Rialto Street
San Diego, CA 92107
(619) 701-6798

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# 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 off-site improvements impact footprint associated with the Menifee Valley Project (project) in the City of Menifee, Riverside County, California. This report analyzes existing conditions and proposed impacts of the off-site improvements components associated with the project; the on-site portion of the project was addressed in the *Menifee Valley Project Biological Resources and MSHCP Consistency Report* (On-site BR/MSHCP Consistency Report; RBC 2022). This report also uses information from a MSHCP Consistency Analysis prepared by Cadre Environmental (Cadre; Cadre 2019) which also generally focused on the on-site portion of the project. Consistent with the on-site portion of the project, the off-site improvements footprint 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 off-site improvements footprint is not located within a Criteria Area Species Survey Area or Narrow Endemic Plant Species Survey Area. However, the project, including the off-site improvements footprint, is located within the MSHCP Burrowing Owl Survey Area. Focused burrowing owl (*Athene cunicularia*; BUOW) surveys were conducted during the 2022 BUOW breeding season and were negative for BUOW.

The off-site improvements footprint supports aquatic resources expected to be considered jurisdictional under the Regional Water Quality Control Board (RWQCB) and the California Department of Fish and Wildlife (CDFW) as further detailed in the 2019 *Menifee Valley Project Jurisdictional Delineation Report* (2019 JDR; Appendix C) and the 2022 *Menifee Valley Project Jurisdictional Delineation Report Addendum* (2022 JDR Addendum; Appendix D). Note that the Corps issued an AJD in October 2019 confirming that none of the features within the 2019 JDR review area, which included the on-site portion of the project site and portions of the off-site improvements footprint, are Corps-jurisdictional resources. Please note that RBC will also provide the applicable jurisdictional determination request forms to the Corps to confirm no jurisdictional waters of the U.S. occur within the remainder of the off-site improvements footprint per the 2022 JDR Addendum via the AJD process.

The off-site improvements footprint contains 0.32 acre of riparian/riverine areas as defined by Section 6.1.2 of the MSHCP. The riparian/riverine areas within the off-site improvements footprint are extremely 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 within the off-site improvements footprint that could support Santa Rosa Plateau fairy shrimp (*Linderiella santarosae*), Riverside fairy shrimp (*Streptocephalus woottoni*), or vernal pool fairy shrimp (*Branchinecta lynchi*).

A Determination of Biologically or Superior Preservation (DBESP) memo for the project was previously submitted on behalf of Brookfield Residential, as a justification for a waiver of the requirement for a DBESP report; project delays prevented the official approval of the DBESP memo by the resource agencies. The DBESP memo has since been updated to reflect agency comments provided in August 2019 as well as the updated site plan, which includes the current on-site

portions of the project and the off-site improvements footprint. The DBESP memo has not yet been approved as of July 29, 2022.

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

# 2 Introduction

## 2.1 PROJECT BACKGROUND

The proposed project consists of a 590.3-acre master planned community comprising a mix of uses including residential neighborhoods an elementary school site, a sports park, greenbelts, a passive park with preserved open space, a civic node/public facilities site, and employment uses including commercial, commercial business park, and business park. The impacts associated with the on-site portion of the project were analyzed in the On-site BR/MSHCP Consistency Report (RBC 2022).

Since the initial submittal of the On-site BR/MSHCP Consistency Report in January 2022, the project footprint expanded to include off-site improvements as described in Section 2.3 below. These off-site improvement areas occur outside of the impact footprint studied in the On-site BR/MSHCP Consistency Report and will be analyzed within this Biological Resources and MSHCP Consistency Report (Off-site BR/MSHCP Consistency Report). For the purposes of this Off-site BR/MSHCP Consistency Report, the off-site components of the project will be referred to as the "off-site improvements footprint" in the text hereafter.

## 2.2 PROJECT LOCATION

The project site is located approximately two miles east of Interstate 215 within the City of Menifee, Riverside County, California (Figure 1). The project site is located east of Interstate 215 on California State Route 74 (CA-74) between Menifee Road and Briggs Road. The project's off-site improvements footprint occurs along the existing right-of-way of CA-74, Menifee Road, Briggs Road, and Matthews Road. The project site is surrounded by active/inactive agricultural lands, residential development, a railway, and an electrical substation. 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.

## 2.3 PROJECT DESCRIPTION

The project includes off-site improvements to support the operation and construction of the overall project. Off-site improvements that would or may cause physical ground disturbance as a result of the project's construction and implementation include roadway improvements and subsurface utility line installations and connections along Briggs Road, Menifee Road, and Highway 74; the installation of subsurface utility lines in the alignment of Matthews Road (a dirt road) along segments of the project site's southern boundary; and the installation of a non-vehicular bridge across Matthews Road (a dirt road) and railroad tracks to connect the project site with the Heritage Lake community to the south. In total, the off-site disturbance footprint to facilitate construction is approximately 61.4 acres.

## 2.4 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 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 (collectively referred to as "pre-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 on 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 is required to provide Water Quality Certification for licenses or permits that authorize an activity that may result in a discharge from a point source into a water of the U.S. Water Quality Certification authorization "is limited to assuring that a discharge from a Federally licensed or permitted activity will comply with water quality requirements" (40 CFR 121.3).

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 Western Riverside 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 (RCHCA 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.

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

On February 24, 2022, RBC biologists surveyed the off-site improvements footprint and conducted vegetation mapping, a general biological survey, and habitat assessments for BUOW and other special-status wildlife species. On February 24 and May 26, 2022, RBC regulatory specialists conducted an assessment for the potential of the off-site improvements footprint to support MSHCP riparian/riverine resources as well as an aquatic resources delineation for 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 MSHCP and CEQA requirements.

The general biological survey, vegetation mapping, and habitat assessments were conducted within the 61.4-acre off-site improvements footprint and a surrounding 100-foot buffer (survey area). The assessment for MSHCP riparian/riverine resources and the formal aquatic resources delineation were conducted only within the 30.4 acres of off-site improvement areas that occur beyond the limits of the review area/project study area included in the 2019 JDR (i.e., the areas assessed in the 2022 JDR Addendum). The assessment for MSCHP riparian/riverine resources and the formal aquatic resources delineation within the remaining 31.0 acres of the off-site improvements footprint are based on the results of the 2019 JDR (Appendix C). The extent of the aquatic resources as detailed in the 2019 JDR review area/project study area are expected to be approximately the same based on a review of current aerials and the conditions observed during an October 2021 field survey.

Note that buffer areas are included in this analysis to assess the potential for special-status species or resources in areas immediately adjacent to the off-site improvements footprint that could be impacted by the project analyzed herein. Such information should not be considered comprehensive for all biological resources or aquatic resources that may occur in buffer areas, and buffer mapping is intended only for the project analysis outlined herein; such information is not intended for impact analysis of any potential future projects within or adjacent to project buffer areas. Additionally, portions of survey area, specifically portions of the 100-foot buffer, overlapped within the on-site portion of the project as analyzed within the On-site BR/MSHCP Consistency Report.

## 3.1 DATABASE SEARCH

Prior to conducting field surveys, existing information regarding biological and aquatic resources present or potentially present within the off-site improvements footprint was obtained through a review of pertinent literature and databases, including, but not limited to:

- CDFW California Natural Diversity Database (Figure 2a; CNDDB; CDFW 2022a)
- California Native Plant Society (CNPS) Electronic Inventory (CNPS 2022)
- USFWS Special-status Species Database (Figure 2b; USFWS 2022a)
- USFWS IPaC Database (USFWS 2022b)
- USFWS National Wetlands Inventory (NWI) Database (USFWS 2019)
- Natural Resources Conservation Service (NRCS) Soils Survey Database (NRCS 2019)
- USGS National Hydrography Dataset (NHD) (USGS 2022)

- *General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California* (Cadre 2019)
- On-site BR/MSHCP Consistency Report (RBC 2022)

The CNDDB and USFWS database queries were conducted for the off-site improvements footprint 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 off-site improvements footprint 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

On February 24, 2022, 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 off-site improvements footprint. RBC conducted vegetation mapping by walking throughout the off-site improvements footprint and mapping vegetation communities on aerial photographs at a 1:2400 scale (1 inch = 200 feet). Please note that the vegetation within the portions of survey area that overlap with the on-site portion of the project were also confirmed during the February 24, 2022 vegetation mapping (Figure 3).

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. 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 off-site improvements footprint 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 surveys of the off-site improvements footprint is presented in Appendix B; scientific and common names of wildlife follow CDFW's Special Animals List (CDFW 2022b).

RBC surveyed the off-site improvements footprint for habitat with the potential to support special-status plant and wildlife species. If observed during project surveys, the locations of 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.

## 3.3 SPECIAL-STATUS SPECIES SURVEYS

### Burrowing Owl Surveys

The RCA MSHCP Information Map revealed that the project site, including the off-site improvements footprint, is located within a MSHCP Burrowing Owl Survey Area (RCA 2022aa). Because updated survey results were required for the project, RBC assessed the entire project site, including the off-site improvements footprint, for suitable burrowing owl habitat on February 24, 2022. The habitat assessment was done in accordance with Step 1 as outlined in the Western Riverside MSHCP Burrowing Owl Survey Instructions (RCA 2005). Due to the presence of suitable habitat, RBC conducted protocol burrowing owl surveys during the breeding season (March 1 to August 31). RBC biologists conducted four surveys between April 1 and July 1, 2022 (Appendix E). Surveys were not conducted during rain, dense fog, or when high winds were greater than 20 miles per hour.

RBC biologists walked transects spaced 7-20 meters (20-60 feet) apart through suitable burrowing owl habitat within the project site, including the off-site improvements footprint, plus a 500-foot buffer. RBC biologists used binoculars (10x42) to scan the burrowing owl survey area for owls, active and potential burrows, and/or sign of owls. RBC examined all suitable burrows for sign, including feathers, pellets, excrement (e.g., scat and whitewash), and prey remains. RBC considered burrows to be active if a burrowing owl was observed at or near the entrance or if evidence of recent sign was present. Biologists documented all suitable burrows in ArcGIS Collector.

## 3.4 AQUATIC RESOURCES DELINEATION

As detailed previously within the On-site BR/MSHCP Consistency Report (RBC 2022) and the 2019 JDR (Appendix C), RBC conducted a formal aquatic resources delineation per the Corps guidelines on August 13, 2018 and April 26, 2019 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 2019 JDR review area included a previous version of the overall project site per the 2019 site plan with a 50-foot buffer, which included 31.0 acres of the current off-site improvements footprint, specifically portions that run along CA-74, Menifee Road, Mathews Road, and Briggs Road (Figure 4; Appendix C).

The overall project footprint has since expanded to include the off-site improvements footprint located along Menifee Road, CA-74, Mathews Road, and Briggs Road. To address the additional areas, RBC regulatory specialists Sarah Krejca and Kelsey Woldt conducted additional formal aquatic resources delineations on February 24 and May 26, 2022 for the remaining 30.4 acres of the off-site improvements footprint, which occur outside of the original review area/project study area included in the 2019 JDR.

Prior to the on-site delineation, field maps were created using GIS and a color aerial photograph at a 1 inch = 100 feel 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, wetland vegetation, and/or riparian vegetation within the review area for potential jurisdictional status, with focus on the presence of defined channels and/or wetland 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). Methods were consistent with the aquatic resources delineation survey methodology presented in the 2019 JDR (Appendix C); however, staff examined potential wetland waters of the State in accordance with *The State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (California State Water Resources Control Board [SWRCB] 2021), which went into effect in May 2020 and was revised in April 2021.

Complete methods are presented in the 2019 JDR (Appendix C) and the 2022 JDR Addendum (Appendix D).

# 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

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

## 4.2 VEGETATION COMMUNITIES AND LAND USES

The off-site improvements footprint supports seven 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. The survey area, defined as the off-site improvements footprint plus a surrounding 100-foot buffer, is predominantly comprised of disturbed habitat, developed, and active agriculture.

Table 1. Summary of Vegetation within the Survey Area

| Vegetation Community/Land Use | Survey Area (acres)[1] |
|---|---|
| Active Agriculture | 28.3 |
| Developed | 65.5 |
| Disturbed Habitat | 70.3 |
| Disturbed Habitat - Ephemeral Streambed | <0.1 |
| Mulefat Thicket | <0.1 |
| Non-native Grassland | 8.4 |
| Riversidean Sage Scrub | 5.4 |
| Total | 177.9 |

[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*

*Active Agriculture*

The survey area includes 28.3 acres of active agriculture. These areas have previously been used to cultivate barley (*Triticum* sp.), watermelon, and other species, and are routinely disked and plowed. Active agriculture occurs within the property boundary and within the areas north of Highway 74.

*Developed*

The survey area includes 65.5 acres of developed land, consisting of paved roads and surfaces, residential and commercial buildings, and other areas with regularly utilized by humans that are devoid of natural habitat.

*Disturbed Habitat*

The survey area includes 70.3 acres of disturbed habitat which includes lands that have been graded, cleared, or otherwise directly impacted by anthropogenic activity, and does not support native vegetation. Disturbed habitat within the survey area includes lands that are continuous with large parcels of disked land outside of the survey area previously used for agriculture, roadside margins dominated by non-native species, and dirt roads used to maintain the active agriculture land and other human activities (Figure 3). Vegetation within the disturbed habitat is dominated by 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. Disturbed habitat occurs throughout the survey area. Additionally, three Peruvian pepper trees (*Schinus molle*) 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 within the on-site portion of the project 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 2.4.

*Disturbed Habitat - Ephemeral Streambed*

The survey area includes <0.1 acre of disturbed habitat - ephemeral streambed. This vegetation community is a subtype of the disturbed habitat described above. Although this subtype generally does not differ in biological functionality, it is called out separately due to the incised topography from its surrounding landscape of disturbed habitat/active agriculture and the presence of an OHWM, indicating the ephemeral flow of water within this subtype of vegetation.

*Mulefat Thickets*

The mulefat (*Baccharis salicifolia*) thicket (<0.1 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 2022). The mulefat thicket on site is isolated from the ephemeral streambeds on site and is immediately surrounded by non-native grassland and disturbed habitat (Figure 3).

*Non-native Grassland*

The survey area includes 8.4 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 comprised primarily of ripgut brome and slender wild oat (Figure 3).

*Riversidean Sage Scrub*

The survey area includes 5.4 acres of Riversidean sage scrub, a sub-type of coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*). Riversidean 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, also known as Granite Hill, which includes the off-site improvements footprint (Figure 3) and is isolated from larger blocks of habitat within the project landscape. The Riversidean sage scrub within the survey area has been slightly degraded due to the increased amount of debris and presence of non-native grasses within the understory.

## 4.3 PLANTS AND WILDLIFE

Due to the majority of the off-site improvements footprint occurring within the existing right-of-way, sensitive plants and wildlife are not likely to occur within the off-site improvements footprint. Generally, wildlife activity is expected to be higher in the areas surrounding the off-site improvements footprint, i.e., the undeveloped tracts of open land that receive less indirect disturbance from the right-of-way. Granite Hill, in the southeastern portion of the project site/off-site improvements footprint, is the only area of native scrub habitat suitable for sensitive wildlife species (Figure 3).

The off-site improvements footprint supports a low diversity of vegetation communities and plant species. A total of 21 plant species (48 percent native, 52 percent non-native) were observed during project biological surveys (Appendix B). A total of 40 bird species, two reptile species, four mammal species, and three 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 special-status 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 2022b; USFWS 2022a)
- CDFW Species of Special Concern (CDFW 2022b)
- CDFW Fully Protected Species (CDFW 2022b)
- CDFW Watch List Species (CDFW 2022b)
- Listed as having a California Rare Plant Rank ([CRPR] List 1 or 2; formerly CNPS List, CNPS 2022)

### 4.3.1 NARROW ENDEMIC PLANT SPECIES

The project site, including the off-site improvements footprint, does not occur within a Narrow Endemic Plant Species Survey Area. No MSHCP narrow endemic plant species or associated suitable habitat were observed during the field survey conducted on February 24, 2022, and none are expected to occur within the off-site improvements footprint. No focused narrow endemic plant

species surveys were required, therefore, no focused surveys for narrow endemic plant species were conducted.

### 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 2022); or 3) considered rare, endangered, or threatened by the CDFW (CDFW 2022b) or other local conservation organizations or specialists. Special-status plants with the potential to occur within the off-site improvements footprint are assessed in Table 2. An assessment of the potential for special-status plant species to occur within the on-site portions of the overall Menifee Valley Project is included within Section 4 of the On-site BR/MSHCP Consistency Report (RBC 2022).

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 3.

Table 2. Assessment of Special-Status Plant Species Potential to Occur within the Off-site Improvements Footprint

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| California Orcutt grass (*Orcuttia californica*) | FE, SE, CRPR 1B.1 | Annual herb. Blooms Apr-Aug. Vernal Pools. Elev. 50-2,165 ft. | None. No suitable vernal pool habitat present within off-site improvements footprint. |
| Coulter's goldfields (*Lasthenia glabrata* ssp. *coulteri*) | CRPR 1B.1 | Annual herb. Blooms Feb-Jun. Alkali sink, coastal salt marshes and swamps, playas, vernal pools. Elev. 3-4,002 ft. | None. No suitable habitat present within off-site improvements footprint. |
| Long-spined spineflower (*Chorizanthe polygonoides* var. *longispina*) | 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 suitable habitat within off-site improvements footprint is highly disturbed. |
| Munz's onion (*Allium munzii*) | 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 | None. No suitable habitat present within off-site improvements footprint. |
| Parry's spineflower (*Chorizanthe parryi* var. *parryi*) | 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 suitable habitat within off-site improvements footprint is highly disturbed |

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| Smooth tarplant (*Centromadia pungens* ssp. *laevis*) | 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 suitable habitat within off-site improvements footprint is minimal. |
| Spreading navarretia (*Navarretia fossalis*) | 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. | **None.** No vernal pool habitat present within off-site improvements footprint. |
| Thread-leaved brodiaea (*Brodiaea filifolia*) | 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. | **None.** No suitable habitat present within off-site improvements footprint. |
| CRPR: California Rare Plant Rank<br>FE: Federally Endangered<br>FT: Federally Threatened<br>SE: State Endangered<br>ST: State Threatened | | | |

Table 3. 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) |

#### 4.3.2.1 Threatened and Endangered Plant Species

No federally or state-listed threatened or endangered plants were observed during surveys of the off-site improvements footprint. The CNDDB and USFWS database results identified one federally and state-listed plant species, Munz's onion (*Allium munzii*; federally endangered [FE], state

threatened [ST], CRPR 1B.1) within one mile of the off-site improvements footprint. The CNPS database search listed three additional federally or state listed plant species within the USGS 7.5' Romoland quadrangle (CNPS 2022). No federally or state-listed threatened or endangered plants have a moderate or high potential to occur based on the disturbed nature of the off-site improvements footprint and lack of suitable habitats.

#### 4.3.2.2 Other Special-Status Plant Species

No other special-status plant species were observed during surveys of the off-site improvements footprint. The CNDDB results do not identify any non-federally/state-listed special-status plant species within or immediately adjacent to the off-site improvements footprint and there are no historical occurrences of non-federally/state listed special-status plant species within one mile. The CNPS database search listed four additional special-status plant species with a CRPR of 1 or 2 within the USGS 7.5' Romoland quadrangle. No non-federally/state-listed special-status plant species have a moderate or high potential to occur within the off-site improvements footprint based on the disturbed nature of the site and lack of suitable habitats (Table 2).

### 4.3.3 SPECIAL-STATUS WILDLIFE SPECIES

No federally or state-listed wildlife species been documented during surveys of the off-site improvements footprint conducted since 2016 (RBC 2022). However, 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 2022a). 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 off-site improvements footprint (Figure 2a-b).

Additionally, six California Species of Special Concern (SSC) including western spadefoot (*Spea hammondii*), 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 off-site improvements footprint (Table 4, Figure 2a-b). California horned lark (*Eremophila alpestris actia*; CDFW Watch List [WL]), northern harrier (*Circus hudsonius*; SSC), southern California rufous-crowned sparrow *(Aimophila ruficeps canescens;* CDFW WL) and yellow warbler (*Setophaga petechia*; SSC) have been observed during burrowing owl surveys of the overall project site which included the off-site improvements footprint (Appendix E). No other non-listed special status species were observed during project surveys.

An assessment of the potential for special-status wildlife to occur within the off-site improvements footprint is provided in Table 4. An assessment of the potential for special-status wildlife to occur within the on-site portions of the project is included within Section 4 of the On-site BR/MSHCP Consistency Report (RBC 2022).

Table 4. Assessment of Special-Status Wildlife Species Potential to Occur within the Off-site Improvements Footprint

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| REPTILES | | | |
| Western spadefoot (*Spea hammondii*) | 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. | None. Slow flowing ephemeral feature on adjacent on-site portion of project site is disturbed and active disking and agriculture prevents suitable soils for burrowing. |
| BIRDS | | | |
| Burrowing owl (*Athene cunicularia*) | SSC (at burrowing sites & some wintering sites) | Found in grasslands and open scrub from the coast to foothills. Strongly associated with California ground squirrel (*Otospermophilus beecheyi*) and other fossorial mammal burrows. | Low. Focused surveys in 2022 were negative (Appendix E). However, suitable burrows and California ground squirrels are present on adjacent on-site portion of project site. |
| California horned lark (*Eremophila alpestris actia*) | WL | Found from coastal deserts and grasslands to alpine dwarf-shrub habitat above treeline. Also seen in coniferous or chaparral habitats. | High. Suitable habitat for this species occurs adjacent to the off-site improvements footprint within the on-site portion of the project. This species was documented during 2022 burrowing owl surveys (Appendix E). |
| Coastal California gnatcatcher (*Polioptila californica californica*) | 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. This species was documented within adjacent on-site portion of project in 2012 (USFWS 2022a). However, suitable habitat within adjacent on-site portion of project is slightly degraded and isolated. |
| Cooper's hawk (*Accipiter cooperii*) | WL (when nesting) | Usually in oak woodlands but occasionally in willow or eucalyptus woodlands. | High. This species has been documented flying over the site during surveys of the on-site portion of the project site in 2021 (RBC 2022). However, suitable nesting habitat is not present within on-site or off-site portions of the project site. |

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| Loggerhead shrike (*Lanius ludovicianus*) | SSC (when nesting) | Found within grassland, chaparral, desert, and desert edge scrub, particularly near dense vegetation used for nesting. | **Low.** Suitable foraging habitat is present within adjacent on-site portion of project site, but dense nesting habitat is not present. |
| Least Bell's vireo (*Vireo bellii pusillus*) | 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. | **None.** Suitable riparian habitat is not present in either off-site improvements footprint or adjacent on-site portion of project site. |
| Northern harrier (*Circus hudsonius*) | SSC | Grasslands and marshes. Nests are on the ground and typically concealed within a marsh or other dense, low-growing vegetation. | **High.** Suitable foraging habitat for this species occurs within the areas surrounding the off-site improvements footprint and within the on-site portions of the project. This species was documented flying over the site during 2022 burrowing owl surveys of the overall project site (Appendix E). |
| Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*) | WL | Rocky grassland and patchy shrub habitats, often including areas with disturbance from fire, trash, soil compaction and non-native vegetation. | **High.** Suitable habitat for this species occurs within/around the Riversidean sage scrub of the off-site improvements footprint. This species was documented during 2022 burrowing owl surveys (Appendix E). |
| Southwestern willow flycatcher (*Empidonax traillii extimus*) | FE, SE (when nesting) | Forage and breed in thick riparian areas with willows near standing or running water. | **None.** Suitable riparian habitat is not present. |
| Western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) | FT, SE (when nesting) | Forage and breed in thick riparian areas with willows near standing or running water. | **None.** Suitable riparian habitat is not present. |

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| Yellow warbler (*Setophaga petechia*) | SSC (when nesting) | Mature riparian woodlands. | Low. Although this species was documented within the areas surrounding the project site during 2022 burrowing owl surveys (Appendix E), it was likely passing through the area to suitable foraging/nesting grounds in the vicinity of the project area. Suitable mature riparian habitat is absent from the overall Menifee Valley Project/off-site improvements footprint. |
| MAMMALS | | | |
| Dulzura pocket mouse (*Chaetodipus californicus femoralis*) | SSC | In its southern range, found at border zones between grassland and chaparral habitats. | None. No suitable habitat present. |
| Los Angeles pocket mouse (*Perognathus longimembris brevinasus*) | SSC | Found in low elevation grassland, alluvial sage scrub, and coastal sage scrub. | Low. Suitable habitat within off-site improvements footprint is degraded and isolated. |
| San Bernardino kangaroo rat (*Dipodomys merriami parvus*) | FE, CSE, SSC | Primarily found in alluvial scrub and floodplain habitats containing sandy loam substrate and open vegetative cover. | None. Suitable alluvial fan sage scrub habitat not present. |
| Southern California grasshopper mouse (*Onychomys torridus ramona*) | 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. | None. Suitable desert scrub habitats not present. |
| Stephens' kangaroo rat (*Dipodomys stephensi*) | 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. Repeated disking of the project site would likely preclude this species from occurring within/around the off-site improvements footprint. The Riversidean sage scrub within Granite Hill does not occur on suitable topography for the species. |

CSE: Candidate Endangered Species under the California Endangered Species Act
FE: Federally Endangered

| Species | Status | Habitat Description | Potential to Occur |
|---|---|---|---|
| FT: Federally Threatened<br>SE: State Endangered<br>ST: State Threatened<br>SSC: CDFW Species of Special Concern<br>WL: CDFW Watch List Species | | | |

#### 4.3.3.1 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.

Historical records show this species was documented within the Riversidean sage scrub habitat within/around the southeast portion of the off-site improvements footprint during a 2012 survey (USFWS 2022a). The species was not documented during biological surveys conducted by either Cadre or RBC between 2016 and 2022, which included the areas in proximity to the off-site improvements footprint. The Riversidean sage scrub habitat within the off-site improvements footprint 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 off-site improvements footprint and the lack of incidental observations on the adjacent on-site portions of project site over the last six years, contribute to the moderate potential for coastal California gnatcatcher to occur and nest within the off-site improvements footprint.

*Stephens' Kangaroo Rat*

Stephens' kangaroo rat is federally listed as endangered and state-listed as threatened; its federal status was down-listed from endangered to threatened effective on March 21, 2022 (USFWS 2022c). 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 off-site improvements footprint (CDFW 2022a; Figure 2a-b). A majority of the off-site improvements footprint occurs along the existing right-of-way, which is extremely unlikely to support this species. Additionally, due to the highly disturbed nature (disked soil) of the surrounding areas (i.e., the open undeveloped tract of land containing the overall Menifee Valley Project), the probability of an extant, SKR population occurring within the surrounding areas is not as high as it might have been historically. Additionally, the Riversidean sage scrub within the southeast portion of the off-site improvements footprint is located on a rocky hillside and has a dense cover of non-native grasses unsuitable for this species. Therefore, this species has a very low potential to occur on site.

#### 4.3.3.2 Wildlife Species of Special Concern & Watch List Species

*Burrowing Owl*

Focused burrowing owl surveys of the on-site portion of the project only were conducted in 2016 and 2018 in accordance with the Western Riverside MSHCP Burrowing Owl Survey Instructions; survey results for BUOW were negative (RBC 2022; Cadre 2019). Recent surveys of the project site (including both off-site and on-site portions of the project), as described in Section 3.3, were also conducted from April 1 to July 1, 2022, which also yielded negative results (Appendix E). However, due to the presence of suitable habitat, this species still has a low potential to occur within the project site and surrounding areas, including the off-site improvements footprint.

*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 within the on-site portion of the project during burrowing owl surveys conducted in 2022 (Appendix E). This species has a high potential to occur within the off-site improvements footprint due to its presence within the adjacent on-site portion of the overall Menifee Valley project.

*Cooper's Hawk*

Cooper's hawk is a CDFW watch list species when nesting. Cooper's hawk breeds throughout the Unites 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 lines 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 chance in pesticide chemicals used after the 1970's (Terres 1980).

An individual Cooper's hawk was observed during a 2021 survey of the project site; the individual was observed along Biscayne Road well outside of the off-site improvements footprint (RBC 2022). While this species may use the project site, including the off-site improvements footprint, as a foraging ground, due to the absence of suitable nesting habitat, Cooper's hawk is not anticipated to nest within the project site, including the off-site improvements footprint.

*Northern Harrier*

Northern harrier is an SSC when nesting. It breeds from sea level to 5,700 feet amsl in California's central valley. Typical habitats include meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. They are found in flat, open areas with tall dense grasses, shrubs, and edges used for nesting, cover, and foraging. Their nests are placed on the ground, usually at a marsh edge (Brown and Amadon 1968). While they usually nest in emergent wetlands or along rivers or lakes, they can nest in grasslands, grainfields, and sagebrush flats several miles from water; however, their home range usually includes fresh water (Zeiner et al. 1988-1990).

Populations of northern harrier, including breeding populations in southern California, have been in decline since the mid-1900s (Grinnell and Miller 1944, Remsen 1978). Major threats include destruction of wetland habitat, native grassland, and moist meadows, and burning and plowing of nesting areas during the beginning for breeding season.

One individual northern harrier was observed incidentally flying over the on-site portion of the project site during 2022 burrowing owl surveys (Appendix E). Although this species was observed outside of the off-site improvements footprint, this species has a high potential to occur within and around the on-site portion of the project.

*Southern California Rufous-Crowned Sparrow*

Southern California rufous-crowned sparrow is a CDFW Watch List species found on dry, open hillsides covered with grasses, rocks, and scattered shrubs. Southern California rufous-crowned sparrows occur from sea level to approximately 10,000 feet elevation and tend to be found more often in areas that have burned within the last 15 years.

This species tends to hop along the ground to forage for a variety of insects as well as wild oats and parts of other herbaceous plants. Southern California rufous-crowned sparrow usually nest in small ground depressions near the base of a shrub. Nests are well concealed under grass, leaves, or rocks.

These sparrows depend on a specific set of habitat requirements, which renders them vulnerable to habitat degradation and fragmentation. Suppression of natural wildfires has allowed their open scrub habitat to grow into dense stands that are unsuitable for this species.

Southern California rufous-crowned sparrow has been documented foraging in the proximity of the southeastern portion of the off-site improvements footprint during burrowing owl surveys of the project site (Appendix E). This species has a high potential to occur within the off-site improvements footprint.

## 4.4 JURISDICTIONAL AQUATIC RESOURCES

The jurisdictional aquatic resources within the on-site portion of the overall project are discussed within the On-site BR/MSHCP Consistency Report (RBC 2022). This Off-site BR/MSHCP Consistency Report focuses only on potentially jurisdictional features within the entire 61.4-acre off-site improvements footprint to avoid overlapping analysis of potentially jurisdictional features already described for the on-site portion of the overall project in the On-site BR/MSHCP Consistency Report (RBC 2022). As detailed in Section 3, 31.0 acres of the off-site improvements footprint were delineated as part of the 2019 JDR review area/project study area (Appendix C) and the remaining 30.4 acres were delineated as part of the 2022 JDR Addendum review area (Appendix D). Figure 4 displays the on-site portion of the project site that was addressed in the On-site BR/MSHCP Consistency Report.

Per the formal aquatic resources delineations RBC conducted in 2018, 2019, and 2022, all observed aquatic resources within the overall project site, including the off-site improvements footprint, are not Corps-jurisdictional under the Corps' current definition of "waters of the U.S." (i.e., pre-2015 regulations and guidance). Note that the Corps issued an Approved Jurisdictional Determination (AJD) in October 2019 confirming that none of the features within the 2019 JDR

review area, which included the on-site portion of the project and portions of the off-site improvements footprint, are Corps-jurisdictional under the 2015 Clean Water Rule (33 CFR 328.3 [as amended at 80 FR 37104, June 29, 2015]), which was the regulatory framework in effect at the time. The Corps also provided written confirmation that no Corps permitting would be required for the project per the 2019 site plan. Although the definition of "waters of the U.S." has changed since the Corps issued the 2019 AJD, the AJD should remain 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 defines "waters of the U.S." per the Corps.

Please note that RBC will also provide the applicable jurisdictional determination request forms to the Corps to confirm no jurisdictional waters of the U.S. occur within the remainder of the off-site improvements footprint per the 2022 JDR Addendum via the AJD process.

RWQCB- and CDFW-jurisdictional resources occur within the off-site improvements footprint. The off-site improvements footprint supports approximately 0.23 acre (1,463 linear feet) of potential non-wetland waters of the State jurisdictional by the RWQCB (Table 5; Figure 4) and approximately 0.08 acre (596 linear feet) of unvegetated streambed and 0.25 acre (867 linear feet) of vegetated streambed jurisdictional by CDFW (Table 6; Figure 4).

Table 5. Aquatic Resources Summary: RWQCB

| Feature Name | Presence of OHWM/Wetland | Dominant Vegetation Community | Location (Latitude, Longitude) | Acreage | Linear Feet |
|---|---|---|---|---|---|
| Feature 1[1] | Yes/No | Disturbed Habitat | 33.743307, -117.142699 | 0.04 | 132 |
| Feature 3 | Yes/No | Disturbed Habitat | 33.743345, -117.137214 | 0.05 | 410 |
| Feature 3A | Yes/No | Disturbed Habitat | 33.743473, -117.136627 | 0.01 | 50 |
| Feature 4 | Yes/No | Disturbed Habitat | 33.743260, -117.155016 | 0.11 | 773 |
| Feature 4A | Yes/No | Disturbed Habitat | 33.743381, -117.154200 | 0.01 | 97 |
| **Total[2]** | | | | **0.23** | **1,463** |

*[1] Please note that 0.02 acre (80 linear feet) of Feature 1 was delineated per the 2019 JDR And 0.02 acre (53 linear feet) of Feature 1 was delineated per the 2022 JDR Addendum.*
*[2] Acreages and linear feet totals were 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.*

Table 6. Aquatic Resources Summary: CDFW

| Aquatic Resource Name | Aquatic Resource Type | Vegetation Community | Location (Latitude, Longitude) | Acre(s) | Linear Feet |
|---|---|---|---|---|---|
| Feature 1[1] | Vegetated Streambed | Disturbed Habitat | 33.743312, -117.142729 | 0.03 | 53 |
| | | Disturbed Habitat – Ephemeral Streambed | 33.743014, -117.142832 | 0.02 | 80 |
| Feature 3 | Vegetated Streambed | Disturbed Habitat | 33.743343, -117.137189 | 0.10 | 410 |
| Feature 3A | Vegetated Streambed | Disturbed Habitat | 33.743477, -117.136628 | 0.02 | 50 |
| Feature 4 | Unvegetated Streambed | Developed (Concrete-Lined) | 33.743279, -117.153913 | <0.01 | 596 |
| | | Disturbed Habitat | 33.743255, -117.155414 | 0.08 | |
| | Vegetated Streambed | Disturbed Habitat | 33.743269, -117.154173 | 0.06 | 177 |
| Feature 4A | Vegetated Streambed | Disturbed Habitat | 33.743379, -117.154201 | 0.01 | 97 |
| **Total[2]** | | | | **0.32** | **1,463** |

*[1] Please note that 0.02 acre (80 linear feet) of Feature 1 was delineated per the 2019 JDR and 0.03 acre (53 linear feet )of Feature 1 was delineated per the 2022 JDR Addendum.*

*[2] Acreages and linear feet totals were 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.*

Based on the formal aquatic resources delineations RBC conducted 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 off-site improvements footprint also supports two upland ditches, Ditch 1 and Ditch 3, that are not jurisdictional by the Corps, RWQCB, or CDFW. Additionally, the October 2019 AJD concluded that Ditch 1 and Ditch 3 are not jurisdictional by the Corps. 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 (Figure 4).

Based on the formal aquatic resources delineations RBC conducted in 2022, the off-site improvements footprint also supports two additional upland ditches (Ditch 4 and Ditch 5; Figure 4), as well as five swales (Swale 1 through Swale 5; Figure 4) that are not anticipated to be jurisdictional by the Corps, RWQCB, or CDFW (Appendix D). Specifically, Ditch 4 and Ditch 5 appear to be man-made ditches excavated wholly in and draining only uplands for runoff conveyance purposes that do not convey flows downstream via observed flow patterns, culverts, or other flow paths and thus do not provide/have no impact on downstream beneficial uses and/or aquatic resource functions. Additionally, Swale 1 through Swale 5 did not display an observable OHWM, bed and bank, or other evidence of conveying regular flows on site and thus do not provide/have no impact on downstream beneficial uses and/or aquatic resource functions.

Complete results of the formal aquatic resources delineations conducted in 2018 and 2019 are presented under separate cover in the 2019 JDR (Appendix C). Complete results of the formal aquatic resources delineations conducted in 2022 are presented under separate cover in the 2022 JDR Addendum (Appendix D).

## 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 off-site improvements footprint is located along the existing right-of-way of CA-74, Menifee Road, Briggs Road, and Matthews Road. The off-site improvements footprint 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). Open space in the form of Double Butte Mountain occurs farther east from the off-site improvements footprint, but the off-site improvements footprint does not interfere with any regional movement corridors between Double Butte Mountain and other areas of native open space habitats. The off-site improvements footprint 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 the off-site improvements footprint, as tree removal from the right-of-way is not anticipated for the off-site improvements footprint. 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 off-site improvements footprint is within the Western Riverside MSHCP Plan Area. The project's consistency with the MSHCP is discussed in Section 7 of this report. The off-site improvements footprint 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. As noted in Section 2, the project survey area included a 100-foot buffer to identify nearby biological resources and to aid in assessment of potential indirect impacts on protected resources, if present.

**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 development of the off-site improvements footprint will predominantly result in permanent impacts on land-cover types including developed, disturbed habitat, and active agriculture. The off-site improvements footprint will also impact Riversidean sage scrub, non-native grassland, and mulefat thickets in smaller acreages. Although disturbed habitat – ephemeral streambed occurs within the off-site improvements footprint survey area, it does not occur within the off-site improvements footprint impact footprint and is excluded from the calculations below. Disturbed habitat – ephemeral streambed does occur within the on-site portion of the project and will be impacted as a result of the development of the on-site portion of the project site (RBC 2022).

Table 5. Vegetation Communities/Land Use Impacts on the Off-site Improvements Footprint

| Vegetation Community/Land Use | Off-site Improvements Footprint Impacts (acres) |
|---|---|
| Active Agriculture | 0.5 |
| Developed | 29.0 |
| Disturbed | 27.5 |
| Mulefat Thicket | <0.1 |
| Non-native Grassland | 1.0 |
| Riversidean Sage Scrub | 1.9 |
| Total[1] | 61.4 |

[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 only minor impacts on native vegetation communities will occur with implementation of the off-site improvements footprint, such impacts must 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 off-site improvements footprint will not impact federally and/or state listed or MSHCP Narrow Endemic Plant species as none have potential to occur within the off-site improvements footprint.

## 5.3 IMPACTS ON NON-LISTED SPECIAL-STATUS PLANT SPECIES

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

## 5.4 IMPACTS ON SPECIAL-STATUS ANIMALS

The federally listed threatened coastal California gnatcatcher was documented within/near the project site in 2012 (USFWS 2022a). However, coastal California gnatcatcher was not documented

during any biological surveys, which were not protocol coastal California gnatcatcher surveys, conducted in 2016, 2018, 2019, 2021, or 2022. Although no protocol surveys for the coastal California gnatcatcher were conducted on the off-site improvements footprint, the species is considered adequately covered by the MSHCP. Additionally, CDFW special-status species and MSHCP covered species California horned lark, southern California rufous-crowned sparrow, Cooper's hawk, northern harrier, and yellow warbler have also been documented in the vicinity of the off-site improvements footprint during surveys of the on-site portion of the project.

The development of the off-site improvements footprint 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, coastal California gnatcatcher, northern harrier, and southern California rufous-crowned sparrow (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 on nesting birds, including coastal California gnatcatcher, California horned lark, northern harrier, and southern California rufous-crowned sparrow are also anticipated to be less than significant with the implementation of pre-construction surveys as detailed in Section 5.5 and MM2.

Implementation of the off-site improvements footprint is not expected to impact yellow warbler. Although this species was documented within the areas surrounding the off-site improvements footprint during 2022 burrowing owl surveys (Appendix E), it was likely passing through the area to suitable foraging/nesting grounds in the vicinity of project area. Suitable mature riparian habitat for yellow warbler is absent from the overall off-site improvements footprint and the adjacent on-site portion of the project.

The off-site improvements footprint 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 6.3), impacts on BUOW would be less than significant.

Although there is very low potential for SKR to occur within the off-site improvements footprint, the off-site improvements footprint 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 off-site improvements footprint has the potential to impact active bird nests if vegetation is removed or ground disturbing activities are initiated during the nesting season. The disturbed habitat and non-native grassland within the off-site improvements footprint and in the buffer areas, both vegetated and unvegetated, have the potential to support ground nesting avian species. Additionally, the scrub habitat within and surrounding the southeast corner of the off-site

improvements footprint contains suitable nesting habitat. Impacts on nesting birds are prohibited by the MBTA and CFGC. A project-specific measure (MM2) that will avoid project impacts on nesting birds is identified in Section 6.2 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 JDR (Appendix C) and the 2022 JDR Addendum (Appendix D), RBC expects that the off-site improvements footprint would permanently impact approximately 0.23 acre (1,463 linear feet) of potential non-wetland waters of the State jurisdictional by the RWQCB (Table 7; Figure 4); and approximately 0.25 acre (867 linear feet) of vegetated streambed and 0.08 acre (596 linear feet) of unvegetated streambed jurisdictional by the CDFW (Table 8; Figure 4).

Permitting through the RWQCB and the CDFW would be required for impacts on non-wetland waters of the State jurisdictional by the RWQCB and streambed 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 an AJD in October 2019 confirming that none of the features delineated within the 2019 JDR review area are Corps-jurisdictional resources, along with written confirmation that no Corps permitting will be required for impacts on features within the 2019 JDR review area. RBC will provide the applicable jurisdictional determination request forms to the Corps to confirm no jurisdictional waters of the U.S. occur within the remainder of the off-site improvements footprint per the 2022 JDR Addendum via the AJD process.

Table 7. Potential RWQCB Aquatic Resource Impacts

| Aquatic Resource Name | Off-site Improvements Footprint Impacts (acres) | Off-site Improvements Footprint Impacts (linear feet) |
|---|---|---|
| Feature 1 | 0.04 | 132 |
| Feature 3 | 0.05 | 410 |
| Feature 3A | 0.01 | 50 |
| Feature 4 | 0.11 | 773 |
| Feature 4A | 0.01 | 97 |
| Total[1] | 0.23 | 1,463 |

[1] *Acreages and linear feet totals were 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.*

Table 8. Potential CDFW Aquatic Resource Impacts

| Aquatic Resource Name | Aquatic Resource Type | Off-site Improvements Footprint Impacts (acres) | Off-site Improvements Footprint Impacts (linear feet) |
|---|---|---|---|
| Feature 1 | Vegetated Streambed | 0.05 | 132 |
| Feature 3 | Vegetated Streambed | 0.10 | 410 |
| Feature 3A | Vegetated Streambed | 0.02 | 50 |
| Feature 4 | Unvegetated Streambed | 0.08 | 596 |
| | Vegetated Streambed | 0.06 | 177 |
| Feature 4A | Vegetated Streambed | 0.01 | 97 |
| | Total[1] | 0.32 | 1,463 |

[1] *Acreages and linear feet totals were summed using raw numbers provided during GIS analysis (available upon request) and thus the sum of the total rounded numbers may not directly add up in this table.*

## 5.7 IMPACTS ON WILDLIFE MOVEMENT AND CORRIDORS

The off-site improvements footprint does not serve as part of a regional wildlife corridor. As such, the project would not result in impacts on 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 off-site improvements footprint would not result in impacts to local policies and ordinances.

## 5.9 IMPACTS ON HABITAT CONSERVATION PLANS/NATURAL COMMUNITIES CONSERVATION PLANS

The off-site improvements footprint is located within the Western Riverside MSHCP Plan Area. Determinations of consistency with the MSHCP are discussed in Section 7. Additionally, the off-site improvements footprint 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.

Regular disturbance from agricultural operations occurs within adjacent on-site portion of the project site. Portions of Riversidean sage scrub and non-native grassland, located adjacent to the southeast corner of the off-site improvements footprint, may be subject to indirect impacts resulting from the development of the off-site improvements footprint. However, this habitat is already subject to indirect impacts resulting from the current agricultural land use of the project site and ongoing construction of the adjacent tract to the east. Indirect impacts on adjacent habitat in the southeast corner of the off-site improvements footprint will not differ significantly as a result of the development of the off-site improvements footprint. 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 off-site improvements footprint so that impacts on nesting birds would be avoided. Therefore, indirect impacts would be less than significant.

Volume I, Section 6.1.4 of the MSHCP (Urban/Wildland Interface Guidelines) identifies guidelines 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 off-site improvements footprint is not located in proximity to any portions of the MSHCP Conservation Area (Figure 6).

Implementation of the off-site improvements footprint, may impact on-site aquatic resources, which could affect downstream water and habitat quality within portions of the MSHCP Conservation Area. As such, indirect impacts on downstream aquatic resources and the MSHCP Conservation Area must be assessed, and if expected to occur, must be avoided and minimized. As discussed in Appendix C and confirmed by the Corps per the AJD issued in October 2019, all on-site aquatic resources included within the 2019 JDR drain into “Line A,” which is a storm drain system that 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 then continuing west/northwest before eventually terminating into a spreading channel/basin south of the confluence of the San Jacinto River (Appendix C). As such, “Line A” and the on-site aquatic resources do not directly connect to the San Jacinto River or any portions of the MSHCP Conservation Area shown in Figure 6.

Likewise, the remaining on-site aquatic resources within the off-site improvements footprint (included within the 2022 JDR Addendum review area) also drain into “Line A” and lack connectivity to the San Jacinto River or any portions of the MSHCP Conservation Area shown in Figure 6. Therefore, indirect impacts on downstream water and habitat quality within the MSHCP Conservation Area are not anticipated and the development of the off-site improvements footprint is not subject to the MSHCP Urban/Wildland Interface Guidelines. As such, the development of the off-site improvements footprint will not result in significant indirect effects on biological resources.

## 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 within the off-site improvements footprint, adjacent development, and the lack of sensitive biological resources, the development of the off-site improvements footprint 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 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 development of the off-site improvements footprint 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 off-site improvements footprint will require payment of MSHCP 'Local Development Mitigation Fees.' Based on the local development mitigation fee schedule for fiscal year 2023 (effective July 1, 2022 – June 30, 2023), fees for residential density less than 8.0 dwelling units per acre would be $3,947 per dwelling unit and fees for commercial and/or industrial development would be $17,764 per acre (Western Riverside County RCA 2022). 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 off-site improvements footprint has the potential to support nesting birds, including the federally threatened coastal California gnatcatcher and CDFW special-status species such as California horned lark, Cooper's hawk, northern harrier, and southern California rufous-crowned sparrow. To avoid impacts on nesting birds, the following measure is recommended:

MM2 – To ensure compliance with California Fish and Game Code sections 3503, 3503.5, and 3513 and to avoid potential impacts to nesting birds, vegetation clearing, and ground-disturbing activities shall be conducted outside of the bird nesting season (generally February through August). If avoidance of the nesting season is not feasible, then a qualified biologist will conduct a nesting bird survey within three days prior to any disturbance of the site, including but not limited to vegetation clearing, disking, demolition activities, and grading. If active nests are identified, the biologist shall establish suitable buffers around the nests depending on the level of activity within the buffer and species observed, and the buffer areas shall be avoided until the nests are no longer occupied, and the juvenile birds can survive independently from the nests. During construction activities, the qualified biologist shall continue biological monitoring activities at a frequency recommended by the qualified biologist using their best professional judgment. If nesting birds are documented, avoidance and minimization measures may be adjusted, and construction activities stopped or redirected by the qualified biologist using their best professional judgement to avoid Take of nesting birds.

## 6.3 BURROWING OWL

The off-site improvements footprint is within the MSHCP Survey Area for BUOW. Consistent with MSHCP Objective 5 for BUOW, focused breeding season surveys for BUOW were conducted for the project site, including the off-site improvements footprint, per Western Riverside MSHCP Burrowing Owl Survey Instructions. As noted above, BUOW or BUOW sign have not been observed during focused surveys of the project during 2016 and 2018 surveys (RBC 2022; Cadre 2019) nor during the most recent surveys conducted in 2022 that covered both the on-site portions of the project and the off-site improvements footprint (Appendix E). However, California ground squirrels are active within the project site, including the off-site improvements footprint, and suitable

burrows and refugia occur within both the on-site and off-site portions of the project site and surrounding areas.

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 off-site improvements footprint due to regular disking and the disturbed nature of the project site and surrounding areas; however, the project site, including the off-site improvements footprint 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 development of the off-site improvements footprint would permanently impact approximately 0.23 acre (1,463 linear feet) of potential non-wetland waters of the State jurisdictional by the RWQCB and approximately 0.32 acre (1,463 linear feet) of streambed jurisdictional by the CDFW (Table 7; Table 8; Figure 5). All observed aquatic resources within the off-site improvements footprint are not Corps-jurisdictional under the Corps' current definition of "waters of the U.S."

Assuming Corps concurrence that no jurisdictional waters of the U.S. occur within the off-site improvements footprint, impacts on RWQCB- and CDFW-jurisdictional aquatic resources would require Waste Discharge Requirements from the RWQCB and a Streambed Alteration Agreement from the CDFW. If instead, the Corps determines that jurisdictional waters of the U.S. occur within the off-site improvements footprint, impacts on Corps-, RWQCB-, and CDFW-jurisdictional aquatic resources would require Section 404 authorization from the Corps, a Section 401 Water Quality Certification 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 jurisdictional

aquatic resources. Additionally, the applicable jurisdictional determination (AJD) request forms shall be submitted to the Corps to confirm no jurisdictional waters of the U.S. occur within the off-site improvements footprint via the AJD process. Should the Corps not agree with the findings of the AJD request and determine that jurisdictional waters of the U.S. occur within the off-site improvements footprint (i.e., the Corps does not issue an AJD confirming that none of the features are Corps-jurisdictional resources), applicable permits shall be obtained through the Corps for impacts on jurisdictional aquatic resources. The Applicant shall implement/comply with all permit conditions and mitigation measures required by the resource agencies.

The proposed compensatory mitigation strategy is the purchase of rehabilitation credits at a 1.5:1 mitigation ratio (0.35 acre RWQCB/0.48 acre CDFW/0.35 acre Corps, if the Corps does not issue an AJD) 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 regarding compensatory mitigation requirements during the permit evaluation process.

