

**RAMONA GATEWAY**  
**SOUTHWEST CORNER OF THE INTERSECTION OF**  
**RAMONA EXPRESSWAY AND WEBSTER AVENUE**

**CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA**

PERRIS USGS 7.5-MINUTE TOPOGRAPHIC QUADRANGLE  
SECTION 12, TOWNSHIP 4 SOUTH, RANGE 4 WEST  
APNS: 317-120-021; 317-130-017, -21, -25, AND -48

**Delineation of State and Federal Jurisdictional Waters**

---

**T & B Planning**

Tina Andersen  
3200 El Camino Real, Suite 100  
Irvine, California 92602  
Contact: *Tina Andersen*

Prepared By:

**ELMT Consulting, Inc.**

2201 N. Grand Avenue #10098  
Santa Ana, California 92711  
Contact: *Travis J. McGill*  
714.716.5050

July 2022

**RAMONA GATEWAY**  
**SOUTHWEST CORNER OF THE INTERSECTION OF**  
**RAMONA EXPRESSWAY AND WEBSTER AVENUE**

CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA

**Delineation of State and Federal Jurisdictional Waters**

---

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  
Biologist/Director



---

Thomas J. McGill, Ph.D.  
Managing Director

July 2022

# Executive Summary

---

ELMT Consulting (ELMT) has prepared this Delineation of State and Federal Jurisdictional Waters Report for the proposed Ramona Gateway project (project) located at the southwest corner of the intersection of Ramona Expressway and Webster Avenue in the City of Perris, Riverside County, California (Project). 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.<sup>1</sup>

One unnamed ephemeral water feature (swale) was observed on the project site during the field delineation that historically bifurcated into two channels (northern and southern). This feature originates at Nevada Road in the middle of the western boundary of the site. West of Nevada Road, outside of the project footprint an off-site feature conveys flows from a culvert beneath Interstate 215 that was created when Interstate 215 was installed. Culverts were installed under Interstate 215 which diverted water runoff from the area west of Interstate 215 and from Interstate 215 and created a swale on the project site. Once onsite, this feature traverses the site from west to east towards the eastern boundary of the project site, where the water infiltrates/dissipates onsite. This feature only conveys flows from direct precipitation during storm events. No surface water was present during the field investigation, and no riparian vegetation was observed onsite during the field investigation. A review of historic aerial imagery and topographic maps show that the culverts under Interstate 215 and the resulting drainage feature offsite are manmade features.

This ephemeral swale historically bifurcated, creating two features (a northern feature and a southern feature). The southern feature (the aforementioned swale) continues to persist onsite, while the northern feature has been heavily impacted from mowing activities and weed abatement and water no longer flows into the northern feature.

It was preliminarily determined that water dissipation on the eastern boundary of the project site has an insubstantial or speculative effect on the chemical, physical or biological significant nexus to the downstream waters. Storm flows are not expected to flow across the project site during most storm events. There are no existing blue-line streams traversing the project site, and the majority of the water flows from the offsite feature do not leave the project site. Plant species associated with this area is consistent with the vegetation found on the majority of the project site.

It is ELMT's professional opinion that the onsite feature would not qualify as jurisdictional by the Corps, Regional Board, or CDFW since it is a manmade feature, does not provide any habitat for wildlife, and is isolated. Even though the onsite feature dissipates/infiltrates onsite, does not present a surface hydrologic connection to any downstream waters, does not provide fish and wildlife resources, or beneficial uses, after

---

<sup>1</sup> The field surveys for this jurisdictional delineation were conducted on April 20, 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).

initial discussions with the Regional Board, the Regional Board is likely to assert jurisdiction over the onsite feature. As a result, CDFW will also likely assert jurisdiction over the feature and impacts will likely require a Regional Board Report of Waste Discharge and CDFW Section 1602 Lake or Streambed Alteration Agreement. Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

# Table of Contents

---

|                  |  |    |
|------------------|--|----|
| <b>Section 1</b> | <b>Introduction</b> .....                        | 1  |
| 1.1              | Project Location .....                           | 1  |
| 1.2              | Project Description.....                         | 1  |
| <b>Section 2</b> | <b>Regulations</b> .....                         | 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  |
| <b>Section 3</b> | <b>Methodology</b> .....                         | 7  |
| 3.1              | Waters of the United States .....                | 7  |
| 3.2              | Waters of the State .....                        | 7  |
| 3.2.1            | Regional Water Quality Control Board.....        | 7  |
| 3.2.2            | California Department of Fish and Wildlife ..... | 8  |
| <b>Section 4</b> | <b>Literature Review</b> .....                   | 9  |
| 4.1              | Watershed Review .....                           | 9  |
| 4.2              | Local Climate.....                               | 10 |
| 4.3              | USGS Topographic Quadrangle .....                | 10 |
| 4.4              | Aerial Photographs.....                          | 10 |
| 4.5              | Soils.....                                       | 10 |
| 4.6              | Hydric Soils List of California.....             | 12 |
| 4.7              | National Wetlands Inventory .....                | 12 |
| 4.8              | Flood Zone.....                                  | 12 |
| <b>Section 5</b> | <b>Site Conditions</b> .....                     | 14 |
| 5.1              | On-Site Features.....                            | 14 |
| 5.1.1            | Drainage Features .....                          | 14 |
| 5.1.2            | Wetland Features.....                            | 15 |
| <b>Section 6</b> | <b>Findings</b> .....                            | 18 |
| 6.1              | U.S. Army Corps of Engineers Determination ..... | 18 |
| 6.1.1            | Waters of the United States Determination.....   | 18 |
| 6.1.2            | Federal Wetland Determination .....              | 18 |
| 6.2              | Regional Water Quality Control Board.....        | 18 |
| 6.2.1            | Waters of the State Determination .....          | 18 |
| 6.2.2            | State Wetland Determination .....                | 19 |
| 6.3              | California Department of Fish and Wildlife ..... | 19 |
| <b>Section 7</b> | <b>Regulatory Approval Process</b> .....         | 20 |
| 7.1              | Regional Water Quality Control Board.....        | 20 |

7.2 California Department of Fish and Wildlife ..... 20  
7.3 Recommendations..... 20  
**Section 8      References..... 21**

**EXHIBITS**

Exhibit 1:      Regional Vicinity ..... 2  
Exhibit 2:      Site Vicinity ..... 3  
Exhibit 3:      Project Site ..... 4  
Exhibit 4:      Soils ..... 13  
Exhibit 5:      Water Features ..... 17

**APPENDIX**

Appendix A      Site Photographs  
Appendix B      Documentation  
Appendix C      Methodology

# Section 1 Introduction

---

This delineation has been prepared for the proposed project located at the southwest corner of the intersection of Ramona Expressway and Webster Avenue in the City of Perris, Riverside County, California (Project) in order to document the potential 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 field surveys and verification of site conditions conducted on April 20, 2021.

