

THE TERRACES

CITY OF MURRIETA, RIVERSIDE COUNTY, CALIFORNIA

DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

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September 2021

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The undersigned certify that the statements furnished in this report and exhibits present data and information required for this biological evaluation, and the facts, statements, and information presented is a complete and accurate account of the findings and conclusions to the best of our knowledge and beliefs.



Travis J. McGill
Director



Thomas J. McGill, Ph.D.
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September 2021

Executive Summary

ELMT Consulting (ELMT) has prepared this updated Delineation of State and Federal Jurisdictional report for The Terraces Project (project) located in the City of Murrieta, Riverside County, California. The jurisdictional delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Sections 1600 *et. seq.* of the California Fish and Game Code.¹

Two unnamed drainage features (Drainages 1 and 2) were observed within the boundaries of the project site. Drainage 1 generally flows in an east to west direction on the southeast corner of the project site, and only conveys surface flows in direct response to precipitation and urban runoff. Within Drainage 1, a small wetland was observed at the easternmost portion of the drainage that is subject to a continual water source from urban runoff. Drainage 2 is an ephemeral feature that generally flows in an east to west direction in the middle of the northern portion of the project site and only conveys flows in direct response to precipitation. These drainage features eventually discharge into Murrieta Creek, which exhibits a surface hydrologic connection to the Santa Margarita River (Relatively Permanent Water) and ultimately the Pacific Ocean (Traditional Navigable Water). Therefore, Drainages 1 and 2 will qualify as waters of the United States and falls under the regulatory authority of the Corps, Regional Board, and CDFW. Placement of fill and/ or alteration within this jurisdictional area is subject to Corps, Regional Board, and CDFW jurisdiction and approval. Table ES-1 identifies the on-site jurisdictional features including the total acreage of jurisdiction for each regulatory agency within the boundaries of the project site.

Table ES-1: Jurisdictional Area and Impact Analysis

Jurisdictional Feature	Corps/Regional Board Jurisdiction	CDFW Jurisdictional Streambed/Riparian Habitat
	On-Site Jurisdiction Acreage (Linear Feet)	On-Site Jurisdiction Acreage (Linear Feet)
Drainage 1	0.27 (570)	0.73 (570)
Wetland 1 (part of Drainage 1)	0.05	0.05
Drainage 2	0.006 (795)	0.06 (795)
TOTAL	0.38 (1,365)	0.84 (1,365)

If any impacts occur to the onsite drainage features, the project applicant must obtain the following regulatory approvals prior to impacts occurring within the identified jurisdictional areas: Corps CWA Section 404 Permit; Regional Board CWA Section 401 Water Quality Certification; and CDFW Section

¹ The field surveys for this jurisdictional delineation were conducted on June 24, 2021 pursuant to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008); and *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports* (Corps 2017); *The MESA Field Guide: Mapping Episodic Stream Activity* (CDFW 2014); and a *Review of Stream Processes and Forms in Dryland Watersheds* (CDFW 2010).

1602 Streambed Alteration Agreement (SAA). Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

Table of Contents

Section 1	Introduction	1
1.1	Project Location	1
Section 2	Regulations	5
2.1	U.S. Army Corps of Engineers	5
2.2	Regional Water Quality Control Board.....	5
2.3	California Department of Fish and Wildlife	6
Section 3	Methodology	7
3.1	Waters of the United States.....	7
3.2	Waters of the State	8
3.2.1	Regional Water Quality Control Board.....	8
3.2.2	California Department of Fish and Wildlife	8
Section 4	Literature Review	9
4.1	Watershed Review	9
4.2	Local Climate.....	9
4.3	USGS Topographic Quadrangle	10
4.4	Aerial Photograph	10
4.5	Soils.....	10
4.6	Hydric Soils List of California.....	11
4.7	National Wetlands Inventory	11
4.8	Flood Zone	11
Section 5	Site Conditions	13
5.1	Jurisdictional Features.....	13
5.1.1	Drainage Features	13
5.1.2	Wetland Features.....	14
Section 6	Findings	15
6.1	U.S. Army Corps of Engineers Determination	15
6.1.1	Waters of the United States Determination.....	15
6.1.2	Wetland Determination	15
6.2	Regional Water Quality Control Board.....	15
6.3	California Department of Fish and Wildlife	16
Section 7	Regulatory Approval Process	18
7.1	U.S. Army Corps of Engineers	18
7.2	Regional Water Quality Control Board.....	18
7.3	California Department of Fish and Wildlife	19
7.4	Recommendations.....	19

Section 8 **References** 20

EXHIBITS

Exhibit 1: Regional Vicinity 2
Exhibit 2: Site Vicinity 3
Exhibit 3: Project Site 4
Exhibit 4: Soils 12
Exhibit 5: Jurisdictional Areas 17

TABLES

Table 1: Corps Jurisdictional Waters 15
Table 2: Regional Board Jurisdictional Waters 16
Table 3: CDFW Jurisdictional Streambed 16

APPENDIX

Appendix A Documentation
Appendix B Site Photographs
Appendix C Methodology

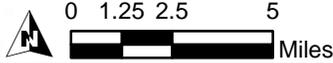
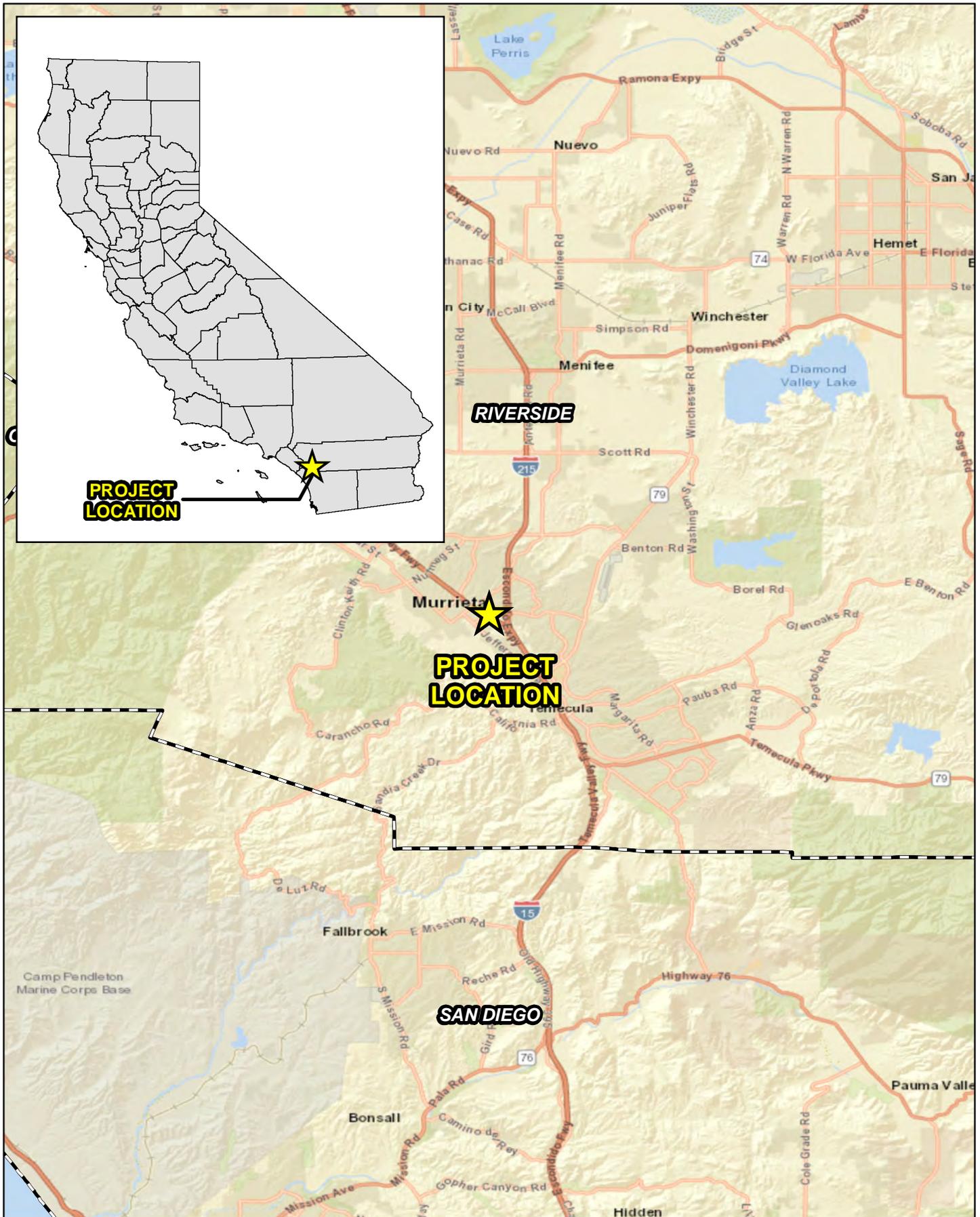
Section 1 Introduction

This delineation has been prepared for The Terraces Project in order to document the jurisdictional authority of the U.S. Army Corps of Engineers' (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Sections 1600 *et seq.* of the California Fish and Game Code. The analysis presented in this report is supported by a field survey of site conditions conducted on August 18, 2021.

