

APPENDIX D
Jurisdictional Delineation Report

Jurisdictional Delineation Report

Walnut Creek Habitat and Open Space Project Los Angeles County, California

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TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
Executive Summary	1
1.0 Introduction	2
1.1 Project Location and Description	2
1.2 Regulatory Authority	2
1.2.1 <i>Summary of Regulations</i>	2
2.0 Methods	8
2.1 Vegetation	8
2.2 Soils	10
2.3 Hydrology.....	10
2.4 Literature.....	10
2.5 Jurisdictional Delineation	12
3.0 Results	13
3.1 U.S. Army Corps of Engineers Determination	13
3.1.1 <i>“Waters of the U.S.” Determination (Non-Wetland)</i>	13
3.1.2 <i>Wetlands Determination</i>	13
3.2 California Regional Water Quality Control Board Determination	14
3.3 California Department of Fish and Wildlife Determination	14
4.0 Recommendations	15
5.0 References	16

TABLES

<u>Table</u>		<u>Page</u>
1	Water Quality Objectives for San Gabriel Mountain Streams	5
2	Summary of Jurisdictional Resources on the Project Site.....	13

EXHIBITS

<u>Exhibit</u>		<u>Follows Page</u>
1	Regional Location	2
2	Local Vicinity	2
3a–b	Existing Jurisdictional Resources.....	13
4	Site Photographs.....	13

ATTACHMENTS

A	Soil Series Descriptions
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EXECUTIVE SUMMARY

The purpose of this report is to provide baseline data concerning the type and extent of jurisdictional resources for the proposed Walnut Creek Habitat and Open Space Project. Jurisdictional resources considered for this report include wetlands and non-wetland “waters of the U.S.” regulated by the U.S. Army Corps of Engineers (USACE); “waters of the State” regulated by the Los Angeles Regional Water Quality Control Board (RWQCB); and the bed, bank, and channel of all lakes, rivers, and/or streams (and associated riparian vegetation), as regulated by the California Department of Fish and Wildlife (CDFW).

The jurisdictional delineation work was performed by BonTerra Psomas on October 30, 2014. The proposed Project is located in an unincorporated Los Angeles County island in West San Dimas on the U.S. Geological Survey’s (USGS’) San Dimas 7.5-minute quadrangle map.

Wetland features were identified based on the USACE’s three-parameter approach in which wetlands are defined by the presence of hydrophytic vegetation, hydric soils, and presence of wetland hydrology indicators. The limits of non-wetland “waters of the U.S.” were identified by the presence of an ordinary high water mark (OHWM). The limits of CDFW jurisdictional waters were identified as the top of bank or the outer drip line of riparian vegetation.

Based on the results of the jurisdictional delineation field work, it was determined that the total jurisdictional resources on the Project site are as follows:

- **USACE Jurisdiction.** 0.03 acre of non-wetland “waters of the U.S.”.
- **RWQCB Jurisdiction.** 0.03 acre of non-wetland “waters of the State”.
- **CDFW Jurisdiction.** 5.34 acres.

1.0 INTRODUCTION

This Jurisdictional Delineation Report (report) was prepared for Morse Planning Group to provide baseline data concerning the type and extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), the California Department of Fish and Wildlife (CDFW), and the Regional Water Quality Control Board (RWQCB) for the proposed Walnut Creek Habitat and Open Space Project (hereinafter referred to as “proposed Project”). This report is based on the jurisdictional delineation survey performed on October 30, 2014.

1.1 PROJECT LOCATION AND DESCRIPTION

The Project site is located in an unincorporated Los Angeles County island in West San Dimas, which is surrounded by the City of San Dimas, California (Exhibit 1). It is generally north of Interstate (I) 10, south of I-210, west of State Route (SR) 57, and east of Grand Avenue (Exhibit 2). The Project site occurs on an approximate 60.7-acre property owned by the Water Conservation Authority (WCA) and the City of San Dimas. The central portion of the Project site was previously occupied by the Voorhis School for Boys and the California State Polytechnic University, Pomona (San Dimas Branch) campuses, with the Tzu Chi Foundation Campus north of these facilities. The eastern and western portions of the Project site are undeveloped open space.

The Project site is located on the U.S. Geological Survey’s (USGS’) San Dimas 7.5-minute topographic quadrangle of the San Bernardino Meridian at Township 1 South, Range 9 West, Sections 16 and 17. It is within the 713-square-mile San Gabriel Watershed (Hydrologic Unit Code 18070106).

The proposed Project entails site programming and concept design for the development of the City of San Dimas and the WCA’s Walnut Creek Habitat and Open Space Conceptual Plan (Conceptual Plan). The Conceptual Plan envisions a new park site by maintaining and enhancing the existing oak/walnut woodlands and coastal sage scrub habitats, as well as establishing native grassland through the disturbed portions of the Project site.

