Appendix C-3

Aquatic Resources Delineation Report

WILEY CANYON (SMISER RANCH) MIXED USE PROJECT

Aquatic Resources Delineation Report

Prepared for
City of Santa Clarita
23920 Valencia Boulevard, Suite 300
Santa Clarita, CA 91355

July 2022

ESA

Insert Photo

WILEY CANYON (SMISER RANCH) MIXED USE PROJECT

Aquatic Resources Delineation Report

Prepared for
City of Santa Clarita
23920 Valencia Boulevard, Suite 300
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July 2022

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EXECUTIVE SUMMARY

Based on the results of the aquatic resources delineation, two intermittent drainages were delineated within the Wiley Canyon (Smiser Ranch) Mixed Use Development Project (project) survey area. These features include potential waters of the U.S. and State that could be under the jurisdiction of the U.S. Army Corps of Engineers (USACE) and/or Regional Water Quality Control Board (RWQCB). Potential waters of the U.S. and State that may be subject to the Clean Water Act (CWA) within the survey area total 1.081 acres. Streams, drainages and riparian areas potentially subject to Section 1600 et seq. of the State Fish and Game Code (FGC) total 3.650 acres of the survey area.

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CHAPTER 1
Introduction

This aquatic resources delineation report was prepared in accordance with the U.S. Army Corps of Engineers' (USACE's) *1987 Wetland Delineation Manual* (Lichvar et al. 1987) *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Lichvar and McColley 2008) and Minimum Standards for Acceptance of Aquatic Resources Delineation Reports (USACE 2017).

This report describes the methods and results of an aquatic resources delineation conducted by an ESA qualified delineator on June 3, 2020. The purpose of this report is to identify and describe aquatic resources in the survey area.

1.1 Survey Location

The survey area is located at 24924 Hawkbryn Avenue in the City of Santa Clarita, Los Angeles County, California (**Figure 1-1**). It is located along Wiley Canyon Road to the east of Interstate 5 Freeway (**Figure 1-2**), approximately ½ mile northeast of the Santa Clarita Woodlands Park and approximately 5.5 miles south of the Castaic Junction.

The topography of the survey area is relatively flat. The elevation ranges between approximately 1,282 to 1,400 feet above mean sea level (AMSL), and the survey area is located within Township 3 North, Range 16W, Sections 4, 9, and 10 of the Oat Mountain U.S. Geological Survey (USGS) 7.5-minute quadrangle (**Figure 1-3**). The survey area consists of Assessor's Parcel Numbers (APNs) 2825-012-007; 2825-012-010; and 2825-012-011 under the ownership of the Wiley Canyon, LLC.

1.1.1 Directions to the Survey Area

Navigate to 34.370624, -118.557813 as follows: from Los Angeles, take the US-101 N to State Highway 170, which merges onto the Interstate 5 North and exit 166 for Calgrove Boulevard. Turn right onto Calgrove Boulevard, left onto Wiley Canyon Road. An access gate on the northeastern boundary of the property will be on the left.

1.2 Contact Information

1.2.1 Applicant and Property Owner

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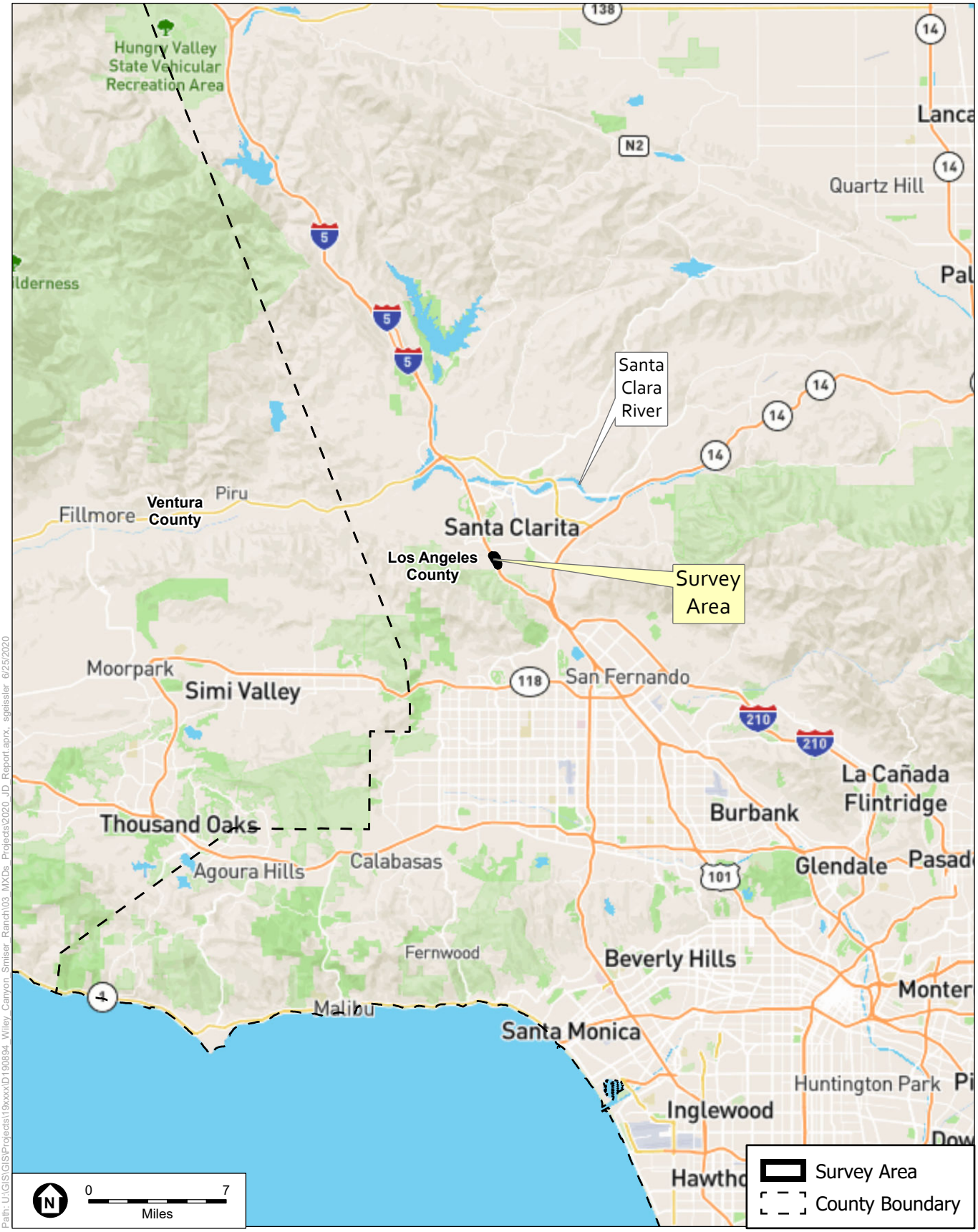

SOURCE: Open Street Map; ESA, 2019.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 1-1
Regional Location Map

