

# HARVEST LANDING RETAIL CENTER & BUSINESS PARK PROJECT

CITY OF PERRIS, RIVERSIDE COUNTY, CALIFORNIA

## DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS

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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.



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Travis J. McGill  
Director



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Thomas J. McGill, Ph.D.  
Managing Director

January 2025

# Executive Summary

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ELMT Consulting (ELMT) has prepared this Delineation of State and Federal Jurisdictional report for the Harvest Landing Specific Plan project located in the City of Perris, 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.<sup>1</sup>

Two ephemeral drainage features (Drainage 1 and Drainage 2) were observed onsite. Drainage 1 enters the site at the northeast corner of Orange Avenue and the Interstate 215 Frontage Road from a 48-inch box culvert which originates from the west under Interstate 215 and beyond. Flows from Drainage 1 are conveyed east along the northern shoulder of Orange Avenue through a concrete channel for approximately 165 feet before the channel yields to an earthen basin. Flows are consolidated through a 36-inch culvert and conveyed further east under Indian Avenue before exiting the project site through an 18-inch culvert at the northwest corner of Barrett Avenue and Orange Avenue. From here, flows are directed further east beyond the project site. Drainage 2 enters the site from the lower western boundary of the project site, through a 60-inch box culvert which originates from underneath the Interstate 215 Frontage Road and beyond Interstate 215 to the west. The drainage runs from west to east within the project site, extending from the Interstate 215 Frontage Road at the western boundary, and terminating within the project site before reaching Indian Avenue.

The onsite ephemeral drainage features are not relatively permanent, standing, or a continuously flowing bodies of water and, therefore, will not qualify as waters of the United States under the regulatory authority of the Corps (*Sackett v. EPA* (2022) 143 S. Ct. 1322, 1336). However, the onsite drainage features will likely qualify as waters of the State and fall under the regulatory authority of the Regional Board and CDFW. Table ES-1 identifies the on-site jurisdictional areas including the total acreage of jurisdiction for each regulatory agency within the boundaries of the project site.

**Table ES-1: Jurisdictional Areas**

Jurisdictional Feature	Stream Flow	Cowardin Class	Class of Aquatic Resource	Regional Board Jurisdiction		CDFW Jurisdiction	
				Acreage	Linear Feet	Acreage	Linear Feet
Drainage 1	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.17	2,330	0.17	2,330
Drainage 2	Ephemeral	Riverine	Non-Section 10 Non-Wetland	0.06	648	0.08	648
<b>TOTALS</b>				<b>0.23</b>	<b>2,978</b>	<b>0.25</b>	<b>2,978</b>

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<sup>1</sup> The field surveys for this jurisdictional delineation were conducted on August 30, 2023 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).

Approximately 0.23 acre (2,978 linear feet) of non-wetland waters of the State occur on-site under the jurisdictional authority of the Regional Board. Likewise, the on-site drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed totaling 0.25 acre (2,978 linear feet).

Impacts to the on-site jurisdictional areas will require a Corps Approved Jurisdictional Determination or Waiver, Regional Board CWA Section Report of Waste Discharge, and a CDFW Section 1602 Lake and Streambed Alteration Agreement prior to project implementation. Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

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# Section 1 Introduction

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This delineation has been prepared for the proposed Harvest Landing Retail Center & Business Park 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 30, 2023.

