ROCKS
BIOLOGICAL CONSULTING

MEMORANDUM

To: Heather Pert, California Department of Fish and Wildlife
Carly Beck, California Department of Fish and Wildlife
Jim Thiede, United States Fish and Wildlife Service

From: Rocks Biological Consulting

Date: February 13, 2023

Subject: Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) Sections 6.1.2 and 6.3.2 Determination of Biologically Equivalent or Superior Preservation (DBESP) for the Menifee Valley Project

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On behalf of Brookfield Residential (project applicant), this memo serves as a Determination of Biologically Equivalent or Superior Preservation (DBESP) addressing project impacts on potential Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) riparian/riverine areas. This memo also provides a summary of the MSHCP-covered resources present on the Menifee Valley Project (project) site pursuant to sections 6.1.2 and 6.3.2 of the MSHCP (Western Riverside County Regional Conservation Authority [WRC RCA] 2003). Note that this memo was previously submitted as a justification for a waiver of the requirement for a DBESP and has been updated based on initial comments the California Department of Fish and Wildlife (CDFW) and the U.S. Fish and Wildlife Service (USFWS) provided in August 2019 to be the project's DBESP and to reflect the updated project site plan, which includes the additional off-site infrastructure improvements area. Please note that based on initial comments that the CDFW and USWFS provided in August 2019, as well as ongoing communications 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.

OVERVIEW AND MSCHP SETTING

The approximately 626.78-acre project site is located in the City of Menifee, Riverside County, California (Figures 1 and 2). The project proposes a master planned community comprising a mix of uses, including residential neighborhoods accommodating up to 1,718 housing units, 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. All areas inside the project site (on-site area) would be disturbed for development. Note that a 12.70-acre area northwest of the intersection of Mathews Road and Briggs Road will remain in a natural condition as a passive park with preserved open space and is not included as part of the project site per this DBESP. In addition to development proposed within the on-site area, off-site infrastructure improvements include roadway improvements and

subsurface utility line installations and connections along Briggs Road, Menifee Road, and California State Route 74 (CA-74); the installation of subsurface utility lines in the alignment of Matthews Road (a dirt road) along segments of the on-site area's southern boundary; and the installation of a non-vehicular bridge across Matthews Road (a dirt road) and railroad tracks to connect the on-site area with the Heritage Lake community to the south. Figure 3 provides the estimated area of impacts associated with the proposed project, including the on-site area (566.81 acres) and off-site infrastructure improvements area (59.97 acres).

The project site is not located within or adjacent to existing or proposed MSHCP conservation lands or public quasi-public conserved lands (Figure 4). Specifically, adjacent lands include agricultural lands and residential development to the north of the project site, the Valley Substation and residential development to the west of the project site, residential development to the south of the project site, and residential development and undeveloped land to the east of the project site. Additionally, the Southern California Edison San Jacinto Valley Service Center and residential development occurs to the northwest of the on-site area and Heritage High School occurs to the northeast of the on-site area. Double Butte County Park lies farther to the east of the project site.

As shown on Figure 5, the proposed project is not located within a planning area subunit or MSHCP Criteria Cells and is therefore not subject to MSHCP criteria for conservation. Additionally, the project site is currently used for ongoing active agricultural operations (on-site area) and also consists of public rights-of-way (Menifee Road, CA-74, Briggs Road, and Matthews/Case Road (the off-site infrastructure improvements area) (Figure 6). The project site is not part of the following MSHCP survey areas: Narrow Endemic Plant Species Survey Areas (NEPSSA), Criteria Area Species Survey Areas (CASSA) for plant species, Mammal Species Survey Areas, and Amphibian Species Survey Areas (Figure 5). The project site is also not within any Delhi soils areas as mapped in the MSHCP baseline data and therefore does not provide suitable habitat for the Delhi Sands flower-loving fly (*Rhaphiomidas terminatus abdominalis*) (Figure 7).

The proposed project is located within a MSHCP Burrowing Owl Survey Area per the RCA MSHCP Information Map (WRC RCA 2021; Figure 5). Cadre Environmental conducted focused burrowing owl (*Athene cunicularia*) surveys in accordance with the Burrowing Owl Survey Instructions for the Western Riverside Multiple Species Habitat Conservation Plan (Burrowing Owl Survey Instructions; WRC RCA 2006) during the 2016 and 2018 breeding seasons; Cadre Environmental biologists did not document burrowing owls during these focused surveys (Cadre Environmental 2019). Rocks Biological Consulting (RBC) conducted a habitat assessment of the on-site area and the original off-site infrastructure improvements area along Menifee Road on October 15, 2021, in accordance with Step 1 of the Burrowing Owl Survey Instructions. On February 24, 2022, RBC conducted a habitat assessment of the current/expanded off-site infrastructure improvements area. Due to the presence of suitable habitat observed during the 2021 and 2022 habitat assessments, RBC conducted focused burrow and burrowing owl surveys of the project site during the 2022 breeding season (March 1 to August 31) per Step 2 of the Burrowing Owl Survey Instructions, as further detailed in the *Menifee Valley Project – Focused Burrowing Owl Survey Report,* prepared by RBC (Attachment A; RBC 2022a).

The survey area for the focused surveys included the project site plus a surrounding 500-foot buffer. RBC biologists conducted four surveys between May 31 and July 1, 2022; the focused burrow surveys were conducted concurrently with the focused burrowing owl surveys. RBC did not observe any burrowing owl individuals, active burrows, or recent sign during the 2022 breeding season focused burrowing owl surveys (Attachment A). As such, the project site does not provide

any long-term conservation value for burrowing owl, and there will be no direct or indirect effects on burrowing owl with construction of the project. In accordance with the Burrowing Owl Survey Instructions, and because of the presence of suitable burrowing owl habitat, a 30-day pre-construction clearance survey for burrowing owl is required immediately prior to the initiation of construction.

The project site is located within the MSHCP area and therefore must be evaluated for any potential impacts on riparian/riverine areas and vernal pools, and the protected species associated with those habitats. The below sections provide information related to the on-site aquatic resources within the on-site area and the off-site infrastructure improvements area.

RIPARIAN/RIVERINE AREAS

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" (WRC 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" (WRC RCA 2003). To further supplement this section, the 2019 *Menifee Valley Project Jurisdictional Delineation Report* (2019 JDR; RBC 2019) prepared by RBC is included as Attachment B with this memorandum. The 2022 *Menifee Valley Project Jurisdictional Delineation Report Addendum* (2022 JDR Addendum; RBC 2022b), prepared by RBC to encompass the portions of the off-site infrastructure improvements area that occur beyond the limits of the review area/project study area included in the 2019 JDR, is included as Attachment C with this memorandum. Note that the areas included in the 2019 JDR were not delineated as part of the 2022 JDR Addendum effort; however, based on a review of current aerials and the conditions observed during the October 2021 field survey, the extent of the aquatic resources as detailed in the 2019 JDR review area/project study area are expected to be approximately the same as described in the 2019 JDR.

Based upon the results of the aquatic resources delineations performed by RBC of the original on-site area in August 2018 (per the 2019 JDR), the original off-site infrastructure improvements area along Menifee Road in April 2019 (per the 2019 JDR), and the current/expanded off-site infrastructure improvements area in February 2022 and May 2022 (per the 2022 JDR Addendum), the project site contains 2.26 acres of disturbed ephemeral streambed (Figure 8A – 8B) within the northern and central portions of the project site. Note this disturbed ephemeral streambed acreage differs from the total acreage presented in the 2019 JDR (2.64 acres; Attachment B) and the 2022 JDR Addendum (0.30 acre; Attachment C) because the 2022 JDR Addendum included potentially jurisdictional areas within the site plan and a buffer/survey area, specifically a portion of Feature 2 that runs south of the Heritage High School property. The acreage presented in this memo (2.26 acres) represents the total acreage within the current project site (including on-site and off-site infrastructure improvements areas) based on current site conditions.

The areas of disturbed ephemeral streambed (Feature 1, Feature 2, Feature 3, Feature 3A, Feature 4, and Feature 4A) may technically meet the MSHCP definition of riparian/riverine areas because they receive "fresh water flow during all or a portion of the year." The northernmost area of disturbed ephemeral streambed, hereinafter referred to as Feature 1, receives sheet flow from the neighboring parcel to the north and initiates on site north of CA-74 before traveling through a box-

culverted crossing at CA-74 then flowing in the southwesterly direction (Figure 8A – 8B). Feature 1 eventually meets the western project site boundary, flowing south where it then flows into a storm drain near Menifee Road and the dirt road that bisects the property from north to south (referred to as McLaughlin Road). The more southern area of disturbed ephemeral streambed, hereinafter referred to as Feature 2, receives flows from a culvert under the neighboring high school then flows west through the project site, eventually onto McLaughlin Road and into a set of storm drain inlets along Menifee Road. The northeasternmost area of disturbed ephemeral streambed, hereinafter referred to as Feature 3, receives sheet flow from the neighboring parcel to the north and road runoff from CA-74. Feature 3 initiates on site north of CA-74 and east of Briggs Road before traveling through a culverted crossing at Briggs Road then flowing in the westerly direction before eventually dissipating in the agricultural field to the north of CA-74 (Figure 8A – 8B). Feature 3A is a small tributary to Feature 3 that initiates on site west of Briggs Road and north of CA-74 as road runoff from Briggs Road before briefly flowing in the southerly direction then converging with Feature 3. The northwesternmost area of disturbed ephemeral streambed, hereinafter referred to as Feature 4, receives sheet flow from the agricultural field to the north and road runoff from CA-74. Feature 4 initiates on site north of CA-74 and east of Menifee Road before traveling through a box-culverted crossing at Menifee Road then flowing in the westerly direction (Figure 8A – 8B). Feature 4 eventually meets the western project boundary (off-site infrastructure improvements area boundary), where it continues flowing west then turns south and travels through a culverted crossing at CA-74. Although a small portion of Feature 4 is concrete-lined just east of the culverted crossing, this was a relocation of a naturally occurring aquatic resource. Feature 4A is a small tributary to Feaure 4 that initiates on site west of Menifee Road and north of CA-74 as road runoff from Menifee Road before briefly flowing in the southerly direction then converging with Feature 4.

Feature 1 and 2 are overall unvegetated and surrounded by recently planted grain crops and weedy annual plant species (e.g., Bermuda grass [*Cynodon dactylon*], lamb's quarters [*Chenopodium album*], stinknet [*Oncosiphon piluliferum*], and short-pod mustard [*Hirschfeldia incana*]). Feature 3 and 3A are vegetated, at times sparsely, and composed of and surrounded by weedy annual plant species (e.g., red brome [*Bromus madritensis* ssp. *rubens*], stinknet, ripgut brome [*Bromus diandrus*], and short-pod mustard). Feature 4 and 4A are sparsely vegetated, although Feature 4 transitions to unvegetated, and surrounded by weedy annual plant species (e.g., short-pod mustard, stinknet, tumbleweed [*Salsola* sp.], and smooth barley [*Hordeum murinum*]).

The project site also contains 0.03 acre of disturbed wetland/southern willow scrub – disturbed (Feature 2 – Wetland) directly east of Feature 2 (Figure 8A – 8B) that also may technically meet the MSHCP definition of a riparian/riverine area because it receives "fresh water flow during all or a portion of the year" and because it is dominated by persistent emergent plant species, including broadleaf cattail (*Typha latifolia*) and common spikerush (*Eleocharis palustris*), which "depend upon soil moisture from a nearby fresh water source" (WRC RCA 2003). Feature 2 – Wetland occurs in a topographically low area with minimal slope just downsteam of a large culvert coming from under the adjacent Heritage High School; Feature 2 – Wetland flows west into Feature 2. Note that during the October 2021 biological survey, the vegetation mapping within Feature 2 – Wetland was updated from freshwater marsh to southern willow scrub – disturbed due to the increased presence of Goodding's black willow (*Salix gooddingii*), sandbar willow (*S. exigua*), and tamarisk (*Tamarix* sp.) from 2018 site conditions; however, an understory of freshwater marsh, composed primarily of broadleaf cattail and common spikerush, remains (RBC 2022c).

Additionally, Features 1, 2, 3, 3A, 4, and 4A, including Feature 2 – Wetland, do not qualify as jurisdictional waters of the U.S. per the requirements and regulations of the U.S. Army Corps of Engineers (Corps). During pre-application coordination with Corps staff, RBC confirmed that Features 1 and 2 drain into "Line A" via storm drain inlets along Menifee Road, as shown on Figure 8A – 8B. Features 4 and 4A also eventually drain into "Line A" via storm drain inlets along CA-74; however, Feature 3/3A dissipates within the agricultural field north of CA-74. 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 (Attachment B, Appendix G). A portion of Line A, including the on-site portion, runs underground until daylighting east of Case Road. After traversing the project site underground, Line A continues 0.5 mile underground from Menifee Road to Palomar Road, where it then transitions into a concrete-lined, engineered channel for 1.5 miles from Palomar Road to I-215. Line A passes underneath I-215 and transitions to a maintained, earthen, engineered channel for approximately 2.0 miles. Line A then terminates into a spreading channel/basin ("Evac Channel") southerly of the confluence of the San Jacinto River and Watson Ditch. Currently, Line A does not directly connect to the San Jacinto River or Watson Ditch. Only once the spreading channel/basin capacity is exceeded in a larger storm event does stormwater overtop the spreading channel/basin and flow overland to the San Jacinto River.

Several ditches and swales also occur within the project site. RBC determined these features to be non-jurisdictional per the Corps, Regional Water Quality Control Board (RWQCB), and CDFW (Attachment B, Section 3.7; Attachment C, Section 1.5); they also do not meet the MSHCP definition of a riparian/riverine area as they did not appear to convey or receive flows and therefore, do not receive "freshwater flow during all or a portion of the year" (WRC RCA 2003). Additionally, these non-jurisdictional features, dominated by disturbed habitat or developed/concrete-lined, do not "contain habitat dominated by trees, shrubs, persistent emergent, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source" (WRC RCA 2003).

The Corps provided a final Approved Jurisdictional Determination (AJD) on October 10, 2019 confirming that there are no Corps-jurisdictional areas within the on-site area (i.e., the portion of Feature 1 south of CA-74, Feature 2, Feature 2 – Wetland, and three ditches are not Corps-jurisdictional), along with written confirmation that no Corps permit will be required for the project. The Corps also provided a final AJD on January 27, 2023 confirming that there are no Corps-jurisdictional areas within the off-site infrastructure improvements area assessed in the 2022 JDR Addendum (i.e., the portion of Feature 1 north of CA-74, Feature 3, Feature 3A, Feature 4, Feature 4A, two ditches, and five swales are not Corps-jurisdictional), along with written confirmation that no Corps permit will be required for the project.

A small area of isolated mulefat thicket (0.06 acre) occurs along the southern boundary of the project site. RBC only observed this small area of mulefat thicket during the October 2021 field visit; this area was composed of non-native grassland habitat during the December 28, 2017 and August 13, 2018 field visits. RBC presumes that the 0.06-acre area mapped as mulefat thicket in October 2021, as well as the majority of the project site, was manipulated for agricultural purposes during the period of time between RBC's 2017/2018 surveys and RBC's 2021 survey, thus resulting in the changed vegetation mapping for the project site. This small, isolated area does not receive "freshwater flow during all or a portion of the year" as it is not located within or directly adjacent to a mapped aquatic resource (WRC RCA 2003). Additionally, this area is dominated by mulefat (*Baccharis salicifolia*; Facultative [FAC]), which is not a shrub that "depend[s] upon soil moisture from a nearby fresh water source" (WRC RCA 2003).

In summary, although the project site may technically contain 2.29 acres of qualifying riparian/riverine areas as defined by the MSHCP (Features 1, 2, 2 – Wetland, 3, 3A, 4, and 4A), the riparian/riverine areas do not provide suitable habitat for the following MSHCP riparian/riverine wildlife species based on field surveys and due to the highly disturbed nature of these areas: least Bell's vireo (*Vireo bellii pusillus*), southwestern willow flycatcher (*Empidonax traillii extimus*), and western yellow-billed cuckoo (*Coccyzus americanus occidentalis*) (RBC 2022c, 2022d). Further, Features 1, 2, 2 – Wetland, 3, 3A, 4, and 4A do not have any upstream connectivity to MSHCP Conservation Areas (Figure 4) nor do they have connectivity to the upper watershed/flows to the east. Briggs Detention Basin, which is located just east of the project site, cuts off flow from the upper watershed/natural flows to the east. Downstream connectivity is limited to larger storm events if the spreading channel/basin capacity is exceeded and stormwater may overtop the spreading channel/basin and flow overland to the San Jacinto River.

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" (WRC RCA 2003).

Based on field visits conducted by RBC on December 28, 2017 (the wetter portion of the growing season); August 13, 2018 (the drier portion of the growing season); April 26, 2019 (the wetter portion of the growing season); October 15, 2021 (the wetter portion of the growing season); February 24, 2022 (the wetter portion of the growing season); and May 26, 2022 (the drier portion of the growing season), the project site does not support vernal pools. Note that Cadre Environmental performed field visits on May 31, 2016; October 16, 2017; and May 14, 2018, and also confirmed that there are no vernal pools on site "based on a lack of suitable soils and characteristic vernal pool plant species" (Cadre Environmental 2019).

During the December 2017, August 2018, April 2019, October 2021, February 2022, and May 2022 field visits, RBC biologists did not observe any depression areas that contain all three MSHCP vernal pool indicators of soils, vegetation, and hydrology within the highly disturbed project site. The only portion of the project site where RBC observed ponding was in August 2018 within a 0.03-acre area of southern willow scrub – disturbed habitat with a freshwater marsh understory (Feature 2 – Wetland) located at the outlet of a culvert drain in the central-eastern portion of the project site, as shown on Figure 8B. Although broadleaf cattail and common spikerush dominated this area, both of which are classified as obligate hydrophytes per the Corps' *Arid West 2020 Regional Wetland Plant List* (Corps 2020), based on the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), this area is dominated by Greenfield sandy loam substrates (Figure 7; Attachment B, Section 3.4), soils that are not indicative of a vernal pool. RBC sampled soils directly adjacent to the area of ponding and noted a loamy sand texture (Attachment B, Appendix B, Wetland Sample Point 2). Additionally, during the dry season field visit this area remained ponded and the obligate hydrophytes mentioned above, rather than upland species (annuals), continued to dominate.

Note that per Figure 2 of Cadre Environmental's *General MSHCP Habitat Assessment/Constraints Analysis for the 584+/- Acre Brookfield Menifee Valley Project Site, City of Menifee, California* (Cadre Environmental 2019), Cadre Environmental mapped 0.76 acre of highly disturbed basin/depression habitat along the southern boundary of the project site. Further, based on historic aerial imagery, in the past the on-site area has supported additional areas of pooling water created for agricultural purposes. RBC did not observe the area mapped by Cadre Environmental as basin/depression or the areas historically containing pooling water during field visits. The area that Cadre Environmental mapped as basin/depression was mapped as disturbed habitat and active agriculture by RBC biologists in October 2021 (Figure 6). RBC presumes that this area, including the majority of the on-site area, was manipulated for agricultural purposes during the period of time between Cadre Environmental's and RBC's vegetation mapping efforts, thus resulting in the conflicting vegetation mapping for the project site. Additionally, no compacted soils were observed in areas where pooling water was believed to historically occur.

Regarding hydrology conditions on site, an average rainfall of 10.67 inches was recorded over the previous six years at the nearby Elsinore, California Station in Riverside County (9.65 inches in 2016, 12.25 inches in 2017, 7.29 inches in 2018, 19.00 inches in 2019, 8.03 inches in 2020, and 7.81 inches in 2021), which is within the normal average range of rainfall for the past 30 years of 7.46 to 13.21 inches (NRCS 2022). Additionally, the six-year average for 2016 to 2021 of 10.67 inches was slightly higher than the average rainfall of 10.28 inches over the six years prior from 2010 to 2015 (26.83 inches in 2010, 10.81 inches in 2011, 6.94 inches in 2012, 3.36 inches in 2013, 8.15 inches in 2014, and 5.61 inches in 2015). Thus, there was sufficient rainfall during the six years in which RBC and Cadre Environmental biologists conducted field visits (2016, 2017, 2018, 2019, 2021, and 2022) to produce flows and ponding in other areas of the project site outside of Feature 2 – Wetland, yet neither RBC nor Cadre Environmental observed any areas where seasonal ponding indicative of an MSHCP vernal pool occurred.

DBESP

The project applicant proposes offsetting direct impacts on 2.26 acres of disturbed ephemeral streambed and 0.03 acre of disturbed wetland/southern willow scrub – disturbed (MSHCP riparian/riverine areas) by purchasing 3.44 acres of rehabilitation credits (1.5:1) at the Riverpark Mitigation Bank to satisfy anticipated CDFW 1602 and/or RWQCB mitigation requirements. The project is within the Riverpark Mitigation Bank's service area, as the project is less than 5 miles south of the mitigation bank, and the bank and the project site are within the same Hydrologic Unit Code (HUC) 8 and 10 watersheds; the bank and a portion of the project site are within the same HUC 12 watershed (Figure 9). The proposed mitigation approach should adequately compensate for the proposed impacts given the disturbed nature of the on-site riparian/riverine areas and anticipated functional lift of the proposed stream rehabilitation at the Riverpark Mitigation Bank. Further, through the purchase of 3.44 acres of rehabilitation credits, the project will provide biologically equivalent or superior preservation. Additional information and a detailed justification regarding the proposed mitigation will be included in the applicant's forthcoming Notification of Streambed Alteration to CDFW.

Figures

Figure 1. Project Location

Figure 2. USGS Topo and NHD

Figure 3. Impacts

Figure 4. Conserved Lands

Figure 5. MSHCP Areas

Figure 6. Vegetation Communities

Figure 7. NRCS Soils Survey Data and National Wetlands Inventory

Figure 8A – 8B. MSHCP Riparian/Riverine

Figure 9. Riverpark Mitigation Bank Proximity Map

Attachments

Attachment A. *Menifee Valley Project – Focused Burrowing Owl Survey Report*, prepared by Rocks Biological Consulting (RBC) and dated July 29, 2022, revised November 23, 2022.

Attachment B. *Menifee Valley Project Jurisdictional Delineation Report*, prepared by Rocks Biological Consulting (RBC) and dated July 15, 2019.

Attachment C. *Menifee Valley Project Jurisdictional Delineation Report Addendum*, prepared by Rocks Biological Consulting (RBC) and dated October 25, 2022.

References

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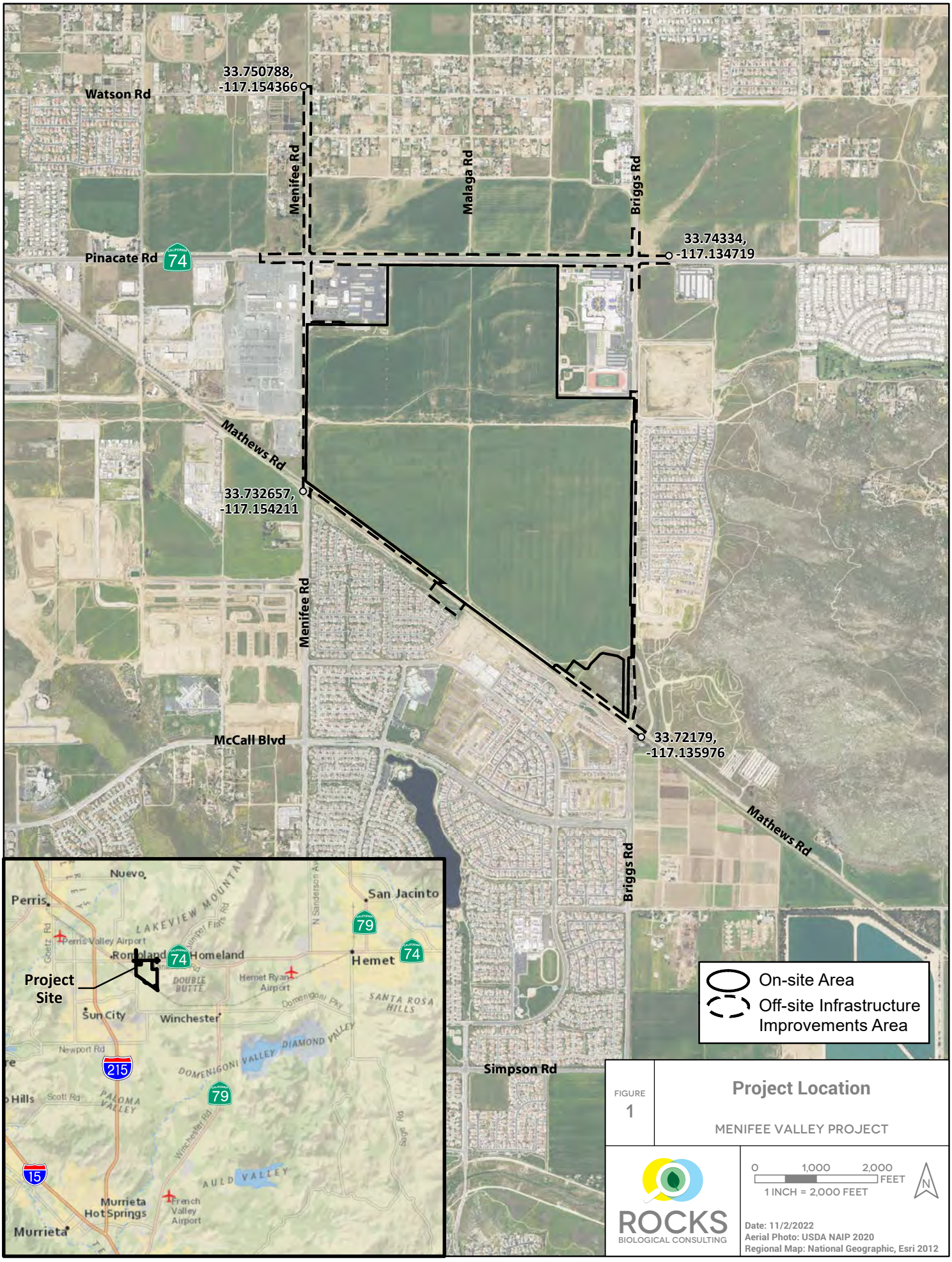

FIGURE 1

Project Location

MENIFEE VALLEY PROJECT

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0 1,000 2,000 FEET

1 INCH = 2,000 FEET

Date: 11/2/2022
Aerial Photo: USDA NAIP 2020
Regional Map: National Geographic, Esri 2012