# 7 MSHCP Consistency Analysis

The purpose of this section is to provide an analysis of the off-site improvements footprint's compliance with biological aspects of the Western Riverside County MSHCP. Specifically, this analysis evaluates the off-site improvements footprint'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 off-site improvements footprint is not located within the MSHCP Criteria Area (Figure 6). As such, the off-site improvements footprint is not targeted for conservation by the MSHCP to meet Reserve Assembly goals and the development of the off-site improvements footprint is not subject to the HANS or JPR processes. The off-site improvements footprint 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" (RCA 2003). 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" (RCA 2003).

Based on the formal aquatic resources delineations conducted by RBC in 2018, 2019, and 2022, the off-site improvements footprint contains approximately 0.32 acre (1,463 linear feet) of MSHCP riparian/riverine areas associated with Features 1, 3, 3A, 4, and 4A, all of which would be impacted by development of the off-site improvements footprint (Figure 7).

RBC prepared and submitted a DBESP memo on August 8, 2019 on behalf of Brookfield Residential, as a justification for a waiver of the requirement for a DBESP report. The memo addressed project impacts on potential MSHCP riparian/riverine areas per the 2019 site plan of the overall Menifee Valley Project and initial pre-application coordination with the agencies (RBC 2019). Based on initial comments that the CDFW and USWFS provided in August 2019, and additional

coordination between RBC, CDFW, and USFWS, RBC expected that the CDFW and USFWS would approve the DBESP memo; however, the official process to receive such approval was never formally initiated since Brookfield Residential directed RBC to cease all work on the project on March 17, 2020. The DBESP memo has since been updated to reflect the comments provided by the CDFW and the USFWS in August 2019 as well as the updated site plan, which includes the current on-site portions of the Menifee Valley Project as well as the off-site improvements footprint. The project would be consistent with MSHCP requirements regarding impacts on riparian/riverine resources once the resource agencies approve the DBESP memo and the proposed mitigation approach is implemented.

### 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" (RCA 2003).

The off-site improvements footprint 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. Two heavily disturbed basins with the potential to support the common versatile fairy shrimp (*Branchinecta lindahli*) were identified along the southern boundary of the overall project; however, these depressions were not observed during a survey conducted in October 2021 (RBC 2022). The locations of the previously-mapped basins are mapped as "Basin/Depression" and "Mulefat Scrub" from Figure 2 of *General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California* (Cadre 2019). No features capable of supporting MSHCP fairy shrimp species including Santa Rosa Plateau fairy shrimp, Riverside fairy shrimp, or vernal pool fairy shrimp were documented within the off-site improvements footprint.

### 7.2.3 RIPARIAN BIRDS

Based on an initial database review, no riparian birds have historical occurrences within one mile of the off-site improvements footprint (Figure 2a-b). The off-site improvements footprint was assessed for its potential to support riparian bird species including least Bell's vireo, southwestern willow flycatcher, and western yellow-billed cuckoo. No riparian bird species have reasonable potential to occur within the off-site improvements footprint 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 off-site improvements footprint is not located within a Narrow Endemic Plant Species Survey Area (Figure 6). No narrow endemic plant species were documented within the off-site improvements footprint and the off-site improvements footprint does not contain suitable habitat for these species. As such, the development of the off-site improvements footprint 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 off-site improvements footprint 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 6.3 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 off-site improvements footprint does not fall within a mapped survey area for Criteria Area plant species (Figure 6). and no surveys for Criteria Area plant species were required. No Criteria Area plant species were observed within the off-site improvements footprint, and none are expected to occur due to inadequate soil conditions and lack of suitable habitat. Impacts on Criteria Area plant species are not anticipated. The project will be consistent with section 6.3.2.

## 9.2 AMPHIBIANS

The off-site improvements footprint does not fall within a mapped survey area for amphibian species (Figure 6). Based on a database review, there is a historical occurrence of western spadefoot within one mile of the off-site improvements footprint (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 within the off-site improvements footprint during biological surveys and the off-site improvements footprint lacks suitable habitat for listed species arroyo toad (*Anaxyrus californicus*), California red-legged frog (*Rana draytonii*) or mountain yellow-legged frog (*Rana muscosa*). Impacts (if they occur) would be on common amphibian species and be less than significant.

## 9.3 BURROWING OWL

The off-site improvements footprint is located within the MSHCP Burrowing Owl Survey Area (Figure 6). Focused BUOW surveys conducted in accordance with the Western Riverside MSHCP

Burrowing Owl Survey Instructions (RCA 2005) in 2016, 2018, and 2022 were negative. 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.

### 9.4 MAMMALS

The off-site improvements footprint 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 off-site improvements footprint (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 within the off-site improvements footprint; 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 off-site improvements footprint is not located in proximity to the MSHCP Conservation Area (Figure 6). Additionally, aquatic resources mapped within the overall project site, including the off-site improvements footprint, lack connectivity to downstream MSHCP Conservation Areas, such that impacts on aquatic resources within the off-site improvements footprint will not result in indirect impacts on the MSHCP Conservation Area as discussed in Section 5.10. Therefore the Urban/Wildland Interface Guidelines do not apply to the project.

## 11 Conclusion of MSHCP Consistency

The proposed off-site improvements footprint is consistent with 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) of the MSHCP, as well as MSHCP Reserve assembly requirements. With the implementation of the proposed mitigation and avoidance measures described in Section 6 of this report, as well as the proposed mitigation approach discussed in the DBESP memo for the overall Menifee Valley Project (which includes the off-site improvements footprint) as required by Section 6.3.2 of the MSHCP, the overall Menifee Valley 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.

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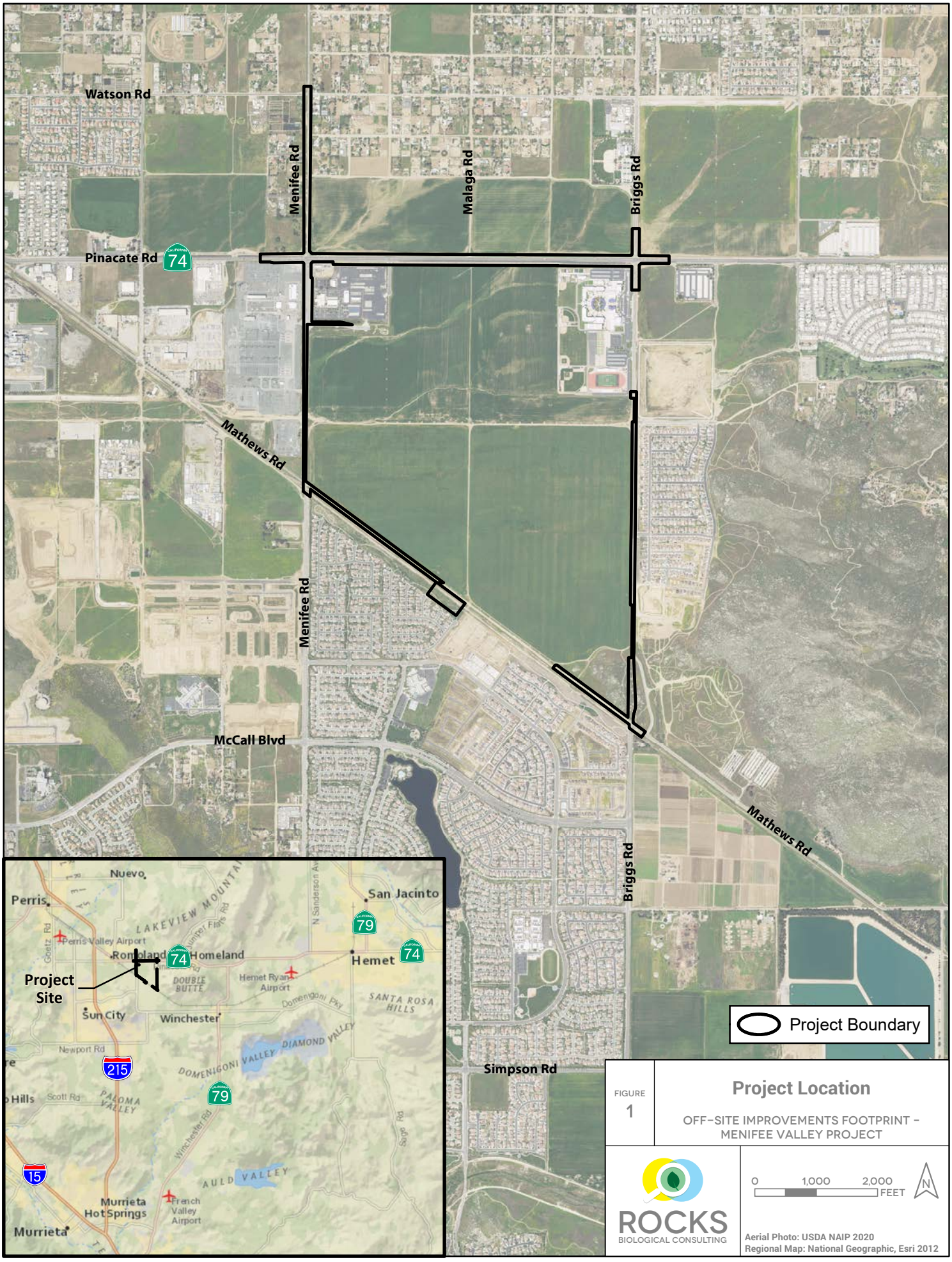



FIGURE 1

## Project Location

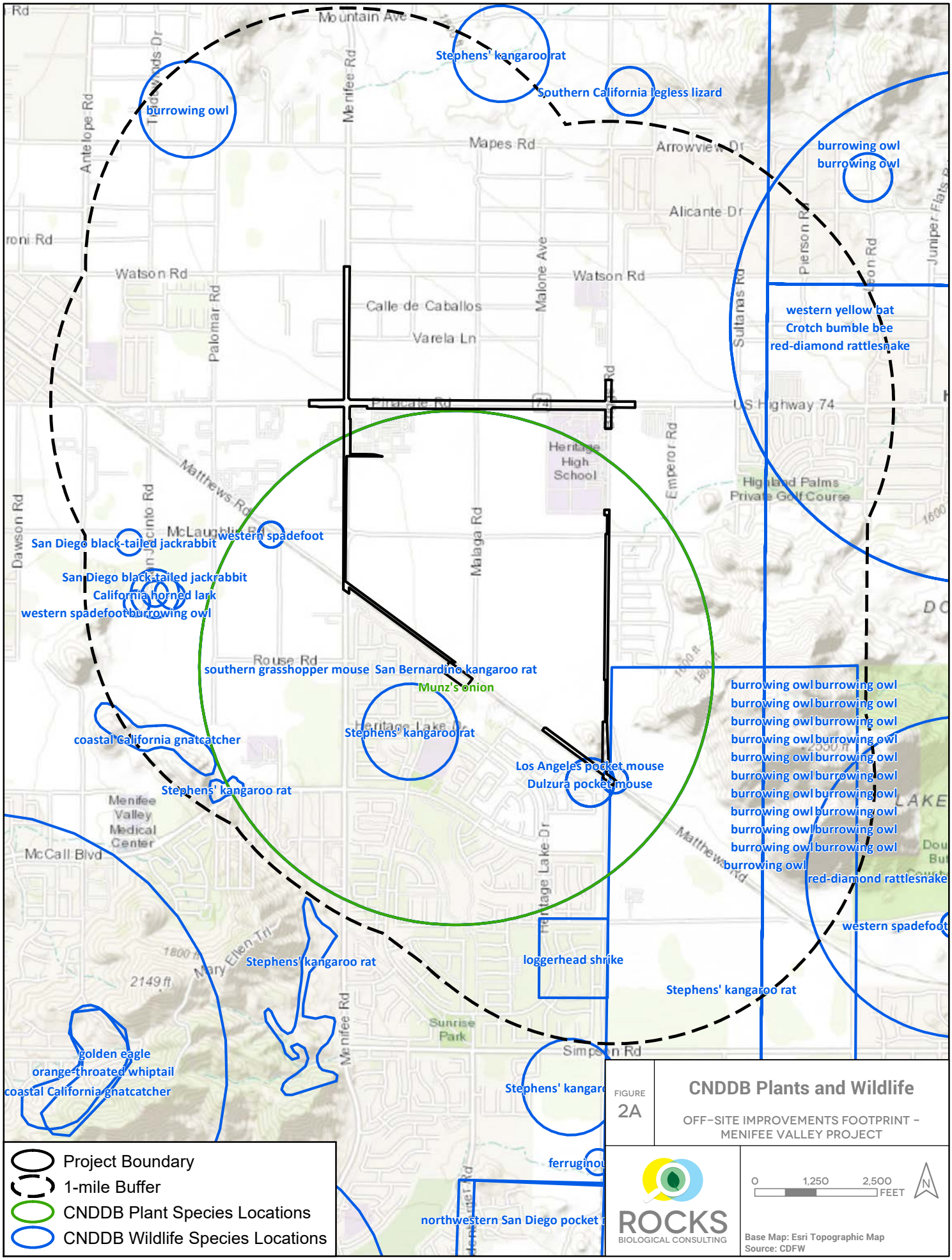
OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT

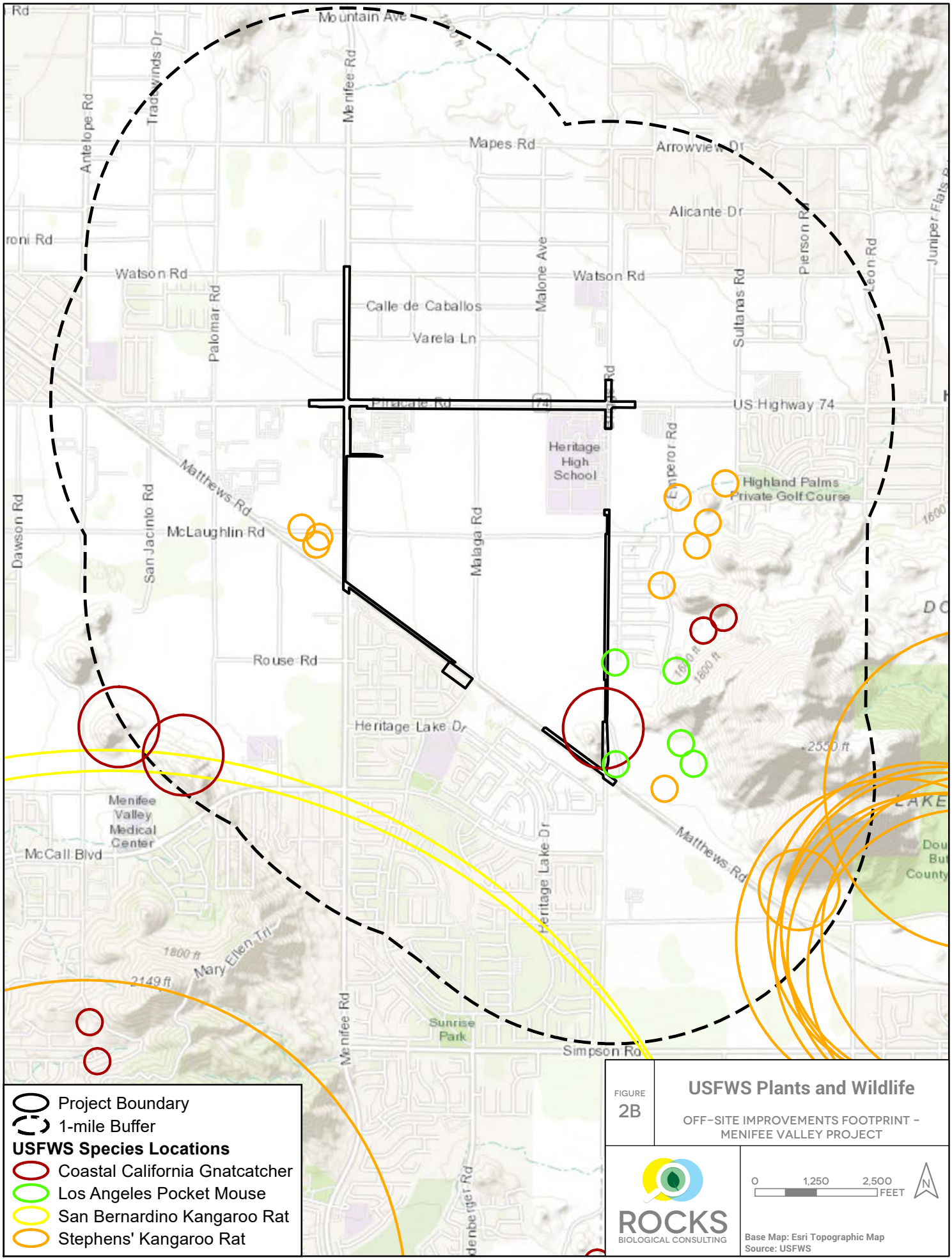
ROCKS BIOLOGICAL CONSULTING

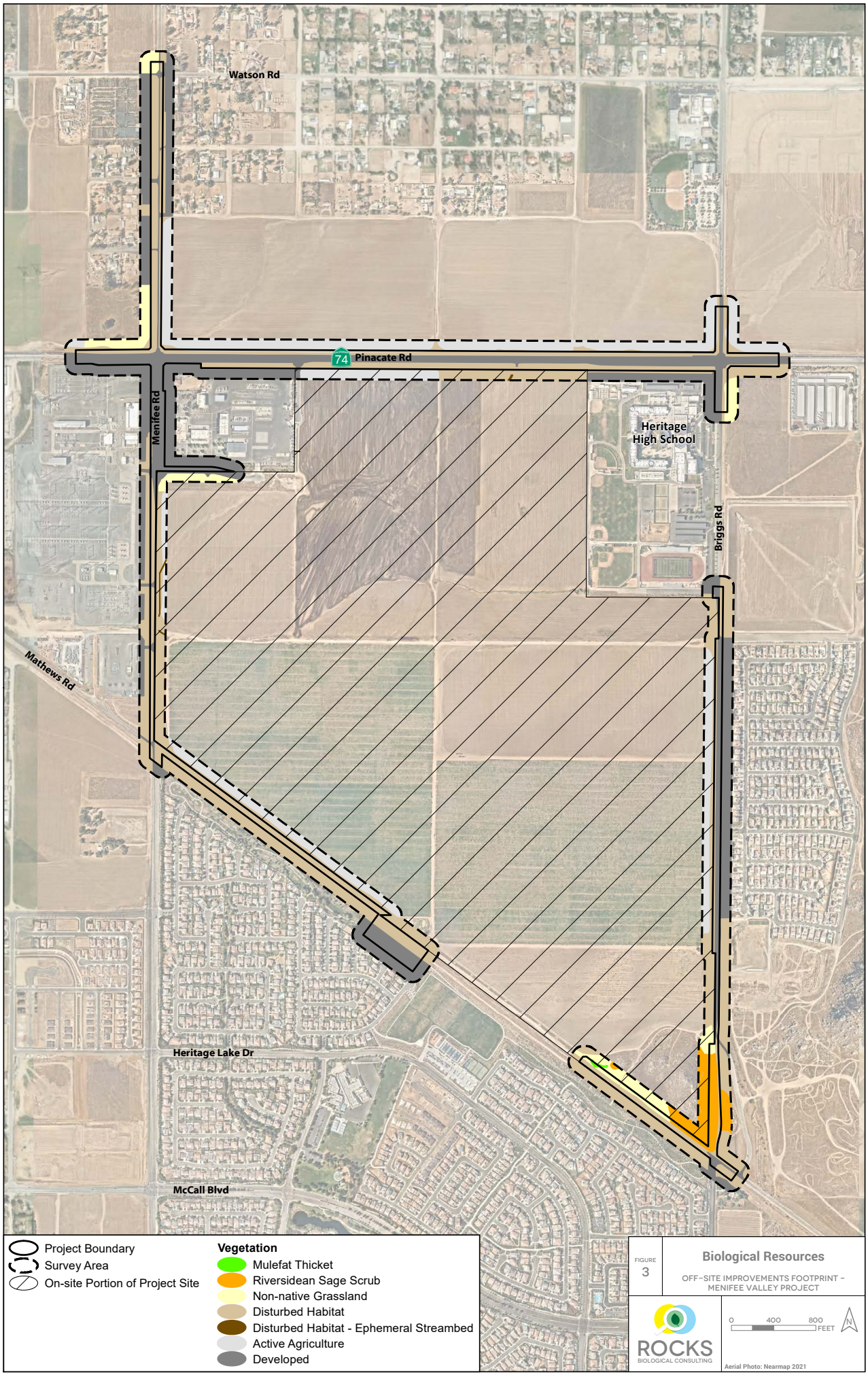
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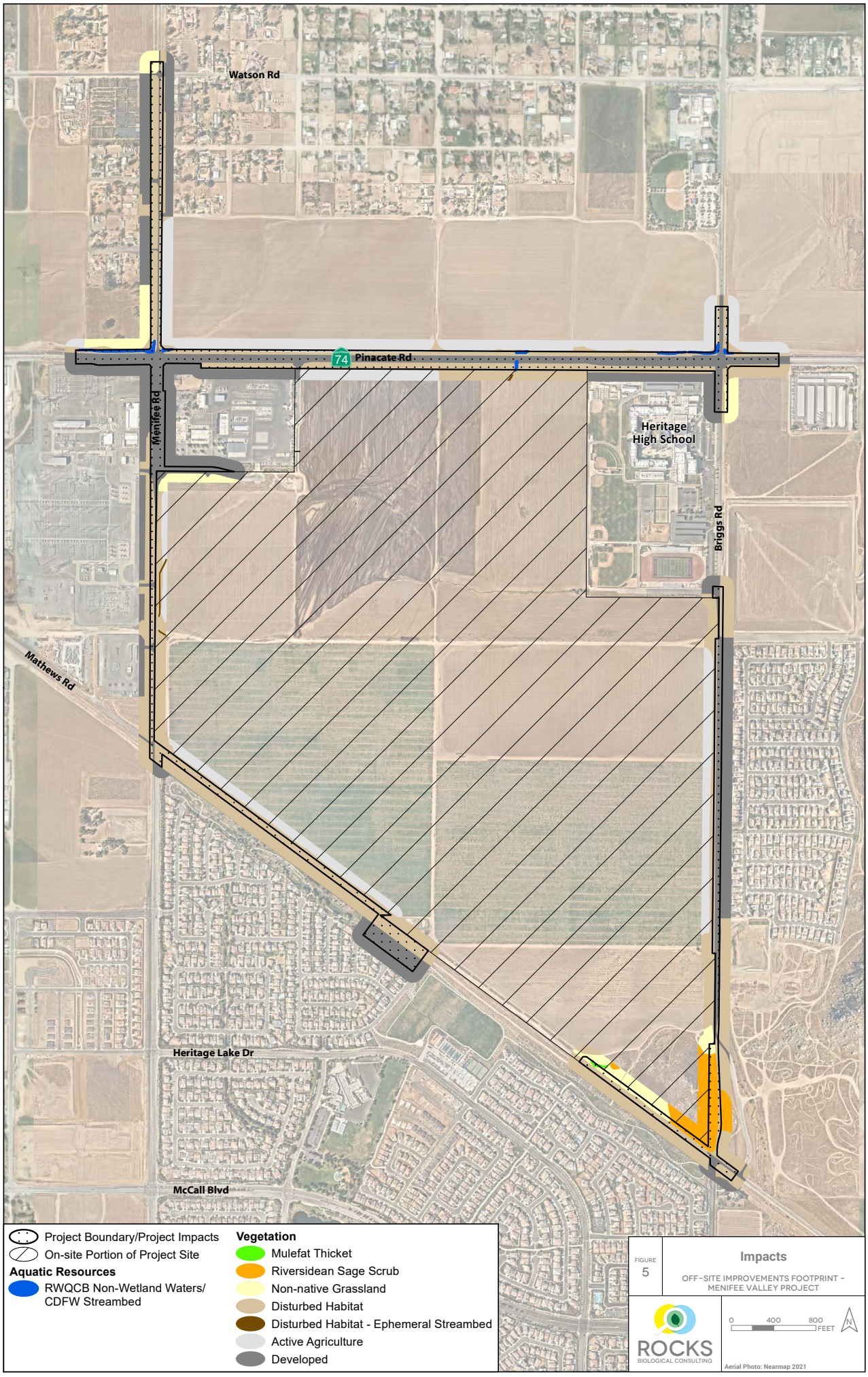
Aerial Photo: USDA NAIP 2020
Regional Map: National Geographic, Esri 2012


Stephens' kangaroo rat
burrowing owl
Southern California legless lizard
Mapes Rd
Arrowview Dr
burrowing owl
burrowing owl
Alicante Dr
Watson Rd
Watson Rd
Calle de Caballos
Varela Ln
western yellow bat
Crotch bumble bee
red-diamond rattlesnake
Pinacate Rd
US Highway 74
Heritage High School
Highland Palms Private Golf Course
Matthews Rd
San Diego black-tailed jackrabbit
western spadefoot
San Diego black-tailed jackrabbit
California horned lark
western spadefoot burrowing owl
Malaga Rd
Rouse Rd
southern grasshopper mouse
San Bernardino kangaroo rat
Munz's onion
coastal California gnatcatcher
Stephens' kangaroo rat
Heritage Lake Dr
Los Angeles pocket mouse
Dulzura pocket mouse
Stephens' kangaroo rat
Menifee Valley Medical Center
McCall Blvd
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl burrowing owl
burrowing owl
red-diamond rattlesnake
western spadefoot
Stephens' kangaroo rat
loggerhead shrike
Stephens' kangaroo rat
Mary Ellen Trl
Sunrise Park
golden eagle
orange-throated whiptail
coastal California gnatcatcher
Stephens' kangaro
ferruginou
northwestern San Diego pocket
Project Boundary
1-mile Buffer
CNDDB Plant Species Locations
CNDDB Wildlife Species Locations
FIGURE 2A
CNDDB Plants and Wildlife
OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 1,250 2,500 FEET
N
Base Map: Esri Topographic Map
Source: CDFW


Project Boundary
1-mile Buffer
USFWS Species Locations
Coastal California Gnatcatcher
Los Angeles Pocket Mouse
San Bernardino Kangaroo Rat
Stephens' Kangaroo Rat
Mountain Ave
Menifee Rd
Antelope Rd
Mapes Rd
Arrowview Dr
Alicante Dr
Watson Rd
Palomar Rd
Calle de Caballos
Varela Ln
Malone Ave
Sultanas Rd
Pierson Rd
Leon Rd
Juniper Flats
Pinacate Rd
US Highway 74
Heritage High School
Emperor Rd
Highland Palms Private Golf Course
Matthews Rd
McLaughlin Rd
San Jacinto Rd
Dawson Rd
Malaga Rd
Rouse Rd
Heritage Lake Dr
Menifee Valley Medical Center
McCall Blvd
Mary Ellen Trl
Sunrise Park
Simpson Rd
1800 ft
2149 ft
2550 ft
FIGURE 2B
USFWS Plants and Wildlife
OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 1,250 2,500 FEET
N
Base Map: Esri Topographic Map
Source: USFWS


Watson Rd
74
Pinacate Rd
Menifee Rd
Heritage
High School
Briggs Rd
Mathews Rd
Heritage Lake Dr
McCall Blvd
Project Boundary
Survey Area
On-site Portion of Project Site
Vegetation
Mulefat Thicket
Riversidean Sage Scrub
Non-native Grassland
Disturbed Habitat
Disturbed Habitat - Ephemeral Streambed
Active Agriculture
Developed
FIGURE
3
Biological Resources
OFF-SITE IMPROVEMENTS FOOTPRINT -
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
400
800
FEET
N
Aerial Photo: Nearmap 2021


Off-site Improvements Footprint
On-site Portion of Project Site
2019 JDR FEATURES
Culvert
Aquatic Resources
RWQCB Non-Wetland Waters/ CDFW Streambed [1]
Other Features [2]
Concrete Upland Ditch
Upland Ditch (Earthen-lined)
[1] Note that these features were classified as "Disturbed Ephemeral Streambed" in the 2019 JDR; however, feature classification has been updated to reflect current agency standards.
2022 JDR ADDENDUM FEATURES
Culvert
Aquatic Resources
RWQCB Non-Wetland Waters/ CDFW Streambed
Other Features [2]
Ditch
Ditch - Concrete-lined
Swale
[2] Features lacking OHWM or three-parameter wetland (Corps/RWQCB), or a defined lake or streambed (CDFW), and thus anticipated to be non-jurisdictional.
Watson Rd
Ditch 4
Menifee Rd
Calle de Caballos
Swale 1
Triple Crown Rd
Swale 2
Varela Ln
Stone Ln
Swale 3
Swale 4
Briggs Rd
Feature 4A
Feature 4
Feature 4
Feature 1
Feature 3A
Feature 3
Feature 3
Pinacate Rd
74
Swale 5
Ditch 1
Pinacate Rd
74
Feature 1
Ditch 5
Menifee Rd
Mathews Rd
Ditch 3
Menifee Rd
Detail Area 1
Detail Area 2
Key Map
Detail Area 1
Detail Area 2
FIGURE 4
Aquatic Resources
OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 200 400 FEET
N
Date: 11/22/2022
Aerial Photo: Unknown 2022, Nearmap 2021


Watson Rd
Pinacate Rd
74
Menifee Rd
Heritage
High School
Briggs Rd
Mathews Rd
Heritage Lake Dr
McCall Blvd
Project Boundary/Project Impacts
On-site Portion of Project Site
Aquatic Resources
RWQCB Non-Wetland Waters/
CDFW Streambed
Vegetation
Mulefat Thicket
Riversidean Sage Scrub
Non-native Grassland
Disturbed Habitat
Disturbed Habitat - Ephemeral Streambed
Active Agriculture
Developed
FIGURE
5
Impacts
OFF-SITE IMPROVEMENTS FOOTPRINT -
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
400
800
FEET
N
Aerial Photo: Nearmap 2021

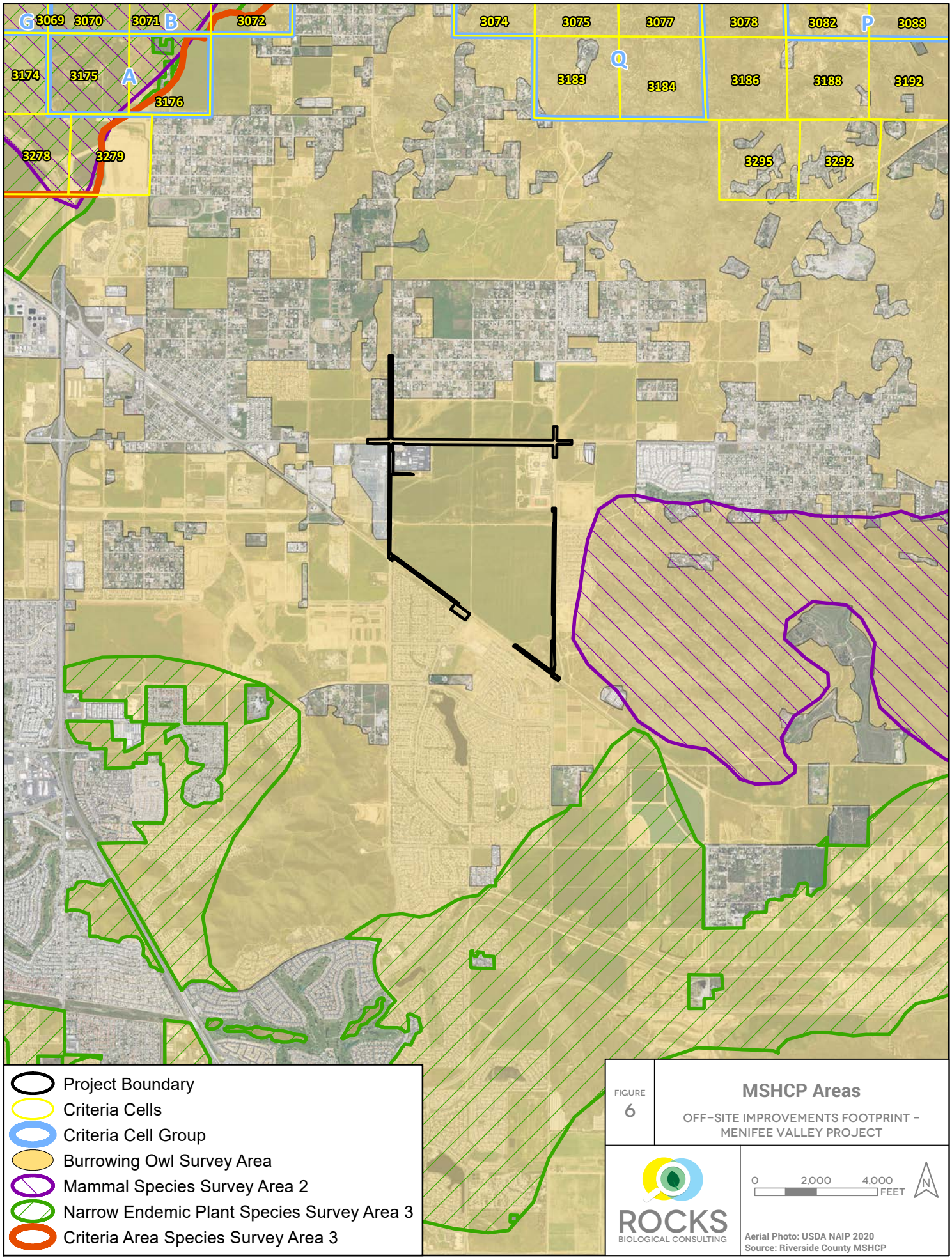



FIGURE 6

## MSHCP Areas

OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT

ROCKS BIOLOGICAL CONSULTING

0 2,000 4,000 FEET

N

Aerial Photo: USDA NAIP 2020
Source: Riverside County MSHCP


Project Boundary
2019 JD FEATURES
Culvert
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
2022 JDR ADDENDUM FEATURES
Culvert
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
Watson Rd
Menifee Rd
Calle de Caballos
Triple Crown Rd
Varela Ln
Stone Ln
Briggs Rd
Feature 4A
Feature 4
Feature 4
Feature 1
Feature 3A
Feature 3
Feature 3
Pinacate Rd
74
Pinacate Rd
74
Feature 1
Menifee Rd
Detail Area
Key Map
FIGURE 7
MSHCP Riparian/Riverine
OFF-SITE IMPROVEMENTS FOOTPRINT - MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 200 400 FEET
N
Aerial Photo: Unknown 2022, Nearmap 2021

# APPENDIX A

# SITE PHOTOGRAPHS



Photo 1. Northeast-facing view of active agriculture in the southeastern portion of the adjacent on-site portion of the overall project site. October 15, 2021.



Photo 2. Southwest-facing view of mulefat (*Baccharis salicifolia*) thicket in the southern portion of the off-site improvements footprint surrounded by non-native grassland. October 15, 2021.



Photo 3. Southwest-facing view of non-native grassland in the foreground and Riversidian sage scrub habitat in the background in the southern portion of the off-site improvements footprint. October 15, 2021.



Photo 4. Southwest-facing view of the disturbed habitat – ephemeral streambed vegetation within the center of the adjacent on-site portion of the project site. October 15, 2021.



Photo 5. Representative photo facing southeast of disturbed habitat throughout the adjacent on-site portion of the project site. October 15, 2020.



Photo 6. South-facing view of non-native grassland along Biscayne Avenue within the adjacent on-site portion of the project site. October 15, 2021.



Photo 7. Southeast-facing view of off-site improvements area along Matthews Road, from intersection of Menifee Road and Matthews Road on July 11, 2022.



Photo 8. North-facing view of off-site improvements footprint along Menifee Road, from the corner of Menifee Road and Matthews Road on July 11, 2022.




Photo 9. South-facing view of off-site improvements area along Briggs Road, from intersection of Briggs Road and CA-74 on July 11, 2022.



Photo 10. South-facing view of the off-site improvements footprint along Menifee Road, from the corner of Menifee Road and Watson Road on July 11, 2022.



Photo 11. North-facing view of off-site improvements footprint along Briggs Road, taken from the northeast corner of Granite Hill on July 11, 2022.



Photo 12. East-facing view of the off-site improvements footprint along CA-74, from the corner of CA-74 and Menifee Road on July 11, 2022.



Photo 13. North-facing view of the off-site improvements footprint with the existing community park, south of Matthews Road on July 11, 2022.



Photo 14. View of non-jurisdictional Ditch 4, facing south, within disturbed habitat south of Watson Road on May 26, 2022. This photo is representative of the other non-jurisdictional earthen ditch (Ditch 1) that occurs within the off-site improvements footprint.



Photo 15. View of southern extent of non-jurisdictional Swale 1, facing north within disturbed habitat on May 26, 2022. This photo is representative of the other non-jurisdictional swales (Swale 2, Swale 3, Swale 4, and Swale 5) that occur within the off-site improvements footprint.



Photo 16. Downstream view of Feature 1, facing east within disturbed habitat on February 24, 2022. Feature 1 is potentially jurisdictional per the RWQCB and CDFW.



Photo 17. Downstream view of Feature 3 (white dashed line), facing west, after it travels through culverts under Briggs Road on May 26, 2022. Feature 3 is potentially jurisdictional per the RWQCB and CDFW. This photo is representative of the conditions observed within Feature 3A.



Photo 18. Downstream view of Feature 4A, facing southeast within disturbed habitat on February 24, 2022. Feature 4A is potentially jurisdictional per the RWQCB and CDFW.



Photo 19. Downstream view of Feature 4 facing west on February 24, 2022. Feature 4 is potentially jurisdictional per the RWQCB and CDFW.



Photo 20. View of non-jurisdictional Ditch 5, facing south within disturbed habitat on Feburary 24, 2022. This photo is representative of the other non-jurisdictional concrete ditch (Ditch 1) that occurs within the off-site improvements footprint.

# APPENDIX B

# PLANT AND WILDLIFE SPECIES OBSERVED

| Family | Common Name | Scientific Name |
|---|---|---|
| Plants | | |
| Amaranthaceae | pigweed amaranth* | *Amaranthus albus* |
| Asteraceae | annual bursage | *Ambrosia acanthicarpa* |
| Asteraceae | brittlebush | *Encelia farinosa* var. *farinosa* |
| Asteraceae | California sagebrush | *Artemisia californica* |
| Asteraceae | common sunflower | *Helianthus annuus* |
| Asteraceae | mule fat | *Baccharis salicifolia* |
| Asteraceae | stinknet* | *Oncosiphon piluliferum* |
| Asteraceae | castor bean* | *Ricinus communis* |
| Boraginaceae | rancher's fiddleneck | *Amsinckia menziesii* |
| Brassicaceae | short-pod mustard* | *Hirschfeldia incana* |
| Chenopodiaceae | tumbleweed* | *Salsola australis* |
| Fabaceae | White sweetclover* | *Melilotus albus* |
| Malvaceae | cheeseweed* | *Malva parviflora* |
| Poaceae | Bermuda grass* | *Cynodon dactylon* |
| Poaceae | deergrass | *Muhlenbergia rigens* |
| Poaceae | purple false brome* | *Brachypodium distachyon* |
| Poaceae | red brome* | *Bromus rubens* |
| Poaceae | soft brome* | *Bromus hordeaceus* |
| Polygonaceae | California buckwheat | *Eriogonum fasciculatum* |
| Polygonaceae | prostrate knotweed | *Polygonum aviculare* |
| Solanaceae | Jimson weed | *Datura wrightii* |
| Invertebrates | | |
| Nymphalidae | painted lady | *Vanessa cardui* |
| Pieridae | cabbage white | *Pieris rapae* |
| Tenebrionidae | darkling beetle | *Coelocnemis* spp. |
| Reptiles | | |
| Phrynosomatidae | common side-blotched lizard | *Uta stansburiana* |
| Phrynosomatidae | western fence lizard | *Sceloporus occidentalis* |
| Birds | | |
| Motacillidae | American pipit | *Anthus rubescens* |
| Accipitridae | red-tailed hawk | *Buteo jamaicensis* |
| Aegithalidae | bushtit | *Psaltriparus minimus* |
| Anatidae | Canada goose | *Branta canadensis* |
| Anatidae | mallard | *Anas platyrhynchos* |

| | | |
|---|---|---|
| Ardeidae | great egret | *Ardea alba* |
| Cardinalidae | western tanager | *Piranga ludoviciana* |
| Cathartidae | turkey vulture | *Cathartes aura* |
| Charadriidae | killdeer | *Charadrius vociferus* |
| Columbidae | mourning dove | *Zenaida macroura* |
| Columbidae | rock pigeon* | *Columba livia* |
| Corvidae | American crow | *Corvus brachyrhynchos* |
| Corvidae | common raven | *Corvus corax* |
| Falconidae | American kestrel | *Falco sparverius* |
| Fringillidae | house finch | *Haemorhous mexicanus* |
| Fringillidae | lesser goldfinch | *Spinus psaltria* |
| Hirundinidae | barn swallow | *Hirundo rustica* |
| Hirundinidae | cliff swallow | *Petrochelidon pyrrhonota* |
| Hirundinidae | northern rough-winged swallow | *Stelgidopteryx serripennis* |
| Hirundinidae | violet-green swallow | *Tachycineta thalassina* |
| Icteridae | hooded oriole | *Icterus cucullatus* |
| Icteridae | red-winged blackbird | *Agelaius phoeniceus* |
| Icteridae | western meadowlark | *Sturnella neglecta* |
| Mimidae | northern mockingbird | *Mimus polyglottos* |
| Parulidae | orange-crowned warbler | *Leiothlypis celata* |
| Parulidae | Wilson's warbler | *Cardellina pusilla* |
| Passerellidae | California towhee | *Melozone crissalis* |
| Passerellidae | lark sparrow | *Chondestes grammacus* |
| Passerellidae | savannah sparrow | *Passerculus sandwichensis* |
| Passerellidae | song sparrow | *Melospiza melodia* |
| Passerellidae | white-crowned sparrow | *Zonotrichia leucophrys* |
| Passeridae | house sparrow* | *Passer domesticus* |
| Sturnidae | European starling* | *Sturnus vulgaris* |
| Trochilidae | Anna's hummingbird | *Calypte anna* |
| Troglodytidae | canyon wren | *Catherpes mexicanus* |
| Tyrannidae | black phoebe | *Sayornis nigricans* |
| Tyrannidae | Cassin's kingbird | *Tyrannus vociferans* |
| Tyrannidae | Say’s phoebe | *Sayornis saya* |
| Mammals | | |
| Canidae | coyote | *Canis latrans* |
| Leporidae | Audubon’s cottontail | *Sylvilagus audubonii* |
| Leporidae | San Diego black-tailed jackrabbit | *Lepus californicus bennettii* |

| | | |
|---|---|---|
| Sciuridae | California ground squirrel | *Otospermophilus beecheyi* |
| * Introduced Species | | |

# APPENDIX C

# MENIFEE VALLEY PROJECT JURISDICTIONAL DELINEATION REPORT

ROCKS
BIOLOGICAL CONSULTING





# MENIFEE VALLEY PROJECT
# JURISDICTIONAL DELINEATION REPORT

Riverside County, California

July 15, 2019

Prepared for:
Brookfield Residential
3200 Park Center Drive, Suite 1000
Costa Mesa, CA 92626

Prepared by:
Rocks Biological Consulting
2621 Denver Street, Ste. B
San Diego, CA 92110
(619) 701-6798

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## APPENDICES

Appendix A. Checklist: Minimum Standards for Acceptance of Aquatic Resources Delineation Reports, Los Angeles District Regulatory Division, USACE
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# 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 (CFGC) 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:***

Adrian Peters

Brookfield Residential

3200 Park Center Drive, Suite 1000

Costa Mesa, CA 92626

Adrian.Peters@brookfieldrp.com

714-200-1603

***Agent:***

Shanti Santulli

Rocks Biological Consulting

2621 Denver Street, Suite B

San Diego, CA 92110

shanti@rocksbio.com

619-674-8067

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 eflora (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 Menifee 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 delienation 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 [*Cynadon 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 with in 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 with in 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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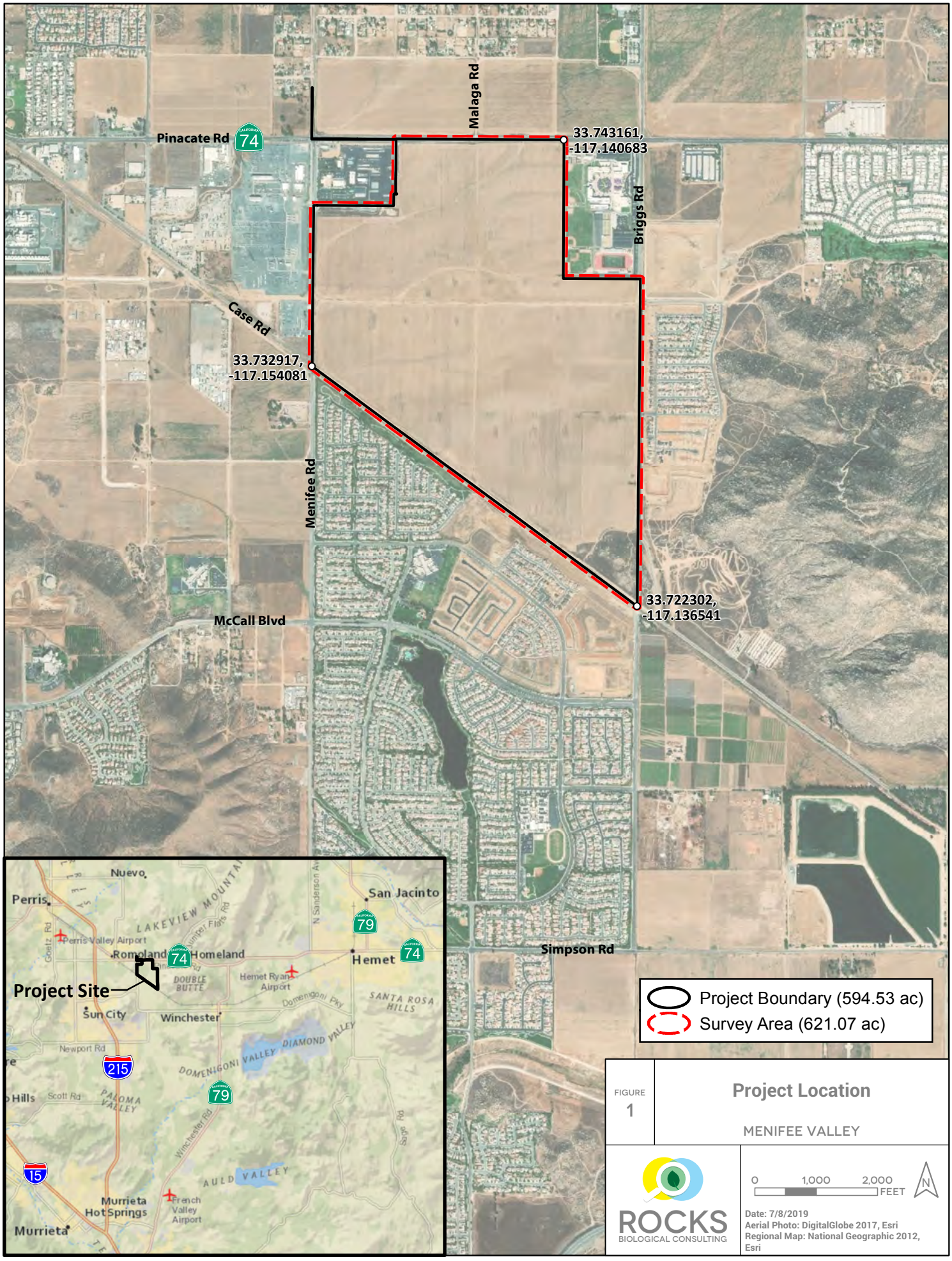



FIGURE 1

## Project Location

MENIFEE VALLEY

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET

N

Date: 7/8/2019
Aerial Photo: DigitalGlobe 2017, Esri
Regional Map: National Geographic 2012, Esri