This jurisdictional delineation explains the methodology undertaken by ELMT Consulting (ELMT) to define the regulatory authority of the aforementioned regulatory agencies and documents the findings made by ELMT. This report presents our best effort at documenting the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries.

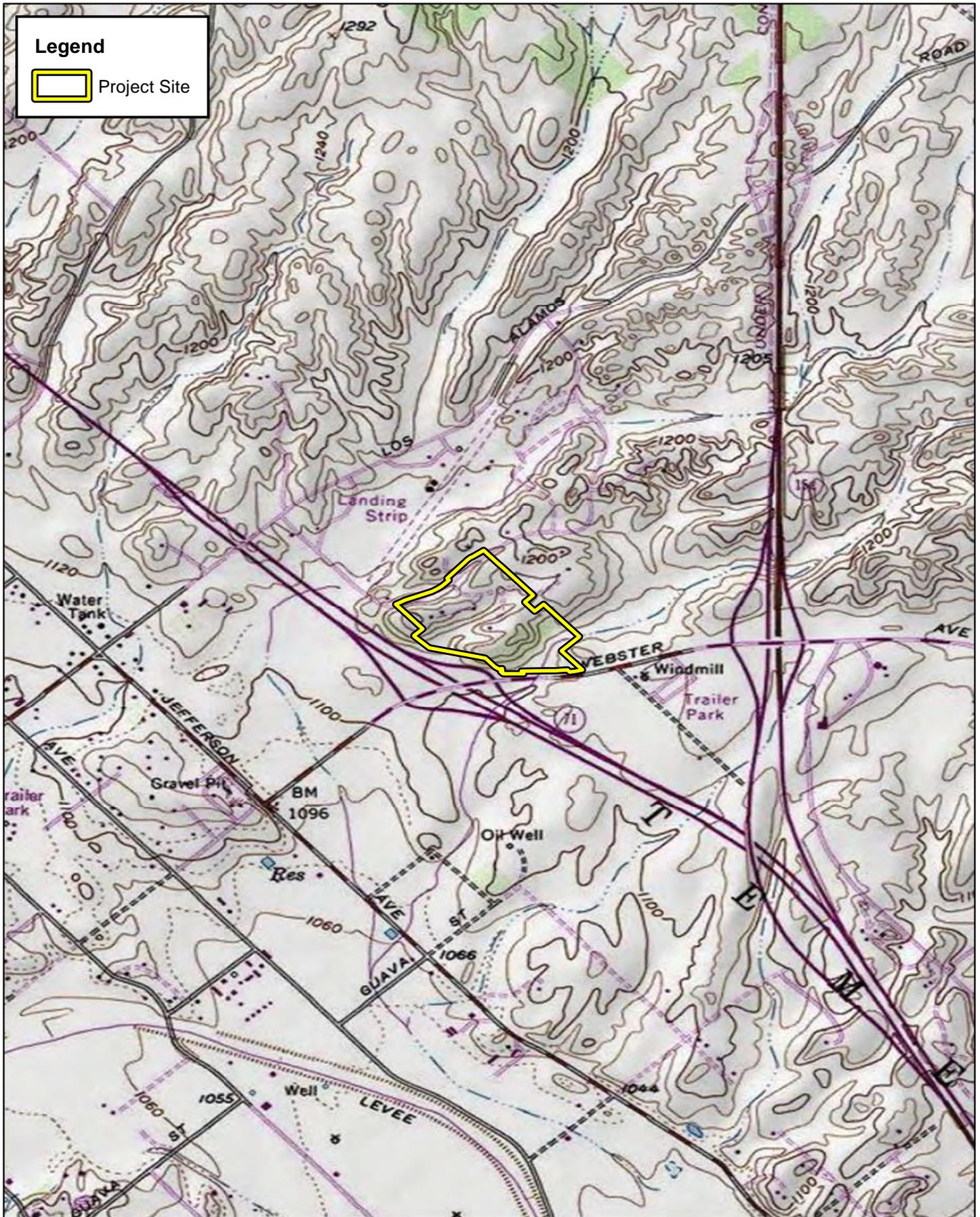
1.1 PROJECT LOCATION

The project site is generally located east of Interstate 15, west of Interstate 215, and south of State Route 74 in the City of Murrieta, Riverside County, California (Exhibit 1, *Regional Vicinity*). The site is depicted on the Murreita quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map within an unsectioned portion of Township 7 South, Range 3 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is bordered by Murrieta Hot Springs Road to the south, Vista Murrieta to the north, Interstate 15 to the west, and Sparkman Court (Exhibit 3, *Project Site*).



Source: World Street Map, Riverside County

THE TERRACES
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Regional Vicinity



THE TERRACES

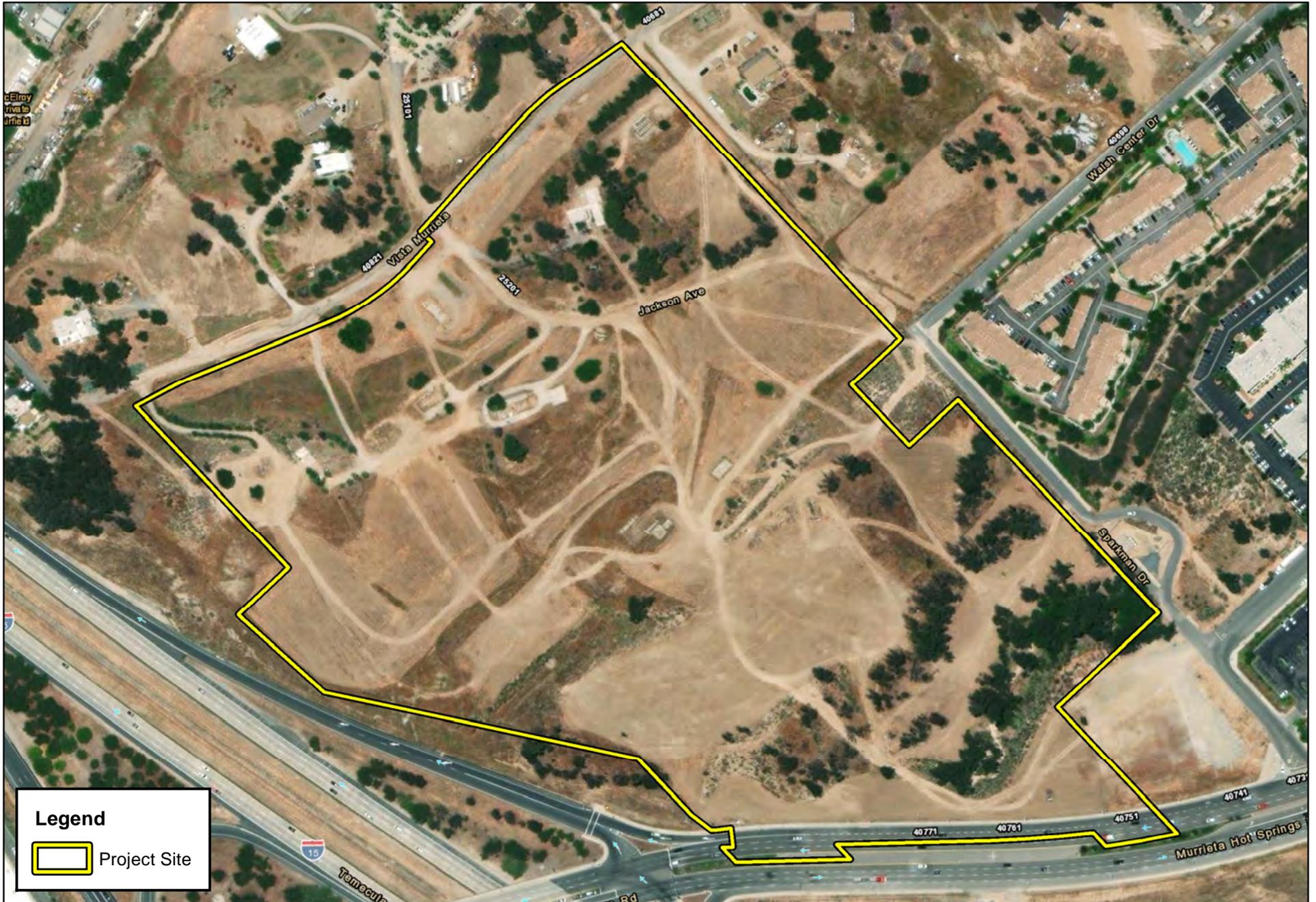
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Site Vicinity