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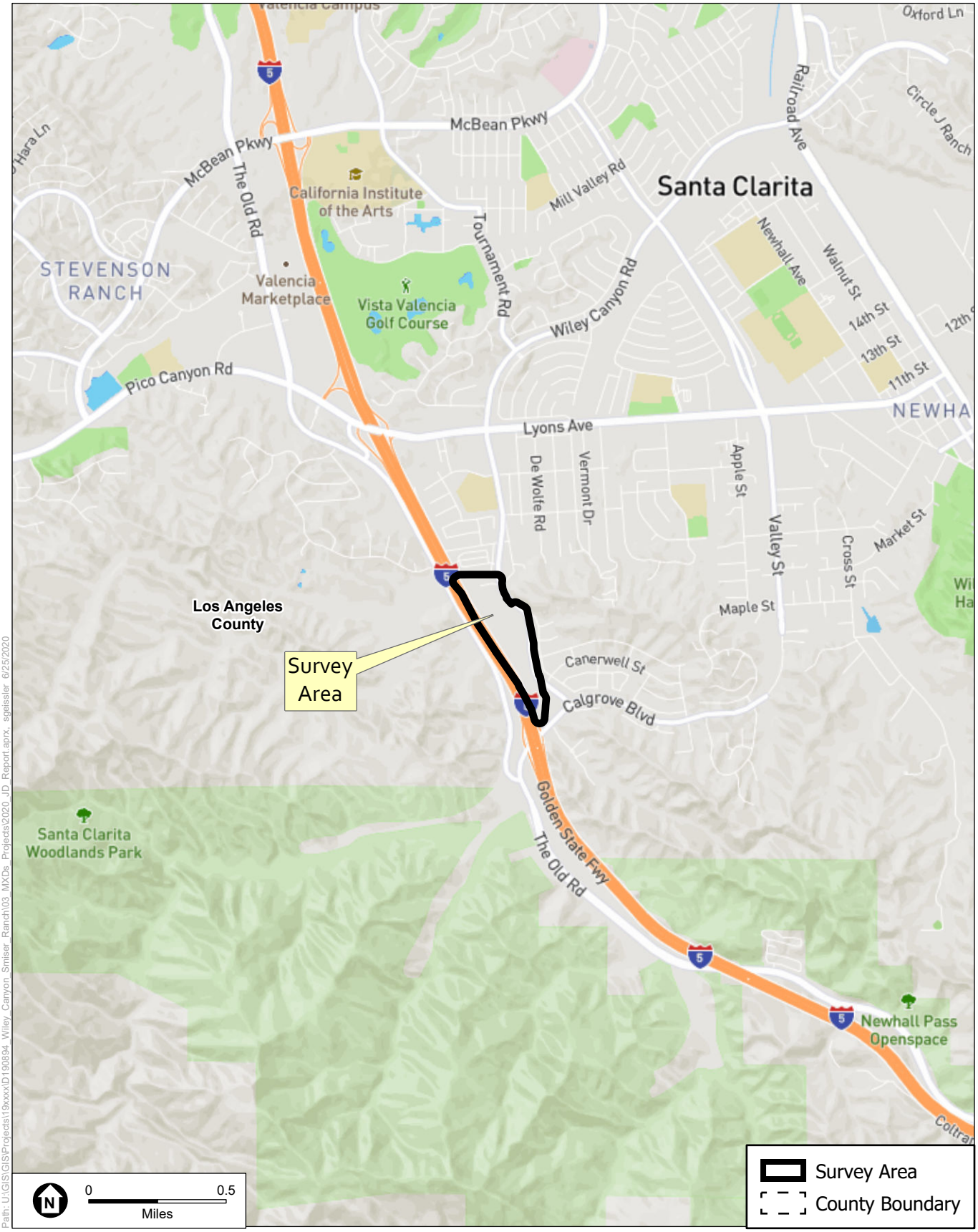
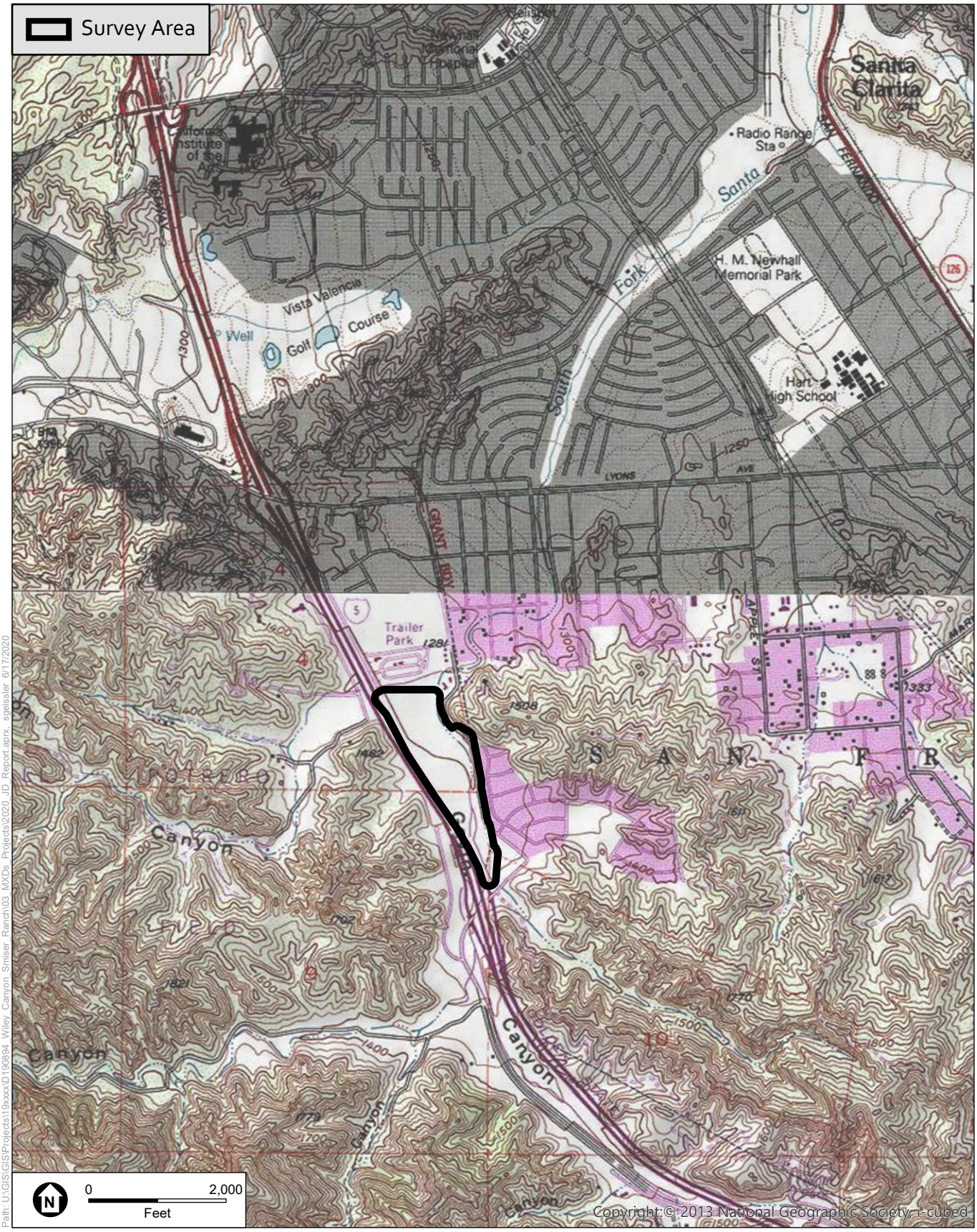


SOURCE: Open Street Map; ESA, 2019.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 1-2
Vicinity Map

ESA



SOURCE: USGS Topographic Series (Newhall, Oak Mountain, CA).

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 1-3
USGS Topographic Map

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CHAPTER 2
Existing Conditions

The approximately 45.3-acre survey area is located east of the Interstate 5 Freeway, west of Wiley Canyon Road, and north of Calgrove Boulevard, within the City of Santa Clarita. The survey area is generally surrounded to the north, northwest and southeast by developed land and the Interstate 5 Freeway to the west. Open lands exist to the east of Wiley Canyon Road and west of the Interstate 5 Freeway.

Plant communities typically found within the region include a mosaic of xeric communities such as coastal sage scrub and chaparral throughout lower elevations directly abutted by development and ruderal habitats.