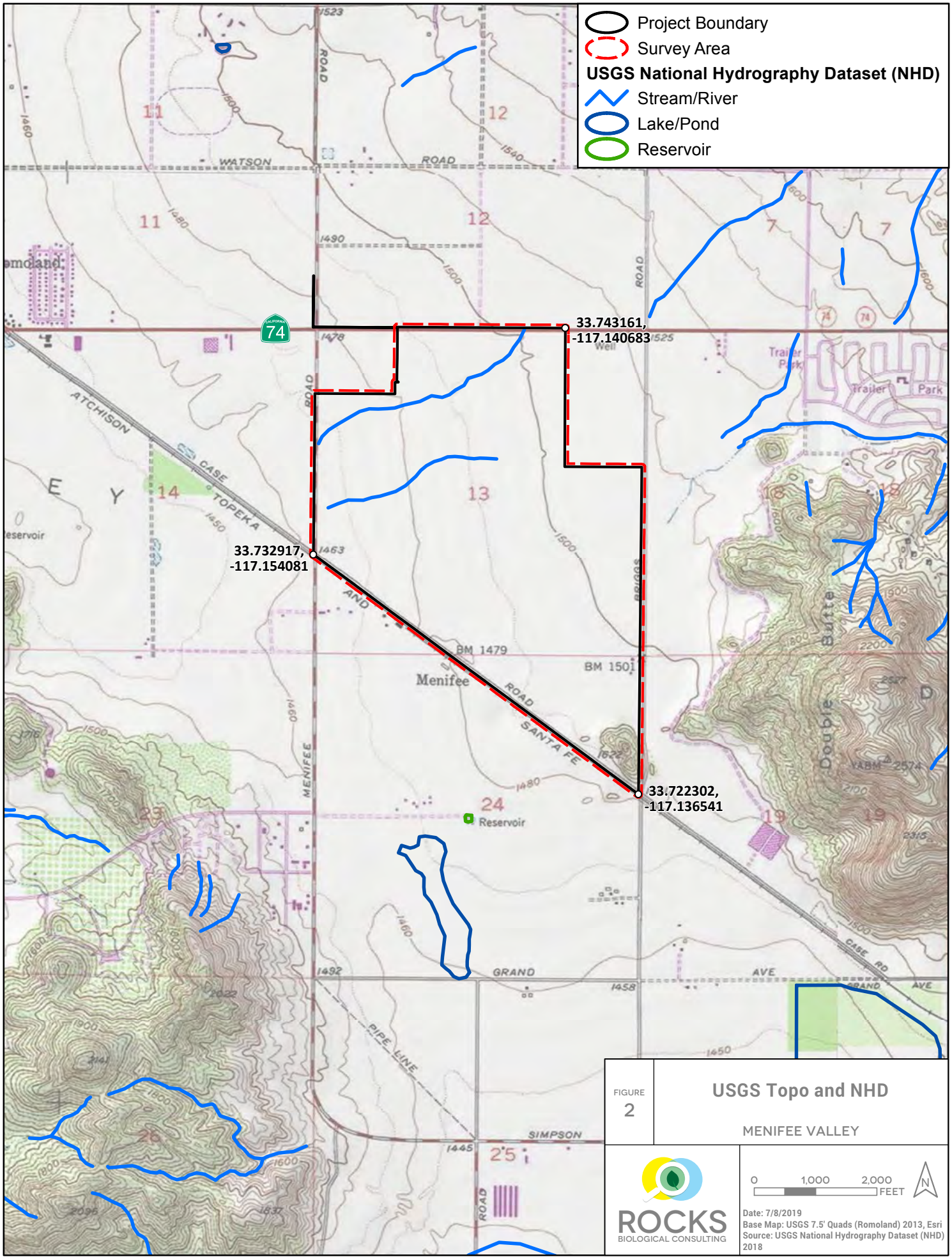



FIGURE 2

# USGS Topo and NHD

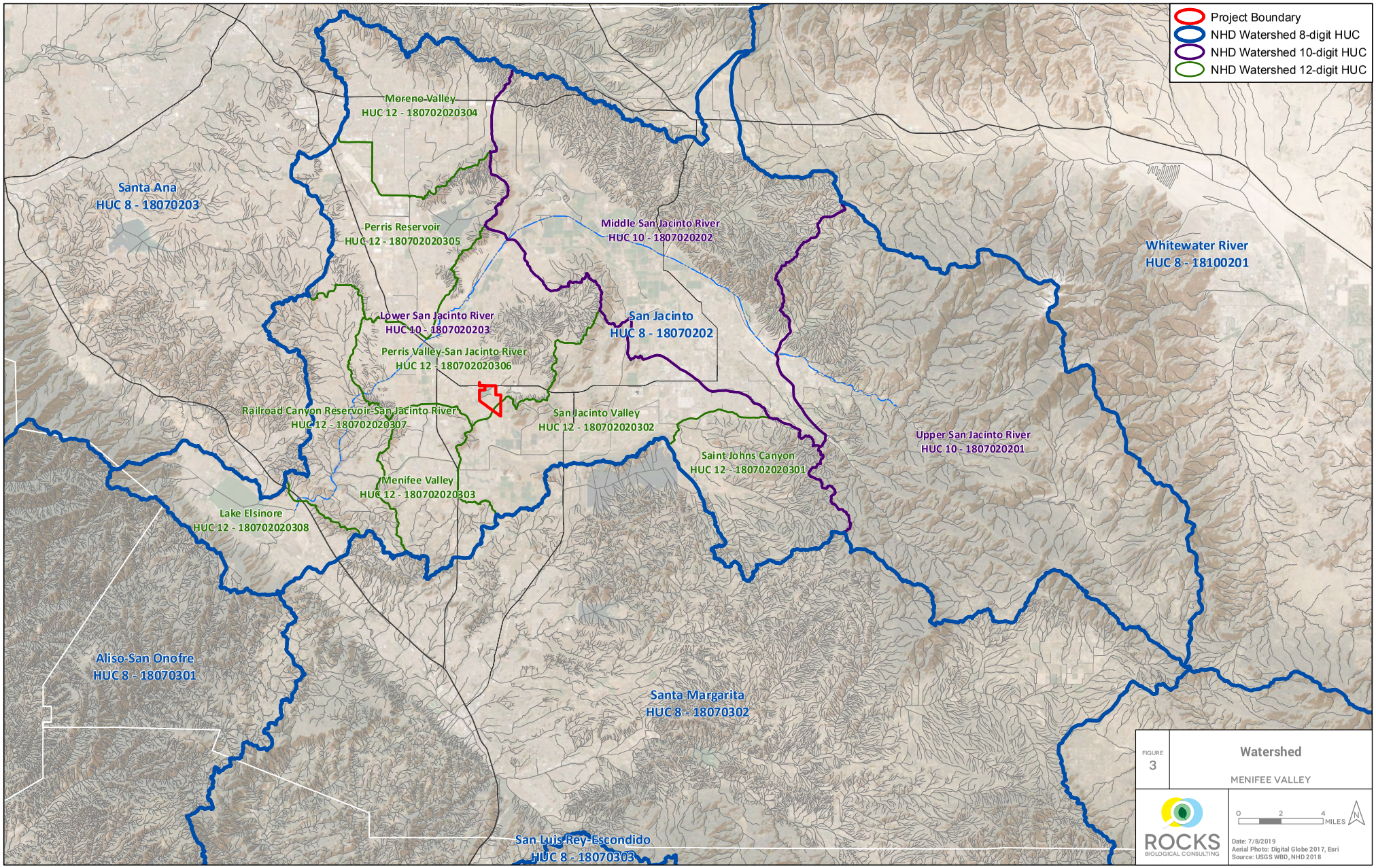
MENIFEE VALLEY

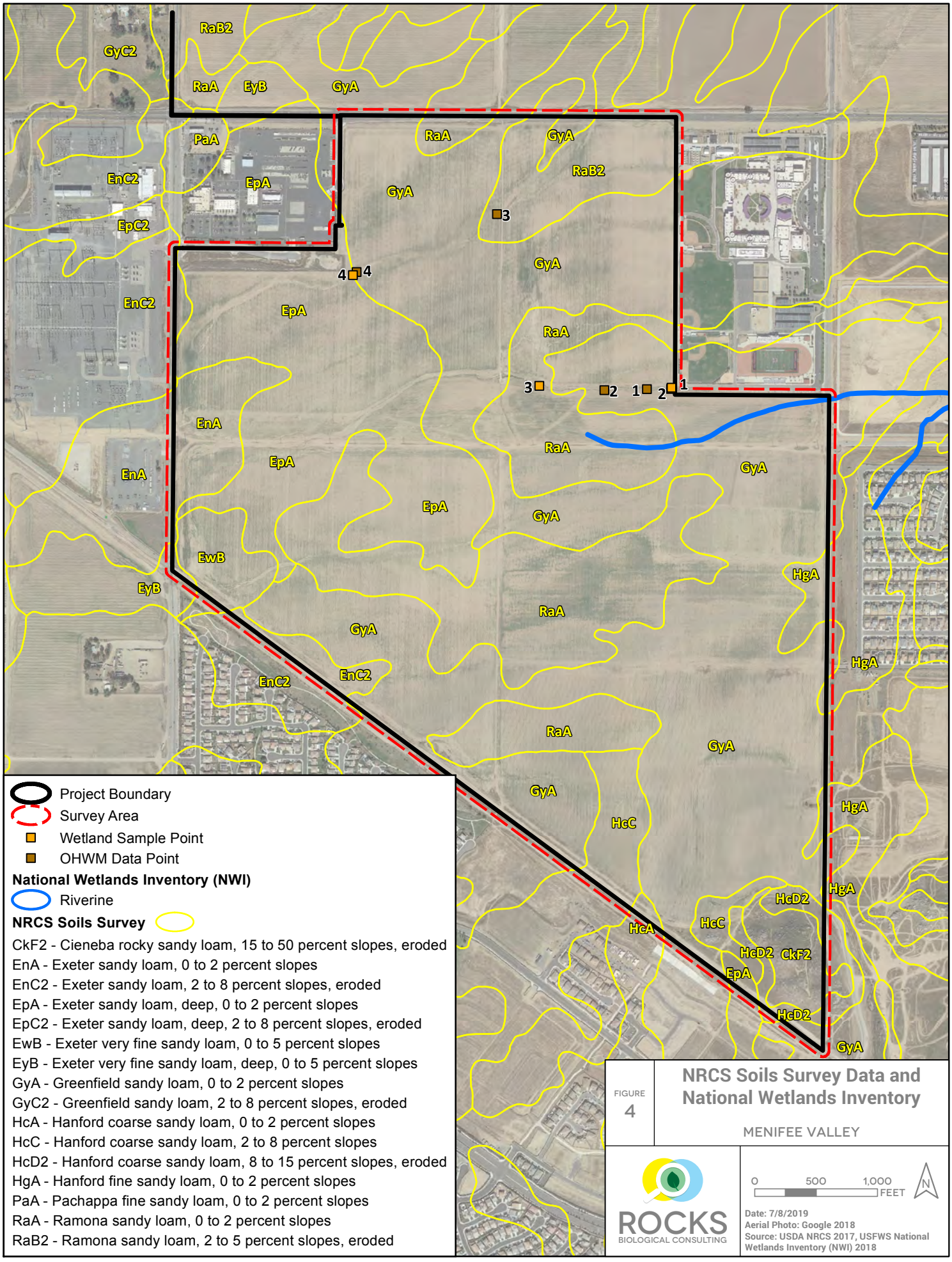
ROCKS BIOLOGICAL CONSULTING

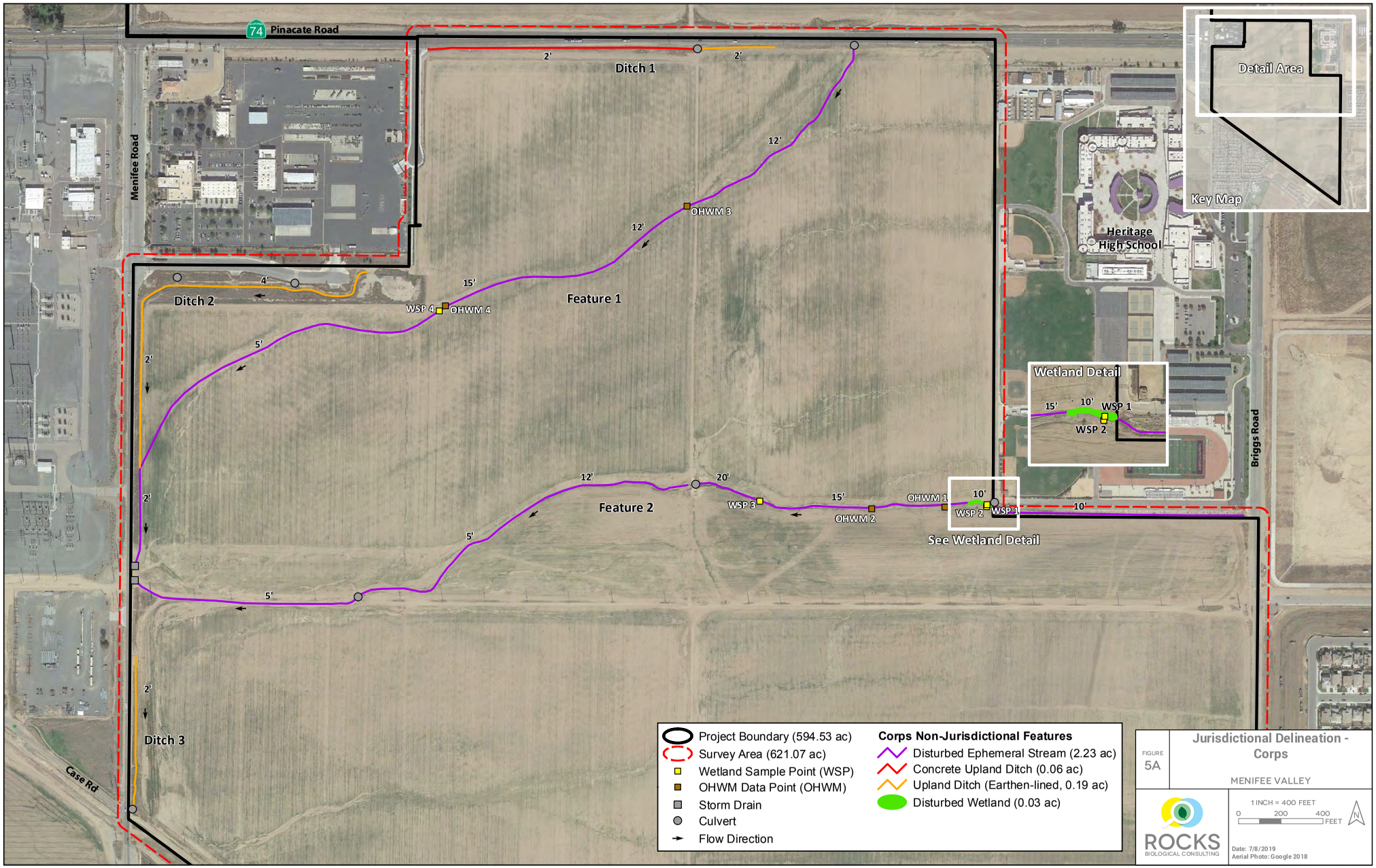
0 1,000 2,000 FEET

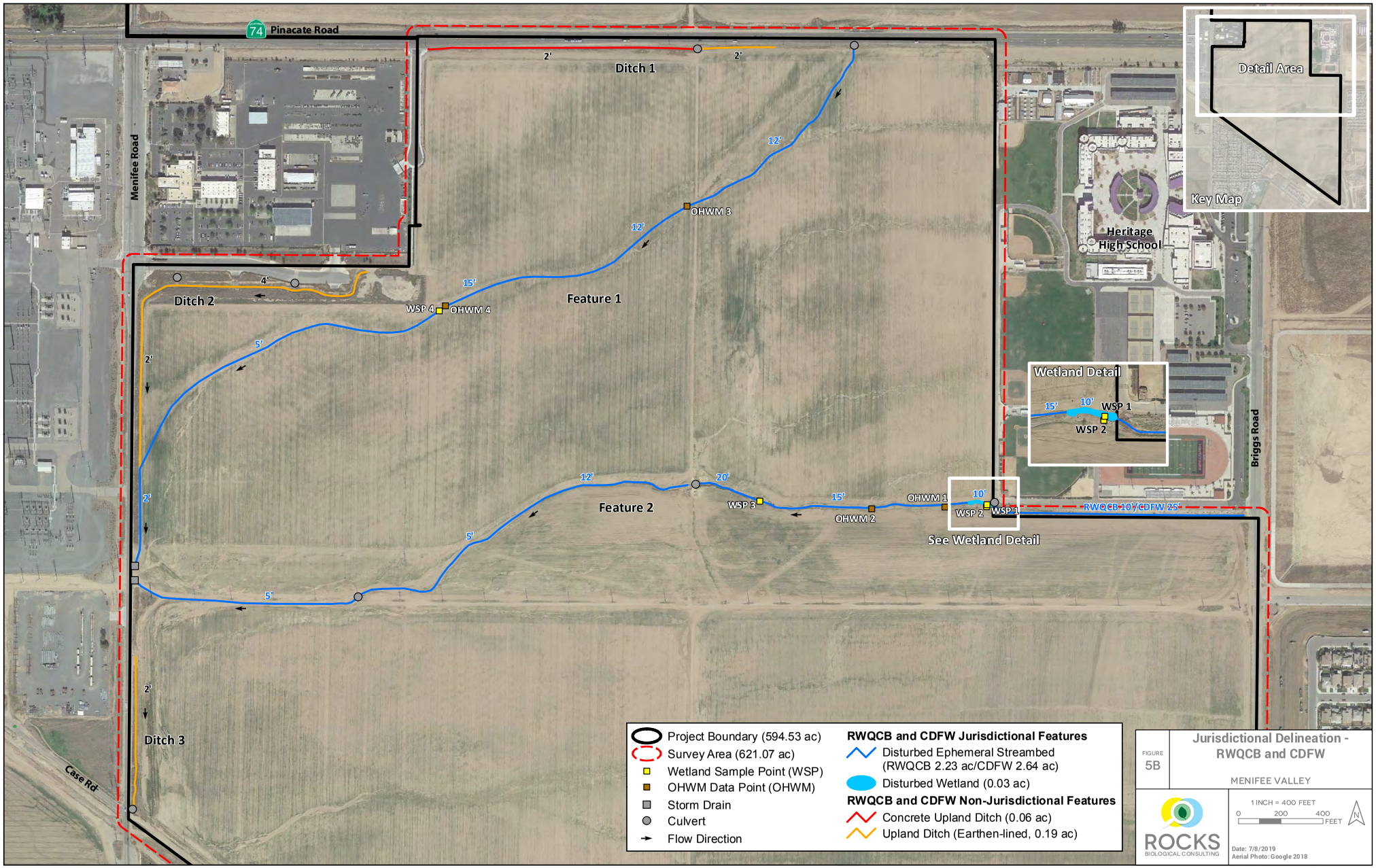
N

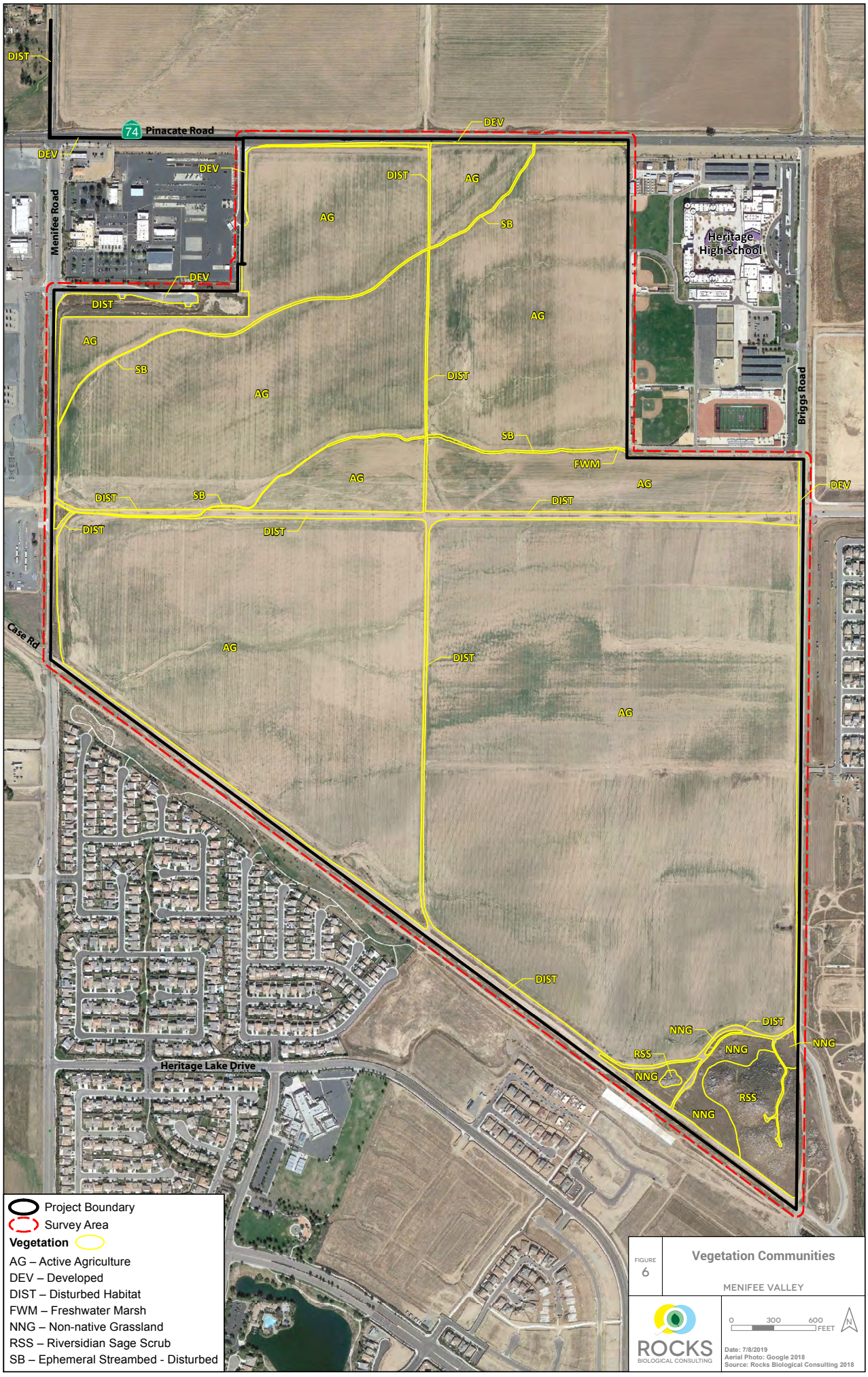
Date: 7/8/2019
Base Map: USGS 7.5' Quads (Romoland) 2013, Esri
Source: USGS National Hydrography Dataset (NHD) 2018

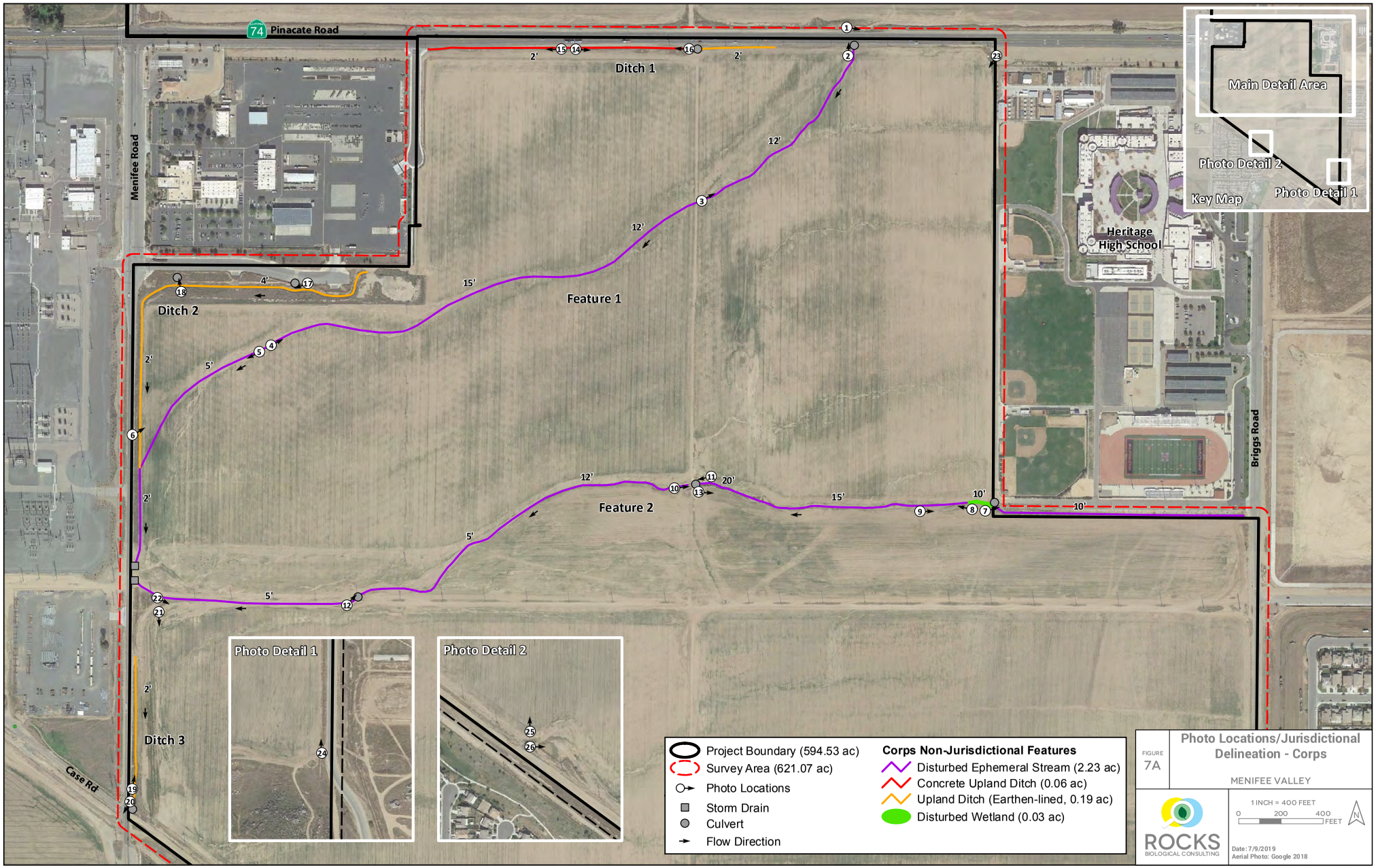

Project Boundary
NHD Watershed 8-digit HUC
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC
Moreno Valley
HUC 12 - 180702020304
Santa Ana
HUC 8 - 18070203
Perris Reservoir
HUC 12 - 180702020305
Middle San Jacinto River
HUC 10 - 1807020202
Whitewater River
HUC 8 - 18100201
Lower San Jacinto River
HUC 10 - 1807020203
San Jacinto
HUC 8 - 18070202
Perris Valley-San Jacinto River
HUC 12 - 180702020306
Railroad Canyon Reservoir-San Jacinto River
HUC 12 - 180702020307
San Jacinto Valley
HUC 12 - 180702020302
Upper San Jacinto River
HUC 10 - 1807020201
Saint Johns Canyon
HUC 12 - 180702020301
Menifee Valley
HUC 12 - 180702020303
Lake Elsinore
HUC 12 - 180702020308
Aliso-San Onofre
HUC 8 - 18070301
Santa Margarita
HUC 8 - 18070302
San Luis Rey-Escondido
HUC 8 - 18070303
FIGURE
3
Watershed
MENIFEE VALLEY
ROCKS
BIOLOGICAL CONSULTING
0
2
4
MILES
N
Date: 7/8/2019
Aerial Photo: Digital Globe 2017, Esri
Source: USGS WBD, NHD 2018

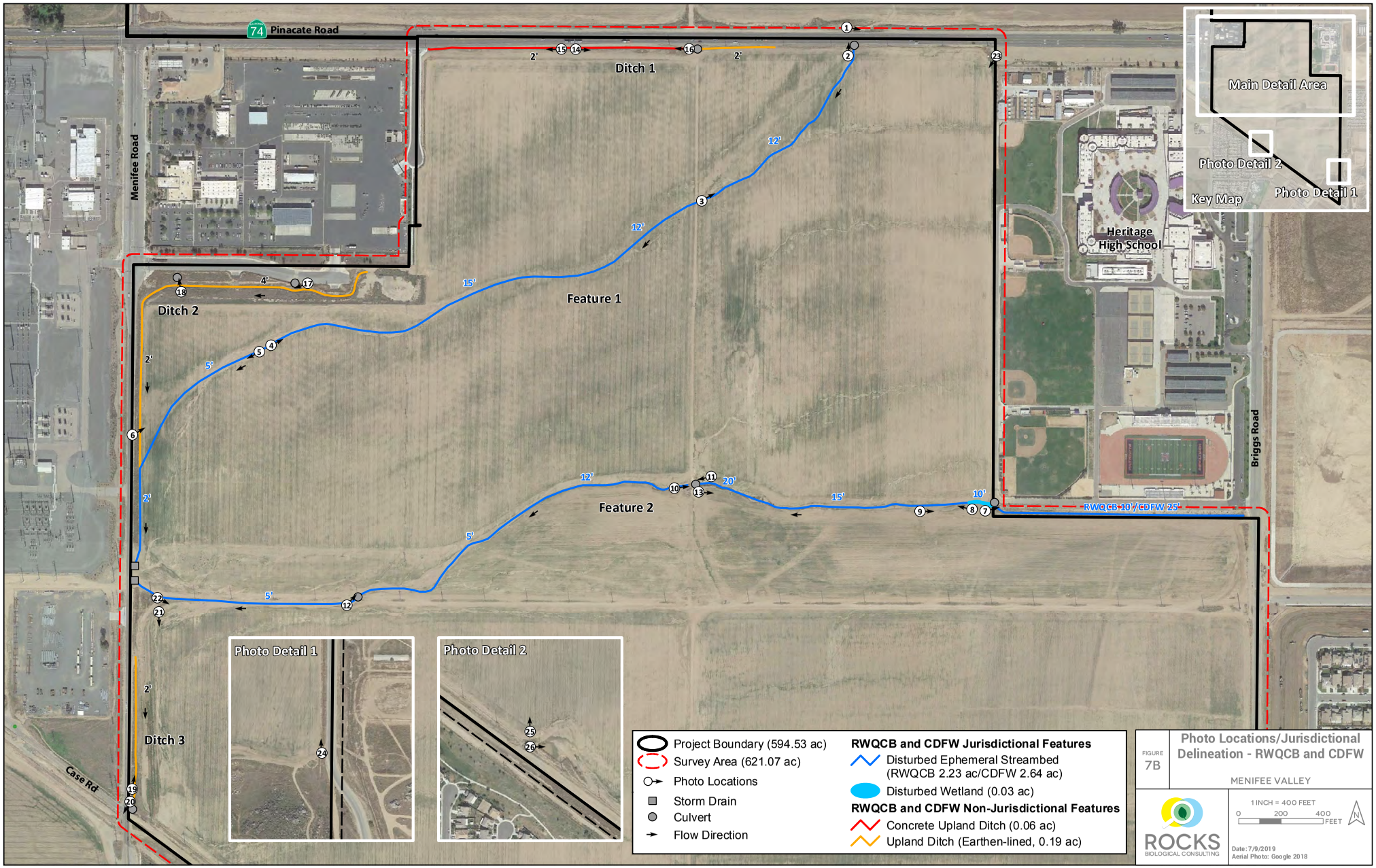

RaB2
GyC2
RaA
EyB
GyA
PaA
EpA
EnC2
EpC2
RaA
GyA
RaB2
GyA
3
4
4
GyA
EnC2
EpA
RaA
3
2
1
2
1
EnA
RaA
EpA
GyA
EnA
EpA
GyA
EwB
EyB
HgA
RaA
GyA
HgA
EnC2
EnC2
RaA
GyA
GyA
HgA
HcC
HgA
HcD2
HcA
HcC
HcD2
CkF2
EpA
HcD2
GyA
Project Boundary
Survey Area
Wetland Sample Point
OHWM Data Point
National Wetlands Inventory (NWI)
Riverine
NRCS Soils Survey
CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
EnA - Exeter sandy loam, 0 to 2 percent slopes
EnC2 - Exeter sandy loam, 2 to 8 percent slopes, eroded
EpA - Exeter sandy loam, deep, 0 to 2 percent slopes
EpC2 - Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
EwB - Exeter very fine sandy loam, 0 to 5 percent slopes
EyB - Exeter very fine sandy loam, deep, 0 to 5 percent slopes
GyA - Greenfield sandy loam, 0 to 2 percent slopes
GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
HcA - Hanford coarse sandy loam, 0 to 2 percent slopes
HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
HgA - Hanford fine sandy loam, 0 to 2 percent slopes
PaA - Pachappa fine sandy loam, 0 to 2 percent slopes
RaA - Ramona sandy loam, 0 to 2 percent slopes
RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
FIGURE 4
NRCS Soils Survey Data and National Wetlands Inventory
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
0 500 1,000 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018
Source: USDA NRCS 2017, USFWS National Wetlands Inventory (NWI) 2018


Pinacate Road
74
Menifee Road
Ditch 1
2'
2'
12'
12'
OHWM 3
Ditch 2
4'
15'
WSP 4
OHWM 4
Feature 1
5'
2'
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 1
OHWM 2
10'
WSP 2
WSP 1
10'
See Wetland Detail
5'
5'
2'
Ditch 3
Case Rd
Heritage High School
Briggs Road
Detail Area
Key Map
Wetland Detail
15'
10'
WSP 1
WSP 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Wetland Sample Point (WSP)
OHWM Data Point (OHWM)
Storm Drain
Culvert
Flow Direction
Corps Non-Jurisdictional Features
Disturbed Ephemeral Stream (2.23 ac)
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
Disturbed Wetland (0.03 ac)
FIGURE 5A
Jurisdictional Delineation - Corps
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018


74 Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
OHWM 1
OHWM 2
OHWM 3
OHWM 4
WSP 1
WSP 2
WSP 3
WSP 4
Detail Area
Key Map
Heritage High School
Wetland Detail
See Wetland Detail
Briggs Road
Case Rd
RWQCB 10'/CDFW 25'
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Wetland Sample Point (WSP)
OHWM Data Point (OHWM)
Storm Drain
Culvert
Flow Direction
RWQCB and CDFW Jurisdictional Features
Disturbed Ephemeral Streambed (RWQCB 2.23 ac/CDFW 2.64 ac)
Disturbed Wetland (0.03 ac)
RWQCB and CDFW Non-Jurisdictional Features
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
FIGURE 5B
Jurisdictional Delineation - RWQCB and CDFW
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/8/2019
Aerial Photo: Google 2018


Pinacate Road
74
Menifee Road
Heritage High School
Briggs Road
Case Rd
Heritage Lake Drive
DIST
DEV
AG
SB
FWM
NNG
RSS
Project Boundary
Survey Area
Vegetation
AG – Active Agriculture
DEV – Developed
DIST – Disturbed Habitat
FWM – Freshwater Marsh
NNG – Non-native Grassland
RSS – Riversidian Sage Scrub
SB – Ephemeral Streambed - Disturbed
FIGURE 6
Vegetation Communities
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018
Source: Rocks Biological Consulting 2018


74 Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
Heritage High School
Briggs Road
Case Rd
Main Detail Area
Photo Detail 2
Photo Detail 1
Key Map
Photo Detail 1
Photo Detail 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Photo Locations
Storm Drain
Culvert
Flow Direction
Corps Non-Jurisdictional Features
Disturbed Ephemeral Stream (2.23 ac)
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
Disturbed Wetland (0.03 ac)
FIGURE 7A
Photo Locations/Jurisdictional Delineation - Corps
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/9/2019
Aerial Photo: Google 2018


Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
Heritage High School
Briggs Road
Case Rd
RWQCB 10'/CDFW 25'
Main Detail Area
Photo Detail 2
Photo Detail 1
Key Map
Photo Detail 1
Photo Detail 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Photo Locations
Storm Drain
Culvert
Flow Direction
RWQCB and CDFW Jurisdictional Features
Disturbed Ephemeral Streambed (RWQCB 2.23 ac/CDFW 2.64 ac)
Disturbed Wetland (0.03 ac)
RWQCB and CDFW Non-Jurisdictional Features
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
FIGURE 7B
Photo Locations/Jurisdictional Delineation - RWQCB and CDFW
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/9/2019
Aerial Photo: Google 2018

# 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 RESOURCE(S) 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 | |

| | | |
|---|---|---|
| | 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 10') | | | |
| 1. Salix gooddingii | 20 | Y | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 = Total Cover | | |
| **Herb Stratum** (Plot size: 10') | | | |
| 1. Eleocharis palustris | 30 | Y | OBL |
| 2. Typha latifolia | 25 | Y | OBL |
| 3. Cynadon dactylon | 5 | N | FACU |
| 4. Ephilobium ciliatum | 2 | N | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 62 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**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 = _____

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ✔ No _____

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 Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| n/a | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
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[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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)
- ___ 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): 0-5 inches

Water Table Present? Yes ___ No ___ Depth (inches): n/a

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): n/a

**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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 10 ft.) | | | |
| 1. Cynadon dactylon | 25 | Y | FACU |
| 2. Pulicaria paludosa | 5 | N | FAC |
| 3. Chenopodium album | 2 | N | FACU |
| 4. Typha latifolia | 1 | N | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 33 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 27 | x 4 = | 108 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 33 (A) | | 124 (B) |

Prevalence Index = B/A = 3.75

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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 Hirchler 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| **Herb Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | _____ = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: N/A (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**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 = N/A

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

Remarks:

unvegetated/disced - 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.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-30 | 10 YR 4/4 | 100 | n/a | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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? (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:

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 Hirchler 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| **Herb Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | _____ = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: N/A (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**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 = N/A

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

Remarks:

unvegetated/disced - 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 Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-25 | 10 YR 4/4 | 100 | n/a | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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? (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:

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

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

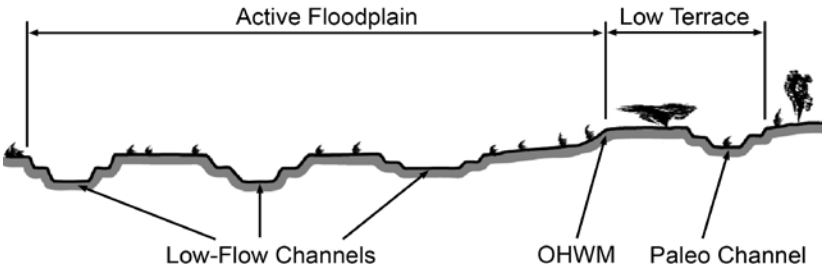
**Brief site description:**
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

**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

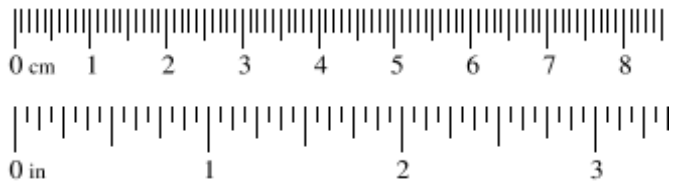



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

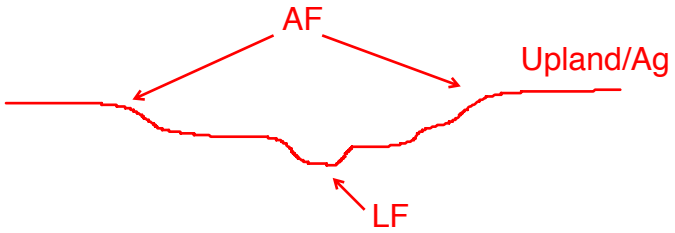
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 1 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.141403192 33.737067502

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] 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:

- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [x] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] 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
- ☑ 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: Water marks
- ☐ Other: _____
- ☐ 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
- ☐ 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 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

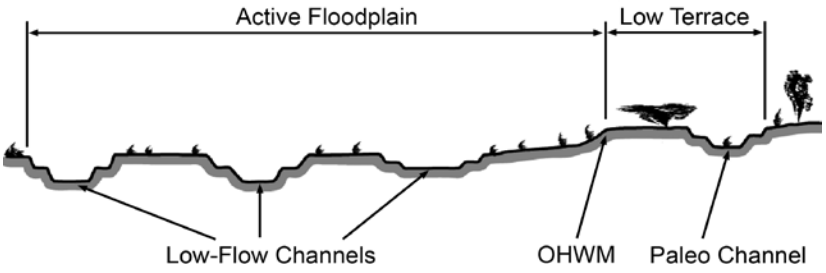
**Brief site description:**
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

**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

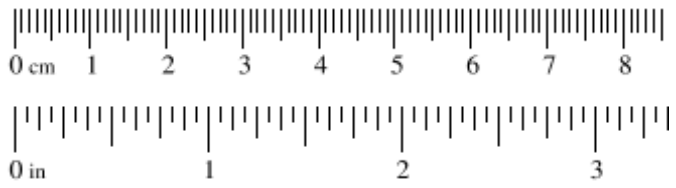



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

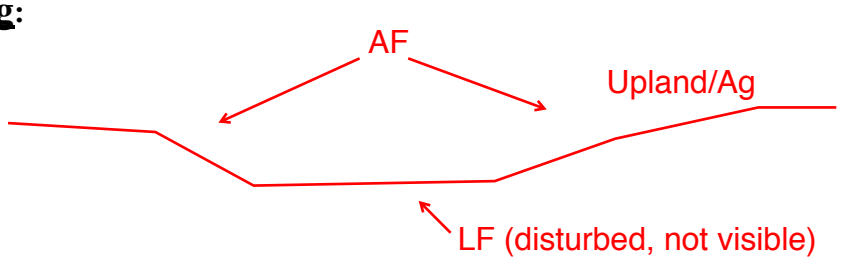
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 2 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.142543876 33.737037885

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [ ] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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
- ☑ 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 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
- ☐ 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

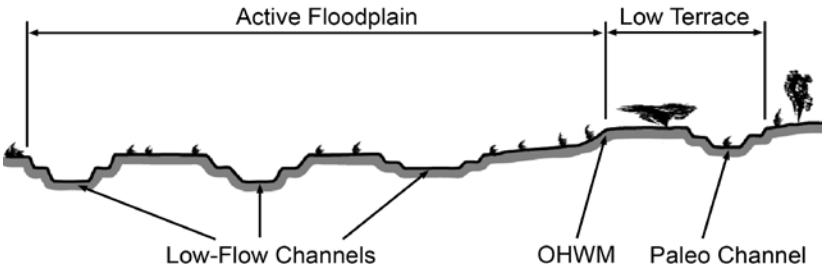
**Brief site description:**
Area receives flows from an upstream box-culverted crossing under Highway 74

**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

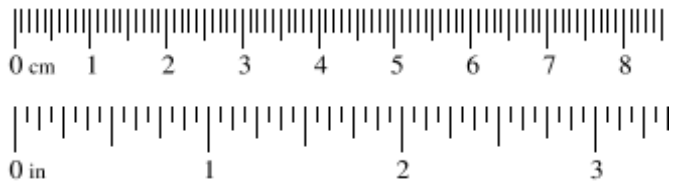



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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.
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   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

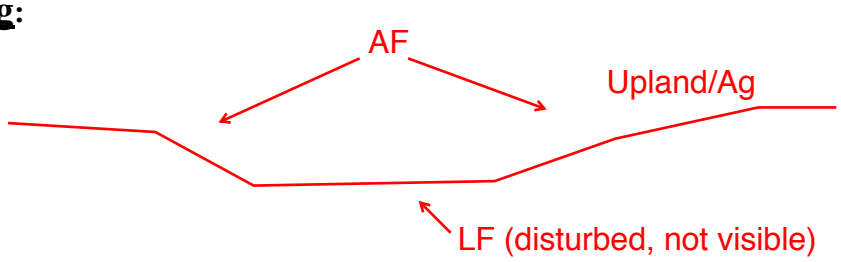
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 3 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.145462658 33.740955134

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

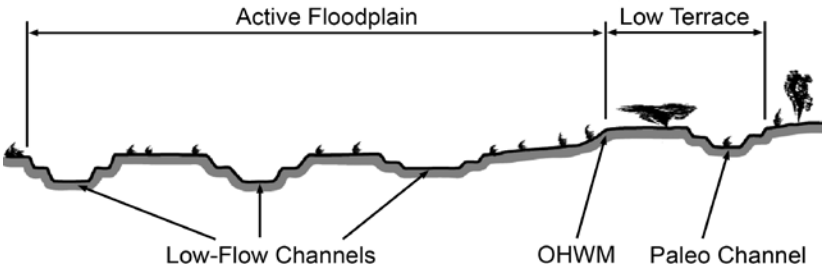
**Brief site description:**
Area receives flows from an upstream box-culverted crossing under Highway 74

**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

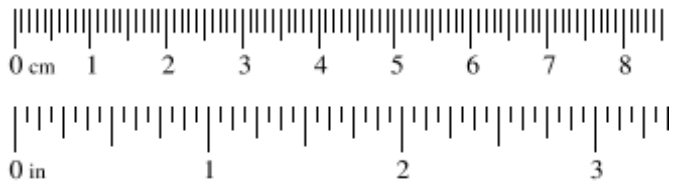



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

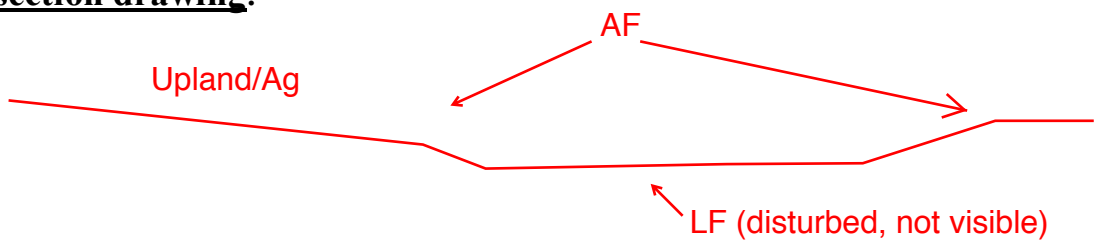
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 4 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.149211774 33.739631219

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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
- ☑ 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:**

# 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.

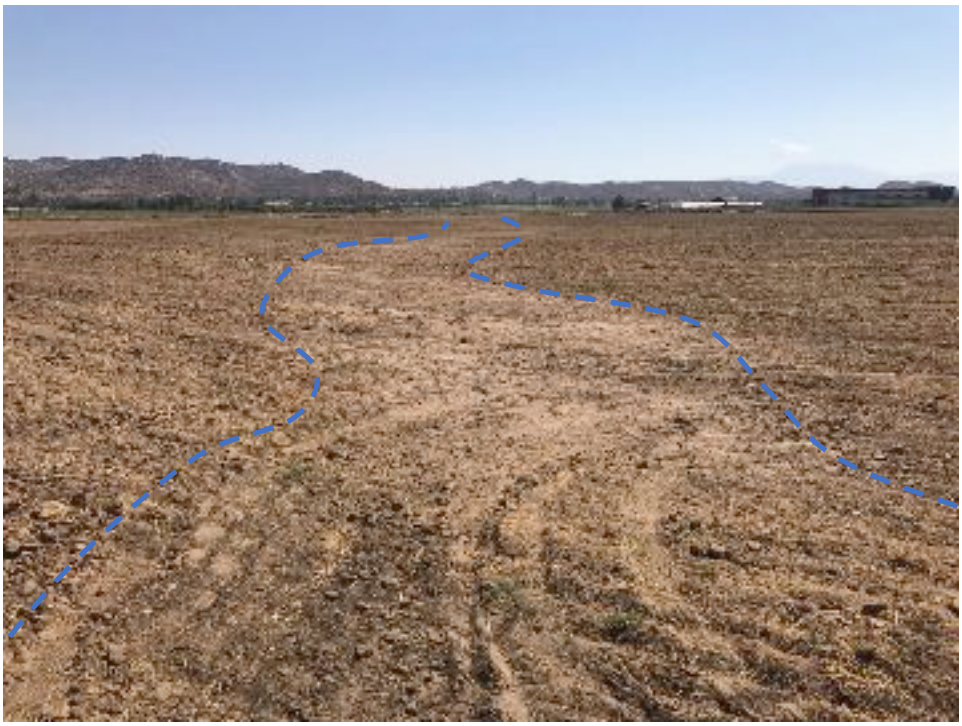


Photo 3. Upstream view of the northeast portion of Feature 1, at Ordinary High Water Mark Data Point 3 (OHWM 3). Photo taken facing northeast towards its on-site entry point along CA-74.



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 Menifee 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 Menifee Road on the western project boundary. Photo taken facing north.