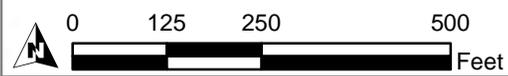


Source: USA Topographic Map, Riverside County

Exhibit 2



THE TERRACES
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Project Site



Source: ESRI Aerial Imagery, Riverside County

Section 2 Regulations

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California. The Corps Regulatory Division regulates activities pursuant to Section 404 of the CWA, Section 10 of the Rivers and Harbors Act, and Section 103 of the Marine Protection, Research, and Sanctuaries Act. The Regional Board regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act and the CDFW regulates activities under Sections 1600 *et seq.* of the California Fish and Game Code.

2.1 U.S. ARMY CORPS OF ENGINEERS

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the discharge of dredged or fill material into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. The Corps and EPA define “fill material” to include any “material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States.” Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and “materials used to create any structure or infrastructure in the waters of the United States.” The terms *waters of the United States* and *wetlands* are defined under CWA Regulations 33 Code of Federal Regulations (CFR) §328.3 (a) through (b).

2.2 REGIONAL WATER QUALITY CONTROL BOARD

Pursuant to Section 401 of the CWA, any applicant for a federal license or permit to conduct any activity which may result in any discharge to waters of the United States must provide certification from the State or Indian tribe in which the discharge originates. This certification provides for the protection of the physical, chemical, and biological integrity of waters, addresses impacts to water quality that may result from issuance of federal permits and helps insure that federal actions will not violate water quality standards of the State or Indian tribe. In California, there are nine Regional Boards that issue or deny certification for discharges to waters of the United States and waters of the State, including wetlands, within their geographical jurisdiction. The State Water Resources Control Board (SWRCB) assumes this responsibility when a project has the potential to result in the discharge to waters within multiple Regional Boards.

Additionally, the California Porter-Cologne Water Quality Control Act gives the State very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Porter-Cologne Water Quality Control Act has become an important tool post *Solid Waste Agency of Northern Cook County vs. United States Corps of Engineers*² (SWANCC) and *Rapanos v. United States*³ (Rapanos) court cases with respect to the State’s regulatory authority over isolated and insignificant waters. Generally, any applicant proposing to discharge waste into a water body must file a Report of Waste Discharge in the event that there is no Section 404/401 nexus. Although “waste” is partially defined as any

² Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)

³ Rapanos v. United States, 547 U.S. 715 (2006)

waste substance associated with human habitation, the Regional Board also interprets this to include discharge of dredged and fill material into water bodies.

Under the State Water Resources Control Board State Wetland Definition, an area is a wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq.* of the California Fish and Game Code establishes a fee-based process to ensure that projects conducted in and around lakes, rivers, or streams do not substantially adversely impact fish and wildlife resources, or, when adverse impacts cannot be avoided, ensures that adequate mitigation and/or compensation is provided. Pursuant to Section 1602 of the California Fish and Game Code, a notification must be submitted to the CDFW for any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream or use material from a streambed. One CDFW guidance document, although not a formally adopted rule or policy, requires notification for activities taking place within rivers or streams that flow perennially or episodically and that are defined by the area in which surface water currently flows, or has flowed, over a given course during the historic hydrologic regime, and where the width of its course can reasonably be identified by physical and biological indicators. If the project will not "substantially adversely affect an existing fish or wildlife resource," following notification to CDFW, the project may commence without an agreement with CDFW. (Fish & G. Code, § 1602(a)(4)(A)(i).)

Section 3 Methodology

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on August 18, 2021. ELMT conducted a field delineation to determine the jurisdictional limits of “waters of the State” and jurisdictional streambed (including potential wetlands), located within the boundaries of the project site. While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high water mark (OHWM) indicators and the locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the Project's jurisdictional exhibits. The jurisdictional exhibits were prepared using ESRI ArcInfo Version 10 software.

3.1 WATERS OF THE UNITED STATES

In the absence of adjacent wetlands, the limits of the Corps jurisdiction in non-tidal waters extend to the OHWM, which is defined 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 soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.*”⁴ Indicators of an OHWM are defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (Corps 2008). An OHWM can be determined by the observation of a natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; presence of litter and debris; wracking; vegetation matted down, bent, or absent; sediment sorting; leaf litter disturbed or washed away; scour; deposition; multiple observed flow events; bed and banks; water staining; and/or change in plant community. The Regional Board shares the Corps’ jurisdictional methodology, unless SWANCC or Rapanos conditions are present. In the latter case, the Regional Board considers such drainage features to be jurisdictional waters of the State.

Pursuant to the Corps Wetland Delineation Manual (Corps 1987), the identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soils, and wetland hydrology. In order to qualify as a wetland, a feature must exhibit at least minimal characteristics within each of these three parameters. It should also be noted that both the Regional Board and CDFW follow the methods utilized by the Corps to identify wetlands. For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008).

⁴ CWA regulations 33 CFR §328.3(e).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

The California *Porter-Cologne Water Quality Control Act* gives the Regional Board very broad authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. The Regional Board shares the Corps' methodology for delineating the limits of jurisdiction based on the identification of OHWM indicators and utilizing the three parameter approach for wetlands.

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq.* of the California Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. Generally, the CDFW's jurisdictional limit is not defined by a specific flow event, nor by the presence of OHWM indicators or the path of surface water as this path might vary seasonally. Instead, CDFW's jurisdictional limit is based on the topography or elevation of land that confines surface water to a definite course when the surface water rises to its highest point. Further, the CDFW's jurisdictional limit extends to include any habitat (e.g. riparian), including wetlands and vernal pools, supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. For this project location, CDFW jurisdictional limits were delineated using the methods outlined in the *MESA Field Guide* (Brady, III and Vyverberg 2013) and *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010), which were developed to provide guidance on the methods utilized to describe and delineate episodic streams within the inland deserts region of southern California.

Section 4 Literature Review

ELMT conducted a thorough review of relevant literature and materials to preliminarily identify areas that may fall under the jurisdiction of the regulatory agencies. A summary of materials utilized during ELMT's literature review is provided below and in Appendix A. In addition, refer to Section 8 for a complete list of references used throughout the course of this delineation.

4.1 WATERSHED REVIEW

The project site is located within the Murrieta Creek Subwatershed, which is a subset of the larger Santa Margarita Watershed (HUC 18070302). Murrieta Creek flows approximately 10.7 miles southeast of the project site. The size of this river is approximately 11.8 miles long. This reach of the river is considered impaired with copper, iron, manganese, nitrogen, phosphorous, and chlorpyrifos.

The Santa Margarita Watershed encompasses approximately 750 square miles in northern San Diego and southwestern Riverside counties. The watershed is bounded by several mountain ranges, including the Santa Ana and Santa Margarita mountains to the north and the Palomar Mountains to the south. Several tributaries originate on the Santa Rosa Plateau, a region known for its biological diversity and its abundant wetland resources. Currently, this watershed is primarily undeveloped, containing about 20% of urban development and agricultural land use. The upper watershed basin is one of the fastest growing areas in California.