2.1 Aquatic Resources Delineation Survey Area

The 45.3-acre survey area includes the project site and a 100-foot buffer of the project site. The property comprises former agricultural land with large expanses of heavily disturbed land surrounded by fencing, some former equestrian facilities, and various small accessory buildings.

2.2 Vegetation Communities and Land Cover Types

Vegetation community and land cover types were mapped in the field on June 3, 2020, and performed concurrently with the aquatic resources delineation. Plant communities were recorded in Collector for ArcGIS using a sub-meter accuracy Bad Elf GNSS surveyor GPS and a smart phone. Plant community names and descriptions follow *A Manual of California Vegetation; Second Edition* (Sawyer, Keeler-Wolf, & Evans, 2009). After completing the field mapping, the plant community polygons were digitized using Geographic Information System (GIS) technology to calculate acreages. Descriptions of each plant community or land cover type within the survey area are provided below. **Table 2-1** lists each of the plant communities and land cover types mapped and associated acreages within the survey area, and the extent of the vegetation mapping is shown in **Figure 2-1**. A floral compendium is provided in **Appendix A**.

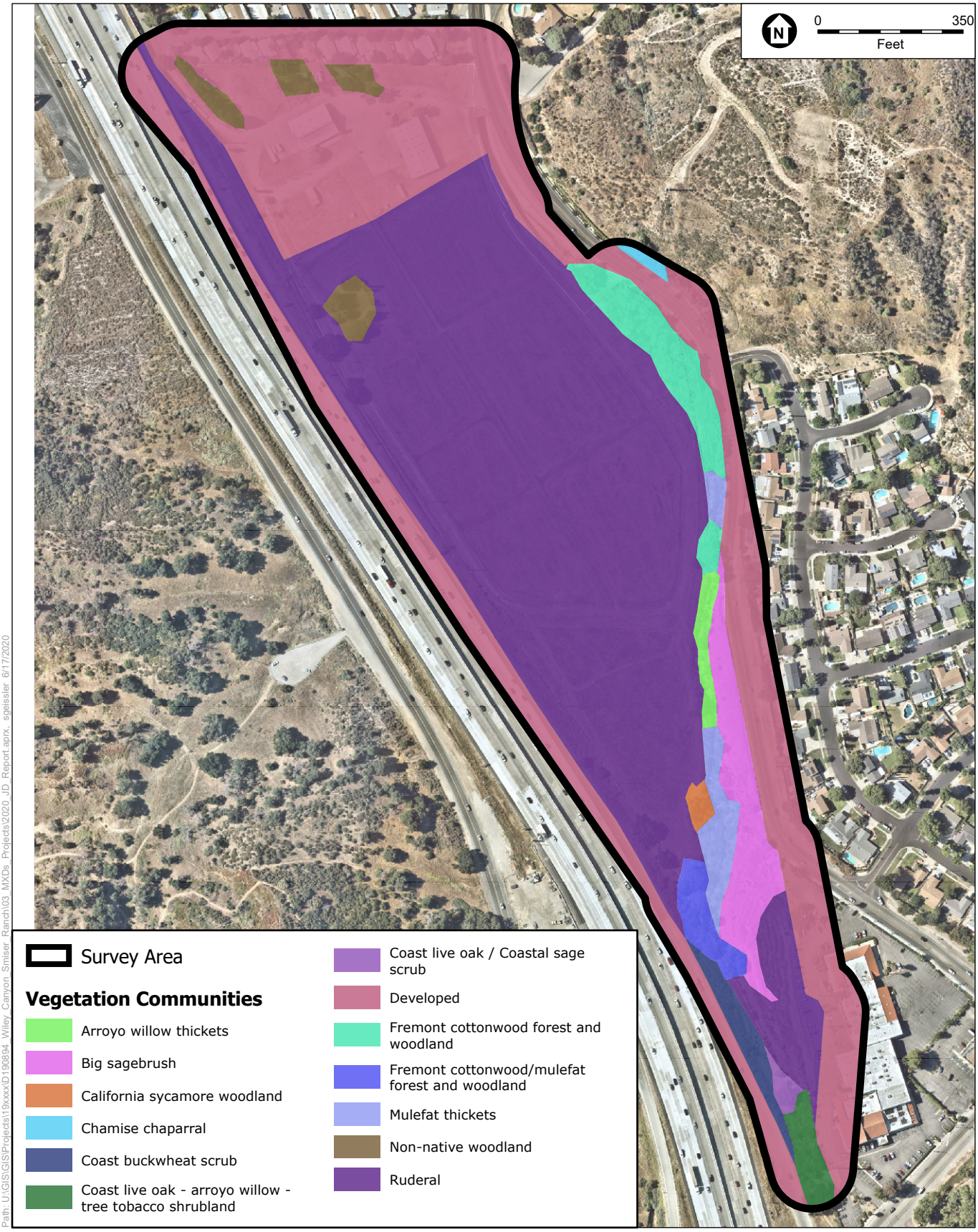
TABLE 2-1
VEGETATION COMMUNITIES AND LAND COVER TYPES WITHIN THE SURVEY AREA

Vegetation Community/Land Cover Type	Acreage
Open Water, Riparian, and Wetlands[a]	
Fremont cottonwood forest and woodland	1.310
Fremont cottonwood forest/mulefat forest and woodland	0.481
Mulefat thickets	0.700
Arroyo willow thickets	0.292
Coast live oak – arroyo willow – tree tobacco woodland	0.406
California sycamore woodlands	0.123
Uplands	
Coast live oak / Coastal sage scrub	0.128
Chamise chaparral	0.102
Big Sagebrush	1.565
California buckwheat scrub	0.480
Non-native Woodland	0.828
Developed/Disturbed Land Cover Types	
Ruderal	22.654
Developed	16.203
Total	**45.273**

NOTE:

[a] U.S. Fish and Wildlife Service definition of wetland

SOURCE: ESA 2020



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SOURCE: NearMap; ESA, 2020.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 2-1
Vegetation Communities and Land Cover Types

ESA

2.2.1 Riparian Vegetation

Fremont Cottonwood Forest and Woodland (*Populus fremontii* Forest Alliance)

Fremont cottonwood forest has Fremont cottonwood (*Populus fremontii* ssp. *fremontii*) as the dominant species, with a sparse understory. This community typically occurs along perennial and intermittent streams, within floodplains, springs and canyons. Within the survey area, this community occurs along a portion of the south fork of the Santa Clara River.

Fremont Cottonwood/Mulefat Forest (*Populus fremontii* Forest Alliance)

Fremont cottonwood / Mulefat forest has Fremont cottonwood as the dominant species, with mulefat (*Baccharis salicifolia* ssp. *salicifolia*) as the dominant scrub layer species. This community typically occurs along perennial and intermittent streams, within floodplains, springs and canyons. Within the survey area, this community occurs to the east of Interstate 5 Freeway where the Southern Fork of the Santa Clara River conveys flows beneath the freeway.

Mulefat Thickets (*Baccharis salicifolia* Shrubland Alliance)

Mulefat thickets has mulefat as the dominant species in the shrub canopy. This scrub typically occurs in canyon bottoms, floodplains, lake margins, and streambeds at low to moderate elevations. Within the survey area, this community occupies a portion of the South Fork of the Santa Clara River.

Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance)

Arroyo willow thickets has arroyo willow (*Salix lasiolepis*) as the dominant species in the tree or scrub layer, with subdominant species including mulefat, California sagebrush (*Artemisia californica*) and Fremont cottonwood. This scrub typically grows on seasonally or intermittently flooded sites. Within the survey area, this community occupies a portion of the South Fork of the Santa Clara River.