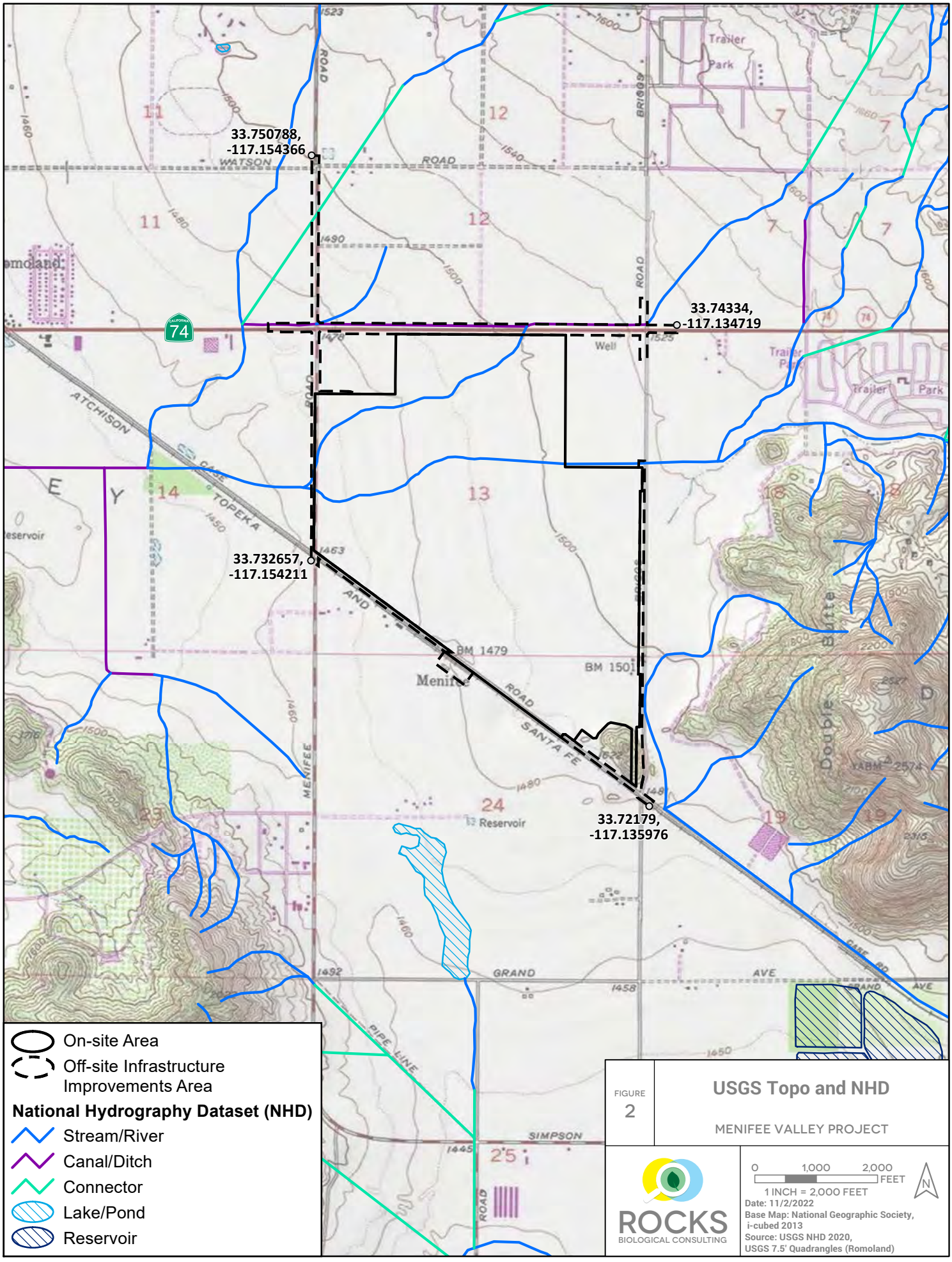

FIGURE 2

USGS Topo and NHD

MENIFEE VALLEY PROJECT

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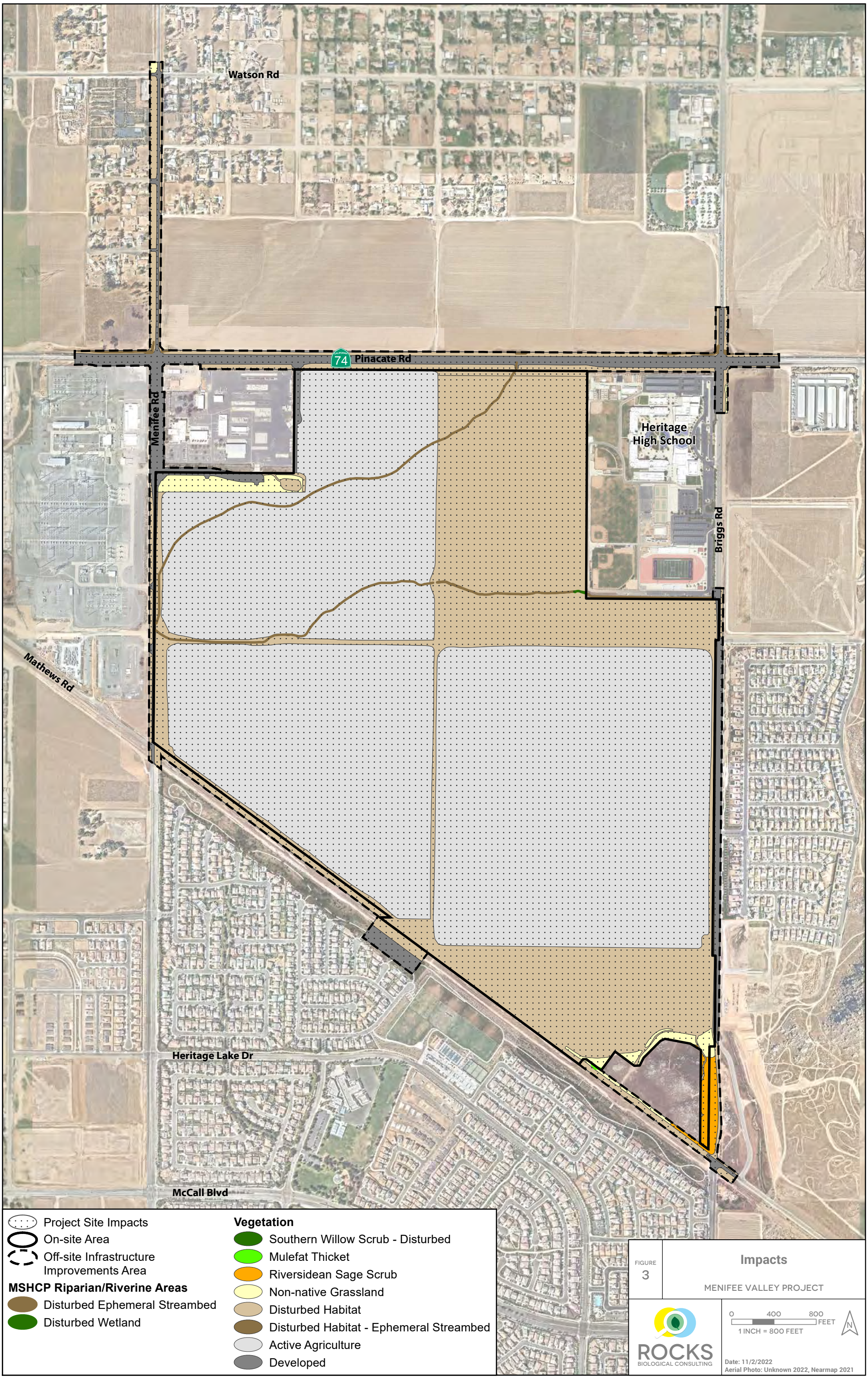
0 1,000 2,000 FEET

1 INCH = 2,000 FEET

Date: 11/2/2022

Base Map: National Geographic Society, i-cubed 2013

Source: USGS NHD 2020, USGS 7.5' Quadrangles (Romoland)


Watson Rd
74
Pinacate Rd
Menifee Rd
Heritage
High School
Briggs Rd
Mathews Rd
Heritage Lake Dr
McCall Blvd
Project Site Impacts
On-site Area
Off-site Infrastructure Improvements Area
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
Disturbed Wetland
Vegetation
Southern Willow Scrub - Disturbed
Mulefat Thicket
Riversidean Sage Scrub
Non-native Grassland
Disturbed Habitat
Disturbed Habitat - Ephemeral Streambed
Active Agriculture
Developed
FIGURE
3
Impacts
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
400
800
FEET
1 INCH = 800 FEET
N
Date: 11/2/2022
Aerial Photo: Unknown 2022, Nearmap 2021

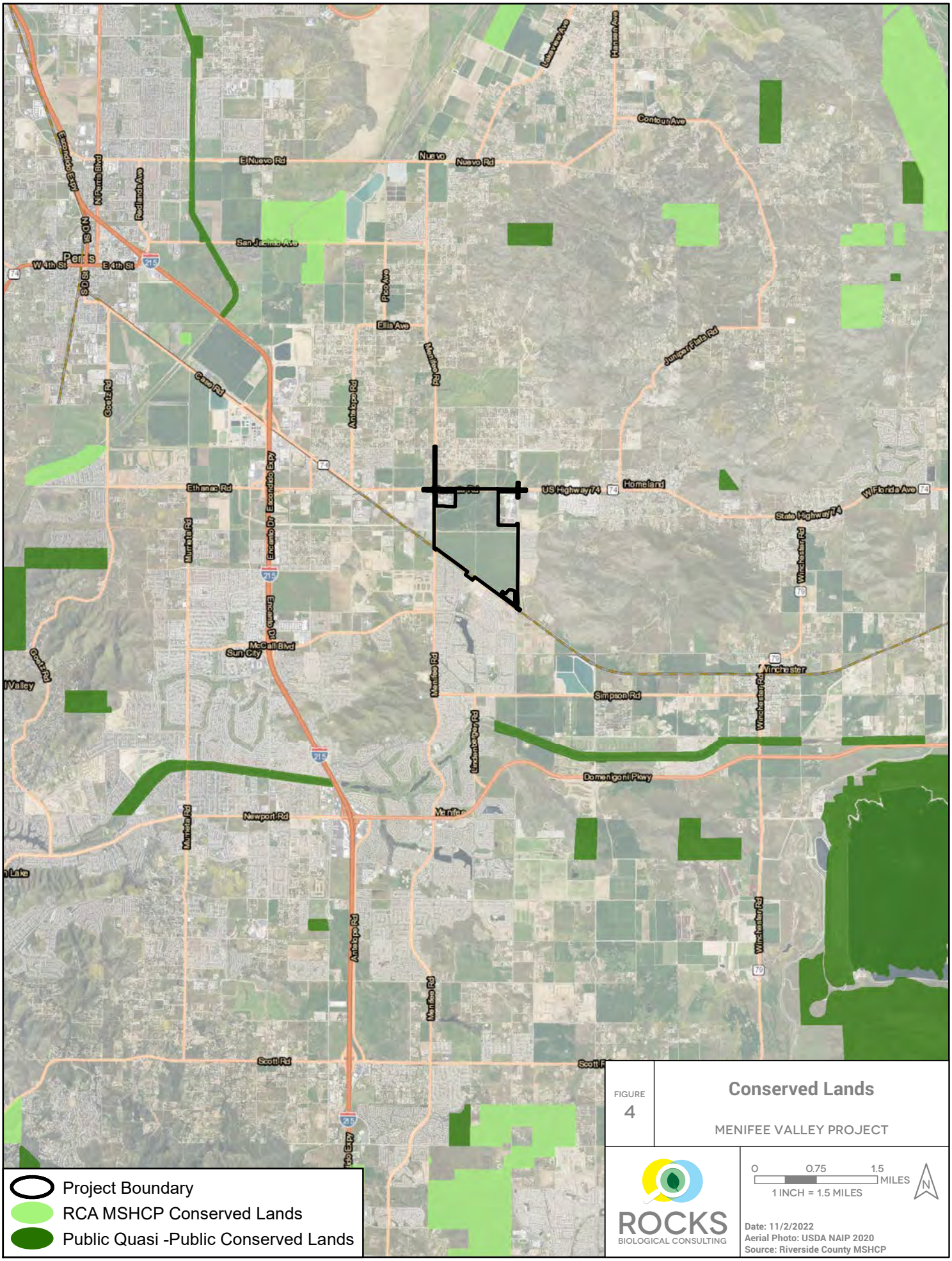


FIGURE 4

Conserved Lands

MENIFEE VALLEY PROJECT

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0 0.75 1.5 MILES

1 INCH = 1.5 MILES

Date: 11/2/2022
Aerial Photo: USDA NAIP 2020
Source: Riverside County MSHCP

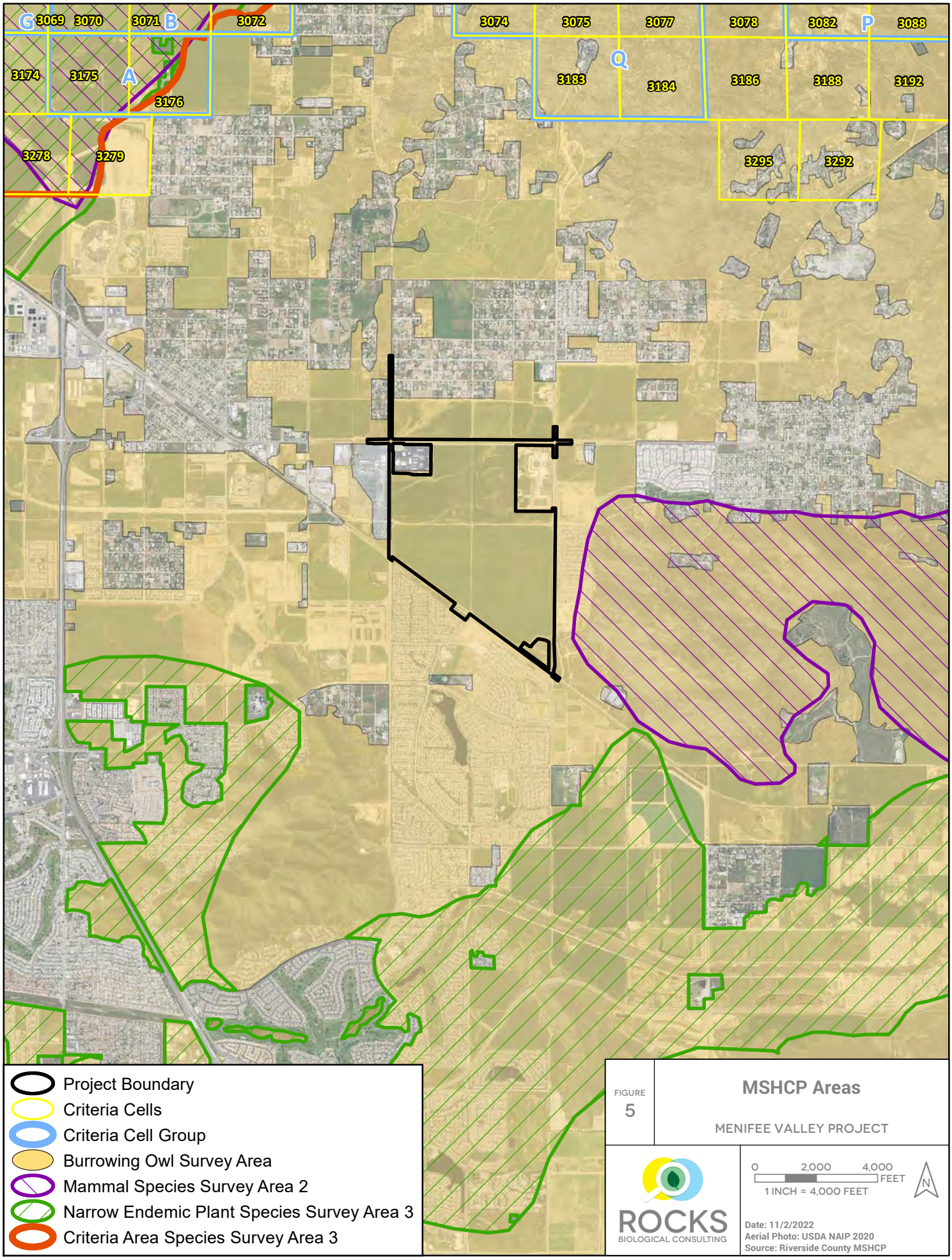


FIGURE 5

MSHCP Areas

MENIFEE VALLEY PROJECT

ROCKS BIOLOGICAL CONSULTING

0 2,000 4,000 FEET

1 INCH = 4,000 FEET

N

Date: 11/2/2022
Aerial Photo: USDA NAIP 2020
Source: Riverside County MSHCP

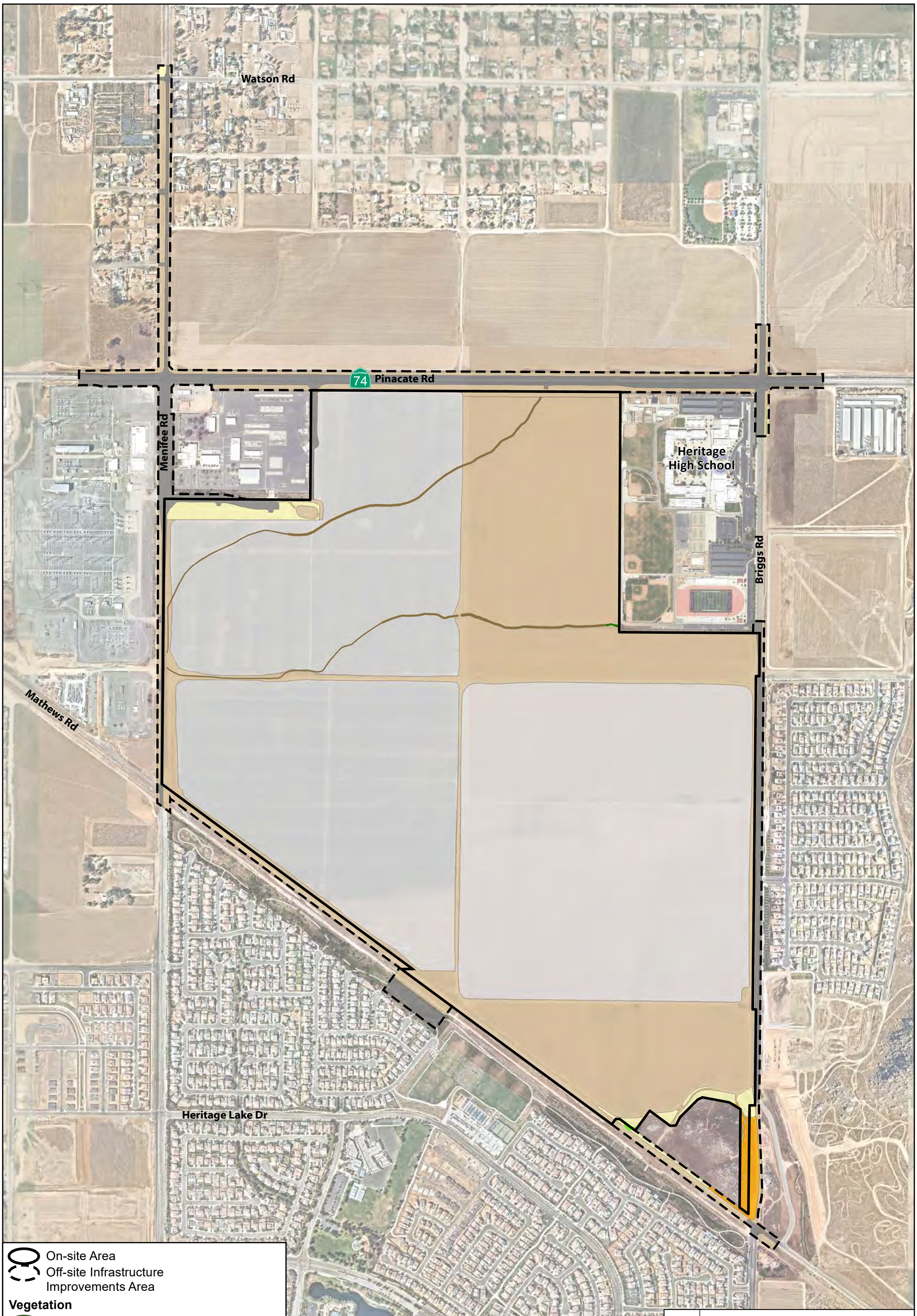


FIGURE 6

Vegetation Communities

MENIFEE VALLEY PROJECT

ROCKS BIOLOGICAL CONSULTING

0 400 800 FEET

1 INCH = 800 FEET

N

Date: 11/2/2022

Aerial Photo: Unknown 2022, Nearmap 2021

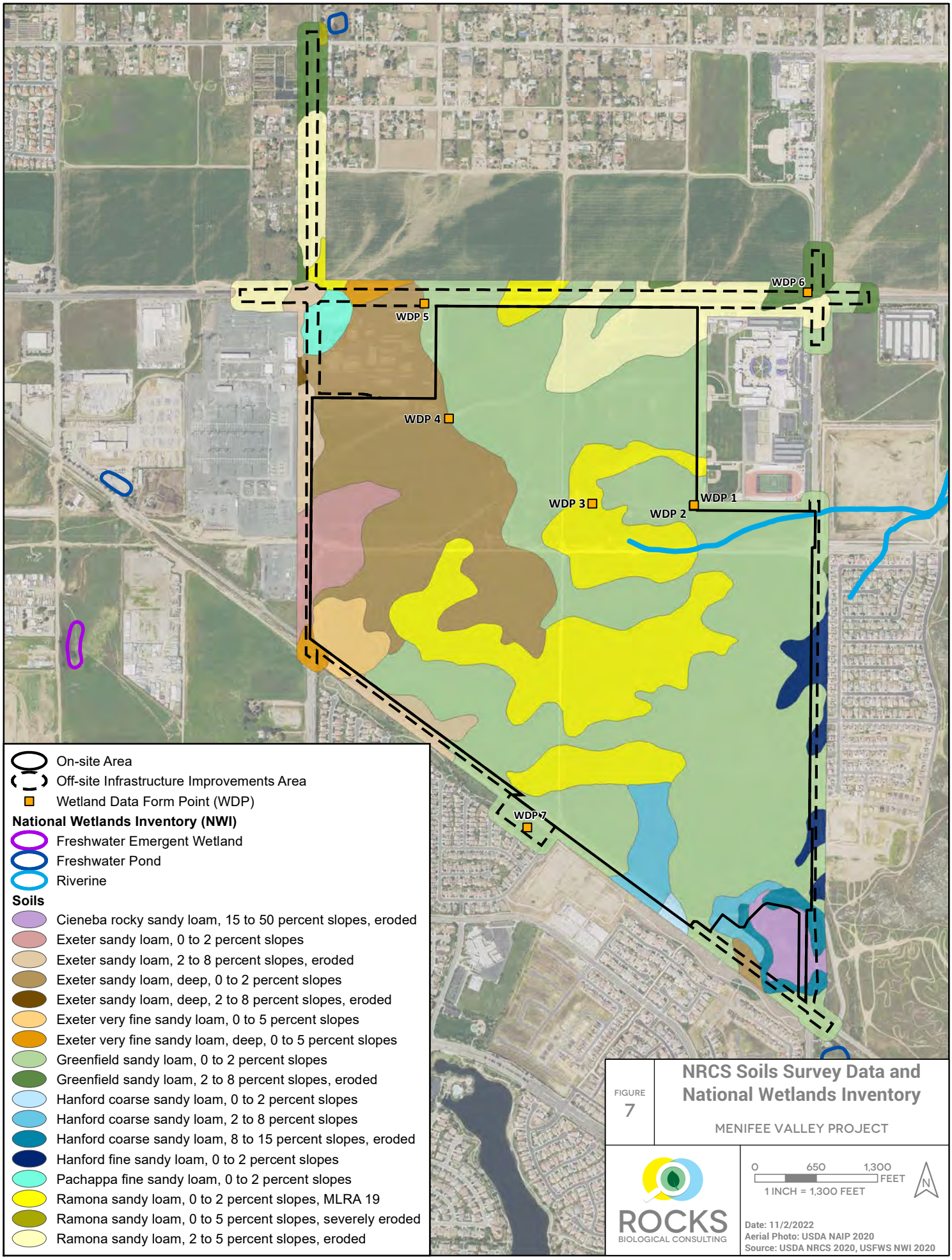


FIGURE 7

NRCS Soils Survey Data and National Wetlands Inventory

MENIFEE VALLEY PROJECT

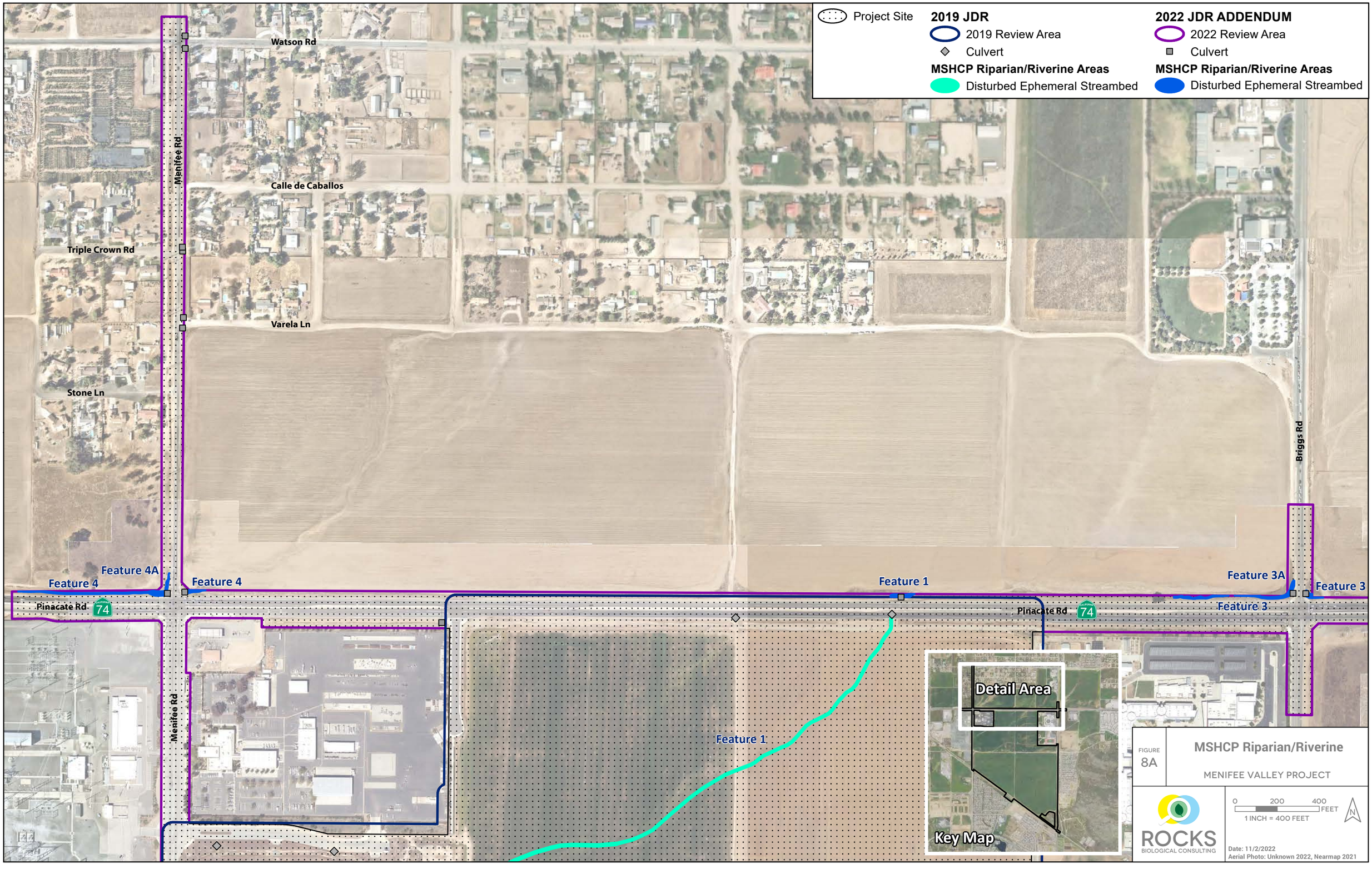
ROCKS BIOLOGICAL CONSULTING

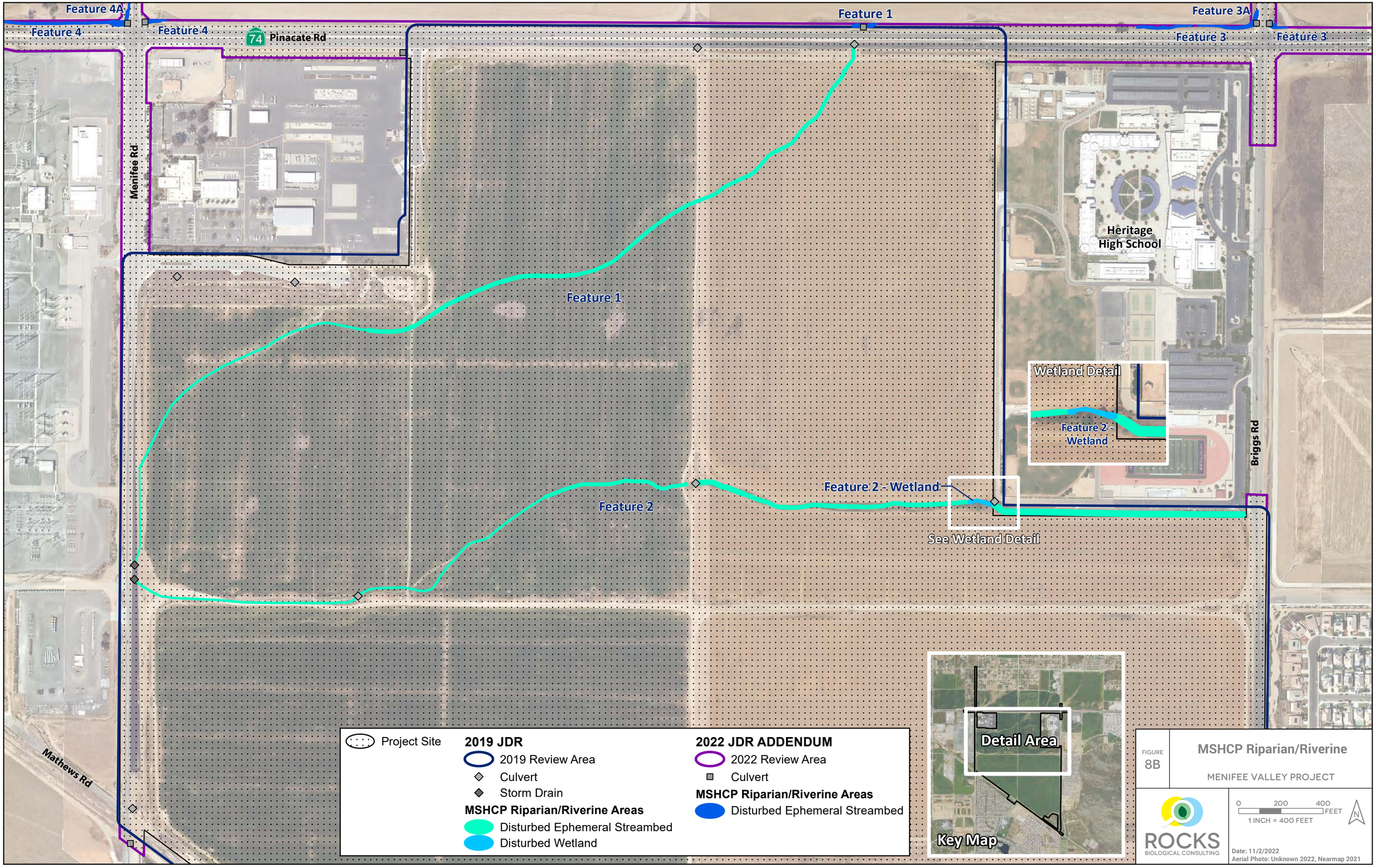
0 650 1,300 FEET

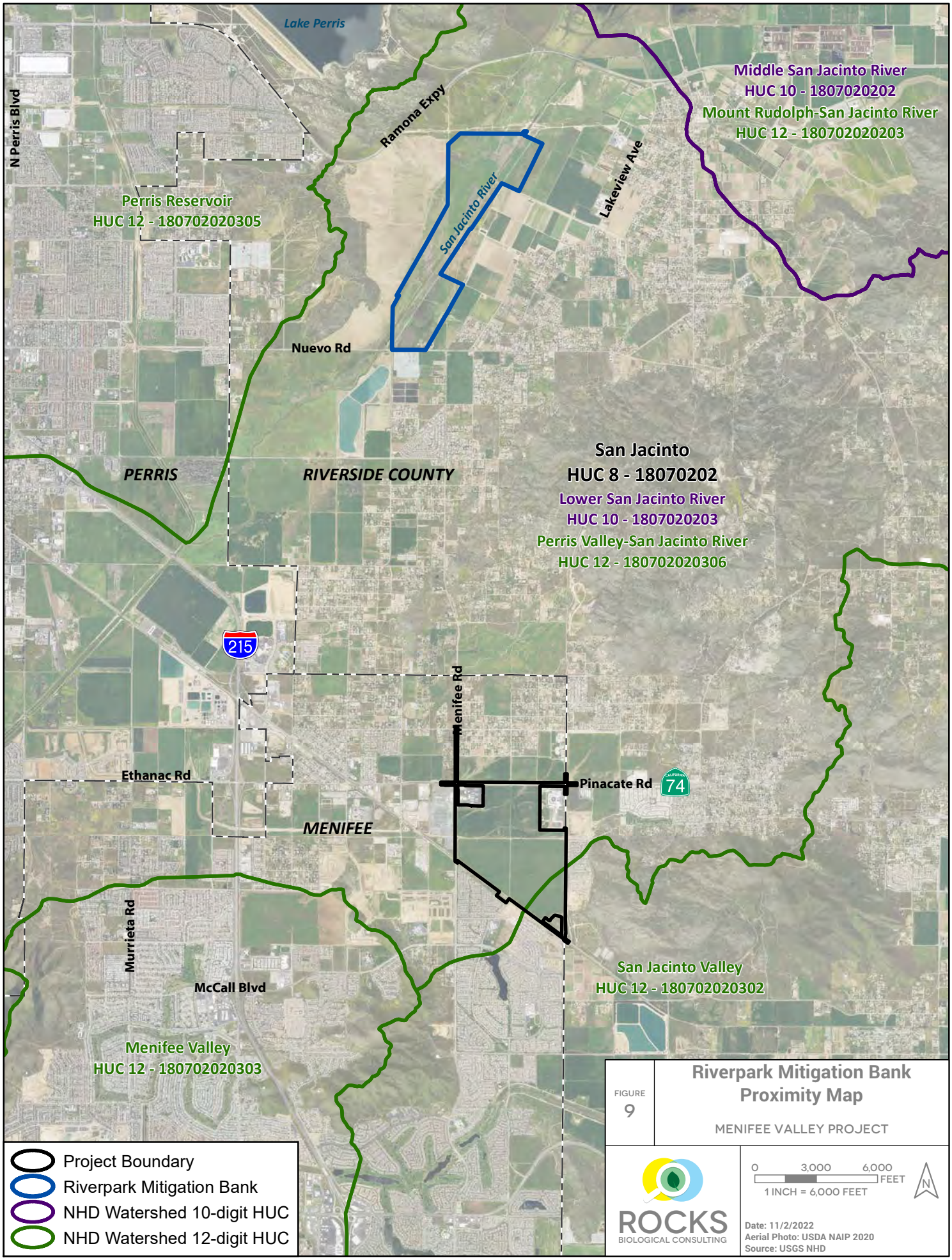
1 INCH = 1,300 FEET

N

Date: 11/2/2022
Aerial Photo: USDA NAIP 2020
Source: USDA NRCS 2020, USFWS NWI 2020