The Santa Margarita Watershed consists of a single major drainage, the Santa Margarita River, which is comprised of several smaller tributaries. The mainstem begins at the confluence of Murrieta and Temecula Creeks. South flowing tributaries include Roblar, Deluz, and Sandia Creeks. Tributaries that flow north into the mainstem include Pechanga and Rainbow Creeks. The Santa Margarita River is approximately 27 miles long and is one of the last undammed rivers in Southern California, making it considered a valuable ecological resource. The mainstem enters the Santa Margarita estuary, which is connected to the Pacific Ocean.

4.2 LOCAL CLIMATE

Riverside County features a somewhat cooler version of a Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Relative to other areas in Southern California, winters are colder with frost and with chilly to cold morning temperatures common. Climatological data obtained from nearby weather stations indicates the annual precipitation averages 11.2 inches per year. Almost all of the precipitation in the form of rain occurs in the months between December and March, with hardly any occurring between the months of April and November. The wettest month is February, with a monthly average total precipitation of 3.31 inches, and the driest months are June and July, both with monthly average total precipitation of 0.04 inch. The average maximum and minimum temperatures are 82.6 and 46.5 degrees Fahrenheit (° F) respectively with July and August (monthly average high 100° F) being the hottest months and December (monthly average low 34° F) being the coldest.

4.3 USGS TOPOGRAPHIC QUADRANGLE

The USGS 7.5 Minute Series Topographic Quadrangle maps show geological formations and their characteristics, describing the physical setting of an area through contour lines and major surface features including lakes, rivers, streams, buildings, landmarks, and other factors that may fall under an agency's jurisdiction. Additionally, the maps depict topography through color and contour lines, which are helpful in determining elevations and latitude and longitude within a project site.

The proposed project site is depicted on the Murrieta quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within an unsectioned portion of Township 7 South, Range 3 West. The project site is ranges in elevation from 1,120 to 1,190 feet above mean sea level. On-site topography consists of rolling hills and valleys, with small ridgelines that historically supported residential developments.

4.4 AERIAL PHOTOGRAPH

Prior to conducting the field delineation, ELMT reviewed current and historical aerial photographs (1985-2021) of the project as available from Google Earth Pro Imaging. Aerial photographs can be useful during the delineation process, as they often indicate the presence of drainage features and riverine habitat within the boundaries of the project site, if any.

The project site is located in an area that consist of a mosaic of residential, commercial, institutional, and transportation related developments. At present, the site is bordered by rural residential developments to the north, multifamily homes and rural residential developments to the east, Murrieta Hot Springs Road and undeveloped land to the south, and Interstate 15 and commercial developments to the west. There are existing residential foundations on the northern boundary of the project site, undeveloped land that has been routinely disked/mowed and subject to off-road vehicle activities, and large stands of eucalyptus trees and ornamental trees onsite. There is an earthen storm drain on the southeast corner of the site that receives flows via three storm drain outlets that all flow into a concrete headwall that was constructed to convey storm flows from the site and under Murrieta Hot Springs Road.

4.5 SOILS

On-site and adjoining soils were researched prior to the field visits using the U.S. Department of Agriculture National Resources Conservation Service and Soil Survey for Western Riverside Area, California. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use and management; and in planning, research and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color). Based on the NRCS USDA Web Soil Survey, the project site is underlain by Arlington and Greenfield fine sandy loam (8 to 15 percent slopes), Greenfield sandy loam, eroded (2 to 8 percent slopes), Hanford coarse sandy loam (2 to 8 percent slopes), and Ramona and Buren sandy loam (15 to 25 percent slopes) (Exhibit 4, *Soils*).

4.6 HYDRIC SOILS LIST OF CALIFORNIA

ELMT reviewed the USDA NRCS Hydric Soils List of California in an effort to verify whether on-site soils are considered to be hydric⁵. It should be noted that lists of hydric soils along with soil survey maps provide off-site ancillary tools to assist in wetland determinations, but they are not a substitute for field investigations. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. According to the hydric soils list, none of the onsite soils have been listed as hydric in Western Riverside County.

4.7 NATIONAL WETLANDS INVENTORY

The USFWS NWI and the USGS National Hydrography Dataset were reviewed to determine if any blueline streams or riverine resources have been documented within or immediate surrounding the project site. Based on this review, one (1) riverine feature was documented on the southeast corner of the project site. No other features were identified as occurring within the boundary of the project. Refer to Appendix A, *Documentation*.

4.8 FLOOD ZONE

The Federal Emergency Management Act (FEMA) website was searched for flood data for the project site. Based on Flood Insurance Rate Map Nos. 06065C2715G and 06065C2720G that project site is located within Zone X – areas determined to be outside the 0.2% annual chance floodplain, minimal risk of flooding. Refer to Appendix A, *Documentation*.

⁵ A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.



Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Riverside County

THE TERRACES
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

Soils

Section 5 Site Conditions

ELMT biologist Travis J. McGill conducted a field delineation on August 18, 2021 to verify existing site conditions and document the extent of potential jurisdictional areas within the boundaries of the project site. ELMT field staff encountered no limitations during the field delineation. Refer to Appendix B for representative photographs taken throughout the project site.

5.1 JURISDICTIONAL FEATURES

5.1.1 DRAINAGE FEATURES

ELMT carefully assessed the site for depressions, inundation, presence of hydrophytic vegetation, staining, cracked soil, ponding, and indicators of active surface flow and corresponding physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris. Suspected jurisdictional areas were checked for the presence of definable channels, soils, and hydrology.

Drainage 1

Drainage 1 is an unnamed drainage, that has been mapped as a blue line stream that flows in an east to west direction on the southeast corner of the project site for approximately 570 linear feet. Drainage 1 receives flows via three storm drain outlets on the southeast corner of the site and flows through an earthen channel to a culvert with a concrete headwall in the middle of the southern boundary of the site. This drainage was constructed to convey storm flows from the surrounding area and under Murrieta Hot Springs Road. The upper reach of Drainage 1 (easternmost end) can be considered an intermittent stream since it is subject to a continual water source from urban runoff, and ponds in the eastern end of the drainage. The remainder to the drainage is ephemeral and only receives flows during large storm events. Approximately 1-3 inches of water was observed ponding on the eastern end of Drainage 1 during the survey. Evidence of an OHWM was observed via scour, changes in substrate, shelving, and lack of vegetation. The OHWM ranged from approximately 4-50 feet in width throughout the length of the drainage. Drainage 1 supports a southern willow scrub/eucalyptus stand plant community. This plant community is heavily mixed with native riparian plant species (mainly willows) and eucalyptus trees. Common plant species within this plant community include arroyo willow (*Salix lasiolepis*, FACW), black willow (*Salix gooddingii*, FACW), golden leaf willow (*Salix lucida*, FACW), eucalyptus (*Eucalyptus sp.*, FAC), fig (*Ficus carica*, FACU), Mexican fan palm (*Washingtonia robusta*, FACW), salt cedar (*Tamarix ramosissima*, FAC), cottonwood (*Populus fremontii*, FAC). This plant community is heavily degraded by the invasion of eucalyptus.

Drainage 2

Drainage 2 is an unnamed ephemeral drainage that flows in an east to west direction across the middle of the northern half of the project site for approximately 795 linear feet. Drainage 2 begins in the middle of the northern half of the project site in the topographic low spot on the property at the bottom of the rolling hills and only conveys water flows immediately following and during storm events. Drainage 2 exists the project site on the western boundary via a 36-inch culvert and eventually flows into another offsite culvert under Interstate 15. No surface water was present within Drainage 2 during the site visit; however, evidence

of an OHWM was observed via scour, changes in substrate, shelving, and lack of vegetation. The OHWM ranged from approximately 1-4 feet in width throughout the length of the drainage. The in-channel vegetation consisted of mostly non-native plant species including wild oat (*Avena fatua*, UPL), rigpgut (*Bromus diandrus*, UPL), short-podded mustard (*Hirschfeldia incana*, UPL),

5.1.2 WETLAND FEATURES

In order to qualify as a wetland, a feature must exhibit all three wetland parameters (i.e., vegetation, soils, and hydrology) described in the Corps Arid West Regional Supplement.