Coast live oak – arroyo willow – tree tobacco woodland (*Quercus agrifolia – Salix lasiolepis – Nicotiana glauca* Woodland Alliance)

Coast live oak – arroyo willow – tree tobacco woodland has coast live oak (*Quercus agrifolia*) as the dominant species in the tree layer, with arroyo willow, and tree tobacco (*Nicotiana glauca*) as dominants in the shrub layer. Within the survey area, this community occupies a small patch at the very southern boundary of the survey area.

California sycamore woodlands (*Platanus racemosa* Woodland Alliance)

California sycamore woodlands has California sycamore (*Platanus racemosa*) as the dominant species in the tree layer, with mulefat and tree tobacco in small quantities in the shrub layer. Within the survey area, this community occupies a small patch along the South Fork of the Santa Clara River.

2.2.2 Upland Vegetation

Coast Live Oak / Coastal Sage Scrub (*Quercus agrifolia* / Coastal Sage Scrub)

Coast live oak / Coastal Sage Scrub has an overstory of coast live oak as the dominant species and an understory of Coastal sage species including California sagebrush and California buckwheat (*Eriogonum fasciculatum*) can vary in habitats including upland savannahs and woodlands, to riparian forests and canyonlands. Within the survey area, this community comprises a small portion of the southern boundary.

Chamise Chaparral (*Adenostoma fasciculatum* Shrubland Alliance)

Chamise chaparral has chamise (*Adenostoma fasciculatum*) as the dominant species in the shrub layer, with California buckwheat, Whipple's yucca (*Hesperoyucca whipplei*) and nonnative grasses as common understory plants and typically occurs on dry, shallow colluvial soils on sun exposed slopes at low to moderate elevations. Within the survey area, this community occupies the upslope area northeast of Wiley Canyon Road.

Big Sagebrush (*Artemisia tridentata* Shrubland Alliance)

Big sagebrush has common sagebrush (*Artemisia tridentata*) as the dominant species in the scrub layer, lacking other dominant species This scrub typically grows on plains, alluvial fans, valley bottoms, and dry washes. Within the survey area, this community occupies a portion of the site east of the southern portion of the South Fork of the Santa Clara River.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

California buckwheat scrub has California buckwheat as the dominant species, with California sagebrush, and deer weed (*Acmispon glaber*) as sub dominants. Within the survey area, this community occupies small areas on the east-facing slopes along the boundary with Interstate 5 Freeway.

Non-native Woodland

This community is dominated by primarily non-native, landscape trees and occurs on various slopes and aspects. Within the survey area, this community consists of deodar cedar (*Cedrus deodara*) and Canary Island pine (*Pinus canariensis*) that were planted around a retention pond and in the vicinity of residences on the property.

2.2.3 Developed/Disturbed

Ruderal

The species assemblage and community characteristics of the ruderal habitat was largely disturbed by agricultural activity and the understory was primarily dominated by non-native forbs such as tocalote (*Centaurea melitensis*), and shortpod mustard (*Hirschfeldia incana*) and non-native grasses as a result of the previous intensive agricultural uses. Ruderal habitat comprises the majority of the survey area.

Developed

Within the survey area, developed areas included the paved right-of-way for the Interstate 5 Freeway, Wiley Canyon Road, and Calgrove Boulevard. It also included facilities and residences within the property, as well as residential developments directly to the east, and north.

2.3 Soils

According to the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service's (NRCS), soils within nearly the entire survey area consists of Yolo loam, fan piedmont, 0 to 9 percent slopes. A small area on the eastern boundary of the survey area comprises Saugus loam, 30 to 50 percent slopes (USDA 2020a) (**Figure 2-2**). Each soil map unit is described below, and more information can be found in the USDA custom soils report provided in **Appendix B**.

2.3.1 Yolo loam, fan piedmont, 0 to 9 percent slopes

This soil map unit is not mapped by NRCS as a hydric soil. Yolo loam soil associations, 0 to 9 percent slopes are typically found in alluvial fans. The typical profile consists of loam soils throughout the soil profile. This soil map unit is considered well drained with typical depth to water table of more than 80 inches. It is not rarely subject to flooding and not subject to ponding.

2.3.2 Saugus loam, 30 to 50 percent slopes

This soil map unit is not mapped by NRCS as a hydric soil. Saugus loam soils, 30 to 50 percent slopes are typically found on hillside slopes. The typical profile consists of loam 0 to 15 inches, sandy loam from 15 to 42 inches, and weathered bedrock from 15 to 42 inches. This soil map unit is considered well drained with typical depth to water table of more than 80 inches. It is not subject to flooding and nor ponding.

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SOURCE: NRCS, 2020; ESA, 2020.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 2-2
Soils Map

ESA

2.4 Hydrology

The survey area is located within the Santa Clara River watershed. Site hydrology generally drains in a northerly direction across the survey area. Flows from the South Fork Santa Clara River [Intermittent Stream (IS)-1] enter the southern portion of the survey area through concrete box culverts under Interstate 5 Freeway and continue north along the eastern boundary of the survey area. Flows from an unnamed intermittent drainage (IS-2) also enter the survey area at the southern portion of the survey area prior to converging with IS-1. Towards the northeastern portion of the survey area, IS-1 becomes a concrete-lined channel as it exits the survey area. Flows continue offsite for approximately 4.3 miles downstream until its confluence with the mainstem of the Santa Clara River.

As shown in Figure 1-2, both aquatic features are identified as blue-line intermittent streams on the 2013 Oat Mountain USGS topographic map. At the time of the aquatic resources delineation, surface water was present in portions of IS-1, but flows were not observed in IS-2.

2.5 Climate

The City of Santa Clarita is mild, and generally warm and temperate. Historic monthly average temperatures in June are a high of 88°F and low of 50°F.

The Agricultural Applied Climate Information System (AgACIS) Wetlands (WETS) climate table for Canyon Country, California is included below in Table 2-2 for the years January 2010 through May 2020. While there was no rainfall data in June 2020, when the aquatic resources delineation was conducted, the total 2020 annual rainfall from January through May 2020 was higher than normal for the season due to heavy rains in March and April (USDA 2020b).

TABLE 2-2
WETS TABLE: MONTHLY TOTAL PRECIPITATION FOR [CANYON COUNTRY 2.6E], CA

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
2010	M	3.03	0.5	1.23	0.02	0	T	0	0	1.28	0.65	6.14	M
2011	0.57	2.29	5.67	0.06	0.34	0.13	0	0	0.18	0.27	1.33	0.62	11.46
2012	0.31	0.6	2.31	2.16	T	0	T	0.02	0.01	0.5	0.33	0.82	7.06
2013	0.91	0.18	0.65	0.02	0.38	0	0.05	0	0	0.17	0.52	0.32	3.2
2014	0.02	1.28	2.53	0.21	0.07	0	T	0.27	0.01	0	0.41	4.45	9.25
2015	1.21	0.57	1.1	0.11	0.82	0.01	1.47	0	0.86	0.3	0.09	0.34	6.88
2016	2.63	1	1.88	0.34	0.11	0	0	0	0	0.24	0.92	2.57	9.69
2017	6.34	4.48	0.16	0.11	0.28	0	M	M	0.02	0	0	0	M
2018	2.05	0.19	3.67	T	0	0	0	0.01	0	0.51	1.21	2.34	9.98
2019	3.95	5.76	2.54	0.04	0.88	T	0	0	0	0	M	M	19.49
2020	0.13	0.03	5.13	3.91	0.07	M	M	M	M	M	M	M	M
Mean	1.81	1.76	2.38	0.74	0.27	0.01	0.17	0.03	0.11	0.33	0.61	1.96	9.63

NOTE:

[1] M = missing, and is used when more than one day of data is missing for a month.