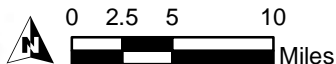
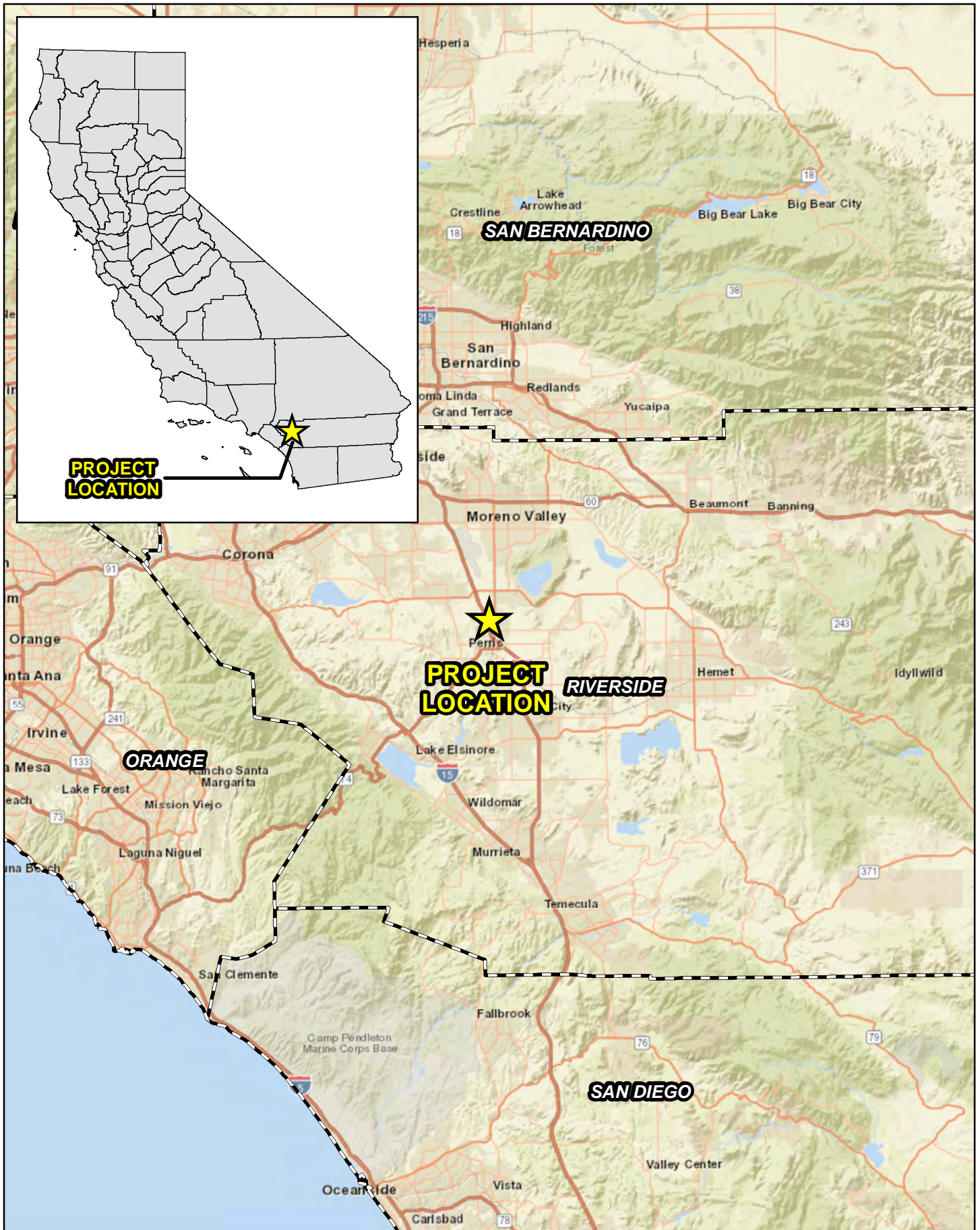
This jurisdictional delineation explains the methodology undertaken by ELMT Consulting (ELMT) to define the regulatory authority of the aforementioned regulatory agencies and documents the findings made by ELMT. This report presents our best effort at documenting the jurisdictional boundaries using the 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 south of State Route 60, west of State Route 79, and north and east of Interstate 215 within the City of Perris, Riverside County, California (Exhibit 1, *Regional Vicinity*). The site is depicted on the Perris quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series in Section 18 and 19 of Township 4 South, Range 3 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is bounded to the west by the Interstate 215 Frontage Road, to the east by North Perris Boulevard, and lies north of West Nuevo Road and south of Placentia Avenue, straddling Orange Avenue and spanning multiple parcels (Exhibit 3, *Project Site*).

## 1.2 PROJECT DESCRIPTION

The project involves the proposed construction and operation of a commercial and business park specific plan over 358.28 acres which will be developed in two phases. The first phase of the project consists of construction of seven (7) industrial buildings, a commercial shopping center, a big box retail building, and a Water Quality Management Plan (WQMP) drainage and detention area. The total area of development for Phase I encompasses approximately 187.43 acres. In addition, the project would include the construction of approximately 35.09 acres of roadways and a 13.08-acre WQMP basin. Phase II will consist of future business park uses north of Orange Avenue. Phase II area totals 122.68 acres. Refer to Appendix A, *Site Plan*.



HARVEST LANDING RETAIL CENTER AND BUSINESS PARK  
**Regional Vicinity**

Source: World Street Map, Riverside County





**Legend**

Project Site



Source: ESRI Aerial Imagery, Riverside County

HARVEST LANDING RETAIL CENTER AND BUSINESS PARK  
**Project Site**

## Section 2 Regulations

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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 ensure 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

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<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)

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

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The analysis presented in this report is supported by a field survey and verification of site conditions conducted August 30, 2023. 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. 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.

In accordance with the Revised Definition of “Waters of the United States”; Conforming (September 8, 2023), “waters of the United States” are defined as follows:

(a) ***Waters of the United States*** means:

(1) Waters which are:

- (i) 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) The territorial seas; or
- (iii) Interstate waters;

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

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(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under [paragraph \(a\)\(5\)](#) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in [paragraph \(a\)\(1\)](#) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section

(b) The following are not “waters of the United States” even where they otherwise meet the terms of [paragraphs \(a\)\(2\)](#) through [\(5\)](#) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with the EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow.