Drainage 1

The area on the easternmost end of Drainage 1, that is subject to a continual water source from urban runoff, and ponding, would be considered a wetland. This portion of the drainage supports a dominance of willow plant species and holds water for a long enough period of time (from urban runoff) to create anaerobic conditions. No soil pits were dug due to the number of roots that were in the soils, and a soil sample was not able to be obtained. However, this portion of the drainage is always subject to urban runoff and continually has water.

Drainage 2

No riparian vegetation or wetland obligate plant species were observed within Drainage 2. Further, Drainage 2 only conveys flows during and after storm events and does not hold water for long enough to create anaerobic condition, ultimately forming hydric soils. Therefore, Drainage 2 does not meet wetland requirements.

Section 6 Findings

This report presents the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Please refer to the following sections for a summary of jurisdictional areas within the Project site.

6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

6.1.1 WATERS OF THE UNITED STATES DETERMINATION

Drainages 1 and 2 ultimately discharge into Murrieta Creek, which exhibits a surface hydrologic connection to the Santa Margarita River (Relatively Permanent Water) and ultimately the Pacific Ocean (Traditional Navigable Water). Therefore, Drainages 1 and 2 qualify as waters of the United States and falls under the regulatory authority of the Corps.

Approximately 0.38 acre (1,365 linear feet) of Corps jurisdiction is located within the boundaries of the project site. Refer to Table 1 for a summary of on-site jurisdictional areas, and Exhibit 5, *Jurisdictional Areas*, for an illustration of on-site Corps jurisdictional areas.

Table 1: Corps Jurisdictional Waters

Jurisdictional Feature	Corps Jurisdiction
	On-Site Jurisdiction Acreage (Linear Feet)
Drainage 1	0.27 (570)
Wetland 1 (part of Drainage 1)	0.05
Drainage 2	0.006 (795)
TOTAL	0.38 (1,365)

6.1.2 WETLAND DETERMINATION

As previously noted, a small portion of Drainage 1 would qualify as a wetland, and no wetlands occur within Drainage 2.

6.2 REGIONAL WATER QUALITY CONTROL BOARD

No isolated or Rapanos conditions were observed within the boundaries of the Project site. Therefore, the Regional Board jurisdictional limit follows that of the Corps. Approximately 0.38 acre (1,365 linear feet) of Regional Board jurisdiction is located within the boundaries of the project site. Refer to Table 2 for a summary of on-site jurisdictional areas, and Exhibit 5, *Jurisdictional Areas*, for an illustration of on-site Regional Board jurisdictional areas.

Table 2: Regional Board Jurisdictional Waters

Jurisdictional Feature	Corps Jurisdiction
	On-Site Jurisdiction Acreage (Linear Feet)
Drainage 1	0.27 (570)
Wetland 1 (part of Drainage 1)	0.05
Drainage 2	0.006 (795)
TOTAL	0.38 (1,365)

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Drainages 1 and 2 exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed/riparian totaling approximately 0.84 acre (1,365 linear feet) within boundaries of the project site. Refer to Table 3 for a summary of on-site jurisdictional streambed, and Exhibit 5, *Jurisdictional Areas*, for an illustration of on-site CDFW jurisdictional areas.

Table 3: CDFW Jurisdictional Streambed

Jurisdictional Feature	CDFW Jurisdictional Streambed/Riparian Habitat
	On-Site Jurisdiction Acreage (Linear Feet)
Drainage 1	0.73 (570)
Wetland 1 (part of Drainage 1)	0.05
Drainage 2	0.06 (795)
TOTAL	0.84 (1,365)



Source: ESRI Aerial Imagery, Riverside County

THE TERRACES
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Jurisdictional Areas

Section 7 Regulatory Approval Process

The following is a summary of the various permits, certifications, and agreements that may be necessary prior to construction and/or alteration within jurisdictional areas. Ultimately the regulatory agencies make the final determination of jurisdictional boundaries and permitting requirements.

7.1 U.S. ARMY CORPS OF ENGINEERS

The Corps regulates discharges of dredged or fill materials into waters of the United States, including wetlands, pursuant to Section 404 of the CWA. Therefore, any impacts to on-site jurisdictional areas will require a CWA Section 404 permit prior to project implementation.

In order to qualify for the Corps Nationwide Permit (NWP) program, project impacts to “waters of the United States” typically need to be under a designated acre threshold (typically 0.5 acre). If project impacts exceed the acreage threshold then a Standard Individual Permit (IP) with the Corps would need to be processed. The NWPs are a streamlined process that already have supporting National Environmental Protection Agency (NEPA) compliance completed. If a project does not meet the requirements of the NWPs then IP will need to be processed, which requires its own NEPA compliance document.

It should also be noted, in accordance with the Corps Los Angeles District Regional Conditions for the 2021 NWPs, the following conditions apply to projects within the Murrieta Creek Watershed:

Within the Murrieta Creek and Temecula Creek Watersheds in Riverside County the use of NWPs 29, 39, 42 and 43, and NWP 14 combined with any of those NWPs shall be restricted. The permanent impact or loss of stream bed plus any other losses of jurisdictional wetlands and non-wetland waters of the U.S. caused by the NWP activity cannot exceed 0.25 acre. The definition of "loss" for this regional condition is the same as the definition of "loss of waters of the United States" used for the Nationwide Permit Program.

If the proposed project will impact less than the 0.25 acre, impacts to Corps jurisdictional areas can be authorized via the NWP Program. It is anticipated that the project can be authorized via Nationwide Permit (NWP) No. 29: *Residential Developments* and/or NWP No. 39: *Commercial and Institutional Developments*. It should be noted that NWP No. 29 and 39 have a linear foot impact threshold of 300 linear feet for all intermittent and ephemeral streams. However, the Corps can waive this threshold upon request through the submission of a Section 404 pre-construction notification.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

The Regional Board regulates discharges to surface waters pursuant to Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act. Any impacts to on-site jurisdictional areas will require a CWA Section 401 Water Quality Certification prior to project implementation. Therefore, it will be necessary for the applicant to acquire a CWA Section 401 Water Quality Certification prior to impacts occurring within Regional Board jurisdictional areas. The Regional Board also requires that California Environmental Quality Act (CEQA) compliance be obtained prior to obtaining the 401 Certification. A

Regional Board Application fee is required with the application package and is calculated based on the acreage and linear feet of jurisdictional impacts.

7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream. Therefore, any impacts to the on-site jurisdictional areas will require a Section 1602 Streambed Alteration Agreement from the CDFW prior to project implementation. The notification will require a processing fee which is based on the term and cost of the proposed Project. It should also be noted that the CDFW requires that the payment of the process fee be paid and CEQA compliance be obtained prior to the issuance of the final Section 1602 Streambed Alteration Agreement.

7.4 RECOMMENDATIONS

It is recommended that this delineation be forwarded to the regulatory agencies for their review and concurrence. The concurrence/receipt would solidify findings noted within this report.