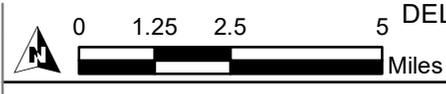
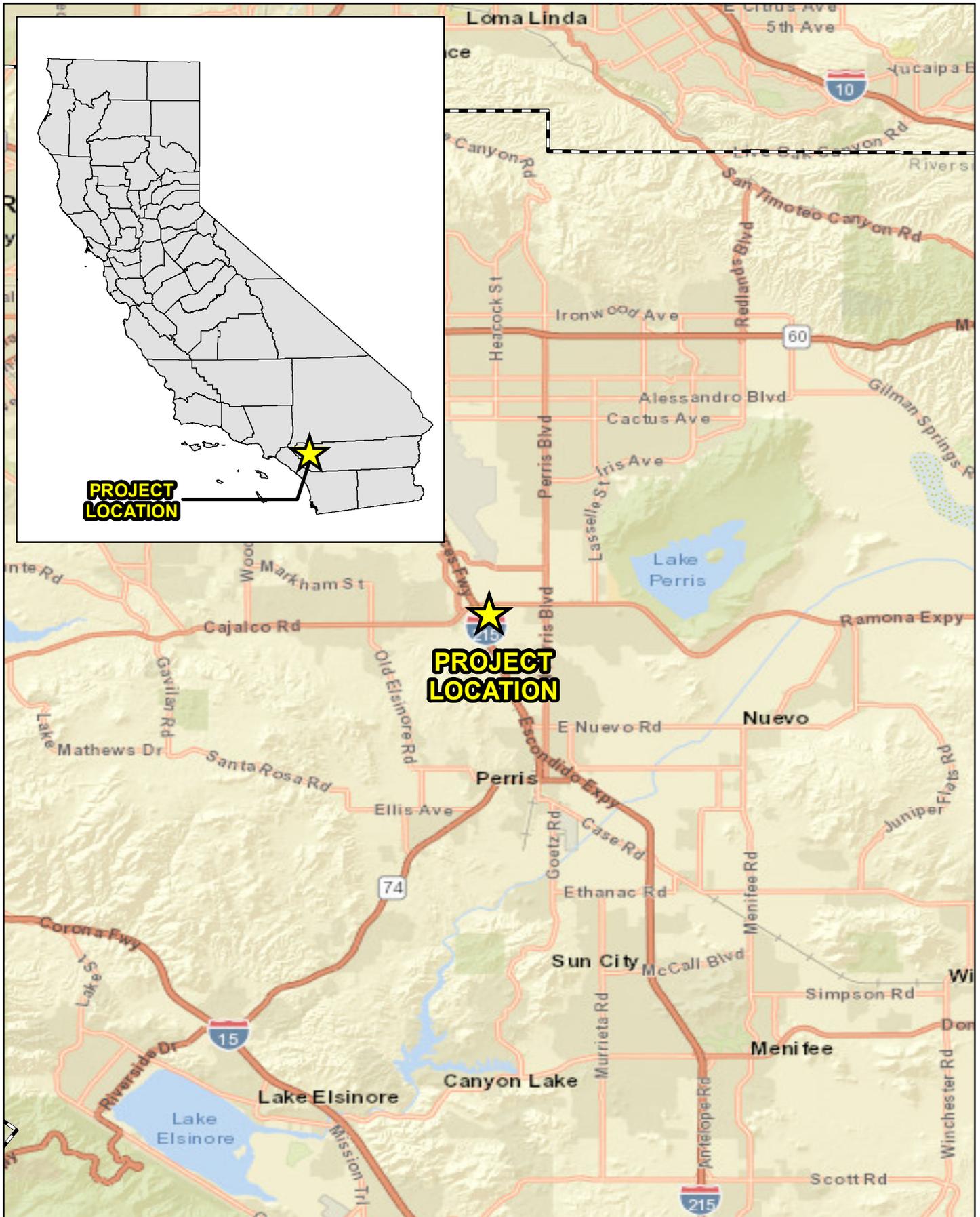
This jurisdictional delineation explains the methodology undertaken by ELMT Consulting (ELMT) to define the regulatory authority of the aforementioned regulatory agencies and documents the findings made by ELMT. This report documents the jurisdictional boundaries using the most up-to-date regulations, written policy, and guidance from the regulatory agencies.

## 1.1 PROJECT LOCATION

The approximately 50-gross acre project site is generally located east of Interstate 215, south of State Route 60, north of State Route 74, and west of Lake Perris in the City of Perris, Riverside County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Perris quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map within Section 12 of Township 4 South, Range 4 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located at the southwest corner of the intersection of Ramona Expressway and Webster Avenue within Assessor Parcel Numbers (APNs) 317-120-021 and 317-130-017, -021, -025, and -048, and street improvements will occur along Nevada Street, Webster Avenue and Ramona Expressway, and a gas line installation along Ramona Expressway between the project site and Brennan Avenue to the east. (Exhibit 3, *Project Site*)