SOURCE: USDA, 2020b.

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CHAPTER 3
Regulatory Framework

3.1 Waters of the U.S.

3.1.1 Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the U.S. and regulating quality standards for surface waters. The basis of the CWA was enacted in 1948 and was called the Federal Water Pollution Control Act, but the Act was significantly reorganized and expanded in 1972. "Clean Water Act" became the Act's common name with amendments in 1972.

Wetlands (including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas) are considered waters of the U.S. (subject to the significant nexus test), and are defined by USACE as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by USACE (Environmental Laboratory 1987).

Section 401 of the CWA gives the state authority to grant, deny, or waive certification of proposed federally licensed or permitted activities resulting in discharge to waters of the U.S. The State Water Resources Control Board (State Water Board) directly regulates multi-regional projects and supports the Section 401 certification and wetlands program statewide. The RWQCB regulates activities pursuant to Section 401(a)(1) of the federal CWA, which specifies that certification from the State is required for any applicant requesting a federal license or permit to conduct any activity including but not limited to the construction or operation of facilities that may result in any discharge into navigable waters. The certification shall originate from the State or appropriate interstate water pollution control agency in/where the discharge originates or will originate. Any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the CWA.

On April 21, 2020, the U.S. Environmental Protection Agency (EPA) and the USACE published the Navigable Waters Protection Rule (NWPR) to redefine "waters of the United States" in the Federal Register. The final rule became effective in California on June 22, 2020. This final rule was vacated by the U.S. District Court for the District of Arizona on August 30, 2021 and the EPA is interpreting "waters of the United States" consistent with the pre-2015 regulatory regime

until a new final rule is adopted. A proposed rule for "revised definition of 'Waters of the United States'" was announced on November 18, 2021 but a final rule is still pending.

3.2 Waters of the State

Most projects involving water bodies or drainages are regulated by the RWQCB, the principal State agency overseeing water quality of the State at the local/regional level. The survey area is located within the jurisdiction of the Los Angeles RWQCB. Where waters of the State overlap with waters of the U.S., pending verification from the USACE, those waters would be regulated under Section 401 of the CWA which is described in the Regulatory Framework in Section 3.1.

In the absence of waters of the U.S., waters may be regulated under the Porter-Cologne Water Quality Control Act if project activities, discharges, or proposed activities or discharges could affect California's surface, coastal, or ground waters. The permit submitted by the applicant and issued by RWQCB is either a Water Quality Certification in the presence of waters of the U.S. or a Waste Discharge Requirement (WDR) in the absence of waters of the U.S.

The State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State (procedures), as prepared by the State Water Resources Control Board, was implemented on May 28, 2020. The procedures include a definition for wetland waters of the state that include 1) all wetland waters of the U.S.; and 2) aquatic resources that meet both the soils and hydrology criteria for wetland waters of the U.S. but lack vegetation.[1]

3.3 Rivers, Streams, and Lakes

Pursuant to Division 2, Chapter 6, Section 1600 et seq. of the FGC, California Department of Fish and Wildlife (CDFW) regulates all diversions, obstructions, or changes to the natural flow or bed, channel or bank of any river, stream, or lake which supports fish or wildlife. A notification of a Lake or Streambed Alteration Agreement must be submitted to CDFW for "any activity that may substantially change the bed, channel, or bank of any river, stream, or lake." In addition, CDFW has authority under FGC over wetland and riparian habitats associated with lakes and streams. The CDFW reviews proposed actions, and if necessary, submits to the applicant a proposal that includes measures to protect affected fish and wildlife resources. The final proposal that is mutually agreed upon by CDFW and the applicant is the Lake or Streambed Alteration Agreement (LSAA).

[1] Less than 5 percent areal coverage at the peak of the growing season.

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CHAPTER 4
Methodology

4.1 Pre-Field Review

Prior to conducting the aquatic resources delineation, ESA conducted a review of available background information pertaining to the survey area to obtain information on the hydrology, including information on the local geography and topography.

The following resources were reviewed:

- *The National Wetland Plant List*: 2018 wetland ratings (USACE, 2018);
- Natural Resources Conservation Service's (NRCS) *Web Soil Survey*, queried to determine the soils that have been mapped within the survey area (USDA, 2020a);
- The National Wetlands Inventory (NWI) (USFWS, 2020) (**Figure 4-1**); and
- USGS topographic maps: Oat Mountain (USGS, 2013).

Aerial maps (Google Earth 2020) and the NWI were used to conduct a preliminary assessment of the limits of aquatic features in the survey area. The NWI mapped one riverine intermittent feature (IS-1) within the survey area. According to the NWI, IS-1 is a seasonally flooded channel that has been excavated.

4.2 Field Survey Methods

4.2.1 Waters of the U.S.

The aquatic resources delineation was conducted for the survey area by May Lau and Douglas Gordon-Blackwood on June 3, 2020. Aquatic features were delineated based on the methodology and guidance in the USACE's *1987 Wetland Delineation Manual* (Lichvar et al. 1987), *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a), and *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008b). Datasheets used included: Wetland Determination Data Form – Arid West Region from the 2008 USACE Regional Supplement (USACE, 2008b) and *OHWM Delineation Cover Sheet*. The Cowardin classification (Cowardin et al., 1979) of each feature type was also reviewed. The delineation was based on field data collected using a tablet as well as the IOS Arrow 100 with sub-foot accuracy, and aerial imagery–based desktop mapping.

4.2.2 Waters of the State

Waters of the State, including all waters of the U.S., were delineated using the same methodology as waters of the U.S.

4.2.3 Rivers, Streams, and Lakes

CDFW jurisdiction under FGC Section 1600 et seq. was mapped to include riparian habitats associated with watercourses to the outer extent of the dripline of riparian vegetation. CDFW jurisdiction was also mapped to the top of the physical stream bank in areas lacking riparian vegetation.

SOURCE: FWS NWI 2020; Open Street Map, 2020.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 4-1
National Wetlands Inventory

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CHAPTER 5
Results

5.1 Aquatic Resources

Aquatic resources delineated within the survey area include potential waters of the U.S. (**Figure 5-1**). **Table 5-1** summarizes the data collected for each feature. Data sheets are provided in **Appendix C** and representative photographs of each feature are included in **Appendix D**.

South Fork Santa Clara River (IS-1)

The South Fork Santa Clara River is an intermittent stream originating in the Santa Susana Mountains, just east of East Canyon. It generally parallels the Interstate 5 Freeway until it reaches the survey area. This stream is heavily modified and channelized (i.e., concrete-lined) as it flows through urbanized areas. Riparian or alluvial scrub vegetation is generally present in the earthen segments of the stream. Within the survey area, the stream segment (IS-1) is dominated by Fremont cottonwood forest/woodland and flows northeasterly across the site.

Unnamed Intermittent Stream (IS-2)

IS-2 is an intermittent stream originating in La Salle Canyon, south of the survey area and east of the Interstate 5 Freeway. IS-2 flows in a northerly direction down the canyon, and then enters a detention basin prior to an underground culvert that is connected to the southern portion of the survey area. Within the survey area, IS-2 is dominated by coast live oak and ruderal habitats.