1.2 REGULATORY AUTHORITY

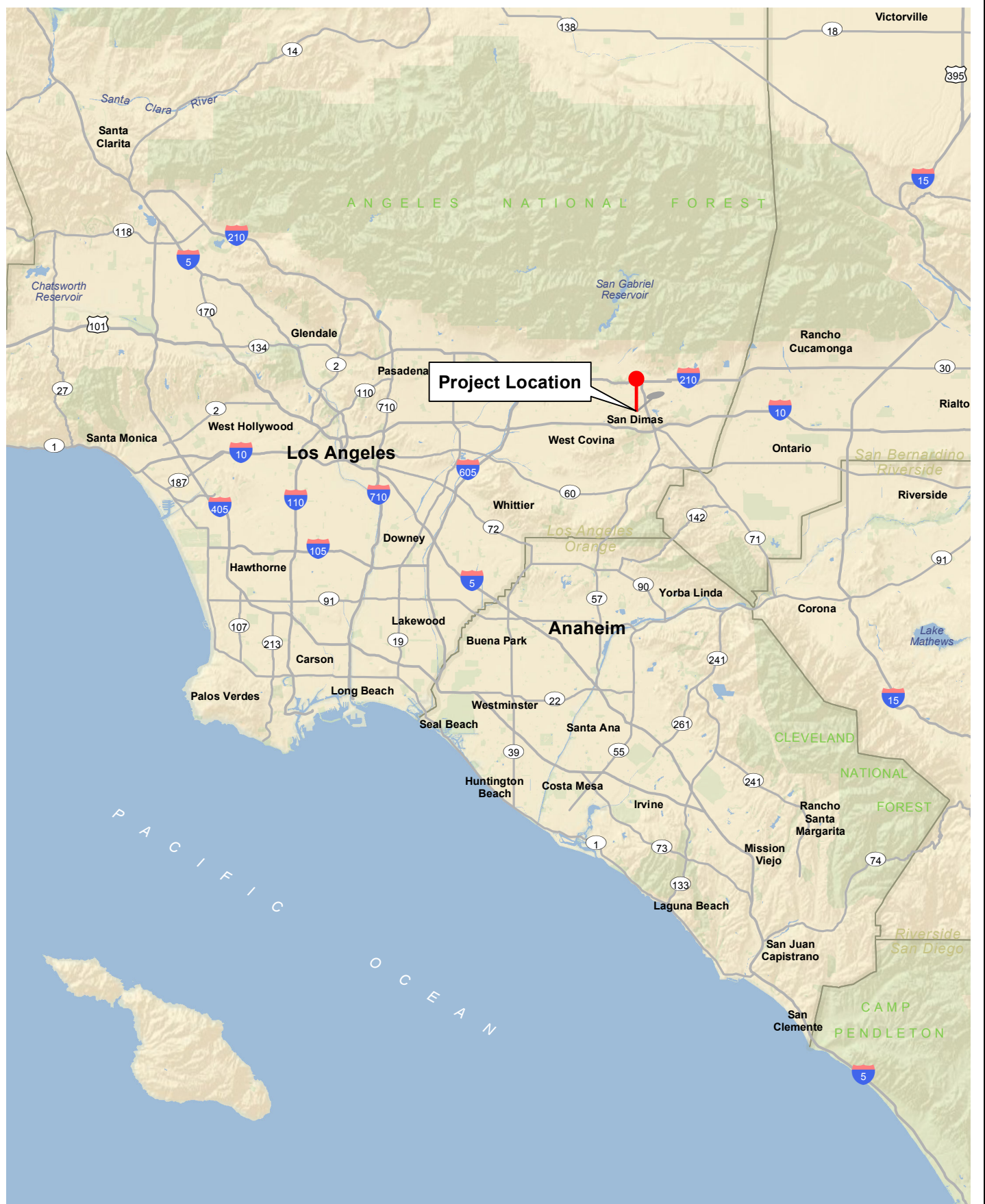
1.2.1 Summary of Regulations

U.S. Army Corps of Engineers

The USACE Regulatory Branch regulates activities that discharge, dredged or fill materials into “waters of the U.S.” under Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. This permitting authority applies to all “waters of the U.S.” where the material (1) replaces any portion of a “waters of the U.S.” with dry land or (2) changes the bottom elevation of any portion of any “waters of the U.S.”. These fill materials would include sand, rock, clay, construction debris, wood chips, and materials used to create any structure or infrastructure in these waters. The selection of disposal sites for dredged or fill material is done in accordance with guidelines specified in Section 404(b)(1) of the CWA, which were developed by the U.S. Environmental Protection Agency (USEPA).

“Waters of the U.S.”

“Waters of the U.S.” can be divided into three categories: territorial seas, tidal waters, or non-tidal waters. The term “waters of the U.S.” is defined by the *Code of Federal Regulations* (CFR, Title 33, Navigation and Navigable Waters; Part 328, Definition of waters of the United States; §328.3, Definitions) and includes:

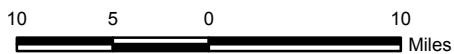


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Regional Location

Walnut Creek Habitat and Open Space Project


Exhibit 1



Bonterra
PSOMAS

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 Project Boundary

Local Vicinity

Walnut Creek Habitat and Open Space Project

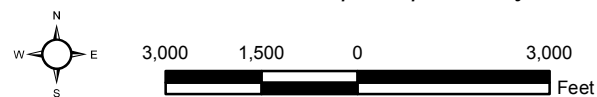


Exhibit 2



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1. All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide.
2. All interstate waters including interstate wetlands.
3. All other waters such as intrastate lakes, rivers, or streams (including intermittent streams), mudflats, sand flats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds where the use, degradation, or destruction of which could affect interstate or foreign commerce.
4. All impoundments of waters otherwise defined as “waters of the U.S.” under the definition.
5. All tributaries of waters identified above.
6. The territorial seas.
7. All wetlands adjacent to waters (other than waters that are themselves wetlands) identified above.

Ordinary High Water Mark

In non-tidal waters where adjacent wetlands are absent, jurisdiction extends to the ordinary high water mark (OHWM). In the absence of wetlands in non-tidal waters, the extent of jurisdictional limits is determined by the OHWM. The OHWM 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 the soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (33 CFR §328.3[e]).

Wetlands

A wetland is a subset of jurisdictional waters and is defined by the USACE and the USEPA as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances, do support a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR §328.3[b]). Wetlands generally include swamps, marshes, bogs, and areas containing similar features. The definition and methods for identifying wetland resources can be found in the USACE’s *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008), a supplement to the USACE’s *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). The methods contained in this supplement were used to identify the type and extent of wetland resources associated with the proposed Project.

On June 19, 2006, a majority of the U.S. Supreme Court overturned two Sixth Circuit Court of Appeals decisions, finding that certain wetlands constituted “waters of the U.S.” under the CWA. Justice Scalia argued that “waters of the U.S.” should not include channels through which water flows intermittently or ephemerally, or channels that periodically provide drainage for rainfall. He also stated that a wetland may not be considered “adjacent to” remote “waters of the U.S.” based on a mere hydrologic connection. On June 5, 2007, the USACE published a memorandum that provides guidance to both the USEPA regions and the USACE districts that implement the Supreme Court’s decision in the *Rapanos* cases (which address the jurisdiction over “waters of the U.S.” under the CWA).¹ The memorandum includes a chart that summarizes its key points, which is intended to be used as a reference tool along with a complete discussion of issues and guidance furnished throughout the memorandum.

¹ Consolidated cases: *Rapanos v. United States* and *Carabell v. United States* refer to the U.S. Supreme Court’s decision concerning USACE jurisdiction over “waters of the U.S.” under the CWA.

In summary, the USACE and the USEPA will assert jurisdiction over the following waters: (1) traditional navigable waters (TNWs); (2) wetlands adjacent to a TNW; (3) relatively permanent, non-navigable tributaries of a TNW that typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and (4) wetlands that directly abut such tributaries.

The USACE and the USEPA will decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a TNW: (1) non-navigable tributaries that are not relatively permanent; (2) wetlands adjacent to non-navigable tributaries that are not relatively permanent; and (3) wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary.

The USACE and the USEPA generally will not assert jurisdiction over the following features: (1) swales or erosional features (e.g., gullies or small washes characterized by low volume, infrequent, or short duration flow) and (2) ditches (including roadside ditches) excavated wholly within and draining only uplands and that do not carry a relatively permanent flow of water.

The USACE and the USEPA will apply the significant nexus standard defined as follows:

1. A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of downstream TNWs.
2. A significant nexus includes consideration of hydrologic and ecological factors.

Regional Water Quality Control Board

The RWQCB is the primary agency responsible for protecting water quality in California through the regulation of discharges to surface waters under the CWA and the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act). The RWQCB's jurisdiction extends to all "waters of the State" and to all "waters of the U.S.", including wetlands (isolated and non-isolated).

Section 401 of the CWA provides the RWQCB with the authority to regulate, through a Water Quality Certification, any proposed, federally permitted activity that may affect water quality. Among such activities are discharges of dredged or fill material permitted by the USACE pursuant to Section 404 of the CWA. Section 401 requires the RWQCB to provide certification that there is reasonable assurance that an activity that may result in the discharge to navigable waters will not violate water quality standards. Water Quality Certification must be based on a finding that the proposed discharge will comply with water quality standards, which contain numeric and narrative objectives that can be found in each of the nine RWQCBs' Basin Plans.