## 1.2 PROJECT DESCRIPTION

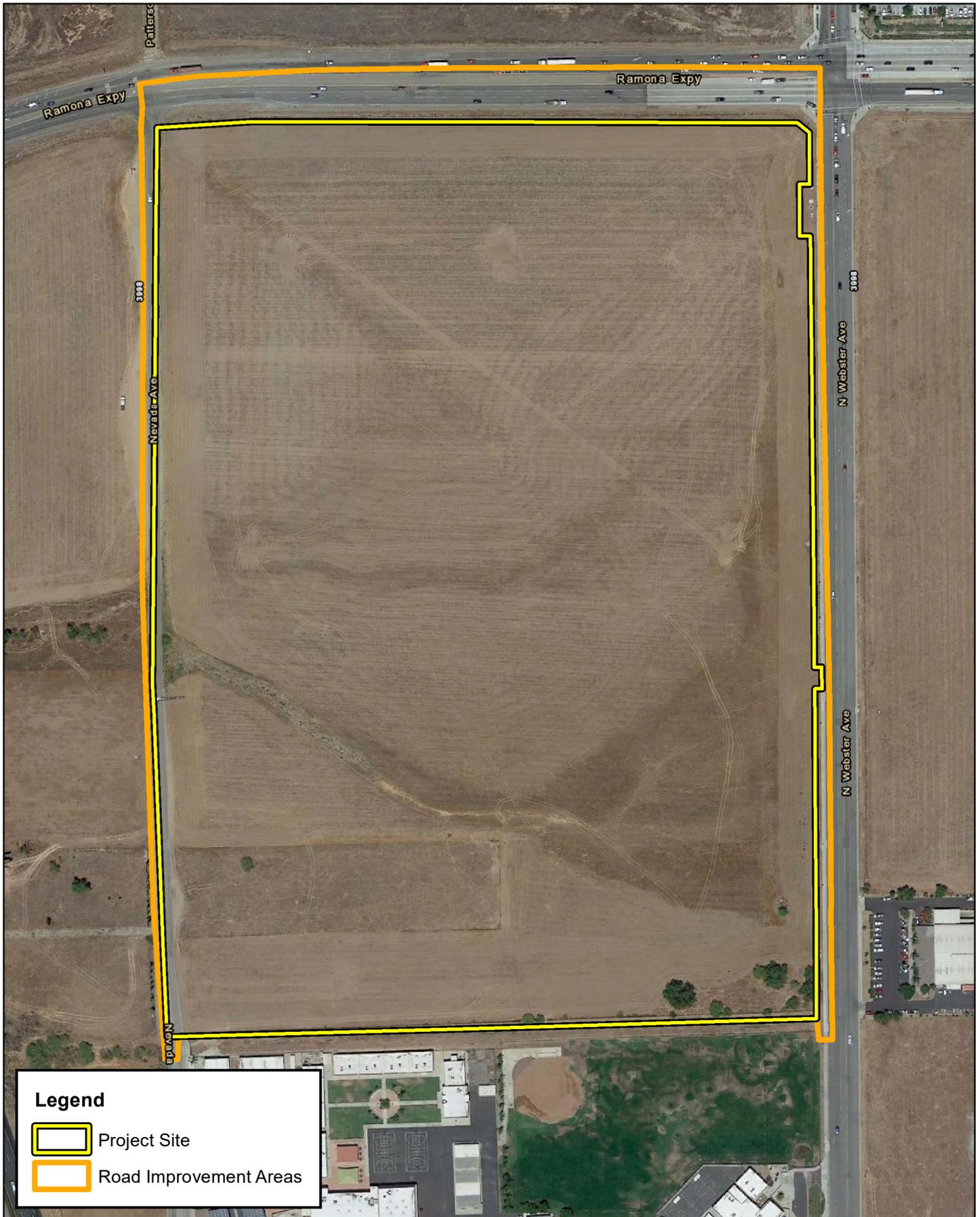
The proposed project consists of an industrial warehouse use in the southern portion of the site, with commercial/retail uses in the northern portion of the site along Ramona Expressway. The proposed project would also include roadway and access improvements, and utility infrastructure connections along the roadways adjacent to the project site.



Source: World Street Map, Riverside County

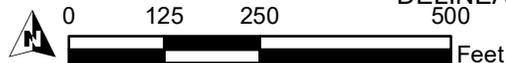
SWC RAMONA EXPRESSWAY AND WEBSTER  
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS  
**Regional Vicinity**





SWC RAMONA EXPRESSWAY AND WEBSTER  
 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.”

On April 21, 2020, the Environmental Protection Agency and Corps published a final rule defining the scope of waters subject to federal regulation under the Clean Water Act (“Navigable Waters Protection Rule”). The rule codifies the long-standing exclusion of “water-filled depressions constructed or excavated upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in non-jurisdictional waters for the purpose of obtaining fill, sand, or gravel.” (33 CFR 328.3(b)(9); *see also* 85 FR 22252, 22323 (Apr. 21, 2020).)

However, on August 30, 2021, the United States District Court vacated the 2020 EPA final rule (*Pascua Yaqui Tribe vs. Environmental Protection Agency*) and reverted back to the Pre-2015 regulatory definition and practice.

### 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*<sup>2</sup> (SWANCC) and *Rapanos v. United States*<sup>3</sup> (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 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).)

---

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

<sup>3</sup> Rapanos v. United States, 547 U.S. 715 (2006)

## Section 3 Methodology

---

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on April 20, 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.*”<sup>4</sup> 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.

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).

### 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

---

<sup>4</sup> CWA regulations 33 CFR §328.3(e).

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. CDFW Regulations define "stream" as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." (14 Cal. Code Regs., § 1.72.) For this project location, CDFW jurisdictional limits were delineated using this definition of "stream."

## 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 B, *Documentation*. In addition, refer to Section 7 for a complete list of references used throughout the course of this delineation.

### 4.1 WATERSHED REVIEW

The project site is located within the San Jacinto River Watershed (Hydrologic Unit Code 18070202) which encompasses approximately 770 square miles and extends from the San Jacinto Mountains in the north and east to Lake Elsinore in the west. The majority of the watershed falls within Riverside County; however, the western boundary extends into a small undeveloped portion of Orange County. Elevations range from less than 1,250 feet above mean sea level at Lake Elsinore to approximately 1,400 to 1,700 feet on the valley floor to 10,834 feet at Mount San Jacinto in the San Jacinto Mountains. The Box Springs Mountains are located in the northwest, the San Jacinto Mountains in the north and east, and the Santa Ana Mountains in the southwest. Generally, the watershed can be divided into three distinct geomorphic regions: the San Jacinto Mountain Block, the Perris Block, and the Elsinore Trough. The San Jacinto Mountain Block includes granitic mountains characterized by shallow and stony soils. The Perris Block consists of relatively stable crystalline rock covered in deep alluvium derived from the San Jacinto Mountains. Southwest of the Perris Block is the Elsinore Trough, which is bounded on three sides by faults and the Elsinore Mountains.

The San Jacinto River, Mystic Lake, Perris Valley Storm Drainage, Salt Creek, Perris Reservoir, Canyon Lake, and Lake Elsinore are the dominant hydrologic features within the San Jacinto River Watershed. The headwaters to the San Jacinto River exhibit perennial flows while the valley reaches are characterized by intermittent flows. During significant storm events, periods of intense rainfall result in rapid increases in stream flow throughout the steep, mountainous portions of the watershed. Runoff from the upper reaches of the San Jacinto River generally flows towards the northwest and is eventually directed to Mystic Lake where flows are impounded during average/low flow years. Mystic Lake is relatively shallow and has a large surface area resulting in increased losses to infiltration, groundwater recharge, and evaporation. The storage capacity of Mystic Lake is only expected to be exceeded during significant storm events, resulting in the flows being returned to the San Jacinto River.