TABLE 5-1
AQUATIC RESOURCES WITHIN THE SURVEY AREA

Aquatic Feature	Cowardin Type[1]	Dominant Vegetation/Land Cover Type	OHWM (feet) (range from within study area)	Linear Feet	Acres
Other Waters					
IS-1 (South Fork Santa Clara River) (Intermittent)	R4SBCx	Fremont cottonwood forest and woodland; mulefat thickets; arroyo willow thickets	8-52	2,484	0.939
IS-2 (Intermittent)	N/A	Ruderal; coast live oak-arroyo-willow-tree tobacco shrubland	4-11	725	0.142
Total Other Waters				3,209	1.081

Aquatic Feature	Cowardin Type[1]	Dominant Vegetation/Land Cover Type	OHWM (feet) (range from within study area)	Linear Feet	Acres
Total Aquatic Features:				**3,209**	**1.081**

NOTE:

[1] Cowardin Classifications

R4SBCx – Riverine, intermittent, streambed, seasonally flooded, excavated

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SOURCE: Nearmap; ESA, 2020.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Coordinate System: US State Plane California Zone V
Projection: Lambert Conformal Conic
Datum: North American Datum 1983(2011)

Survey Area (45.3 ac.)
Test Pit
Photograph Location
Map Reference Point
Transects

Other Waters (1.08 acres)
Intermittent Stream (1.08 acres)

Figure 5-1
Aquatic Resources within the Survey Area
Delineated by: May Lau

Mapping by: Stephan Geissler

Created on: 6/25/2020

ESA

5.2 Waters of the U.S.

5.2.1 Clean Water Act Analysis

Based on the NWPR, IS-1 and IS-2 are likely considered waters of the U.S. since they are intermittent tributaries to the Pacific Ocean, a territorial sea.

5.2.2 Potential Wetland Waters of the U.S.

As described in Section 3.1, indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology) must be present for an aquatic feature to be classified as a wetland water of the U.S. As shown in Figure 5-1, one test pit was taken within IS-1 to assess wetland parameters. This sample was taken on the west bank of IS-1 within the Fremont cottonwood forest community and met the hydrophytic vegetation wetland criteria. However, neither hydric soil nor wetland hydrology indicators were observed. Therefore, this sample did not meet the USACE's wetland criteria and is not considered a wetland. Further, based on the soil types mapped by NRCS, hydric soils are not known to occur in the survey area and are not expected onsite. Therefore, additional test pits were not deemed necessary.

5.2.3 Potential Other Waters of the U.S.

Other waters of the U.S. delineated during the field visit include two intermittent streams, IS-1 and IS-2, which are mapped in Figure 5-1. OHWM data sheets are included in **Appendix C** and photographs are provided in **Appendix D**.

Intermittent Streams

South Fork Santa Clara River (IS-1)

Based on seven transects taken along IS-1, the OHWM ranged between 8-52 feet wide within the survey area. OHWM indicators observed during the field delineation included wracking, shelving, and upper limit of sand-sized particles. The OHWM contained a low flow channel where surface water was flowing in some portions of the stream at the time of the survey.

Unnamed Intermittent Stream (IS-2)

Based on two transects taken along IS-2, the OHWM ranged between 4-11 feet wide within the survey area. OHWM indicators observed during the field delineation included wracking and shelving. The OHWM contained a low flow channel where surface water was absent at the time of the survey.

5.3 Waters of the State

Waters of the State delineated during the field visit include the same features delineated as waters of the U.S. and are shown in Figure 5-1. As such, waters of the State include IS-1 and IS-2. The lateral limits of each feature are based on the limits of the OHWM as determined in the field and reflected in **Table 5-1**. Due to the lack of wetland waters of the U.S., state wetlands are also considered absent from the survey area.

5.4 Rivers, Streams, and Lakes

Features potentially subject to regulation under FGC Section 1600 et seq. include IS-1 and IS-2, including riparian vegetation associated with these features (**Figure 5-2**). IS-1 supports riparian vegetation along its banks including arroyo willow thickets, California sycamore woodland, Fremont cottonwood forest and woodland, and mulefat thickets. IS-2 also supports ruderal and riparian vegetation dominated by coast live oak communities. **Table 5-2** summarizes the results of the field delineation below.

TABLE 5-2
FEATURES POTENTIALLY SUBJECT TO SECTION 1600 ET SEQ. OF THE FISH AND GAME CODE WITHIN THE SURVEY AREA

Aquatic Feature	Cowardin Type[1]	Vegetated Streambed/ Pond/Lake (Acre)	Unvegetated Streambed/ Pond/Lake (Acre)	Length (feet)	Range in Width (feet)	Vegetation/ Land Cover Type	GPS Coordinates (decimal degrees)
IS-1 (South Fork Santa Clara River) (Intermittent)	R4SBCx	2.952	N/A	2,484	13-125	Arroyo willow thickets; Big sagebrush; California sycamore woodland; Developed; Fremont cottonwood forest and woodland; Fremont cottonwood/ mulefat forest and woodland; Mulefat thickets; Ruderal	34.3676358°N; 118.5556868°W
IS-2 (Intermittent)	N/A	0.698	N/A	725	4-83	Coast live oak - arroyo willow - tree tobacco shrubland; Coast live oak / Coastal sage scrub; Developed; Ruderal	34.3640698°N; 118.5550863°W
Totals:		**3.650**		3,209			

NOTE:

[1] Cowardin Classifications

R4SBCx – Riverine, intermittent, streambed, seasonally flooded, excavated

SOURCE: ESA, 2020.

Wiley Canyon (Smiser Ranch) Mixed Use Project

Figure 5-2
Features Potentially Subject to Fish and Game Code Section 1600 et seq.

ESA

5.5 Conclusions

In summary, the two aquatic features mapped from the field delineation are considered to be waters of the U.S., waters of the State, and features subject to FGC Section 1600 et seq.

This report documents the aquatic resources boundary delineation and best professional judgment of ESA investigators. All aquatic resources and extent of jurisdictional boundaries identified in this report are considered preliminary pending verification from the appropriate regulatory agencies.

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CHAPTER 6
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Appendix A
Floral Compendium

Appendix A – Floral Compendium

FLORA

EUDICOTS

Scientific Name	Common Name	Wetland Indicator Status
Adoxaceae	**Muskroot Family**	
Sambucus nigra ssp. *caerulea*	blue elderberry	FACU
Anacardiaceae	**Sumac Family**	
Toxicodendron diversilobum	poison oak	FACU
Asteraceae	**Aster Family**	
Ambrosia acanthicarpa	annual bursage	NL
Artemisia californica	California sagebrush	NL
Artemisia douglasiana	mugwort	FAC
Baccharis salicifolia	mulefat	FAC
Bebbia juncea	sweetbush	NL
*Centaurea melitensis**	tocalote	NL
Encelia farinosa	brittlebush	NL
Erigeron canadensis	Canada horseweed	FACU
Helianthus annuus	annual sunflower	FACU
Heterotheca grandiflora	telegraph weed	NL
Heterotheca sessiliflora	golden aster	NL
Lepidospartum squamatum	scalebroom	FACU
Boragincaeae	**Borage Family**	
Eriodictyon crassifolium	thick leaved yerba santa	NL
Brassicaeae	**Mustard Family**	
*Hirschfeldia incana**	shortpod mustard	NL
Nasturtium officinale	watercress	OBL
Cactaceae	**Cactus Family**	
Opuntia sp.	prickly pear	NL
Chenopodiaceae	**Goosefoot Family**	
*Chenopodium album**	lambs quarters	FACU
*Salsola tragus**	Russian thistle	FACW/FACU/NL
Cucurbitaceae	**Gourd Family**	
Cucurbita foetidissima	coyote melon	NL
Euphorbiaceae	**Spurge Family**	
Croton californicus	desert croton	NL
Croton setiger	dove weed	NL
*Ricinus communis**	castor bean	FACU