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The Porter-Cologne Act has become an important tool in the post-SWANCC (Solid Waste Agency of Northern Cook Counties vs. United States Corps of Engineers) and Rapanos era with respect to the State's authority over isolated waters. Generally, any person proposing to discharge waste into a water body that could affect its water quality must file a "Report of Waste Discharge" (ROWD) when there is no federal nexus, such as under Section 404(b)(1) of the CWA. Although "waste" is partially defined as any waste substance associated with human habitation, the RWQCB interprets this to include fill discharge into water bodies.

Regional Water Quality Control Plans

There are nine RWQCBs in California. The Project site is located within RWQCB Region 4, the Los Angeles Region. The State Water Resources Control Board (SWRCB) and the RWQCB have adopted a Water Quality Control Plan (or “Basin Plan”) for this region. The Basin Plan contains goals and policies, descriptions of conditions, and proposed solutions to surface and groundwater issues. The Basin Plan also establishes water quality standards for surface and groundwater resources and includes beneficial uses and levels of water quality that must be met and maintained to protect these uses. These water quality standards are implemented through various regulatory permits pursuant to CWA Section 401 for Water Quality Certifications and Section 402 for Report of Waste Discharge permits.

The Basin Plan indicates that the Project site is located within the Los Angeles-San Gabriel Hydrologic Unit, San Gabriel Valley Hydrologic Area, and Main San Gabriel Subarea (RWQCB 1994). The Basin Plan provides Water Quality Objectives for San Gabriel Mountain streams that are tributaries to the San Gabriel Valley (Table 1).

**TABLE 1
WATER QUALITY OBJECTIVES FOR SAN GABRIEL MOUNTAIN STREAMS**

Water Quality Objectives (mg/L)					
Total Dissolved Solids	Sulfate	Chloride	Boron	Nitrogen	SAR
300	40	15	_ ^a	_ ^b	_ ^a
mg/L: milligrams per liter; SAR: sodium adsorption ratio					
^a Agricultural supply is not a beneficial use of the surface water in the specified reach.					
^b Site-specific objectives have not been determined for the reach at this time. These areas are often impaired and there is not sufficient historic data to designate objectives based on natural background conditions.					
Source: RWQCB 1994.					

The Basin Plan identifies a number of beneficial uses, some or all of which may apply to a specific waterbody, including Municipal and Domestic Water Supply (MUN); Agricultural Supply (AGR); Industrial Service Supply (IND); Industrial Process Supply (PROC); Groundwater Recharge (GWR); Freshwater Replenishment (FRSH); Navigation (NAV); Hydropower Generation (POW); Water Contact Recreation (REC1); Non-Contact Water Recreation (REC2); Commercial and Sport Fishing (COMM); Aquaculture (AQUA); Warm Fresh Water Habitat (WARM); Cold Fresh Water Habitat (COLD); Inland Saline Water Habitat (SAL); Estuarine Habitat (EST); Wetland Habitat (WET); Preservation of Biological Habitats (BIOL); Wildlife Habitat (WILD); Areas of Special Biological Significance (ASBS); Rare, Threatened or Endangered Species (RARE); Migration of Aquatic Organisms (MIGR); Spawning, Reproduction and Development (SPWN); Marine Habitat (MAR); and Shellfish Harvesting (SHEL). Beneficial uses are defined in the Porter-Cologne Act as those uses of water that are necessary for tangible and intangible economic, social, and environmental benefits.

Existing or potential beneficial uses associated with Walnut Creek Wash are described in detail below; beneficial uses not described below do not apply to the drainages on the Project site.

- **MUN** waters support community, military, or individual water supply systems including, but not limited to, drinking water supply. MUN uses are not expected to be affected by the proposed Project.

- **GWR** waters are used for natural or artificial recharge of groundwater for purposes that may include, but are not limited to, future extraction, maintaining water quality, or halting saltwater intrusion into freshwater aquifers. GWR uses are not expected to be affected by the proposed Project.
- **REC1** waters are used for recreational activities involving body contact with water where ingestion of water is reasonably possible. These uses may include, but are not limited to, swimming, wading, water-skiing, skin and SCUBA diving, surfing, whitewater activities, fishing, and use of natural hot springs. Please note that while this beneficial use designation is assigned to surface waterbodies in this region, it should not be construed as encouraging recreational activities. REC1 uses are not expected to occur on the Project site due to the lack of regular surface water.
- **REC2** waters are used for recreational activities involving proximity to water, but not normally involving body contact with water where ingestion of water would be reasonably possible. These uses may include, but are not limited to, picnicking; sunbathing; hiking; beachcombing; camping; boating; tidepool and marine life study; hunting; sightseeing; and aesthetic enjoyment in conjunction with the above activities. Please note that, while this beneficial use designation is assigned to surface water bodies in this region, it should not be construed as encouraging recreational activities. REC2 uses are not expected to occur on the Project site due to the lack of regular surface water.
- **WARM** waters support warm water ecosystems that may include, but are not limited to, preservation and enhancement of aquatic habitats, vegetation, fish, and wildlife (including invertebrates). The Project site likely provides marginal WARM uses given the lack of regular surface water. WARM uses are not expected to be substantially affected by the proposed Project.
- **WILD** waters support terrestrial ecosystems that may include, but are not limited to, the preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources. The Project site contains riparian woodland, which would provide habitat for a variety of terrestrial species. WILD uses are not expected to be substantially affected by the proposed Project.
- **WET** waters support wetland ecosystems that may include, but are not limited to, preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions that enhance water quality (e.g., providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants). The Project site likely provides limited WET uses given the lack of regular surface water. WET uses are not expected to be substantially affected by the proposed Project.

California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to the *California Fish and Game Code* (§§1600–1616). Activities of State and local agencies as well as public utilities that are project proponents are regulated by the CDFW under Section 1602 of the *California Fish and Game Code*. This section regulates any work that will (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake.

Because the CDFW includes streamside habitats under its jurisdiction that, under the federal definition, may not qualify as wetlands on a particular project site, its jurisdiction may be broader than that of the USACE. Riparian forests in California often lie outside the plain of ordinary high

water regulated under Section 404 of the CWA, and often do not have all three parameters (wetland hydrology, hydrophytic vegetation, and hydric soils) sufficiently present to be regulated as a wetland. However, riparian forests are frequently within CDFW regulatory jurisdiction under Section 1602 of the *California Fish and Game Code*.

The CDFW enters into a Lake or Streambed Alteration Agreement (SAA) with a project proponent and can impose conditions on the agreement. The notification process involves the completion of the applications which will serve as the basis for the CDFW's issuance of a Section 1602 SAA. Section 1602 of the *California Fish and Game Code* applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State.