Project Site
2019 JDR
2019 Review Area
Culvert
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
2022 JDR ADDENDUM
2022 Review Area
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
Menifee Rd
Feature 1
Detail Area
Key Map
FIGURE
8A
MSHCP Riparian/Riverine
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
200
400
FEET
1 INCH = 400 FEET
N
Date: 11/2/2022
Aerial Photo: Unknown 2022, Nearmap 2021


Feature 4A
Feature 4
Feature 4
74 Pinacate Rd
Feature 1
Feature 3A
Feature 3
Feature 3
Menifee Rd
Heritage
High School
Feature 1
Wetland Detail
Feature 2 -
Wetland
Briggs Rd
Feature 2
Feature 2 - Wetland
See Wetland Detail
Mathews Rd
Project Site
2019 JDR
2019 Review Area
Culvert
Storm Drain
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
Disturbed Wetland
2022 JDR ADDENDUM
2022 Review Area
Culvert
MSHCP Riparian/Riverine Areas
Disturbed Ephemeral Streambed
Detail Area
Key Map
FIGURE
8B
MSHCP Riparian/Riverine
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
200
400
FEET
1 INCH = 400 FEET
N
Date: 11/2/2022
Aerial Photo: Unknown 2022, Nearmap 2021


Lake Perris
N Perris Blvd
Ramona Expy
Lakeview Ave
San Jacinto River
Middle San Jacinto River
HUC 10 - 1807020202
Mount Rudolph-San Jacinto River
HUC 12 - 180702020203
Perris Reservoir
HUC 12 - 180702020305
Nuevo Rd
PERRIS
RIVERSIDE COUNTY
San Jacinto
HUC 8 - 18070202
Lower San Jacinto River
HUC 10 - 1807020203
Perris Valley-San Jacinto River
HUC 12 - 180702020306
215
Menifee Rd
Ethanac Rd
Pinacate Rd
74
MENIFEE
Murrieta Rd
McCall Blvd
San Jacinto Valley
HUC 12 - 180702020302
Menifee Valley
HUC 12 - 180702020303
Project Boundary
Riverpark Mitigation Bank
NHD Watershed 10-digit HUC
NHD Watershed 12-digit HUC
FIGURE
9
Riverpark Mitigation Bank
Proximity Map
MENIFEE VALLEY PROJECT
ROCKS
BIOLOGICAL CONSULTING
0
3,000
6,000
FEET
1 INCH = 6,000 FEET
N
Date: 11/2/2022
Aerial Photo: USDA NAIP 2020
Source: USGS NHD

ATTACHMENT A

DRAFT MENIFEE VALLEY PROJECT – FOCUSED BURROWING OWL SURVEY REPORT, PREPARED BY RBC AND DATED JULY 29, 2022, REVISED NOVEMBER 23, 2022

ROCKS
BIOLOGICAL CONSULTING



MENIFEE VALLEY PROJECT – FOCUSED BURROWING OWL SURVEY REPORT

Menifee, California

July 29, 2022
Revised: November 23, 2022

Prepared for:
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TABLE OF CONTENTS

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

TABLES

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

FIGURES

Figure 1. Survey Area

APPENDICES

Appendix A – Site Photographs
Appendix B – Wildlife Species Observed

1 SUMMARY

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

2 INTRODUCTION

2.1 PROJECT LOCATION & PROPOSED ACTIVITY

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

2.2 BURROWING OWL NATURAL HISTORY

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

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

3 METHODS

3.1 SURVEY METHODS

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

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

3.2 SURVEYOR QUALIFICATIONS

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

4 RESULTS

4.1 EXISTING CONDITIONS & HABITAT ASSESSMENT

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

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

4.2 FOCUSED BURROWING OWL SURVEY RESULTS

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

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

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

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

5 BURROWING OWL MITIGATION

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

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

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

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

6 CONCLUSIONS

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

7 REFERENCES

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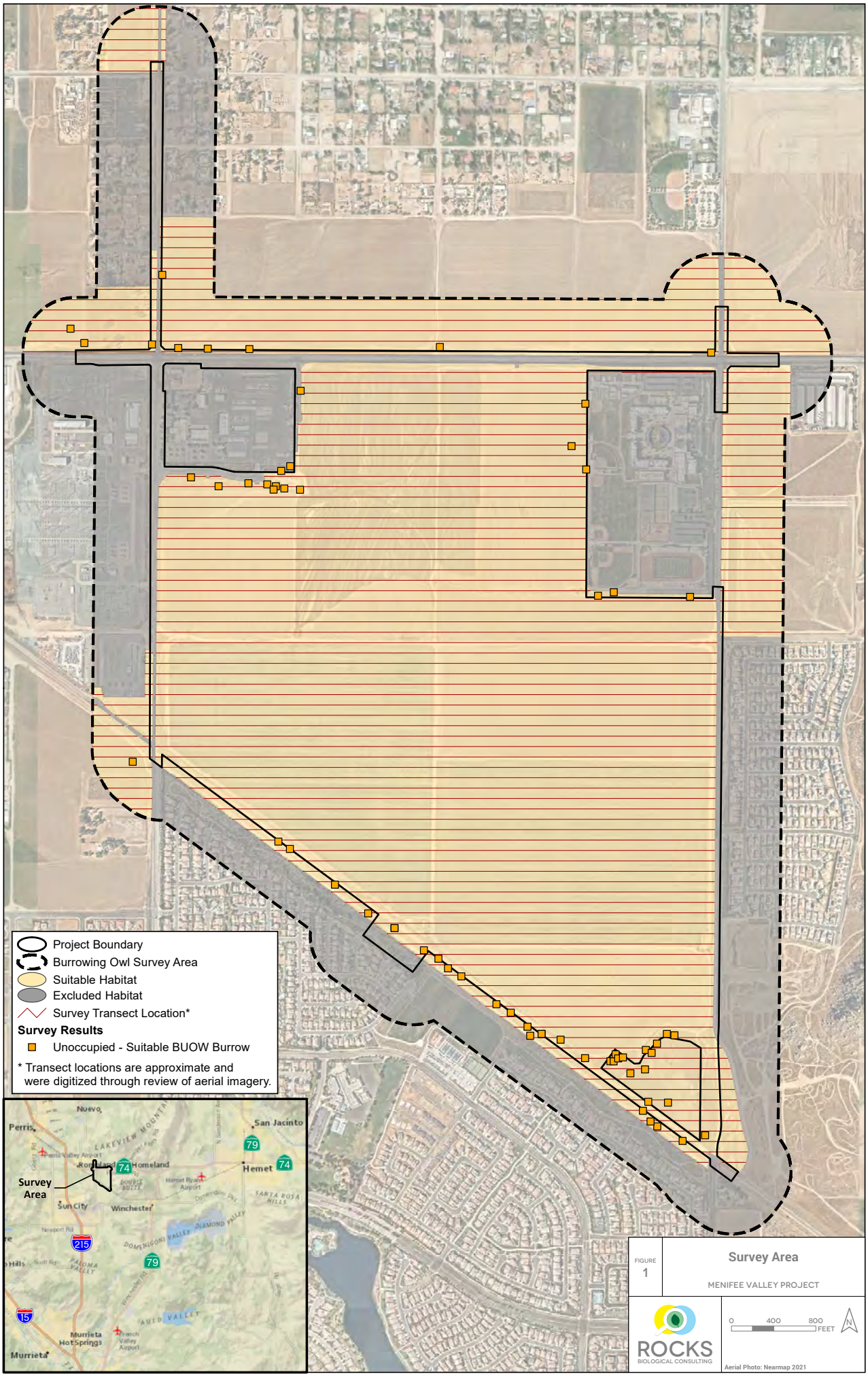
Project Boundary
Burrowing Owl Survey Area
Suitable Habitat
Excluded Habitat
Survey Transect Location*
Survey Results
Unoccupied - Suitable BUOW Burrow
* Transect locations are approximate and were digitized through review of aerial imagery.
Survey Area
Nuevo
Perris
San Jacinto
Homeland
Hemet
Sun City
Winchester
Murrieta Hot Springs
Murrieta
FIGURE 1
Survey Area
MENIFEE VALLEY PROJECT
ROCKS BIOLOGICAL CONSULTING
0 400 800 FEET
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
WL: CDFW Watch List
* Introduced Species

ATTACHMENT B

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

TABLE OF CONTENTS

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

TABLES

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

FIGURES

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

APPENDICES

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

Appendix C. Site Photographs
Appendix D. JD Request Form
Appendix E. On-site Recent and Historic Aerials Analysis
Appendix F. Bulk Upload Form
Appendix G. Line A Figures and Aerials Analysis
Appendix H. GIS Data

1 INTRODUCTION

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

1.1 PROJECT LOCATION

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

1.2 PROJECT DESCRIPTION

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

1.3 REGULATORY BACKGROUND

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

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

2 METHODS

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

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

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

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

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

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

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

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

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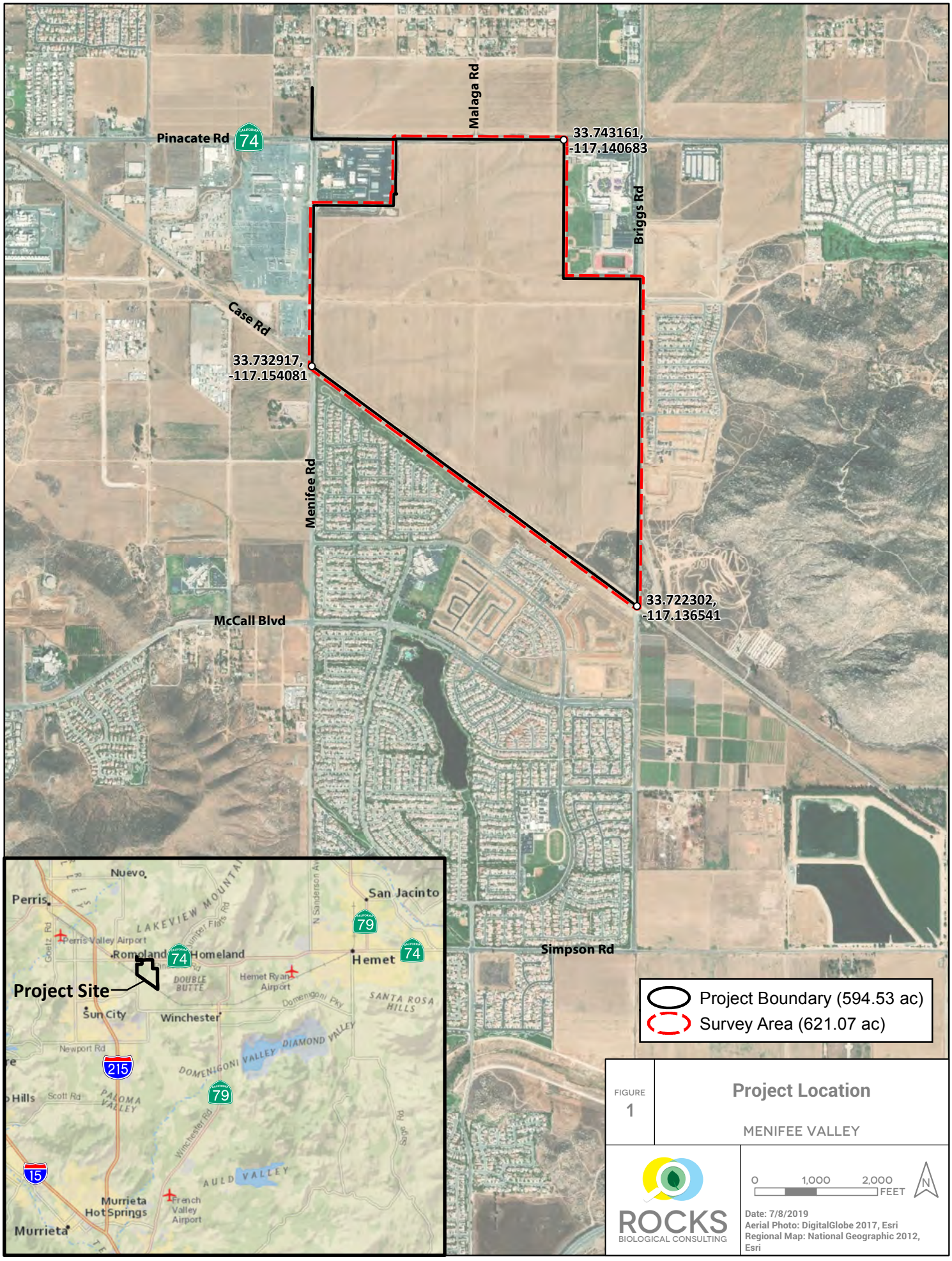