Downstream of Mystic Lake, the lower reaches of the San Jacinto River flow through Railroad Canyon before draining into Canyon Lake. Canyon Lake was created through the construction of the Railroad Canyon Dam and collects runoff from as far as Moreno Valley, San Jacinto, Hemet, and Perris. It is estimated that more than 90 percent of the San Jacinto River Watershed drains to Canyon Lake. In addition to the San Jacinto River, Salt Creek is one of the main tributaries to Canyon Lake. The headwaters of Salt Creek are located in the City of Hemet and flows are primarily the result of surface water runoff from surrounding urban areas. Lake Elsinore is approximately 3 miles downstream of Canyon Lake at the lowest elevation of the San Jacinto River Watershed. Surface flow from the San Jacinto River Watershed reaches Lake Elsinore only through the direct release, overflow, or seepage from the Canyon Lake Dam. Lake Elsinore acts as a natural sump for the San Jacinto River Watershed; however, in rare situations the lake has overflowed into Temescal Creek, which ultimately drains to the Santa Ana River.

## 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 chilly to cold morning temperatures common. Climatological data obtained for the City of Perris, directly adjacent to March Air Reserve Base, indicates the annual precipitation averages 11.4 inches per year. Almost all of the precipitation 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 2.86 inches. The average maximum and minimum temperatures for the City of Perris are 80.9 and 46.8 degrees Fahrenheit (F) respectively with July and August being the hottest months (monthly average high 98.0° F) and December being the coldest (monthly average low 34.0° F). Temperatures during the site visits were in the mid-60s° F with light winds and little to no cloud cover.

## 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 the project site.

The project site is depicted on the Perris quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Section 12 of Township 4 South, Range 4 East. According to the topographic map, the project site consists entirely of vacant/undeveloped land east of Interstate 215. The project site is relatively flat and located at elevation of approximately 1,480 to 1,492 feet above mean sea level and generally slopes from west to east. No historic bluelines streams have been mapped onsite, but one was observed, northwest of the project site, west of Interstate 215.

## 4.4 AERIAL PHOTOGRAPHS

Prior to conducting the field delineation, ELMT reviewed current and historical aerial photographs (1966-2021) of the project site as available from Google Earth Pro Imagery and HistoricAerils.com. 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 consists of vacant, undeveloped land that has been subject to a variety of anthropogenic disturbances associated with historic agricultural activities, surrounding development, and routine weed abatement/disking activities. Refer to Appendix A, *Site Photographs*. Historic aerials show these activities have been ongoing since at least 1966. Prior to conducting the field investigation, aerial photography was reviewed to document existing site conditions and document the changes to the project site and surrounding area.

1966 - 1967: The project site and surrounding areas support agricultural fields. The site is bounded to the north and east by Ramona Expressway and Webster Avenue, respectively, and by farmland to the south and west. A rural farmhouse is present at the southeast corner of the

site with associated ornamental trees. Ornamental trees are also present along the eastern boundary. No drainages are present on-site. Ramona Expressway runs exclusively east-to-west in proximity to the site and terminates at Interstate 215.

- 1967 - 1978: Some ornamental trees in the southeast corner have been removed to establish a driveway to the farmhouse from Webster Avenue. No drainages are present on-site.
- 1978 - 1994: Improvements are made to Ramona Expressway and Interstate 215 in proximity to the site. Such improvements include: a redirection and continuation of Ramona Expressway to the southwest, the installation of dedicated on-ramps and off-ramps, the installation of culverts beneath Interstate 215, and the installation of a roadside ditch adjacent to the northern boundary of the site. In addition to these improvements, Nevada Road is established along the western boundary of the site. A roadside ditch is fed from the west by a culvert beneath Nevada Road, conveying storm flows from beyond Interstate 215, and does not bear a connection to on-site features. A swale feature appears on-site and within the adjacent farmland to the west, originating at a culvert beneath Interstate 215 until it is transected by Nevada Road. Off-site portions of the feature are more pronounced than on-site portions. No features are present to suggest water exits the site.
- 1994 - 1997: The on-site swale feature that entered the site from the adjacent farmland to the west bifurcated at Nevada Road into northern and southern features. The northern feature traverses the site eastward before exhibiting sheet flow to the northwest and the southern feature traverses the site to the southeast before exhibiting sheet flow towards the southeast corner. In addition, a new swale was observed along the eastern boundary of the site along Webster Avenue. The feature along Webster Avenue collects flows from on-site features and infiltrates/dissipates onsite. On-site agricultural activities cease.
- 1997 - 2002: Routine weed abatement activities (i.e., disking) begin. The on-site farmhouse is removed; associated ornamental trees remain.
- 2002 - 2003: Development on the adjacent parcel to the south has begun. A culvert is installed beneath Nevada Drive at the off-site drainage to the south, which has been trenched in association with adjacent development.
- 2003 - 2005: Development on the adjacent parcel to the south is complete. The southern limits of the drainage along Webster Avenue move northwards and the southern Nevada Road drainage no longer reaches the southeast corner of the site, but instead moves eastward towards Webster Avenue.
- 2005 - 2009: Utility infrastructure (i.e., electrical boxes and utility vaults) is installed along the eastern boundary near the northeast corner. Storm drains are installed within the paved sidewalk between Webster Avenue, the eastern boundary of the site. Ornamental trees along the eastern boundary of the site are removed in association with improvements made to Webster Avenue. Infrastructure improvements along Webster Avenue to not occur within the boundaries of the site.

2009 - present: No changes.

#### **4.5 SOILS**

Soils within and adjacent to the Project site were researched prior to the field delineation using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for Riverside County. 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 the following soil units: Ramona sandy loam (0 to 2 percent slopes, MLRA 19) and Ramona sandy loam (0 to 2 percent slopes, severely eroded). Refer to Exhibit 4, *Soils*. Soils on-site have been mechanically disturbed and heavily compacted from historic land uses (i.e., agricultural activities, grading activities, weed abatement, and surrounding development).

#### **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 hydric<sup>5</sup>. 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 mapped soils onsite are listed as hydric in Riverside County.

#### **4.7 NATIONAL WETLANDS INVENTORY**

ELMT reviewed the U.S. Fish and Wildlife Service's (USFWS) National Wetland Inventory maps. Based on this review, no resources have been mapped on the project site. It should be noted, one (1) riverine resource was mapped northwest of the project site, west of Interstate 215. Refer to Appendix B, *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 No. 06065C1430H the site is located within Zone X – areas with minimal risk of flooding. Refer to Appendix B, *Documentation*.

---

<sup>5</sup> 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.



## Section 5 Site Conditions

---

ELMT biologist Travis J. McGill conducted a field delineation on April 20, 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.

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.