The CDFW jurisdictional limits are not as clearly defined by regulation as those of the USACE. While they closely resemble the limits described by USACE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric and saturated soils conditions. In general, the CDFW takes jurisdiction from the top of a stream bank or to the outer limits of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place within or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish and other aquatic plant and/or wildlife species. It also includes watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

2.0 METHODS

The three-parameter approach used to identify USACE wetlands is summarized in Sections 2.1 through 2.3; literature reviewed for the preparation of the delineation is outlined in Section 2.4; and the field delineation is outlined in Section 2.5.

2.1 VEGETATION

Hydrophytic vegetation (or hydrophytes) is defined as any macrophytic plant that “grows in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content; plants typically found in wet habitats” (Environmental Laboratory 1987). Specifically, these plant species have specialized morphological, physiological, or other adaptations for surviving in permanently saturated to periodically saturated soils where oxygen levels are very low or the soils are anaerobic. The USACE—as part of an interagency effort with the USEPA, the U.S. Fish and Wildlife Service (USFWS), and the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS)—has approved a new National Wetland Plant List (NWPL) (Lichvar and Kartesz 2009) to replace the *National List of Plant Species that Occur in Wetlands* (Reed 1988). The NWPL went into effect on June 1, 2012, and is to be used to determine whether the hydrophytic vegetation parameter is met when conducting wetland determinations under the Clean Water Act and the Wetland Conservation Provisions of the Food Security Act. The NWPL is also intended to be used for wetland restoration, establishment, and enhancement projects. This report utilized the indicator statuses for the Arid West Supplement portion of the NWPL.

The following revisions were made to the Reed (1988) pursuant to the NWPL:

1. The USACE eliminated the “probability-of-occurrence” categories (e.g., <1 percent, 1–33 percent, 34–66 percent, 67–99 percent, and >99 percent) due to the lack of numerical data to support these ratings.
2. The USACE determined that, because the wetland plant indicator statuses have shifted from a series of numerical categories to qualitative definitions, the use of +/- suffixes is difficult to apply accurately. Adding finer-scale +/- ratings implies there are data to support their assignments, which is generally not the case. Therefore, to improve the accuracy of the overall list, the USACE decided to drop the +/- suffixes.

Lichvar and Gillrich (2011) provide updated technical definitions of wetland plant indicator status categories as part of the procedures used in updating the NWPL:

- ***Obligate Wetland (OBL)***: These wetland-dependent plants (herbaceous or woody) require standing water or seasonally saturated soils (14 or more consecutive days) near the surface to assure adequate growth, development, and reproduction and to maintain healthy populations. These plants are of four types:
 - *submerged*: plants that conduct virtually all of their growth and reproductive activity under water.
 - *floating*: plants that grow with leaves and most often their vegetative and reproductive organs floating on the water surface.
 - *floating-leaved*: plants that are rooted in sediment but also have leaves that float on the water surface.
 - *emergent*: herbaceous and woody plants that grow with their bases submerged and rooted in inundated sediment or seasonally saturated soil and their upper

portions, including most of the vegetative and reproductive organs, growing above the water level.

- **Facultative Wetlands (FACW):** These plants depend on and predominantly occur with hydric soils, standing water, or seasonally high water tables in wet habitats for assuring optimal growth, development, and reproduction and for maintaining healthy populations. These plants often grow in geomorphic locations where water saturates soils or floods the soil surface at least seasonally.
- **Facultative (FAC):** These plants can occur in wetlands or non-wetlands. They can grow in hydric, mesic, or xeric habitats. The occurrence of these plants in different habitats represents responses to a variety of environmental variables other than just hydrology (e.g., shade tolerance, soil hydrogen potential [pH], and elevation) and they have a wide tolerance of soil moisture conditions.
- **Facultative Upland (FACU):** These plants are not wetland dependent. They can grow on hydric and seasonally saturated soils, but they develop optimal growth and healthy populations on predominantly drier or more mesic sites. Unlike FAC plants, these plants are non-wetland plants by habitat preference.
- **Obligate Upland (UPL):** These plants occupy mesic to xeric non-wetland habitats. They almost never occur in standing water or saturated soils. Typical growth forms include herbaceous, shrubs, woody vines, and trees.

As identified in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*, the following are three procedures for determining hydrophytic vegetation: Indicator 1, "Dominance Test", using the "50/20 Rule"; Indicator 2, "Prevalence Index"; or Indicator 3, "Morphological Adaptation" (USACE 2008). Hydrophytic vegetation is present if any indicator is satisfied. If none of the indicators are satisfied, then hydrophytic vegetation is absent unless (1) indicators of hydric soil and wetland hydrology are present and (2) the site meets the requirements for a problematic wetland situation.

- **Dominance Test:** Vegetative cover is estimated and is ranked according to its dominance. Dominant species are the most abundant species for each stratum of the community (i.e., tree, sapling/shrub, herb, or woody vine) that individually or collectively amount to 50 percent of the total coverage of vegetation plus any other species that, by itself, accounts for 20 percent of the total vegetation cover (also known as the "50/20 Rule"). These species are recorded on the "Wetland Determination Data Form – Arid West Region". The wetlands indicator status of each species is also recorded on the data forms based on the NWPL (Lichvar and Kartesz 2009). If greater than 50 percent of the dominant species across all strata are OBL, FACW or FAC species, the criterion for wetland vegetation is considered to be met.
- **Prevalence Index:** The prevalence index considers all plant species in a community, not just the dominant ones. The prevalence index is the average of the wetland indicator status of all plant species in a sampling plot. Each indicator status category is given a numeric code (OBL=1, FACW=2, FAC=3, FACU=4, and UPL=5) and is weighted by the species' abundance (percent cover). Hydrophytic vegetation is present if the prevalence index is 3.0 or less.
- **Morphological Adaptation:** Morphological adaptations, such as adventitious roots (i.e., roots that take advantage of the wet conditions) and shallow root systems, must be observed on more than 50 percent of the individuals of a FACU species for the hydrophytic vegetation wetland criterion to be met.

2.2 SOILS

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as a soil that is formed under conditions of saturation, flooding, or ponding that occurs long enough during the growing season to develop anaerobic conditions (or conditions of limited oxygen) at or near the soil surface and that favor the establishment of hydrophytic vegetation (USDA NRCS 2008). It should be noted that hydric soils created under artificial conditions of flooding and inundation sufficient for the establishment of hydrophytic vegetation would also meet this hydric soils indicator.

The soil conditions are verified by digging test pits along each transect to a depth of at least 20 inches (except where a restrictive layer occurs in areas containing hard pan, cobble, or solid rock). It should be noted that, at some sites, it may be necessary to make exploratory soil test pits up to 40 inches deep to more accurately document and understand the variability in soil properties and hydrologic relationships on the site. Soil test pit locations are usually dug within the drainage invert or at the edge of a drainage course in vegetated areas. Soil extracted from each soil test pit is then examined for texture and color using the standard plates within the Munsell Soil Color Chart (1994) and recorded on the Data Form. The Munsell Soil Color Chart aids in designating soils by color labels based on gradations of three simple variables: hue, value, and chroma. Any indicators of hydric soils such as the following are also recorded on the Data Form: redoximorphic features (i.e., areas where iron is reduced under anaerobic conditions and oxidized following a return to aerobic conditions); buried organic matter; organic streaking; reduced soil conditions; gleyed (i.e., soils having a characteristic bluish-gray or greenish-gray in color) or low-chroma soils; or sulfuric odor. If hydric soils are found, progressive pits are dug along the transect moving laterally away from the active channel area until hydric soil features are no longer present within the top 20 inches of the soil.