FIGURE 1

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

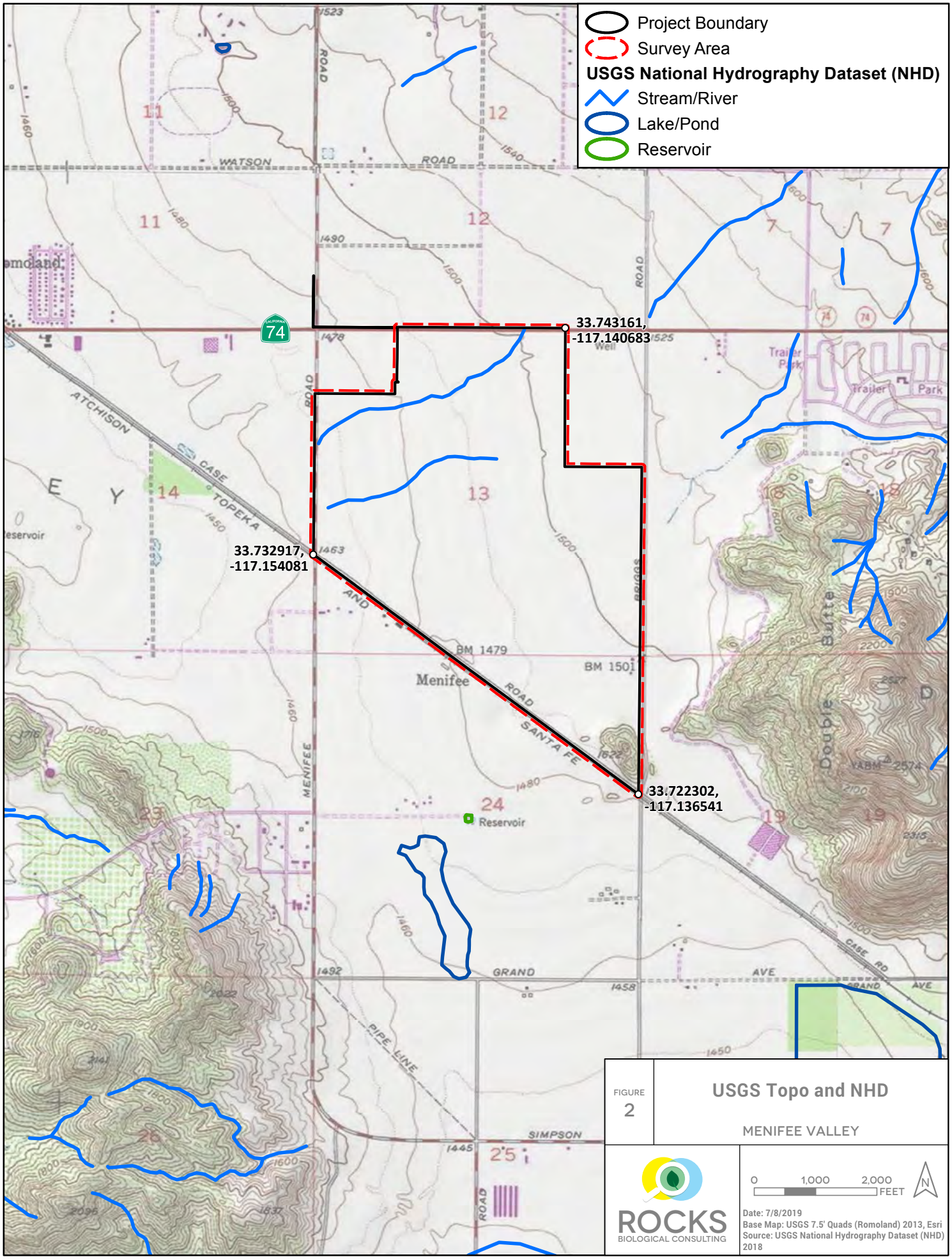


FIGURE 2

USGS Topo and NHD

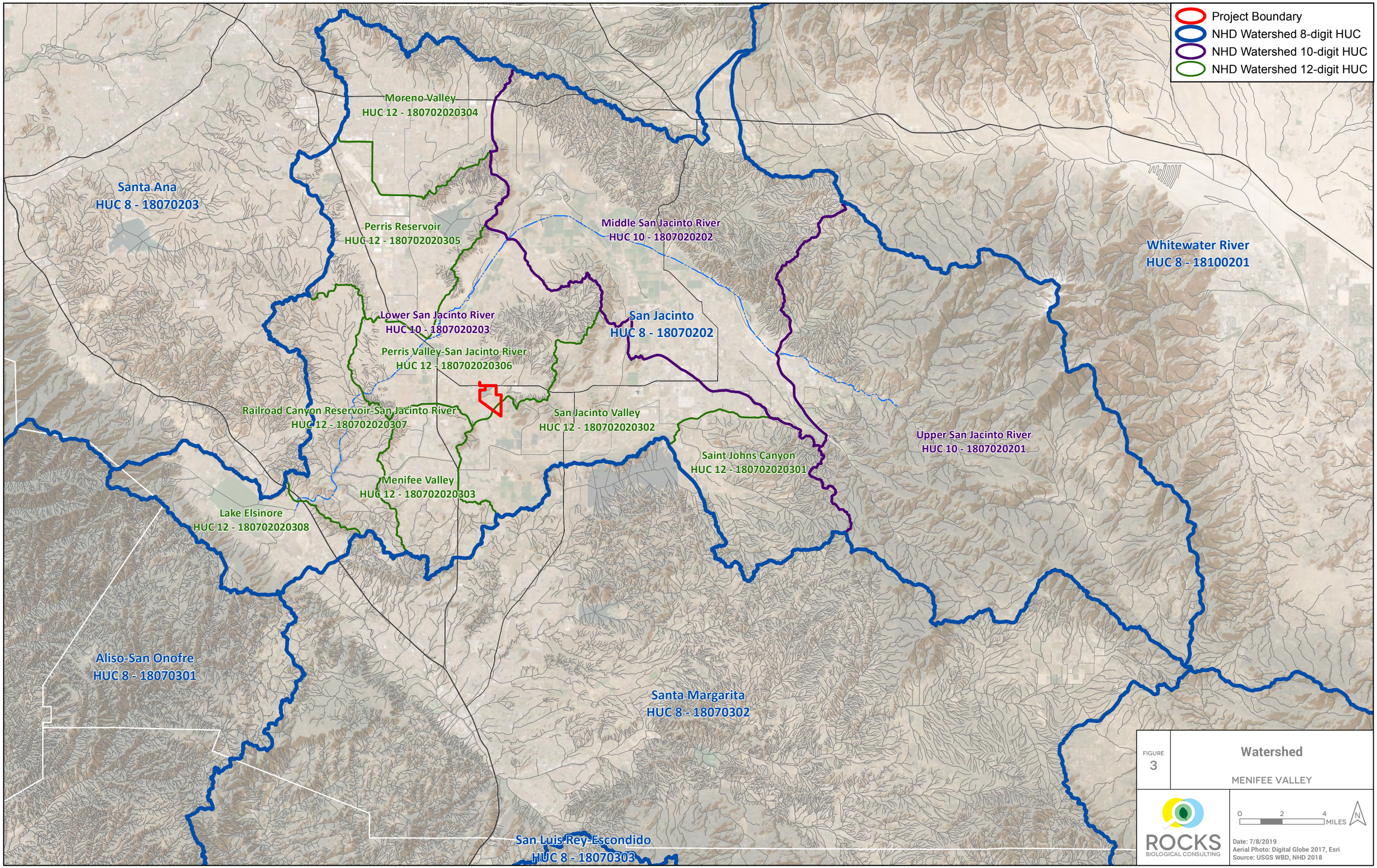
MENIFEE VALLEY

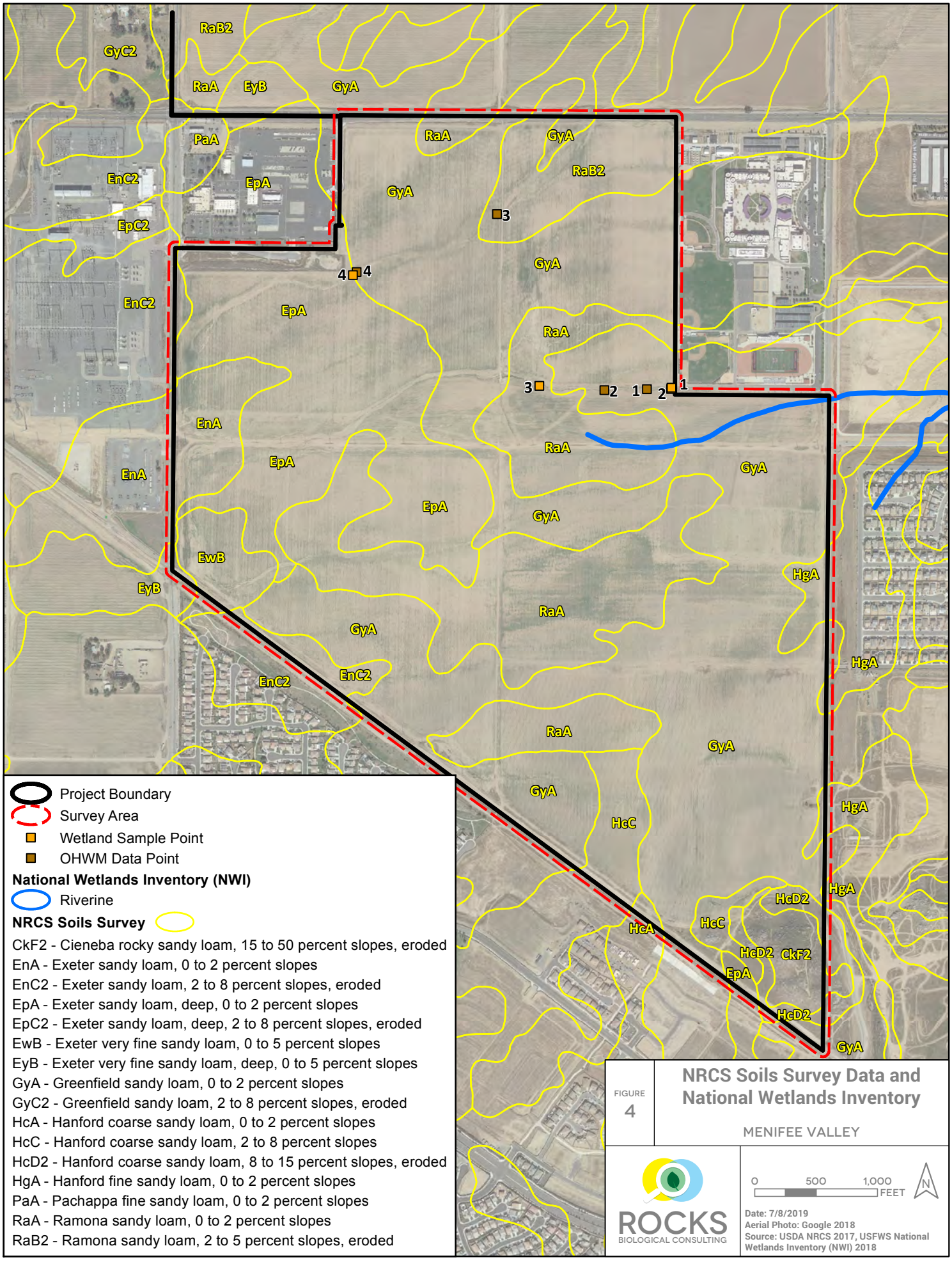
ROCKS BIOLOGICAL CONSULTING

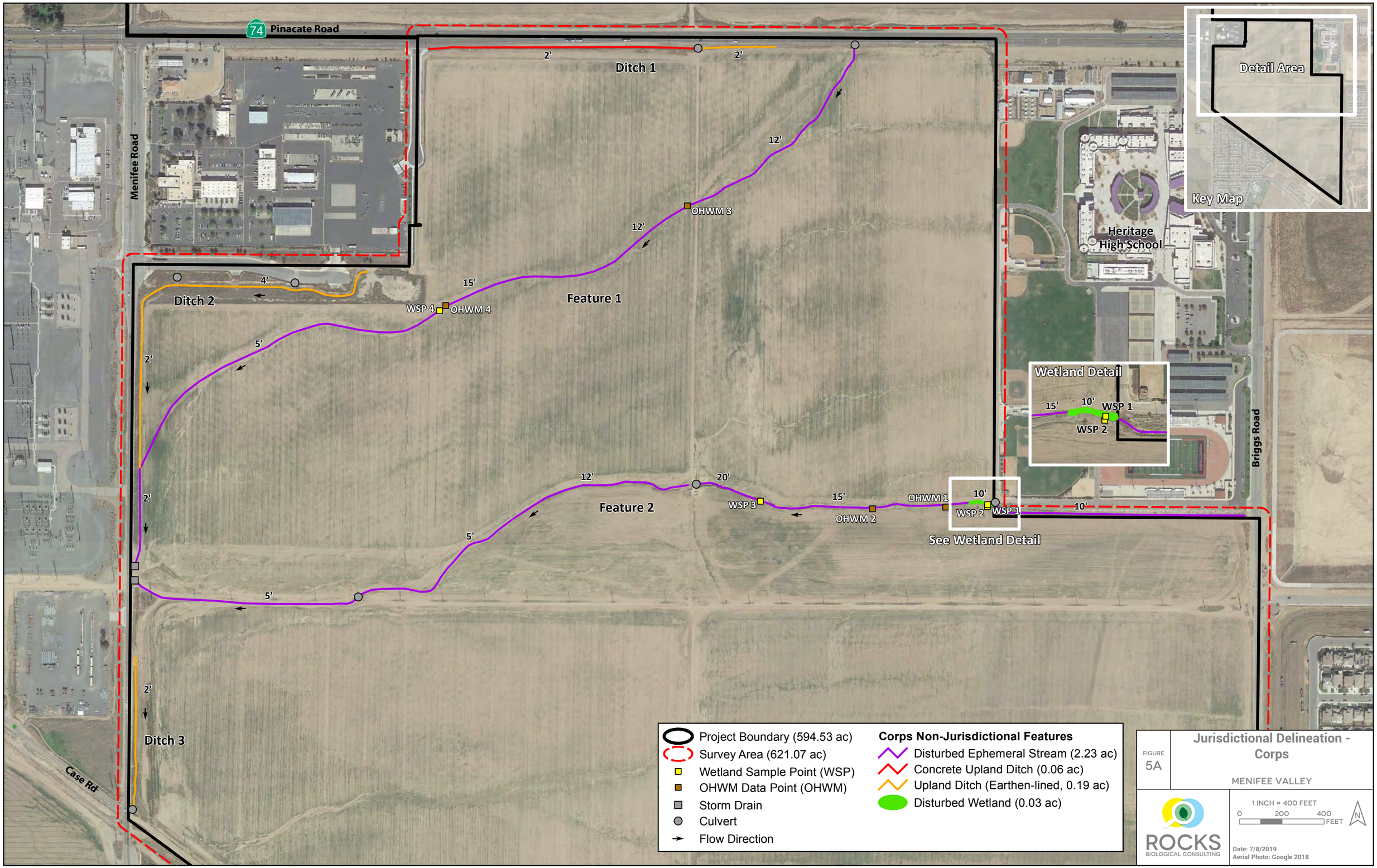
0 1,000 2,000 FEET

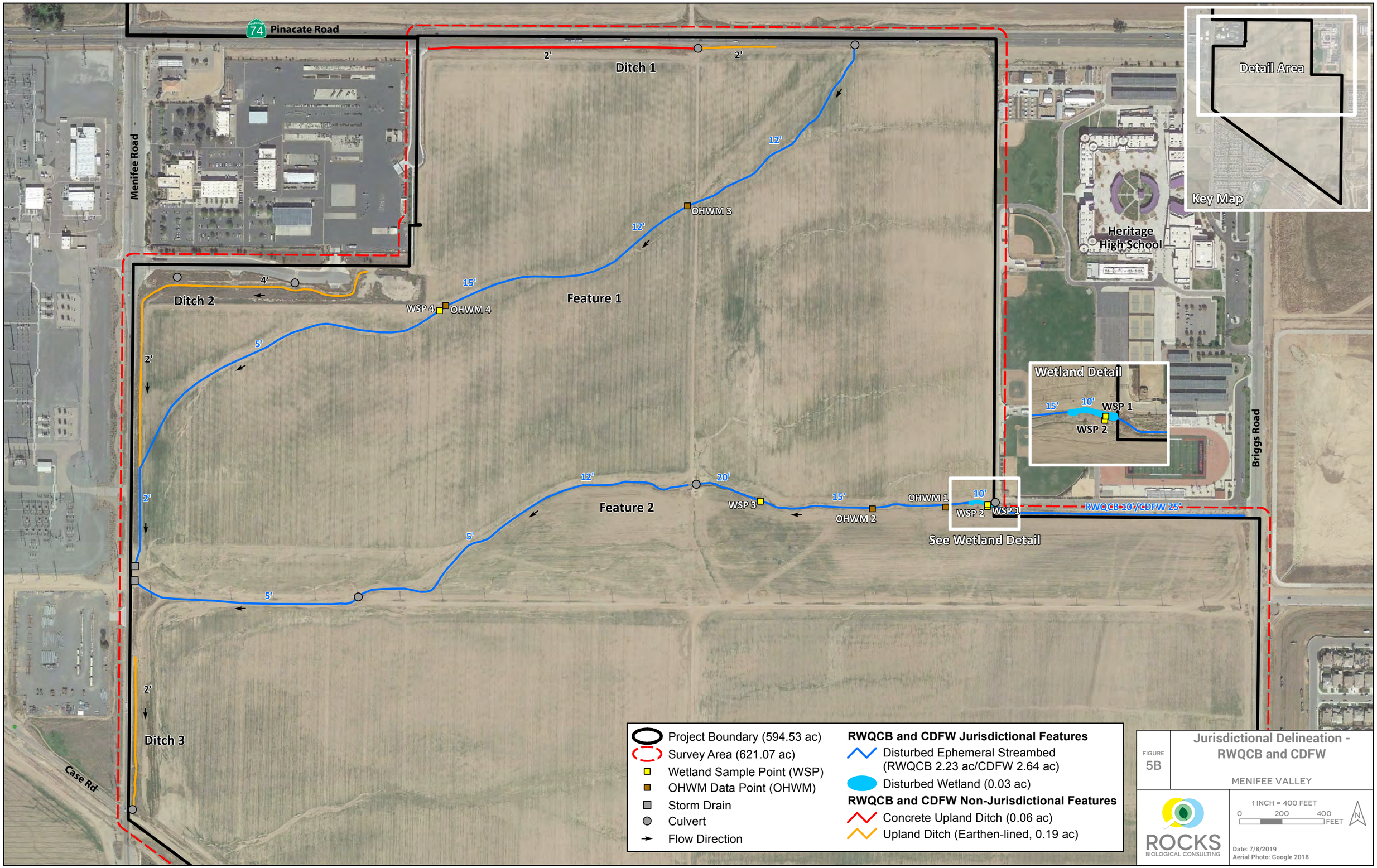
N

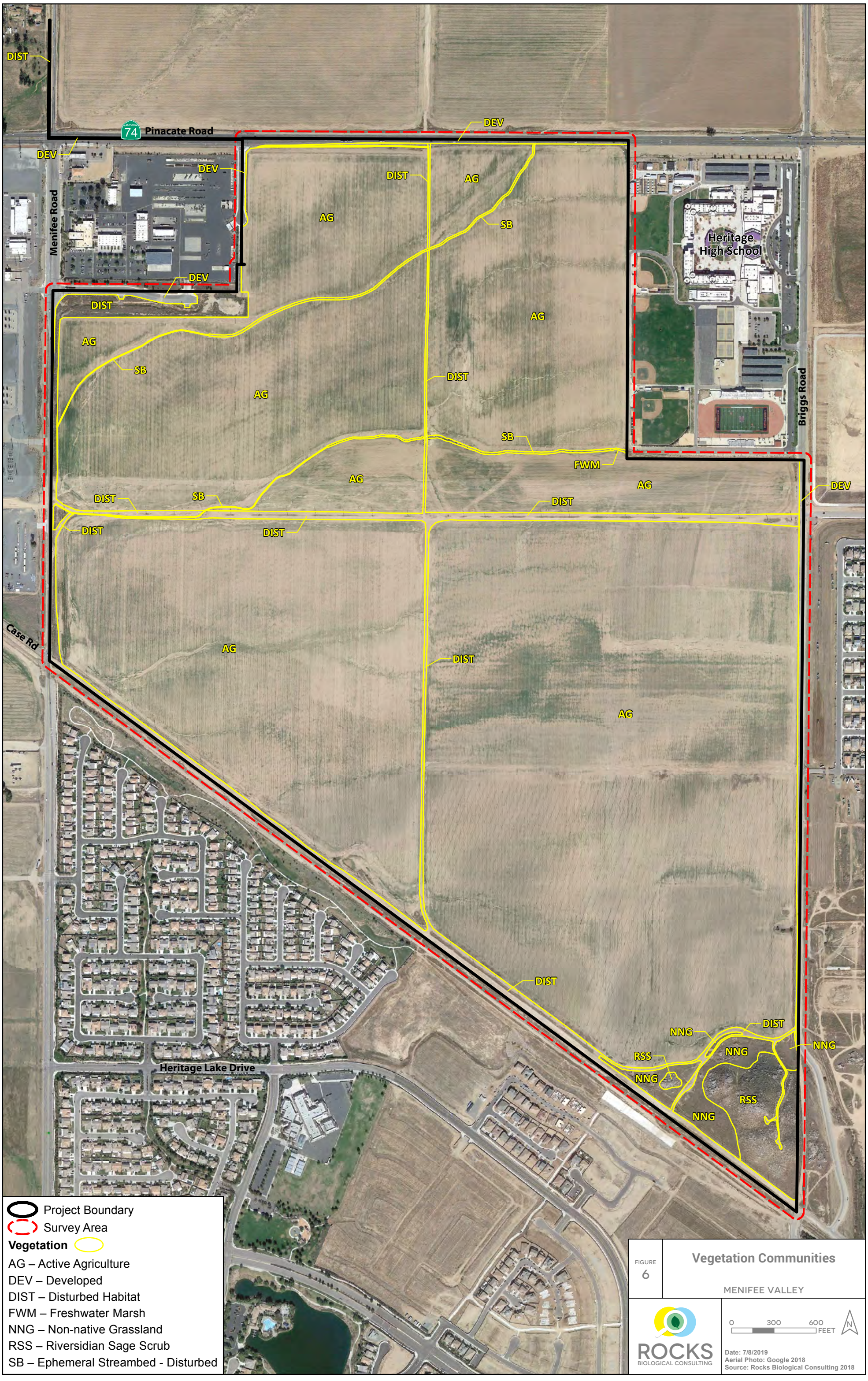
Date: 7/8/2019
Base Map: USGS 7.5' Quads (Romoland) 2013, Esri
Source: USGS National Hydrography Dataset (NHD) 2018


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'
OHWM 3
12'
15'
Feature 1
WSP 4
OHWM 4
Ditch 2
4'
5'
2'
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 2
OHWM 1
10'
WSP 2
WSP 1
See Wetland Detail
10'
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


Pinacate Road
74
Menifee Road
Ditch 1
2'
2'
12'
OHWM 3
12'
Heritage
High School
Detail Area
Key Map
Ditch 2
4'
15'
WSP 4
OHWM 4
Feature 1
5'
2'
Wetland Detail
15'
10'
WSP 1
WSP 2
Briggs Road
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 2
OHWM 1
10'
WSP 2
WSP 1
RWQCB 10'/CDFW 25'
See Wetland Detail
5'
5'
2'
Ditch 3
Case Rd
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
N
Date: 7/8/2019
Aerial Photo: Google 2018


Pinacate Road
74
Menifee Road
Heritage High School
Briggs Road
Case Rd
Heritage Lake Drive
DEV
DIST
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

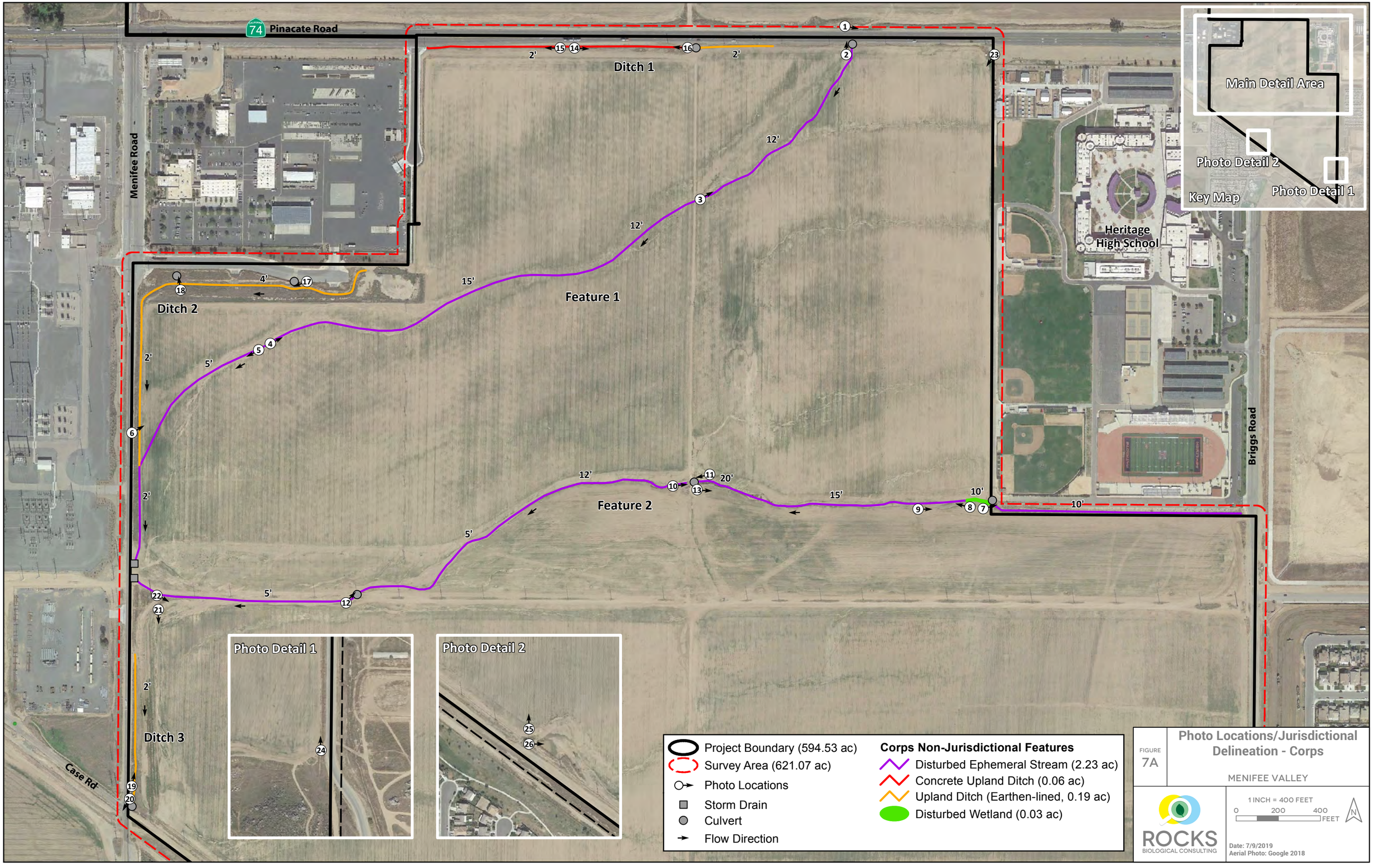


FIGURE 7A

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

Briggs Road

Ditch 1

Ditch 2

Ditch 3

Feature 1

Feature 2

Heritage High School

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

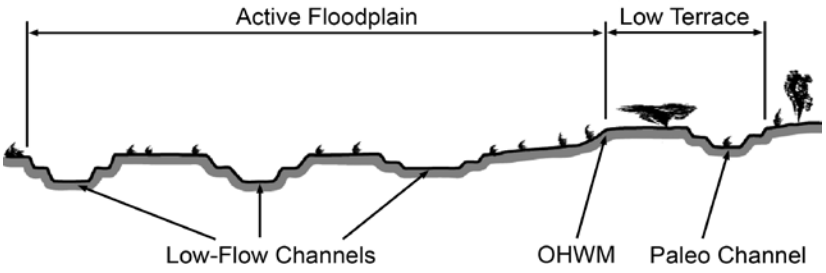
Brief site description:
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

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

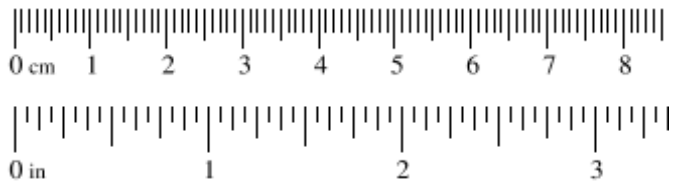


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

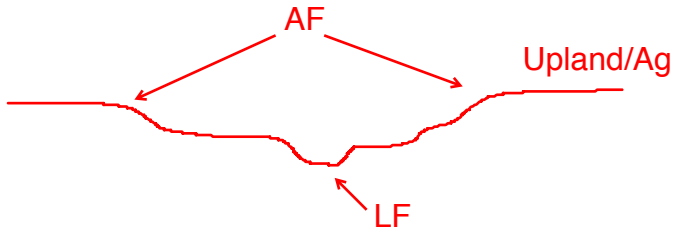
Wentworth Size Classes

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
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Early (herbaceous & seedlings)
- ☐ 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
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings)
- ☐ 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

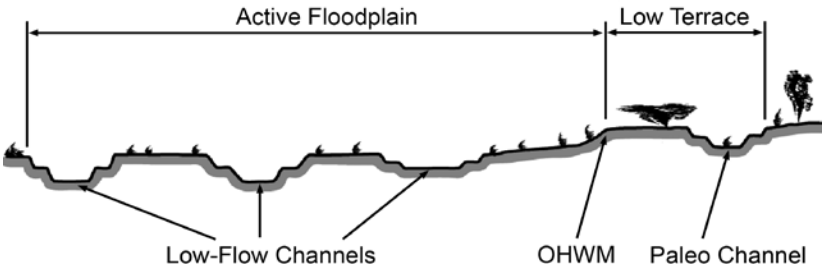
Brief site description:
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

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.
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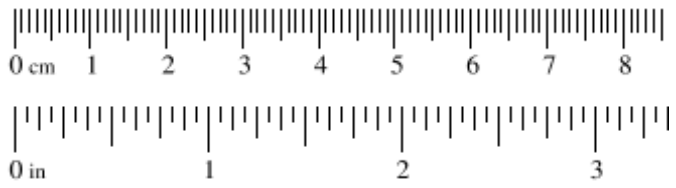
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

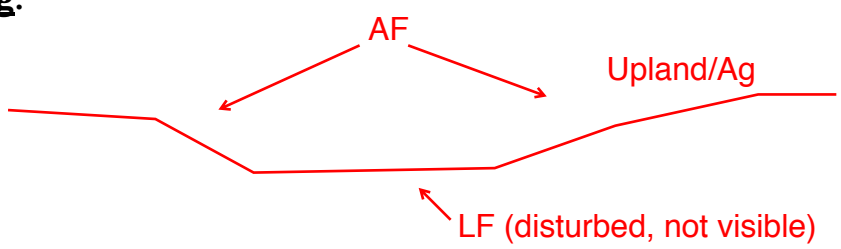
Wentworth Size Classes

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

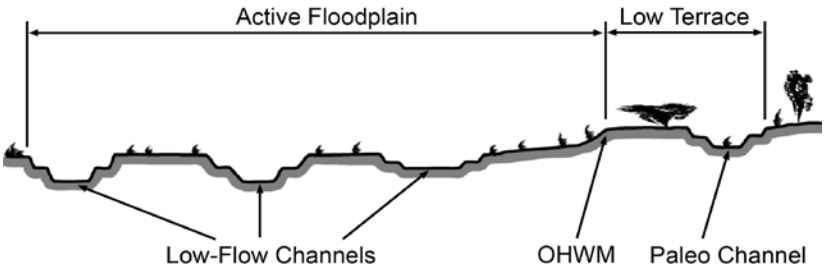
Brief site description:
Area receives flows from an upstream box-culverted crossing under Highway 74

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.
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   a) Record the floodplain unit and GPS position.
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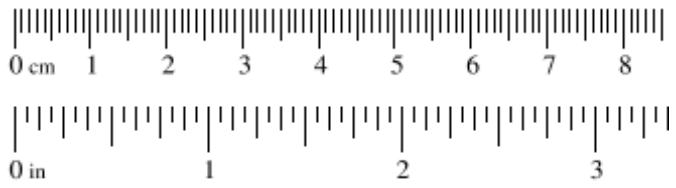
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

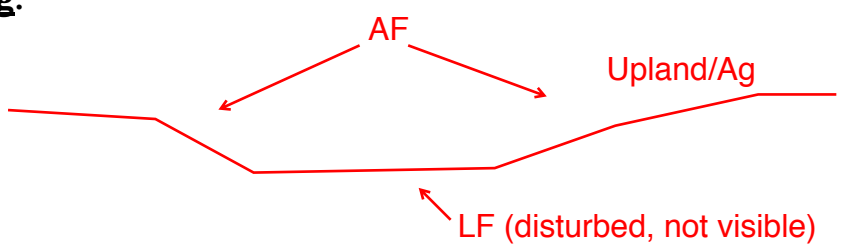
Wentworth Size Classes

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

Indicators:

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

Comments:

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

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

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

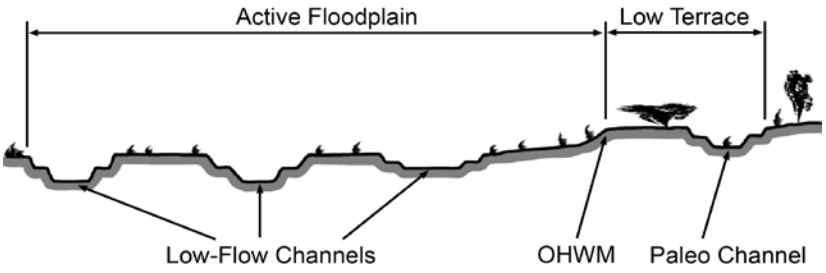
Brief site description:
Area receives flows from an upstream box-culverted crossing under Highway 74

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

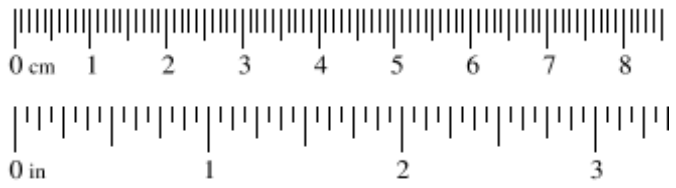


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

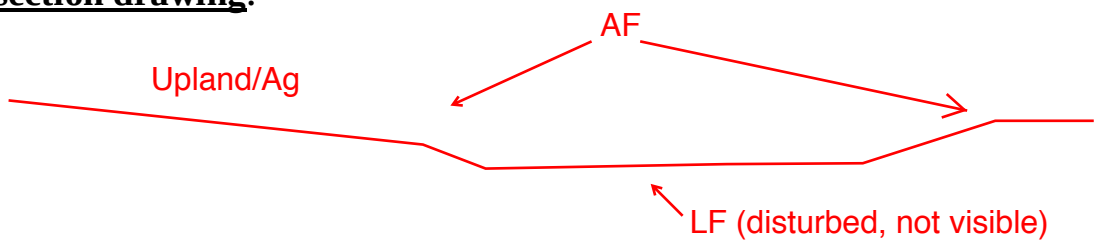
Wentworth Size Classes

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

Indicators:

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

Comments:

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

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

APPENDIX C

SITE PHOTOGRAPHS

Appendix C – Site Photographs*

Menifee Valley Jurisdictional Delineation
August 13, 2018

SITE FEATURE PHOTOS

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

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

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

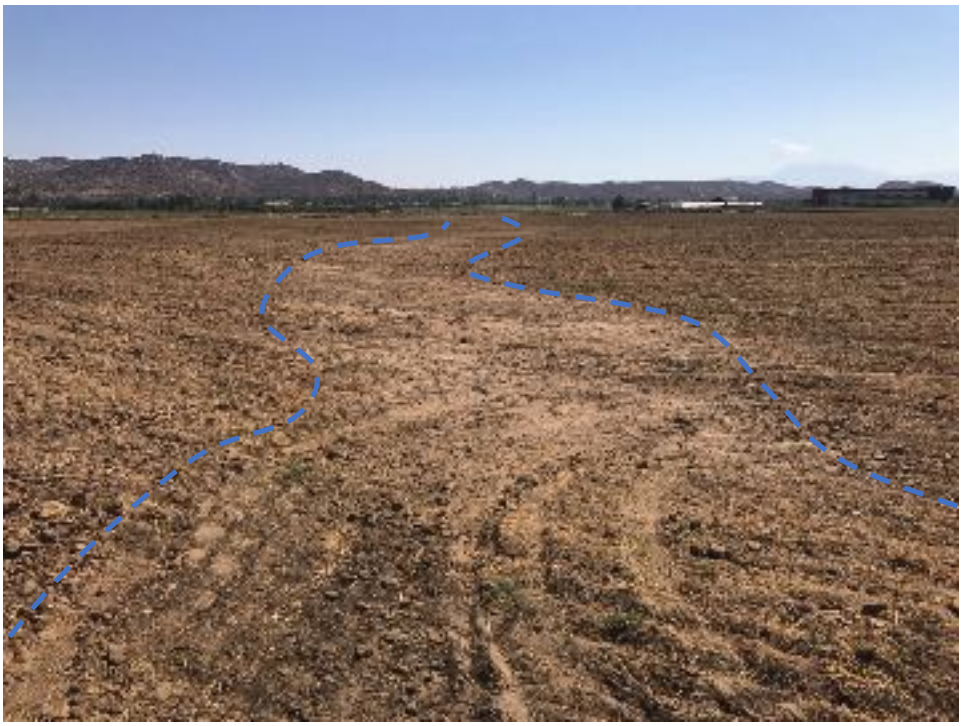


Photo 3. Upstream view of the northeast portion of Feature 1, at Ordinary High Water Mark Data Point 3 (OHWM 3). Photo taken facing northeast towards its on-site entry point along CA-74.

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

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

Photo 6. Upstream view of Feature 1, near the western project boundary. The feature continues south along 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

ROCKS BIOLOGICAL CONSULTING

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

ROCKS
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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

ROCKS
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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

ROCKS
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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

ROCKS
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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

ROCKS
BIOLOGICAL CONSULTING

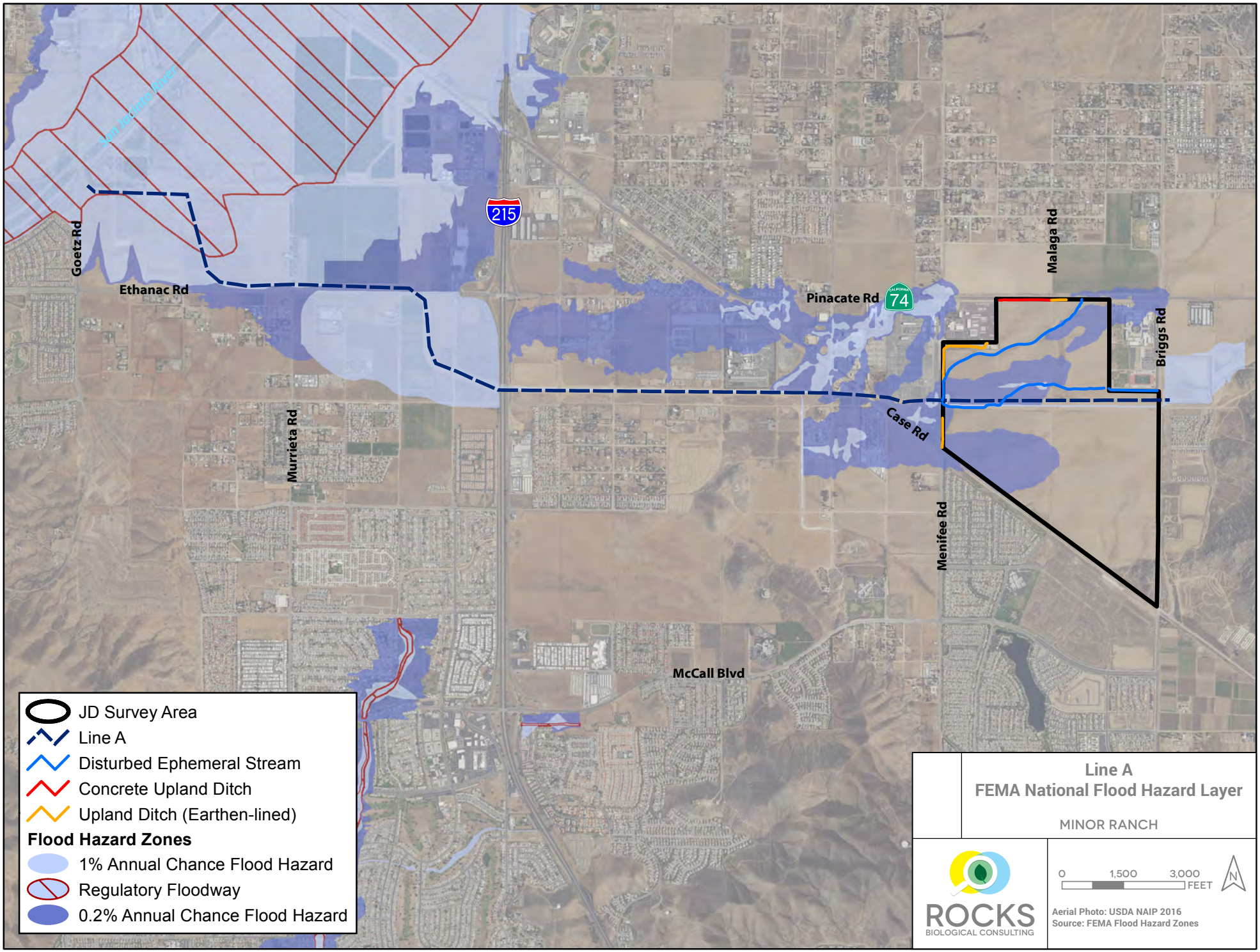
APPENDIX F

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

ROCKS
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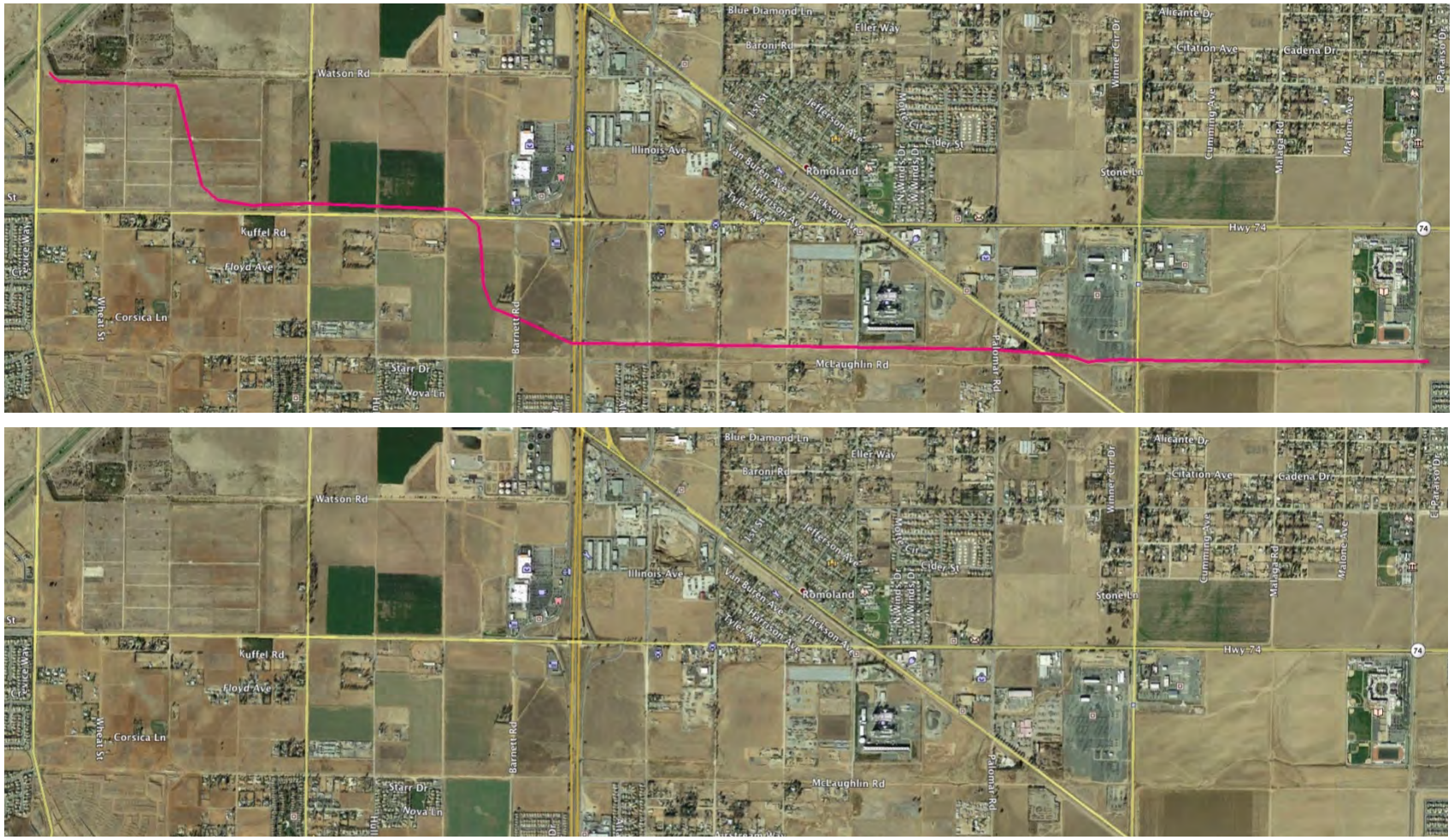
Appendix G – Line A Aerials Analysis