Section 8 References

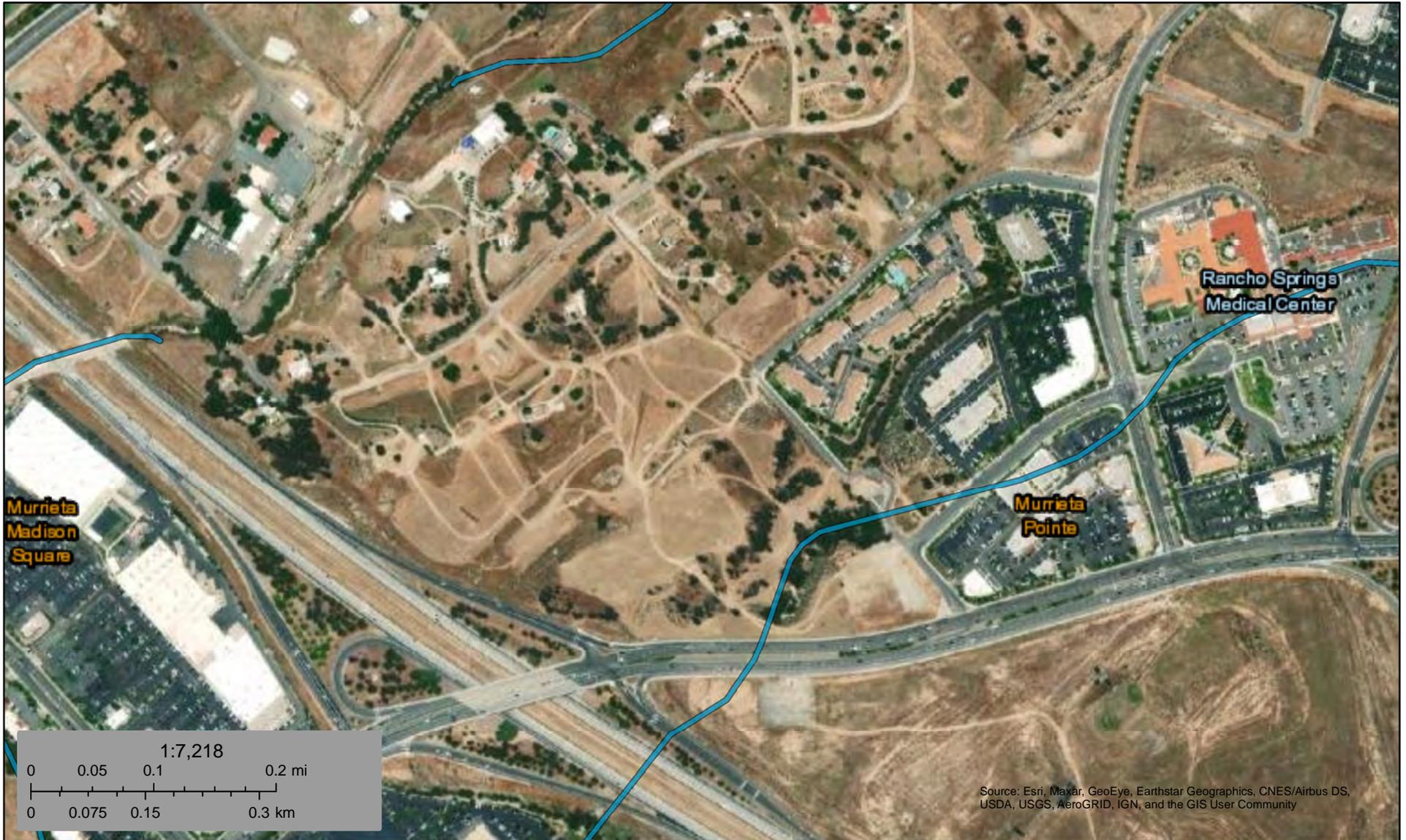
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Appendix A Documentation



The Terraces



October 7, 2021

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

NOTES TO USERS

is for use in administering the National Flood Insurance Program. It is necessary to identify areas subject to flooding, particularly from local sources of small size. This community map repository should be used for possible updates or additional flood hazard information.

For more detailed information in areas where **Base Flood Elevations** and/or **Floodways** have been determined, users are encouraged to consult the **Profiling and Floodway Data and/or Summary of Salinater Elevations** prepared with the Flood Insurance Study (FIS) report that accompanies this map. Users should be aware that BFEs shown on the FIRM represent whole-foot elevations. These BFEs are intended for flood insurance purposes only and should not be used as the sole source of flood information. Accordingly, flood elevation data presented in the FIS should be utilized in conjunction with the FIRM for purposes of flood and/or floodplain management.

Base Flood Elevations shown on this map apply only to landward of the American Vertical Datum of 1988 (AVD 88). Users of the FIRM should be aware that coastal flood elevations are also provided in the Summary of Elevations tables in the Flood Insurance Study report for this jurisdiction as shown in the Summary of Salinater Elevations tables should be used for flood and/or floodplain management purposes when they are higher than elevations shown on this FIRM.

Floodways were computed at cross sections and interpolated at cross sections. The floodway elevations are based on hydraulic considerations and to requirements of the National Flood Insurance Program. Floodway and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Areas not in Special Flood Hazard Areas may be protected by **flood structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction.

The projection used in the preparation of this map was Universal Transverse Mercator (UTM) zone 11. The horizontal datum was NAD 83. GRS80 spheroid was used as datum, spheroid projection or UTM zones used in the production of or adjacent jurisdictions may result in slight positional differences in map across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding the difference between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

National Geodetic Survey
 11490
 Geodetic Survey
 #9202
 441 West Highway
 Spring, Maryland 20710-3282
 301-328-2522

For current elevation description and/or location information to be shown on this map, please contact the Information Services Branch, National Geodetic Survey at (301) 713-3242, or visit its website at www.ngs.noaa.gov.

Map information shown on this FIRM was derived from U.S. Geological Survey Digital Orthophoto Quadrangles produced at a scale of 1:12,000 from photography dated 1994 or later.

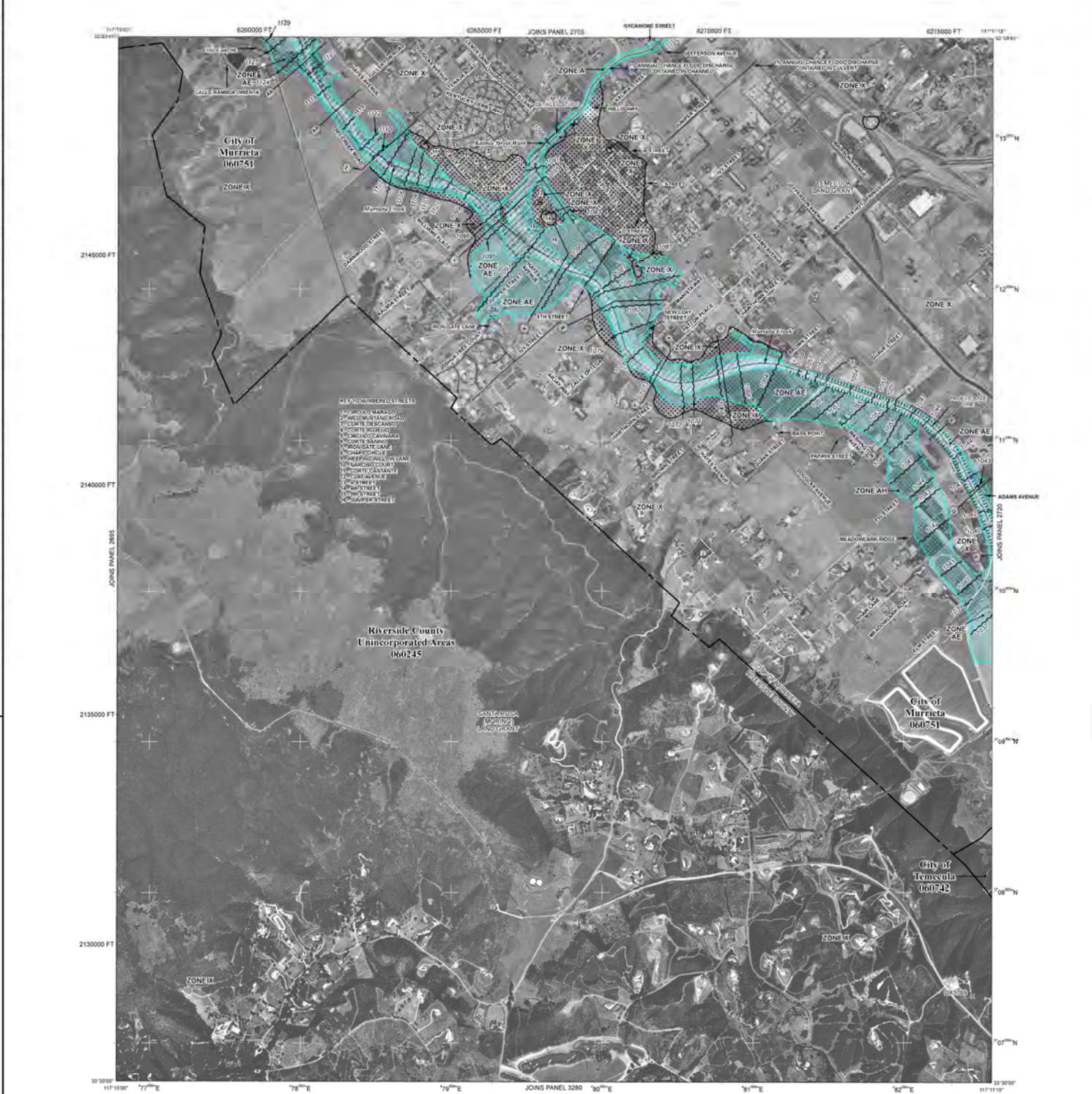
This map may reflect more detailed and up-to-date stream channel configurations than those shown on the previous FIRM for this jurisdiction. The maps and floodways that were transferred from the previous FIRM may have been updated to conform to these new stream channel configurations. As a result, the Profiling and Floodway Data in the Flood Insurance Study Report (which is authoritative hydraulic data) may reflect stream channel distances that are what is shown on this map.

The limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may occur after this map was published, map users should contact appropriate city officials to verify current corporate limit locations.

Refer to the separately printed **Map Index** for an overview map of the showing the layout of map panels, community map repository addresses, listing of Communities with National Flood Insurance Program, each community as well as a listing of the panels on which each city is located.

For the **FEMA Map Service Center** at 1-800-358-9616 for information on products associated with this FIRM. Available products may include: by issued Letters of Map Change, a Flood Insurance Study report, and/or versions of this map. The FEMA Map Service Center may also be reached at 1-800-358-9620 and its website at <http://www.fema.gov>.

For **questions about this map** or questions concerning the National Flood Insurance Program in general, please call 1-877-FEMA-MAP (1-877-336-2627) or FEMA website at <http://www.fema.gov>.



LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO DAMAGED BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood) also known as the 1% annual flood, is the flood that is expected to be exceeded on average once every 100 years. The Special Flood Hazard Areas are subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard Zones A, AE, AH, AO, AR, AR30, V, and VE. The Base Flood Elevation is the water elevation of the 1% annual chance flood.

ZONE A
 No Base Flood Elevation determined.

ZONE AE
 Base Flood Elevation determined.

ZONE AH
 Flood depths of 1 to 3 feet (usually areas of ponding). Base Flood Elevation determined.

ZONE AO
 Flood depths of 1 to 3 feet (usually sheet flow on impervious areas). Depth determined. For areas of sheet flow flooding, depth determined.

ZONE AR
 Special Flood Hazard Area (SFHA) present from the 1% annual flood by a flood control system that was subsequently destroyed. Indicates that the former flood control system is being restored and protection from the 1% annual chance or greater flood.

ZONE AR30
 Areas to be protected from 1% annual chance flood by a flood protection system under construction. No Base Flood Elevation determined.

ZONE V
 Coastal flood zone with velocity hazard (wave action). No Base Flood Elevation determined.

ZONE VE
 Coastal flood zone with velocity hazard (wave action). Base Flood Elevation determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be incorporated to the 1% annual chance flood (or be carried without substantial increase in flood height).

OTHER FLOOD AREAS

ZONE X
 Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with discharge areas of 1 square mile; areas protected by levees from 1% annual chance flood.

OTHER AREAS

Areas determined to be outside the 0.2% annual chance floodplain. Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPA)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary
 0.2% annual chance floodplain boundary
 Floodway boundary
 Zone D boundary
 CBRS and OPA boundary
 Boundary dividing Special Flood Hazard Area Zone boundary dividing Special Flood Hazard Areas of different flood elevations, flood depths or flood velocities
 Base Flood Elevation line and value; elevation in feet; Base Flood Elevation value where uniform within stream in feet
 (EL. 107)

* Referenced to the North American Vertical Datum of 1988
 Data source: USGS
 Transverse Mercator
 Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere
 78°11'N
 32°22'30"W
 1000-meter Universal Transverse Mercator grid values
 118
 5000-foot grid zone: California State Plane coordinate system, zone 11 (NAD 83), Lambert Conformal conic projection
 North arrow (see explanation in Notes to Users section 1.0.1.0.1)
 1:12,000
 6000000 FT
 DX5516 x
 M1:5
 River Map

MAP REPOSITORY
 Refer to listing of Map Repositories on Map Index
 EFFECTIVE DATE OF COMMUNITY FLOOD INSURANCE RATE MAP
 August 28, 2008
 EFFECTIVE DATES OF REVISIONS TO THIS PANEL

For community map revision history prior to community mapping, refer to the Community Map history table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-358-9620.

MAP SCALE 1" = 1000'
 0 500 1000 1500 2000 FEET
 0 300 600 METERS

NFIP

PANEL 2715G

FIRM
FLOOD INSURANCE RATE MAP

RIVERSIDE COUNTY, CALIFORNIA AND INCORPORATED AREAS

PANEL 2715 OF 3805
 (SEE MAP INDEX FOR FIRM PANEL LIST)

COMMUNITY	DISTRICT	PANEL
MURRIETA CITY OF	06051	2715
RIVERSIDE COUNTY	06050	2715
TEMECULA CITY OF	06042	2715

CONTACTS

COMMUNITY
 MURRIETA CITY OF
 RIVERSIDE COUNTY
 TEMECULA CITY OF

NOTES TO USER: The Map Number shown below is used when placing map orders. The Community name shown above should be used on insurance application and other correspondence.

MAP NUMBER
 060650

EFFECTIVE DATE
 AUGUST 28, 2008

Federal Emergency Management Agency

Appendix B Site Photographs



Photograph 1: Southern willow scrub/eucalyptus stand on the southeast corner of the project site associated with Drainage 1.



Photograph 2: Buckwheat scrub on the bank of Drainage 1.



Photograph 3: View looking south from the northern finger of Drainage 2.



Photograph 4: Looking at the location where the northern finger of Drainage 2 crosses an access road.



Photograph 5: Looking south at the area where the northern finger of Drainage 2 connects with the main drainage at the topographic low spot onsite.



Photograph 6: Looking west from the eastern boundary of Drainage 2. A small fire recently burned the vegetation in this portion of the drainage.



Photograph 7: View of the western portion of Drainage 2.



Photograph 8: 36-inch culvert that Drainage 2 flows into on the western boundary of the site.



Photograph 9: Looking at the culvert that receives water flows from Drainage 2 and conveys water under Interstate 15.



Photograph 11: Main culvert that conveys flows into Drainage 1 on the southeast corner of the site.



Photograph 11: From the eastern boundary of Drainage 1, looking at the area that is subject to urban runoff.



Photograph 12: One of the culverts that conveys flows into Drainage 1 on the southeast corner of the site.



Photograph 13: Looking at the western portion of Drainage 2.



Photograph 14: Looking at the middle portion of Drainage 2.



Photograph 15: View of the western portion of Drainage 1.



Photograph 16: From the western boundary of Drainage 1 looking east.



Photograph 17: Looking at the culvert at the western end of Drainage 1 that receives water flows from Drainage 1 and conveys under Murrieta Hot Springs Road.

Appendix C Methodology

WATERS OF THE UNITED STATES

Section 404 of the Clean Water Act

Since 1972, the Corps and U.S. Environmental Protection Agency (EPA) have jointly regulated the filling of “waters of the U.S.,” including wetlands, pursuant to Section 404 of the Clean Water Act (CWA). The Corps has regulatory authority over the discharge of dredged or fill material into the waters of the United States under Section 404 of the CWA. The Corps and EPA define “fill material” to include any “material placed in waters of the United States where the material has the effect of: (i) replacing any portion of a water of the United States with dry land; or (ii) changing the bottom elevation of any portion of the waters of the United States.” Examples include, but are not limited to, sand, rock, clay, construction debris, wood chips, and “materials used to create any structure or infrastructure in the waters of the United States.” In order to further define the scope of waters protected under the CWA, the Corps and EPA published the Clean Water Rule on June 29, 2015. Pursuant to the Clean Water Rule, the term “*waters of the United States*” is defined as follows:

- (i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.
- (ii) All interstate waters, including interstate wetlands¹.
- (iii) The territorial seas.
- (iv) All impoundments of waters otherwise defined as waters of the United States under the definition.
- (v) All tributaries² of waters identified in paragraphs (i) through (iii) mentioned above.
- (vi) All waters adjacent³ to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.
- (vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernal pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) mentioned above.
- (viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary

¹ The term *wetlands* means 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.