2.3 HYDROLOGY

Wetlands hydrology is represented by either (1) all of the hydrological elements or characteristics of areas permanently or periodically inundated or (2) areas containing soils that are saturated for a sufficient duration of time to create hydric soils suitable for the establishment of plant species that are typically adapted to anaerobic soil conditions. The presence of wetland hydrology is evaluated at each intersect by recording the extent of observed surface flows; the depth of inundation; the depth to saturated soils; and the depth to free water in soil test pits. In instances where stream flow is divided into multiple channels with intervening sandbars, the entire area between the channels is considered within the “Active Floodplain” and within the OHWM. Therefore, an area containing these features would meet the indicator requirements for wetland hydrology.

2.4 LITERATURE

Prior to conducting the delineation and during the course of preparing this report, BonTerra Psomas reviewed the following documents to identify areas that may fall under agency jurisdiction: the USGS’ San Dimas 7.5-minute quadrangle map; color aerial photography provided by Aerials Express (2011); the Report and General Soil Map for Los Angeles County, California (USDA 1969); the National Hydric Soils List (USDA NRCS 2014); and the National Wetlands Inventory’s [Wetland Mapper](#) (USFWS 2014). A description of this literature is provided below.

U.S. Geological Survey Topographic Quadrangle. USGS quadrangle maps show geological formations and their characteristics; they describe the physical settings of an area through topographic contour lines and other major surface features. These features include lakes, streams, rivers, buildings, roadways, landmarks, and other features that may fall under the jurisdiction of one or more regulatory agencies. In addition, the USGS maps provide topographic

information that is useful in determining elevations, latitude and longitude, and Universal Transverse Mercator Grid coordinates for a project site.

The topography of the Project site is characterized by hills and valleys that drain into Walnut Creek, a blue-line stream just north of the Project site. The hillsides are primarily steep, with a relatively flat slope in the southwest corner of the Project site. Elevations on the Project site range from approximately 650 to 910 feet above mean sea level. The areas of highest elevation occur along the eastern edge of the former campus site, while the lowest elevations are within the stream bed of Walnut Creek in the northwestern portion of the site. Regional topography slopes toward the southwest.

Color Aerial Photography. BonTerra Psomas reviewed an existing color aerial photograph prior to conducting the field delineation to identify the extent of any drainages and riparian vegetation occurring on the Project site.

The center of the Project site contains structures, parking lots, and roads associated with on-site development. Trails are also visible on the aerial imagery. Riparian areas (i.e., Walnut Creek and its tributaries) appear to have a vegetative canopy of dense woodland. The surrounding hillsides appear to be dominated by shrubs in the eastern portion of the Project site and annual grasses and/or forbs in the west.

U.S. Department of Agriculture, Natural Resources Conservation Service. The presence of hydric soils is one of the chief indicators of jurisdictional wetlands. BonTerra Psomas reviewed U.S. Department of Agriculture (USDA) soil data for the Project site (USDA 1969).

The following soil type has been mapped on the Project site: San Andreas-San Benito association (30 to 75 percent slopes, eroded). This soil is not listed as “hydric” on the National Hydric Soils List (USDA NRCS 2014). A brief description of the soil mapped on the Project site is provided in Attachment A of this report.

U.S. Fish and Wildlife Service, National Wetlands Inventory: The Wetlands Mapper shows wetland resources available from the Wetlands Spatial Data Layer of the National Spatial Data Infrastructure (USFWS 2014). This resource provides the classification of known wetlands following the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979). This classification system is arranged in a hierarchy of (1) Systems that share the influence of similar hydrologic, geomorphologic, chemical, or biological factors (i.e., Marine, Estuarine, Riverine, Lacustrine, and Palustrine); (2) Subsystems (i.e., Subtidal and Intertidal; Tidal, Lower Perennial, Upper Perennial, and Intermittent; or Littoral and Limnetic); (3) Classes, which are based on substrate material and flooding regime or on vegetative life forms; (4) Subclasses; and (5) Dominance Types, which are named for the dominant plant or wildlife forms. In addition, there are modifying terms applied to Classes or Subclasses.

Resources on the Project site are mapped as PFOA, the description is as follows:

- **P: System PALUSTRINE.** The Palustrine System includes all nontidal wetlands dominated by trees, shrubs, emergents, mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean-derived salts is below 0.5 part per trillion (ppt). Wetlands [lacking such vegetation] are also included if they exhibit all of the following characteristics: (1) are less than 8 hectares (20 acres); (2) do not have an active wave-formed or bedrock shoreline feature; (3) have a low water a depth of less than 6.6 feet in the deepest part of the basin; and (4) have salinity due to ocean-derived salts of less than 0.5 ppt.

- **FO: Class FORESTED.** This Class is characterized by woody vegetation that is six meters tall or taller.
 - **A: Water Regime Modifier TEMPORARY FLOODED.** Surface water is present for brief periods during the growing season, but the water table usually lies well below the soil surface for most of the growing season. Plants that grow both in uplands and wetlands may be characteristic of this water regime.

2.5 JURISDICTIONAL DELINEATION

In September 2008, the USACE issued the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. This regional supplement is designed for use with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987). Both the 1987 Wetlands Manual and the Arid West Supplement to the manual provide technical methods and guidelines for determining the presence of “waters of the U.S.” and wetland resources. A three-parameter approach is used to identify wetlands and requires evidence of wetland hydrology, hydrophytic vegetation, and hydric soils. Wetlands generally include swamps, marshes, bogs, and similar areas. In order to be considered a wetland, an area must exhibit at least minimal hydric characteristics within the three parameters. However, problem areas may periodically or permanently lack certain indicators due to seasonal or annual variability of the nature of the soils or plant species on site. Atypical wetlands lack certain indicators due to recent human activities or natural events. Guidance for determining the presence of wetlands in these situations is presented in the regional supplement.

Non-wetland “waters of the U.S.” are delineated based on the limits of the OHWM, which can be determined by a number of factors including erosion, the deposition of vegetation or debris, and changes in vegetation.

It should be noted that the RWQCB shares USACE jurisdiction unless isolated conditions are present. If isolated waters conditions are present, the RWQCB takes jurisdiction using the USACE’s definition of the OHWM and/or the three-parameter wetlands method pursuant to the 1987 Wetlands Manual. The CDFW’s jurisdiction is defined as the top of the bank to the top of the bank of the stream, channel, or basin or to the outer limit of riparian vegetation located within or immediately adjacent to the river, stream, creek, pond, or lake or other impoundment.

The analysis contained in this report uses the results of a field survey conducted by BonTerra Psomas Senior Biologists Allison Rudalevige and Jennifer Pareti on October 30, 2014. Jurisdictional features were delineated using a 1 inch equals 200 feet (1" = 200') scale aerial photograph.