### 5.1 ON-SITE FEATURES

#### 5.1.1 DRAINAGE FEATURES

As noted above in the historic aerial review, between 1978 and 1994, improvements were made to Ramona Expressway and Interstate 215. Culverts were installed under Interstate 215 which diverted water runoff from the area west of Interstate 215 and from Interstate 215 and created a swale on the Project site. All of the water that reached the Project site infiltrated/dissipated onsite. No features are present to suggest water exited the site. Then between 1994 and 1997 the onsite swale that entered the Project site from the adjacent farmland to the west bifurcated at Nevada Avenue into two features (northern and southern). The northern feature traverses the site eastward before exhibiting sheet flow to the northeast; and the southern feature traverses the site to the southeast before exhibiting sheet flow towards the southeast corner. In addition, a new swale was observed along the eastern boundary of the Project site along Webster Avenue. The feature along Webster Avenue collects flows from on-site features and infiltrates/dissipates onsite. From 2003 to 2005, the southern limits of the drainage along Webster Avenue move northwards and the southern Nevada Avenue drainage no longer reaches the southeast corner of the Project site, but instead moves eastward towards Webster Avenue. Then between 2005 and 2009 storm drains are installed along the eastern boundary of the Project site adjacent to Webster Avenue, connecting into the storm drain system.

One (1) unnamed ephemeral water feature was observed on the project site during the field investigation, that historically bifurcated into northern and southern channels (Exhibit 5, *Water Features*). This feature originates at Nevada Avenue in the middle of the western boundary of the site. West of Nevada Road, outside of the project footprint an off-site feature conveys flows from a culvert beneath Interstate 215 that was created when Interstate 215 was installed. Culverts were installed under Interstate 215 which diverted water runoff from the area west of Interstate 215 and from Interstate 215 and created a swale on the project site.

Once onsite, this feature traverses the site from west to east towards the eastern boundary of the project site, where the water infiltrates/dissipates onsite. This feature only conveys flows from direct precipitation during storm events. No surface water was present during the field investigation, and no riparian vegetation was observed onsite during the field investigation. A review of historic aerial imagery and topographic

maps show that the culverts under Interstate 215 and the resulting drainage feature offsite are manmade features.

No hydrological soils are mapped as occurring within the project site and no riparian vegetation was observed onsite during the field investigation. The onsite feature primarily consists of non-native grasses (*Bromus ssp.*) and plant species found in the surrounding areas.

This ephemeral swale historically bifurcated, creating two features (a northern feature and a southern feature). The southern feature (the aforementioned swale) continues to persist onsite, while the northern feature has been heavily impacted from mowing activities and weed abatement and water no longer flows into the northern feature. The southern portions of the swale ranged from 1-4 feet in width and the northern feature was range from 1-2 feet in width.

It was preliminarily determined that water dissipation on the eastern boundary of the project site has an insubstantial or speculative effect on the chemical, physical or biological significant nexus to the downstream waters. Storm flows are not expected to flow across the project site during most storm events. There are no existing blueline streams traversing the project site, and the majority of the water flows from the offsite feature do not leave the project site. Plant species associated with this area is consistent with the vegetation found on the majority of the project site.

It is ELMT's professional opinion that the onsite feature would not qualify as jurisdictional by the Corps, Regional Board, or CDFW since it is a manmade feature, does not provide any habitat for wildlife, and is isolated. Even though the onsite feature dissipates/infiltrates onsite, does not present a surface hydrologic connection to any downstream waters, does not provide fish and wildlife resources, or beneficial uses, after initial discussions with the Regional Board, the Regional Board is likely to assert jurisdiction over the onsite feature. Since the Regional Board is likely to assert jurisdiction over the onsite feature, CDFW will likely assert its jurisdiction over the drainage as well.

The majority of the project site supports a non-native grassland that occurs in varying densities throughout the site, except the southwest and southeast corners and portions of the site perimeter. This plant community is dominated by non-native grasses such as oats (*Avena spp.*) and bromes (*Bromus spp.*) and supports primarily weedy/early successional species. Common plant species observed in the non-native grassland plant community include red-stemmed filaree (*Erodium cicutarium*), common mustard (*Brassica rapa*), Mediterranean mustard (*Hirschfeldia incana*), stinknet (*Oncosiphon pilulifer*), wild radish (*Raphanus sativa*), fiddleneck (*Amsinckia sp.*), annual lupine (*Lupinus bicolor*), and Mexican palo verde (*Parkinsonia aculeata*). Non-native grasses occur in the highest densities in the southern portion of the site, where they are nearly exclusive along a swale. These plant species are common plant species, and none are threatened, endangered, or have special status in California.

### 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. Although evidence of hydrology (i.e., scour, changes in substrate, shelving) was present within the onsite drainages, these areas were primarily dominated by upland plant species. Further, water does not persist long enough on the project site

to create hydric soil (anaerobic) conditions, and none of the onsite drainages supported a dominance of hydrophytic vegetation. As a result, no features onsite meet this definition to qualify as jurisdictional wetlands.



**Legend**

- Project Site
- Road Improvement Areas
- Water Feature  
(0.18 acre / 3,150 linear feet)



SWC RAMONA EXPRESSWAY AND WEBSTER  
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

# Water Features

Source: ESRI Aerial Imagery, Riverside County

## Section 6 Findings

---

This report presents ELMT's best effort at determining 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 and Tables 1 and 2.

### 6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

#### 6.1.1 WATERS OF THE UNITED STATES DETERMINATION

Based on the detailed analysis of onsite hydrologic conditions, it was preliminarily determined that water dissipation on the eastern boundary of the project site has an insubstantial or speculative effect on the chemical, physical or biological significant nexus to the downstream waters. Storm flows are not expected to flow across the project site during most storm events. There are no existing blueline streams traversing the project site, and the majority of the water flows from the offsite feature do not leave the project site, only during high volume storm event does water have the potential to reach the storm drains on the eastern boundary of the site. Plant species associated with this area is consistent with the vegetation found on the majority of the project site.

Based on the information above, the on-site feature dissipates/infiltrates onsite and does not present a surface hydrologic connection to any downstream waters. Therefore, the onsite feature would not qualify as jurisdictional by the Corps.

#### 6.1.2 FEDERAL WETLAND DETERMINATION

An area must exhibit all three wetland parameters described in the Corps Arid West Regional Supplement to be considered a jurisdictional wetland. Based on the results of the field delineation, it was determined that no areas within the project site met all three wetland parameters. Therefore, no jurisdictional wetland features exist within the project site.

### 6.2 REGIONAL WATER QUALITY CONTROL BOARD

#### 6.2.1 WATERS OF THE STATE DETERMINATION

Even though the onsite feature dissipates/infiltrates onsite, does not present a surface hydrologic connection to any downstream waters, does not provide fish and wildlife resources, or beneficial uses, after initial discussions with the Regional Board, the Regional Board is likely to assert jurisdiction over the onsite feature. As mapped based on conversations with the Regional Board, approximately 0.18 acre (3,150 linear feet) of non-wetland waters of the State occur onsite that will be impacted from site development. Refer to Exhibit 5, *Water Features*, for an illustration of impacts to Regional Board waters of the State.