(c) In this section, the following definitions apply:

(1) **Wetlands** means those areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) **Adjacent** means having a continuous surface connection

(3) **High tide line** means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) **Ordinary high water mark** means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as 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.

(5) **Tidal waters** means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

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

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

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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. 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 Perris hydrologic area in the Lower San Jacinto River Watershed, which is a subset of the larger San Jacinto River Watershed (HUS 18070202). The Perris Valley Storm Drain flows approximately 1.15 miles to the east of the project site. This feature consolidates surface flows from Rancho las Perris and the surrounding areas to the north and east of the site and conveys them southwest to the San Jacinto River. The San Jacinto River conveys flows through Canyon Lake (Railroad Canyon Reservoir) and terminates at Lake Elsinore.

The Lower San Jacinto Watershed encompasses approximately 765 square miles in western Riverside County. This watershed is bounded by several mountain ranges, including the Badlands Mountain Range to the north, San Jacinto Mountains to the east, the Santa Ana Mountains to the west, and the Santa Margarita Mountains to the south. Currently, this watershed is primarily undeveloped. With natural open spaces at the headwaters areas and mostly agricultural and urban development in the middle and downstream areas.

The San Jacinto River Watershed consists of a single major drainage, the San Jacinto River, which is comprised of several smaller tributaries. The San Jacinto River begins in the San Jacinto Mountains and veers northwest to follow the lower elevations of the San Jacinto Valley. The mainstem begins at the confluence of South Fork San Jacinto River and North Fork San Jacinto River. The most notable south-flowing tributary is the Perris Valley Storm Drain and Salt Creek flows westward from the San Jacinto Mountains to meet the San Jacinto River at Canyon Lake. The San Jacinto River is approximately 42 miles long, supports the majority of existing agricultural land in the San Jacinto Valley, and discharges into Canyon Lake, the overflow from which discharges into Lake Elsinore, which qualifies as a traditional navigable water (TNW). Discharges from Lake Elsinore drain into Walker Canyon, which is a tributary to Temescal Wash, and Temescal Wash is a tributary to the Santa Ana River, which ultimately conveys flows to the Pacific Ocean, a TNW.

### 4.2 LOCAL CLIMATE

The City of Perris 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 with frost common. Climatological data obtained for the City of Riverside indicates the annual precipitation averages 11.11 inches per year. Almost all of the precipitation in the form of rain occurs in the months between December and April, with hardly any occurring between the months of May and September. The wettest months are January and February, with monthly average totals precipitation of 2.24 and 3.29 inches, respectively, 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 86 and 46 degrees Fahrenheit (°F), respectively, with July and August (monthly average high 100°F) being the hottest months and December and January (monthly average lows 34 and 35°F) being the coldest. The temperature during the site visit was in the high-80s°F with clear skies and calm winds.

### **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 Perris quadrangle of the United States Geological Survey's (USGS) 7.5-minute topographic map series within Sections 18 and 19 of Township 4 South, Range 3 West. The project site ranges in elevation from 1,435 to 1,480 feet above mean sea level. On-site topography is relatively flat with limited topographic relief present in the form of water detention basins, flood control channels, and spoils piles.

### **4.4 AERIAL PHOTOGRAPH**

Prior to conducting the field delineation, ELMT reviewed current and historical aerial photographs (1985-2023) of the project site 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 occurs in an area formerly dominated by agricultural land uses that has been becoming urbanized in recent decades. Present land uses in the vicinity include tract neighborhoods, anchor retail centers, and assorted commercial, industrial, and institutional developments, with scattered undeveloped parcels supporting former agricultural land. The site is bounded to the north by undeveloped, vacant land; to the northeast, east, and south by commercial and industrial developments with tract neighborhoods beyond; and to the west by Interstate 215.

The project site primarily supports undeveloped land with some developed areas. The entirety of the site has been subject to several decades of anthropogenic disturbances associated with historic agricultural land uses, grading activities, flood control infrastructure, weed abatement, and other on-site and surrounding development. Historic aerials show these activities have been ongoing since at least 1959.

### **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 U.S. Department of Agriculture (USDA) Natural Resources Conservation Service U.S. Department of Agriculture (NRCS) Web Soil Survey, the project site is underlain entirely by Domino silt loam (saline-alkali), Exeter sandy loam (deep, 0 to 2 percent slopes), Exeter sandy loam (deep, 2 to 8 percent slopes, eroded), Exeter very fine sandy loam (deep, 0 to 5 percent slopes), Greenfield sandy loam (0 to 2 percent slopes), Greenfield sandy loam (2 to 8 percent slopes, eroded), and Pachappa fine sandy loam (0 to 2 percent slopes). 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, and weed abatement). (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 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, Domino silt loam (saline-alkali) is listed as hydric in Western Riverside County.