3.0 **RESULTS**

3.1 **U.S. ARMY CORPS OF ENGINEERS DETERMINATION**

3.1.1 **“Waters of the U.S.” Determination (Non-Wetland)**

Walnut Creek is an 11.7-mile-long tributary of the San Gabriel River, a relatively permanent water that discharges into the Pacific Ocean at Alamitos Bay, approximately 35 river miles (29 aerial miles) from the Project site. Walnut Creek is a natural-bottom stream that becomes a concrete-bottom flood-control channel downstream of the Project site.

There are several small unnamed tributaries to Walnut Creek on the Project site. The largest of these tributary drainages is located along the southern boundary of the Project site. This deeply incised drainage feature is ephemeral and conveys storm flows from east to west from an existing 60-inch storm drain located west of the Tzu Chi Foundation maintenance building that is likely part of a storm drain system that serves the adjacent residential development. There is also a series of smaller ephemeral drainages that convey storm flows from the natural hillsides on the Project site north to Walnut Creek.

Due to the proximity to residential development and urban runoff, there is potential for the drainages on the Project site to be exposed to environmental pollutants such as pesticides, herbicides, and oil from roads. During periods of inundation, these drainages may convey these pollutants downstream, eventually to a TNW. Therefore, the required federal nexus to a TNW has been met and these drainages would be considered “waters of the U.S.” under the jurisdiction of the USACE.

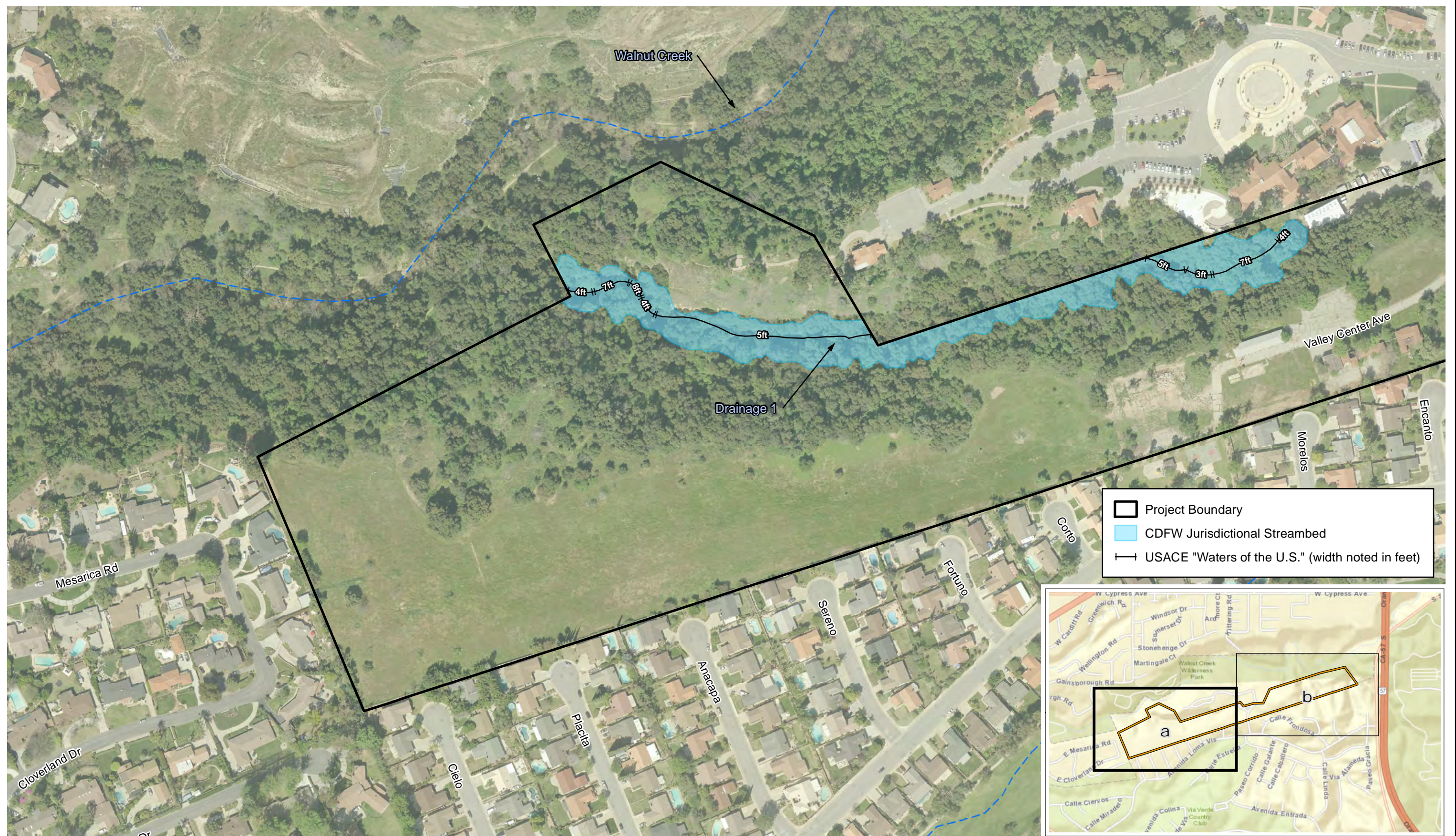
Non-wetland “waters of the U.S.” are drainage features that conduct water at some point during the year (evidenced by the presence of an OHWM), but do not satisfy all three criteria to be considered a wetland. The limits of non-wetland “waters of the U.S.” were defined by the presence of the OHWM. Evidence of OHWM for the drainage consists of changes in sediment texture and a break in bank slope. Based on the field observations and data collected, approximately 0.03 acre of non-wetland “waters of the U.S.” occur on the Project site (Table 2; Exhibits 3a and 3b). Representative photographs of the Project site are included in Exhibit 4.

**TABLE 2
SUMMARY OF JURISDICTIONAL RESOURCES ON THE PROJECT SITE**

Jurisdiction	Existing Resources (Acres)
USACE “Waters of the U.S.”*	0.03
CDFW Jurisdictional Resources	5.34
USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife.	
* RWQCB jurisdictional boundaries are defined as those determined for the USACE under “waters of the U.S.”; however, the RWQCB also takes jurisdiction over isolated waters.	