Photo 20. Downstream view of roadside Ditch 3, which runs along Menifee 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.
**Diversion 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



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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



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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



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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



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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



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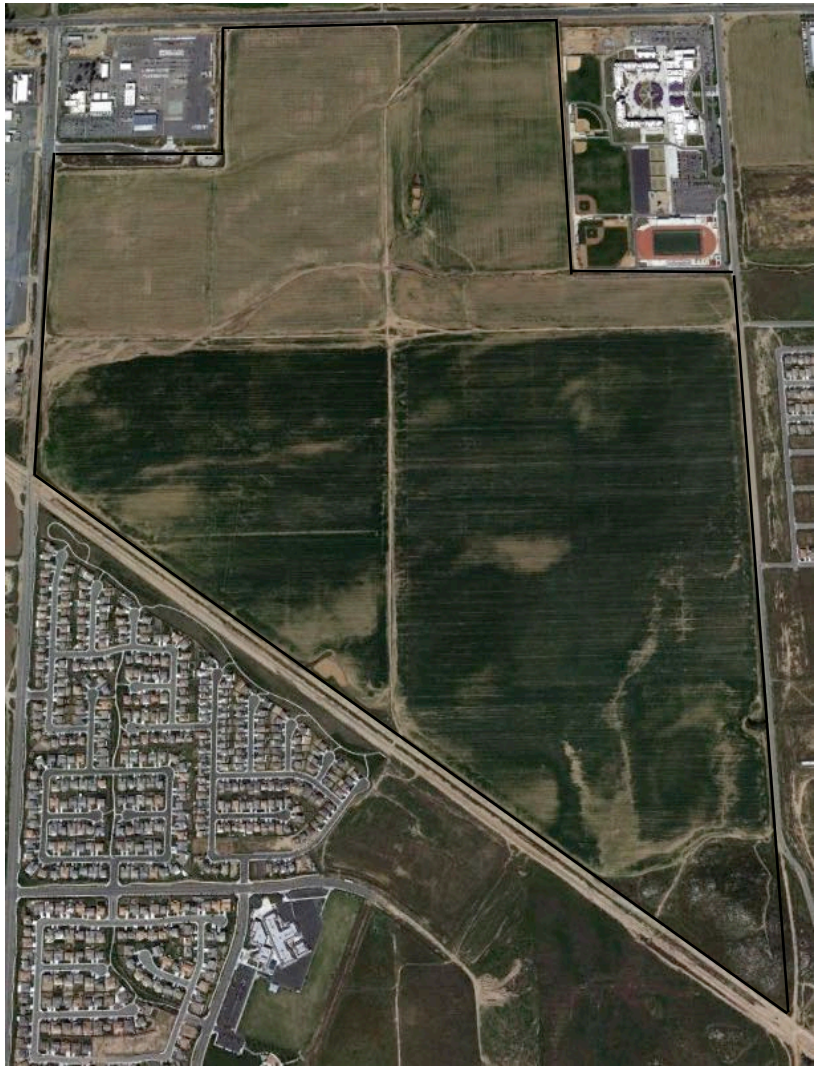
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara




2009



2011



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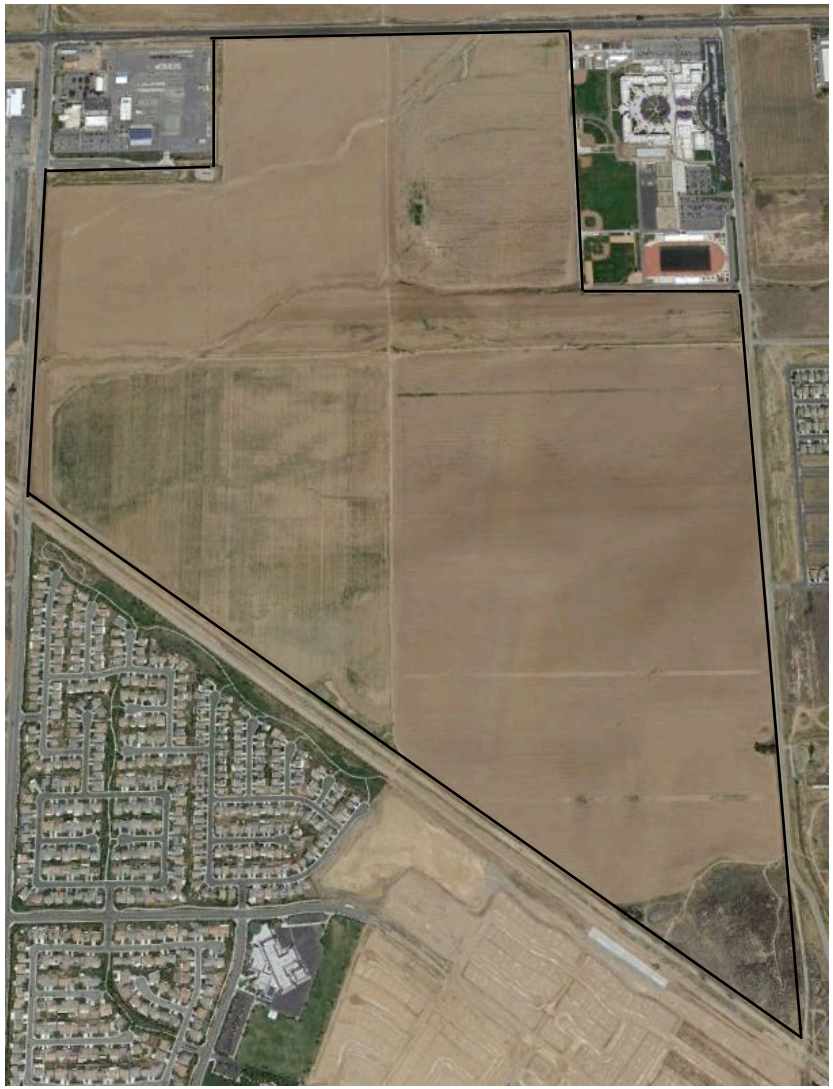
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2012



2014

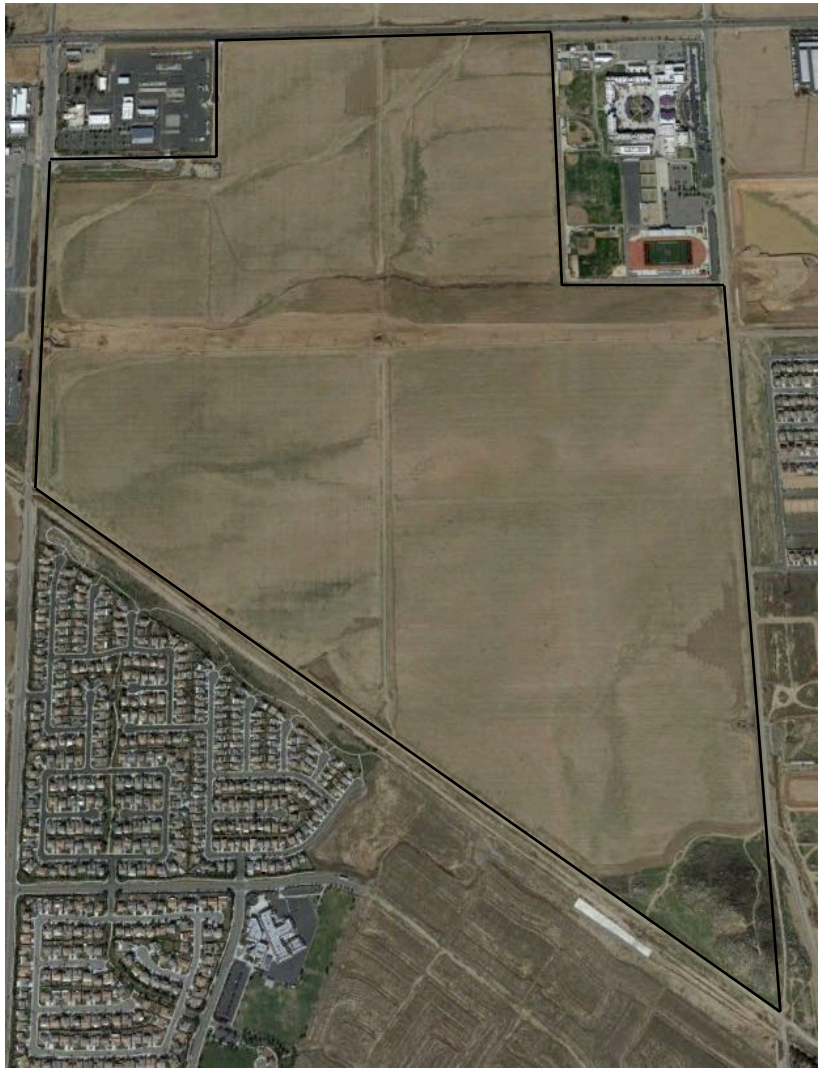


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Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2016




2018



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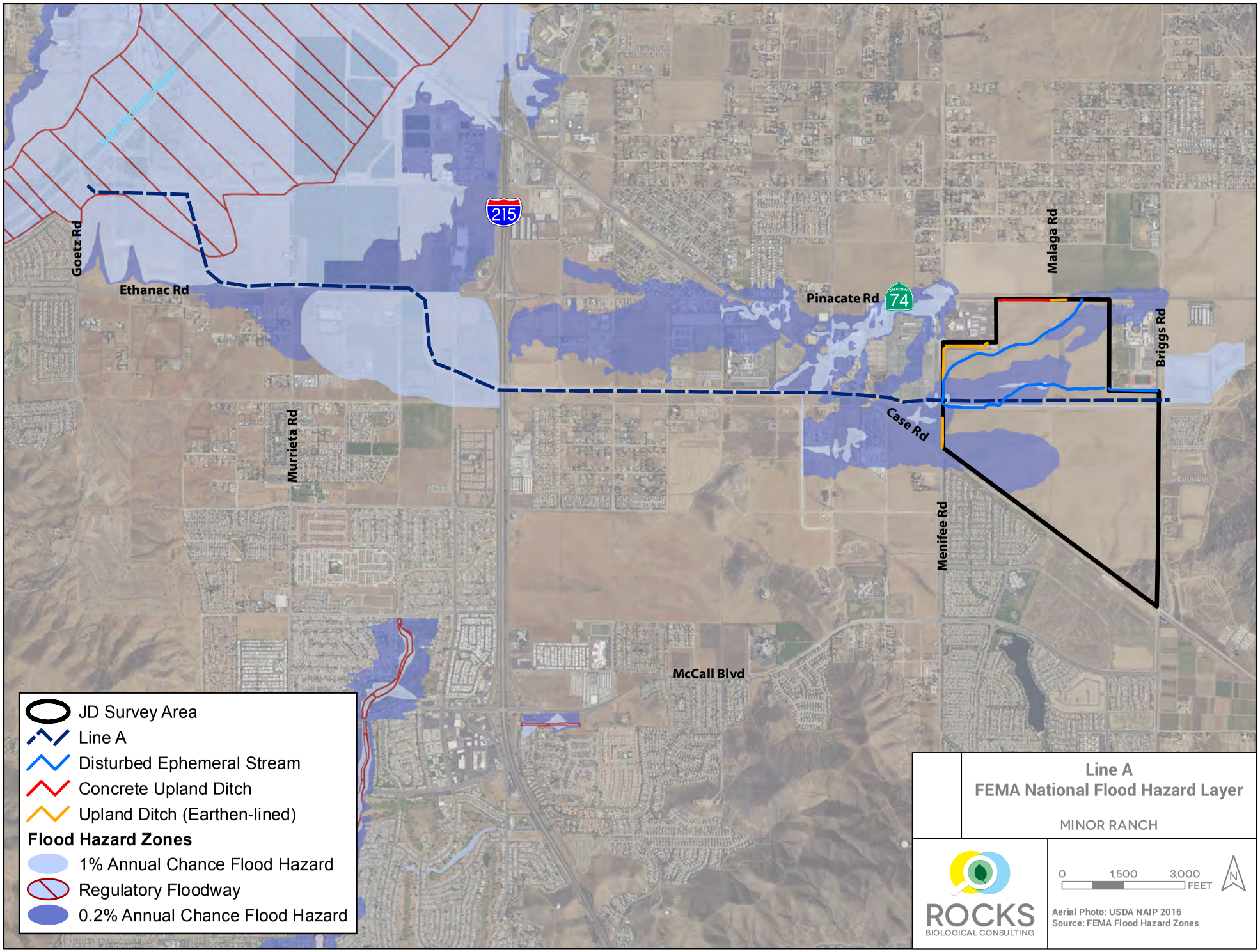
# APPENDIX F

# 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


San Jacinto River
Goetz Rd
Ethanac Rd
215
Murrieta Rd
Pinacate Rd
74
Malaga Rd
Briggs Rd
Case Rd
Menifee Rd
McCall Blvd
JD Survey Area
Line A
Disturbed Ephemeral Stream
Concrete Upland Ditch
Upland Ditch (Earthen-lined)
Flood Hazard Zones
1% Annual Chance Flood Hazard
Regulatory Floodway
0.2% Annual Chance Flood Hazard
Line A
FEMA National Flood Hazard Layer
MINOR RANCH
ROCKS
BIOLOGICAL CONSULTING
0
1,500
3,000
FEET
N
Aerial Photo: USDA NAIP 2016
Source: FEMA Flood Hazard Zones

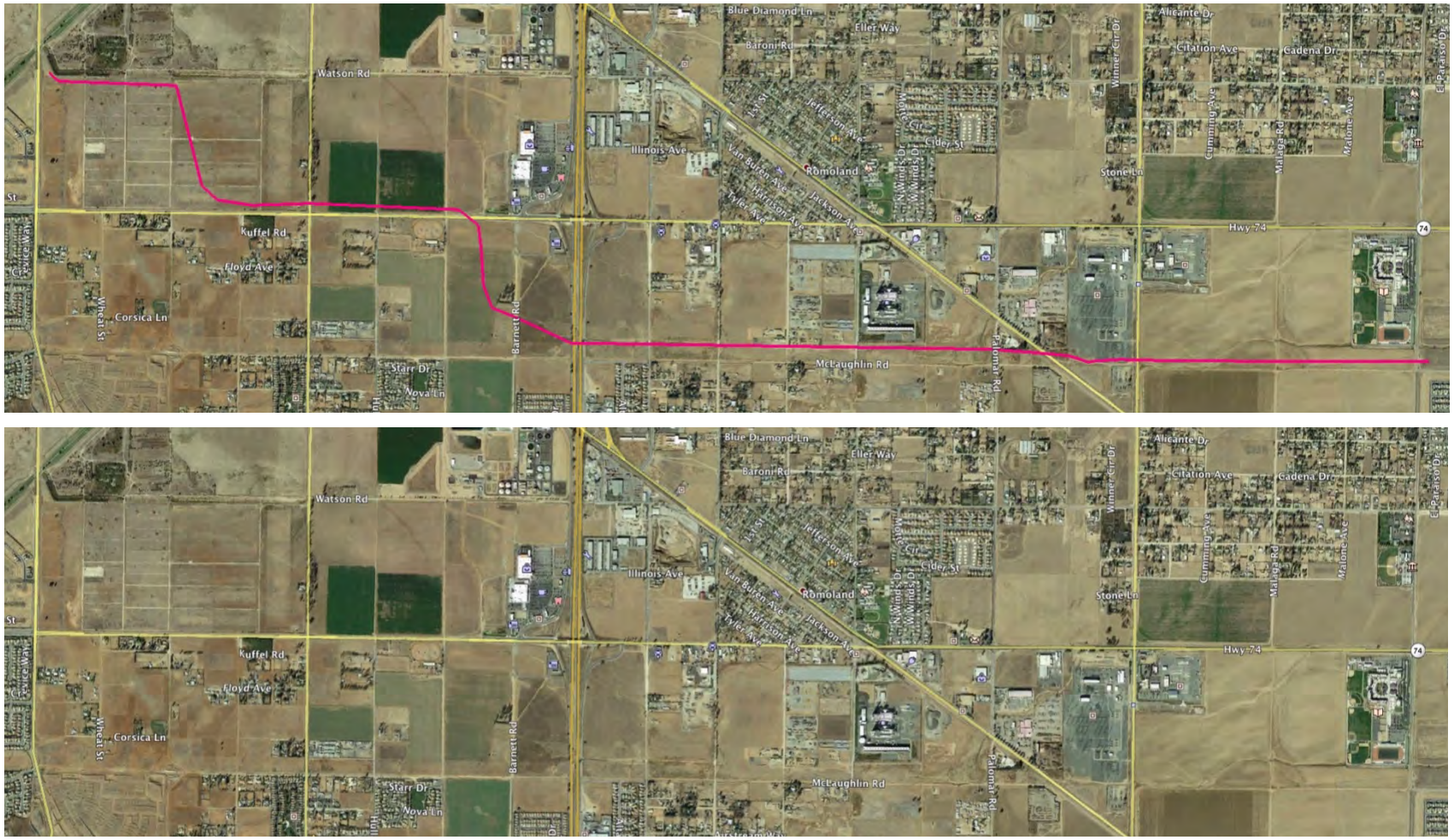
Appendix G – Line A Drone Image



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Appendix G – Line A Aerials Analysis

Source: Google Earth



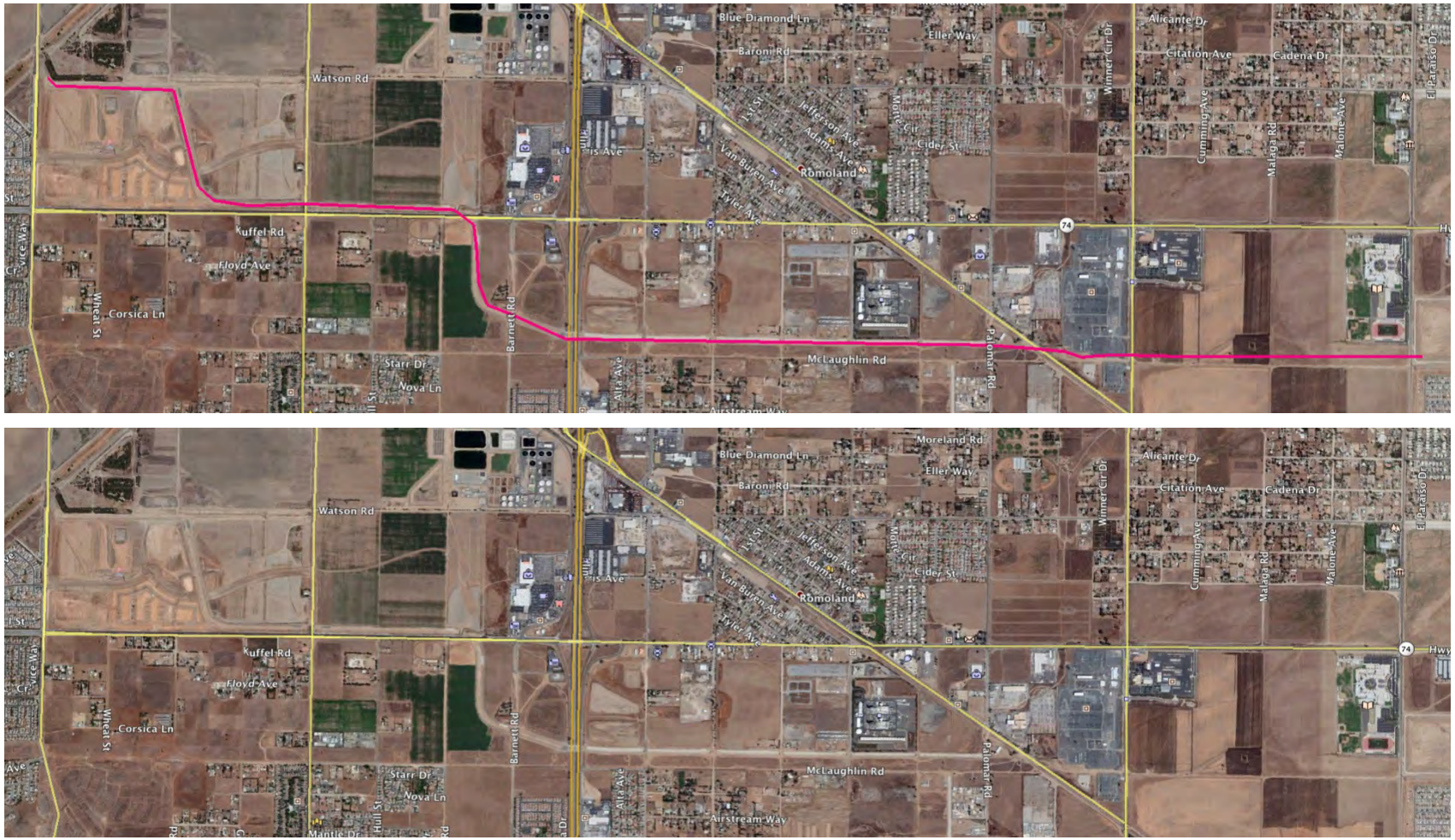

November 2013 (prior to construction of Line A). Pink line denotes existing alignment of Line A, which initiates in the east and drains to the west. Note upstream flows visible in current location of Briggs Detension Basin, directly east where Line A originates.



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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).



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# APPENDIX H

## GIS DATA (PROVIDED ELECTRONICALLY TO AGENCIES)

# APPENDIX D

# MENIFEE VALLEY PROJECT
# JURISDICTIONAL DELINEATION REPORT
# ADDENDUM

To: Shaun Bowen, Brookfield Properties Development

From: Sarah Krejca, Rocks Biological Consulting

Date: October 25, 2022

Subject: Menifee Valley Project Jurisdictional Delineation Report Addendum

---

This memo serves as an addendum to the July 15, 2019 *Menifee Valley Project Jurisdictional Delineation Report* (2019 JDR; Rocks Biological Consulting [RBC] 2019; Attachment A) to address the updated project footprint for the Menifee Valley Project (project) per CAD files received on April 25, 2022. Specifically, the overall project footprint was expanded to include additional off-site improvement areas along Menifee Road, California State Route 74 (CA-74), Mathews Road, and Briggs Road. As such, the review area discussed in this addendum only encompasses the off-site improvement areas that occur beyond the limits of the review area/project study area included in the 2019 JDR (i.e., the original project footprint and a 50-foot survey buffer) (Figure 1).

## 1.1 SITE DESCRIPTIONS, LANDSCAPE SETTING

The 30.40-acre review area for the off-site improvement areas that occur outside of the original review area/project study area included in the 2019 JDR is generally flat with elevations ranging from approximately 1,464 to 1,537 feet above mean sea level (amsl) (Figure 2). The review area is within the San Jacinto Hydrologic Unit Code [HUC] 8 (18070202), Lower San Jacinto River HUC 10 (1807020203), and both the San Jacinto Valley HUC 12 (180702020302) and Perris Valley-San Jacinto River HUC 12 (180702020306) watersheds (Figure 3).

## 1.2 METHODS

RBC regulatory specialists Sarah Krejca and Kelsey Woldt conducted an aquatic resources delineation field visit for the off-site improvement areas that occur outside of the original review area/project study area included in the 2019 JDR on February 24, 2022 and May 26, 2022. Field conditions during these field visits are provided below in Table 1.

Table 1. Field Conditions

| Date | Survey Time Start – End | Temperature (°F) Start – End | Wind Speed Range (miles per hour) Start – End | Cloud Cover (%) Start – End |
|---|---|---|---|---|
| 2/24/2022 | 0900 – 1600 | 41 – 56 | 1 to 3 – 1 to 3 | 0 – 0 |
| 5/26/2022 | 1000 – 1600 | 74 – 85 | 0 to 1 – 2 to 4 | 15 – 0 |

Figure 1 and Figures 5A to 5C depict the 30.40-acre review area.

RBC identified areas that may be considered potentially jurisdictional by 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; or California Department of Fish and Wildlife (CDFW) pursuant to California Fish and Game Code § 1602. Staff evaluated areas with depressions, drainage patterns, wetland vegetation, and/or riparian vegetation within the new survey areas for potential jurisdictional status, with focus on the presence of defined channels, wetland soils, and hydrology. Methods were consistent with the aquatic resources delineation survey methodology presented in the 2019 JDR (RBC 2019; Attachment A); however, staff examined potential wetland waters of the State in accordance with The State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (California State Water Resources Control Board [SWRCB] 2021), which went into effect in May 2020 and was revised in April 2021.

## 1.3 SITE ALTERATIONS, CURRENT AND PAST LAND USE

### SOILS

Based on the Natural Resources Conservation Service (NRCS) soils map (Figure 4), ten soil map units occur within the review area.

Table 2. Soils Mapped within Review Area

| Soil Map Unit | Soil Series/Unit | Geomorphic Surface | Taxonomic Class | NRCS Hydric Status |
|---|---|---|---|---|
| Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded | Cieneba | Hills | Loamy, mixed, superactive, nonacid, thermic, shallow Typic Xerorthents | No |
| Exeter sandy loam, 2 to 8 percent slopes, eroded | Exeter | Alluvial fans | Fine-loamy, mixed, superactive, thermic Typic Durixeralfs | No |
| Exeter sandy loam, deep, 0 to 2 percent slopes | Exeter | Alluvial fans | Fine-loamy, mixed, superactive, thermic Typic Durixeralfs | No |
| Exeter very fine sandy loam, deep, 0 to 5 percent slopes | Exeter | Alluvial fans | Fine-loamy, mixed, superactive, thermic Typic Durixeralfs | No |
| Greenfield sandy loam, 0 to 2 percent slopes | Greenfield | Terraces, alluvial fans | Coarse-loamy, mixed, active, thermic Typic Haploxeralfs | No |
| Greenfield sandy loam, 2 to 8 percent slopes, eroded | Greenfield | Terraces, alluvial fans | Coarse-loamy, mixed, active, thermic Typic Haploxeralfs | No |
| Hanford coarse sandy loam, 8 to 15 percent slopes, eroded | Hanford | Alluvial fans | Coarse-loamy, mixed, superactive, nonacid, thermic Typic Xerorthents | No |
| Pachappa fine sandy loam, 0 to 2 percent slopes | Pachappa | Alluvial fans | Coarse-loamy, mixed, active, thermic Mollic Haploxeralfs | No |
| Ramona sandy loam, 0 to 2 percent slopes, MLRA 19 | Ramona | Alluvial fans, terraces | Fine-loamy, mixed, superactive, thermic Typic Haploxeralfs | No |

| Soil Map Unit | Soil Series/Unit | Geomorphic Surface | Taxonomic Class | NRCS Hydric Status |
|---|---|---|---|---|
| Ramona sandy loam, 2 to 5 percent slopes, eroded | Ramona | Terraces, alluvial fans | Fine-loamy, mixed, superactive, thermic Typic Haploxeralfs | No |

Source: NRCS Official Soil Series Description and Series Classification database (Soil Survey Staff n.d.).

The National Technical Committee for Hydric Soils defines hydric soils; *Changes in Hydric Soils Database Selection Criteria* (77 FR 12234) outlines the current four hydric soil criteria. As shown above in Table 2, the NRCS Soil Data Access (SDA) Hydric Soils List does not specify any soil map units within the review area as hydric (NRCS n.d.). The soil series outlined above in Table 2 are further described below per the USDA's NRCS Official Soil Series Description and Series Classification database (Soil Survey Staff n.d.):

*Cieneba series* – The Cieneba series consists of somewhat excessively drained soils that formed in material weathered primarily from granitic rock. Cieneba soils have very low to high runoff, moderately rapid permeability, and slopes ranging from 9 to 85 percent. These soils occur on hills and mountains at elevations of 500 to 4,000 feet amsl. Cieneba soil is used for wildlife, recreation, watershed, and grazing. Uncultivated areas mainly consist of chaparral with widely spread foothill pine (*Pinus sabiniana*) or oak tree (*Quercus* sp.), and small areas of annual grasses and weeds.

*Exeter series* – The Exeter series consists of moderately well-drained soils that formed in alluvium derived mainly from granitic rock. Exeter soils have very slow to medium runoff, moderately slow permeability above the duripan, very slow permeability of the duripan, and slopes ranging from 0 to 9 percent. These soils occur on alluvial fans and terraces at elevations of 20 to 700 feet amsl. Exeter soil is used for production of irrigated crops, including oranges, olives, deciduous orchards, vineyards, and row crops, and for dairy and cattle production. Uncultivated areas mainly consist of annual grasses and forbs.

*Greenfield series* – The Greenfield series consists of deep, well-drained soils that formed in moderately coarse and coarse alluvium derived from granitic rock and other mixed rock sources. Greenfield soils have slow to medium runoff, moderately rapid permeability, and slopes ranging from 0 to 30 percent. These soils occur on alluvial fans and terraces at elevations of 100 to 3,500 feet amsl. Greenfield soil is used for production of field, forage, and fruit crops and also for growing grain and pasture. Uncultivated areas consist of annual grasses, forbs, some shrubs, and some oak trees.

*Hanford series* – The Hanford series consists of very deep, well-drained soils that formed in moderately coarse alluvium derived from granitic rock. Hanford soils have negligible to low runoff, moderately rapid permeability, and slopes ranging from 0 to 15 percent. These soils occur on stream bottoms, floodplains, and alluvial fans at elevations of 150 to 3,500 feet amsl. Hanford soil is used for production of fruits, vegetables, and general farm crops, as well as for urban development and dairy farms. Uncultivated areas consist of annual grasses and herbaceous plants.

*Pachappa series* – The Pachappa series consists of well-drained (minimal) soils that formed in moderately coarse alluvium derived from granitic rock. Pachappa soils have medium runoff, moderate permeability, and slopes ranging from 2 to 8 percent. These soils occur on alluvial fans at elevations of 0 to 1,000 feet amsl. Greenfield soil is used for production of mainly irrigated crops, such as alfalfa, small grains, and row crops, and also for growing dry farm small grains. Uncultivated areas consist of annual grasses, herbs, and shrubs.

*Ramona series* – The Ramona series consists of well-drained soils that formed in alluvium derived from granitic rock and related rock sources. Ramona soils have slow to rapid runoff and moderately slow permeability. These soils are nearly level to moderately steep and occur on terraces and fans at elevations of 250 to 3,500 feet amsl. Ramona soil is used for production of grain, hay, pasture, irrigated citrus, olives, truck crops, and seasonal fruits. Uncultivated areas are primarily annual grasses, forbs, chamise, or chaparral.

## HYDROLOGY

Per the review of on-line data sources, U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) maps several features as a "Canal/Ditch," "Connector," or "Stream/River" within the review area, as shown on Figure 2; U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) does not map any features within the review area (Figure 4). On-site features appear to be fed primarily by direct precipitation and several culvert outlets (as mapped on Figures 5A to 5C) from adjacent roads, agricultural areas, and/or developed areas.

## VEGETATION

Table 3 provides vegetation community acreages within the review area based on vegetation mapping conducted by RBC on February 24 and May 26, 2022. Vegetation communities within the review area are shown on Figure 6. The vegetation community classifications generally follow *Preliminary Descriptions of the Terrestrial Natural Communities of California* (Holland 1986).

Table 3. Vegetation Communities within Review Area

| Vegetation Community/Land Cover Type | Acre(s)[1] |
|---|---|
| Active Agriculture | 0.46 |
| Developed | 17.00 |
| Disturbed Habitat | 12.63 |
| Non-native Grassland | 0.30 |
| Riversidean Sage Scrub | 0.02 |
| Total | 30.40 |

[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.

*Active Agriculture* – Active agriculture within the review area has previously been used to cultivate barley (*Triticum* sp.), watermelon (*Cirtrullus lanatus*), and other species, and is routinely disked and plowed. Active agriculture occurs within the review area north of CA-74.

*Developed* – Developed land within the review area consists of paved roads and surfaces, a park, and other areas regularly utilized by humans that are devoid of natural habitat.

*Disturbed Habitat* – Disturbed habitat includes lands that have been graded, cleared, or otherwise directly impacted by anthropogenic activity, and that do not support native vegetation. Disturbed habitat within the review area includes lands that are continuous with large parcels of disked land outside of the review area previously used for agriculture and roadside margins dominated by non-native species. Vegetation within the disturbed habitat is dominated by 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*), short-pod mustard (*Hirschfeldia incana*), and tumbleweed (*Salsola australis*) are also present. Disturbed habitat occurs throughout the review area.

*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 within the review area is composed primarily of ripgut brome and slender wild oat.

*Riversidean Sage Scrub* – Riversidean sage scrub, a sub-type of coastal sage scrub dominated by California buckwheat (*Eriogonum fasciculatum*), is an open sage scrub community found on xeric steep slopes that release stored moisture slowly (Holland 1986). Riversidean sage scrub is concentrated on the large hill in the southeastern corner of the review area.

## 1.4 PRECIPITATION DATA AND ANALYSIS

RBC utilized the NRCS Agricultural Applied Climate Information System (AgACIS) database for the Murrieta 3.6 NNE, CA station (approximately 9.0 miles southwest of the review area) to access pre-site visit precipitation data for the two field survey dates on February 24, 2022 and May 26, 2022 (NRCS 2022), as shown in Table 4.

Table 4. Precipitation Data for September 2021 – April 2022

| | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr |
|---|---|---|---|---|---|---|---|---|
| Monthly Total Precipitation (inch[es]) | 0.11 | 0.87 | 0.00 | 6.29 | M[1] | 0.91 | 1.56 | 0.26 |

[1] Per AgACIS database: Value of 'M' indicates missing data.

## 1.5 DESCRIPTION OF OBSERVED POTENTIAL AQUATIC RESOURCES

Note that the nomenclature used in this report for the Wetland Data Form Points (WDPs), Ordinary High Water Mark (OHWM) Datasheet Points (ODPs), and aquatic resources is sequential with that used in the 2019 JDR; therefore, within this addendum the WDP

numbering begins at WDP 5, the ODP numbering begins at ODP 5, and Feature 2 is not discussed as the entirety of the on-site portion of this feature was included in the 2019 JDR (Attachment A).

## CORPS/RWQCB WETLAND WATERS OF THE U.S./STATE

RBC collected data at three representative WDPs within the review area to determine the presence or absence of jurisdictional wetland waters of the U.S./State (WDP 5 through 7; Figures 5A and 5B; Attachment B). The delineated aquatic features on site did not meet the appropriate wetland parameters to qualify as wetland waters of the U.S./State based on the data collected during the field delineation (Attachment B).

## CORPS/RWQCB NON-WETLAND WATERS OF THE U.S./STATE

### Feature 1

Feature 1 is a sparsely vegetated drainage composed of disturbed habitat (Figures 5A and 5B; Tables 5 and 6; Attachment C, Photo 1). Feature 1 occurs north of CA-74, as shown on Figures 5A and 5B, and generally flows south before entering a culvert and continuing off-site and within the 2019 JDR survey area (Attachment A). Feature 1 did not meet all three federal/State wetland parameters. See Tables 5 and 6 for the estimated OHWM and representative OHWM and wetland delineation data for this feature.

### Feature 3

Feature 3 is a vegetated drainage composed of disturbed habitat (Figures 5A and 5B; Tables 5 and 6; Attachment C, Photos 2 to 5). Feature 3 occurs north of CA-74 and east and west of Briggs Road, as shown on Figures 5A and 5B. Feature 3 generally flows west before entering a culvert, traveling under Briggs Road, then daylighting and continuing west, at times briefly traveling off site, before dissipating within an agricultural field. Feature 3 did not meet all three federal/State wetland parameters. See Tables 5 and 6 for the estimated OHWM and representative OHWM and wetland delineation data for this feature.

#### Feature 3A

Feature 3A is a sparsely vegetated drainage composed of disturbed habitat (Figures 5A and 5B; Tables 5 and 6; Attachment C, Photo 6). Feature 3A originates as road runoff north of CA-74 and west of Briggs Road, as shown on Figures 5A and 5B, then generally flows southwest before converging with Feature 3. Feature 3A did not meet all three federal/State wetland parameters. See Tables 5 and 6 for the estimated OHWM and representative OHWM and wetland delineation data for this feature.

### Feature 4

Feature 4 is a sparsely vegetated drainage generally composed of disturbed habitat (Figures 5A and 5B; Tables 5 and 6; Attachment C, Photos 17 to 20). Feature 4 occurs north of CA-74 and east and west of Menifee Road, as shown on Figures 5A and 5B. Feature 4 generally flows west before entering a culvert, traveling under Menifee Road, then daylighting and continuing west, before eventually continuing off site. Feature 4 did not meet all three

federal/State wetland parameters. See Tables 5 and 6 for the estimated OHWM and representative OHWM and wetland delineation data for this feature.

#### Feature 4A

Feature 4A is a sparsely vegetated drainage composed of disturbed habitat (Figures 5A and 5B; Tables 5 and 6; Attachment C, Photo 16). Feature 4A originates as road runoff north of CA-74 and west of Menifee Road, as shown on Figures 5A and 5B, then generally flows southwest before converging with Feature 4. Feature 4A did not meet all three federal/State wetland parameters. See Tables 5 and 6 for the estimated OHWM and representative OHWM and wetland delineation data for this feature.

## CDFW STREAMBED AND ASSOCIATED RIPARIAN AND WETLAND HABITATS

As outlined above, RBC collected data at three representative WDPs within the review area to determine the presence or absence of potential CDFW-jurisdictional wetlands (Figure 5C; Attachment B, WDP 5 through 7). The delineated aquatic features on site did not meet the appropriate wetland parameters to qualify as CDFW-jurisdictional wetlands based on the data collected during the field delineation.

Figure 5C displays the estimated extent of streambed within the review area, delineated based on the top of the channel banks. Table 7 provides additional details.

### Feature 1: Vegetated Streambed

Feature 1 is a sparsely vegetated streambed composed of disturbed habitat (Figure 5C; Table 7; Attachment C, Photo 1). Feature 1 occurs north of CA-74, as shown on Figure 5C, and generally flows south before entering a culvert and continuing off site and within the 2019 JDR survey area (Attachment A). See Table 7 for the estimated extent of CDFW jurisdiction for this feature.

### Feature 3: Vegetated Streambed

Feature 3 is a vegetated streambed composed of disturbed habitat (Figure 5C; Table 7; Attachment C, Photos 2 to 5). Feature 3 occurs north of CA-74 and east and west of Briggs Road, as shown on Figure 5C. Feature 3 generally flows west before entering a culvert, traveling under Briggs Road, then daylighting and continuing west, at times briefly traveling off site, before dissipating within an agricultural field. See Table 7 for the estimated extent of CDFW jurisdiction for this feature.

#### Feature 3A: Vegetated Streambed

Feature 3A is a sparsely vegetated streambed composed of disturbed habitat (Figure 5C; Table 7; Attachment C, Photo 6). Feature 3A originates as road runoff north of CA-74 and west of Briggs Road, as shown on Figure 5C, then generally flows southwest before converging with Feature 3. See Table 7 for the estimated extent of CDFW jurisdiction for this feature.

### Feature 4: Unvegetated Streambed and Vegetated Streambed

Feature 4 is a streambed composed of disturbed habitat (Figure 5C; Table 7; Attachment C, Photos 17 to 20). Feature 4 occurs north of CA-74 and east and west of Menifee Road, as shown on Figure 5C. Feature 4 enters the review area as a sparsely vegetated streambed, before transitioning to an unvegetated/concrete-lined streambed and traveling through a culvert under Menifee Road. After daylighting west of Menifee Road as a vegetated streambed, Feature 4 continues west, before eventually transitioning to an unvegetated streambed and continuing off site. See Table 7 for the estimated extent of CDFW jurisdiction for this feature.

#### Feature 4A: Vegetated Streambed

Feature 4A is a sparsely vegetated streambed composed of disturbed habitat (Figure 5C; Table 7; Attachment C, Photo 16). Feature 4A originates as road runoff north of CA-74 and west of Menifee Road, as shown on Figure 5C, then generally flows southwest before converging with Feature 4. See Table 7 for the estimated extent of CDFW jurisdiction for this feature.

## OTHER FEATURES

Field staff further investigated several areas with potential aquatic resource indicators, including two ditches and five swales as described below. Additionally, WDP 7 was taken within the southern portion of the review area based on the presence of wetland indicator plant species, including perennial ryegrass (*Lollium perenne*; Facultative [FAC], occurs 34 to 66% in wetlands) and umbrella sedge (*Cyperus eragrostis*; Facultative Wetland [FACW], occurs 67 to 99% in wetlands) (Figures 5A to 5C; Attachment B, WDP 7; Attachment C, Photo 27). This area did not meet all three federal wetland parameters, did not display an OHWM or exhibit bed and bank indicators, and did not appear to convey surface flows.

Furthermore, these features did not have aquatic resource field indicators and are not anticipated to be jurisdictional under Corps, RWQCB, or CDFW regulations, policy, and/or guidance based on the information provided in this section. An approved jurisdictional determination (AJD) request will be provided under separate cover to receive confirmation from the Corps that the features discussed below are not waters of the U.S.

### Ditch 4 and 5

Ditch 4 is located in the northwestern portion of the review area, east of Menifee Road, within an area of disturbed habitat (Figures 5A to 5C; Attachment C, Photos 7 to 9). The northern portion of Ditch 4 is concrete-lined, while the southern portion is an earthen ditch that exhibits an inconsistent break in slope and slight change in vegetation cover, before becoming more swale-like and heavily vegetated. The earthen portion of Ditch 4 appeared to be excavated based on the presence of tire tracks and the abrupt break in slope. Based on a review of historic aerials it was difficult to confirm when Ditch 4 was created since available historic aerial imagery only dates back to June 1938; however, no natural features occurred in the location of Ditch 4 at least as far back as June 1938 (University of California – Santa Barbara [UCSB] n.d.). Therefore, based on RBC staff's best professional judgement and observations of established vegetation in the field, Ditch 4 appears to be a ditch that was

created in uplands to convey runoff away from the surrounding developed areas. Ditch 4 displayed an inconsistent break in bank slope and a slight change in vegetation cover due to being artificially excavated but did not exhibit a distinctive change in average sediment texture, change in vegetation species, or any other OHWM indicators. Vegetation within the southern extent of Ditch 4 was well established and the feature quickly dissipated indicating that this ditch receives flows infrequently and does not convey flows downstream via observed flow patterns, culverts, or other flow paths and thus does not provide/has no impact on downstream beneficial uses and/or aquatic resource functions.

Ditch 5 is a concrete-lined ditch/stormwater conveyance feature located southeast of the intersection of Menifee Road and CA-74 (Figures 5A to 5C; Attachment C, Photos 24 to 26). Based on a review of historic aerials and field observations, Ditch 5 was constructed in uplands between January 2007 and May 2009 (Google Earth Pro 2022) and appears to direct runoff from CA-74 and Menifee Road. Specifically, road runoff from CA-74 travels south and road runoff from Menifee Road travels east to an off-site confluence in the center of Ditch 5 where flows remain and do not continue downstream (i.e., no culverts or storm drains were observed throughout the extent of Ditch 5). Ditch 5 was extended slightly north to connect to CA-74 between April 2014 and February 2016 (Google Earth Pro 2022). Ditch 5 contained debris present as dead plant material and sediment one day after a rain event (Attachment B, ODP 6); however, Ditch 5 did not display an observable bed and bank, lacked association with a natural feature/streambed, and did not support wildlife habitat. Ditch 5 appeared to be a maintained artificial structure that does not convey flows downstream via observed flow patterns, culverts, or other flow paths. As such, Ditch 5 functions as localized stormwater runoff conveyance with no downstream connectivity and thus does not provide/has no impact on downstream beneficial uses and/or aquatic resource functions.

Swale 1 – 5

Five swales (Swale 1 through Swale 5; Figures 5A to 5C) were observed during the field delineation that did not display an observable OHWM, bed and bank, or other evidence of conveying regular flows on site. A summary of the observed swales is provided below.

Swale 1, Swale 2, and Swale 3 are slightly concave drainage areas located in the northwestern portion of the review area, east of Menifee Road and south of Calle de Caballos (Figures 5A to 5C; Attachment C, Photos 10 to 13). Swale 1, Swale 2, and Swale 3 did not display an observable OHWM or bed and bank and instead appeared to convey surface flows as runoff from the neighboring developed areas, including Menifee Road. Swale 1, Swale 2, and Swale 3 also did not appear to convey flows to downstream aquatic resources via observed flow patterns, culverts, or other flow paths and thus do not provide/have no impact on downstream beneficial uses and/or aquatic resource functions.

Swale 4 is a slightly concave drainage area located in the northwestern portion of the review area, west of Menifee Road and north of CA-74 (Figures 5A to 5C; Attachment C, Photo 15). Swale 4 resulted from runoff from Menifee Road based on field observations and a review of historic aerials (Google Earth Pro 2022). Swale 4 did not display an observable OHWM or bed and bank and did not appear to convey flows to downstream aquatic resources via

observed flow patterns, culverts, or other flow paths and thus does not provide/has no impact on downstream beneficial uses and/or aquatic resource functions.

Swale 5 is a slightly concave drainage area located in the northern portion of the review area, south of CA-74 and west of McKinley Road (Figures 5A to 5C; Attachment C, Photos 21 to 23). Swale 5 did not display an observable OHWM or bed and bank and instead appeared to convey surface flows as runoff from the neighboring developed areas, including CA-74. WDP 5, taken in an area of disturbed habitat, did not meet any of the three federal wetland parameters (Attachment B, WDP 5). ODP 5, also taken in an area of disturbed habitat, contained a slight change in upland vegetation species between the swale and the adjacent upland area; however, ODP 5 did not show evidence of a break in slope or a defined bed and bank between the swale and adjacent uplands. Additionally, ODP 5 did not contain a change in sediment texture, change in vegetation cover, or any additional OHWM indicators between the swale and the adjacent upland area (Figures 5A to 5C; Attachment B, ODP 5). Thus, this swale was determined to not have an OHWM or defined bed and bank and did not appear to convey flows to downstream aquatic resources via observed flow patterns, culverts, or other flow paths and thus does not provide/has no impact on downstream beneficial uses and/or aquatic resource functions.

## 1.6 RESULTS AND CONCLUSIONS

The results provided in this section include the extent of delineated aquatic resources within the review area based on observed field indicators of potential waters of the U.S., waters of the State, and CDFW streambed per the methodologies discussed in Section 1.2 and presented in the 2019 JDR (RBC 2019; Attachment A).

This section, however, does not analyze the Corps' jurisdictional status of the delineated features per the current regulations, guidance, and standard operating procedures. An AJD request will be provided to the Corps under separate cover to receive confirmation that the potentially jurisdictional aquatic resources delineated on site do not meet the definition of waters of the U.S.

### CORPS

Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A displayed various indicators of an OHWM (Table 5). Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A did not meet the three federal wetland parameters.

As such, approximately 0.21 acre (1,384 linear feet) of potential non-wetland waters of the U.S. associated with Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A occur within the review area, as further detailed in Table 5 and as shown on Figure 5A.

However, further analysis of these potential waters of the U.S. should conclude that Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A are "isolated" features and therefore not Corps-jurisdictional under the pre-2015 definition of "waters of the U.S." (which was further defined by the 2001 *Solid Waste Agency of Northern Cook County* [SWANCC] decision and the 2006 *Rapanos* decisions). As such, the applicable JD request form and AJD form will be

provided under separate cover to the Corps to provide the data and analysis to conclude these features would not be Corps-jurisdictional via the Corps' AJD process.

Table 5. Aquatic Resource Summary: Corps

| Aquatic Resource Name | Cowardin Code | Active Channel Width Range (Feet) | Observed OHWM Indicators[1] | Observed Wetland Parameters[2] | Presence of OHWM/ Wetland | Dominant Vegetation[3] | Location (Latitude, Longitude) | Acre(s) | Linear Feet |
|---|---|---|---|---|---|---|---|---|---|
| Feature 1[4] | R6 | 12 – 32 | CAST, CVC, BBS; See ODP 7[5] | None; See WDP 6[6] | Yes/No | Disturbed Habitat; See WDP 6[6] | 33.743307, -117.142699 | 0.02 | 53 |
| Feature 3[4] | R6 | 4 – 24 | CAST, CVC, BBS; See ODP 7[5] | None; See WDP 6 | Yes/No | Disturbed Habitat; See WDP 6 | 33.743345, -117.137214 | 0.05 | 410 |
| Feature 3A[4] | R6 | 7 – 12 | CAST, CVC, BBS; See ODP 7[5] | None; See WDP 6[6] | Yes/No | Disturbed Habitat; See WDP 6[6] | 33.743473, -117.136627 | 0.01 | 50 |
| Feature 4[4] | R6 | 4 – 13 | CAST, CVC, BBS; See ODP 7 | None; See WDP 6[6] | Yes/No | Disturbed Habitat; See WDP 6[6] | 33.743260, -117.155016 | 0.11 | 773 |
| Feature 4A[4] | R6 | 2 – 6 | CAST, CVC, BBS; See ODP 7[5] | None; See WDP 6[6] | Yes/No | Disturbed Habitat; See WDP 6[6] | 33.743381, -117.154200 | 0.01 | 97 |
| | | | | | | | Total[7] | 0.21 | 1,384 |

[1] OHWM Indicators: CAST = Change in average sediment texture; CVC = Change in vegetation cover; CVS = Change in vegetation species; BBS = Break in bank slope
[2] Wetland Indicators: HV = Hydrophytic Vegetation; HS = Hydric Soils; WH = Wetland Hydrology
[3] See Figure 6 for all vegetation communities present within/around each aquatic resource.
[4] Further analysis should conclude that this aquatic resource is an "isolated" feature and therefore not Corps-jurisdictional under the pre-2015 definition of "waters of the U.S." (which was further defined by the 2001 *Solid Waste Agency of Northern Cook County* [SWANCC] decision and the 2006 *Rapanos* decisions).
[5] Based on a representative ODP taken within an aquatic resource with similar conditions.
[6] Based on a representative WDP taken within an aquatic resource with similar conditions.
[7] Acreages and linear feet totals were 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.

### RWQCB

Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A displayed various indicators of an OHWM (Table 6). Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A did not meet the three federal/State wetland parameters.

As such, approximately 0.21 acre (1,384 linear feet) of potential non-wetland waters of the State associated with Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A occur within the review area, as further detailed in Table 6 and as shown on Figure 5B.

Table 6. Aquatic Resource Summary: RWQCB

| Aquatic Resource Name | Cowardin Code | Active Channel Width Range (Feet) | Observed OHWM Indicators[1] | Observed Wetland Parameters[2] | Presence of OHWM/ Wetland | Dominant Vegetation[3] | Location (Latitude, Longitude) | Acre(s) | Linear Feet |
|---|---|---|---|---|---|---|---|---|---|
| Feature 1 | R6 | 12 – 32 | CAST, CVC, BBS; See ODP 7[4] | None; See WDP 6[5] | Yes/No | Disturbed Habitat; See WDP 6[5] | 33.743307, -117.142699 | 0.02 | 53 |
| Feature 3 | R6 | 4 – 24 | CAST, CVC, BBS; See ODP 7[4] | None; See WDP 6 | Yes/No | Disturbed Habitat; See WDP 6 | 33.743345, -117.137214 | 0.05 | 410 |

| Aquatic Resource Name | Cowardin Code | Active Channel Width Range (Feet) | Observed OHWM Indicators[1] | Observed Wetland Parameters[2] | Presence of OHWM/ Wetland | Dominant Vegetation[3] | Location (Latitude, Longitude) | Acre(s) | Linear Feet |
|---|---|---|---|---|---|---|---|---|---|
| Feature 3A | R6 | 7 – 12 | CAST, CVC, BBS; See ODP 7[4] | None; See WDP 6[5] | Yes/No | Disturbed Habitat; See WDP 6[5] | 33.743473, -117.136627 | 0.01 | 50 |
| Feature 4 | R6 | 4 – 13 | CAST, CVC, BBS; See ODP 7 | None; See WDP 6[5] | Yes/No | Disturbed Habitat; See WDP 6[5] | 33.743260, -117.155016 | 0.11 | 773 |
| Feature 4A | R6 | 2 – 6 | CAST, CVC, BBS; See ODP 7[4] | None; See WDP 6[5] | Yes/No | Disturbed Habitat; See WDP 6[5] | 33.743381, -117.154200 | 0.01 | 97 |
| | | | | | | | Total[6] | 0.21 | 1,384 |

[1] OHWM Indicators: CAST = Change in average sediment texture; CVC = Change in vegetation cover; CVS = Change in vegetation species; BBS = Break in bank slope
[2] Wetland Indicators: HV = Hydrophytic Vegetation; HS = Hydric Soils; WH = Wetland Hydrology
[3] See Figure 6 for all vegetation communities present within/around each aquatic resource.
[4] Based on a representative ODP taken within an aquatic resource with similar conditions.
[5] Based on a representative WDP taken within an aquatic resource with similar conditions.
[6] Acreages and linear feet totals were 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.

### CDFW

Feature 1, Feature 3, Feature 3A, Feature 4, and Feature 4A qualify as CDFW streambed (Table 7). Approximately 0.22 acre (788 linear feet) of vegetated streambed and 0.08 acre (596 linear feet) of unvegetated streambed occur within the review area, as further detailed in Table 7 and as shown on Figure 5C.

Table 7. Aquatic Resource Summary: CDFW

| Aquatic Resource Name | Aquatic Resource Type | Vegetation Community | Width Range[1] (Feet) | Location (Latitude, Longitude) | Acre(s) | Linear Feet[2] |
|---|---|---|---|---|---|---|
| Feature 1 | Vegetated Streambed | Disturbed Habitat | 12 – 32 | 33.743312, -117.142729 | 0.03 | 53 |
| Feature 3 | Vegetated Streambed | Disturbed Habitat | 18 – 34 | 33.743343, -117.137189 | 0.10 | 410 |
| Feature 3A | Vegetated Streambed | Disturbed Habitat | 11 – 20 | 33.743477, -117.136628 | 0.02 | 50 |
| Feature 4 | Unvegetated Streambed | Developed (Concrete-Lined) | 4 – 22 | 33.743279, -117.153913 | <0.01 | 596 |
| | | Disturbed Habitat | | 33.743255, -117.155414 | 0.08 | |
| | Vegetated Streambed | Disturbed Habitat | | 33.743269, -117.154173 | 0.06 | 177 |
| Feature 4A | Vegetated Streambed | Disturbed Habitat | 2 – 10 | 33.743379, -117.154201 | 0.01 | 97 |
| | | | | Total[3] | 0.30 | 1,384 |

[1] Corresponds with the approximate stream bank widths observed during delineation. Width range accounts for entirety of streambed delineated, not individual vegetation communities.
[2] Linear feet not calculated for individual vegetation community to avoid redundant linear foot calculation where such areas overlap.
[3] Acreages and linear feet totals were 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.

# 2 CONTACT INFORMATION

Please note that the contact information for this memo and the 2019 JDR (Attachment A) is as follows:

*Applicant/Land Owner:*

Dave Bartlett

Brookfield Properties

3200 Park Center Drive, Suite 100

Costa Mesa, CA 92626

Dave.Bartlett@brookfieldpropertiesdevelopment.com

714-200-1533

*Agent:*

Sarah Krejca

Rocks Biological Consulting

4312 Rialto Street

San Diego, CA 92107

sarah@rocksbio.com

619-813-8790

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

# 3 REFERENCES

California State Water Resources Control Board (SWRCB). 2021. State Policy for Water Quality Control: State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. April 6.