**Table 1: Regional Board Jurisdictional Impacts**

| Jurisdictional Features | Regional Board<br>Non-Wetland Waters          |                                  |
|-------------------------|---|----------------------------------|
|                         | On-Site Jurisdiction<br>acreage (linear feet) | Impacts<br>acreage (linear feet) |
| Water Feature 1         | 0.18 (3,150)                                  | 0.18 (3,150)                     |
| <b>TOTALS</b>           | <b>0.18 (3,150)</b>                           | <b>0.18 (3,150)</b>              |

### 6.2.2 REGIONAL BOARD WETLAND DETERMINATION

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. Based on the results of the field delineation, it was determined that no areas within the project site met these wetland definitions. Therefore, no Regional Board jurisdictional wetland features exist within the project site.

### 6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Even though the onsite feature dissipates/infiltrates onsite, does not provide fish and wildlife resources, or beneficial uses, CDFW will also likely assert jurisdiction over the feature. Approximately 0.18 acre (3,150 linear feet) of CDFW jurisdictional waters occur onsite that will be impacted from site development. Refer to Exhibit 5, *Water Features*, for an illustration of impacts to CDFW jurisdictional streambed.

**Table 2: CDFW Jurisdictional Impacts**

| Jurisdictional Features | CDFW<br>Jurisdictional Streambed              |                                  |
|-------------------------|---|----------------------------------|
|                         | On-Site Jurisdiction<br>acreage (linear feet) | Impacts<br>acreage (linear feet) |
| Water Feature 1         | 0.18 (3,150)                                  | 0.18 (3,150)                     |
| <b>TOTALS</b>           | <b>0.18 (3,150)</b>                           | <b>0.18 (3,150)</b>              |

## **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            REGIONAL WATER QUALITY CONTROL BOARD**

In the absence of federal waters of the United States, the Regional Board regulates waters under the California Porter-Cologne Water Quality Control Act. Therefore, any impacts to onsite jurisdictional areas will require a Report of Waste Discharge permit from the Regional Board prior to project implementation. The application fee is based on the extent of project impacts and the permit will not be issued until all fees are paid to the Regional Board. It should also be noted that the Regional Board requires that California Environmental Quality Act (CEQA) compliance be obtained prior to issuance of the Report of Waste Discharge permit.

### **7.2            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 may require a Section 1602 Streambed Alteration Agreement from the CDFW prior to project implementation, if the project will have a substantial adverse impact on an existing fish or wildlife resource. The notification fee is based on the term and cost of a project. The Section 1602 Streambed Alteration Agreement will not be issued until all fees are paid to the CDFW. However, agreement with CDFW may not be required due to the low probability that the project will result in a substantial adverse impact to existing fish or wildlife resource (Fish & G. Code, § 1602(a)(4)(A)(i).

### **7.3            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

---

- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station, 1987.
- Google, Inc. 2021. Google Earth Pro version 7.3.4.8248 build date 7/16/2021. Historical aerial imagery from 1985 to 2021.
- U.S. Army Corps of Engineers (Corps). 2006. *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of “Waters of the United States” in the Arid Southwestern Channels*. February 2006.
- Corps. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States*. August 2008.
- Corps. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J.S. Wakeley, R. W. Lichvar, and C. V. Nobel. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- Corps. 2016. *Arid West 2016 Regional Wetland Plant List*. 2016 NWPL v3.3. Accessed online at [http://wetland-plants.usace.army.mil/nwpl\\_static/index.html](http://wetland-plants.usace.army.mil/nwpl_static/index.html).
- Corps. 2016. *Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. February 2016.
- Corps. 2017. *Los Angeles District Regulatory Program* ([www.spl.usace.army.mil/](http://www.spl.usace.army.mil/)).
- Corps. 2017. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. March 2017.
- Corps. 2017. *Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District*. March 2017.
- Corps. 2020. *The Navigable Waters Protection Rule: Definition of “Waters of the United States*. 33 CFR Part 328. April 2020.
- NetrOnlines. 2021. HistoricAerials.com
- State Water Resources Control Board. 2019. *State wetland Definition and procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted May 28, 2020.
- U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). *List of Hydric Soils*. Accessed online at <https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.
- USDA NRCS. 2017. *Field Indicators of Hydric Soils in the United States: A Guide to Identifying and Delineating Hydric Soils, Version 8.1*. 2017.

U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, *Flood Insurance Rate Map No. 06065C143OH*.

U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation. 2019. *Wetland Geodatabase*. Accessed online at <https://www.fws.gov/wetlands/data/Mapper.html>.

Vyverberg, Kris. 2010. *A Review of Stream Processes and Forms in Dryland Watersheds*. California Department of Fish and Game. December 2010.

## **Appendix A      Site Photographs**

---



**Photograph 1:** From the middle of the western boundary of the project site looking east at the beginning of the onsite swale.