3.1.2 **Wetlands Determination**

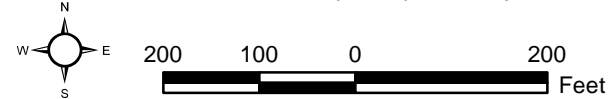
As previously described in Section 2.0 of this report, an area must exhibit all three wetland parameters, as described in the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008) and the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) in order to be considered a jurisdictional



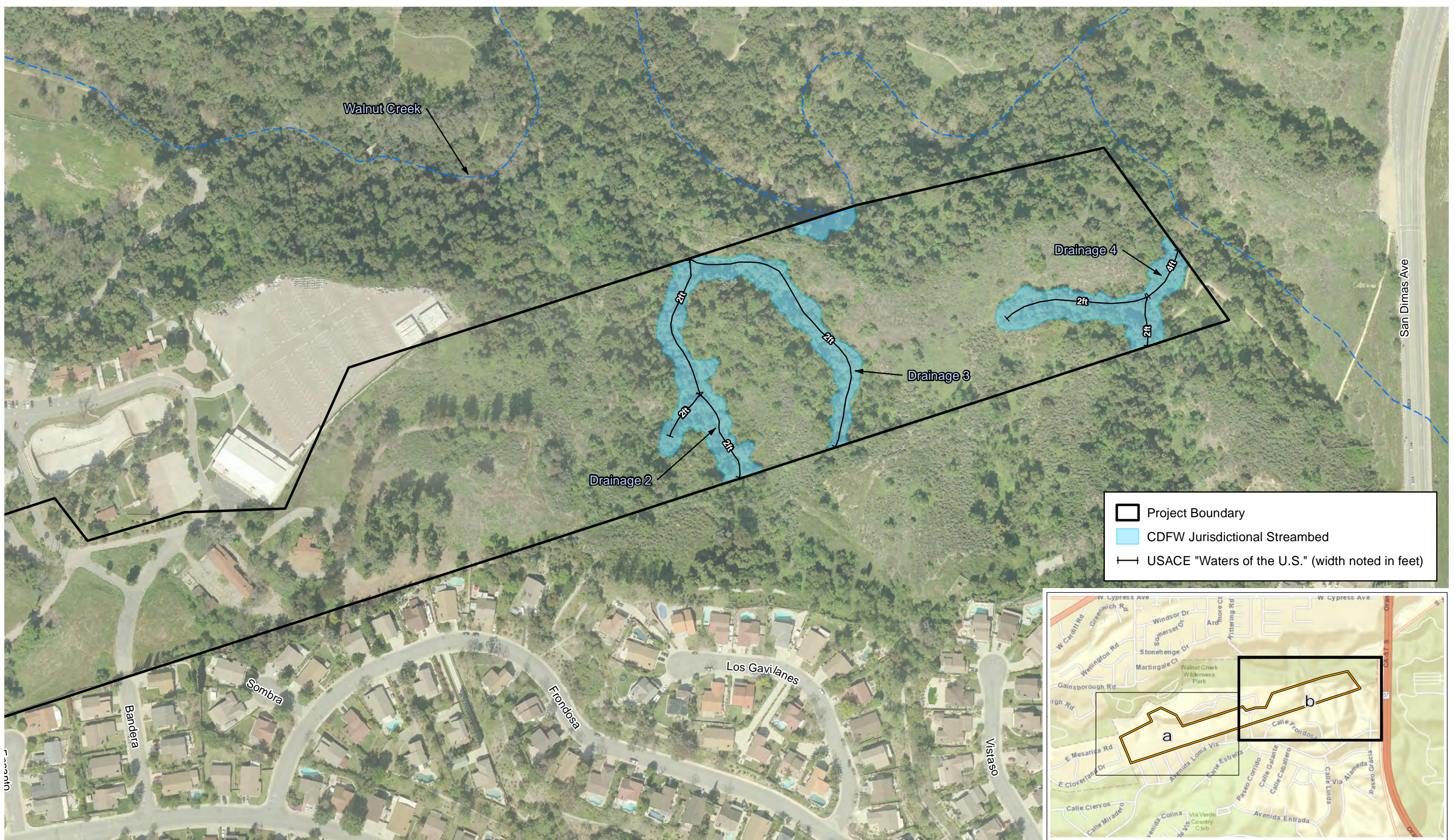
Project Boundary
 CDFW Jurisdictional Streambed
 USACE "Waters of the U.S." (width noted in feet)




Existing Jurisdictional Resources

Walnut Creek Habitat and Open Space Project

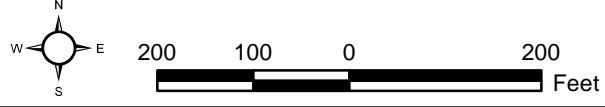


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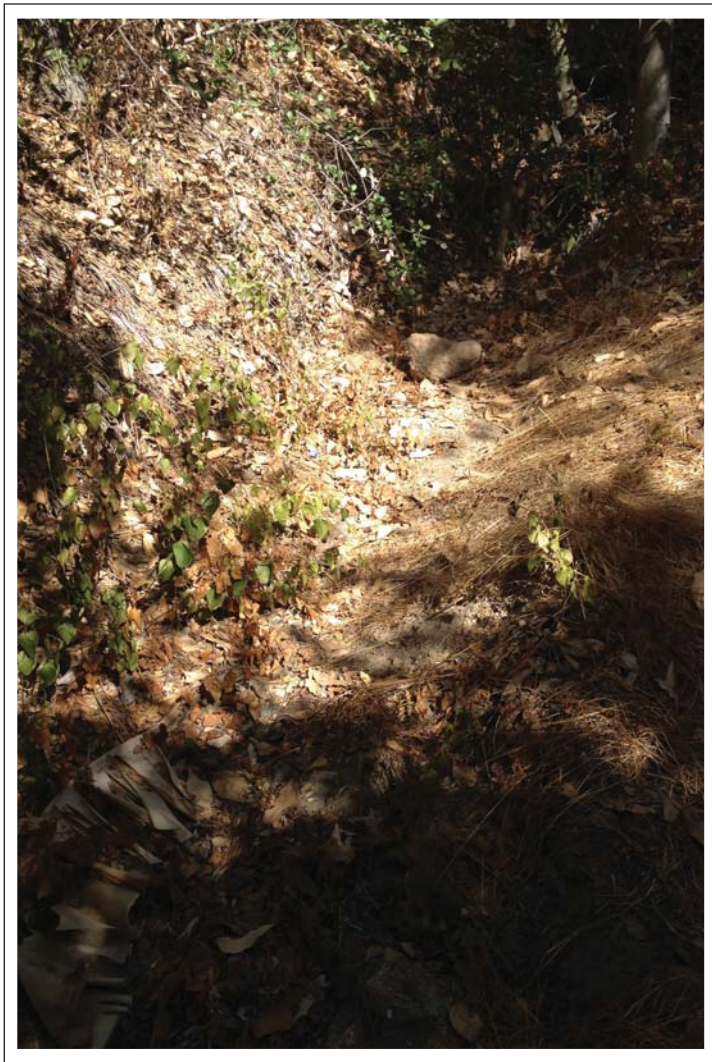


-  Project Boundary
-  CDFW Jurisdictional Streambed
-  USACE "Waters of the U.S." (width noted in feet)