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Holland, R. 1986. *Preliminary Descriptions of the Terrestrial Natural Communities of California*. Unpublished document, California Department of Fish and Game, Natural Heritage Division. Sacramento, CA.

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## FIGURES

Figure 1. Project Location

Figure 2. USGS Topo and NHD

Figure 3. Watershed

Figure 4. NRCS Soils Survey Data and NWI

Figure 5A. Corps Aquatic Resources

Figure 5B. RWQCB Aquatic Resources

Figure 5C. CDFW Streambed and Riparian Habitats

Figure 6. Vegetation

## ATTACHMENTS

Attachment A. *Menifee Valley Project Jurisdictional Delineation Report*, prepared by RBC and dated July 15, 2019

Attachment B. Arid West Wetland Determination Data Forms and Ephemeral and Intermittent Streams OHWM Datasheets

Attachment C. Site Photographs

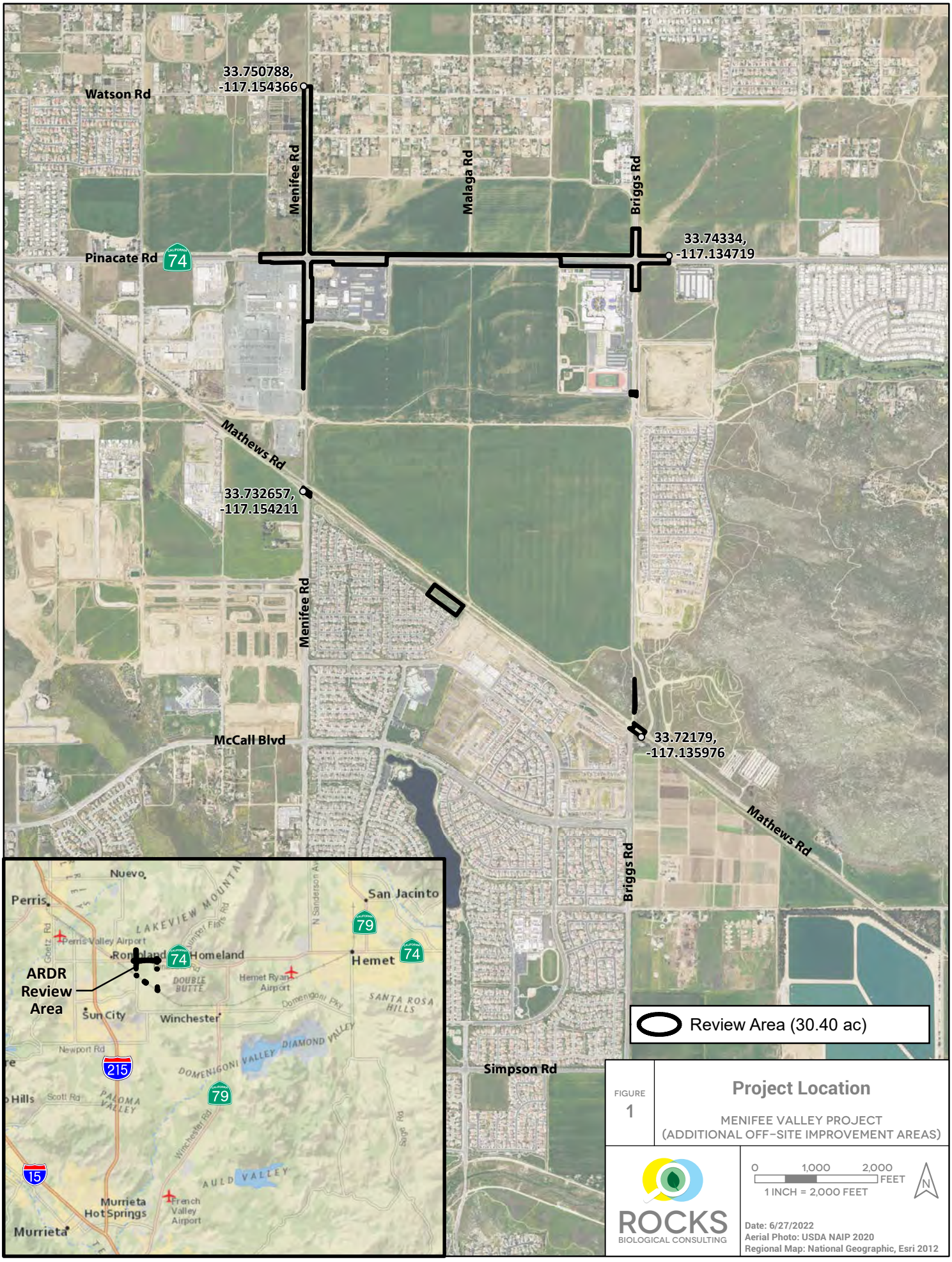



FIGURE 1

## Project Location

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET
1 INCH = 2,000 FEET

Date: 6/27/2022
Aerial Photo: USDA NAIP 2020
Regional Map: National Geographic, Esri 2012

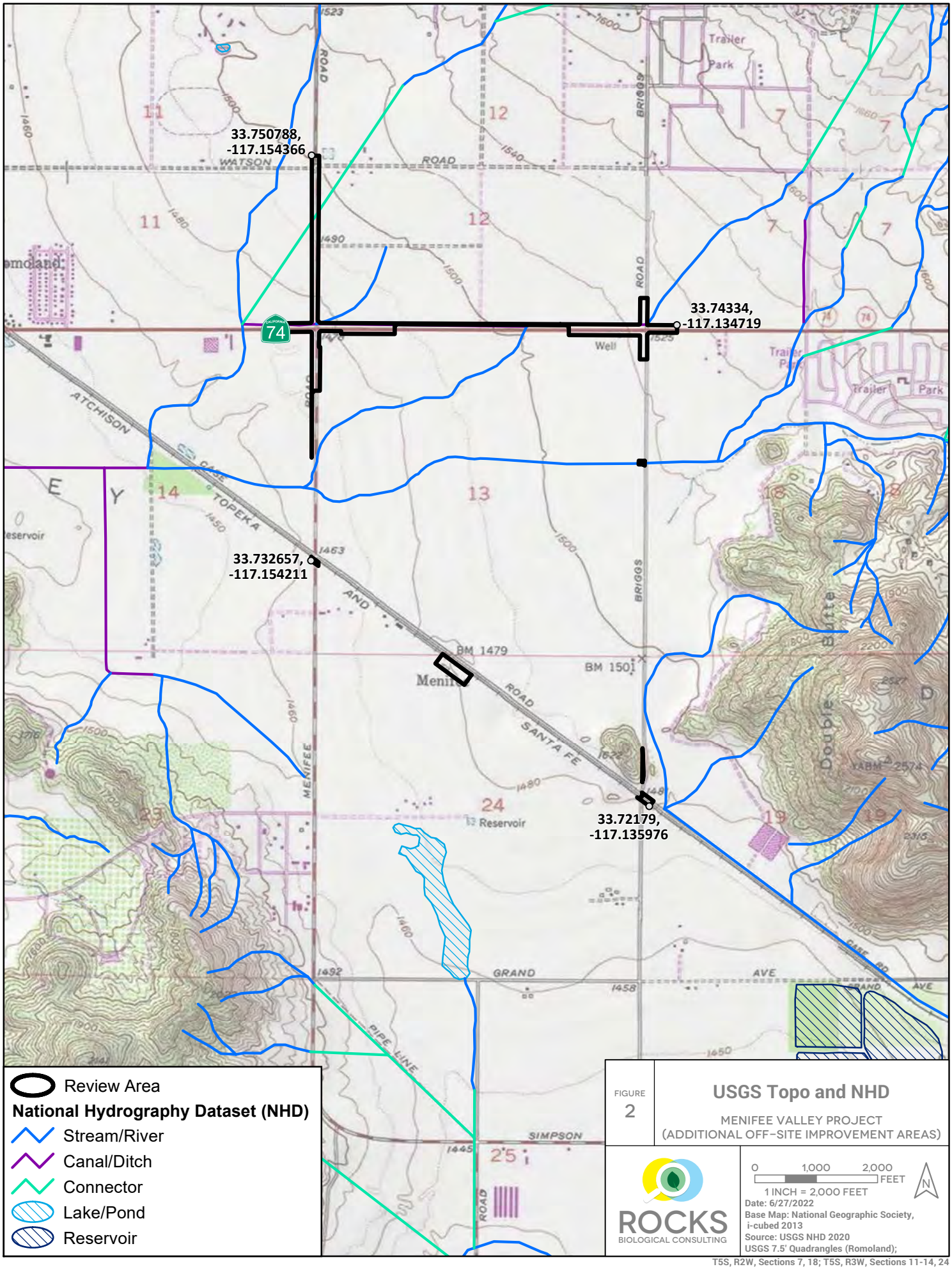



FIGURE 2

# USGS Topo and NHD

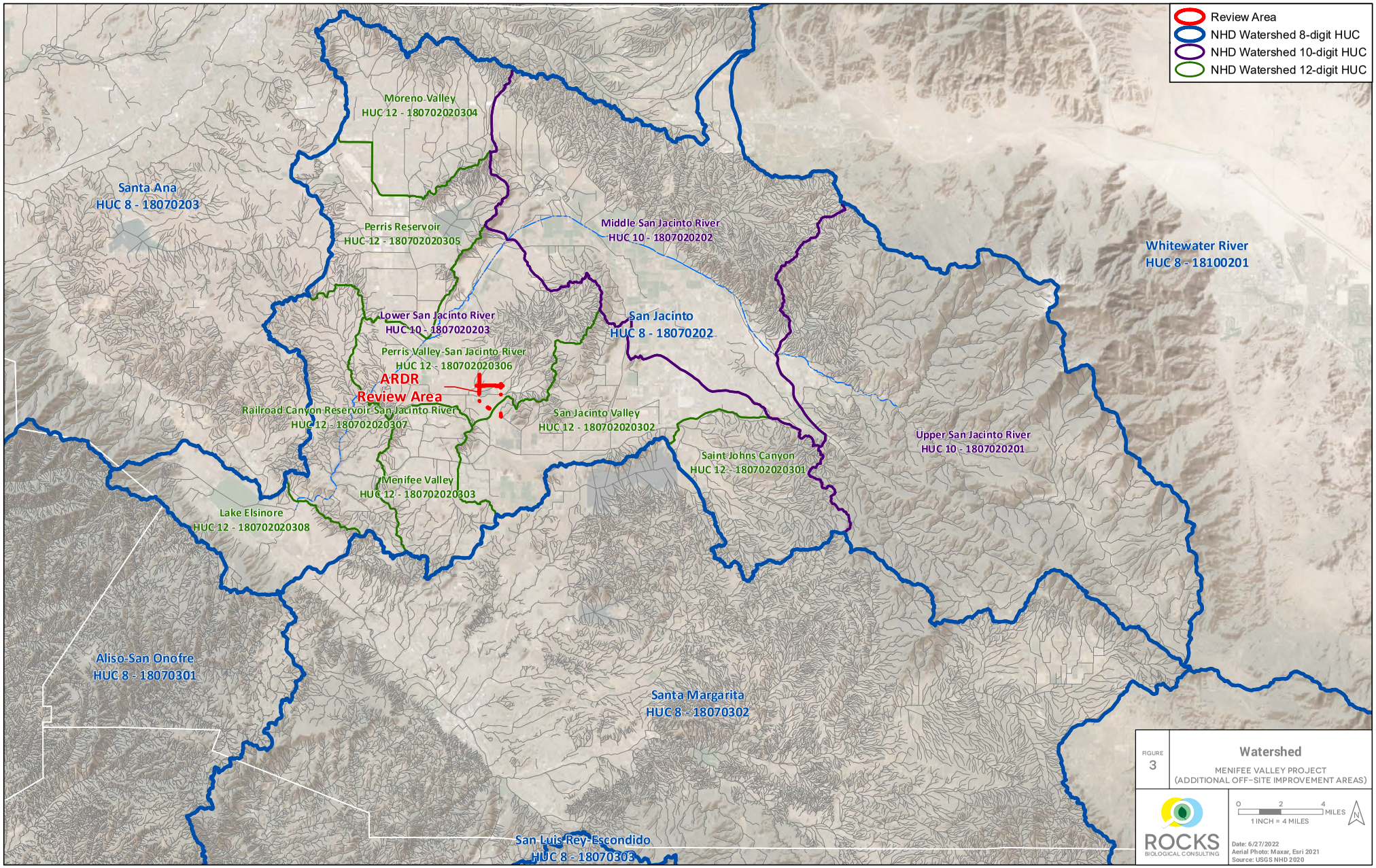
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(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

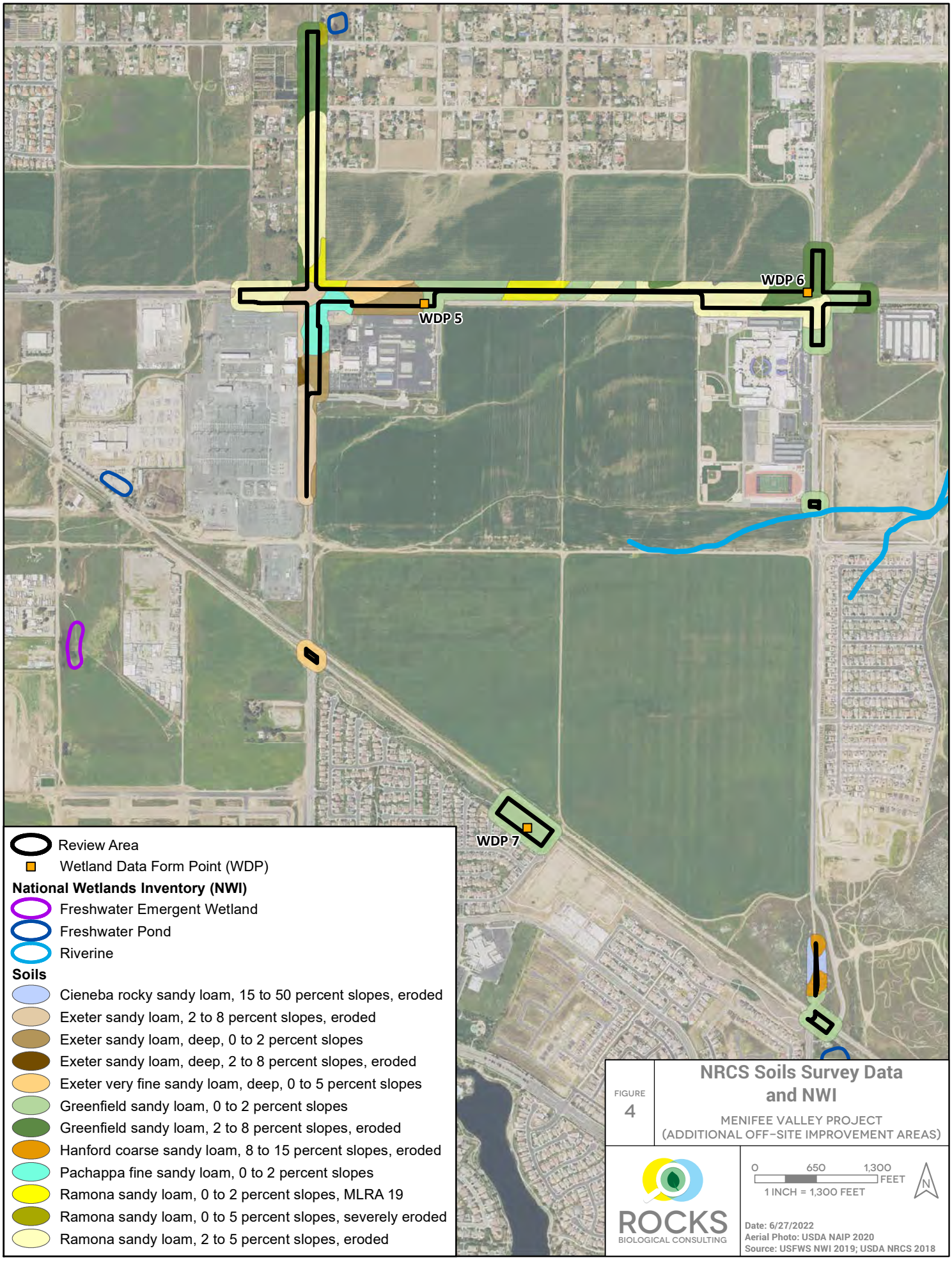
ROCKS BIOLOGICAL CONSULTING

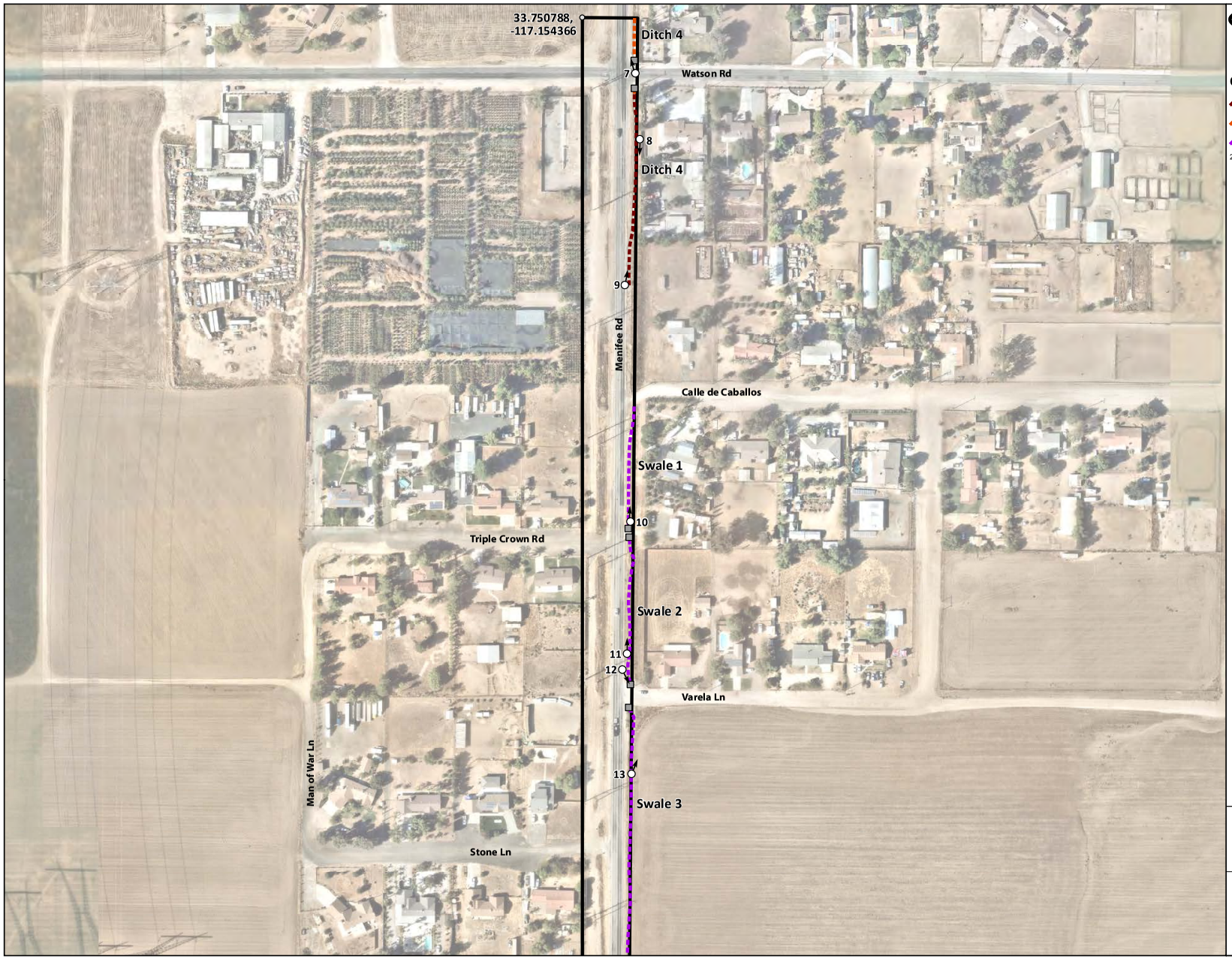
0 1,000 2,000 FEET
1 INCH = 2,000 FEET

Date: 6/27/2022
Base Map: National Geographic Society, i-cubed 2013
Source: USGS NHD 2020
USGS 7.5' Quadrangles (Romoland);

T5S, R2W, Sections 7, 18; T5S, R3W, Sections 11-14, 24


Review Area
NHD Watershed 8-digit HUC
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC
Moreno Valley
HUC 12 - 180702020304
Santa Ana
HUC 8 - 18070203
Perris Reservoir
HUC 12 - 180702020305
Middle San Jacinto River
HUC 10 - 1807020202
Whitewater River
HUC 8 - 18100201
Lower San Jacinto River
HUC 10 - 1807020203
San Jacinto
HUC 8 - 18070202
Perris Valley-San Jacinto River
HUC 12 - 180702020306
ARDR
Review Area
Railroad Canyon Reservoir-San Jacinto River
HUC 12 - 180702020307
San Jacinto Valley
HUC 12 - 180702020302
Upper San Jacinto River
HUC 10 - 1807020201
Saint Johns Canyon
HUC 12 - 180702020301
Menifee Valley
HUC 12 - 180702020303
Lake Elsinore
HUC 12 - 180702020308
Aliso-San Onofre
HUC 8 - 18070301
Santa Margarita
HUC 8 - 18070302
San Luis Rey-Escondido
HUC 8 - 18070303
FIGURE
3
Watershed
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)
ROCKS
BIOLOGICAL CONSULTING
0 2 4 MILES
1 INCH = 4 MILES
N
Date: 6/27/2022
Aerial Photo: Maxar, Esri 2021
Source: USGS NHD 2020


WDP 5
WDP 6
WDP 7
Review Area
Wetland Data Form Point (WDP)
National Wetlands Inventory (NWI)
Freshwater Emergent Wetland
Freshwater Pond
Riverine
Soils
Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
Exeter sandy loam, 2 to 8 percent slopes, eroded
Exeter sandy loam, deep, 0 to 2 percent slopes
Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
Exeter very fine sandy loam, deep, 0 to 5 percent slopes
Greenfield sandy loam, 0 to 2 percent slopes
Greenfield sandy loam, 2 to 8 percent slopes, eroded
Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
Pachappa fine sandy loam, 0 to 2 percent slopes
Ramona sandy loam, 0 to 2 percent slopes, MLRA 19
Ramona sandy loam, 0 to 5 percent slopes, severely eroded
Ramona sandy loam, 2 to 5 percent slopes, eroded
FIGURE 4
NRCS Soils Survey Data and NWI
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)
ROCKS
BIOLOGICAL CONSULTING
0 650 1,300 FEET
1 INCH = 1,300 FEET
N
Date: 6/27/2022
Aerial Photo: USDA NAIP 2020
Source: USFWS NWI 2019; USDA NRCS 2018




Review Area (30.40 ac)
Photo Point
Culvert

**Other Features**[2]

Ditch
Ditch - Concrete-lined
Swale

[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

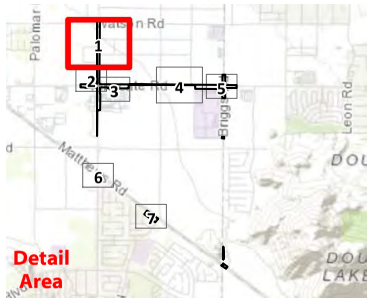



FIGURE 5A
PAGE 1 OF 7

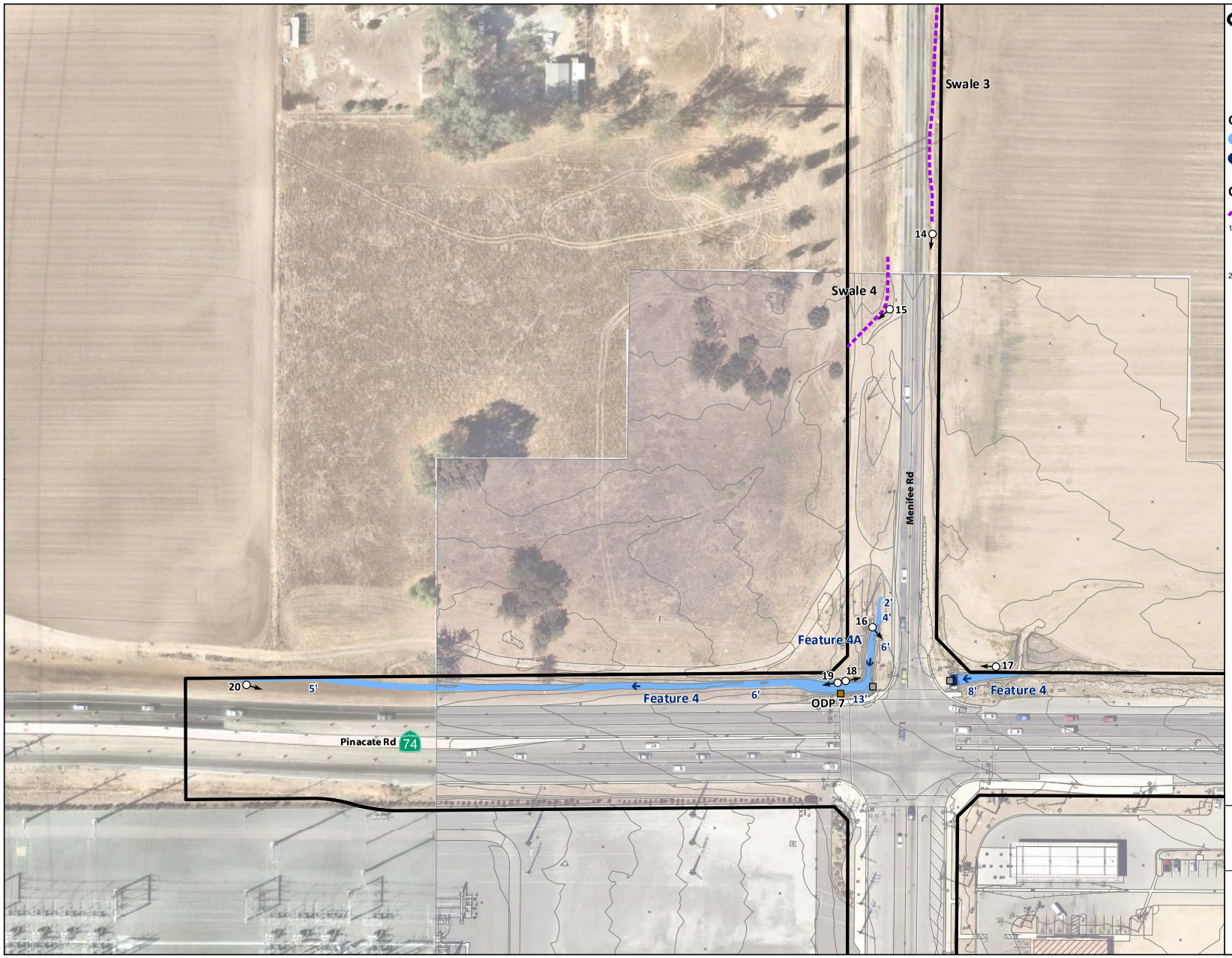
**Corps Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 100 200 FEET
1 INCH = 200 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




- Review Area (30.40 ac)
- Photo Point
- OHWM Datasheet Point (ODP)
- Flow Direction
- Culvert

**Corps Aquatic Resources** [1]

- Non-Wetland Waters (0.20 ac)
- Non-Wetland Waters - Concrete-lined (0.00 ac, 97 sq ft)

**Other Features** [2]

- Swale

[1] All aquatic resources are not expected to be Corps-jurisdictional via the Approved Jurisdictional Determination (AJD) process.

[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

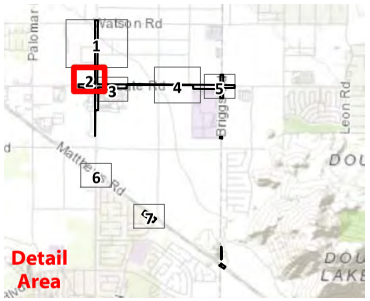



FIGURE 5A

PAGE 2 OF 7

# Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




- Review Area (30.40 ac)
- Photo Point
- OHWM Datasheet Point (ODP)
- Wetland Data Form Point (WDP)
- Flow Direction
- Culvert

**Corps Aquatic Resources** [1]

- Non-Wetland Waters (0.20 ac)
- Non-Wetland Waters - Concrete-lined (0.00 ac, 97 sq ft)

**Other Features** [2]

- Ditch - Concrete-lined
- Swale

[1] All aquatic resources are not expected to be Corps-jurisdictional via the Approved Jurisdictional Determination (AJD) process.

[2] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

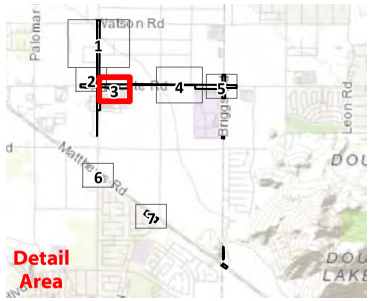



FIGURE 5A

PAGE 3 OF 7

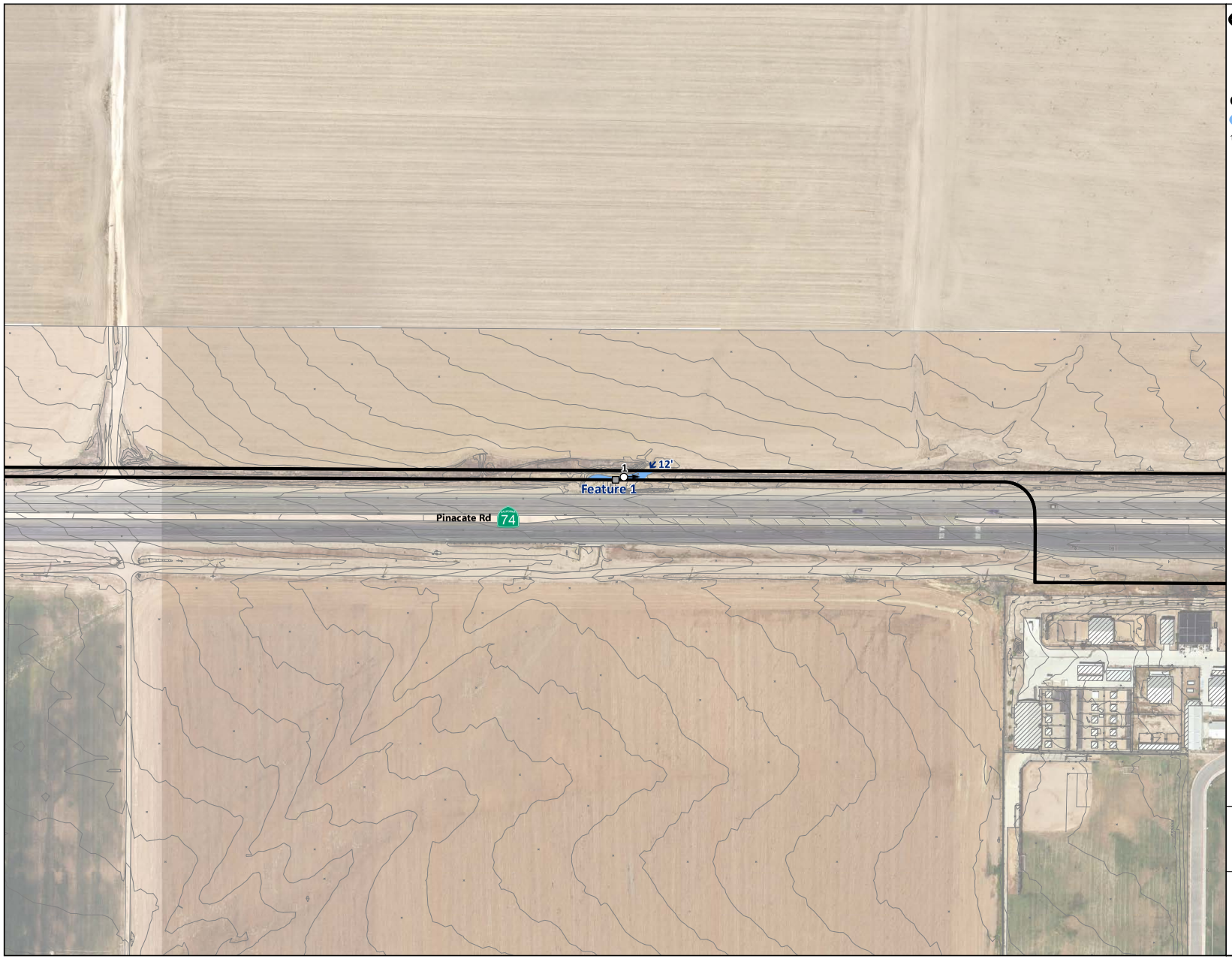
# Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)

Photo Point

Flow Direction

Culvert

**Corps Aquatic Resources** [1]

Non-Wetland Waters (0.20 ac)

[1] All aquatic resources are not expected to be Corps-jurisdictional via the Approved Jurisdictional Determination (AJD) process.

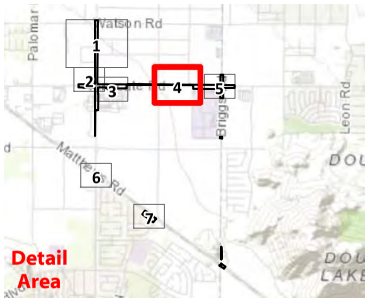



FIGURE 5A

PAGE 4 OF 7

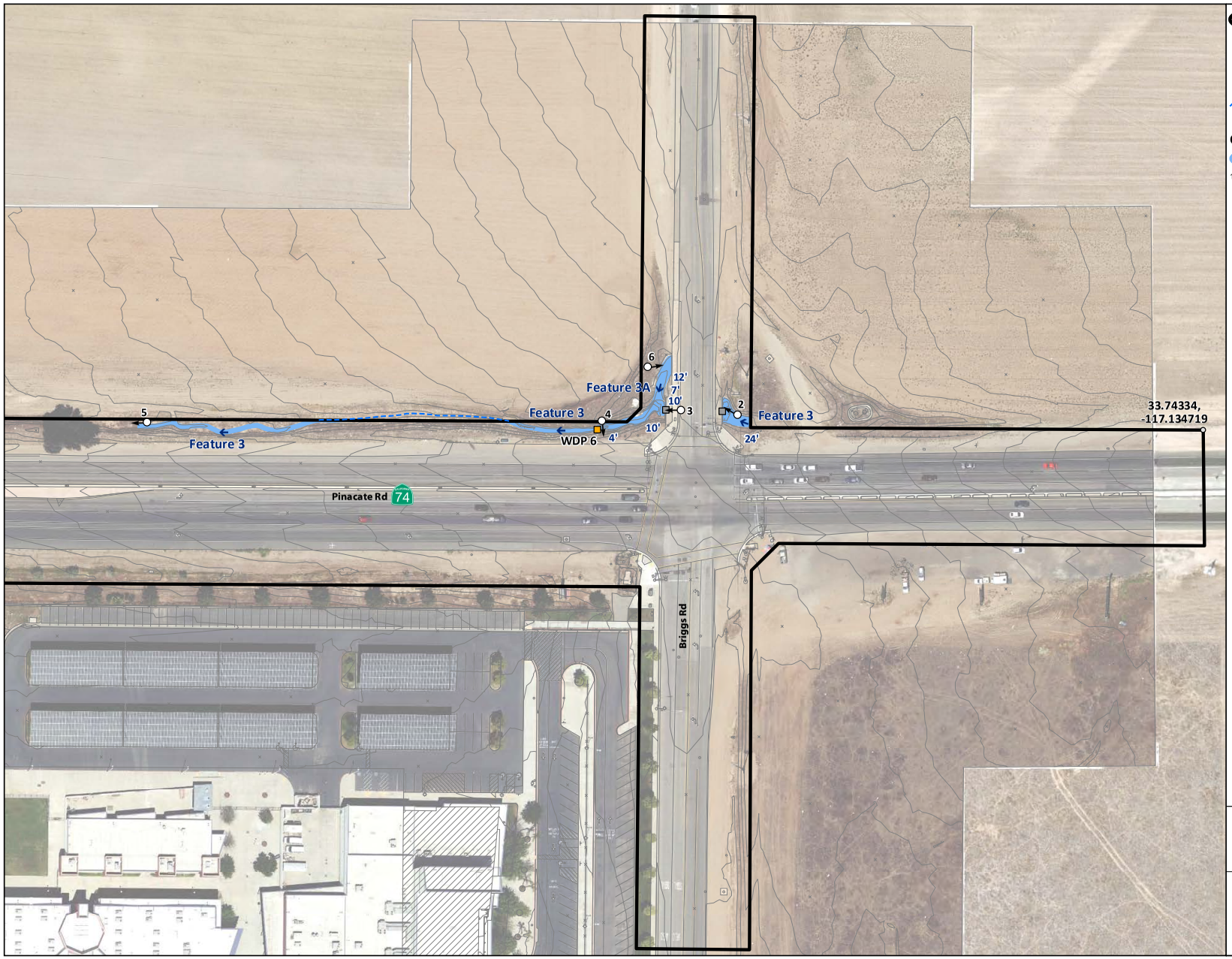
**Corps Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET
1 INCH = 150 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Wetland Data Form Point (WDP)
Flow Direction
Off-site Flow Path
Culvert

**Corps Aquatic Resources** [1]

Non-Wetland Waters (0.20 ac)

[1] All aquatic resources are not expected to be Corps-jurisdictional via the Approved Jurisdictional Determination (AJD) process.

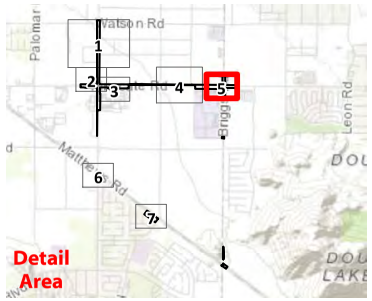



FIGURE 5A
PAGE 5 OF 7

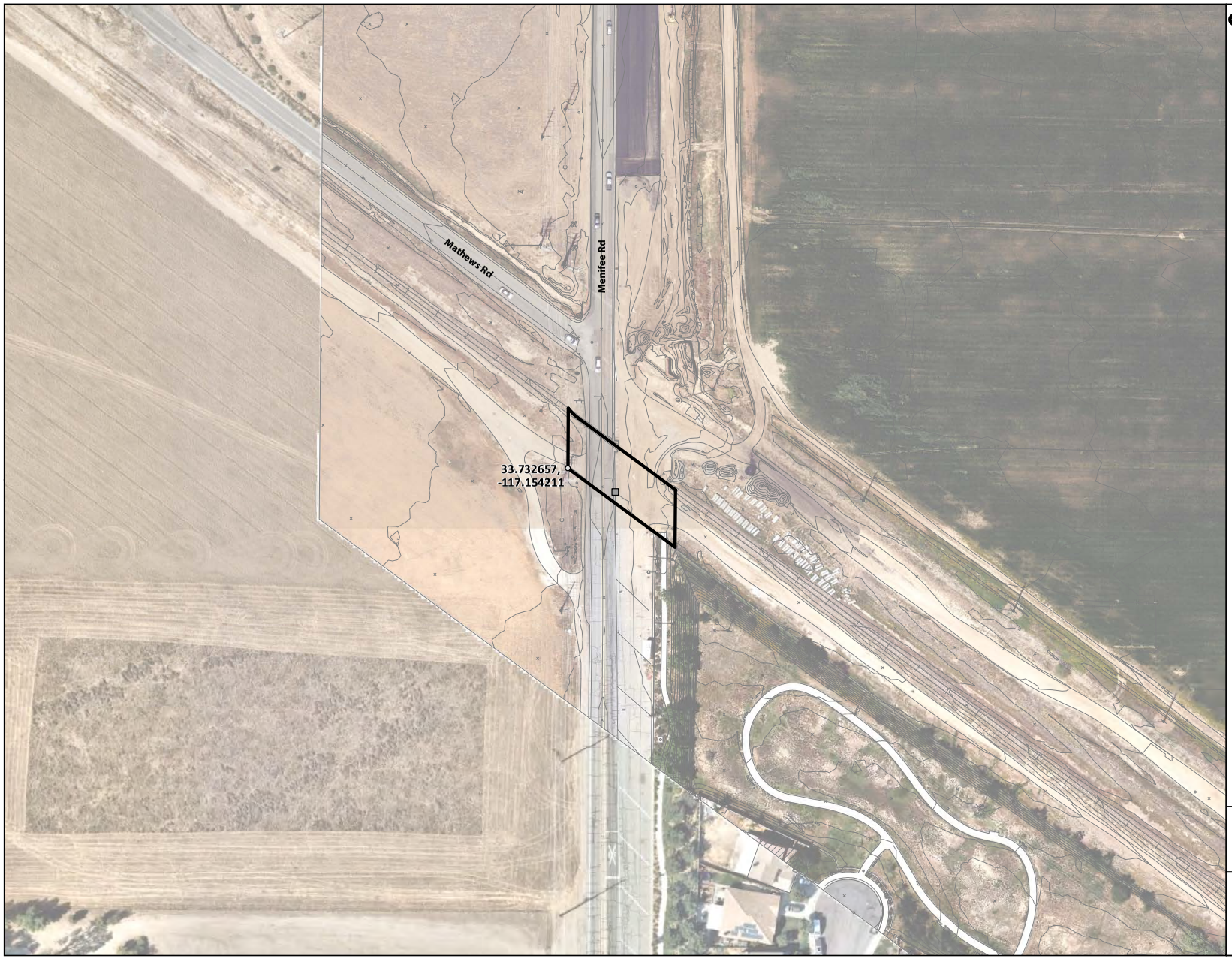
**Corps Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)

Culvert

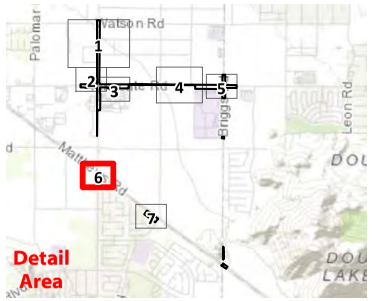



FIGURE 5A

PAGE 6 OF 7

## Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET

1 INCH = 100 FEET

Date: 6/29/2022

Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Wetland Data Form Point (WDP)

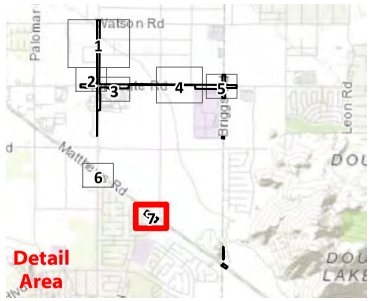



FIGURE 5A
PAGE 7 OF 7

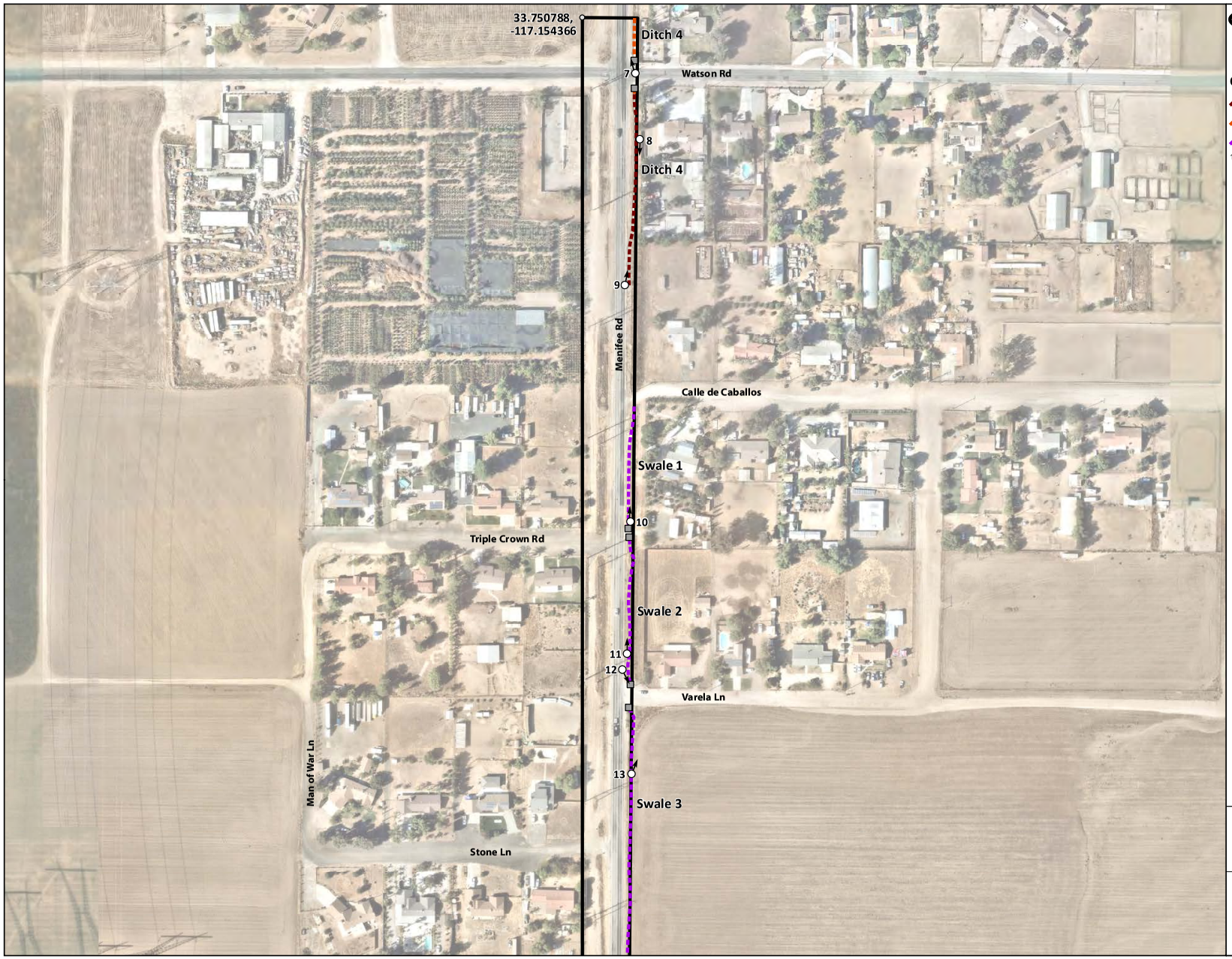
Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Culvert

**Other Features**[1]

Ditch
Ditch - Concrete-lined
Swale

[1] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

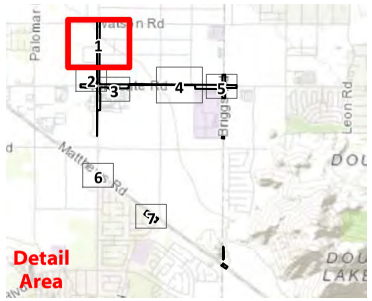



FIGURE 5B
PAGE 1 OF 7

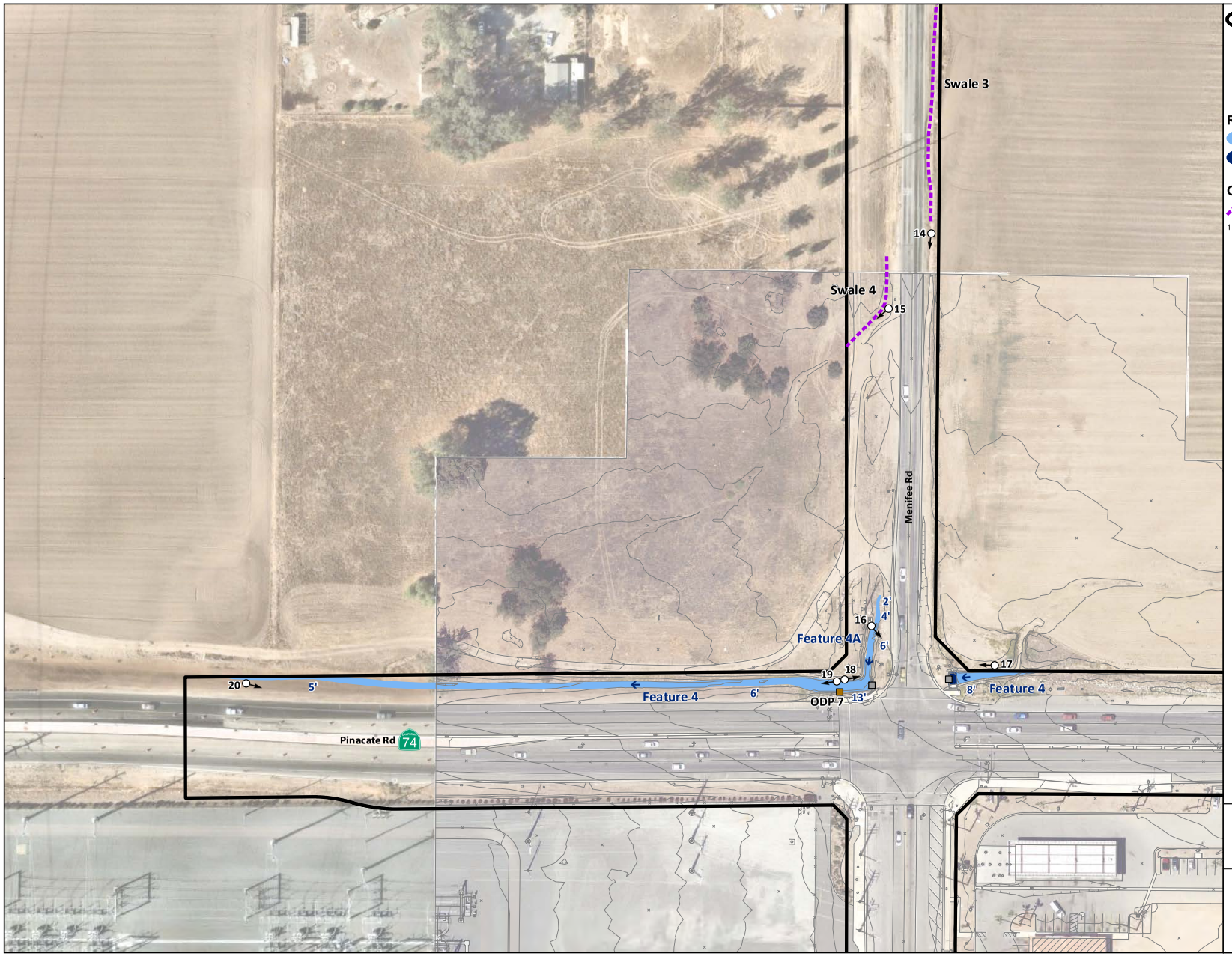
**RWQCB Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 100 200 FEET
1 INCH = 200 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
OHWM Datasheet Point (ODP)
Flow Direction
Culvert

**RWQCB Aquatic Resources**

Non-Wetland Waters (0.20 ac)
Non-Wetland Waters - Concrete-lined (0.00 ac, 97 sq ft)

**Other Features**[1]

Swale

[1] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

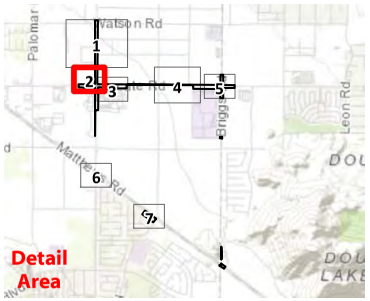



FIGURE 5B
PAGE 2 OF 7

**RWQCB Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Flow Direction
Culvert

**RWQCB Aquatic Resources**

Non-Wetland Waters (0.20 ac)
Non-Wetland Waters - Concrete-lined (0.00 ac, 97 sq ft)

**Other Features**[1]

Ditch - Concrete-lined
Swale

[1] Features lacking OHWM or three-parameter wetland, and thus anticipated to be non-jurisdictional.