² The terms *tributary* and *tributaries* each mean a water that contributes flow, either directly or through another water (including an impoundment identified in paragraph (iv) mentioned above), to a water identified in paragraphs (i) through (iii) mentioned above, that is characterized by the presence of the physical indicators of a bed and banks and an ordinary high water mark.

³ The term *adjacent* means bordering, contiguous, or neighboring a water identified in paragraphs (i) through (v) mentioned above, including waters separated by constructed dikes or barriers, natural river berms, beach dunes, and the like.

high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they are determined on a case-specific basis to have a significant nexus to a waters identified in paragraphs (i) through (iii) mentioned above.

The following features are not defined as “waters of the United States” even when they meet the terms of paragraphs (iv) through (viii) mentioned above:

- (i) Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the Clean Water Act.
- (ii) Prior converted cropland.
- (iii) The following ditches:
 - (A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
 - (B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
 - (C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.
- (iv) The following features:
 - (A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
 - (B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
 - (C) Artificial reflecting pools or swimming pools created in dry land;
 - (D) Small ornamental waters created in dry land;
 - (E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
 - (F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
 - (G) Puddles.
- (v) Groundwater, including groundwater drained through subsurface drainage systems.
- (vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.
- (vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

WETLANDS

For this project location, Corps jurisdictional wetlands are delineated using the methods outlined in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Corps 2008). This document is one of a series of Regional Supplements to the Corps Wetland Delineation Manual (Corps 1987). The identification of wetlands is based on a three-parameter approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology. In order to be considered a wetland, an area must exhibit at least minimal characteristics within these three (3) parameters. The Regional Supplement presents wetland indicators, delineation guidance, and other information that is specific to the Arid West Region. In the field, vegetation, soils, and evidence of hydrology are examined using the methodology listed below and documented on Corps wetland data sheets, when applicable. It should be noted that both the Regional Board and the CDFW jurisdictional wetlands encompass those of the Corps.

Vegetation

Nearly 5,000 plant types in the United States may occur in wetlands. These plants, often referred to as hydrophytic vegetation, are listed in regional publications by the U.S. Fish and Wildlife Service (USFWS). In general, hydrophytic vegetation is present when the plant community is dominated by species that can tolerate prolonged inundation or soil saturation during growing season. Hydrophytic vegetation decisions are based on the assemblage of plant species growing on a site, rather than the presence or absence of particular indicator species. Vegetation strata are sampled separately when evaluating indicators of hydrophytic vegetation. A stratum for sampling purposes is defined as having 5 percent or more total plant cover. The following vegetation strata are recommended for use across the Arid West:

- ◆ *Tree Stratum:* Consists of woody plants 3 inches or more in diameter at breast height (DBH), regardless of height;
- ◆ *Sapling/shrub stratum:* Consists of woody plants less than 3 inches DBH, regardless of height;
- ◆ *Herb stratum:* Consists of all herbaceous (non-woody) plants, including herbaceous vines, regardless of size; and,
- ◆ *Woody vines:* Consists of all woody vines, regardless of size.

The following indicator is applied per the test method below.⁴ Hydrophytic vegetation is present if any of the indicators are satisfied.

Indicator 1 – Dominance Test

⁴ Although the Dominance Test is utilized in the majority of wetland delineations, other indicator tests may be employed. If one indicator of hydric soil and one primary or two secondary indicators of wetland hydrology are present, then the Prevalence Test (Indicator 2) may be performed. If the plant community satisfies the Prevalence Test, then the vegetation is hydric. If the Prevalence Test fails, then the Morphological Adaptation Test may be performed, where the delineator analyzes the vegetation for potential morphological features.

Cover of vegetation is estimated and is ranked according to their dominance. Species that contribute to a cumulative total of 50% of the total dominant coverage, plus any species that comprise at least 20% (also known as the “50/20 rule”) of the total dominant coverage, are recorded on a wetland data sheet. Wetland indicator status in California (Region 0) is assigned to each species using the *National Wetland Plant List, version 2.4.0* (Corps 2012). If greater than 50% of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation is considered to be met. Plant indicator status categories are described below:

- ◆ *Obligate Wetland (OBL)*: Plants that almost always occur in wetlands;
- ◆ *Facultative Wetland (FACW)*: Plants that usually occur in wetlands, but may occur in non-wetlands;
- ◆ *Facultative (FAC)*: Plants that occur in wetlands and non-wetlands;
- ◆ *Facultative Upland (FACU)*: Plants that usually occur in non-wetlands, but may occur in wetlands; and,
- ◆ *Obligate Upland (UPL)*: Plants that almost never occur in wetlands.

Hydrology

Wetland hydrology indicators are presented in four (4) groups, which include:

Group A – Observation of Surface Water or Saturated Soils

Group A is based on the direct observation of surface water or groundwater during the site visit.

Group B – Evidence of Recent Inundation

Group B consists of evidence that the site is subject to flooding or ponding, although it may not be inundated currently. These indicators include water marks, drift deposits, sediment deposits, and similar features.

Group C – Evidence of Recent Soil Saturation

Group C consists of indirect evidence that the soil was saturated recently. Some of these indicators, such as oxidized rhizospheres surrounding living roots and the presence of reduced iron or sulfur in the soil profile, indicate that the soil has been saturated for an extended period.

Group D – Evidence from Other Site Conditions or Data

Group D consists of vegetation and soil features that indicate contemporary rather than historical wet conditions, and include shallow aquitard and the FAC-neutral test.

If wetland vegetation criteria is met, the presence of wetland hydrology is evaluated at each transect by recording the extent of observed surface flows, depth of inundation, depth to saturated soils, and depth to free water in the soil test pits. The lateral extent of the hydrology indicators are used as a guide for locating soil pits for evaluation of hydric soils and jurisdictional areas. In portions of the stream where the flow is divided by multiple channels with intermediate sand bars, the entire area between the channels is considered within the OHWM and the wetland hydrology indicator is considered met for the entire area.

Soils

A hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper 16-20 inches.⁵ The concept of hydric soils includes soils developed under sufficiently wet conditions to support the growth and regeneration of hydrophytic vegetation. Soils that are sufficiently wet because of artificial measures are included in the concept of hydric soils. It should also be noted that the limits of wetland hydrology indicators are used as a guide for locating soil pits. If any hydric soil features are located, progressive pits are dug moving laterally away from the active channel until hydric features are no longer present within the top 20 inches of the soil profile.

Once in the field, soil characteristics are verified by digging soil pits along each transect to an excavation depth of 20 inches; in areas of high sediment deposition, soil pit depth may be increased. Soil pit locations are usually placed within the drainage invert or within adjoining vegetation. At each soil pit, the soil texture and color are recorded by comparison with standard plates within a *Munsell Soil Chart* (2009). Munsell Soil Charts aid in designating color labels to soils, based by degrees of three simple variables – hue, value, and chroma. Any indicators of hydric soils, such as organic accumulation, iron reduction, translocation, and accumulation, and sulfate reduction, are also recorded.

Hydric soil indicators are present in three groups, which include:

All Soils

“All soils” refers to soils with any United States Department of Agriculture (USDA) soil texture. Hydric soil indicators within this group include histosol, histic epipedon, black histic, hydrogen sulfide, stratified layers, 1 cm muck, depleted below dark surface, and thick dark surface.

Sandy Soils

“Sandy soils” refers to soil materials with a USDA soil texture of loamy fine sand and coarser. Hydric soil indicators within this group include sandy mucky mineral, sandy gleyed matrix, sandy redox, and stripped matrix.

Loamy and Clayey Soils

⁵ According to the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0 (Corps 2008), growing season dates are determined through on-site observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature.

“Loamy and clayey soils” refers to soil materials with a USDA soil texture of loamy very fine sand and finer. Hydric soil indicators within this group include loamy mucky mineral, loamy gleyed matrix, depleted matrix, redox dark surface, depleted dark surface, redox depressions, and vernal pools.

SWANCC WATERS

The term “isolated waters” is generally applied to waters/wetlands that are not connected by surface water to a river, lake, ocean, or other body of water. In the presence of isolated conditions, the Regional Board and CDFW take jurisdiction through the application of the OHWM/streambed and/or the 3 parameter wetland methodology utilized by the Corps.