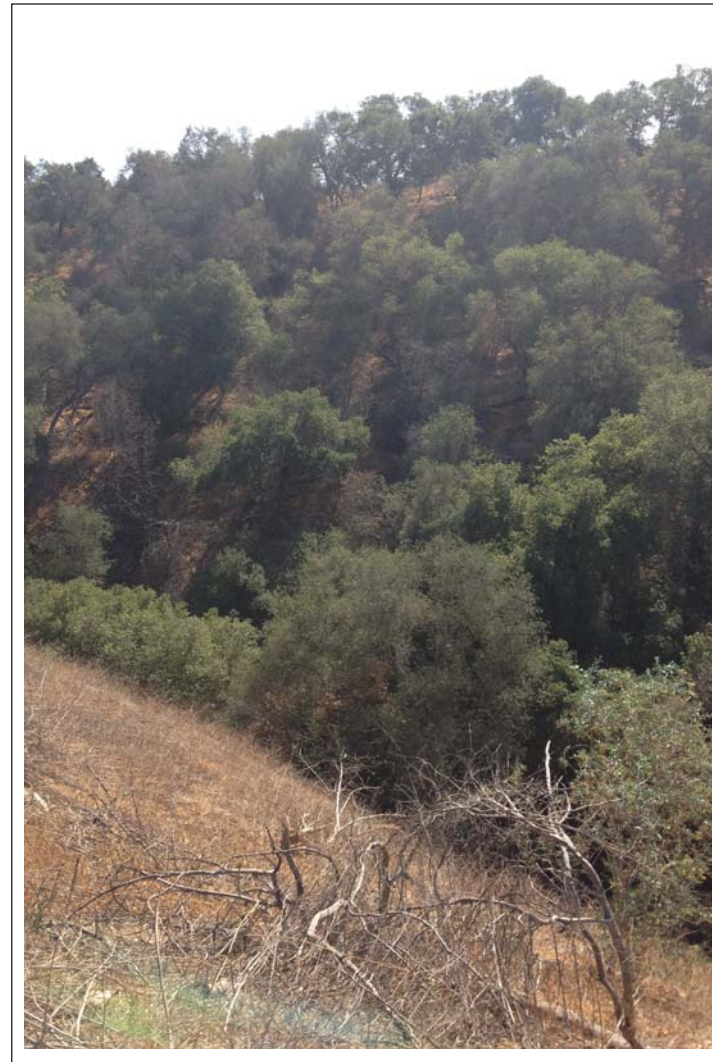
Existing Jurisdictional Resources
 Walnut Creek Habitat and Open Space Project



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Drainage bottom near the center of the Project site.



Drainage and surrounding vegetation in the western portion of the Project site.

Site Photographs

Walnut Creek Habitat and Open Space Project

Exhibit 4

Bonterra
PSOMAS

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wetland. The streambed was generally unvegetated with an overhanging canopy of coast live oak (*Quercus agrifolia*), which is an UPL species. Therefore, the hydrophytic vegetation criterion for wetlands was not met and wetland “waters of the U.S.” are not present on the Project site.

3.2 CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD DETERMINATION

The RWQCB jurisdictional boundaries are defined as those determined for the USACE under “waters of the U.S.”. However, the RWQCB takes jurisdiction over both connected and isolated waters. Isolated features (those that do not have a direct connection to a TNW or do not meet the “significant nexus” threshold) are under the jurisdiction of the RWQCB, but not the USACE.

No isolated waters are present on the Project site; therefore, RWQCB jurisdiction is the same as that of the USACE. Therefore, approximately 0.03 acre of “waters of the State” under the jurisdiction of the RWQCB occur on the Project site (Table 2; Exhibits 3a and 3b).

3.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The limits of CDFW jurisdiction include not only the bed, bank, and channel of streambed features, but also the riparian habitat supported by a river, stream, or lake. The CDFW jurisdictional limits extend to the outer drip line of riparian trees in areas containing riparian vegetation. In areas that do not contain riparian habitat, the jurisdictional limits extend to the top of the stream bank. As a result, the CDFW jurisdictional limits overlap with the jurisdictional limits of the other agencies, but usually extend beyond the OHWM that defines USACE/RWQCB jurisdictional limits. The streambed is surrounded by riparian woodland (i.e., coast live oak woodland); therefore, CDFW jurisdiction extends to the outer dripline of the adjacent oak trees influenced by surface or subsurface flow. Approximately 5.34 acres of waters under the jurisdiction of the CDFW occur on the Project site (Table 2; Exhibits 3a and 3b).

4.0 **RECOMMENDATIONS**

The following permits, agreements, and certifications are required prior to initiation of Project activities that involve impacts to areas under the jurisdiction of the USACE, the RWQCB, and the CDFW:

- USACE Section 404 Permit,
- RWQCB Section 401 Water Quality Certification, and
- CDFW Section 1602 Streambed Alteration Agreement.

Regulatory authorization in the form of an NWP is provided for certain categories of activities (e.g., repair, rehabilitation, or replacement of a structure or fill which was previously authorized; utility line placement; bank stabilization). NWPs authorize only those activities with minimal adverse effects on the aquatic environment and are valid only if the conditions applicable to the permits are met or waivers to these conditions are provided in writing from the USACE. If the NWP conditions cannot be met, an Individual Permit (IP) will be required. "Waters of the U.S." temporarily filled, flooded, excavated, or drained but restored to pre-construction contours and elevations after construction are not included in the measurement of loss of "waters of the U.S.". The appropriate permit authorization will be based on the amount of impacts to "waters of the U.S.", as determined by the USACE.

Following a determination of project impacts, a pre-application meeting with USACE, CDFW, and RWQCB staff is recommended to discuss site conditions; biological and jurisdictional resources; the proposed Project; impacts to these resources resulting from the proposed Project; proposed minimization measures and the mitigation program to offset these impacts; and the regulatory permit process, including the decision to prepare and submit an Approved Jurisdictional Determination or a Preliminary Jurisdictional Determination.

The Project Applicant should consider mitigating jurisdictional impacts resulting from Project implementation on site through the preparation of a Habitat Mitigation Monitoring Plan (HMMP). The preparation of an HMMP early in the process can help to accelerate and shorten the regulatory permitting process. Mitigation ratios for impacts to USACE jurisdictional resources would be based on the USACE's Standard Operating Procedure for Determination of Mitigation Ratios (USACE 2012).

5.0 REFERENCES

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ATTACHMENT A
SOIL SERIES DESCRIPTIONS

The description identified below was obtained from the U.S. Department of Agriculture.

San Andreas-San Benito Association (30 to 75 percent slopes, eroded)

The soils of this association occur on steep to very steep mountainous areas between elevations of 100 and 1,500 feet. The average annual rainfall is 12 to 18 inches, mean annual air temperature is 60 degrees Fahrenheit, and the frost-free season ranges from 240 to 300 days. Natural vegetation consists of thick brush or annual grasses and forbs.

San Andreas soils are 24 to 36 inches deep, are well drained, and have moderate subsoil permeability. They have grayish-brown and brown, neutral and medium acid fine sandy loam surface layers about 15 inches thick. The subsoil is a grayish-brown and brown, medium acid very fine sandy loam about 13 inches thick underlain by very pale-brown soft, medium grained sandstone.

San Benito soils are 36 to 48 inches deep, are well drained, and have moderately slow subsoil permeability. They have dark grayish-brown, neutral clay loam surface layers about 28 inches thick and light yellowish-brown moderately alkaline and calcareous, clay loam subsoils. Yellowish-brown, soft, calcareous sandy shales occur at depths of 36 to 48 inches.