Source: Google Earth

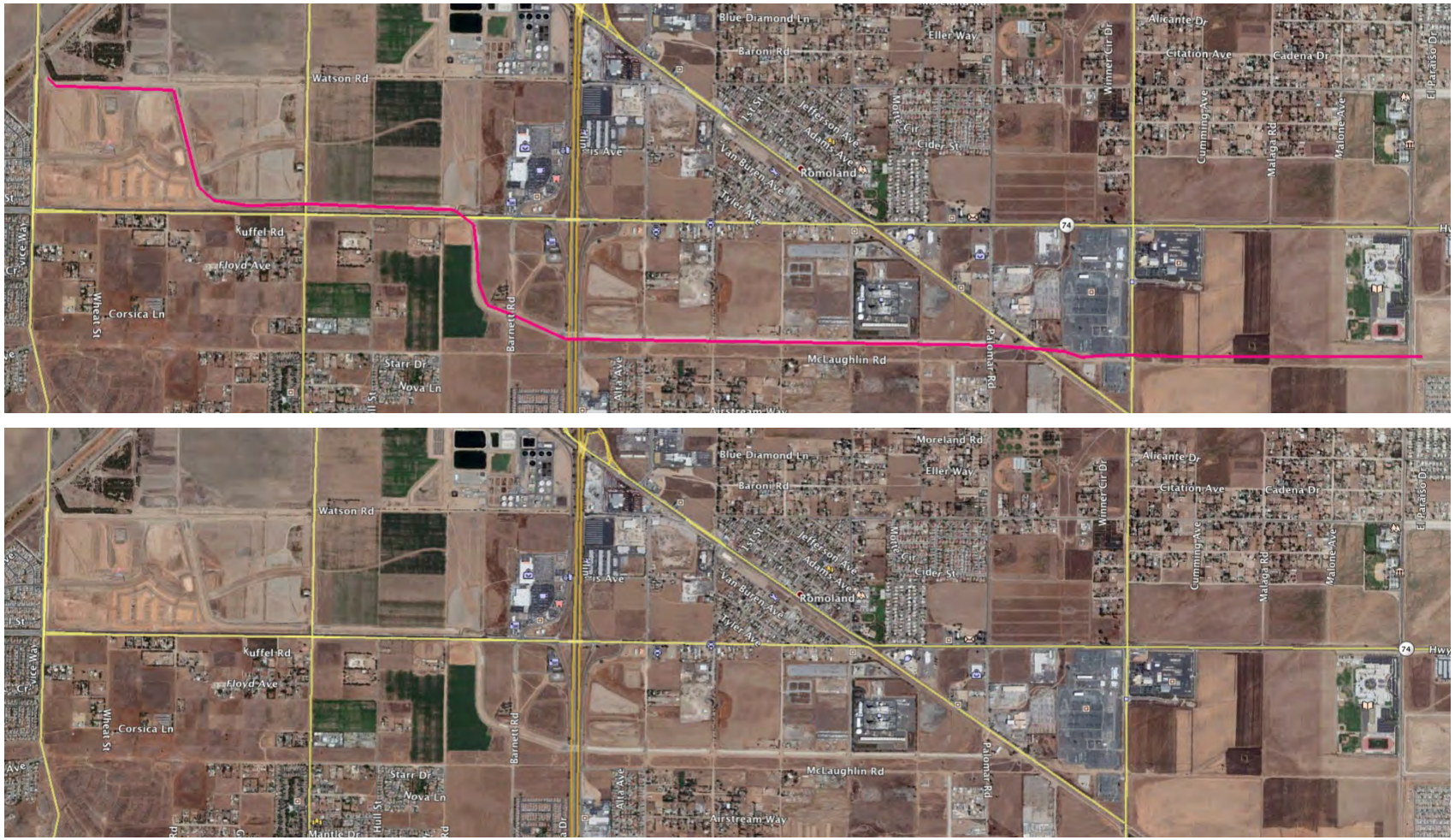


November 2013 (prior to construction of Line A). Pink line denotes existing alignment of Line A, which initiates in the east and drains to the west. Note upstream flows visible in current location of Briggs Detension Basin, directly east where Line A originates.

ROCKS BIOLOGICAL CONSULTING

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).

ROCKS BIOLOGICAL CONSULTING

APPENDIX H

GIS DATA (PROVIDED ELECTRONICALLY TO AGENCIES)

ATTACHMENT C

MENIFEE VALLEY PROJECT JURISDICTIONAL DELINEATION REPORT ADDENDUM, PREPARED BY RBC AND DATED OCTOBER 25, 2022

To: Shaun Bowen, Brookfield Properties Development

From: Sarah Krejca, Rocks Biological Consulting

Date: October 25, 2022

Subject: Menifee Valley Project Jurisdictional Delineation Report Addendum

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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:

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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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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

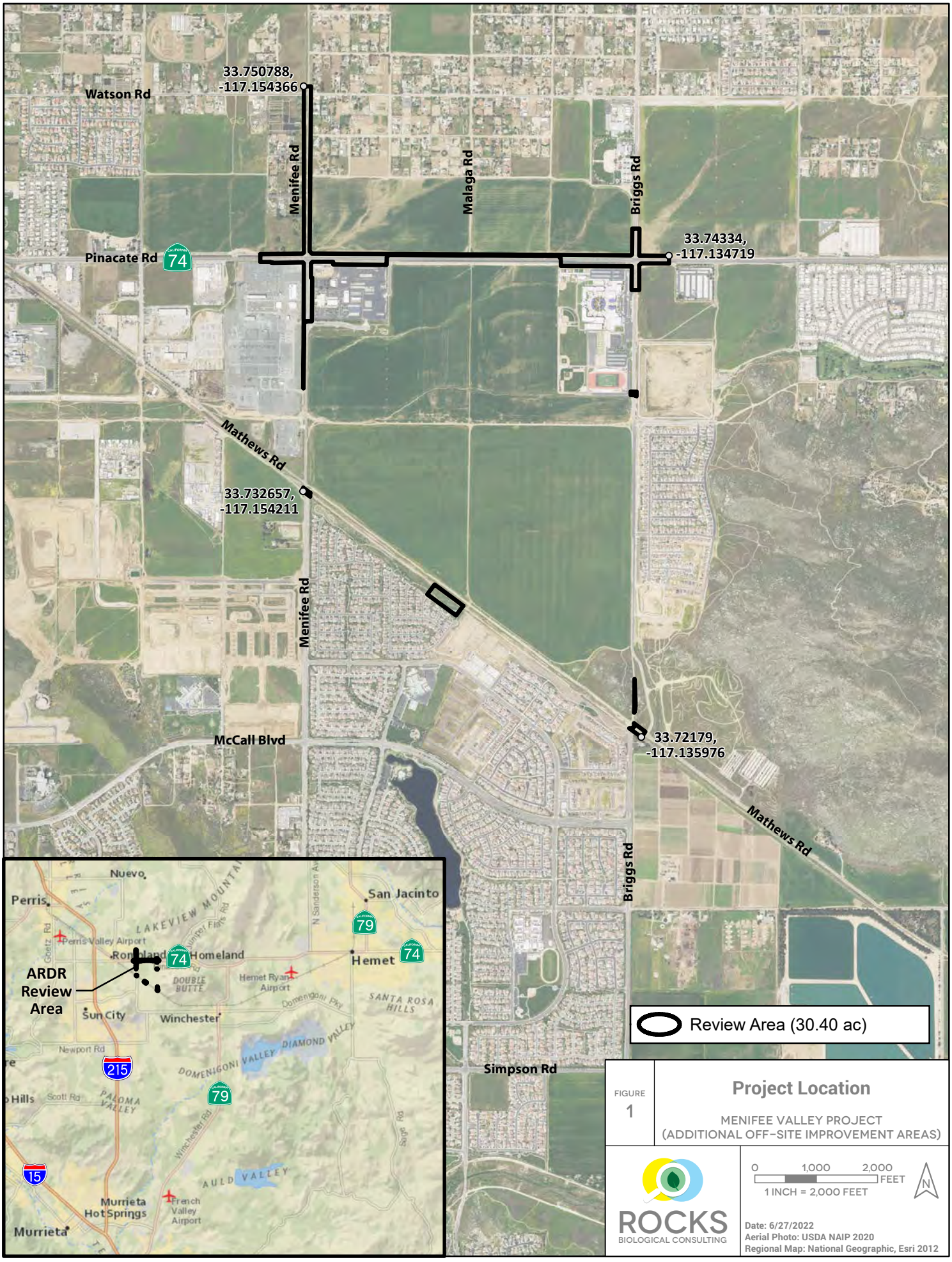


FIGURE 1

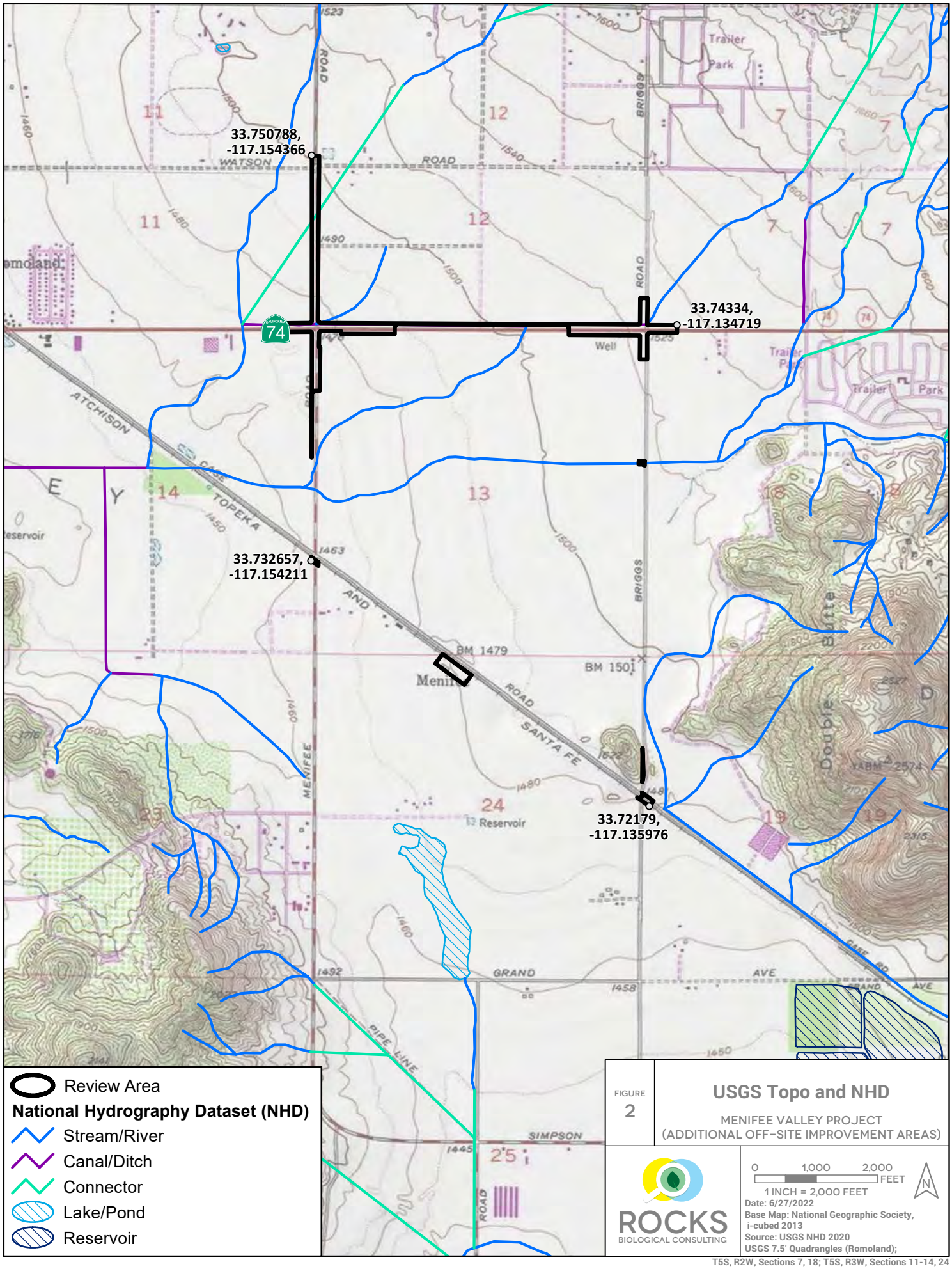
Project Location

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


33.750788,
-117.154366
33.74334,
-117.134719
33.732657,
-117.154211
33.72179,
-117.135976
74
WATSON
ROAD
BRIGGS
ROAD
Trailer
Park
Well
ATCHISON
TOPEKA
AND
SANTA FE
ROAD
BM 1479
BM 1501
MENIFEE
ROAD
Reservoir
GRAND
AVE
PIPE LINE
SIMPSON
ROAD
Double
Butte
Review Area
National Hydrography Dataset (NHD)
Stream/River
Canal/Ditch
Connector
Lake/Pond
Reservoir
FIGURE
2
USGS Topo and NHD
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)
ROCKS
BIOLOGICAL CONSULTING
0
1,000
2,000
FEET
1 INCH = 2,000 FEET
N
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

Santa Ana
HUC 8 - 18070203

Moreno Valley
HUC 12 - 180702020304

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

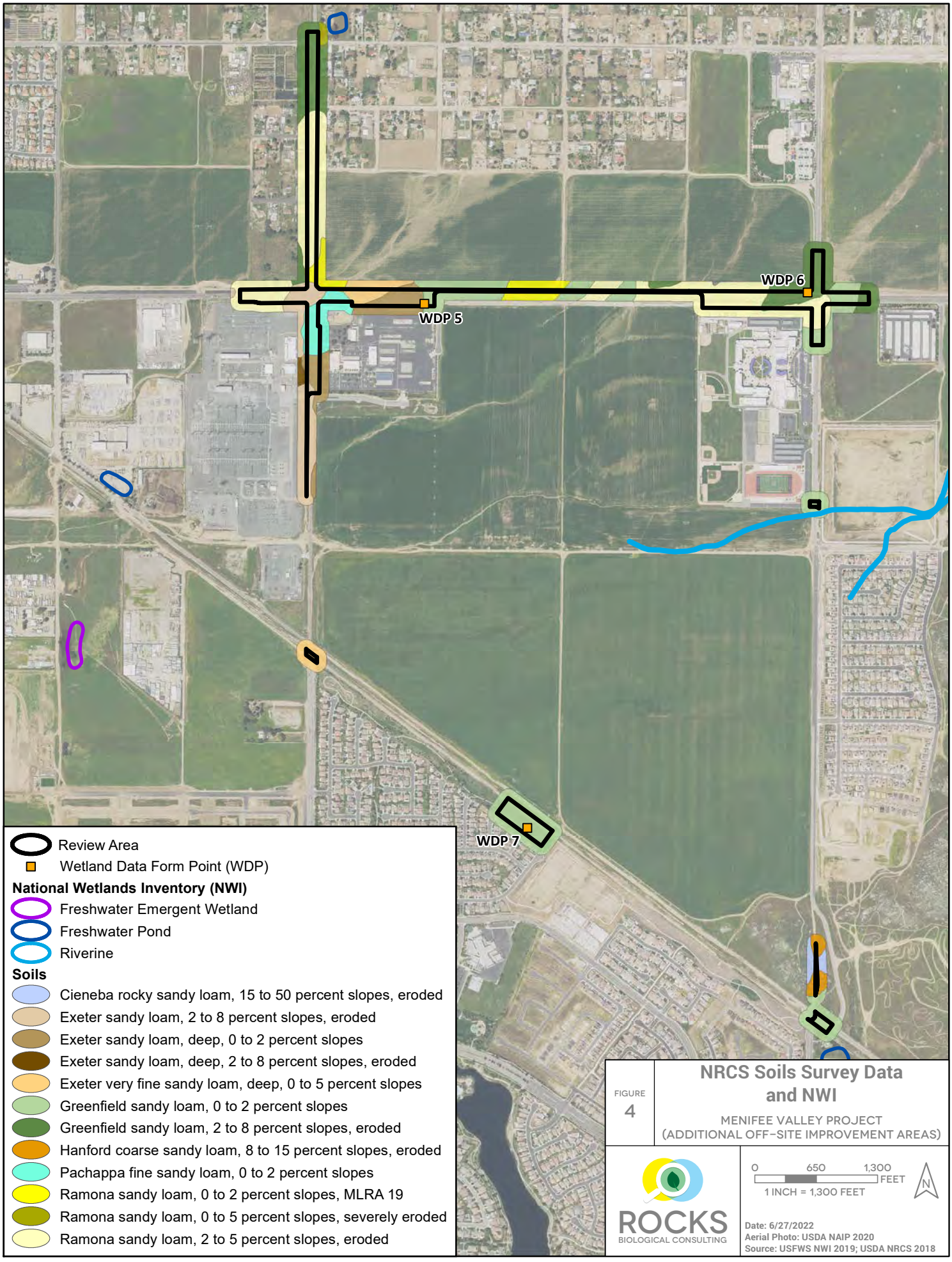
Watershed

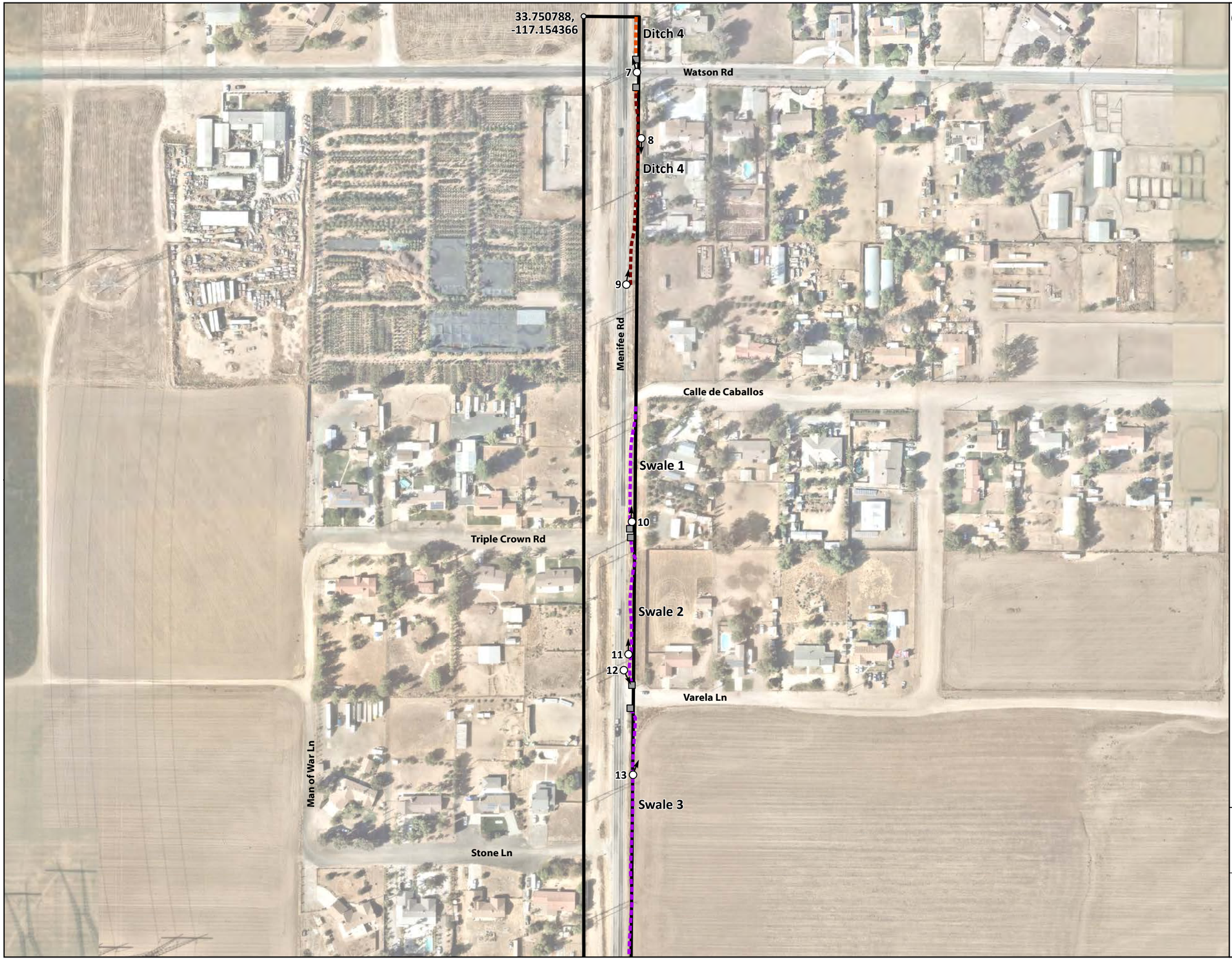
MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 2 4 MILES
1 INCH = 4 MILES

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.

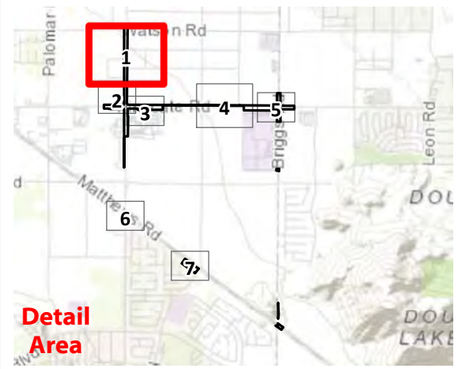


FIGURE 5A

PAGE 1 OF 7

Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

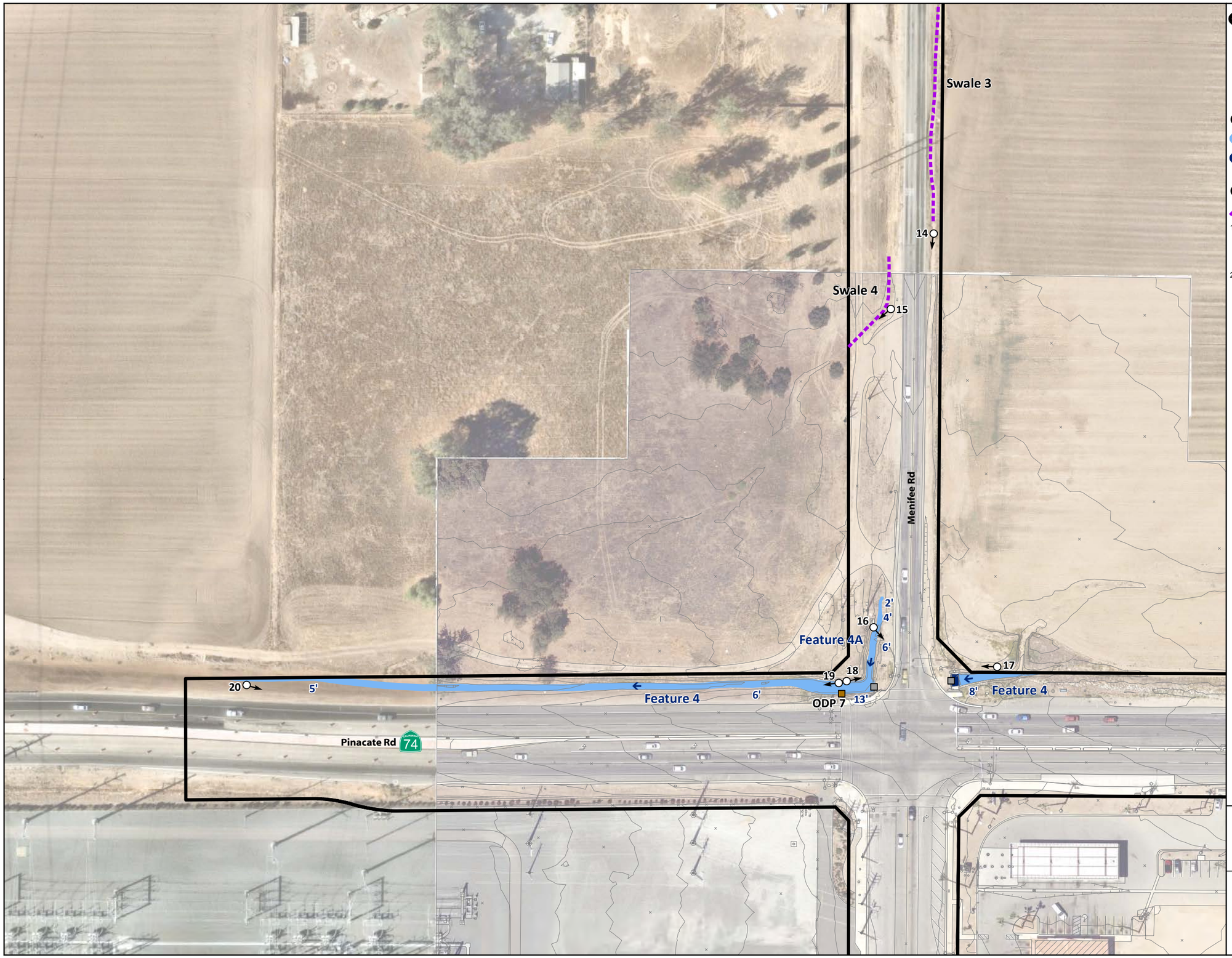
ROCKS BIOLOGICAL CONSULTING

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.

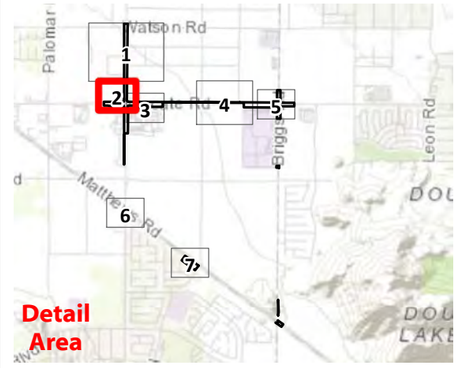


FIGURE 5A

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

N

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.

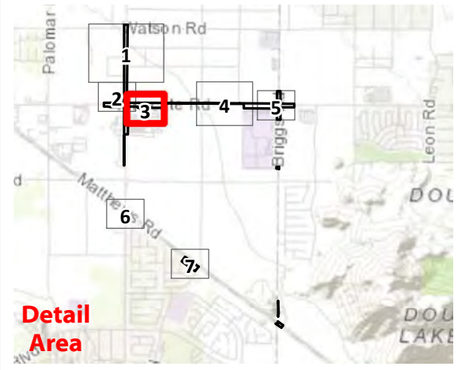


FIGURE 5A

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.