**Photograph 2:** View looking east at the onsite swale.



**Photograph 3:** Looking west from the middle of the onsite swale.



**Photograph 4:** View of the onsite swale.



**Photograph 5:** Looking at the area where the swale transitions into sheet flow.



**Photograph 6:** Area where the swale sheet flows on the eastern portion of the site.



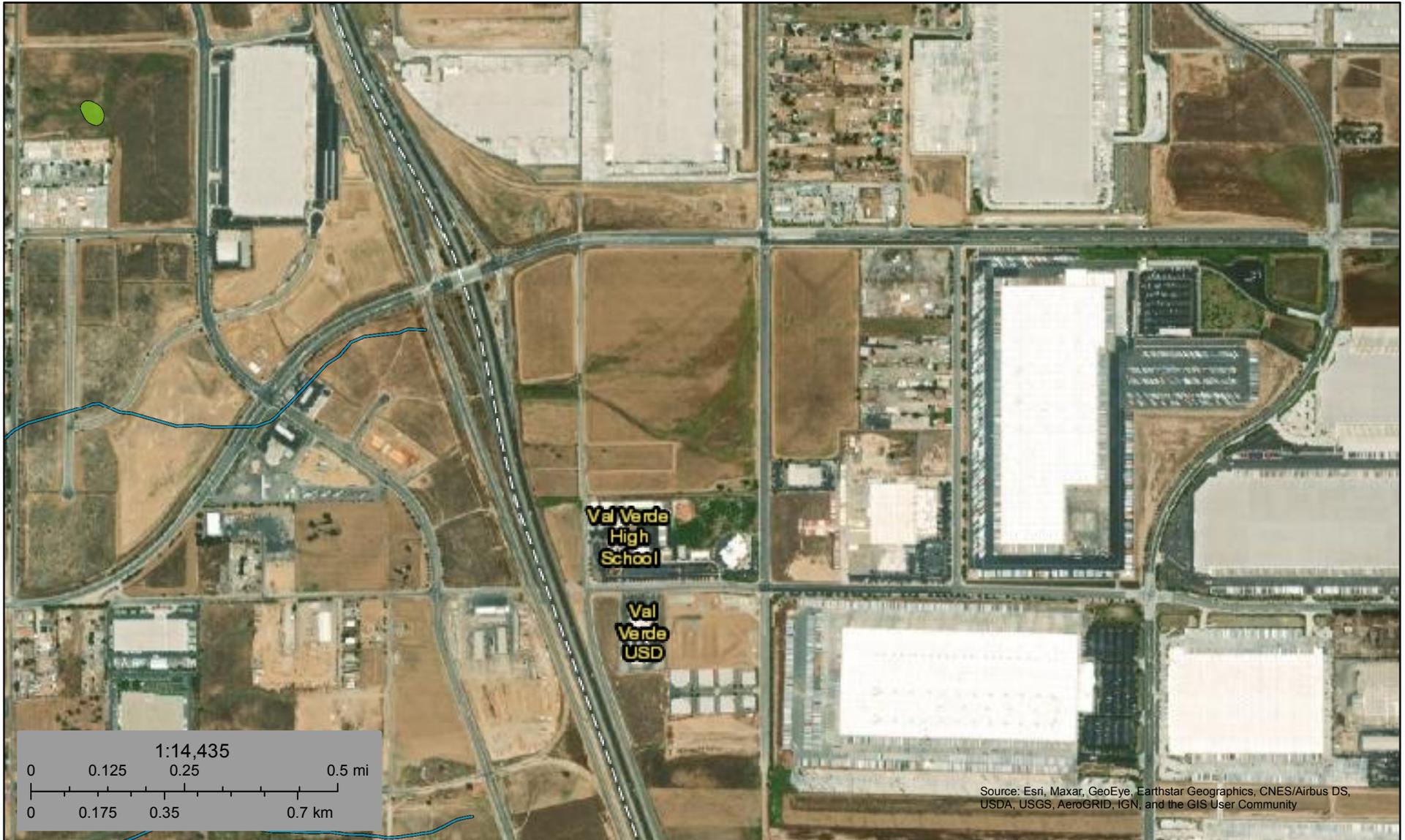
**Photograph 7:** Looking north along the eastern boundary of the project site. Storm water no longer reach this area.



**Photograph 8:** Storm drain on the eastern boundary of the site.

## **Appendix B      Documentation**

---



December 23, 2021

**Wetlands**

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

In administering the National Flood Insurance Program, it does identify areas subject to flooding, particularly from local drainage size. The community map repository should be consulted for additional flood hazard information.

Additional information in areas where Base Flood Elevations (BFEs) have been determined, users are encouraged to consult Floodway Data and/or Summary of Stillwater Elevations within the Flood Insurance Study (FIS) report that accompanies this map. It should be noted that BFEs shown on the FIS report are not elevations. These BFEs are intended for flood insurance only and should not be used as the sole source of flood elevation data. Flood elevation data presented in the FIS report should be used for flood management purposes when they are higher than elevations on this map.

Base Flood Elevations (BFEs) shown on this map apply only to the nearest mean Vertical Datum of 1988 (MVD 88). Users of this FIRM that coastal flood elevations are also provided in the Summary of Elevations in the Flood Insurance Study report for this jurisdiction. In the Summary of Stillwater Elevations table should be used for flood management purposes when they are higher than elevations on this map.

Floodways were computed at cross sections and interpolated sections. The floodways were based on hydraulic considerations of the National Flood Insurance Program. Floodway or preferred floodway data are provided in the Flood Insurance Study report.

Special Flood Hazard Areas may be protected by flood walls. Refer to Section 2.4 "Flood Protection Measures" of the FIS report for information on flood control structures for this jurisdiction.

The horizontal datum of this map was Universal Transverse Mercator (UTM) zone 11. The horizontal datum was NAD83, GRS1980 spheroid datum, spherical projection or State Plane zones used in the FIS for adjacent jurisdictions may result in slight positional differences across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988 (NAVD 88). Flood elevations must be compared to structure and ground elevations to the same vertical datum. For information regarding the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov) or contact the National Geodetic Survey at the following phone numbers:

Services  
 Customer Service  
 Highway Information 209/919-3282

Elevation, description, and/or location information for bench marks on this map, please contact the Information Services Branch of the Survey at (916) 743-2242 or visit its website at [www.ngs.noaa.gov](http://www.ngs.noaa.gov).

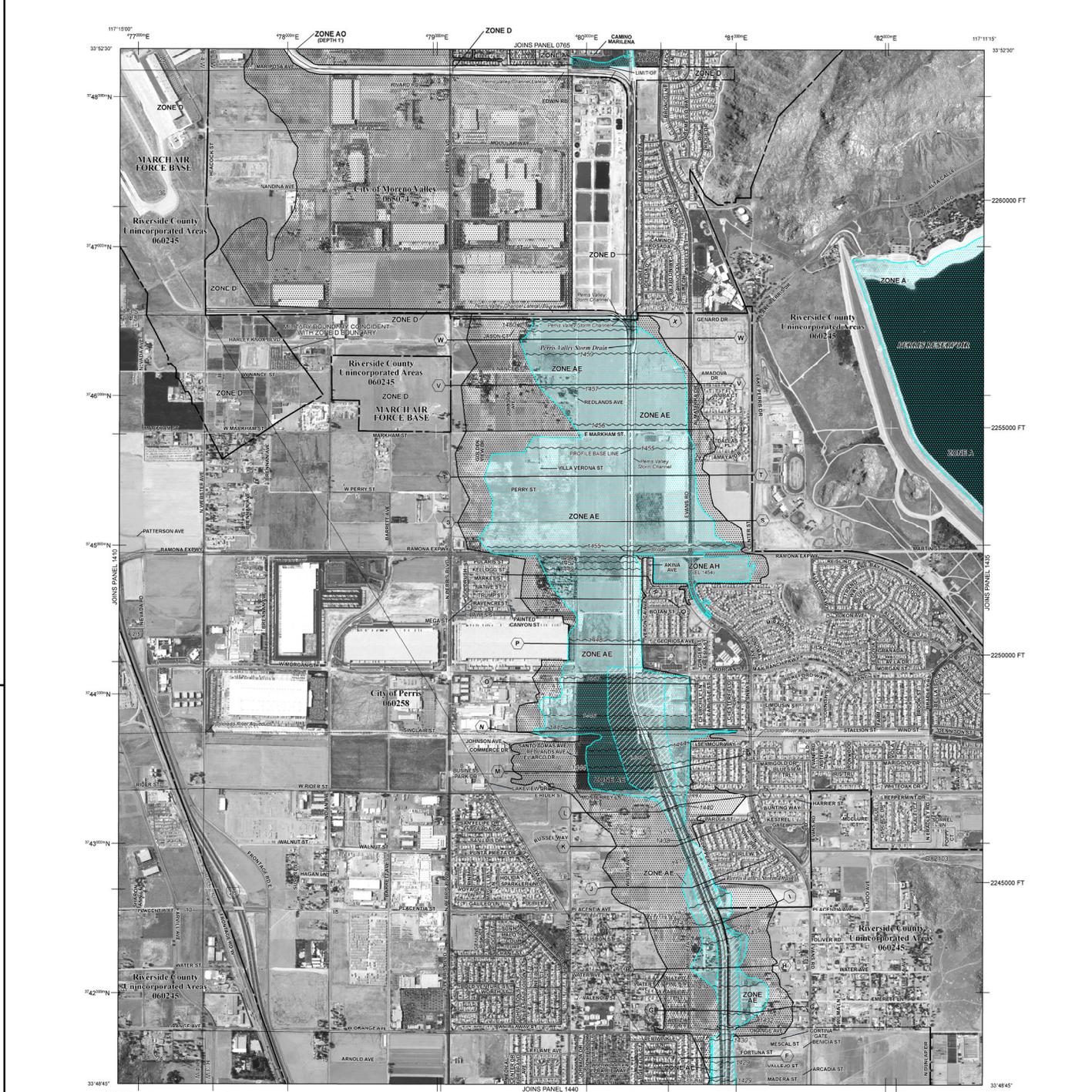
Information shown on this FIRM was derived from multiple sources including County, CA effective database, and the National Geodetic Survey imagery for Riverside County, CA is a mosaic of the NAIP 2009 resolution.