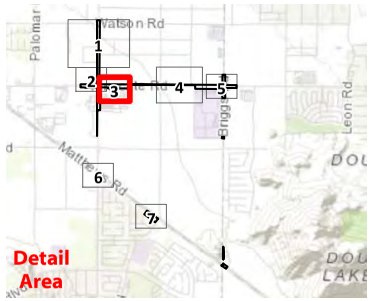



FIGURE 5B
PAGE 3 OF 7

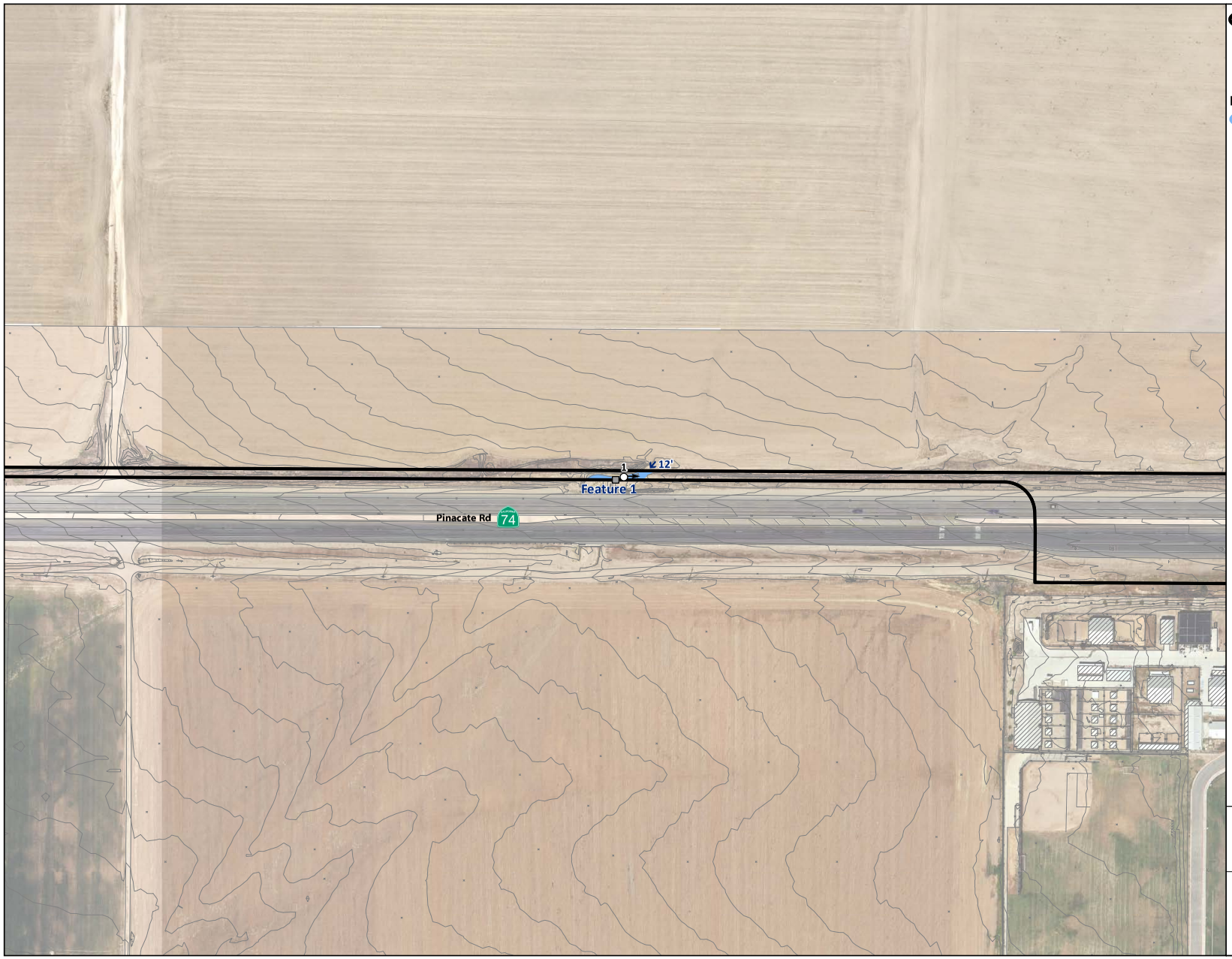
**RWQCB Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Flow Direction
Culvert

**RWQCB Aquatic Resources**

Non-Wetland Waters (0.20 ac)

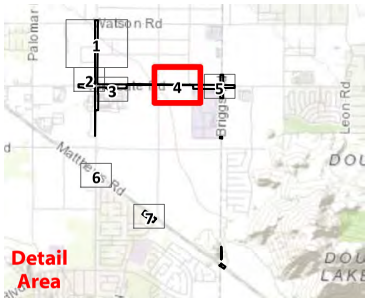



FIGURE 5B

PAGE 4 OF 7

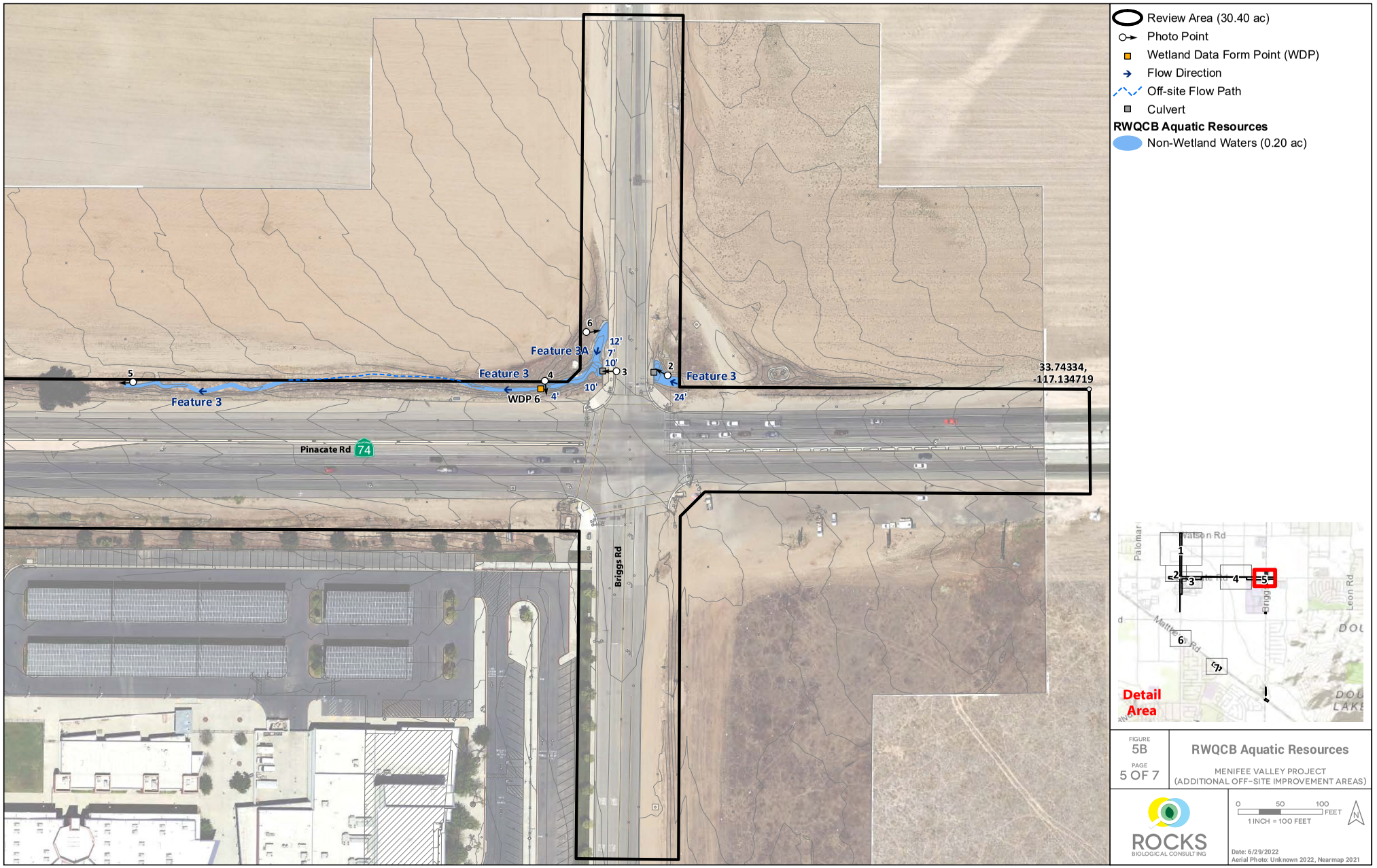
## RWQCB Aquatic Resources

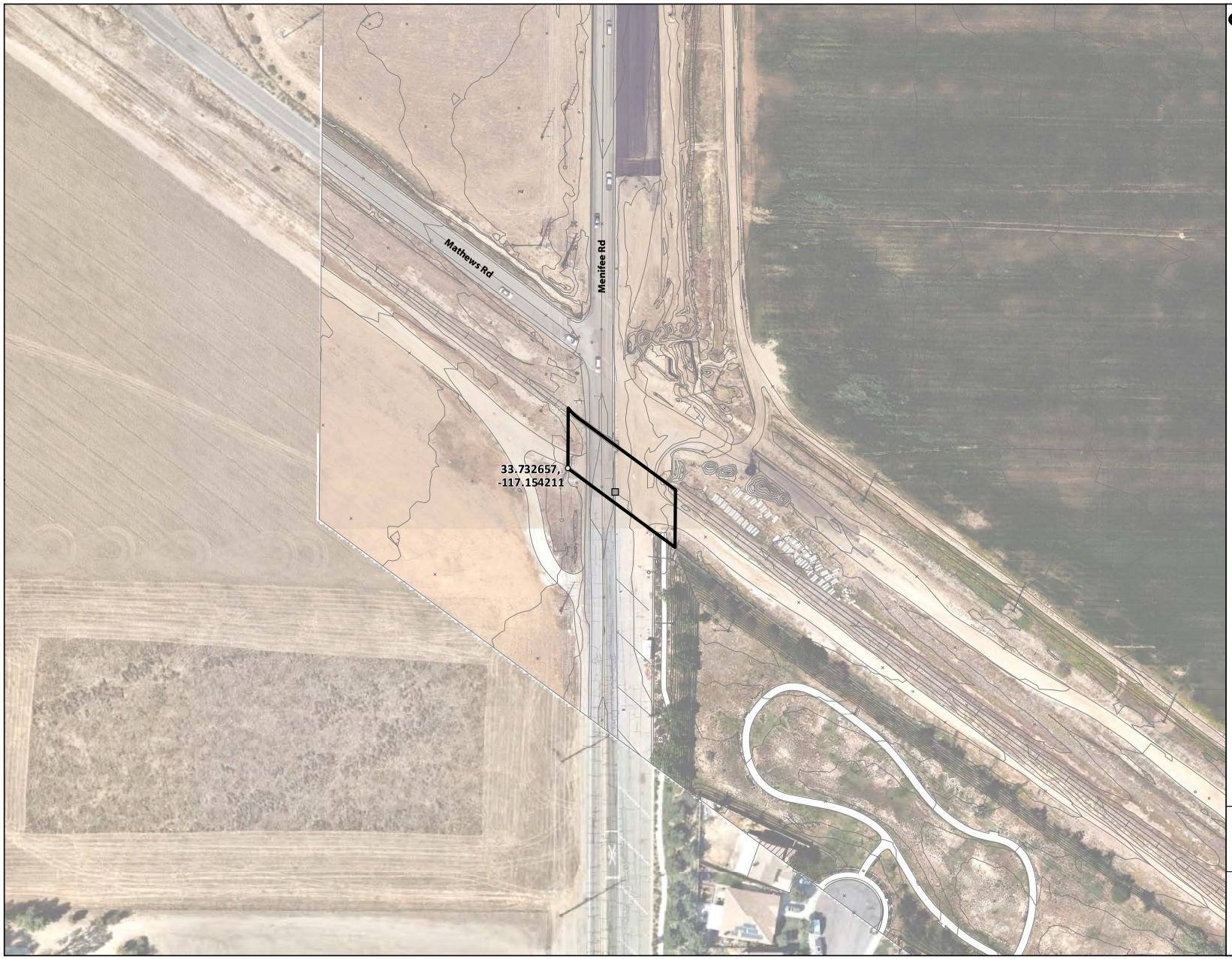
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET
1 INCH = 150 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021


Review Area (30.40 ac)
Photo Point
Wetland Data Form Point (WDP)
Flow Direction
Off-site Flow Path
Culvert
RWQCB Aquatic Resources
Non-Wetland Waters (0.20 ac)
Feature 3
Feature 3A
Feature 3
Feature 3
WDP 6
Pinacate Rd
74
Briggs Rd
33.74334,
-117.134719
12'
7'
10'
10'
4'
24'
Detail Area
FIGURE
5B
PAGE
5 OF 7
RWQCB Aquatic Resources
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)
ROCKS
BIOLOGICAL CONSULTING
0 50 100 FEET
1 INCH = 100 FEET
Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)

Culvert

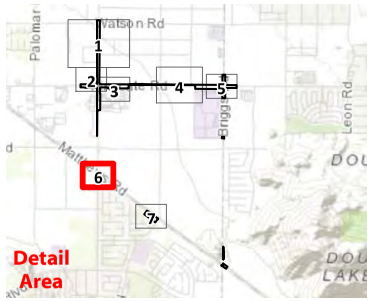



FIGURE 5B

PAGE 6 OF 7

**RWQCB Aquatic Resources**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET

1 INCH = 100 FEET

Date: 6/29/2022

Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Wetland Data Form Point (WDP)

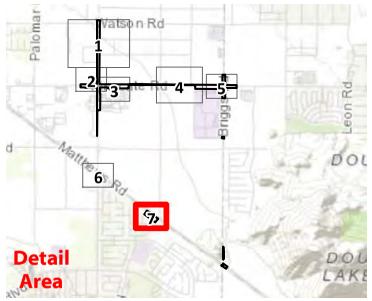



FIGURE 5B
PAGE 7 OF 7

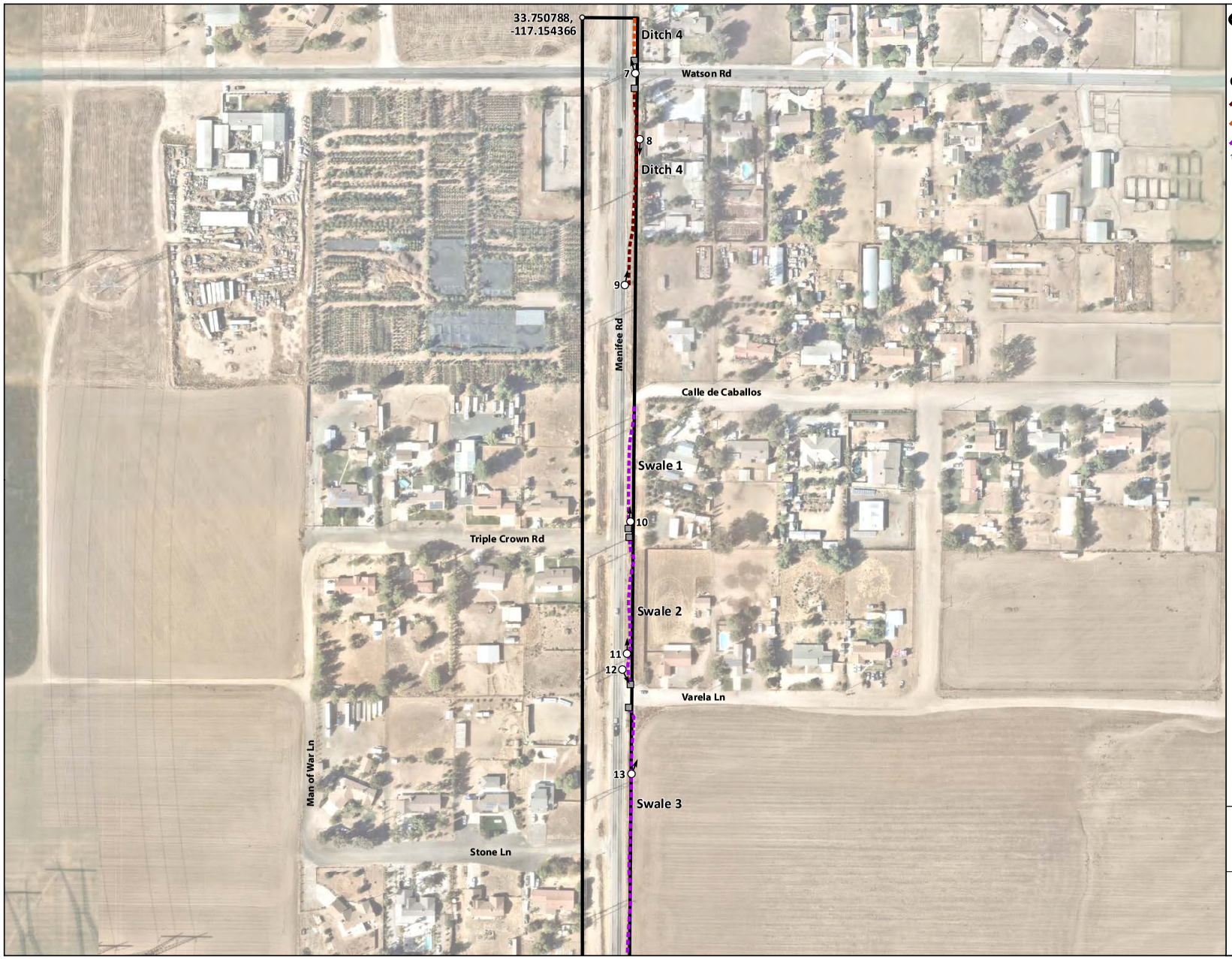
RWQCB Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Culvert

**Other Features**[1]

Ditch
Ditch - Concrete-lined
Swale

[1] Features lacking a defined lake or streambed, and thus anticipated to be non-jurisdictional.

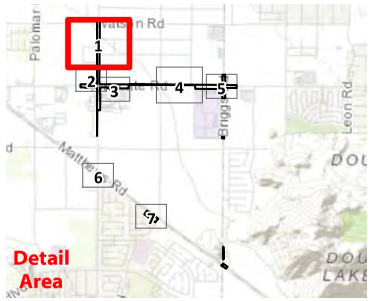



FIGURE 5C
PAGE 1 OF 7

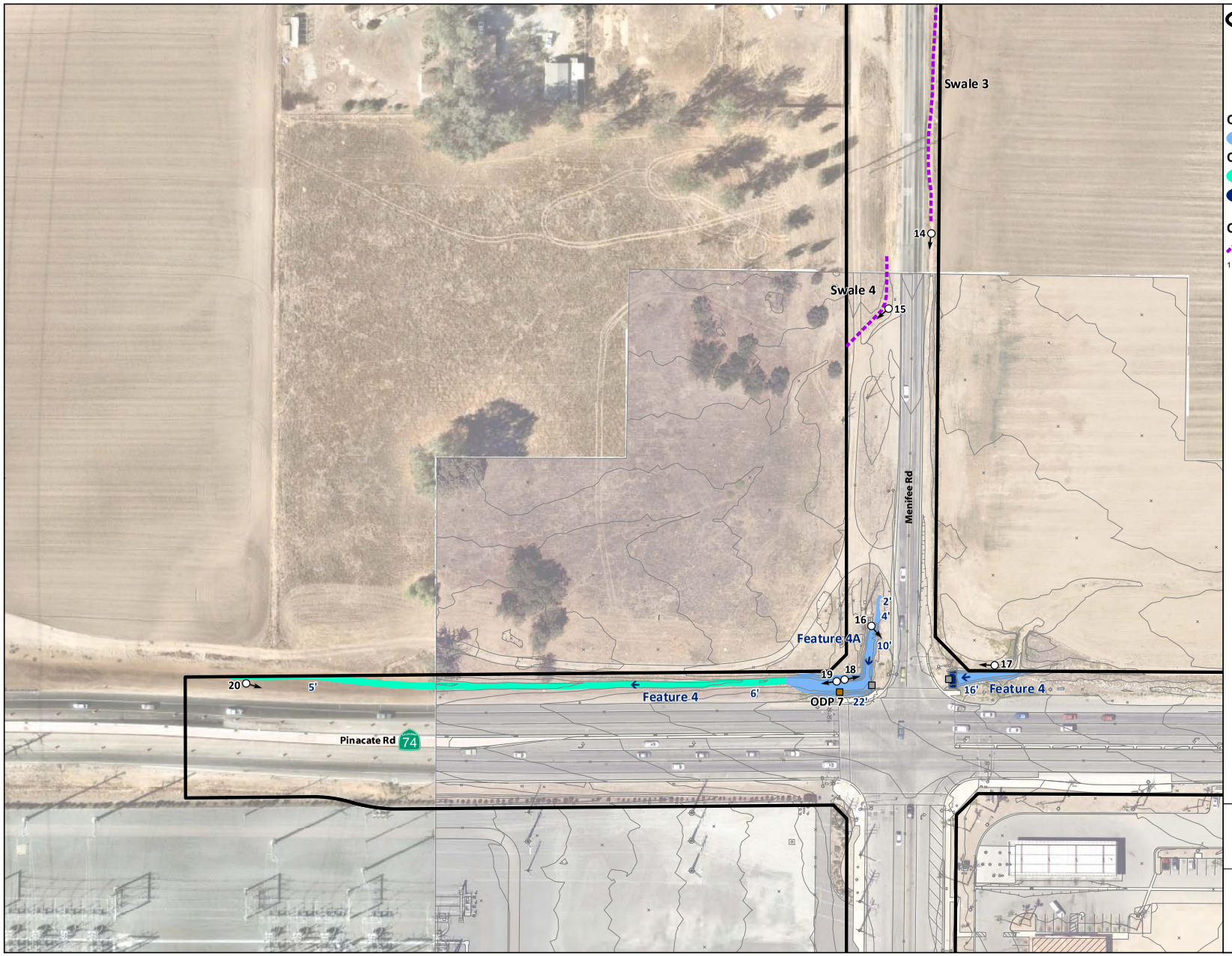
**CDFW Streambed and Riparian Habitats**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 100 200 FEET
1 INCH = 200 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
OHWM Datasheet Point (ODP)
Flow Direction
Culvert

**CDFW Vegetated Streambed**
Disturbed Habitat (0.22 ac)

**CDFW Unvegetated Streambed**
Disturbed Habitat (0.08 ac)
Developed (Concrete-lined) (0.00 ac, 148 sq ft)

**Other Features**[1]
Swale

[1] Features lacking a defined lake or streambed, and thus anticipated to be non-jurisdictional.

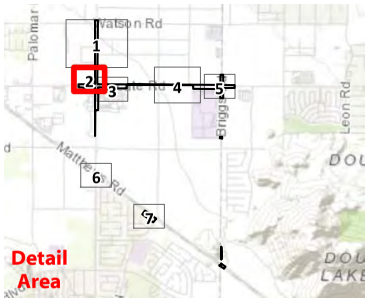



FIGURE 5C
PAGE 2 OF 7

**CDFW Streambed and Riparian Habitats**
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
OHWM Datasheet Point (ODP)
Wetland Data Form Point (WDP)
Flow Direction
Culvert

**CDFW Vegetated Streambed**
Disturbed Habitat (0.22 ac)

**CDFW Unvegetated Streambed**
Developed (Concrete-lined)
(0.00 ac, 148 sq ft)

**Other Features** [1]
Ditch - Concrete-lined
Swale

[1] Features lacking a defined lake or streambed, and thus anticipated to be non-jurisdictional.

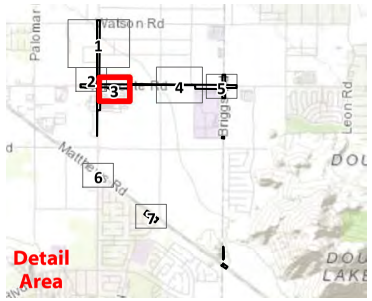



FIGURE 5C
PAGE 3 OF 7

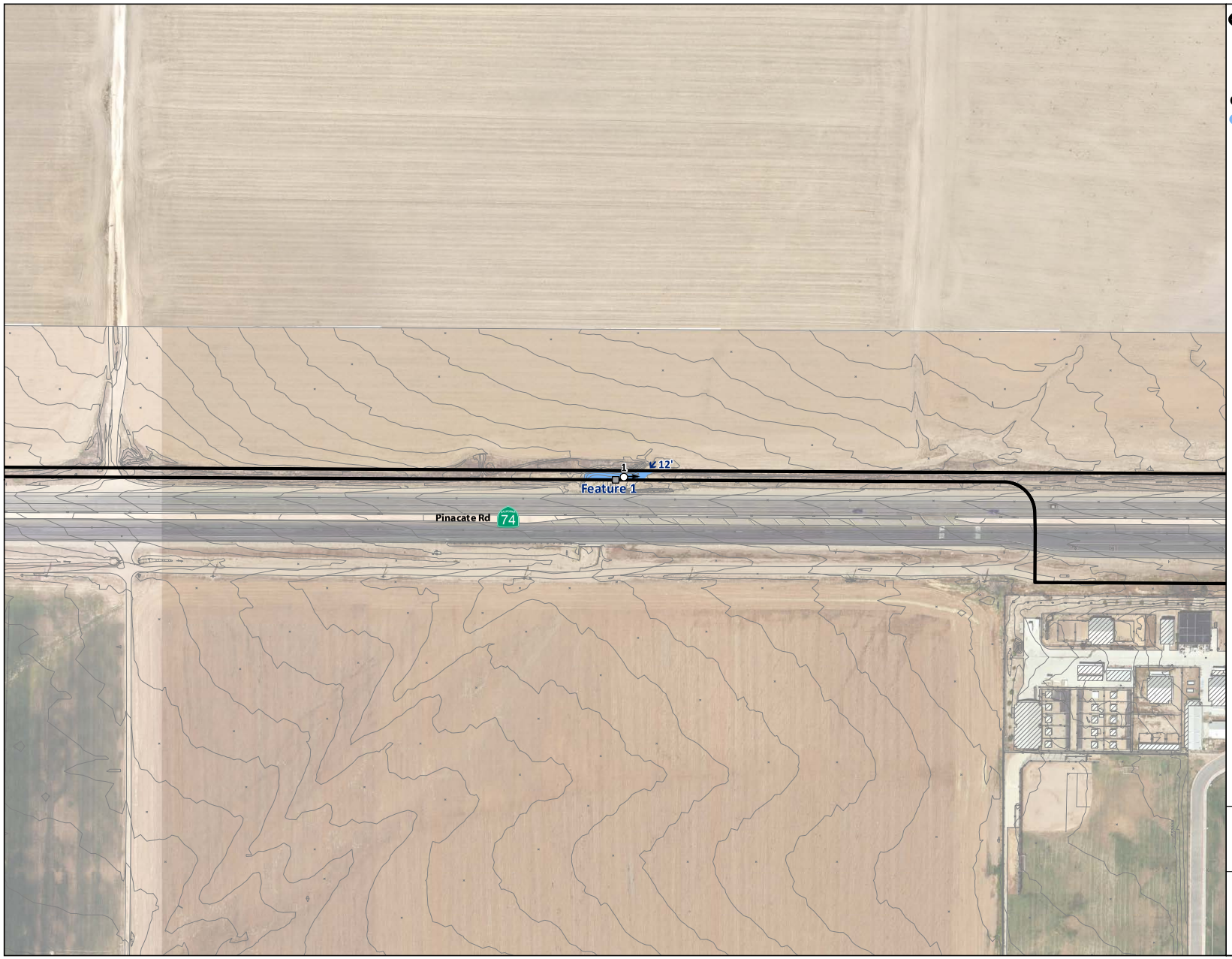
# CDFW Streambed and Riparian Habitats

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Flow Direction
Culvert
**CDFW Vegetated Streambed**
Disturbed Habitat (0.22 ac)

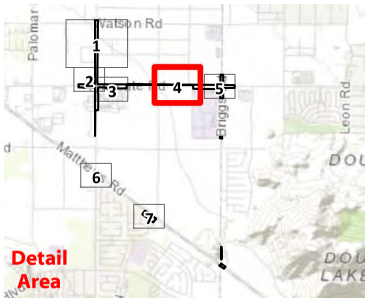



FIGURE 5C
PAGE 4 OF 7

**CDFW Streambed and Riparian Habitats**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 75 150 FEET
1 INCH = 150 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021

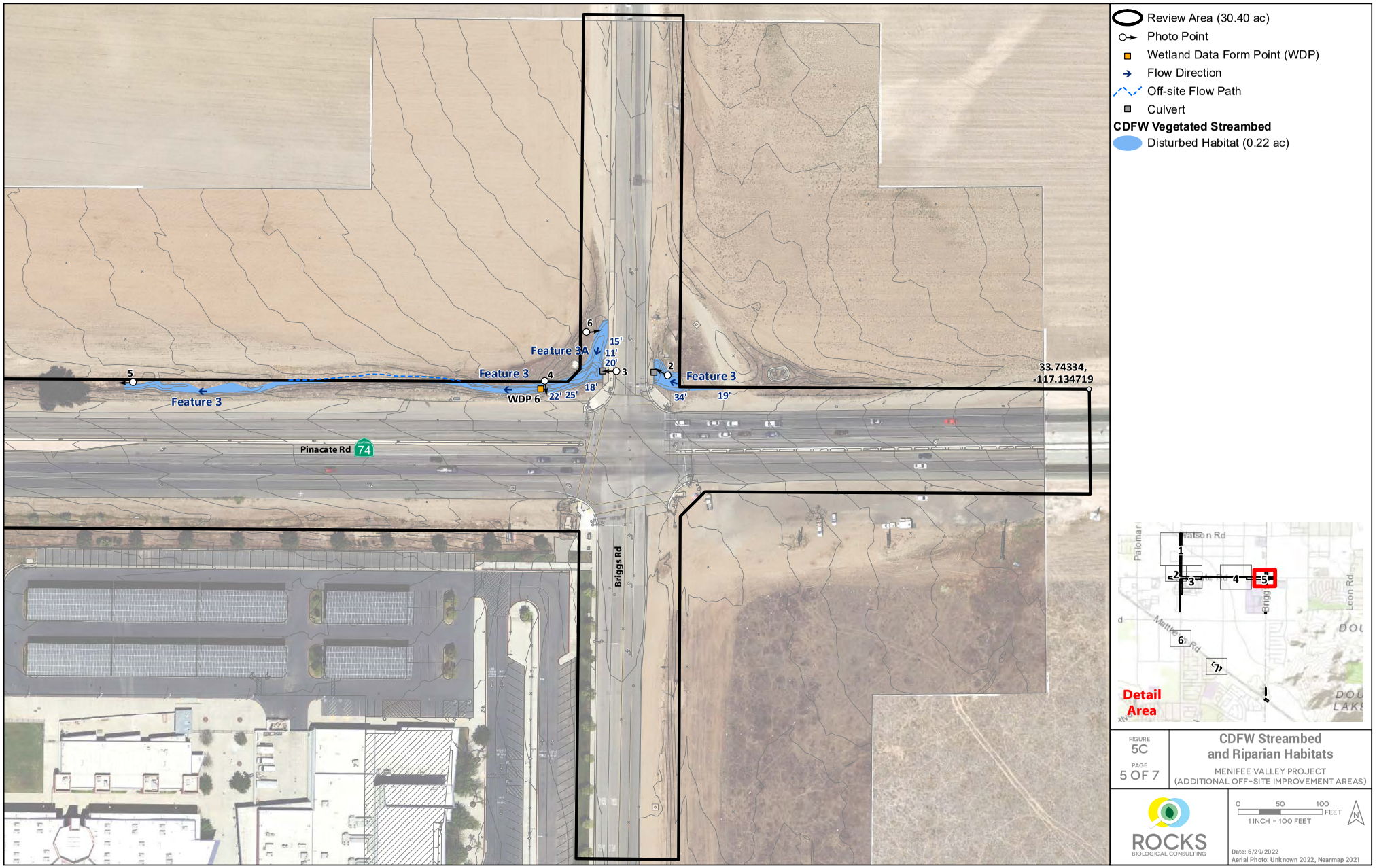



FIGURE 5C

PAGE 5 OF 7

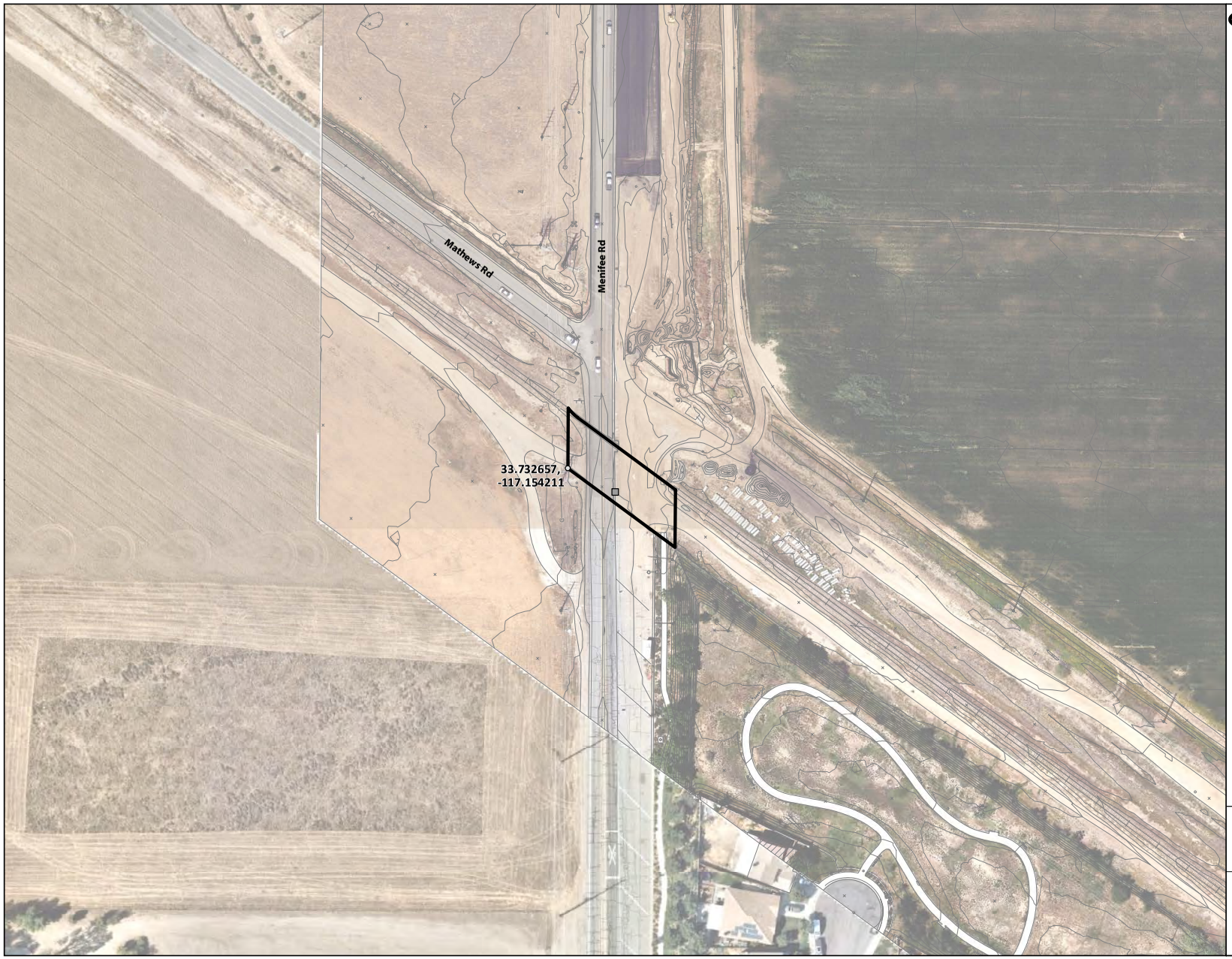
# CDFW Streambed and Riparian Habitats

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)

Culvert

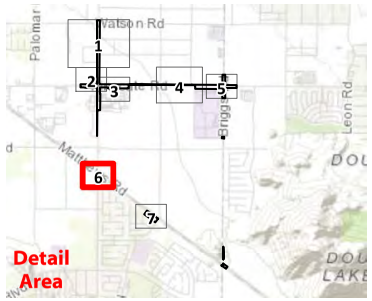



FIGURE 5C

PAGE 6 OF 7

**CDFW Streambed and Riparian Habitats**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET

1 INCH = 100 FEET

Date: 6/29/2022

Aerial Photo: Unknown 2022, Nearmap 2021




Review Area (30.40 ac)
Photo Point
Wetland Data Form Point (WDP)

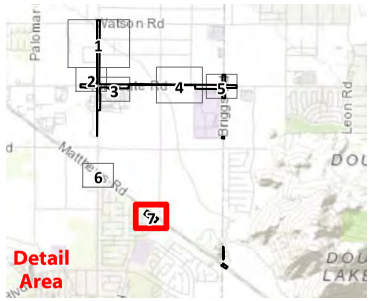



FIGURE 5C
PAGE 7 OF 7

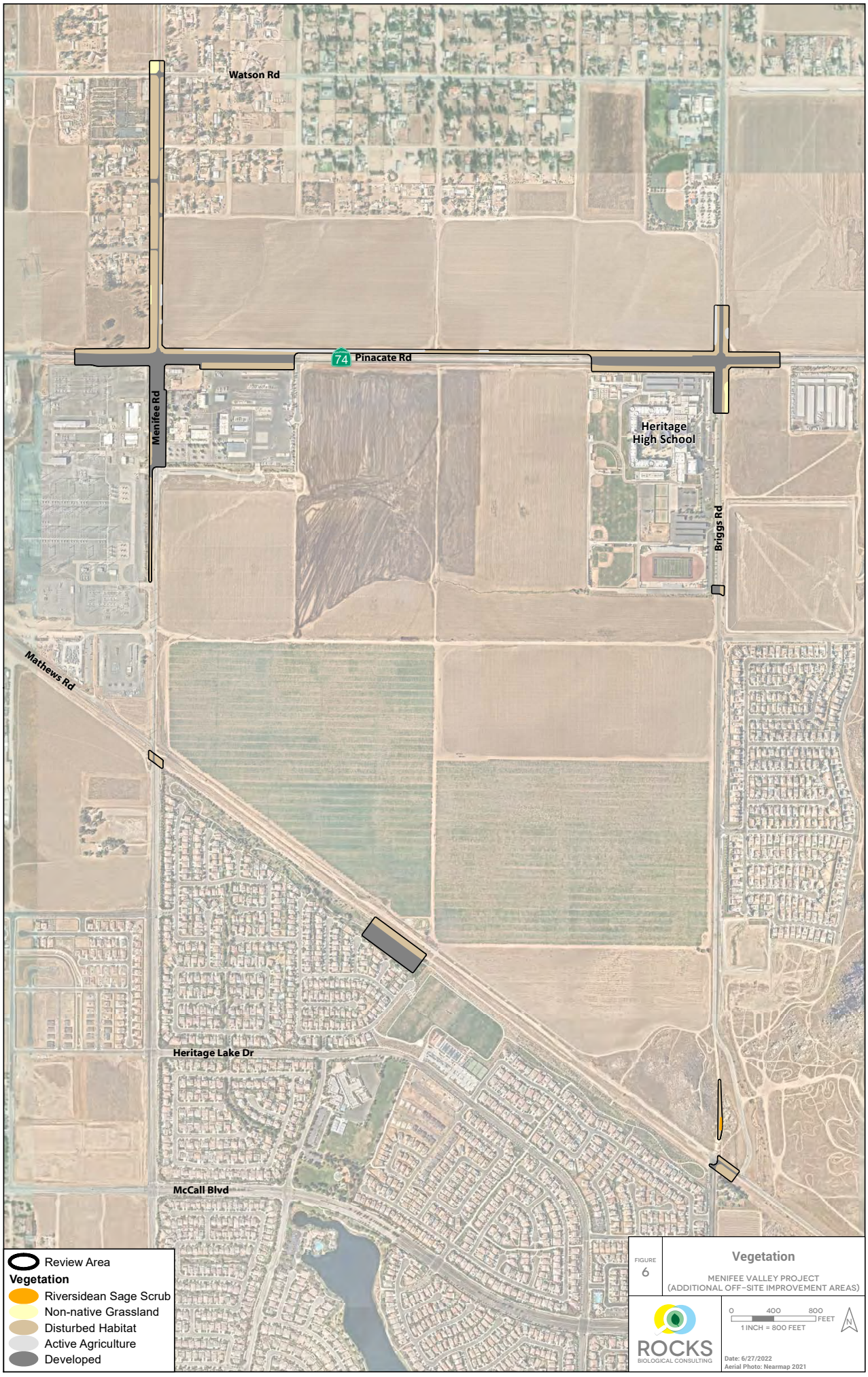
**CDFW Streambed and Riparian Habitats**

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021


Watson Rd
74
Pinacate Rd
Menifee Rd
Heritage
High School
Briggs Rd
Mathews Rd
Heritage Lake Dr
McCall Blvd
Review Area
Vegetation
Riversidean Sage Scrub
Non-native Grassland
Disturbed Habitat
Active Agriculture
Developed
FIGURE
6
Vegetation
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)
ROCKS
BIOLOGICAL CONSULTING
0
400
800
FEET
1 INCH = 800 FEET
N
Date: 6/27/2022
Aerial Photo: Nearmap 2021

# ATTACHMENT A

## *MENIFEE VALLEY PROJECT JURISDICTIONAL DELINEATION REPORT*, PREPARED BY RBC AND DATED JULY 15, 2019

ROCKS
BIOLOGICAL CONSULTING





# MENIFEE VALLEY PROJECT
# JURISDICTIONAL DELINEATION REPORT

Riverside County, California

July 15, 2019

Prepared for:
Brookfield Residential
3200 Park Center Drive, Suite 1000
Costa Mesa, CA 92626

Prepared by:
Rocks Biological Consulting
2621 Denver Street, Ste. B
San Diego, CA 92110
(619) 701-6798

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## 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
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# 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 (CFGC) 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:***

Adrian Peters

Brookfield Residential

3200 Park Center Drive, Suite 1000

Costa Mesa, CA 92626

Adrian.Peters@brookfieldrp.com

714-200-1603

***Agent:***

Shanti Santulli

Rocks Biological Consulting

2621 Denver Street, Suite B

San Diego, CA 92110

shanti@rocksbio.com

619-674-8067

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 eflora (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 Menifee 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 delienation 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 [*Cynadon 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 with in 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 with in 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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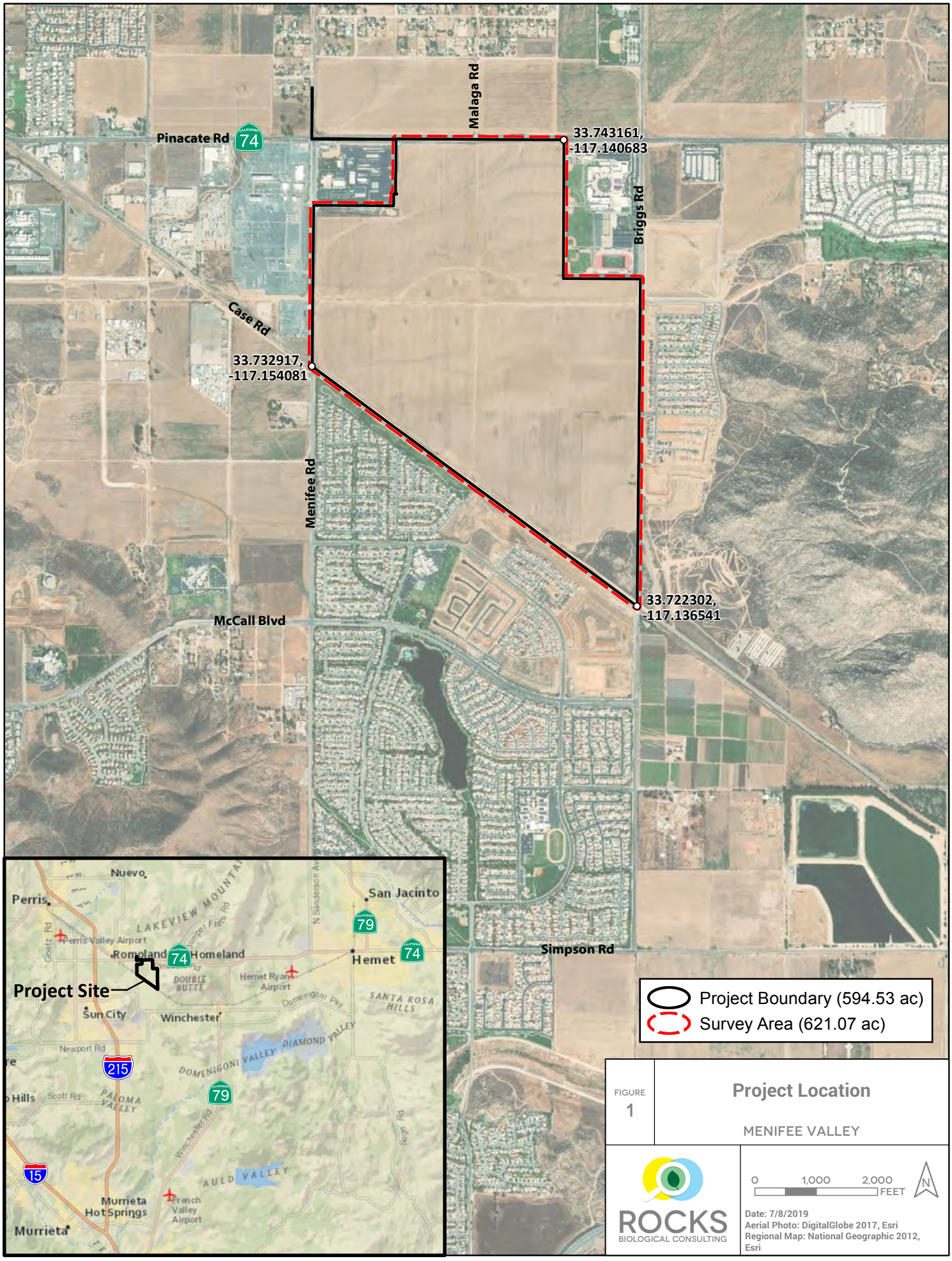



FIGURE 1

## Project Location

MENIFEE VALLEY

ROCKS BIOLOGICAL CONSULTING

0 1,000 2,000 FEET

N

Date: 7/8/2019
Aerial Photo: DigitalGlobe 2017, Esri
Regional Map: National Geographic 2012, Esri