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

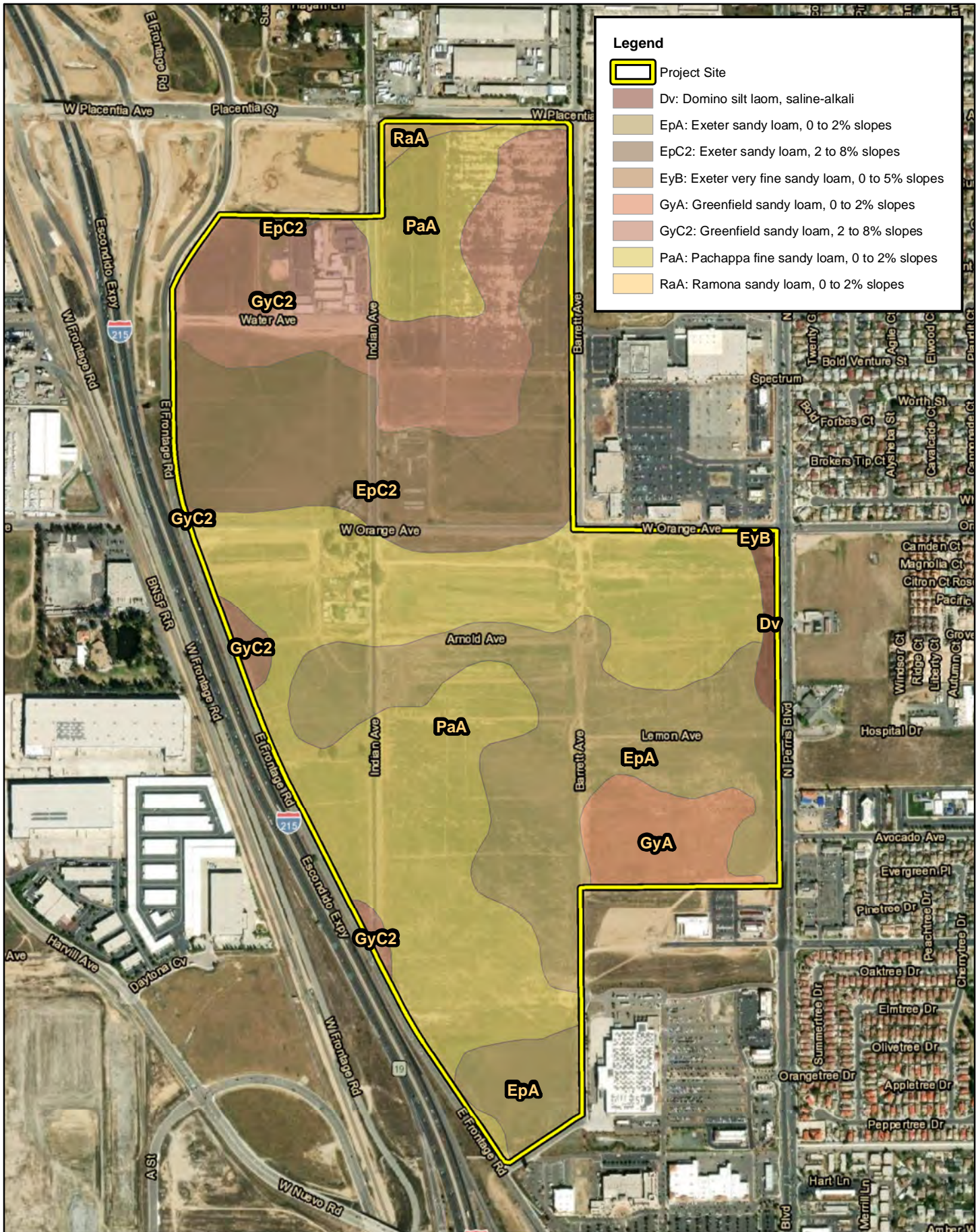
The U.S. Fish and Wildlife Service National Wetlands Inventory and the USGS National Hydrography Dataset were reviewed to determine if any blue-line streams or riverine resources have been documented within or immediately surrounding the project site. Based on this review, no riverine features were observed within or adjacent to the boundaries of the site. 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 Nos. 06065C1430H, the project site is located within Zone X – areas determined to be within the 1.0% annual chance floodplain; Zone X – areas determined to be outside the 0.2% annual chance floodplain, minimal risk of flooding.

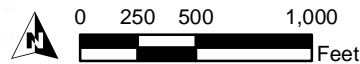
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<sup>5</sup> A hydric soil is a soil that formed under conditions of saturation, flooding or ponding long enough during the growing season to develop anaerobic conditions in the upper part.