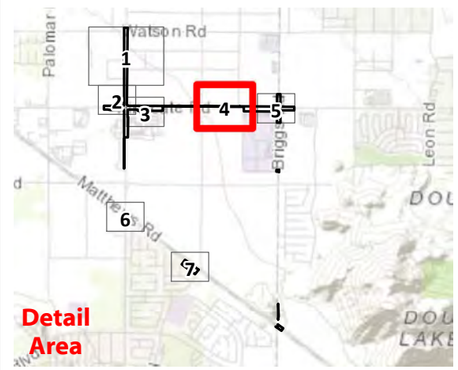


FIGURE 5A

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

N

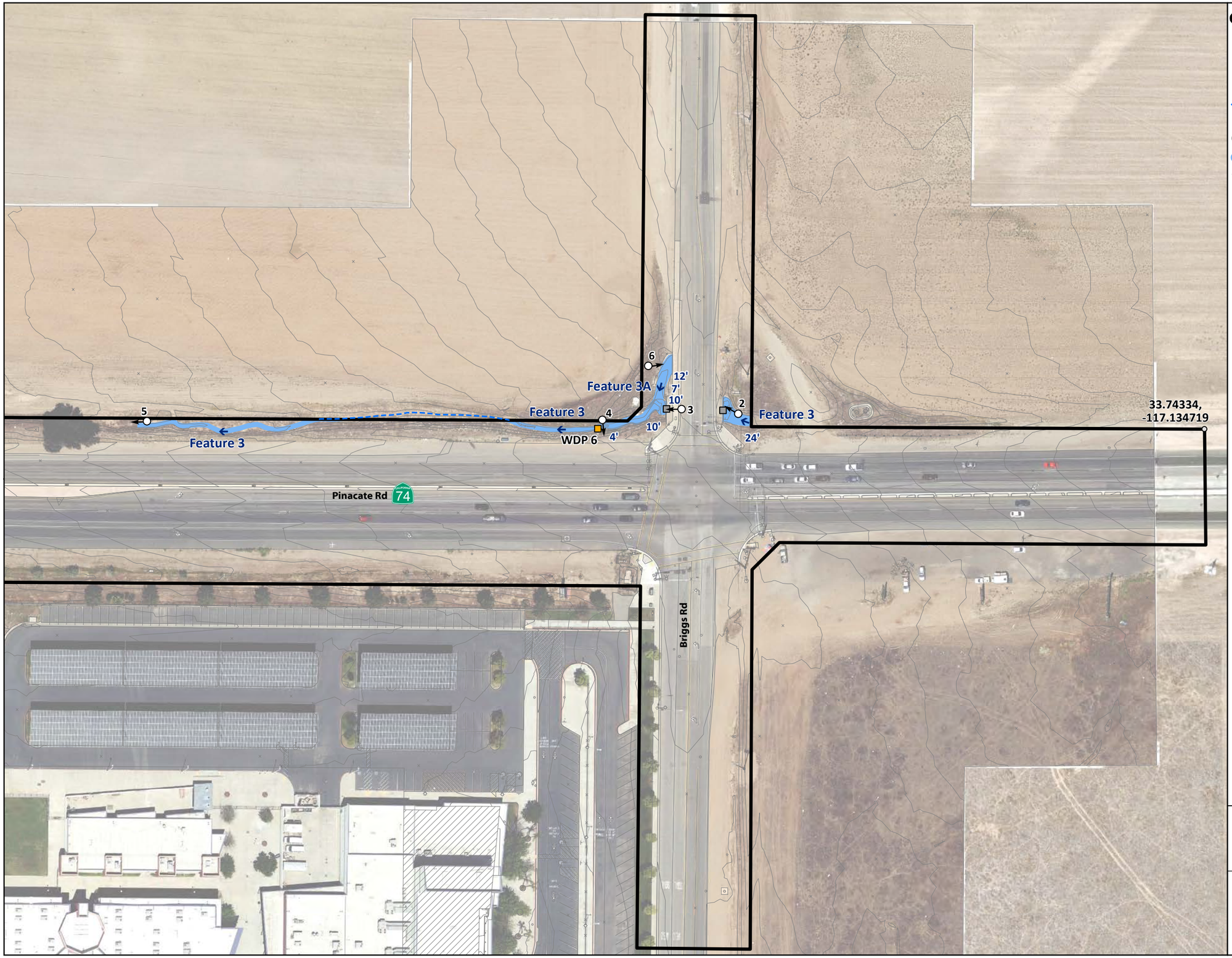
Date: 6/29/2022
Aerial Photo: Unknown 2022, Nearmap 2021

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.



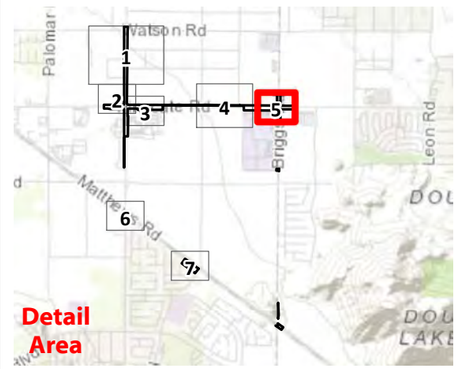


FIGURE 5A
PAGE 5 OF 7

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

Mathews Rd
Menifee Rd

33.732657,
-117.154211

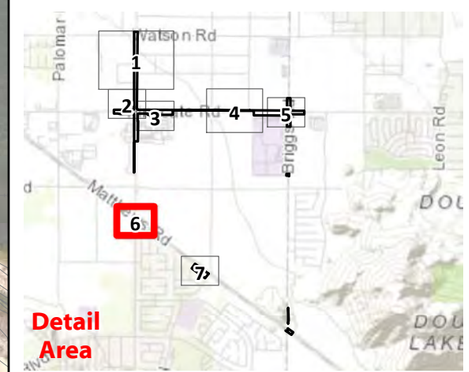


FIGURE 5A
PAGE 6 OF 7

Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

N

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

Review Area (30.40 ac)

Photo Point

Wetland Data Form Point (WDP)

Mathews Rd

WDP 7

27

Hidden Creek Ct

Whitewater Dr

Red Rock Ct

Riptide Dr

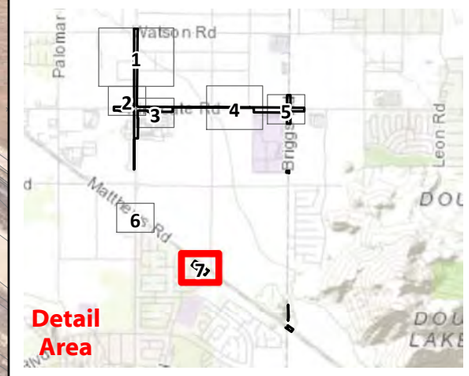


FIGURE 5A

PAGE 7 OF 7

Corps Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

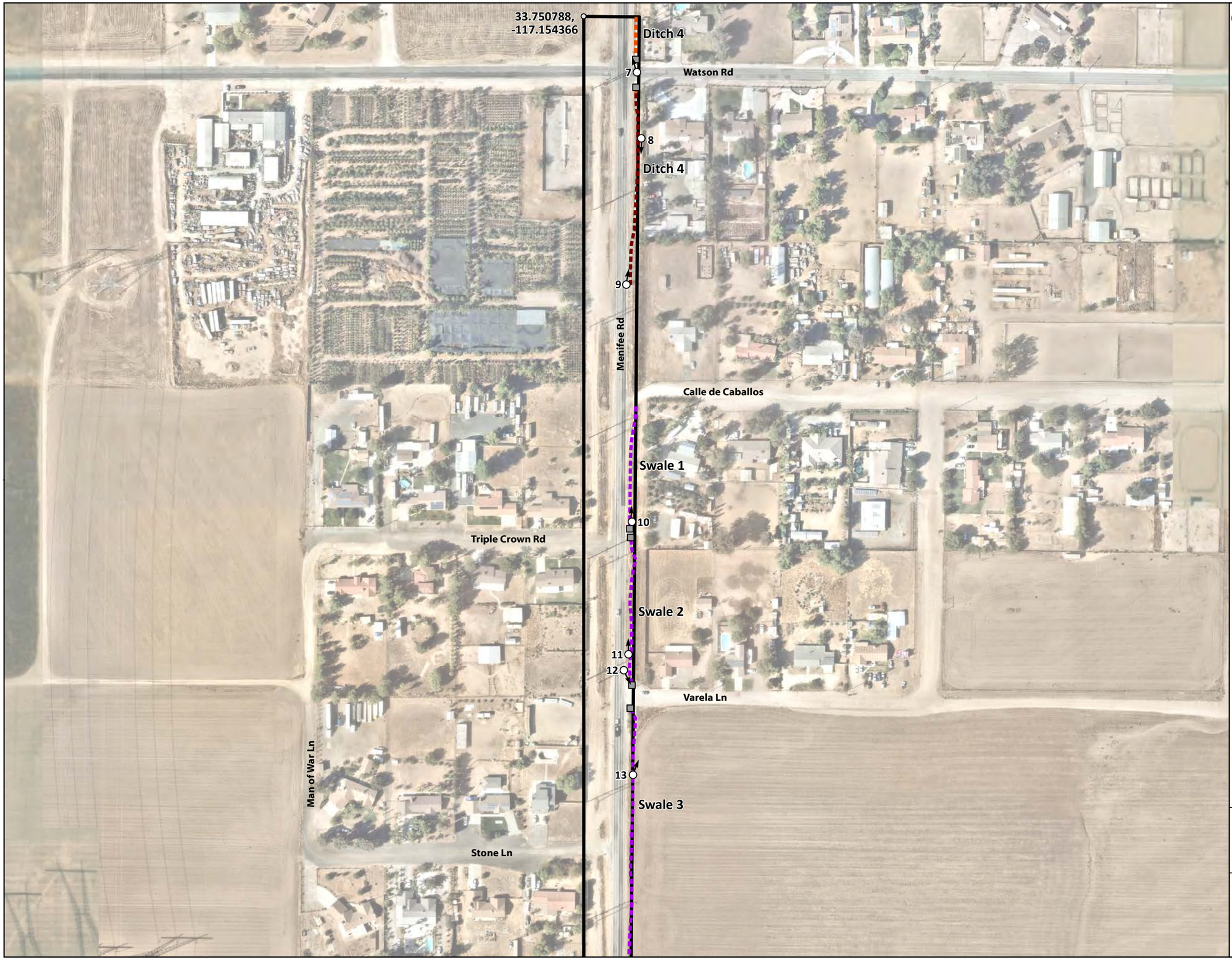
ROCKS BIOLOGICAL CONSULTING

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.

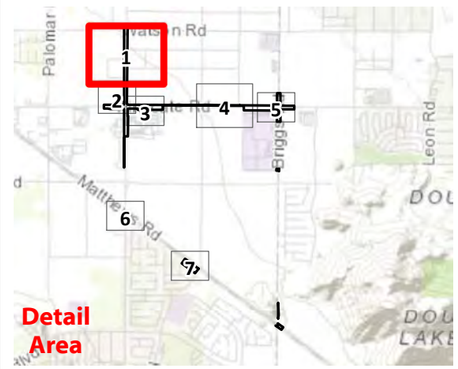


FIGURE 5B

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

Swale 3
14
Swale 4
15
Menifee Rd
2'
4'
16
Feature 4A
6'
19
18
17
20
5'
Feature 4
6'
ODP 7
13'
8'
Feature 4
Pinacate Rd
74

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.

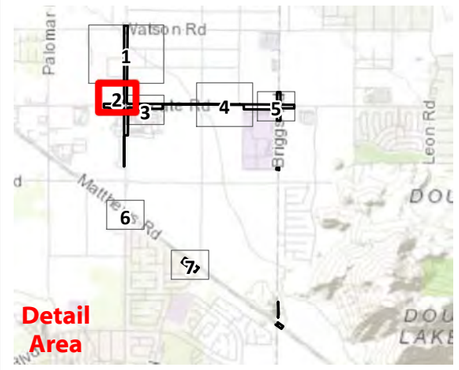


FIGURE 5B

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

N

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.

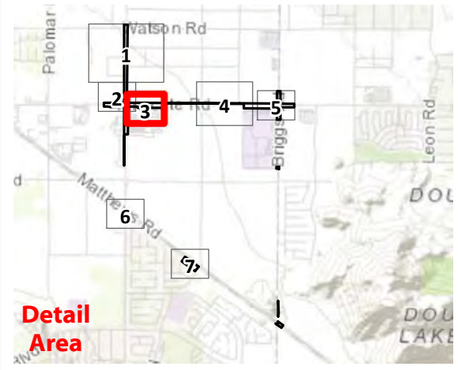


FIGURE 5B

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

N

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)

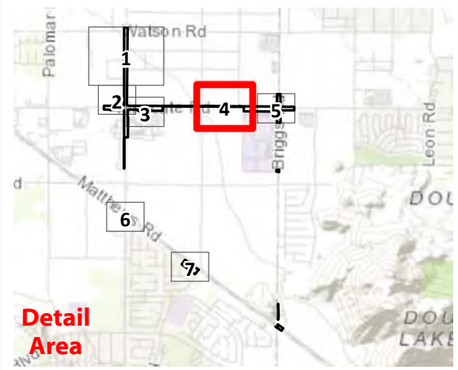


FIGURE 5B

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

N

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)

6
12'
Feature 3A
7'
10'
3
10'
Feature 3
4
WDP 6
4'
5
Feature 3
2
Feature 3
24'
33.74334,
-117.134719
Pinacate Rd
74
Briggs Rd

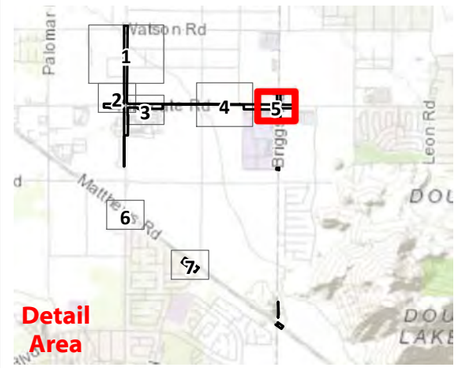


FIGURE 5B
PAGE 5 OF 7

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

Mathews Rd
Menifee Rd

33.732657,
-117.154211

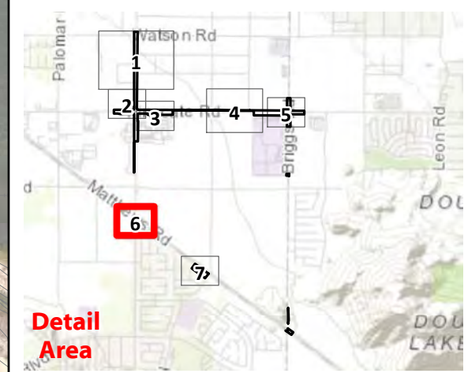


FIGURE 5B
PAGE 6 OF 7

RWQCB Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

N

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

Review Area (30.40 ac)

Photo Point

Wetland Data Form Point (WDP)

Mathews Rd

WDP 7

27

Hidden Creek Ct

Whitewater Dr

Red Rock Ct

Riptide Dr

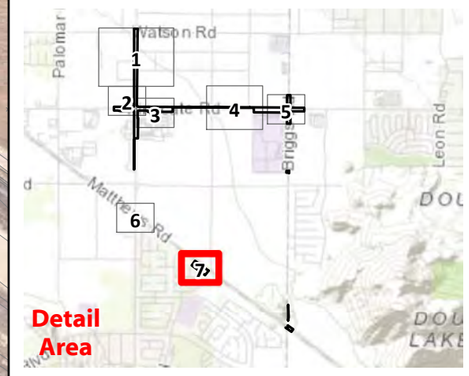


FIGURE 5B

PAGE 7 OF 7

RWQCB Aquatic Resources

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

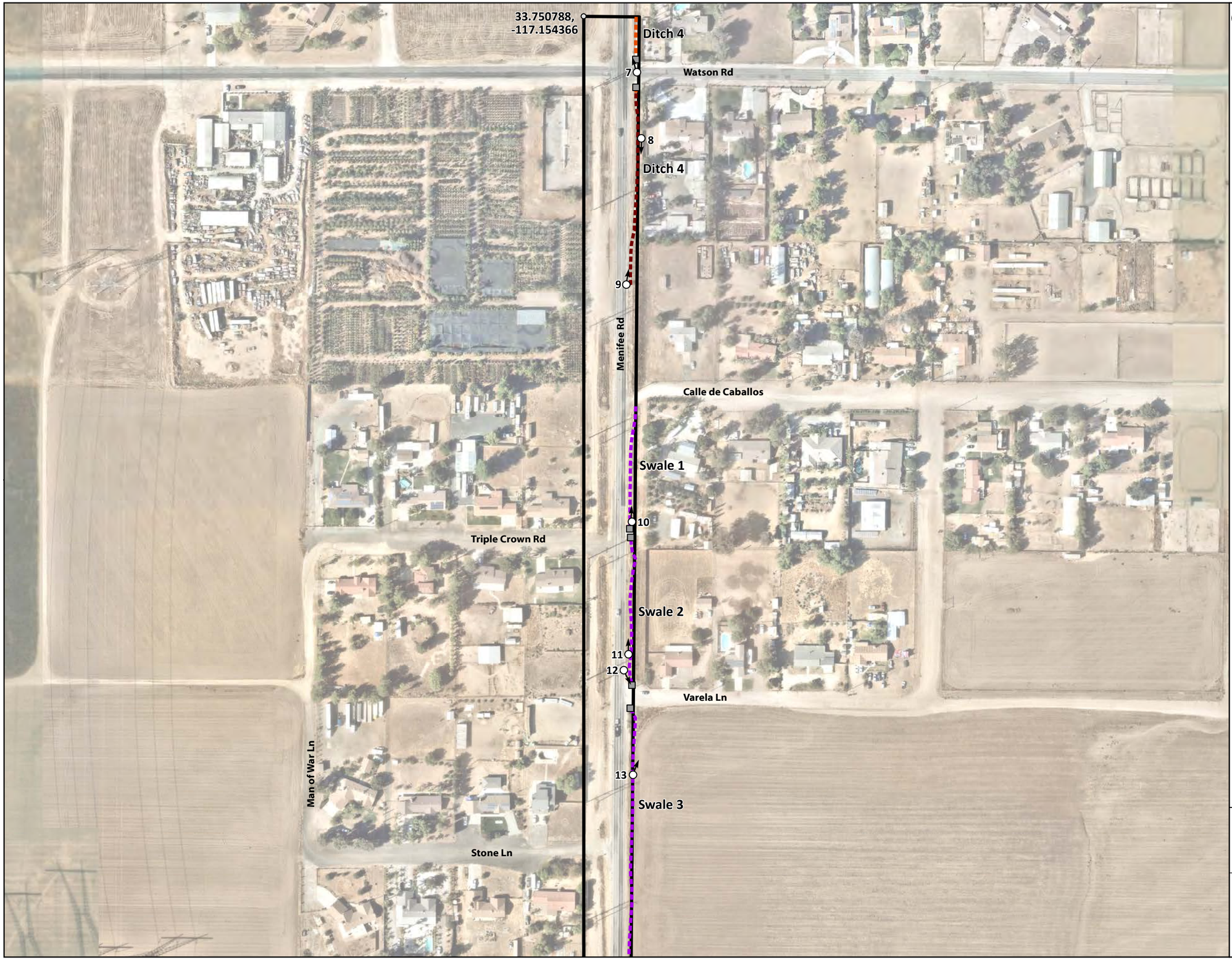
0 50 100 FEET

1 INCH = 100 FEET

N

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.

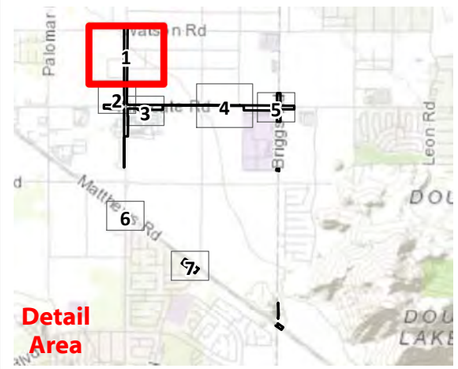


FIGURE 5C

PAGE 1 OF 7

CDFW Streambed and Riparian Habitats

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

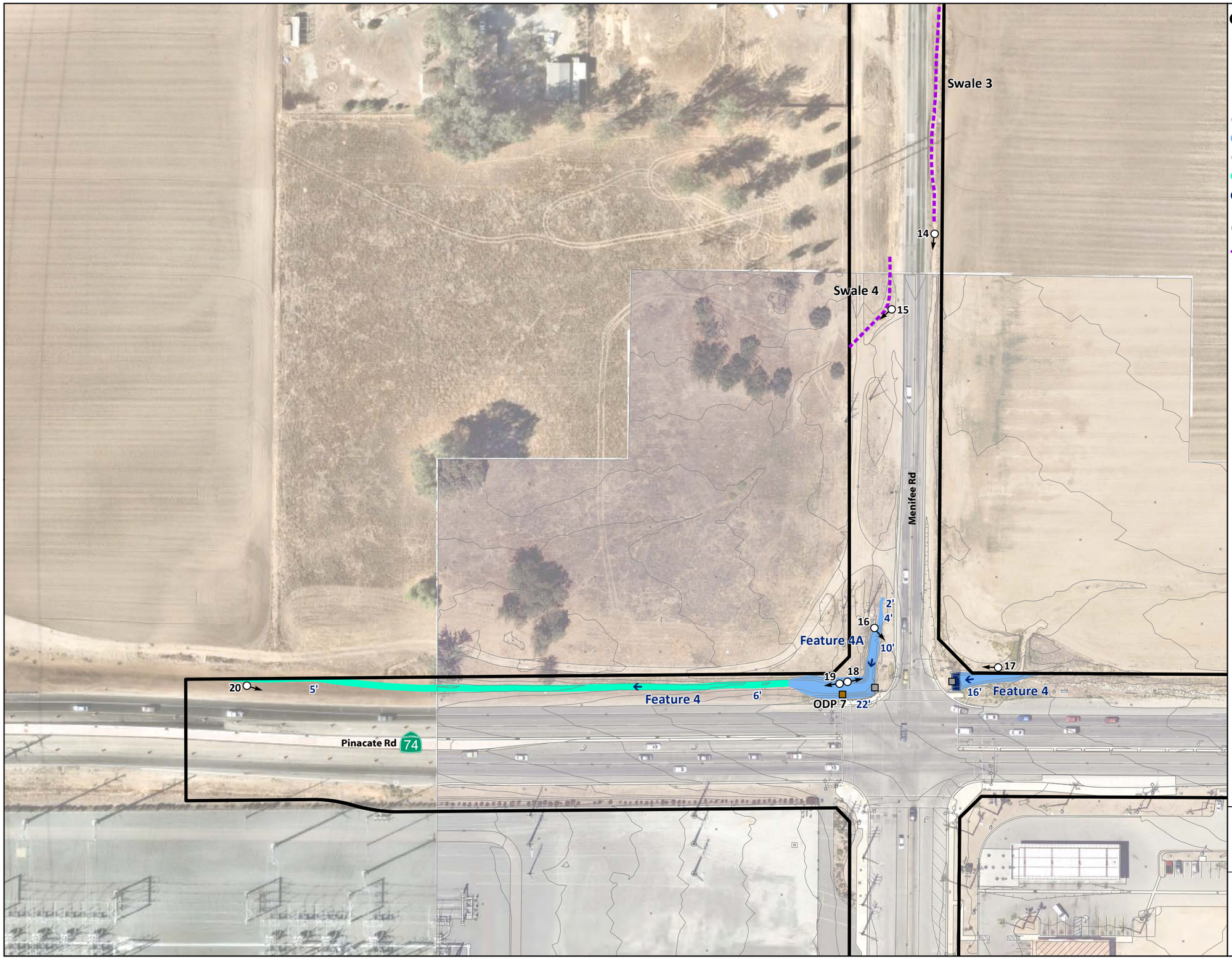
ROCKS BIOLOGICAL CONSULTING

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.

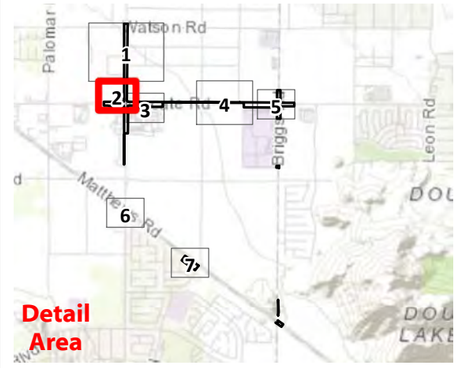


FIGURE 5C

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.

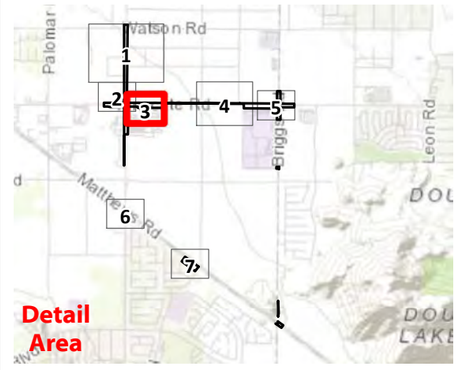


FIGURE 5C

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)

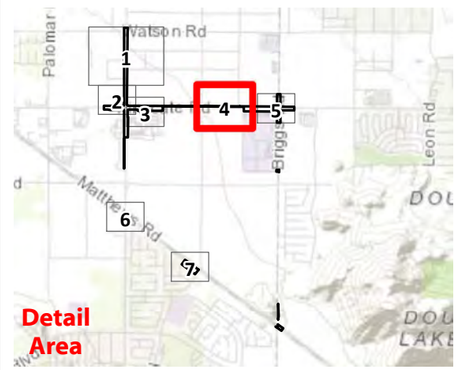


FIGURE 5C

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

N

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
CDFW Vegetated Streambed
Disturbed Habitat (0.22 ac)

6
Feature 3A
15'
11'
20'
5
Feature 3
4
3
2
Feature 3
33.74334,
-117.134719
WDP 6
22'
25'
18'
34'
19'
Pinacate Rd
74
Briggs Rd

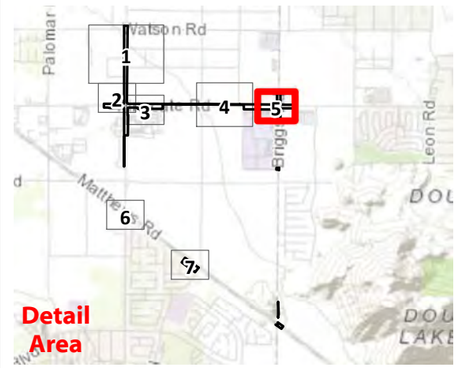


FIGURE 5C
PAGE 5 OF 7

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

Mathews Rd
Menifee Rd

33.732657,
-117.154211

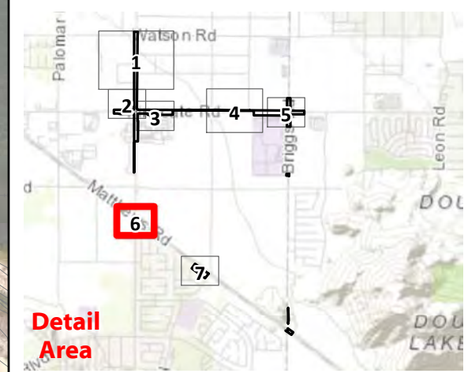


FIGURE 5C
PAGE 6 OF 7

CDFW Streambed and Riparian Habitats

MENIFEE VALLEY PROJECT
(ADDITIONAL OFF-SITE IMPROVEMENT AREAS)

ROCKS BIOLOGICAL CONSULTING

0 50 100 FEET
1 INCH = 100 FEET

N

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

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

Mathews Rd
WDP 7
27
Hidden Creek Ct
Whitewater Dr
Red Rock Ct
Riptide Dr

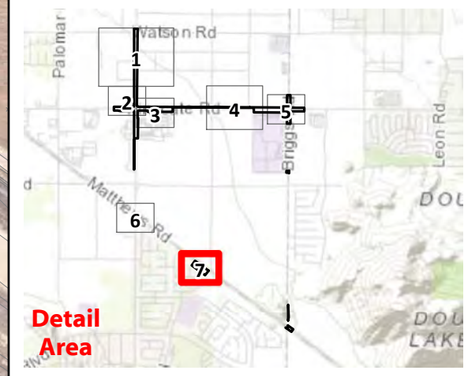


FIGURE 5C
PAGE 7 OF 7

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

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

TABLE OF CONTENTS

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

TABLES

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

FIGURES

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

APPENDICES

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

Appendix C. Site Photographs
Appendix D. JD Request Form
Appendix E. On-site Recent and Historic Aerials Analysis
Appendix F. Bulk Upload Form
Appendix G. Line A Figures and Aerials Analysis
Appendix H. GIS Data