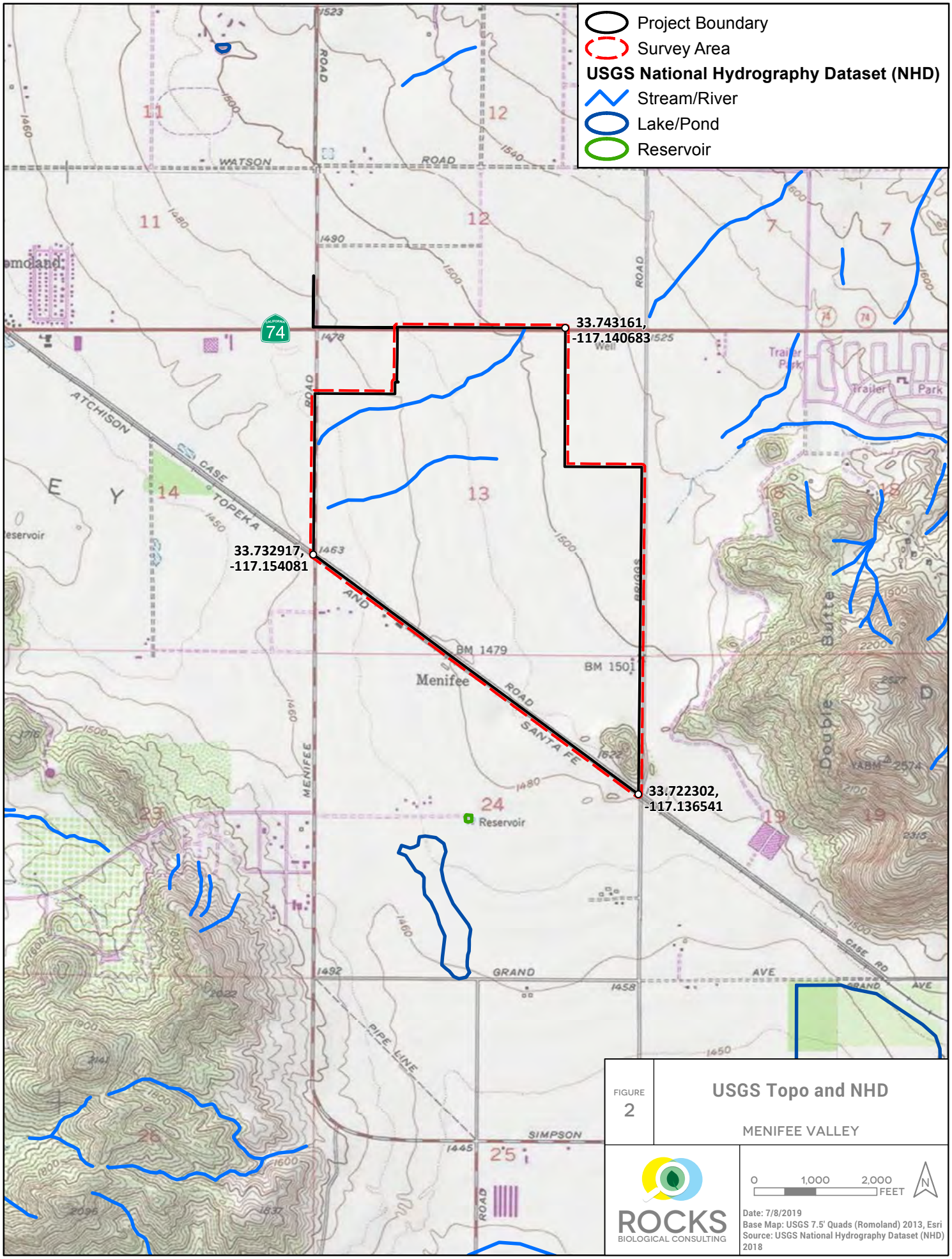



FIGURE 2

# USGS Topo and NHD

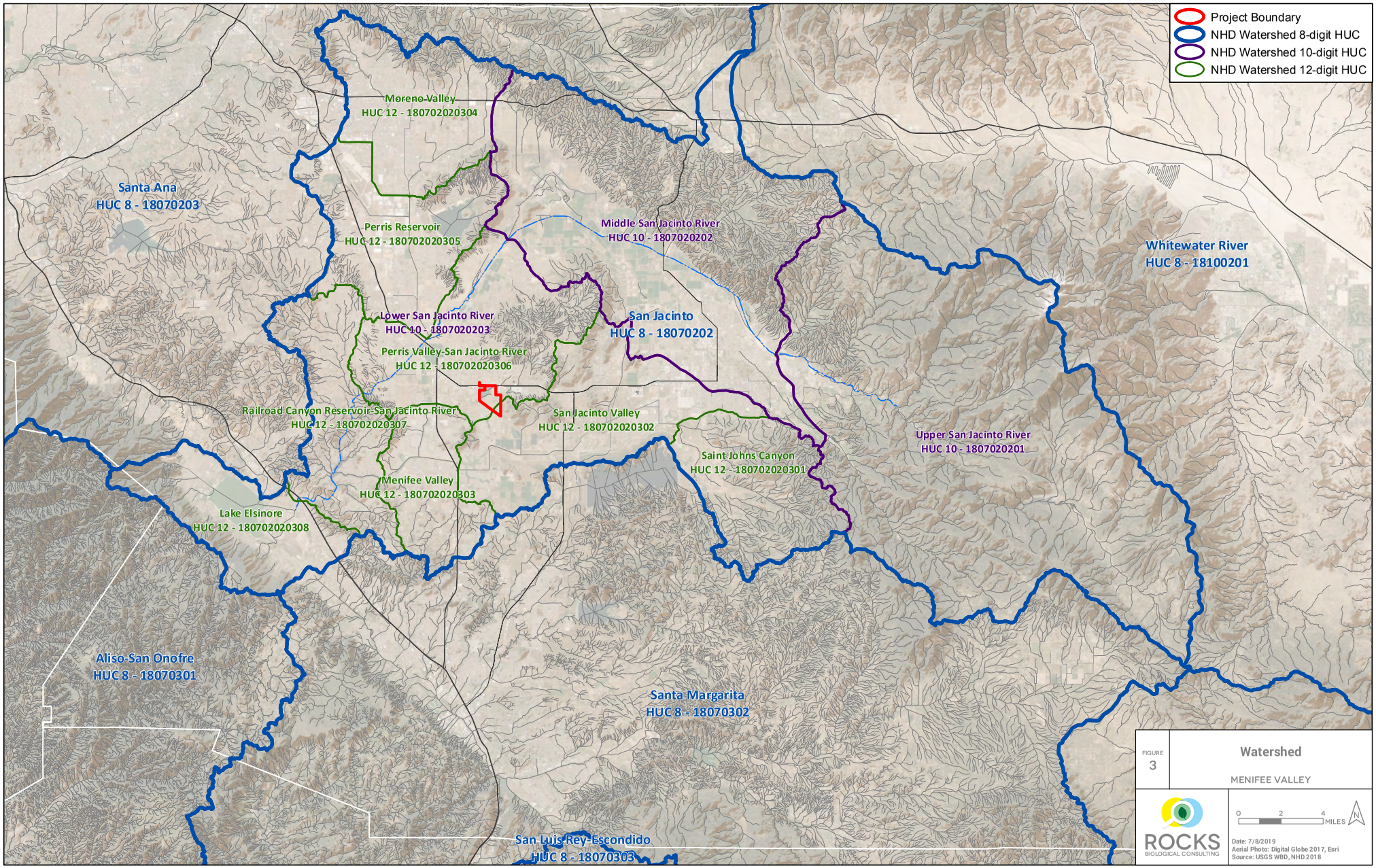
MENIFEE VALLEY

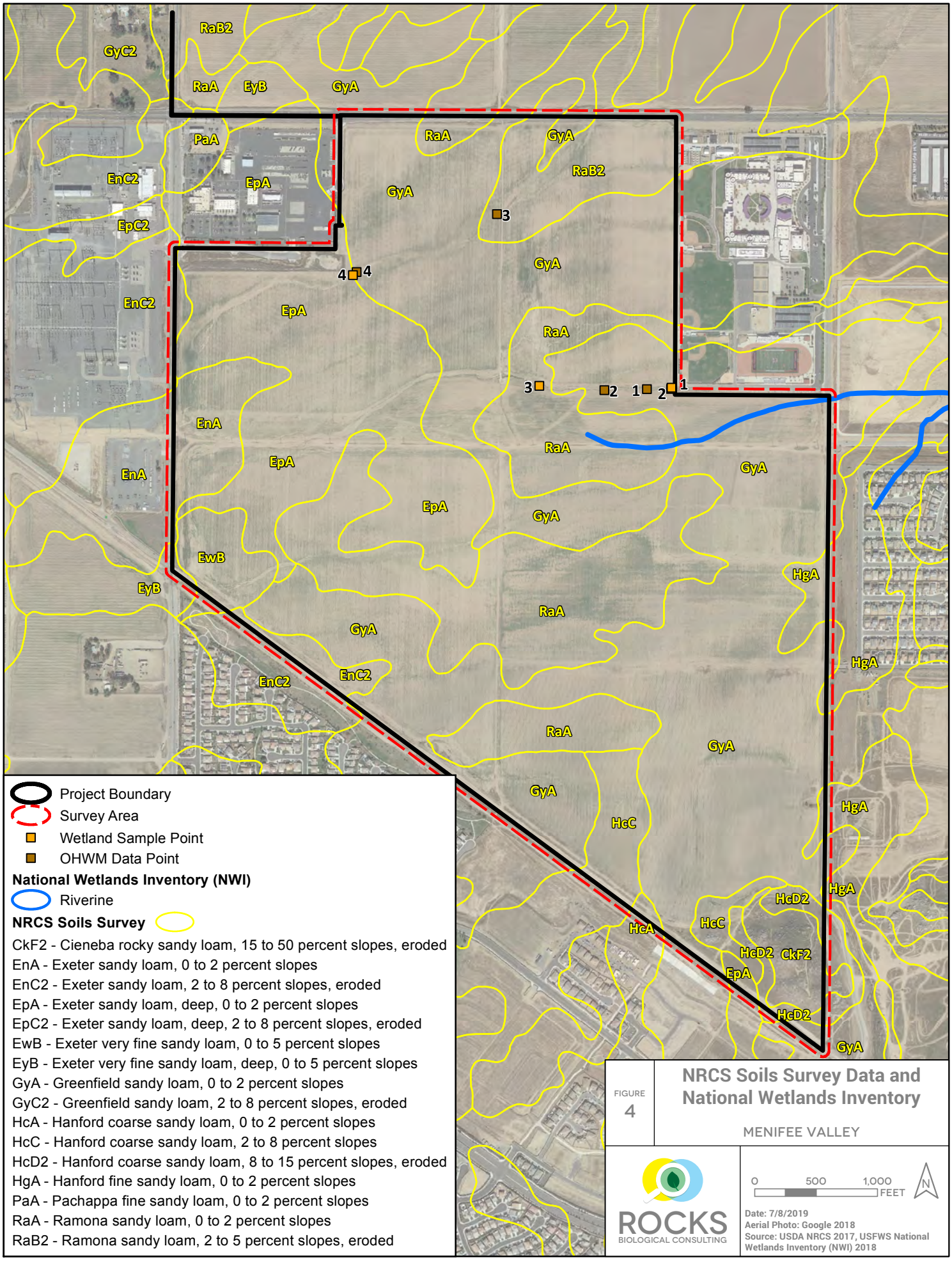
ROCKS BIOLOGICAL CONSULTING

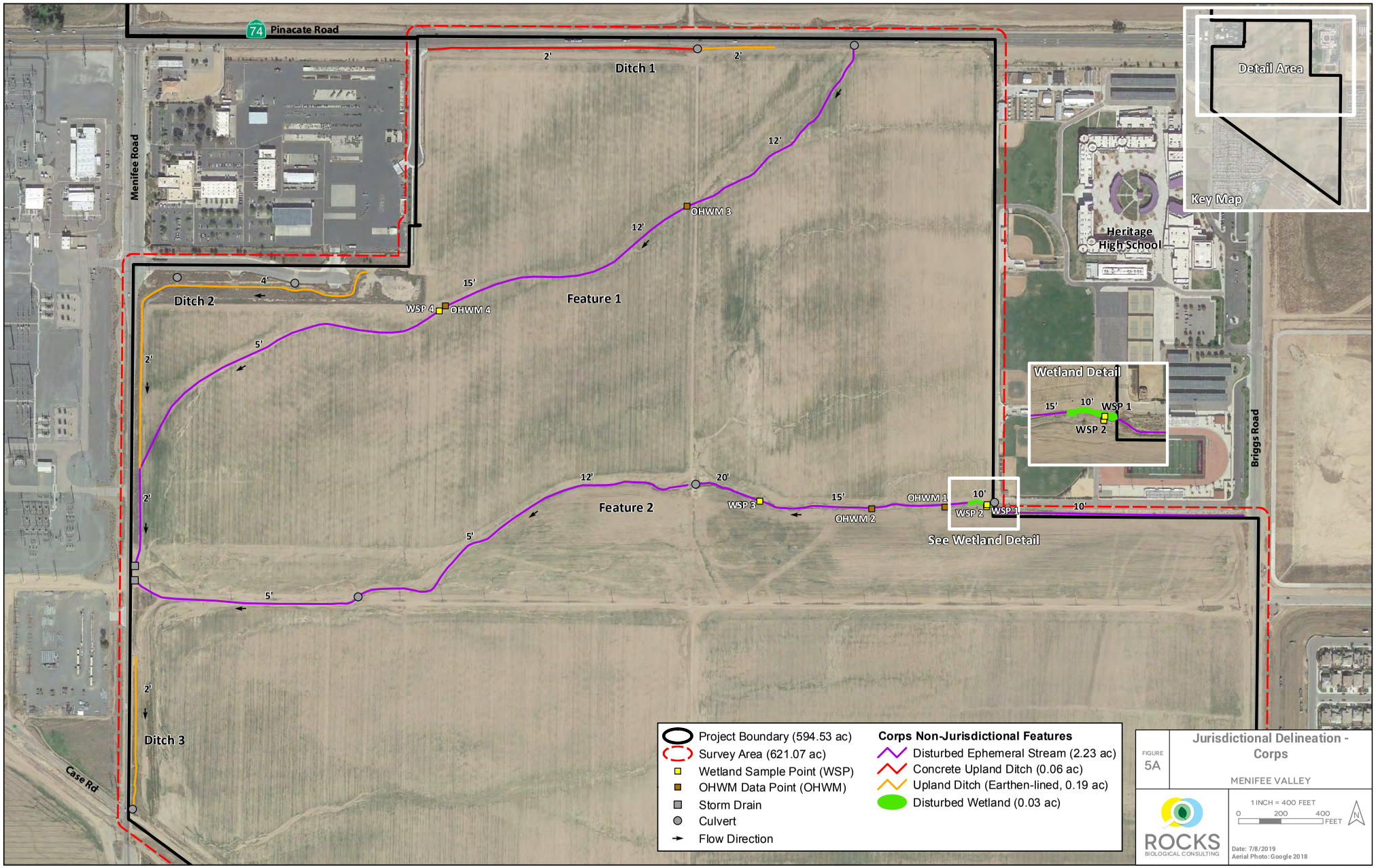
0 1,000 2,000 FEET

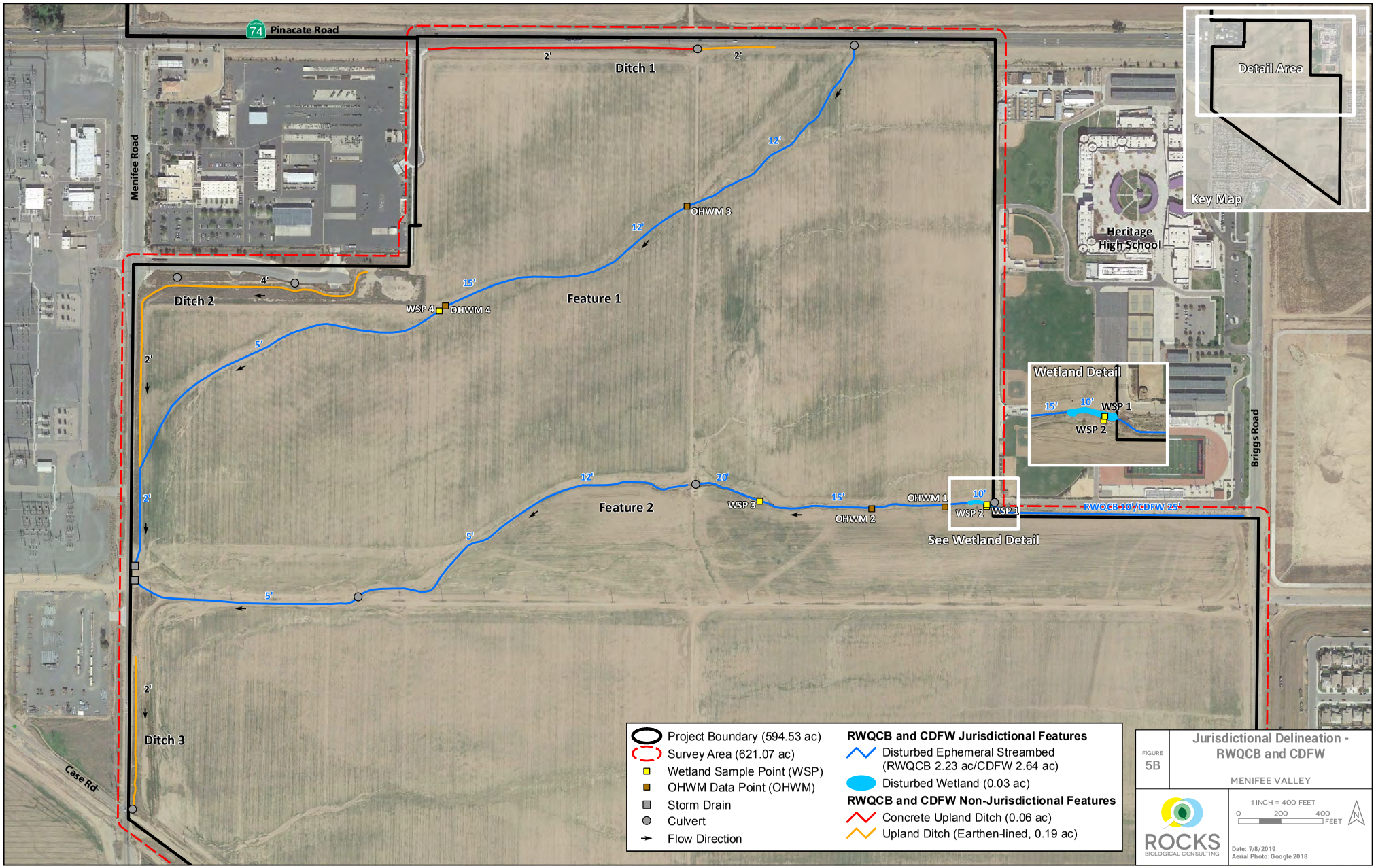
N

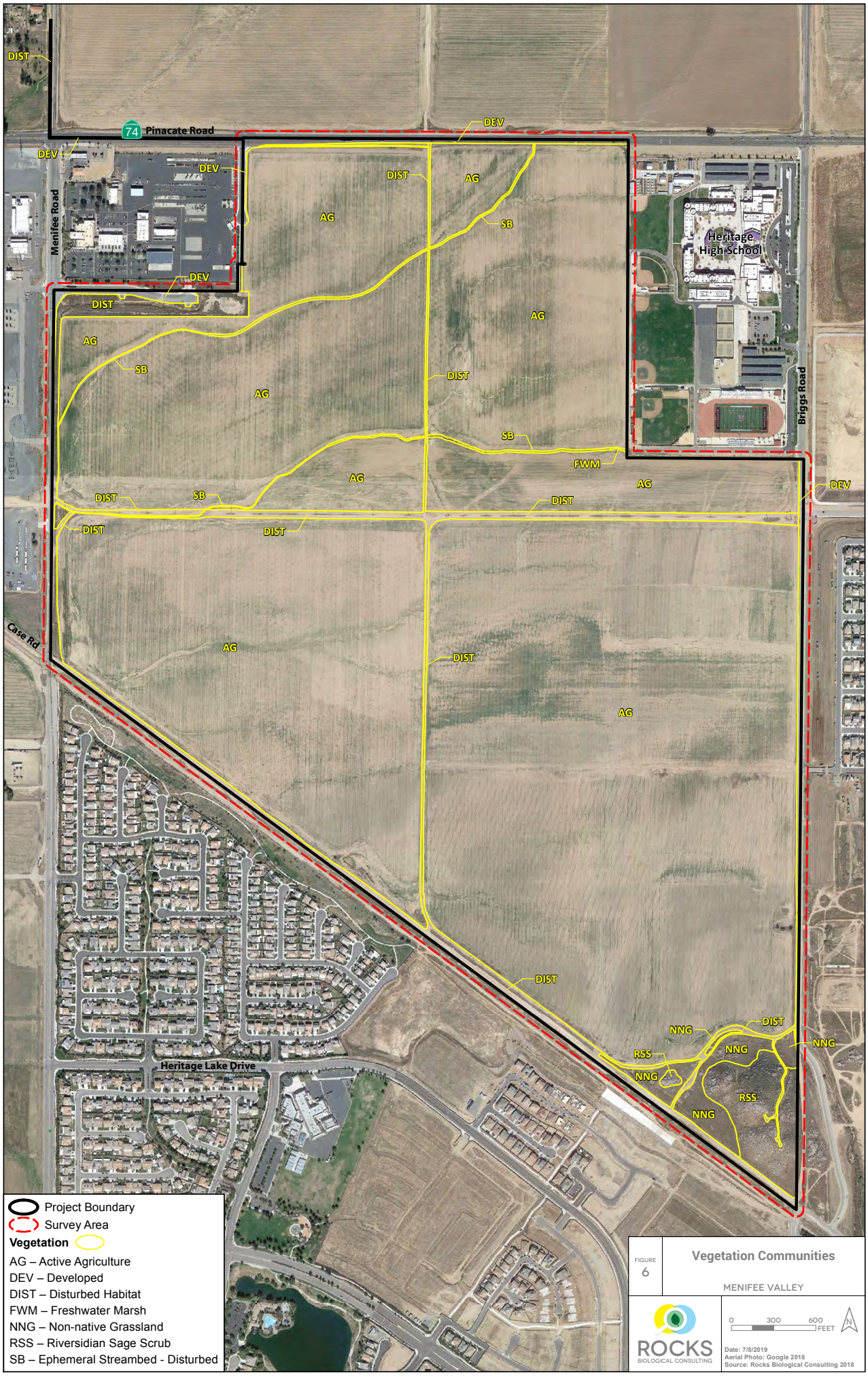
Date: 7/8/2019
Base Map: USGS 7.5' Quads (Romoland) 2013, Esri
Source: USGS National Hydrography Dataset (NHD) 2018

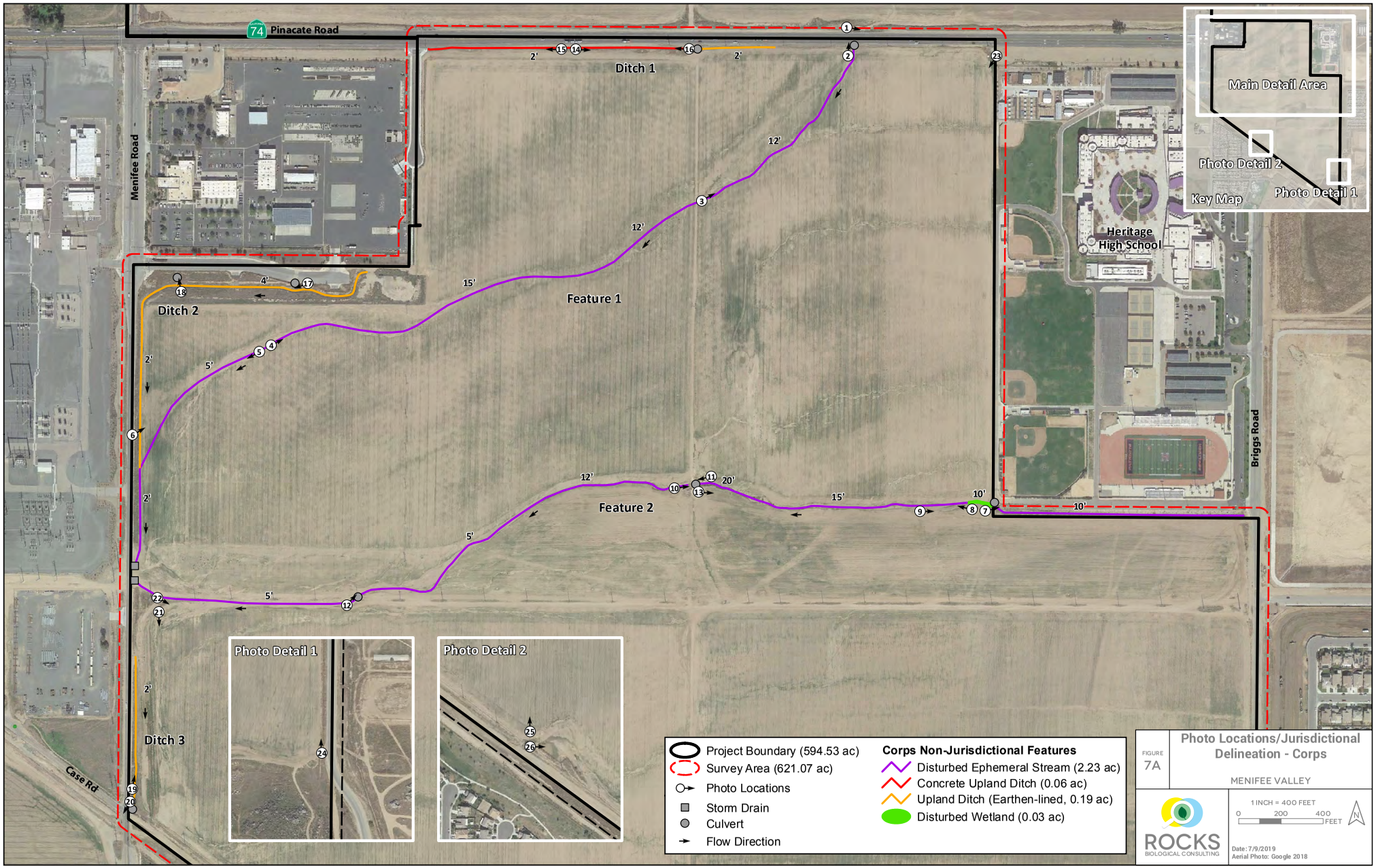

Project Boundary
NHD Watershed 8-digit HUC
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC
Moreno Valley
HUC 12 - 180702020304
Santa Ana
HUC 8 - 18070203
Perris Reservoir
HUC 12 - 180702020305
Middle San Jacinto River
HUC 10 - 1807020202
Whitewater River
HUC 8 - 18100201
Lower San Jacinto River
HUC 10 - 1807020203
San Jacinto
HUC 8 - 18070202
Perris Valley-San Jacinto River
HUC 12 - 180702020306
Railroad Canyon Reservoir-San Jacinto River
HUC 12 - 180702020307
San Jacinto Valley
HUC 12 - 180702020302
Upper San Jacinto River
HUC 10 - 1807020201
Saint Johns Canyon
HUC 12 - 180702020301
Menifee Valley
HUC 12 - 180702020303
Lake Elsinore
HUC 12 - 180702020308
Aliso-San Onofre
HUC 8 - 18070301
Santa Margarita
HUC 8 - 18070302
San Luis Rey-Escondido
HUC 8 - 18070303
FIGURE
3
Watershed
MENIFEE VALLEY
ROCKS
BIOLOGICAL CONSULTING
0
2
4
MILES
N
Date: 7/8/2019
Aerial Photo: Digital Globe 2017, Esri
Source: USGS WBD, NHD 2018

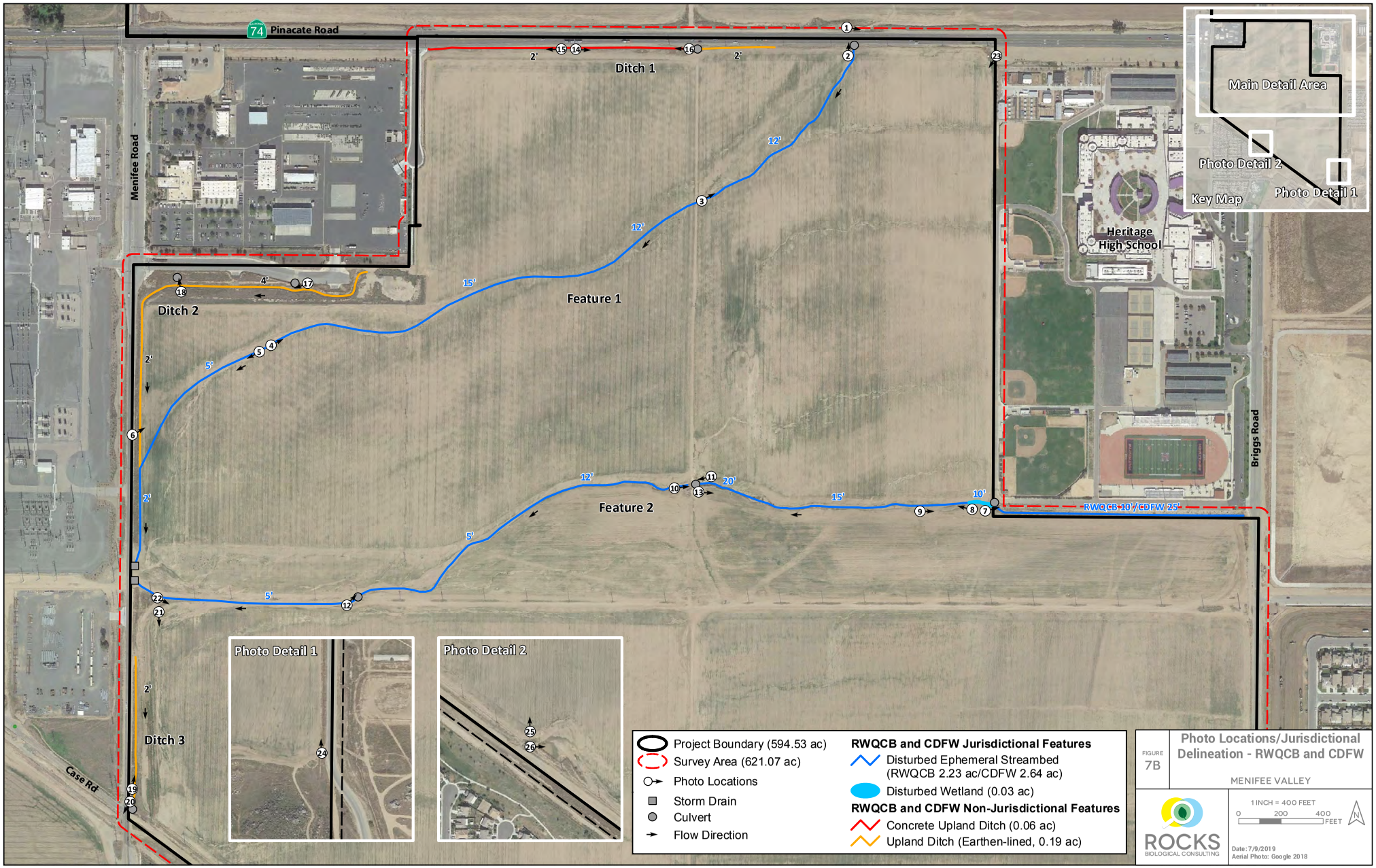

RaB2
GyC2
RaA
EyB
GyA
PaA
EpA
EnC2
EpC2
RaA
GyA
RaB2
GyA
3
4
4
GyA
EnC2
EpA
RaA
3
2
1
2
1
EnA
RaA
EpA
GyA
EnA
EpA
GyA
EwB
EyB
HgA
RaA
GyA
HgA
EnC2
EnC2
RaA
GyA
GyA
HgA
HcC
HgA
HcD2
HcA
HcC
HcD2
CkF2
EpA
HcD2
GyA
Project Boundary
Survey Area
Wetland Sample Point
OHWM Data Point
National Wetlands Inventory (NWI)
Riverine
NRCS Soils Survey
CkF2 - Cieneba rocky sandy loam, 15 to 50 percent slopes, eroded
EnA - Exeter sandy loam, 0 to 2 percent slopes
EnC2 - Exeter sandy loam, 2 to 8 percent slopes, eroded
EpA - Exeter sandy loam, deep, 0 to 2 percent slopes
EpC2 - Exeter sandy loam, deep, 2 to 8 percent slopes, eroded
EwB - Exeter very fine sandy loam, 0 to 5 percent slopes
EyB - Exeter very fine sandy loam, deep, 0 to 5 percent slopes
GyA - Greenfield sandy loam, 0 to 2 percent slopes
GyC2 - Greenfield sandy loam, 2 to 8 percent slopes, eroded
HcA - Hanford coarse sandy loam, 0 to 2 percent slopes
HcC - Hanford coarse sandy loam, 2 to 8 percent slopes
HcD2 - Hanford coarse sandy loam, 8 to 15 percent slopes, eroded
HgA - Hanford fine sandy loam, 0 to 2 percent slopes
PaA - Pachappa fine sandy loam, 0 to 2 percent slopes
RaA - Ramona sandy loam, 0 to 2 percent slopes
RaB2 - Ramona sandy loam, 2 to 5 percent slopes, eroded
FIGURE 4
NRCS Soils Survey Data and National Wetlands Inventory
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
0 500 1,000 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018
Source: USDA NRCS 2017, USFWS National Wetlands Inventory (NWI) 2018


Pinacate Road
74
Menifee Road
Ditch 1
2'
2'
12'
12'
OHWM 3
Ditch 2
4'
15'
WSP 4
OHWM 4
Feature 1
5'
2'
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 1
OHWM 2
10'
WSP 2
WSP 1
10'
See Wetland Detail
5'
5'
2'
Ditch 3
Case Rd
Heritage High School
Briggs Road
Detail Area
Key Map
Wetland Detail
15'
10'
WSP 1
WSP 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Wetland Sample Point (WSP)
OHWM Data Point (OHWM)
Storm Drain
Culvert
Flow Direction
Corps Non-Jurisdictional Features
Disturbed Ephemeral Stream (2.23 ac)
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
Disturbed Wetland (0.03 ac)
FIGURE 5A
Jurisdictional Delineation - Corps
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018


74 Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
OHWM 1
OHWM 2
OHWM 3
OHWM 4
WSP 1
WSP 2
WSP 3
WSP 4
Detail Area
Key Map
Heritage High School
Wetland Detail
See Wetland Detail
Briggs Road
Case Rd
RWQCB 10'/CDFW 25'
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Wetland Sample Point (WSP)
OHWM Data Point (OHWM)
Storm Drain
Culvert
Flow Direction
RWQCB and CDFW Jurisdictional Features
Disturbed Ephemeral Streambed (RWQCB 2.23 ac/CDFW 2.64 ac)
Disturbed Wetland (0.03 ac)
RWQCB and CDFW Non-Jurisdictional Features
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
FIGURE 5B
Jurisdictional Delineation - RWQCB and CDFW
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/8/2019
Aerial Photo: Google 2018


Pinacate Road
74
Menifee Road
Heritage High School
Briggs Road
Case Rd
Heritage Lake Drive
DIST
DEV
AG
SB
FWM
NNG
RSS
Project Boundary
Survey Area
Vegetation
AG – Active Agriculture
DEV – Developed
DIST – Disturbed Habitat
FWM – Freshwater Marsh
NNG – Non-native Grassland
RSS – Riversidian Sage Scrub
SB – Ephemeral Streambed - Disturbed
FIGURE 6
Vegetation Communities
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
0 300 600 FEET
N
Date: 7/8/2019
Aerial Photo: Google 2018
Source: Rocks Biological Consulting 2018


74 Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
Heritage High School
Briggs Road
Case Rd
Main Detail Area
Photo Detail 2
Photo Detail 1
Key Map
Photo Detail 1
Photo Detail 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Photo Locations
Storm Drain
Culvert
Flow Direction
Corps Non-Jurisdictional Features
Disturbed Ephemeral Stream (2.23 ac)
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
Disturbed Wetland (0.03 ac)
FIGURE 7A
Photo Locations/Jurisdictional Delineation - Corps
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/9/2019
Aerial Photo: Google 2018


Pinacate Road
Menifee Road
Ditch 1
Ditch 2
Ditch 3
Feature 1
Feature 2
Heritage High School
Briggs Road
Case Rd
RWQCB 10'/CDFW 25'
Main Detail Area
Photo Detail 2
Photo Detail 1
Key Map
Photo Detail 1
Photo Detail 2
Project Boundary (594.53 ac)
Survey Area (621.07 ac)
Photo Locations
Storm Drain
Culvert
Flow Direction
RWQCB and CDFW Jurisdictional Features
Disturbed Ephemeral Streambed (RWQCB 2.23 ac/CDFW 2.64 ac)
Disturbed Wetland (0.03 ac)
RWQCB and CDFW Non-Jurisdictional Features
Concrete Upland Ditch (0.06 ac)
Upland Ditch (Earthen-lined, 0.19 ac)
FIGURE 7B
Photo Locations/Jurisdictional Delineation - RWQCB and CDFW
MENIFEE VALLEY
ROCKS BIOLOGICAL CONSULTING
1 INCH = 400 FEET
0 200 400 FEET
Date: 7/9/2019
Aerial Photo: Google 2018

# 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 RESOURCE(S) 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 | |

| | | |
|---|---|---|
| | 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: 10') | | | |
| 1. Salix gooddingii | 20 | Y | FACW |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 20 = Total Cover | | |
| **Herb Stratum** (Plot size: 10') | | | |
| 1. Eleocharis palustris | 30 | Y | OBL |
| 2. Typha latifolia | 25 | Y | OBL |
| 3. Cynadon dactylon | 5 | N | FACU |
| 4. Ephilobium ciliatum | 2 | N | FACW |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 62 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum 15 % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**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 = _____

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ✔ No _____

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 Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| n/a | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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)
- ___ 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): 0-5 inches

Water Table Present? Yes ___ No ___ Depth (inches): n/a

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): n/a

**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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | = Total Cover | | |
| **Herb Stratum** (Plot size: 10 ft.) | | | |
| 1. Cynadon dactylon | 25 | Y | FACU |
| 2. Pulicaria paludosa | 5 | N | FAC |
| 3. Chenopodium album | 2 | N | FACU |
| 4. Typha latifolia | 1 | N | OBL |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 33 = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | 1 | x 1 = | 1 |
| FACW species | 0 | x 2 = | 0 |
| FAC species | 5 | x 3 = | 15 |
| FACU species | 27 | x 4 = | 108 |
| UPL species | 0 | x 5 = | 0 |
| Column Totals: | 33 (A) | | 124 (B) |

Prevalence Index = B/A = 3.75

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

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

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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 Hirchler 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| **Herb Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | _____ = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: N/A (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**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 = N/A

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

Remarks:

unvegetated/disced - 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.)**

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-30 | 10 YR 4/4 | 100 | n/a | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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? (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:

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 Hirchler 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 |
|---|---|---|---|
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | _____ = Total Cover | | |
| **Sapling/Shrub Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | _____ = Total Cover | | |
| **Herb Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | _____ = Total Cover | | |
| **Woody Vine Stratum** (Plot size: _____) | | | |
| 1. N/A | | | |
| 2. | | | |
| | _____ = Total Cover | | |

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: N/A (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

**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 = N/A

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

Remarks:

unvegetated/disced - 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 Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-25 | 10 YR 4/4 | 100 | n/a | | | | Sand | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

[3]Indicators 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? (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:

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

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

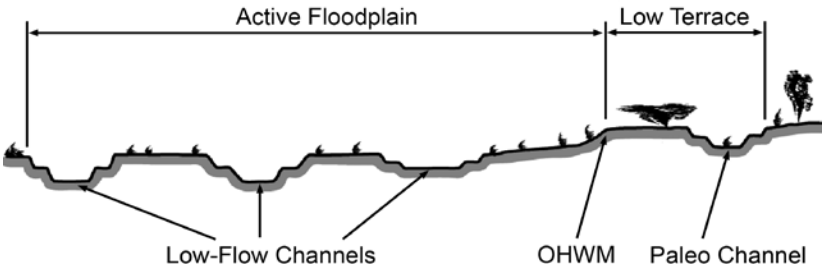
**Brief site description:**
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

**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

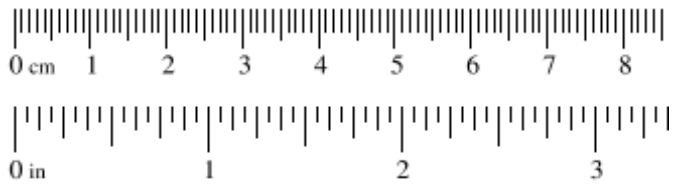



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

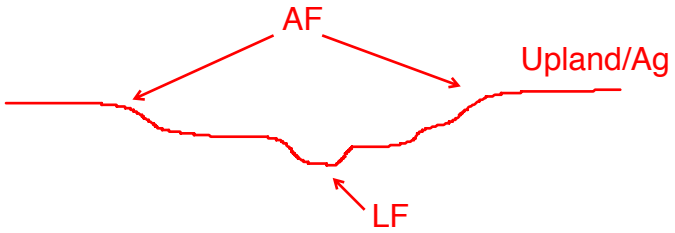
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 1 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.141403192 33.737067502

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] 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:

- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [x] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] 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
- ☑ 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: Water marks
- ☐ Other: _____
- ☐ 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
- ☐ 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 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

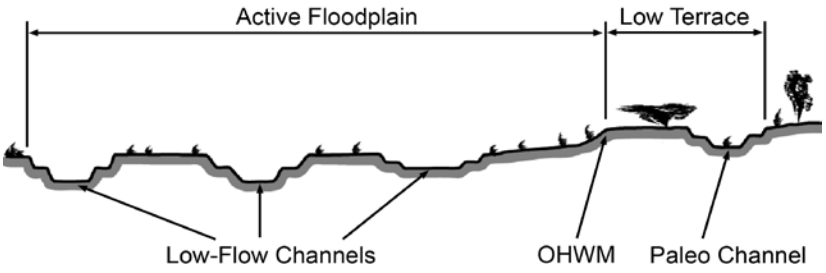
**Brief site description:**
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

**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

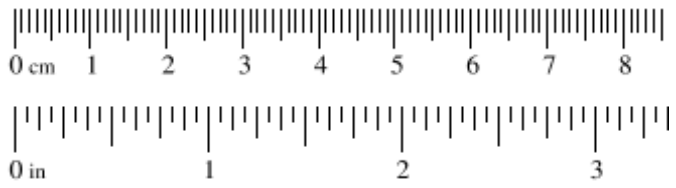



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

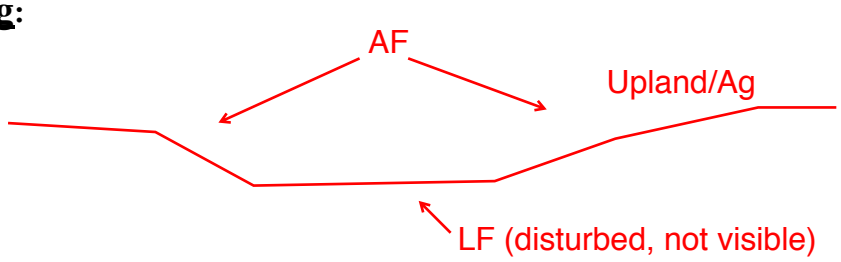
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 2 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.142543876 33.737037885

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [ ] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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
- ☑ 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 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
- ☐ 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

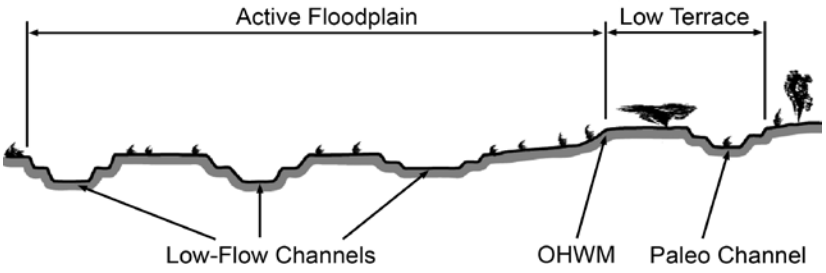
**Brief site description:**
Area receives flows from an upstream box-culverted crossing under Highway 74

**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

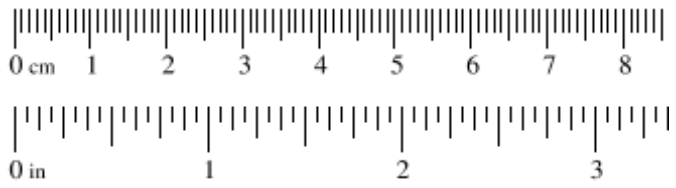



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
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   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

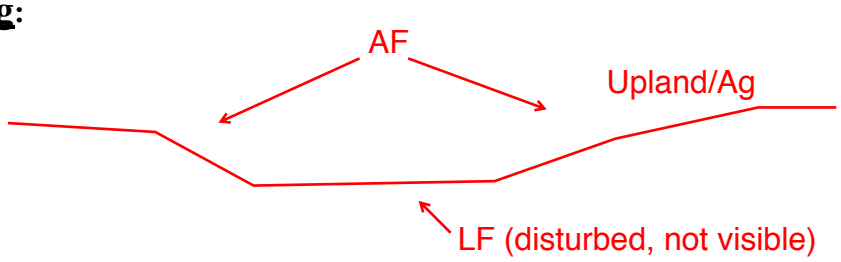
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 3 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.145462658 33.740955134

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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 OHWM Datasheet

**Project:** Menifee Valley
**Project Number:** --
**Stream:** OHWM 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

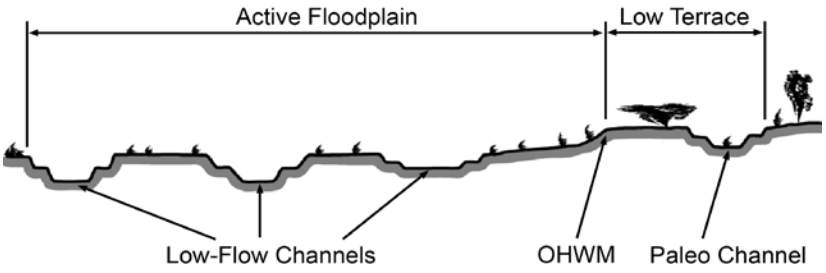
**Brief site description:**
Area receives flows from an upstream box-culverted crossing under Highway 74

**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

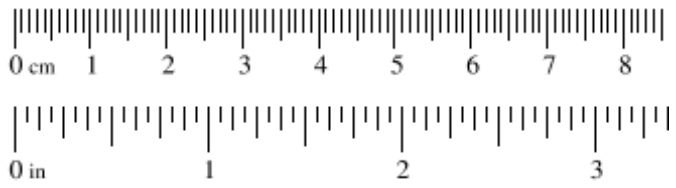



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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.
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   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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

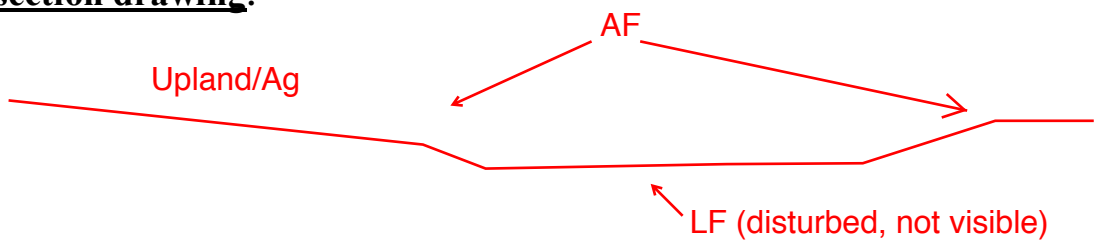
## Wentworth Size Classes

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



**Project ID:** Menifee Valley **Cross section ID:** OHWM 4 **Date:** 08/13/2018 **Time:**

**Cross section drawing:**




## OHWM

**GPS point:** -117.149211774 33.739631219

**Indicators:**

- [x] Change in average sediment texture
- [ ] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [x] Other: bed and bank
- [ ] Other: _____

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

## Floodplain unit:

- [ ] Low-Flow Channel
- [x] 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:

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

**Indicators:**

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] 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
- ☑ 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:**

# 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.

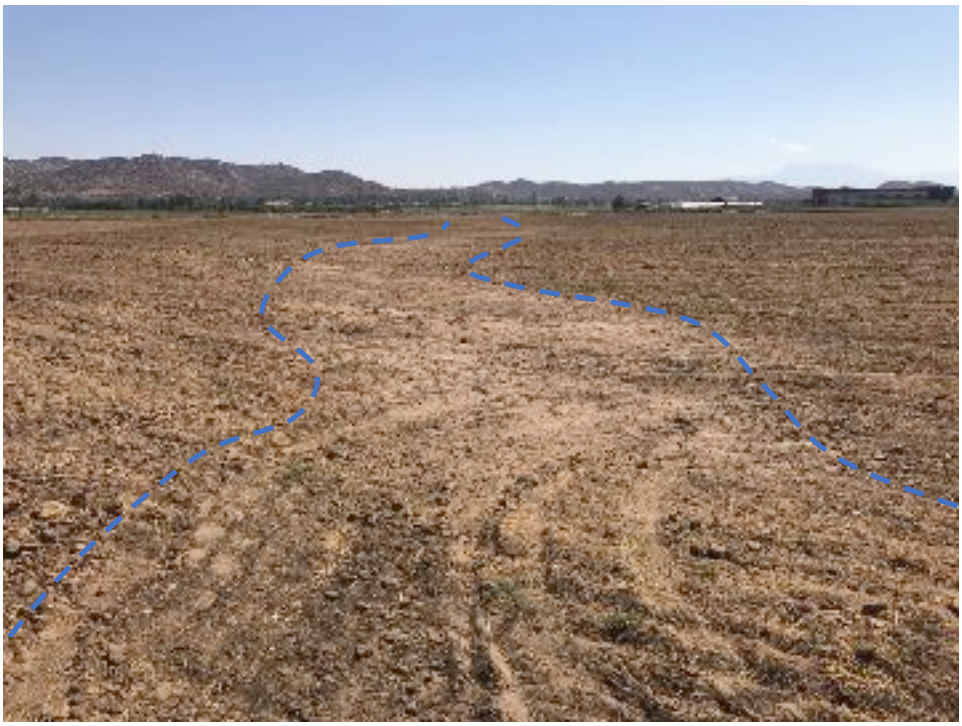


Photo 3. Upstream view of the northeast portion of Feature 1, at Ordinary High Water Mark Data Point 3 (OHWM 3). Photo taken facing northeast towards its on-site entry point along CA-74.



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 Menifee 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 Menifee Road on the western project boundary. Photo taken facing north.