**Legend**

- Project Site
- Dv: Domino silt loam, saline-alkali
- EpA: Exeter sandy loam, 0 to 2% slopes
- EpC2: Exeter sandy loam, 2 to 8% slopes
- EyB: Exeter very fine sandy loam, 0 to 5% slopes
- GyA: Greenfield sandy loam, 0 to 2% slopes
- GyC2: Greenfield sandy loam, 2 to 8% slopes
- PaA: Pachappa fine sandy loam, 0 to 2% slopes
- RaA: Ramona sandy loam, 0 to 2% slopes



HARVEST LANDING RETAIL CENTER AND BUSINESS PARK

Soils

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

## Section 5 Site Conditions

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ELMT biologists Jacob H. Lloyd Davies, Rachael A. Lyons, and Megan E. Peukert conducted a field delineation on August 30, 2023, 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. Two (2) unnamed drainages were documented within the project site during the time of the investigation.

##### Drainage 1

Drainage 1 extends from the western boundary of the project site, at the northeast corner of the intersection of Orange Avenue and the Interstate 215 Frontage Road to the northwest corner of the intersection of Orange Avenue and Barrett Avenue, paralleling Orange Avenue. The drainage runs from west to east through the middle of the site, terminating before reaching the northwest corner of the intersection of Barrett Avenue and Orange Avenue. Drainage 1 receives flows from 48-inch paved box culvert leading from the Interstate 215 Frontage Road and beyond Interstate 215 to the west. Heading east, the paved banks of Drainage 1 give way into an entirely earthen roadside ditch which runs parallel to the northern shoulder of Orange Avenue. The flows of Drainage 1 are conveyed through a 36-inch paved culvert leading under Indian Avenue within the project site, and continue further west within the project site, eventually exiting the site through an 18-inch culvert which leads beneath Barrett Avenue on the eastern boundary and beyond further east. Drainage 1 then flows into the underground storm drain system that likely conveys flows into the Perris Valley Storm Channel southeast of the site.

No surface water was present within Drainage 1 at the time of the investigation. Evidence of an OHWM was observed via scour, changes in substrate, shelving, and lack of vegetation. The OHWM ranged from approximately 2-4 feet in width throughout the length of the drainage within site boundaries.

In-channel vegetation within site boundaries consisted primarily of non-native plant species such as golden crownbeard (*Verbesina encelioides*), Jimson weed (*Datura stramonium*), Russian thistle, Mediterranean mustard, horseweed (*Erigeron canadensis*), tree of heaven (*Ailanthus altissima*), and oleander (*Nerium* sp.); as well as common species California buckwheat (*Erigeron fasciculatum*) and common sunflower (*Helianthus annuus*).

No surface water was present at the time of the investigation. In-channel vegetation within site boundaries consisted primarily of non-native plant species such as golden crownbeard (*Verbesina encelioides*), Jimson weed (*Datura stramonium*), Russian thistle, Mediterranean mustard, horseweed (*Erigeron canadensis*), tree of heaven (*Ailanthus altissima*), and oleander (*Nerium* sp.); as well as common species California buckwheat (*Erigonium fasciculatum*) and common sunflower (*Helianthus annuus*).

### Drainage 2

Drainage 2 enters the site from the lower western boundary of the project site, through a 60-inch box culvert which originates from underneath the Interstate 215 Frontage Road and beyond Interstate 215 to the west. The drainage runs from west to east within the project site, extending from the Interstate 215 Frontage Road at the western boundary, and terminating within the project site before reaching Indian Avenue. Drainage 2 is concrete lined paved at its entrance to the project site and is reinforced by a stepped spillway before transitioning into an entirely earthen channel. Drainage 2 diminishes as its flows are conveyed east, eventually infiltrating entirely within the boundaries of the project site.

No surface water was present within Drainage 2 at the time of the investigation. Evidence of an OHWM was observed via scour, changes in substrate, shelving, and lack of vegetation. The OHWM ranged from approximately 1-6 feet in width throughout the length of the drainage within site boundaries.

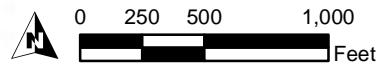
In-channel vegetation within site boundaries consisted of common plant species such as slender oat (*Avena barbata*), horseweed, California buckwheat, common sunflower, and Mediterranean mustard.

### **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. No riparian vegetation or wetland obligate plant species were observed within any of the four drainages described above. All four drainages only convey flows during and following storm events and do not hold water for long enough to create anaerobic conditions or form hydric soils. Therefore, these drainages do not meet wetland requirements.



HARVEST LANDING BUSINESS PARK  
**Jurisdictional Areas**



Source: ESRI Aerial Imagery, Riverside County

# Section 6 Findings

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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

The onsite ephemeral drainage features are not relatively permanent, standing, or continuously flowing bodies of water and, therefore, will not qualify as waters of the United States under the regulatory authority of the Corps (*Sackett v. EPA* (2022) 143 S. Ct. 1322, 1336).

### 6.1.2 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

Drainage 1 and Drainage 2 exhibit characteristics consistent with the Regional Board’s methodology and would likely be considered jurisdictional waters of the State. Approximately 0.23 acre (2,978 linear feet) of non-wetland waters of the State occur on-site.