Fabaceae	**Pea Family**	
Acmispon glaber	deerweed	NL
Fagaceae	**Oak Family**	
Quercus agrifolia	coast live oak	NL
Quercus berberidifolia	scrub oak	NL
Lamiaceae	**Mint Family**	
Salvia apiana	white sage	NL
Salvia columbariae	chia	NL
Myrtaceae	**Myrtle Family**	
*Eucalyptus camaldulensis**	Red River gum	FAC
Oleaceae		
*Olea europea**	olive	NL
Phrymaceaee	**Lopseed Family**	
Erythranthe cardinalis	cardinal monkey flower	NL
Erythranthe guttata	yellow monkey flower	NL
Platanaceae	**Plane-tree Family**	
Platanus racemosa	California sycamore	FAC
Poleminaceae	**Phlox Family**	
Eriastrum sapphirinum	sapphire eriastrum	NL
Polygonaceae	**Buckwheat Family**	
Eriogonum fasciculatum	California buckwheat	NL
Persicaria lapathifolia	common knotweed	FACW
Rhamnaceae	**Buckthorn Family**	
Ceanothus leucodermis	chaparral whitethorn	NL
Rosaceae	**Rose Family**	
Adenostema fasciculatum	chamise	NL
Salicaceae	**Willow Family**	
Populus fremontii	Fremont cottonwood	NL
Salix exigua	sandbar willow	FACW
Salix gooddingii	Gooding's black willow	FACW
Salix laevigata	red willow	FACW
Salix lasiolepis	arroyo willow	FACW
Solanaceae	**Tomato Family**	
Datura wrightii	jimson weed	UPL
*Nicotiana glauca**	tree tobacco	FAC
Tamaricaceae	**Tamarisk Family**	
Tamarix sp. *	tamarisk	FAC/NL

MONOCOTS

Agavaceae	**Century Plant Family**	
Hesperoyucca whipplei	chaparral yucca	NL
Arecaceae	**Palm Family**	
*Washingtonia robusta**	Mexican fan palm	FACW
Cyperaceae	**Sedge Family**	
Cyperus eragrostis	tall cyperus	FACW
Schoenoplectus acutus	hardstem bulrush	OBL
Poaceae	**Grass Family**	
*Arundo donax**	giant reed	FACW
Avena sp.*	wild oats	UPL/NL
Bromus rubens ssp. *madritensis**	red brome	NL
*Pennisetum setaceum**	fountain grass	NL
*Polypogon monspeliensis**	annual beard grass	FACW
Schismus sp.*	Meditteranean grass	NL
*Stipa miliacea**	smilo grass	NL
Typhaceae	**Cattail Family**	
Typha lattifolia	cattail	OBL

Legend

*Non-native Species

Wetland Indicator Status:

Obligate (OBL) – plants that always occur in standing water or in saturated soils

Facultative Wet (FACW) – plants that nearly always occur in areas in prolonged flooding or require standing water or saturated soils but may, on rare occasions, occur in non-wetlands

Facultative (FAC) – plants that occur in a variety of habitats, including wetland and mesic to xeric non-wetland habitats but commonly occur in standing water or saturated soils

Facultative Upland (FACU) – plants that typically occur in xeric or mesic non-wetland habitats but may frequently occur in standing water or saturated soils

Upland (UPL) – plants that almost never occur in water or saturated soils.

Not Listed (NL) – plants that are not listed; are considered UPL for wetland delineation purposes.

Appendix B
Soils Report

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Antelope Valley Area, California

Wiley Canyon (Smiser Ranch) Mixed Use Project

June 30, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:5,890 if printed on A portrait (8.5" x 11") sheet.

N

Meters
0 50 100 200 300

Feet
0 250 500 1000 1500

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Antelope Valley Area, California
Survey Area Data: Version 12, Sep 17, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 20, 2018—May 4, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
ScF	Saugus loam, 30 to 50 percent slopes	1.8	3.2%
YoA	Yolo loam, fan piedmont, 0 to 9 percent slopes, MLRA 20	54.3	96.8%
Totals for Area of Interest		**56.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Antelope Valley Area, California

ScF—Saugus loam, 30 to 50 percent slopes

Map Unit Setting

National map unit symbol: hch7
Elevation: 600 to 2,500 feet
Mean annual precipitation: 14 to 20 inches
Mean annual air temperature: 63 degrees F
Frost-free period: 275 to 300 days
Farmland classification: Not prime farmland

Map Unit Composition

Saugus and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Saugus

Setting

Landform: Hills
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Concave
Across-slope shape: Concave
Parent material: Weakly consoildated alluvium

Typical profile

H1 - 0 to 15 inches: loam
H2 - 15 to 42 inches: sandy loam, loam
H2 - 15 to 42 inches: weathered bedrock
H3 - 42 to 46 inches:

Properties and qualities

Slope: 30 to 50 percent
Depth to restrictive feature: 40 to 60 inches to paralithic bedrock
Natural drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: High (about 9.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e
Hydrologic Soil Group: B
Ecological site: LOAMY 9-20" (R019XD064CA)
Hydric soil rating: No

Minor Components

Castaic

Percent of map unit: 5 percent
Hydric soil rating: No

Balcom

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 5 percent
Hydric soil rating: No

YoA—Yolo loam, fan piedmont, 0 to 9 percent slopes, MLRA 20

Map Unit Setting

National map unit symbol: 2w89s
Elevation: 860 to 2,180 feet
Mean annual precipitation: 15 to 20 inches
Mean annual air temperature: 63 to 64 degrees F
Frost-free period: 240 to 300 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Yolo and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Yolo

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from sedimentary rock

Typical profile

A - 0 to 6 inches: loam
A - 6 to 18 inches: loam
C1 - 18 to 36 inches: loam
C2 - 36 to 72 inches: loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: Rare
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent

Salinity, maximum in profile: Nonsaline (0.3 to 0.5 mmhos/cm)
Available water storage in profile: High (about 10.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 3c
Hydrologic Soil Group: B
Hydric soil rating: No

Minor Components

Sorrento

Percent of map unit: 5 percent
Hydric soil rating: No

Metz

Percent of map unit: 5 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed

Percent of map unit: 1 percent
Landform: Swales
Hydric soil rating: Yes

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Appendix C
Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Wiley Canyon (Smiser Ranch) Mixed Use Project City/County: Los Angeles Sampling Date: 6/3/2020
Applicant/Owner: Wiley Canyon, LLC State: CA Sampling Point: 1
Investigator(s): May Lau Section, Township, Range: T3N R16W Sec 4, 9, 10
Landform (hillslope, terrace, etc.): terrace/bar Local relief (concave, convex, none): convex Slope (%): 2
Subregion (LRR): C Lat: 34.36947 Long: -118.55669 Datum: NAD 83
Soil Map Unit Name: Yolo loam, 0-2% slopes NWI classification: Riverine
Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ___ (If no, explain in Remarks.)
Are Vegetation ___ Soil ___ or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes **x** 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 X	No		
Hydric Soil Present?	Yes	No X	**Is the Sampled Area**	
Wetland Hydrology Present?	Yes	No X	**within a Wetland?**	**Yes** **No X**

Remarks: West bank of IS-1 (South Fork Santa Clara River).