Photo 20. Downstream view of roadside Ditch 3, which runs along Menifee 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.
**Diversion 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



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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



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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



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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



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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



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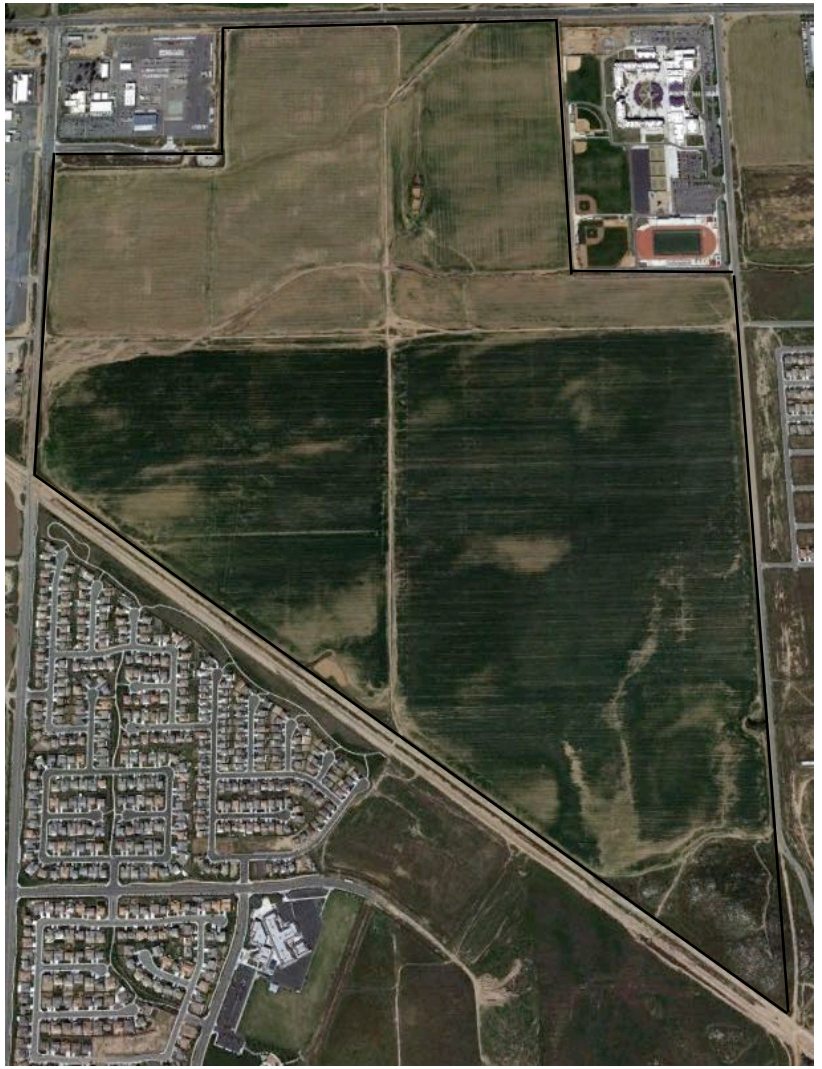
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara




2009



2011



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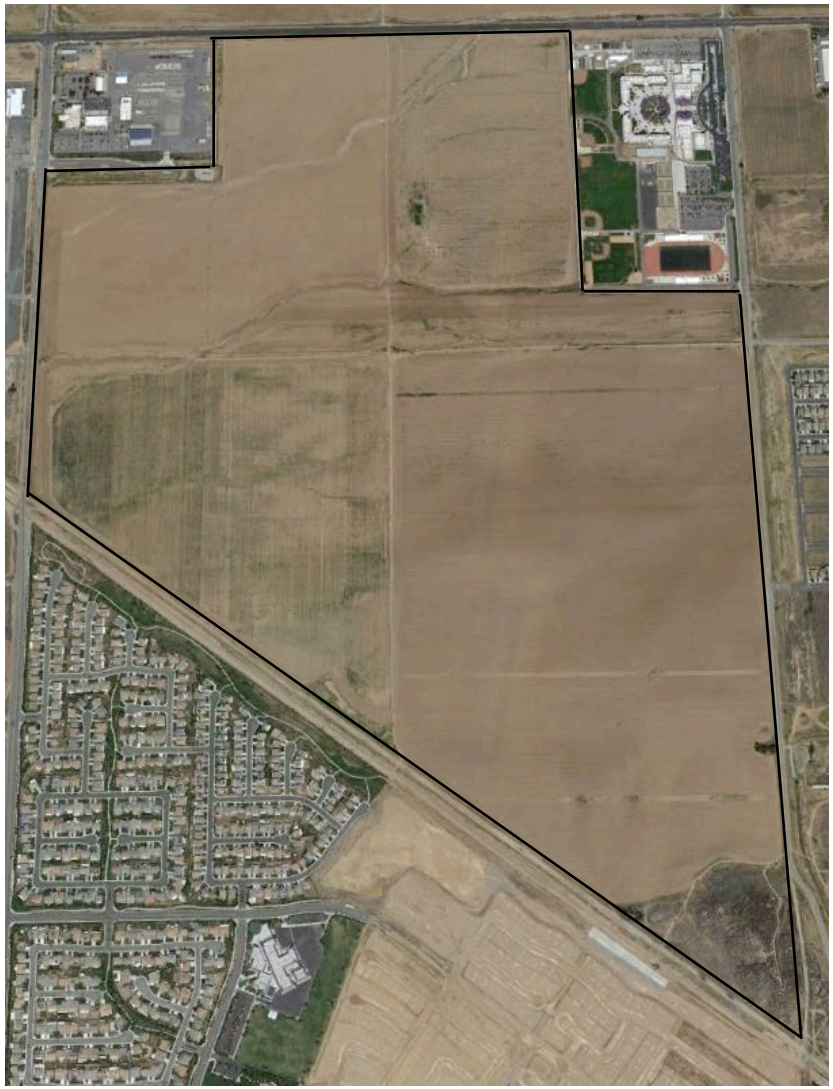
Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2012



2014

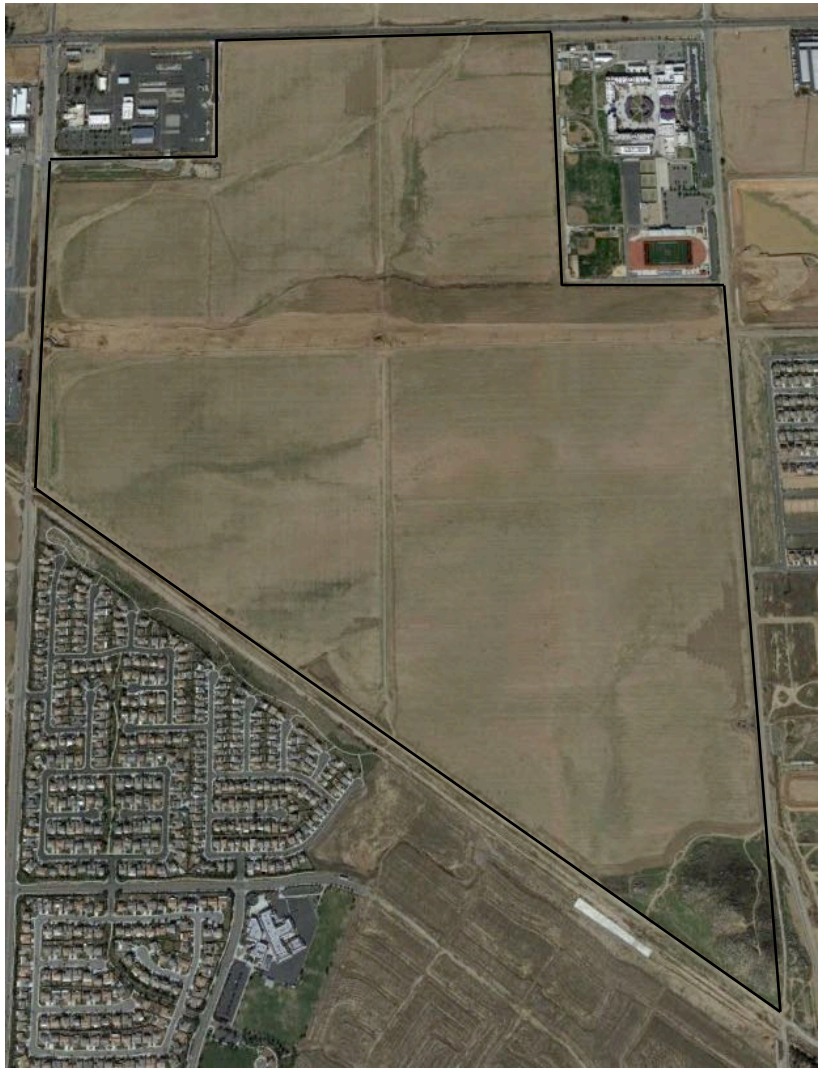


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Appendix E – On-site Recent and Historic Aerials Analysis

Figure Attached: Aerial Drainage Patterns Analyzed

Sources: Google Earth and University of California-Santa Barbara



2016




2018



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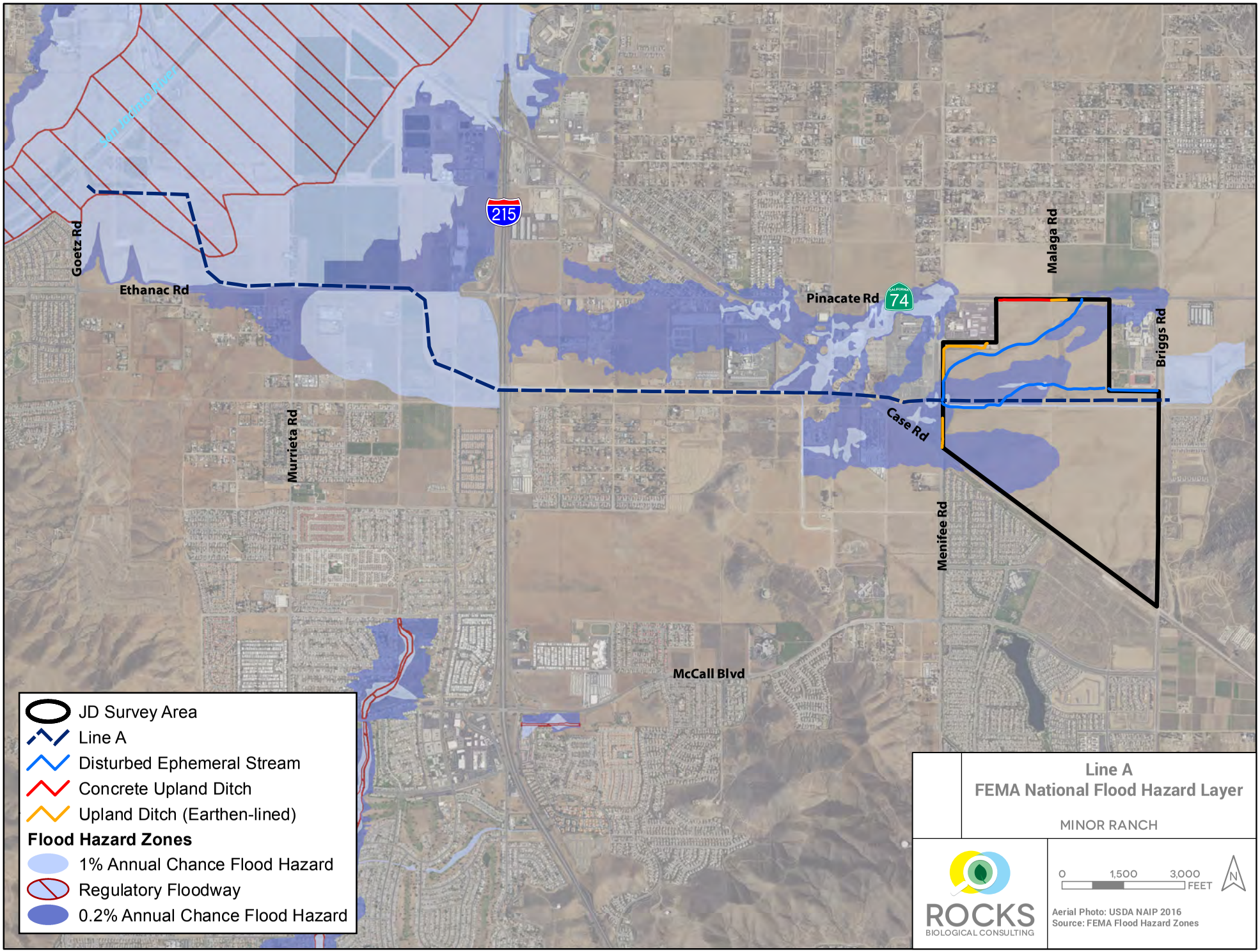
# APPENDIX F

# 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


San Jacinto River
Goetz Rd
Ethanac Rd
215
Murrieta Rd
Pinacate Rd
74
Malaga Rd
Briggs Rd
Case Rd
Menifee Rd
McCall Blvd
JD Survey Area
Line A
Disturbed Ephemeral Stream
Concrete Upland Ditch
Upland Ditch (Earthen-lined)
Flood Hazard Zones
1% Annual Chance Flood Hazard
Regulatory Floodway
0.2% Annual Chance Flood Hazard
Line A
FEMA National Flood Hazard Layer
MINOR RANCH
ROCKS
BIOLOGICAL CONSULTING
0
1,500
3,000
FEET
N
Aerial Photo: USDA NAIP 2016
Source: FEMA Flood Hazard Zones

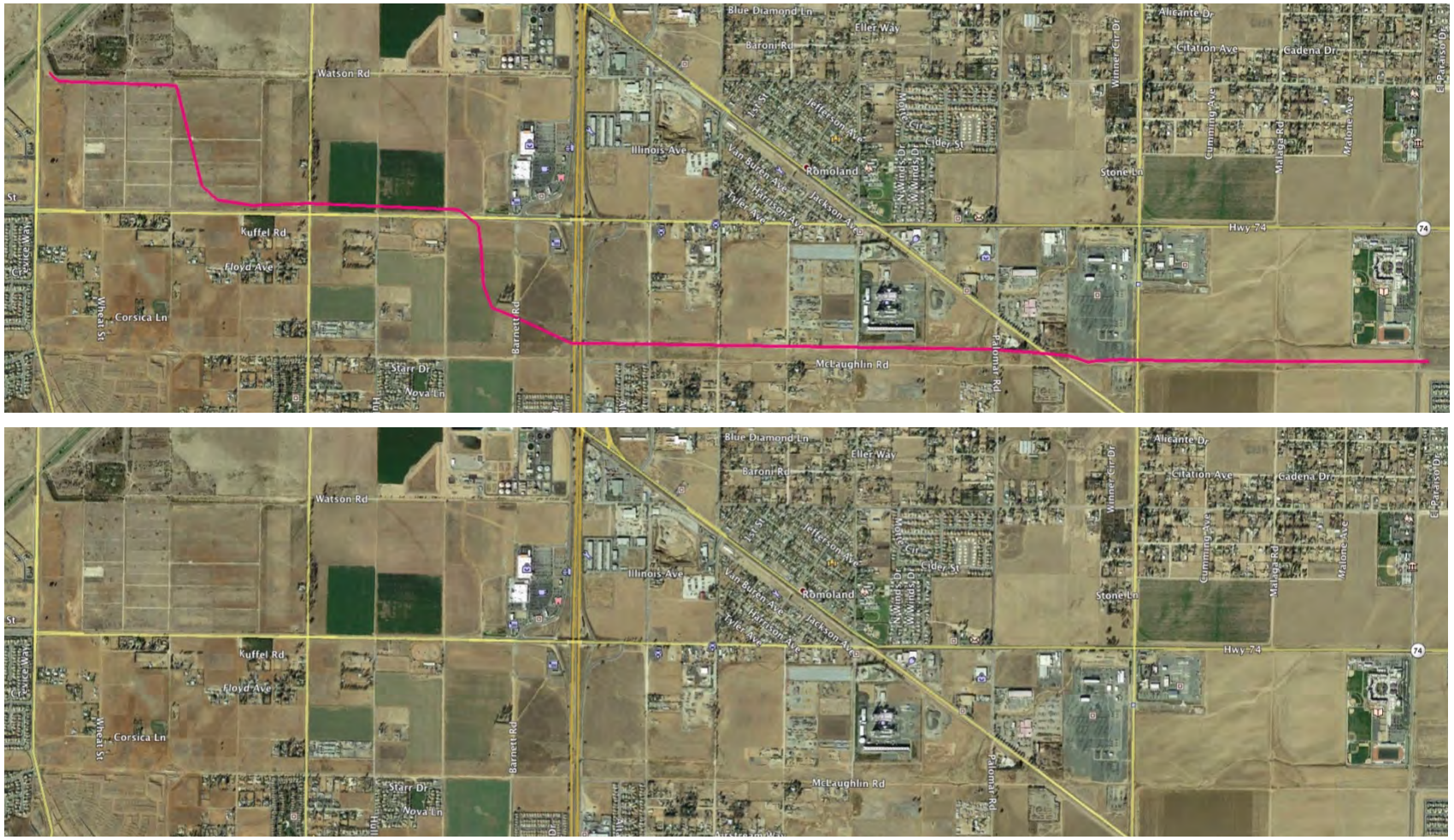
Appendix G – Line A Drone Image



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Appendix G – Line A Aerials Analysis

Source: Google Earth



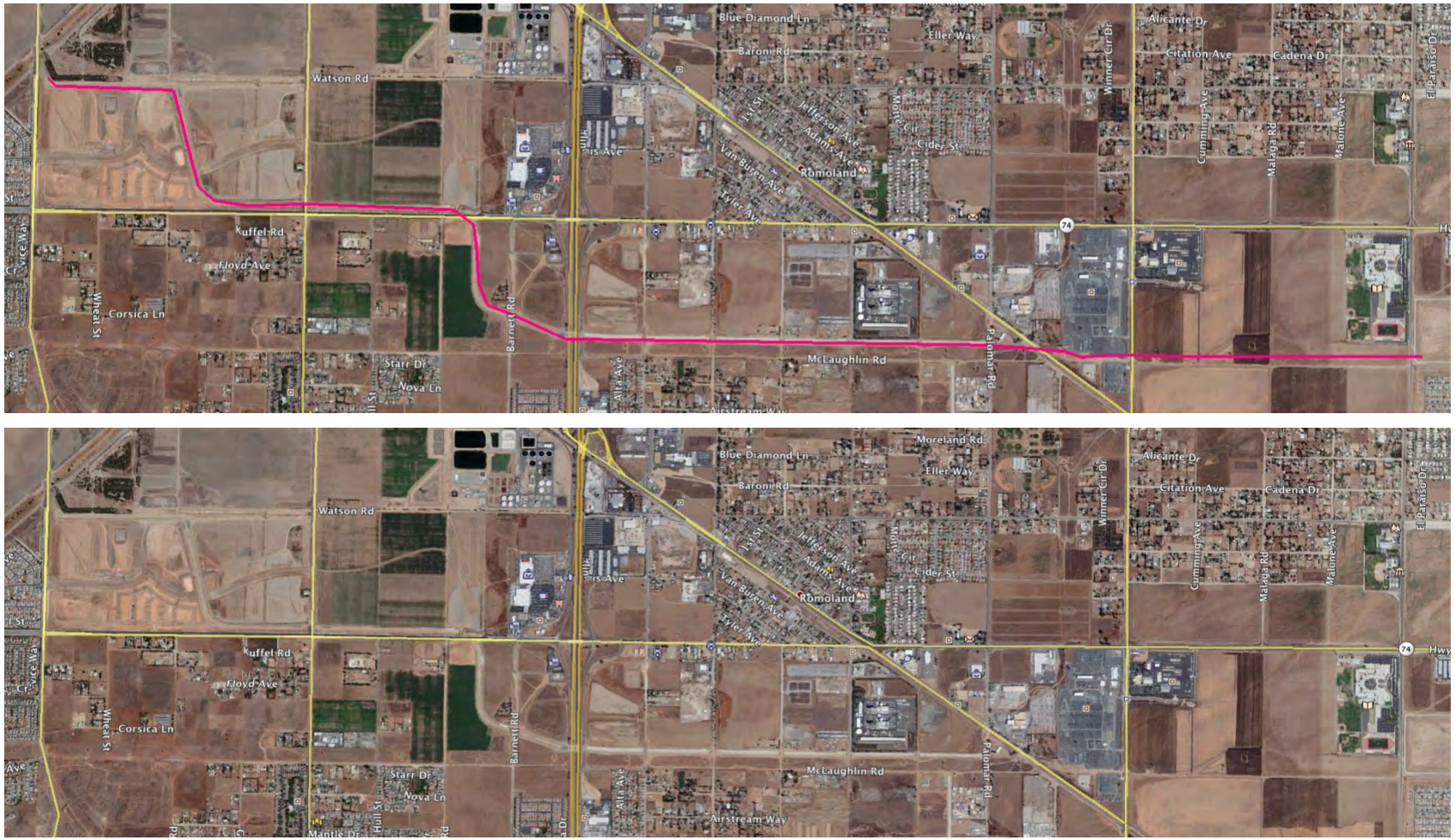

November 2013 (prior to construction of Line A). Pink line denotes existing alignment of Line A, which initiates in the east and drains to the west. Note upstream flows visible in current location of Briggs Detension Basin, directly east where Line A originates.



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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).



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# APPENDIX H

## GIS DATA (PROVIDED ELECTRONICALLY TO AGENCIES

# ATTACHMENT B

# ARID WEST WETLAND DETERMINATION DATA FORMS AND EPHEMERAL AND INTERMITTENT STREAMS OHWM DATASHEETS

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley Project (Off-Site Improvement Areas) City/County: Menifee/Riverside County Sampling Date: 2/24/2022

Applicant/Owner: Brookfield Properties Development State: CA Sampling Point: WDP 5

Investigator(s): Sarah Krejca, Kelsey Woldt Section, Township, Range: S13, T5S, R3W

Landform (hillslope, terrace, etc.): roadside ditch Local relief (concave, convex, none): slightly concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.742902 Long: -117.150197 Datum: NAD 83

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:

Representative sample point taken in roadside ditch within disturbed habitat. Area appears to be regularly maintained/cleared of vegetation based on presence of tire tracks and lack of vegetation. Soils disturbed based on restrictive layer (likely fill) at 9 inches. Area received rain a day prior; however, drought conditions per APT (i.e., atypical hydrologic conditions/naturally problematic).

## VEGETATION – Use scientific names of plants.

| | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| Tree Stratum (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | N/A | = Total Cover | |
| Sapling/Shrub Stratum (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | N/A | = Total Cover | |
| Herb Stratum (Plot size: 5-foot radius) | | | |
| 1. Hirschfeldia incana | 5% | Yes | NL/UPL |
| 2. Oncosiphon piluliferum | 2% | Yes | FACU |
| 3. Malva parviflora | 1% | No | NL/UPL |
| 4. Hordeum murinum | 1% | No | FACU |
| 5. Amsinckia menziesii | 1% | No | NL/UPL |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 10% | = Total Cover | |
| Woody Vine Stratum (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| | N/A | = Total Cover | |

% Bare Ground in Herb Stratum 90% % Cover of Biotic Crust 0%

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

**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 = ____

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** **Yes** ____ **No** ✔

Remarks:

Sample point taken in disturbed habitat. Hydric soil and wetland hydrology parameters not met; thus, prevalence index worksheet not required/needed.

## SOIL

Sampling Point: WDP 5

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-9 | 10 YR 3/3 | 100% | N/A | N/A | N/A | N/A | clay loam | No evidence of redox observed. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: Shovel refusal - likely fill

Depth (inches): @ 9 inches

**Hydric Soil Present? Yes _____ No ✔**

Remarks:

Moist soils from recent rains. Uniform soils throughout. No hydric soil indicators observed.

## 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): N/A

Water Table Present? Yes _____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): N/A

**Wetland Hydrology Present? Yes _____ No ✔**

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

N/A

Remarks:

FAC-Neutral test not met. No wetland hydrology indicators observed.

## WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley Project (Off-Site Improvement Areas) City/County: Menifee/Riverside County Sampling Date: 5/26/2022

Applicant/Owner: Brookfield Properties Development State: CA Sampling Point: WDP 6

Investigator(s): Sarah Krejca, Kelsey Woldt Section, Township, Range: S12, T5S, R3W

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3-5

Subregion (LRR): LRR C - Mediterranean California Lat: 33.743326 Long: -117.136856 Datum: NAD 83

Soil Map Unit Name: Greenfield sandy loam, 2 to 8 percent slopes, eroded 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:

Representative sample point taken in roadside drainage within disturbed habitat. Downstream of culvert that receives urban/agricultural runoff from surrounding areas and paved roads. Soil considered disturbed due to presence of riprap at 4 inches. Drought conditions per APT (i.e., atypical hydrologic conditions/naturally problematic).

### VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: N/A) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | N/A | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: 5-foot radius) | | | |
| 1. Tamarix ramosissima | 75% | Yes | FAC |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | 75% | = Total Cover | |
| **Herb Stratum** (Plot size: 5-foot radius) | | | |
| 1. Bromus madritensis ssp. rubens | 15% | Yes | UPL |
| 2. Oncosiphon piluliferum | 10% | Yes | FACU |
| 3. Bromus diandrus | 5% | No | NL/UPL |
| 4. Hirschfeldia incana | 2% | No | NL/UPL |
| 5. Erigeron canadensis | 1% | No | FACU |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| | 33% | = Total Cover | |
| **Woody Vine Stratum** (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| | N/A | = Total Cover | |

% Bare Ground in Herb Stratum 10% % Cover of Biotic Crust 0%

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33% (A/B)

**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 = _____

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes _____ No ✔

Remarks:

Sample point taken within area mapped as disturbed habitat. Tamarix ramosissima is synonymous with Tamarix chinensis (FAC) per the NWPL. Hydric soil and wetland hydrology parameters not met; thus, prevalence index worksheet not required/needed.

## SOIL

Sampling Point: WDP 6

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-4 | 10 YR 3/2 | 100% | N/A | N/A | N/A | N/A | loam | No evidence of redox observed. |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: Shovel refusal - riprap

Depth (inches): @ 4 inches

**Hydric Soil Present? Yes _____ No ✔**

Remarks:

Dry soils; soils moistened with spray bottle to record soil color. Uniform soils throughout. No hydric soil indicators observed.

## 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): N/A

Water Table Present? Yes _____ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): N/A

**Wetland Hydrology Present? Yes _____ No ✔**

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

N/A

Remarks:

FAC-Neutral test not met. No wetland hydrology indicators observed.

# WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Menifee Valley Project (Off-Site Improvement Areas) City/County: Menifee/Riverside County Sampling Date: 05/26/2022

Applicant/Owner: Brookfield Properties Development State: CA Sampling Point: WDP 7

Investigator(s): Sarah Krejca, Kelsey Woldt Section, Township, Range: S24. T5S. R3W

Landform (hillslope, terrace, etc.): slight depressional area Local relief (concave, convex, none): slightly concave Slope (%): 0-1

Subregion (LRR): LRR C - Mediterranean California Lat: 33.727681 Long: -117.146455 Datum: NAD 83

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:

Sample point taken in landscaped/maintained park adjacent to paved pathway; park appears to be irrigated/artificially watered. Drought conditions per APT (i.e., atypical hydrologic conditions/naturally problematic).

## VEGETATION – Use scientific names of plants.

| Tree Stratum (Plot size: N/A) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| | N/A | = Total Cover | |
| **Sapling/Shrub Stratum** (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| | N/A | = Total Cover | |
| **Herb Stratum** (Plot size: 5-foot radius) | | | |
| 1. Festuca perennis | 55% | Yes | FAC |
| 2. Cyperus eragrostis | 12% | No | FACW |
| 3. Plantago lanceolata | 9% | No | FAC |
| 4. Veronica peregrina | 8% | No | FAC |
| 5. Plantago major | 6% | No | FAC |
| 6. Polypogon viridis | 4% | No | FACW |
| 7. Cynodon dactylon | 1% | No | FACU |
| 8. | | | |
| | 95% | = Total Cover | |
| **Woody Vine Stratum** (Plot size: N/A) | | | |
| 1. | | | |
| 2. | | | |
| | N/A | = Total Cover | |

% Bare Ground in Herb Stratum 5% % Cover of Biotic Crust 0%

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

**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 = _____

**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)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** Yes ✔ No _____

Remarks:

Sample point taken within area mapped as developed. Festuca perennis is synonymous with Lolium perenne (FAC) per the NWPL.

## SOIL

Sampling Point: WDP 7

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 10 YR 3/2 | 100% | N/A | N/A | N/A | N/A | clay | No evidence of redox observed. |
| 5-10 | 10 YR 3/2 | 95% | 7.5 YR 4/6 | 5% | C | PL, M | sandy loam | Prominent redox concentrations observed as soft masses and along pore lining |
| 10-14 | 10 YR 3/2 | 93% | 7.5 YR 3/4 | 7% | C | PL, M | sandy clay loam | Prominent redox concentrations observed as soft masses and along pore lining |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: 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 Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: Shovel refusal - hard surface

Depth (inches): @ 14 inches

**Hydric Soil Present? Yes** ✔ **No** ___

Remarks:

Prominent redox concentrations occur as soft masses within soil matrix and along pore linings from 5 to 14 inches.

## 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): N/A

Water Table Present? Yes ___ No ✔ Depth (inches): N/A

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): N/A

**Wetland Hydrology Present? Yes** ___ **No** ✔

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

N/A

Remarks:

FAC-Neutral test met. Area appears to be irrigated/artificially watered; however, no other primary or secondary wetland hydrology indicators were met.

# Arid West Ephemeral and Intermittent Streams OHWM Datasheet

**Project:** Menifee Valley Project (Off-Site Improvement Areas) **Date:** 2/24/22 **Time:** 1240
**Project Number:** N/A **Town:** Menifee **State:** CA
**Stream:** ODP 5 **Photo begin file#:** 22 **Photo end file#:** 23
**Investigator(s):** Sarah Krejca, Kelsey Woldt

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

**Location Details:**
Menifee Valley Project (Off-Site Improvement Areas) Aquatic Resources Delineation Report Addendum Review Area

**Projection:** WGS 84 **Datum:** NAD 83
**Coordinates:** 33.742899, - 117.150011

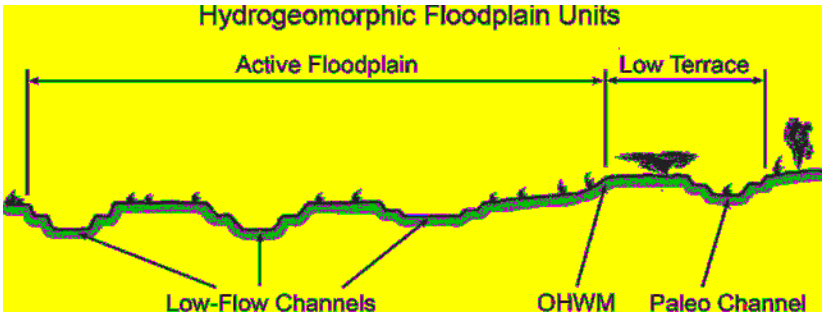
**Potential anthropogenic influences on the channel system:**
Area is recently mowed/cleared based on presence of tire tracks. Adjacent to California State Route (CA-) 74 and culvert that likely continues into underground storm drain (no outlet observed across the street).

**Brief site description:**
Undeveloped shoulder south of CA-74; swale-like feature within disturbed habitat.

**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

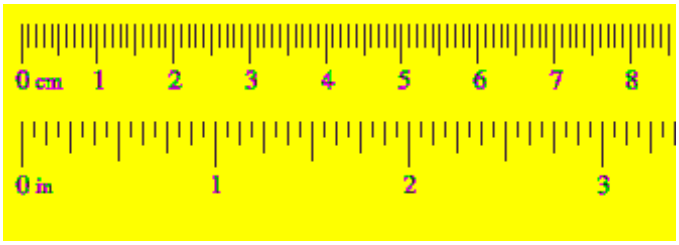



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM 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 | |
| | | Cobble | Gravel |
| 2.56 | 64 | Pebble | |
| 0.157 | 4 | Granule | |
| 0.079 | 2.00 | Very coarse sand | |
| 0.039 | 1.00 | Coarse sand | |
| 0.020 | 0.50 | Medium sand | Sand |
| 1/2 0.0098 | 0.25 | Fine sand | |
| 1/4 0.005 | 0.125 | Very fine sand | |
| 1/8 0.0025 | 0.0625 | Coarse silt | |
| 1/16 0.0012 | 0.031 | Medium silt | |
| 1/32 0.00061 | 0.0156 | Fine silt | Silt |
| 1/64 0.00031 | 0.0078 | Very fine silt | |
| 1/128 0.00015 | 0.0039 | Clay | Mud |



**Project ID:** Menifee Valley Project (Off-Site Improvement Areas) **Cross section ID:** ODP 5 **Date:** 2/24/22 **Time:** 1240

## Cross section drawing:




## OHWM

**GPS point:** 33.742899, - 117.150011

**Indicators:**

- ☐ Change in average sediment texture
- ☑ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

**Comments:**

Lower topographic area (i.e., swale-like feature) that does not appear to sustain sufficient drainage flows to create the presence of a bed and bank and/or break in bank slope. Vegetation cover and average sediment texture did not appear to differ from lower topographic area/to adjacent slopes (primarily unvegetated). A change in vegetation species from Amsinckia menziesii, Oncosiphon piluliferum, and Hirschfeldia incana to Amsinckia menziesii was observed between the lower topographic area and adjacent slopes; however, data collected one day after rain event and no other OHWM indicators were present.

## Floodplain unit:

☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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:**

**Project ID:** Menifee Valley Project (Off-Site Improvement Areas) **Cross section ID:** ODP 5 **Date:** 2/24/22 **Time:** 1240

**Floodplain unit:** ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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:**

**Floodplain unit:** ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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 OHWM Datasheet

**Project:** Menifee Valley Project (Off-Site Improvement Areas) **Date:** 2/24/2022 **Time:** 1305
**Project Number:** N/A **Town:** Menifee **State:** CA
**Stream:** ODP 6 **Photo begin file#:** 25 **Photo end file#:** 25
**Investigator(s):** Sarah Krejca, Kelsey Woldt

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☑ Is the site significantly disturbed?

**Location Details:**
Menifee Valley Project (Off-Site Improvement Areas) Aquatic Resources Delineation Report Addendum Review Area

**Projection:** WGS 84 **Datum:** NAD 83
**Coordinates:** 33.742870, -117.152689

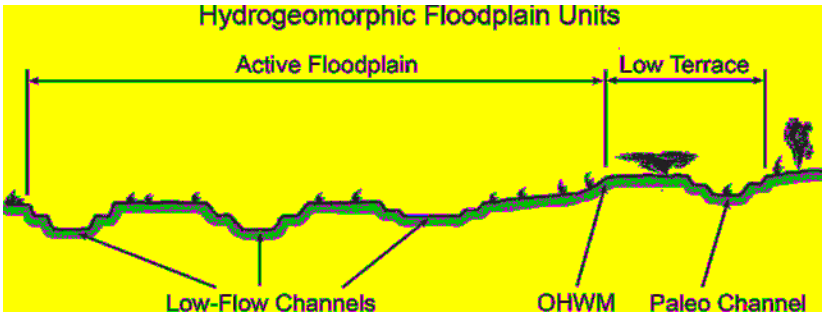
**Potential anthropogenic influences on the channel system:**
Concrete-lined stormwater conveyance feature is in an urban setting, adjacent to California State Route (CA-) 74. Receives road runoff from CA-74.

**Brief site description:**
Concrete-lined stormwater conveyance feature adjacent to CA-74 (south of) and parking lot/gas station (east of).

**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

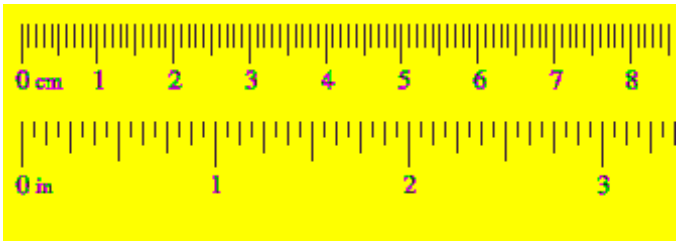



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

## Wentworth Size Classes

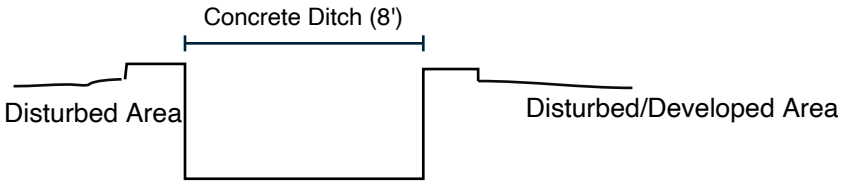
| Inches (in) | Millimeters (mm) | Wentworth size class | |
|---|---|---|---|
| 10.08 | 256 | Boulder | |
| | | Cobble | Gravel |
| 2.56 | 64 | Pebble | |
| 0.157 | 4 | Granule | |
| 0.079 | 2.00 | Very coarse sand | |
| 0.039 | 1.00 | Coarse sand | |
| 0.020 | 0.50 | Medium sand | Sand |
| 1/2 0.0098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



**Project ID:** Menifee Valley Project (Off-Site Improvement Areas) **Cross section ID:** ODP 6 **Date:** 2/24/2022 **Time:** 1305

## Cross section drawing:

Facing south




## OHWM

**GPS point:** 33.742870, -117.152689

**Indicators:**

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☑ Other: dead plant material & sediment
- ☐ Other: _____

**Comments:**

Approximately 8-foot wide concrete-lined ditch/stormwater conveyance feature with vertical concrete walls. Data collected one day after rain event; however, feature only contained debris (dead plant material and sediment) throughout the width of the ditch and did not exhibit any other OHWM indicators. Immediate surrounding area was disturbed/developed.

## Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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:**

**Project ID:** Menifee Valley Project (Off-Site Improvement Areas) **Cross section ID:** ODP 6 **Date:** 2/24/2022 **Time:** 1305

**Floodplain unit:** ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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:**

**Floodplain unit:** ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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 OHWM Datasheet

**Project:** Menifee Valley Project (Off Site Improvement Areas) **Date:** 2/24/2022 **Time:** 1330
**Project Number:** N/A **Town:** Menifee **State:** CA
**Stream:** ODP 7 **Photo begin file#:** 18 **Photo end file#:** 19
**Investigator(s):** Sarah Krejca, Kelsey Woldt

Y ☑ / N ☐ Do normal circumstances exist on the site?

Y ☑ / N ☐ Is the site significantly disturbed?

**Location Details:**
Menifee Valley Project (Off-Site Improvement Areas) Aquatic Resources Delineation Report Addendum Review Area

**Projection:** WGS 84 **Datum:** NAD 83
**Coordinates:** 33.743238, -117.154312

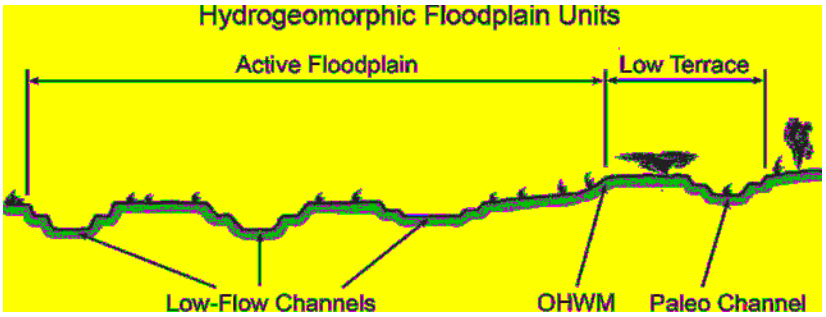
**Potential anthropogenic influences on the channel system:**
Drainage just downstream of culvert that travels under Menifee Road. Receives runoff from surrounding agricultural fields and developed areas, including paved roads.

**Brief site description:**
Roadside drainage located northwest of the intersection of California State Route (CA-) 74 and Menifee 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

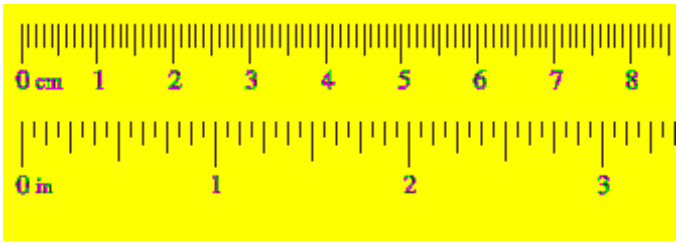



**Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:**

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 OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☑ Digitized on computer
   - ☑ GPS
   - ☐ Other:

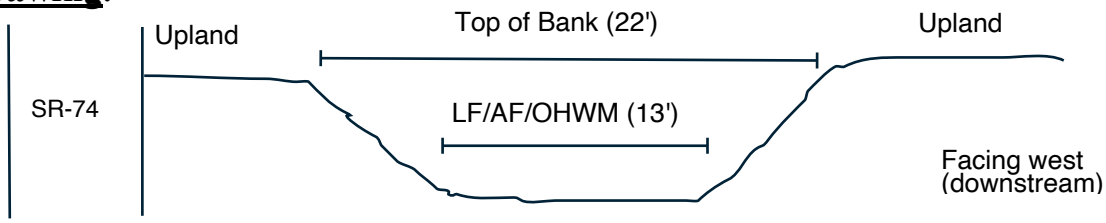
## Wentworth Size Classes

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



**Project ID:** Menifee Valley Project (Off Site Improvement Areas) **Cross section ID:** ODP 7 **Date:** 2/24/2022 **Time:** 1330

**Cross section drawing:**




## OHWM

**GPS point:** 33.743238, -117.154312

**Indicators:**

- ☑ Change in average sediment texture
- ☐ Change in vegetation species
- ☑ Change in vegetation cover
- ☑ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

**Comments:**

Approximately 13-foot wide OHWM defined by a break in bank slope, change in average sediment texture, and change in vegetation cover. Data was collected during a drought year; however, indicators still observed and consistent with anticipated extent of OHWM based on site conditions/topography.

## Floodplain unit:

☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** N/A

**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:**

Low-flow channel (LF) is indistinguishable/cannot be determined from active floodplain (AF).

**Project ID:** Menifee Valley Project (Off Site Improvement Areas) **Cross section ID:** ODP 7 **Date:** 2/24/2022 **Time:** 1330

**Floodplain unit:** ☐ Low-Flow Channel ☑ Active Floodplain ☐ Low Terrace/Upland

**GPS point:** Same as OHWM

**Characteristics of the floodplain unit:**

Average sediment texture: Medium sand

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

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:**

Approximately 13-foot wide AF with a 4-inch break in slope on the north side. Vegetation dominated by Amsinckia menziesii, Hirschfeldia incana, Salsola sp., Hordeum murinum, and Oncosiphon pilulifer along perimeter. Medium sand sediment texture with some pebbles throughout.

**Floodplain unit:** ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace/Upland

**GPS point:** Just above AF/OHWM

**Characteristics of the floodplain unit:**

Average sediment texture: Medium silt

Total veg cover: 30 % Tree: 0 % Shrub: 10 % Herb: 20 %

Community successional stage:

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

**Indicators:**

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

**Comments:**

No true low terrace present; continues from AF to upland. Vegetation dominated by Salsola sp., Hirschfeldia incana, Oncosiphon pilulifer, Amsinckia menziesii, and Hordeum murinum. Medium silt sediment texture throughout.

# ATTACHMENT C

# SITE PHOTOGRAPHS

Attachment C. Site Photographs[1]
Menifee Valley Project (Off-site Improvement Areas) Aquatic Resources Delineation – February 24 and May 26, 2022



Photo 1. Upstream view of Feature 1, facing east, within disturbed habitat (33.743165, -117.142734). February 24, 2022.



Photo 2. Downstream view of Feature 3, facing west towards Briggs Road, within disturbed habitat (33.743353, -117.136317). May 26, 2022.



Photo 3. Downstream view of Feature 3 (white dashed line), facing west, after it travels through culverts under Briggs Road (33.743400, -117.136608). May 26, 2022.



Photo 4. View of Wetland Data Form Point (WDP) 6 (white arrow) within disturbed habitat, facing south, adjacent to/within Feature 3. WDP 6 did not meet any of the three wetland parameters (33.743352, -117.136840). May 26, 2022.

[1] See corresponding Figure 5 series for photo point locations. See Jurisdictional Delineation Report Addendum Section 1.5 for a discussion of each feature.



Photo 5. View of Feature 3, facing west, within disturbed habitat as the feature dissipates into the agricultural field (33.743414, -117.138496). May 26, 2022.



Photo 6. View of commencement of Feature 3A (white dashed line), facing east, as runoff from Briggs Road (33.743546, -117.136688). May 26, 2022.



Photo 7. View of concrete portion of Ditch 4, facing northwest, within disturbed habitat north of Watson Road (33.750578, -117.153972). May 26, 2022.



Photo 8. View of Ditch 4, facing south, within disturbed habitat south of Watson Road (33.750072, -117.153961). May 26, 2022.




Photo 9. View of southern extent of Ditch 4, facing north, within disturbed habitat as Ditch 4 becomes more swale-like before dissipating (33.749217, -117.154034). May 26, 2022.



Photo 10. View of southern extent of Swale 1, facing north, within disturbed habitat (33.747830, -117.153961). May 26, 2022.



Photo 11. View of Swale 2, facing north, within disturbed habitat just north of Varela Lane (33.747100, -117.154006). May 26, 2022.



Photo 12. View of Swale 2, facing south, within disturbed habitat just north of Varela Lane (33.747155, -117.153998). May 26, 2022.



Photo 13. View of Swale 3, facing north, within disturbed habitat (33.746335, -117.153972). May 26, 2022.



Photo 14. View, facing south, from southernmost point of Swale 3, within disturbed habitat (33.744359, -117.154030). May 26, 2022.



Photo 15. View of Swale 4 (white dashed line), facing southwest, as it continues off site (33.744372, -117.154150). February 24, 2022.



Photo 16. Downstream view of Feature 4A, facing southeast, within disturbed habitat (33.743434, -117.154201). February 24, 2022.



Photo 17. Downstream view of Feature 4, facing west, east of Menifee Road within disturbed habitat (33.743321, -117.153764). February 24, 2022.



Photo 18. Upstream view of Ordinary High Water Mark (OHWM) Data Point (ODP) 7, facing east, within Feature 4 west of Menifee Road. ODP 7 exhibited a break in bank slope, change in average sediment texture, and change in vegetation cover (33.743275, -117.154294). February 24, 2022.



Photo 19. Downstream view of ODP 7, facing west, in disturbed habitat within Feature 4 (33.743269, -117.154322). February 24, 2022.



Photo 20. Upstream view of Feature 4, facing east, within disturbed habitat (33.743240, -117.156411). May 26, 2022.



Photo 21. View of WDP 5, facing west, within Swale 5. WDP 5 did not meet any of the three wetland parameters (33.742914, -117.150244). February 24, 2022.



Photo 22. View of ODP 5, facing west, within disturbed habitat in Swale 5 (33.742903, -117.150003). February 24, 2022.



Photo 23. View of ODP 5, facing east, within disturbed habitat in Swale 5 (33.742920, -117.150024). February 24, 2022.



Photo 24. View of Ditch 5, facing south, from California State Route 74 (CA-74) (33.742986, -117.152703). February 24, 2022.



Photo 25. View of ODP 6, facing south, within Ditch 5. ODP 6 contained debris present as sediment and dead plant material one day after a rain event; however, Ditch 5 did not exhibit any other OHWM indicators (33.742870, -117.152704). February 24, 2022.



Photo 27. View of WDP 7, facing north, within a developed park. WDP 7 met the hydrophytic vegetation and hydric soil parameters; however, WDP 7 did not meet the wetland hydrology parameter (33.727689, -117.146438). May 26, 2022.



Photo 26. View of Ditch 5, facing east, from Menifee Road (33.742183, -117.153917). May 26, 2022.

# APPENDIX E

# MENIFEE VALLEY PROJECT FOCUSED BURROWING OWL SURVEY RESULTS

ROCKS
BIOLOGICAL CONSULTING





# 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
(714) 200-1609

Prepared by:
Rocks Biological Consulting
4312 Rialto Street
San Diego, CA 92107
(619) 701-6798

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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 4$^{th}$ 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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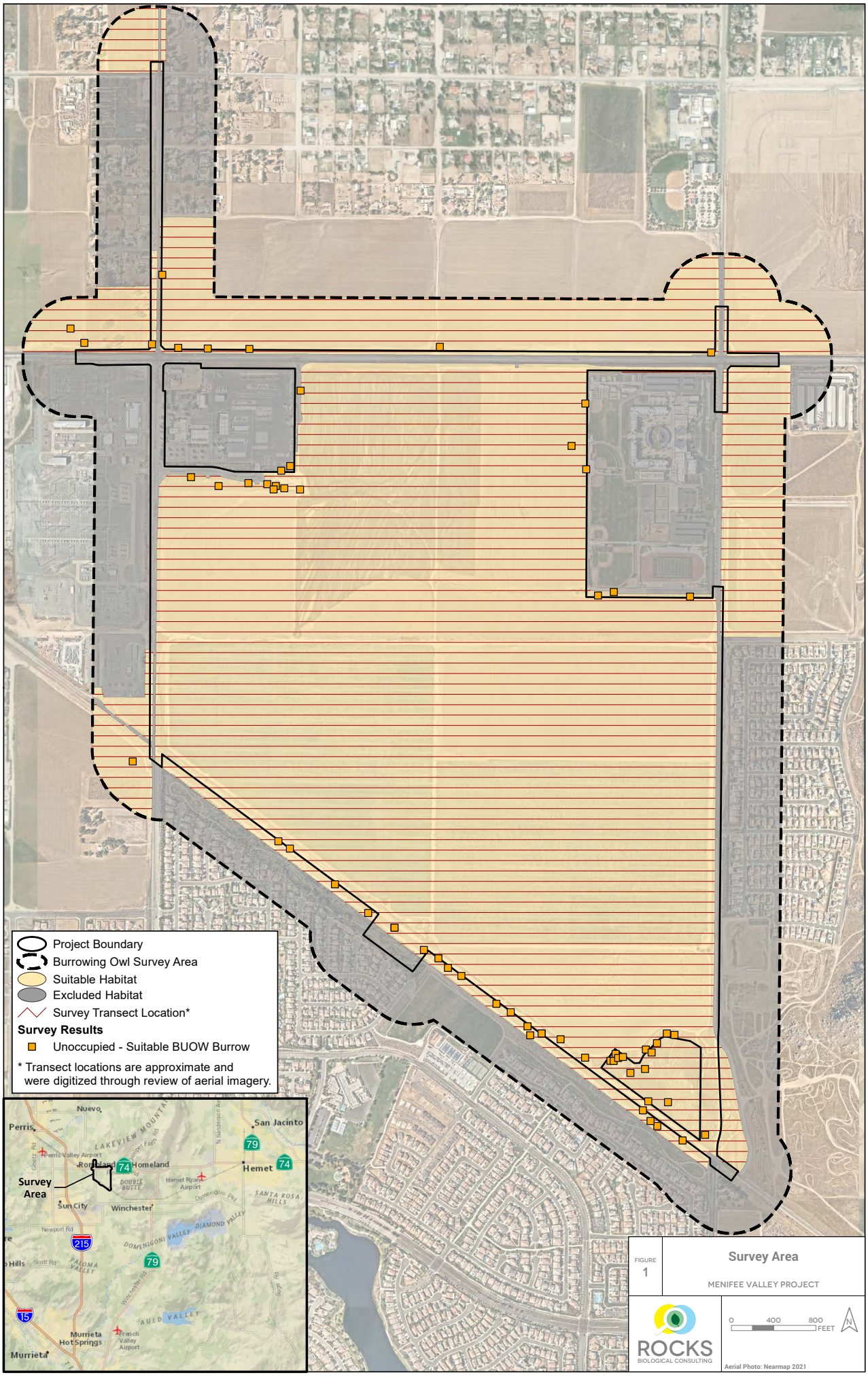
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Project Boundary
Burrowing Owl Survey Area
Suitable Habitat
Excluded Habitat
Survey Transect Location*
Survey Results
Unoccupied - Suitable BUOW Burrow
* Transect locations are approximate and were digitized through review of aerial imagery.
Survey Area
Nuevo
Perris
San Jacinto
Hemet
Sun City
Winchester
Murrieta
Murrieta Hot Springs
Homeland
Perris Valley Airport
Hemet Ryan Airport
French Valley Airport
FIGURE 1
Survey Area
MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 400 800 FEET
N
Aerial Photo: Nearmap 2021

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

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