**Table 1: Regional Board Jurisdictional Waters**

Jurisdictional Feature	Regional Board Jurisdiction
	On-Site Jurisdiction Acreage (Linear Feet)
Drainage 1	0.17 (2,330)
Drainage 2	0.06 (648)
<b>TOTAL</b>	<b>0.23 (2,978)</b>

## 6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Drainage 1 and Drainage 2 exhibit characteristics consistent with CDFW’s methodology and would be considered CDFW streambed. Approximately 0.25 acre (2,978 linear feet) of CDFW jurisdiction was mapped within boundaries of the project site.

**Table 2: CDFW Jurisdictional Streambed**

<b>Jurisdictional Feature</b>	<b>CDFW Jurisdiction</b>
	<b>On-Site Jurisdiction Acreage (Linear Feet)</b>
Drainage 1	0.17 (2,330)
Drainage 2	0.08 (648)
<b>TOTAL</b>	<b>0.25 (2,978)</b>

## **Section 7      Regulatory Approval Process**

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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 and wetlands pursuant to Section 404 of the CWA. No Corps jurisdictional areas were identified within the project site and a CWA Section 404 permit would not be required for the proposed project.

It is recommended that the project applicant coordinate with the Corps to confirm existing site conditions and document the absence of Corps jurisdiction within the boundaries of the project site. The Corps may require an Approved Jurisdictional Determination (AJD) to be processed to confirm the absence of waters of the United States; however, they may waive the need for a AJD to be processed.

### **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 Report of Waste Discharge prior to project implementation. Therefore, it will be necessary for the applicant to acquire a Report of Waste Discharge 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. A Section 1602 Streambed Alteration Agreement from the CDFW will be required for impacts to the onsite drainage features prior to project implementation. The notification 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. CDFW also requires that CEQA compliance be obtained prior to issuance of the 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. Mitigation for impacts to jurisdictional resources will be finalized during the permitting process.

## Section 8      References

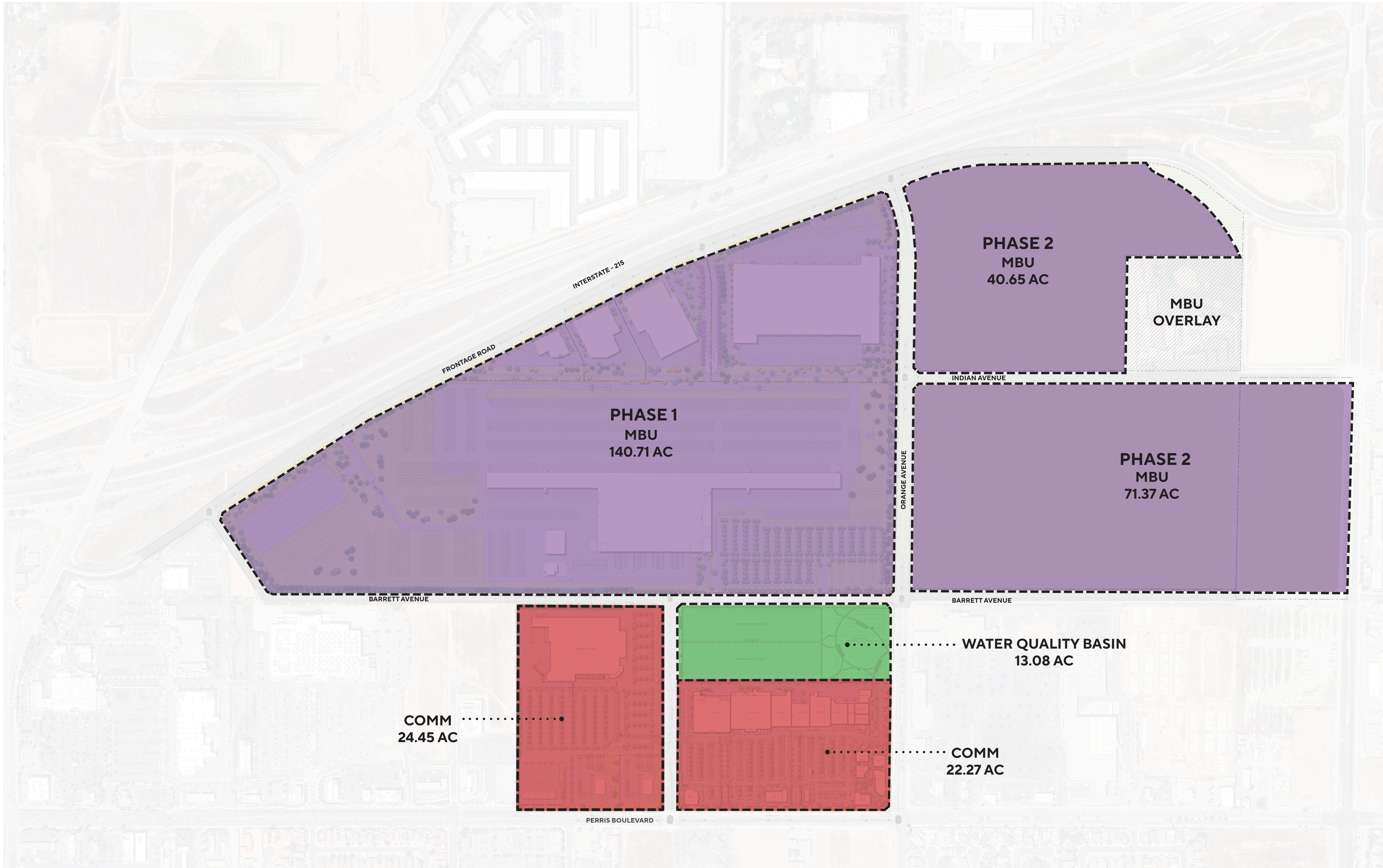
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# **Appendix A      Site Plan**