Hydraulic modeling used in this map represent the hydraulic modeling used in the FIS report. As a result of improved hydraulic modeling, in some cases, may deviate significantly from the SFHA.

Information shown on this map are based on the best data available at the time of map publication. In some cases, map users should contact appropriate agencies to verify current corporate limit locations.

The separately printed Map Index for an overview map of the entire map area, community map repository addresses, Communities table containing National Flood Insurance Program communities as well as a listing of the panels on which each area is shown.

For questions about this map, available products associated with historic versions of this FIRM, how to order products or the Insurance Program in general, please call the FEMA Map Service Center at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov>. Available products may include Letters of Map Change, a Flood Insurance Study report, or a copy of this map. Many of these products can be ordered or downloaded from the website. Users may determine the current map date for this map by visiting the FEMA Map Service Center website or by calling 1-877-FEMA-MAP.



**LEGEND**

**SPECIAL FLOOD HAZARD AREAS SUBJECT TO 1% ANNUAL CHANCE FLOOD**

The 1% annual chance flood (100-year flood), also known as the base flood, is the 1% chance of being equal to or exceeded in any given year. The Special Flood Hazard Areas subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard A, AE, AH, AR, A99, V, and VE. The Base Flood Elevation is the water surface elevation of the 1% annual chance flood.

**ZONE A** No Base Flood Elevations determined.

**ZONE AE** Base Flood Elevations determined.

**ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponds); I determined.

**ZONE AR** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); determined. For areas of sheet flow flooding, water also subject to flooding by the 1% annual chance flood.

**ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently destroyed. If the former flood control system is being restored to provide 1% annual chance or greater flood.

**ZONE A99** Areas to be protected from 1% annual chance flood over protection systems under construction; no Base Flood Elevation.

**ZONE V** Coastal flood zone with velocity hazard (wave action); no I determined.

**ZONE VE** Coastal flood zone with velocity hazard (wave action); II determined.

**FLOODWAY AREAS IN ZONE AE**

The floodway is the channel of a stream plus any adjacent floodplain areas that encroachment so that the 1% annual chance flood can be carried without a flood height.

**OTHER FLOOD AREAS**

**ZONE X** Areas of 0.2% annual chance flood; areas of 1% annual chance flood of less than 1 foot or with drainage areas less than the areas protected by levees from 1% annual chance flood.

**OTHER AREAS**

**ZONE X** Areas determined to be outside the 0.2% annual chance flood.

**ZONE P** Areas in which flood hazards are undetermined, but possible.

**COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREA**

**OTHER 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 Areas  
 Flood Elevations, flood depths, or flood velocities  
 Base Flood Elevation line and value; water surface elevation line and value where uniform in feet  
 \* Referenced to the North American Vertical Datum of 1988  
 (Elev. 987)  
 Section line  
 Transact line  
 Geographic coordinates referenced to Datum of 1983 (NAD 83), Western Hemisphere  
 1000-meter Universal Transverse Mercator  
 5000-foot grid values, California State Plane Zone VI (SPZCALN - 406), Lambert projection  
 Bench marks (see explanation in Notes to Users page 1)

DX5510 X  
 M.T.S.

Refer to Map Repositories List on Map Index

EFFECTIVE DATE OF COUNTY-WIDE FLOOD INSURANCE RATE MAP August 26, 2008

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL August 18, 2014. For a description of revisions, see Notice to Users page in FIS Study report.

For community map revision history prior to countywide mapping, refer to 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 the National Flood Insurance Program at 1-800-368-6629.

**MAP SCALE 1" = 1000'**

0 500 1000 1500 2000 FEET

**NATIONAL FLOOD INSURANCE PROGRAM**

**PANEL 1430**

**FIRM**

**FLOOD INSURANCE**

**RIVERSIDE CO**

**CALIFORNIA**

**AND INCORPORATED AREAS**

**PANEL 1430 OF 3805**

(SEE MAP INDEX FOR FIRM)

**COUNTY:** RIVERSIDE COUNTY  
**CITY:** PERRIS  
**COMMUNITY:** MORNING VALLEY CITY OF PERRIS  
**UNINCORPORATED AREAS:** UNINCORPORATED AREAS

Notes to Users: The Map Number shown when policy first issued. The Community should be used on insurance contracts.

**FEDERAL EMERGENCY MANAGEMENT AGENCY**

## **Appendix C      Methodology**

---

## WATERS OF THE UNITED STATES

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 wetlands<sup>1</sup>.
- (iii) The territorial seas.
- (iv) All impoundments of waters otherwise defined as waters of the United States under the definition.
- (v) All tributaries<sup>2</sup> of waters identified in paragraphs (i) through (iii) mentioned above.
- (vi) All waters adjacent<sup>3</sup> 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 high water mark of a water identified in paragraphs (i) through (v) mentioned above, where they

<sup>1</sup> 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.

<sup>2</sup> 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.

<sup>3</sup> 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.

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.<sup>4</sup> Hydrophytic vegetation is present if any of the indicators are satisfied.

<sup>4</sup> 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.

### Indicator 1 – Dominance Test

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.<sup>5</sup> 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.

---

<sup>5</sup> 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

“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.