1 INTRODUCTION

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

1.1 PROJECT LOCATION

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

1.2 PROJECT DESCRIPTION

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

1.3 REGULATORY BACKGROUND

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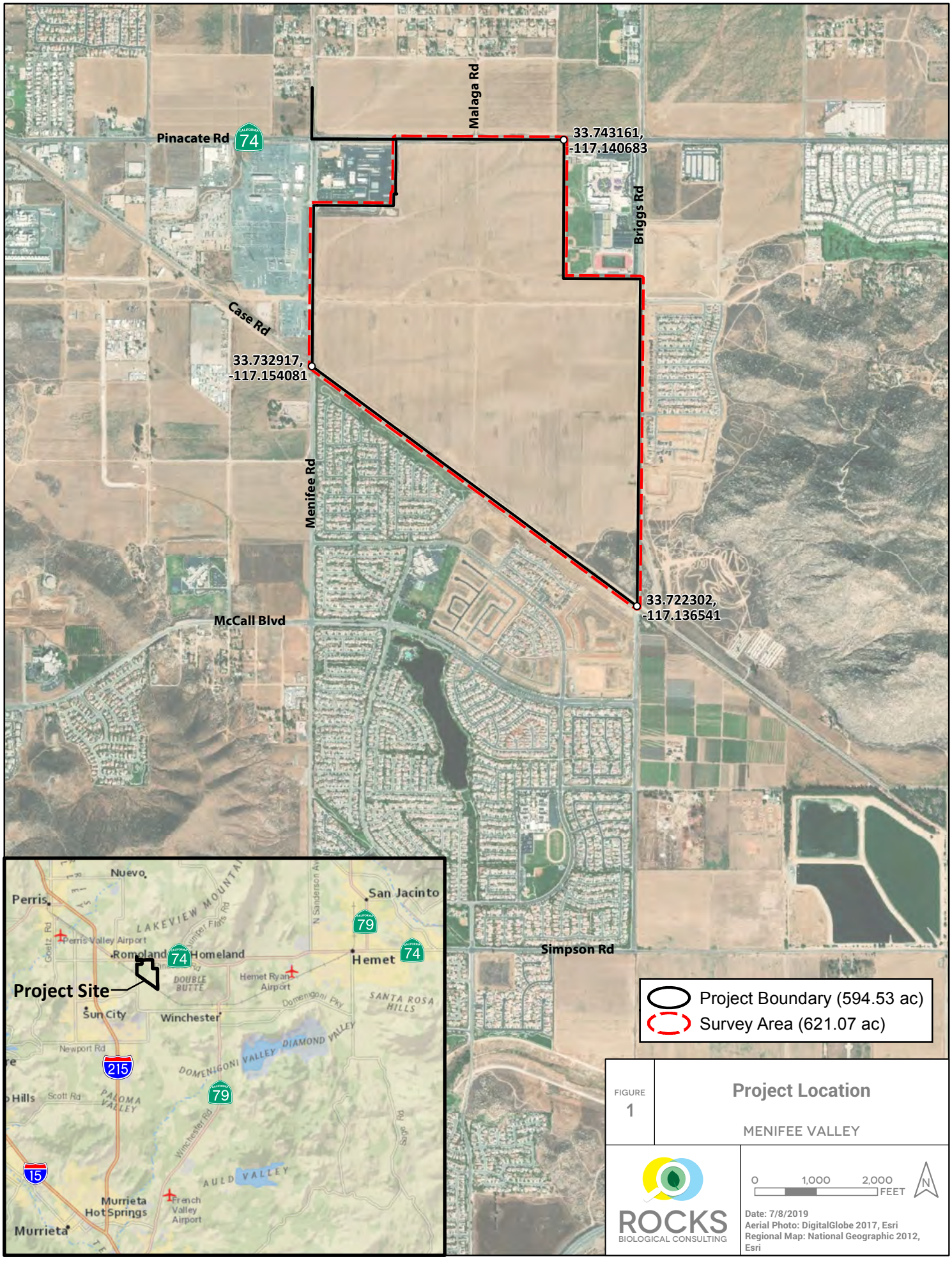


FIGURE 1

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

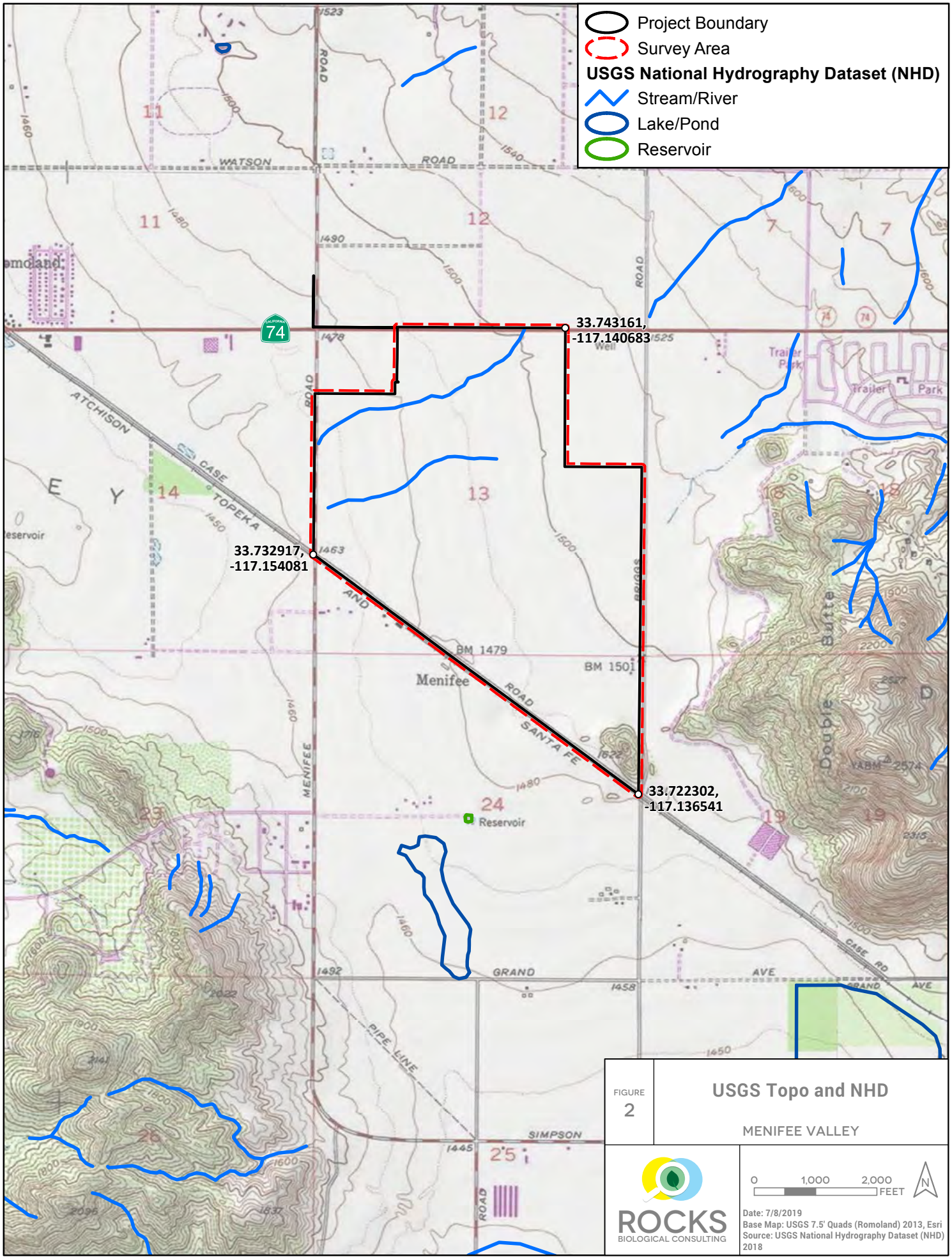


FIGURE 2

USGS Topo and NHD

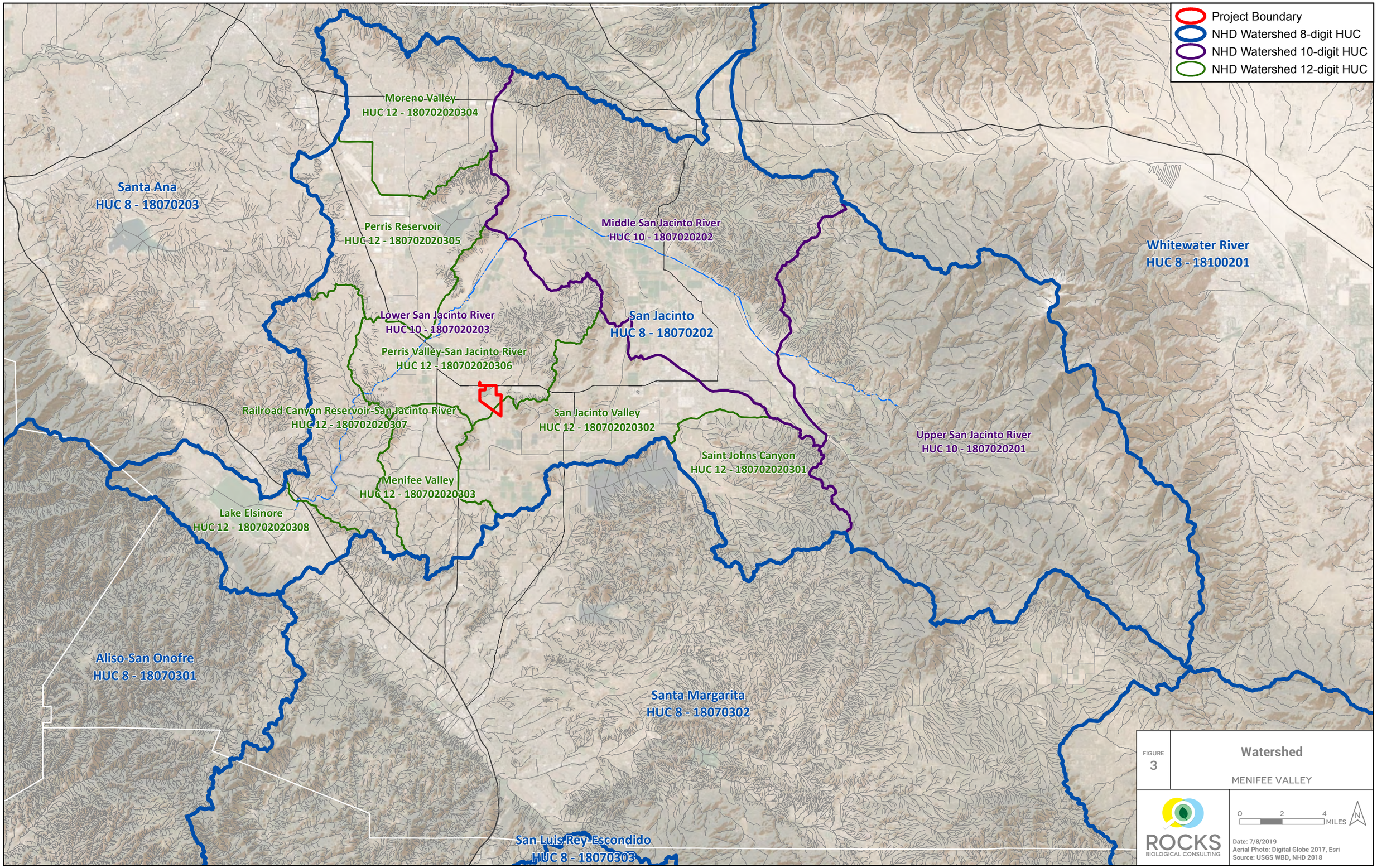
MENIFEE VALLEY

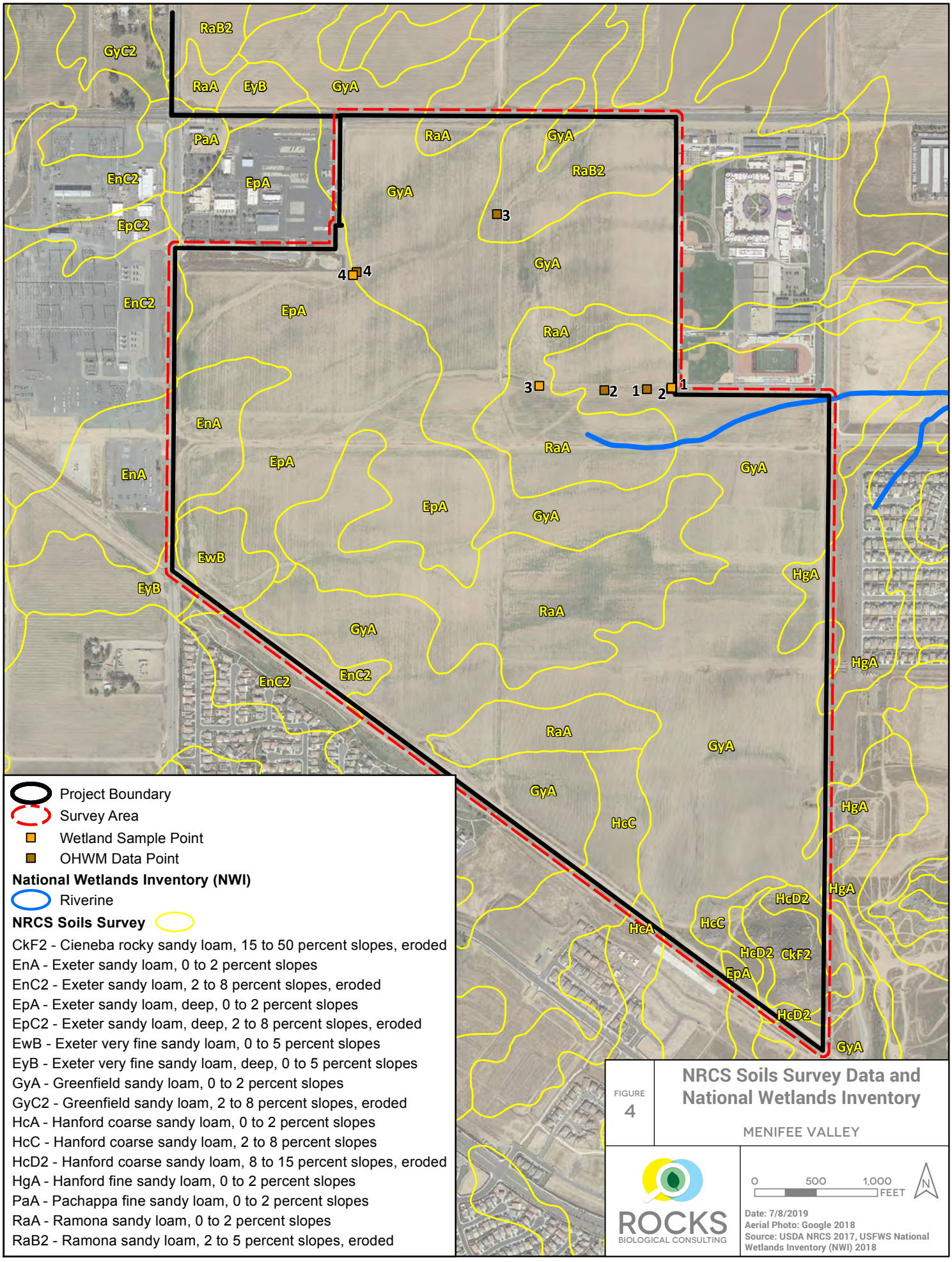
ROCKS BIOLOGICAL CONSULTING

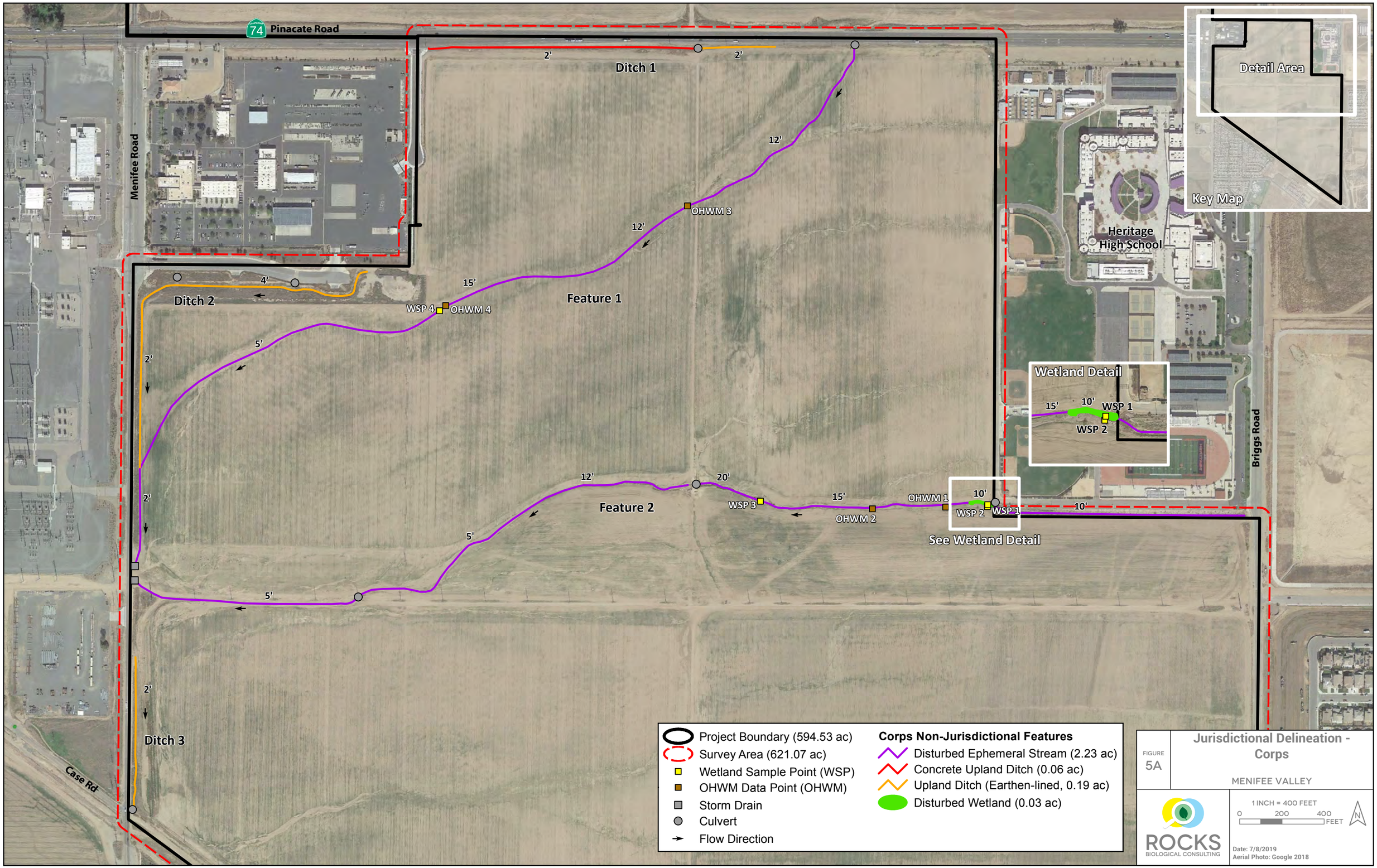
0 1,000 2,000 FEET

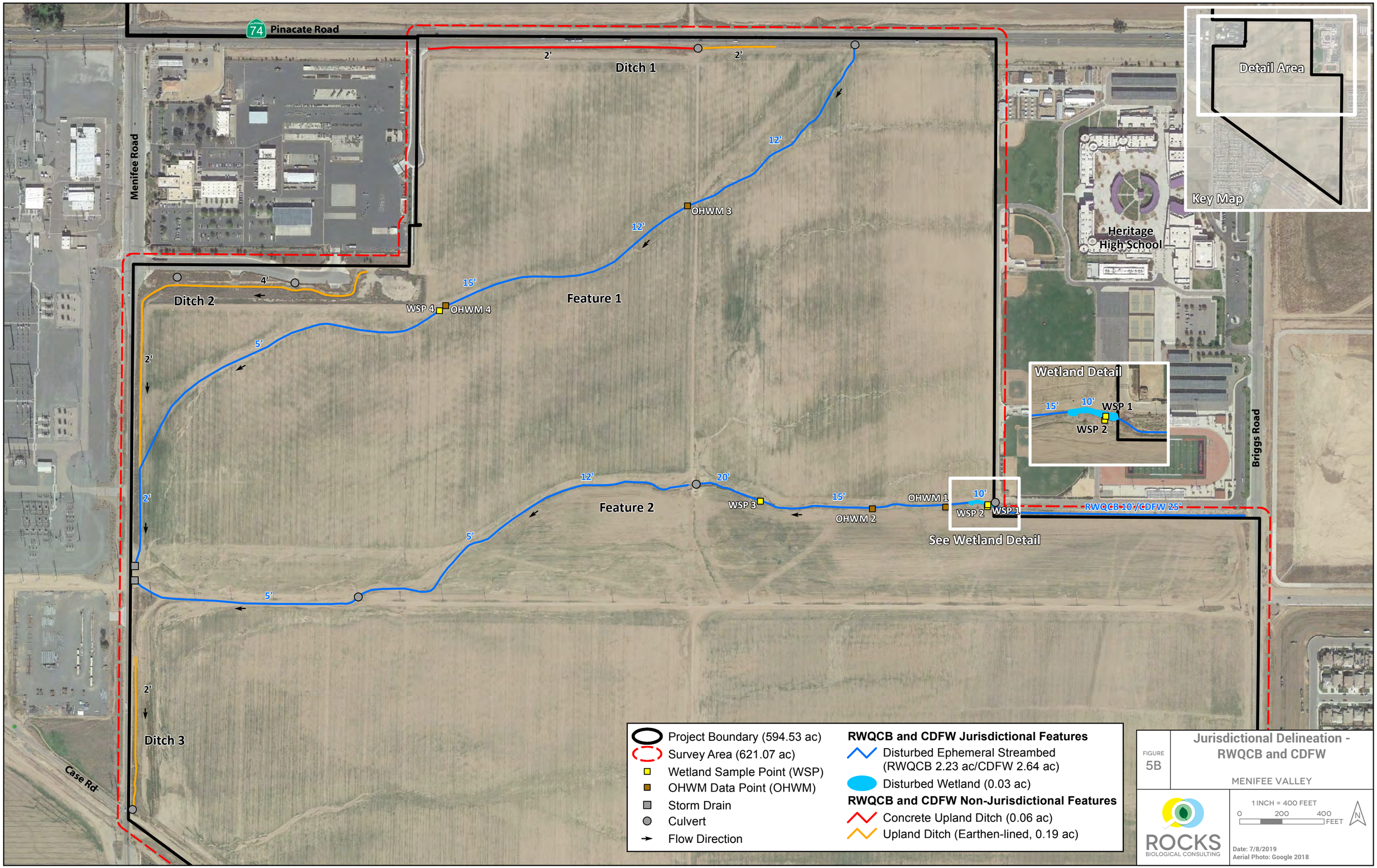
N

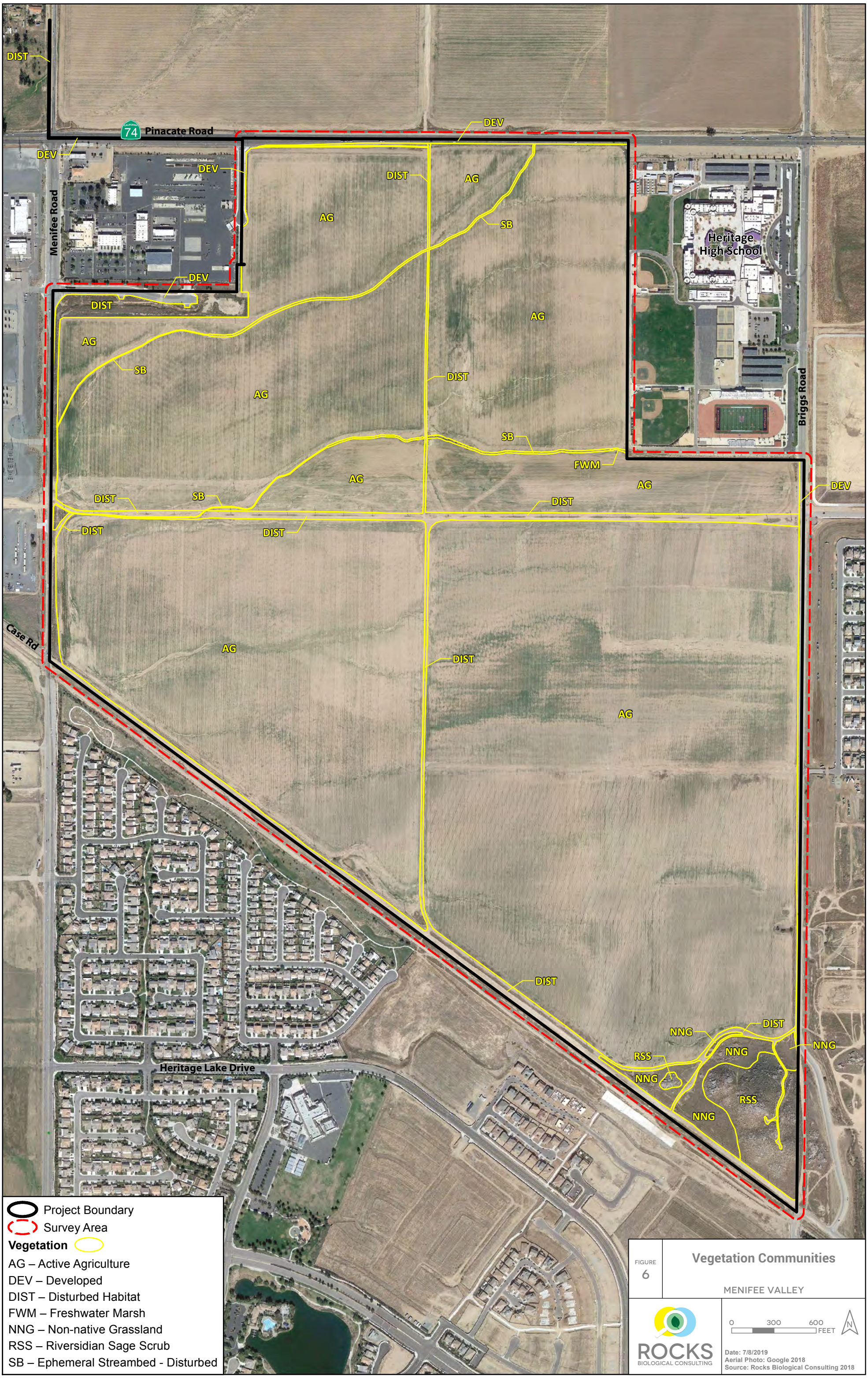
Date: 7/8/2019
Base Map: USGS 7.5' Quads (Romoland) 2013, Esri
Source: USGS National Hydrography Dataset (NHD) 2018


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'
OHWM 3
12'
15'
Feature 1
WSP 4
OHWM 4
Ditch 2
4'
5'
2'
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 2
OHWM 1
10'
WSP 2
WSP 1
See Wetland Detail
10'
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


Pinacate Road
74
Menifee Road
Ditch 1
2'
2'
12'
OHWM 3
12'
Heritage
High School
Detail Area
Key Map
Ditch 2
4'
15'
WSP 4
OHWM 4
Feature 1
5'
2'
Wetland Detail
15'
10'
WSP 1
WSP 2
Briggs Road
2'
12'
20'
Feature 2
WSP 3
15'
OHWM 2
OHWM 1
10'
WSP 2
WSP 1
RWQCB 10'/CDFW 25'
See Wetland Detail
5'
5'
2'
Ditch 3
Case Rd
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
N
Date: 7/8/2019
Aerial Photo: Google 2018


Pinacate Road
74
Menifee Road
Heritage High School
Briggs Road
Case Rd
Heritage Lake Drive
DEV
DIST
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