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**HARVEST LANDING RETAIL CENTER & BUSINESS PARK**

PERRIS, CA

LAND USE PLAN

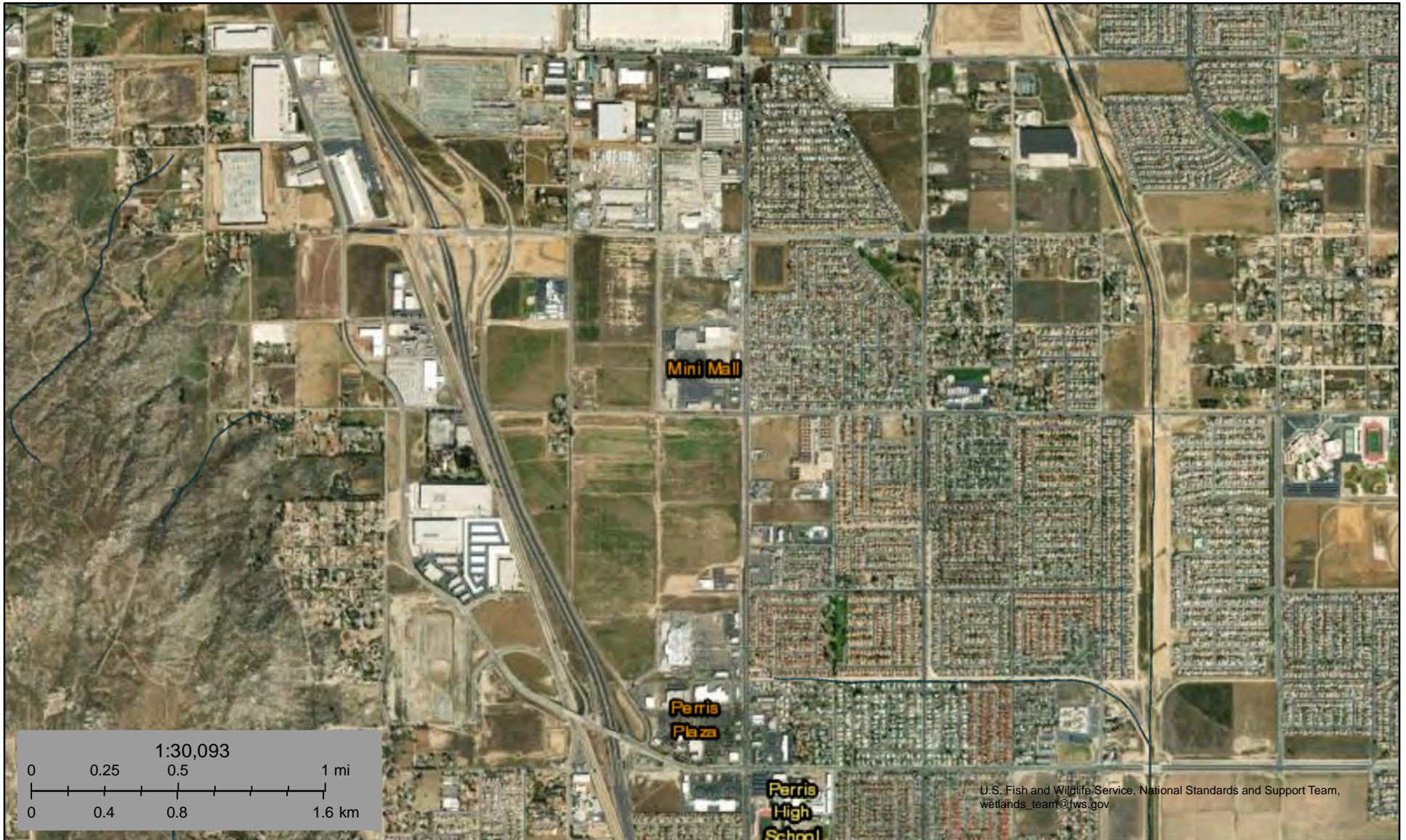
**AO** Architecture.  
Design.  
Relationships.