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' R)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus fremontii*	70	Y	FAC
2. *Sambucus nigra subsp. caerulea*	15	N	FACU
3.			
4.			
	85	= Total Cover	
Sapling/Shrub Stratum (Plot size: 30' R)			
1. *Phacelia cicutaria subsp. Hispida*	10	Y	UPL
2. *Artemisia douglasiana*	5	Y	FAC
3.			
4.			
5.			
	15	= Total Cover	
Herb Stratum (Plot size: 5' R)			
1. *Persicaria lapathifolia*	30	Y	FACW
2. *Stipa miliacea var. miliacea*	25	Y	UPL
3. *Polypogon viridis*	10	N	FACW
4. *Cynodon dactylon*	5	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	70	= Total Cover	
Woody Vine Stratum (Plot size: 30' R)			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 30

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1=	
FACW species	40	x 2=	80
FAC species	75	x 3=	225
FACU species	20	x 4=	80
UPL species	35	x 5=	175
Column Totals:	170 (A)		560 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

___ 1- Rapid Test For Hydrophytic Vegetation
X 2- Dominance Test is >50%
___ 3- Prevalence Index is ≤3.0[1]
___ 4- Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5- Wetland Non-Vascular Plants[1]
___ 6- Problematic Hydrophytic Vegetation[1](Explain)

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

Hydrophytic Vegetation Present? **Yes X** **No**

Remarks:

SOIL Sampling Point: 1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	N/A							decomposed organic matter
1-10	7.5YR3/3	100	N/A				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 presetn, unless disturbed or problematic

Restrictive Layer (if present):

Type: Rock

Depth (inches): 10

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

Remarks: Yolo loam soils are not listed by USDA as 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 X Depth (Inches): ___

Water Table Present? Yes ___ No X Depth (Inches): ___

Saturation Present? Yes ___ No X Depth (Inches): ___

(includes capillary fringe)

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

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

Remarks: Surface water present in channel but not at test pit.

OHWM Delineation Cover Sheet

Project: Wiley Canyon Mixed Use Project **Date:** 6/3/20

Location: Santa Clarita, CA **Investigator(s):** May Lau and Doug Gordon-Blackwood

Project Description:

Mixed use development project.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

South fork Santa Clara River flows into the project site through a triple concrete box culvert under the I-5 at southern end of project and continues northerly into a concrete-lined channel. An unnamed tributary and several culverts also contribute runoff from surrounding development.

Off-site Information

Remotely sensed image(s) acquired? ☐ **Yes** ☑ **No** [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? ☐ **Yes** ☑ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

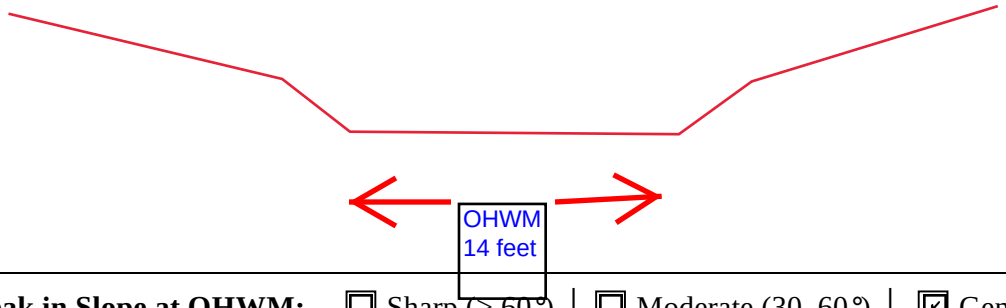
Google earth aerial imagery 2020.

National Wetlands Inventory 2020.

USGS topo map 2013.

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☑ Gentle (< 30°) | ☐ None

Notes/Description:

OHWM indicators including shelving, change in vegetative cover, and fine sediment/silt above OHWM.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	30	20	20	20	0	N/A
Below OHWM	5	20	10	60	5	N/A

Notes/Description:

Accumulated sediment/silt above OHWM.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		80	20	
Below OHWM			10	90

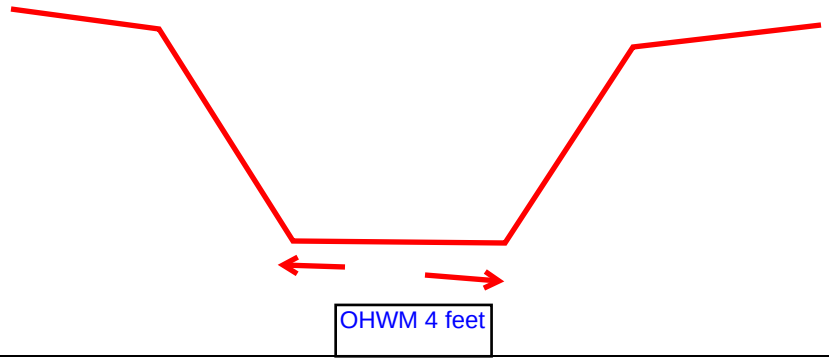
Notes/Description:

Above - mulefat, elderberry, black sage, non-native grasses
Below - primarily unvegetated; mulefat sprouting in channel

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Algal mats within OHWM, no surface water observed.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☑ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

OHWM indicators include shelving and wracking.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM		70			30	N/A
Below OHWM	30	70				N/A

Notes/Description:

Sandy silt substrate in channel

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM		30	70	
Below OHWM		5	20	75

Notes/Description:

Above - Quercus agrifolia, elderberry, tree tobacco, non-native grasses
Below - primarily non-native grasses

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Datasheet # _____ **OHWM Delineation Datasheet** Page ____ of ____

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Datasheet # _____ **OHWM Delineation Datasheet** Page ____ of ____

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Break in Slope at OHWM: ☐ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM						

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Appendix D

Representative Site Photographs

Photo 1 –Culvert crossing of IS-1 under I-5, facing southwest (6/3/20).

Photo 2 – OHWM indicator (shelving) observed along IS-1(6/3/20).

Photo 3 –IS-1 at Transect 2 facing northeast (6/3/20).

Photo 4 – IS-1 at Transect 3 facing southwest (6/3/20).

Photo 5 –IS-1 at Transect 4 facing northeast (6/3/20).

Photo 6 –IS-1 at Transect 5 facing south (6/3/20).

Photo 7 – IS-1 at Transect 6 facing north (6/3/20).

Photo 8 –Test Pit 1 facing north where IS-1 turns into concrete lined channel (6/3/20).

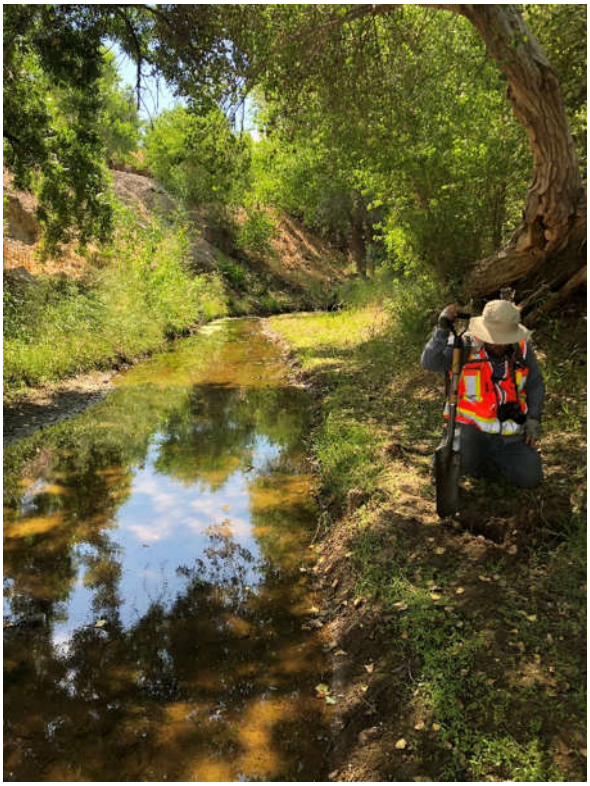


Photo 9 – Test Pit 1 facing south (6/3/20). This soil pit did not meet the USACE's wetland criteria.

Photo 10 – IS-2 at Transect 8 facing north (6/3/20).

Photo 11 – IS-2 at Transect 9 facing south (6/3/20).

Photo 12 –IS-2 at southern end of survey area facing north (6/3/20).