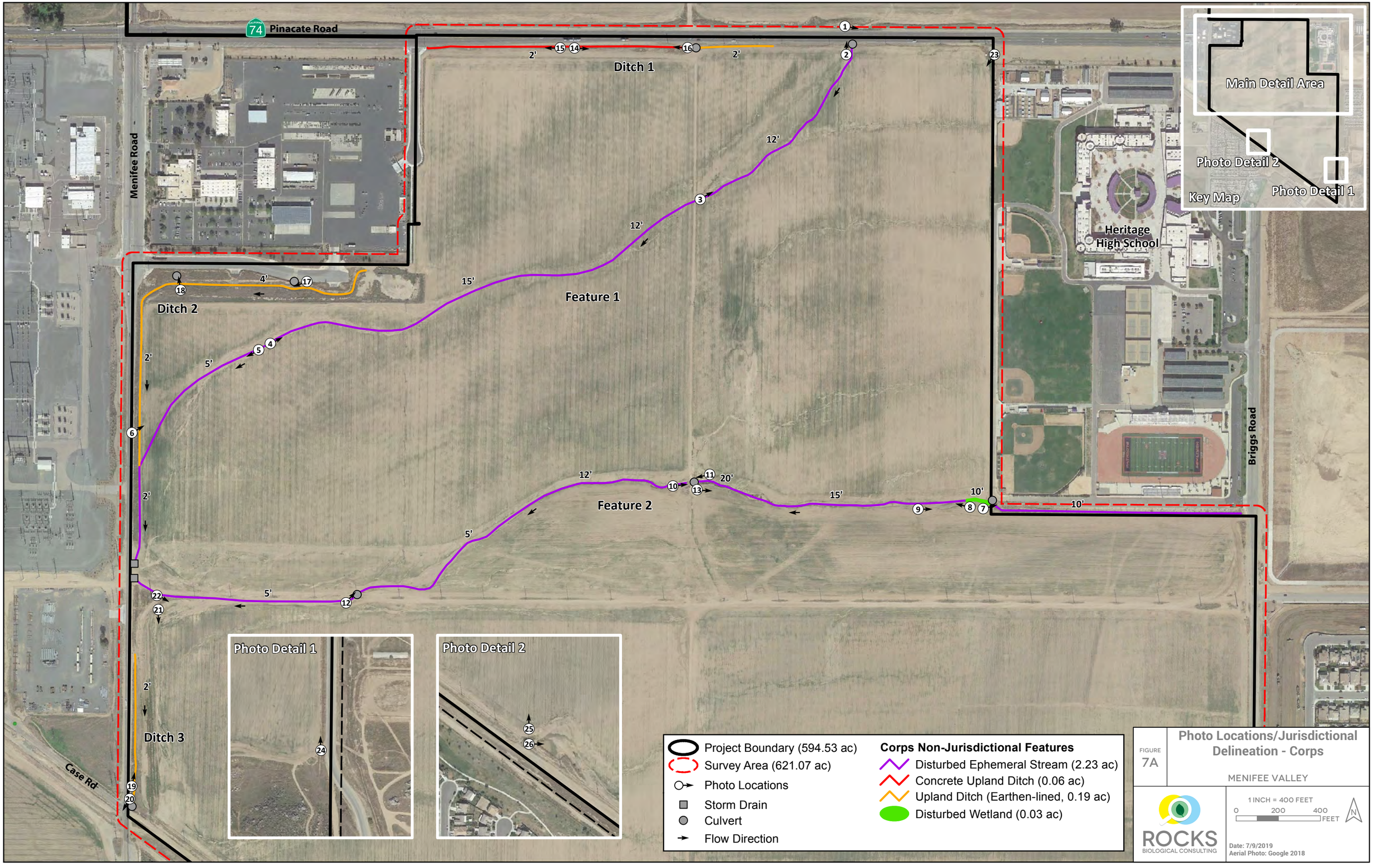


FIGURE 7A

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

Briggs Road

Ditch 1

Ditch 2

Ditch 3

Feature 1

Feature 2

Heritage High School

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

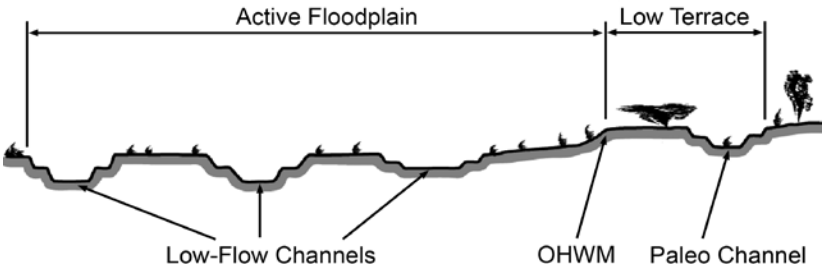
Brief site description:
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

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

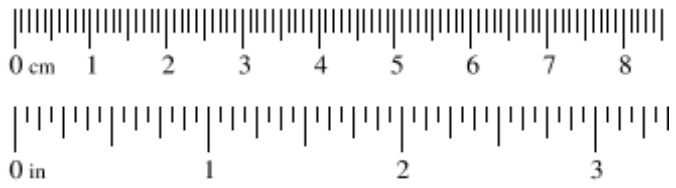


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

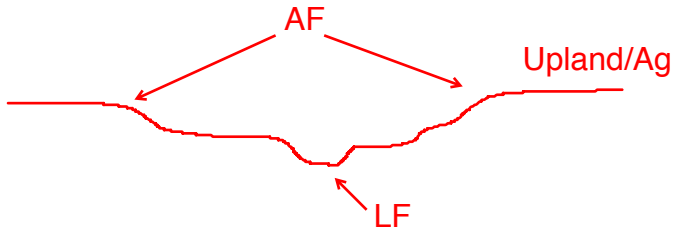
Wentworth Size Classes

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
- ☐ Mid (herbaceous, shrubs, saplings)
- ☑ Early (herbaceous & seedlings)
- ☐ 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
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Early (herbaceous & seedlings)
- ☐ 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

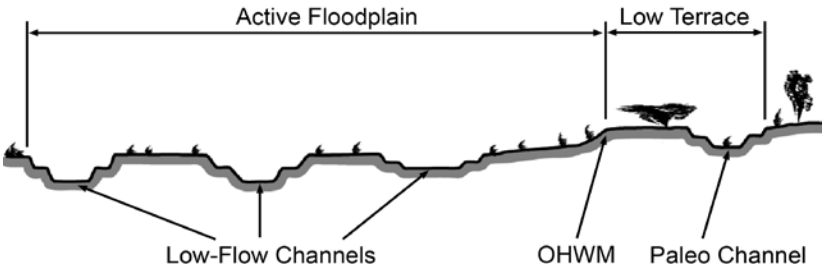
Brief site description:
Area receives flows from an upstream culvert outlet from the high school and a culvert feature outputting from Briggs Road

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

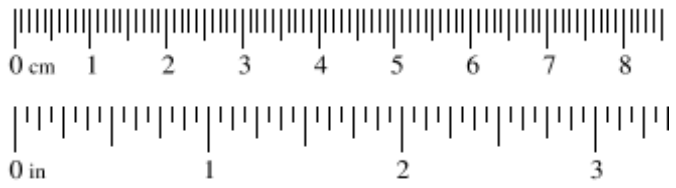


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

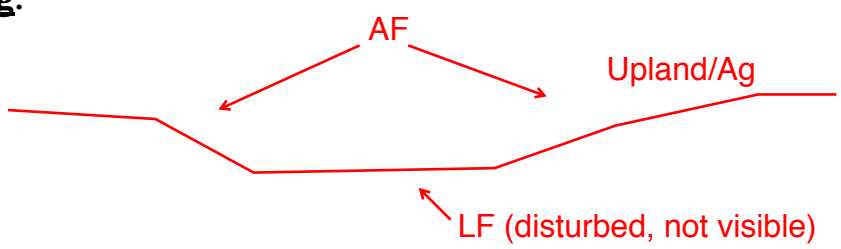
Wentworth Size Classes

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

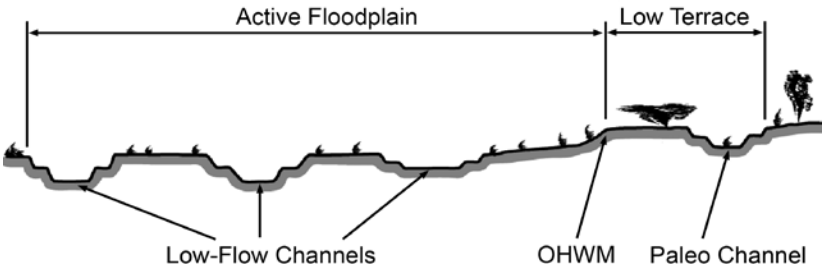
Brief site description:
Area receives flows from an upstream box-culverted crossing under Highway 74

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

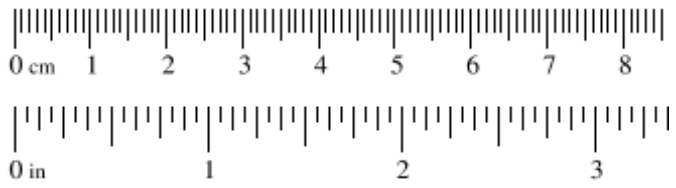


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:
   - ☑ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

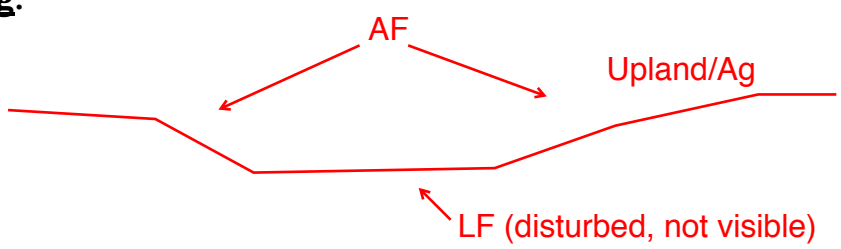
Wentworth Size Classes

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

Indicators:

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

Comments:

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

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

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

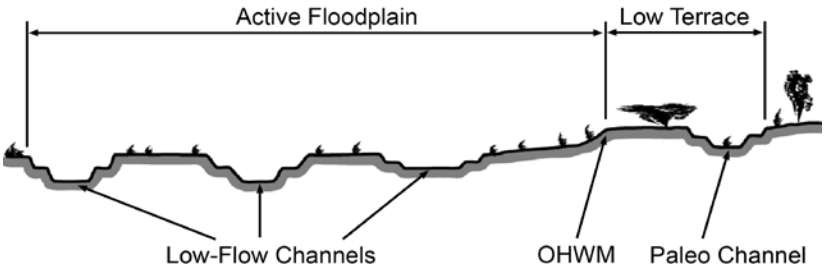
Brief site description:
Area receives flows from an upstream box-culverted crossing under Highway 74

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

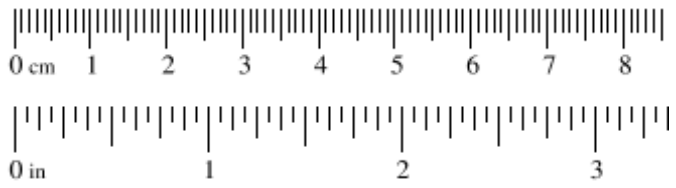


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

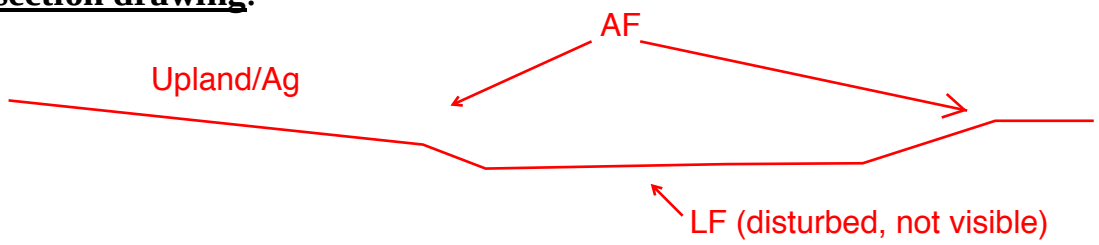
Wentworth Size Classes

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

Indicators:

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

Comments:

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

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

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

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

Community successional stage:

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

Indicators:

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

Comments:

APPENDIX C

SITE PHOTOGRAPHS

Appendix C – Site Photographs*

Menifee Valley Jurisdictional Delineation
August 13, 2018

SITE FEATURE PHOTOS

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

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

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

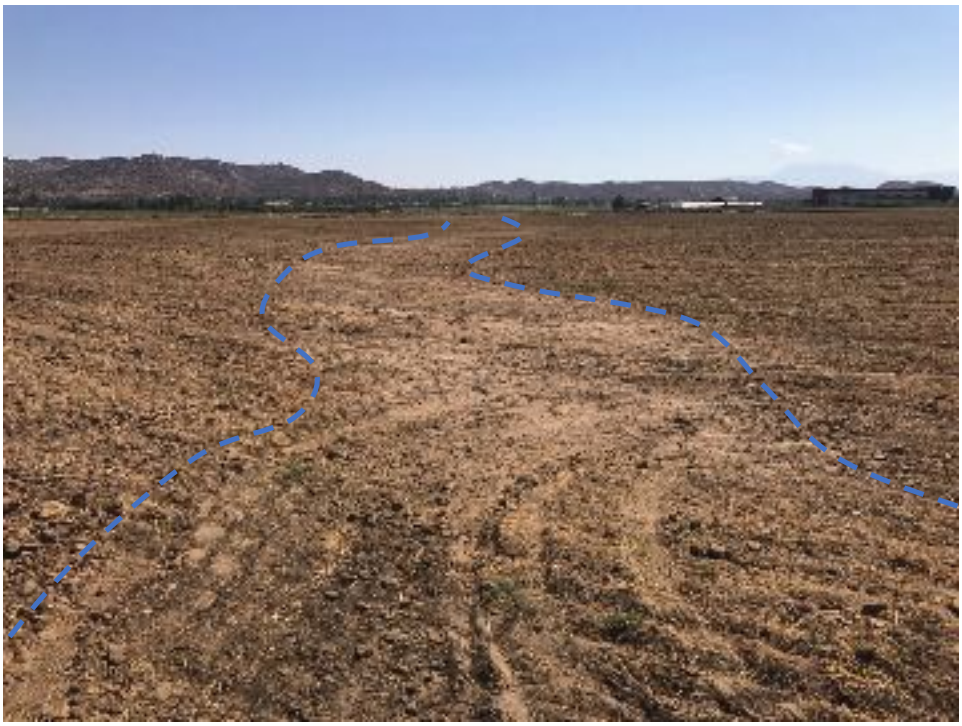


Photo 3. Upstream view of the northeast portion of Feature 1, at Ordinary High Water Mark Data Point 3 (OHWM 3). Photo taken facing northeast towards its on-site entry point along CA-74.

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

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

Photo 6. Upstream view of Feature 1, near the western project boundary. The feature continues south along 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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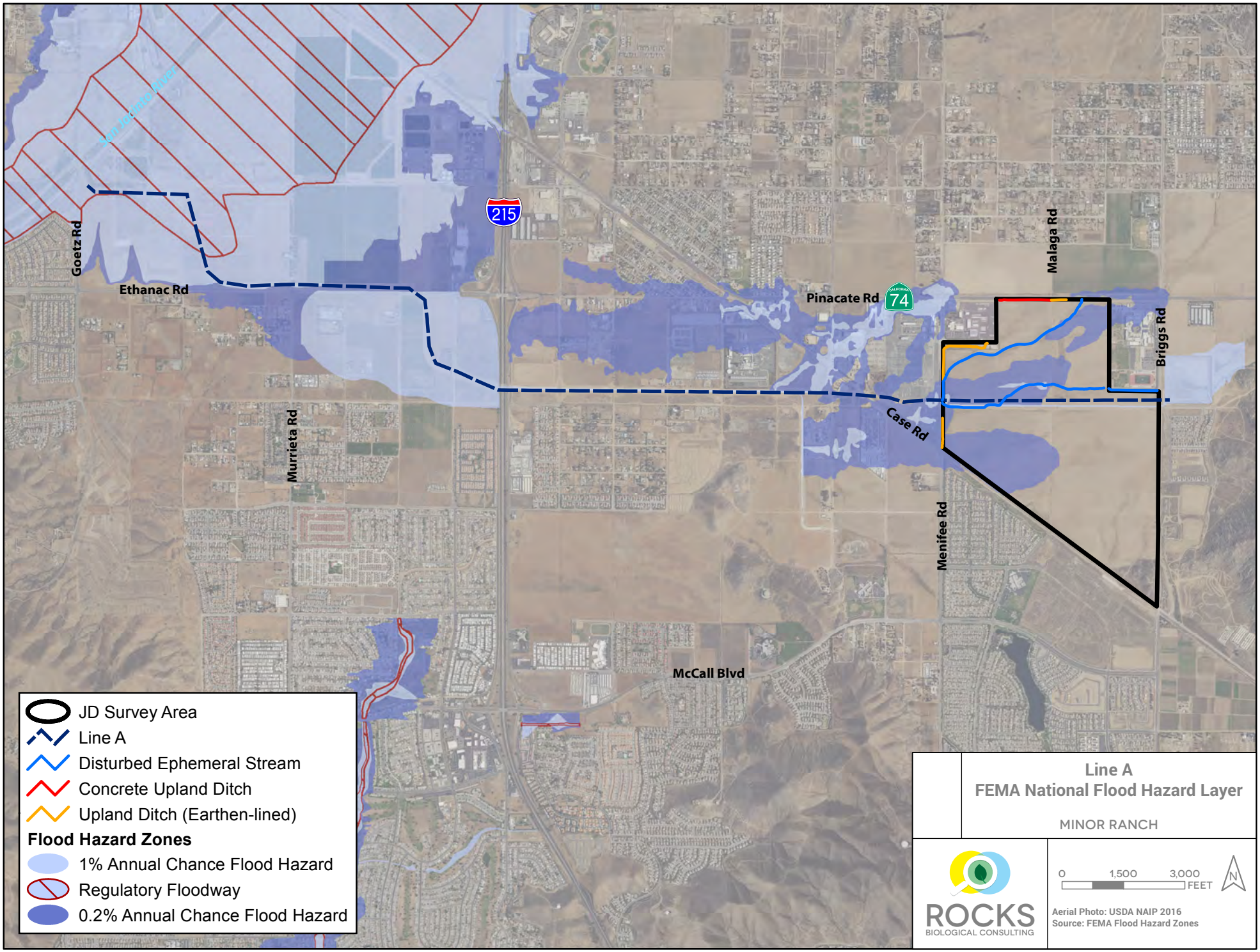
APPENDIX F

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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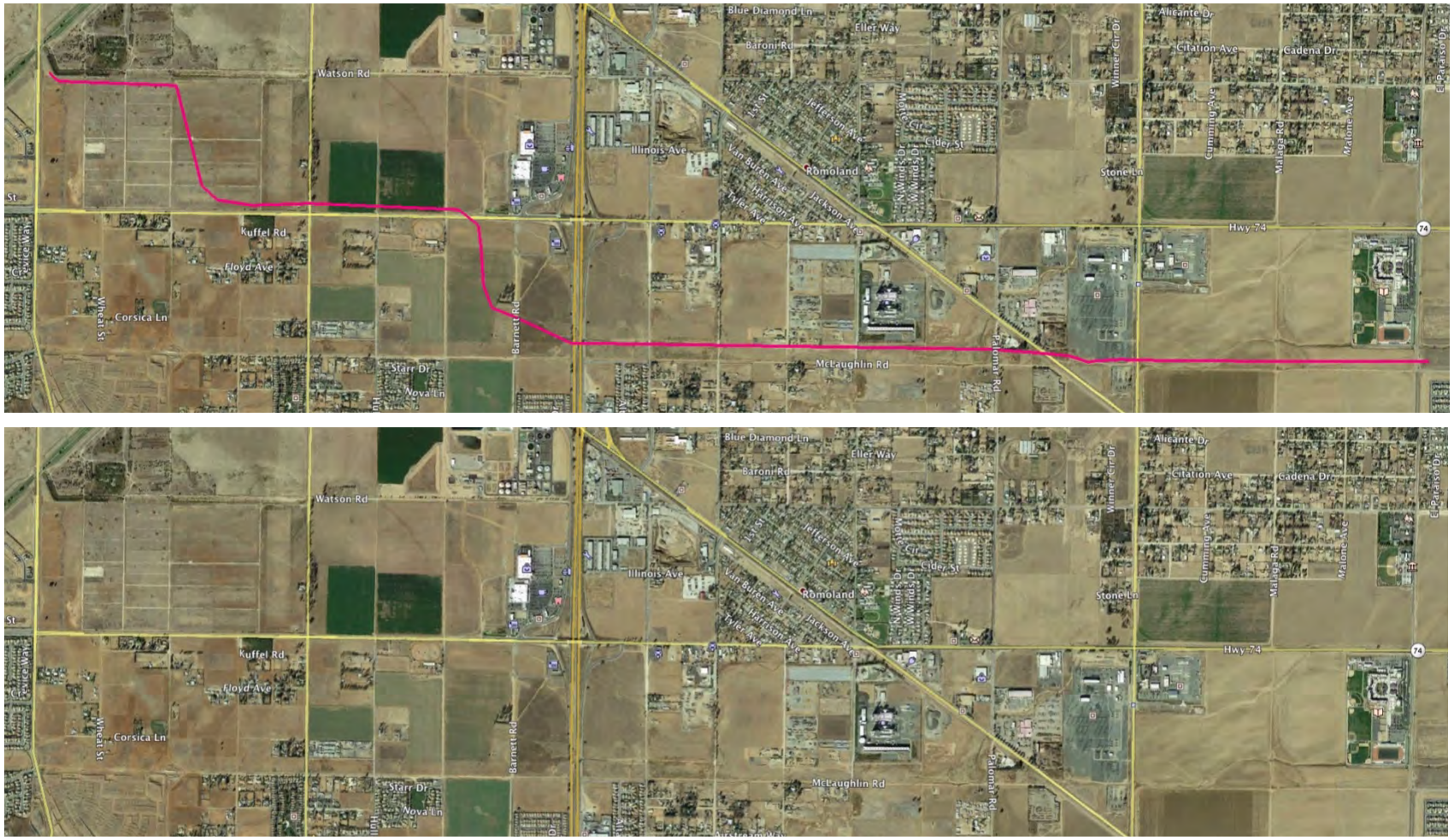
Appendix G – Line A Aerials Analysis

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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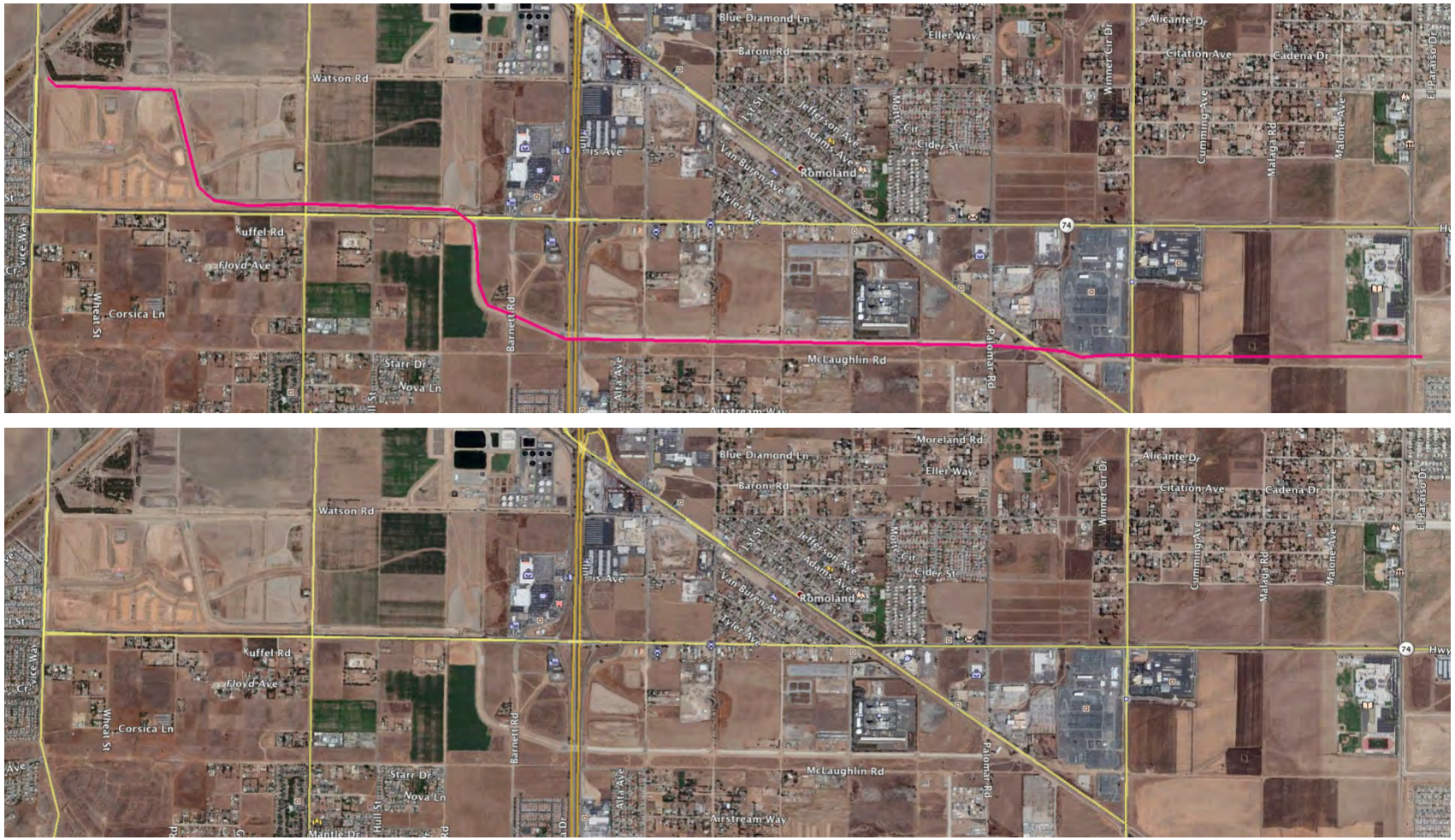
Appendix G – Line A Aerials Analysis

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).

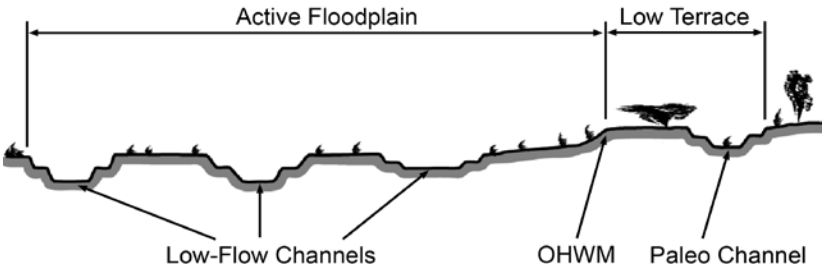
Brief site description:
Undeveloped shoulder south of CA-74; swale-like feature within disturbed habitat.

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

Hydrogeomorphic Floodplain Units

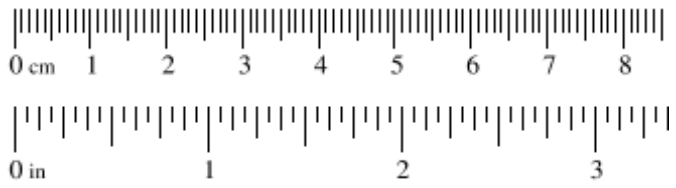


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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 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.

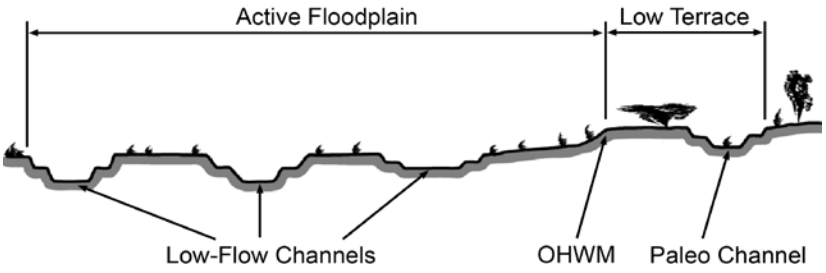
Brief site description:
Concrete-lined stormwater conveyance feature adjacent to CA-74 (south of) and parking lot/gas station (east of).

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

Hydrogeomorphic Floodplain Units

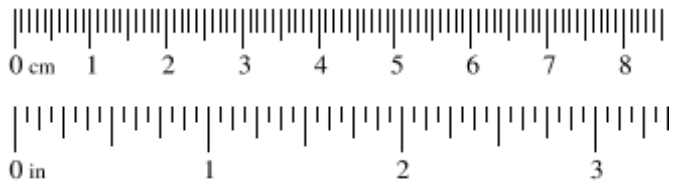


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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

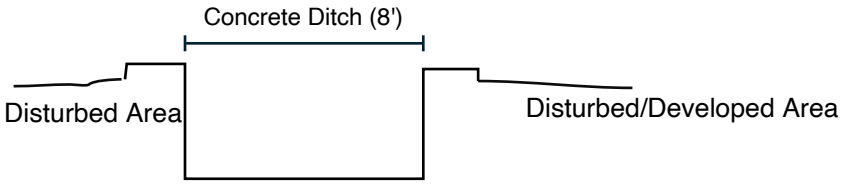
Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	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 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.

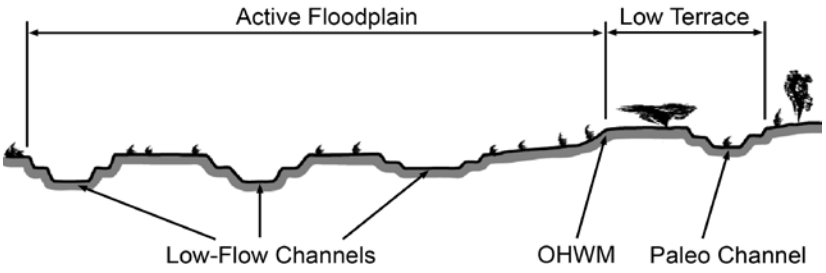
Brief site description:
Roadside drainage located northwest of the intersection of California State Route (CA-) 74 and Menifee Road.

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

Hydrogeomorphic Floodplain Units

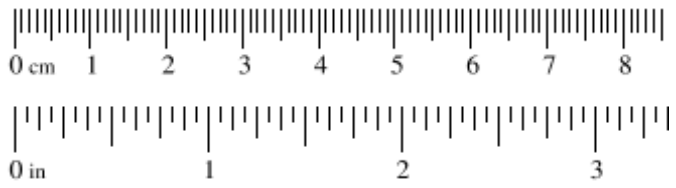


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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:

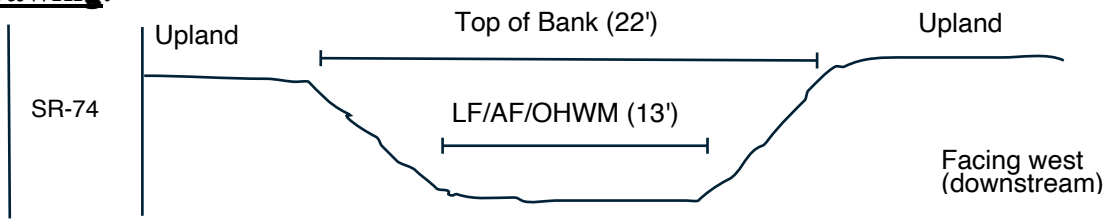
Wentworth Size Classes

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 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:

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

- [x] 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.