**A1**

Scale 1" = 200'  
Job No. 2020-392  
Date 2024-04-18

## **Appendix B      Documentation**

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U.S. Fish and Wildlife Service, National Standards and Support Team,  
wetlands\_team@fws.gov

January 23, 2024

### 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.

## **Appendix C      Site Photographs**

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**Photograph 1:** From the top of the culvert under I-215, looking east at the beginning of Drainage 1 on the western boundary of the project site.



**Photograph 2:** From the northern banks of Drainage 1, looking southwest at a paved box culvert and stepped spillway that convey flows east through the project site.



**Photograph 3:** From inside Drainage 1, looking east through existing vegetation, at the edge of the concrete spillway.



**Photograph 4:** From the middle of Drainage 1, looking west.



**Photograph 5:** View of the terminus of Drainage 1 west of Indian Avenue, where water begins to sheet flow. rea of the project site, looking further east.



**Photograph 6:** Looking at the culvert that conveys flows from the west along Orange Avenue.



**Photograph 7:** From the culvert, looking east at the paved portion of the road-side ditch that conveys flows to the east.



**Photograph 8:** Looking east at the roadside ditch that conveys flows along Orange Avenue, just east of the paved portion of the ditch.



**Photograph 9:** From Indian Avenue looking west at the road side ditch along Orange Avenue.



**Photograph 10:** Looking west at the road side ditch along Orange Avenue between Barnett Avenue and Indian Avenue.



**Photograph 11:** Looking east toward a culvert which conveys flows under Barrett Avenue to the east of the project site.

## **Appendix D      Methodology**

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## WATERS OF THE UNITED STATES

### *Section 404 of the Clean Water Act*

In accordance with the Revised Definition of “Waters of the United States”; Conforming (September 8, 2023), “waters of the United States” are defined as follows:

(a) *Waters of the United States* means:

(1) Waters which are:

- (i) 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) The territorial seas; or
- (iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under [paragraph \(a\)\(5\)](#) of this section;

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

- (i) Waters identified in [paragraph \(a\)\(1\)](#) of this section; or
- (ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section

(b) The following are not “waters of the United States” even where they otherwise meet the terms of [paragraphs \(a\)\(2\)](#) through [\(5\)](#) of this section:

(1) Waste treatment systems, including treatment ponds or lagoons, designed to meet the requirements of the Clean Water Act;

(2) Prior converted cropland designated by the Secretary of Agriculture. The exclusion would cease upon a change of use, which means that the area is no longer available for the production of agricultural commodities. Notwithstanding the determination of an area's status as prior converted cropland by any other Federal agency, for the purposes of the Clean Water Act, the final authority regarding Clean Water Act jurisdiction remains with EPA;

(3) Ditches (including roadside ditches) excavated wholly in and draining only dry land and that do not carry a relatively permanent flow of water;

(4) Artificially irrigated areas that would revert to dry land if the irrigation ceased;

(5) Artificial lakes or ponds created by excavating or diking dry land to collect and retain water and which are used exclusively for such purposes as stock watering, irrigation, settling basins, or rice growing;

(6) Artificial reflecting or swimming pools or other small ornamental bodies of water created by excavating or diking dry land to retain water for primarily aesthetic reasons;

(7) Waterfilled depressions created in dry land incidental to construction activity and pits excavated in dry land for the purpose of obtaining fill, sand, or gravel unless and until the construction or excavation operation is abandoned and the resulting body of water meets the definition of waters of the United States; and

(8) Swales and erosional features (*e.g.*, gullies, small washes) characterized by low volume, infrequent, or short duration flow.

(c) In this section, the following definitions apply:

(1) **Wetlands** means those areas that are inundated or saturated by surface or ground water 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. Wetlands generally include swamps, marshes, bogs, and similar areas.

(2) **Adjacent** means having a continuous surface connection

(3) **High tide line** means the line of intersection of the land with the water's surface at the maximum height reached by a rising tide. The high tide line may be determined, in the absence of actual data, by a line of oil or scum along shore objects, a more or less continuous deposit of fine shell or debris on the foreshore or berm, other physical markings or characteristics, vegetation lines, tidal gages, or other suitable means that delineate the general height reached by a rising tide. The line encompasses spring high tides and other high tides that occur with periodic frequency but does not include storm surges in which there is a departure from the normal or predicted reach of the tide due to the piling up of water against a coast by strong winds such as those accompanying a hurricane or other intense storm.

(4) **Ordinary high water mark** means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as 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.

(5) **Tidal waters** means those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

## 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>1</sup> Hydrophytic vegetation is present if any of the indicators are satisfied.

### Indicator 1 – Dominance Test

<sup>1</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.

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>2</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.

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<sup>2</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.