BonTerra PSOMAS

Jurisdictional Delineation Report

Soft Bottom Channel Reaches 118 and 119
Pacific Palisades, California

Prepared for

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EXECUTIVE SUMMARY

The purpose of this report is to document existing jurisdictional resources within Soft Bottom Channel Reaches 118 and 119 in the City of Pacific Palisades. Reach 119 consists of a portion of Rustic Canyon Creek, approximately 3,200 feet long, extending from the confluence with Rivas Canyon Creek down to Rustic Road where the channel transitions to a concrete-lined trapezoidal storm drain. Reach 118 consists of Rivas Canyon Creek, extending from a culvert that passes under Sunset Boulevard down to the confluence with Rustic Canyon Creek.

Proposed activities on the project site consist of annual maintenance activities performed by the Los Angeles County Flood Control District (LACFCD) for flood prevention purposes. The LACFCD performs similar maintenance in many other soft-bottom channels throughout Los Angeles County and typically includes vegetation removal and minor structural repair. The results of this jurisdictional delineation will allow Reaches 118 and 119 to be permitted as part of the overall LACFCD soft-bottom channel maintenance program. 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) and the Los Angeles Regional Water Quality Control Board (RWQCB), as well as the bed, bank, and channel of all rivers and streams (and associated riparian trees), as regulated by the California Department of Fish and Wildlife (CDFW).

The jurisdictional delineation work was performed by BonTerra Psomas Regulatory Specialist David Hughes on September 25, 2014. The project site is located within the County of Los Angeles on the U.S. Geological Service's Topanga 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. 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, the total acreage of jurisdictional resources on the project site are summarized below. All jurisdictional resources are assumed to be temporarily impacted as a result of proposed maintenance activities.

- **USACE/RWQCB Jurisdiction.** 1.66 acres of non-wetland "waters of the U.S." and 0.05 acres of wetlands.
- **CDFW Jurisdiction.** 1.78 acres of CDFW jurisdictional waters.

1.0 INTRODUCTION

This Jurisdictional Delineation Report (report) has been prepared for the Los Angeles County Flood Control District (LACFCD) 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) within Soft Bottom Channel (SBC) Reaches 118 and 119 in the City of Pacific Palisades. This report is based on a jurisdictional delineation survey performed on September 25, 2014.

1.1 PROJECT LOCATION

SBC Reaches 118 and 119 (hereafter referred to as the "project site") are connected streambeds generally located south of Sunset Boulevard in the City of Pacific Palisades (Exhibit 1). Reach 119 consists of the downstream end of Rivas Canyon Creek, extending from Sunset Boulevard approximately 1,200 feet to its confluence with Rustic Canyon Creek. Reach 118 consists of a portion of Rustic Canyon Creek, extending from the confluence with Rivas Canyon Creek downstream approximately 3,200 feet to Rustic Road, where the channel transitions to a concrete-lined storm drain.

The project site is located on the U.S. Geological Survey's (USGS') Topanga 7.5-minute quadrangle of the San Bernardino Meridian at Township 1 South, Range 16 West, Section 36 (Exhibit 2). Elevations in the study area range from approximately 95 to 230 feet above mean sea level.

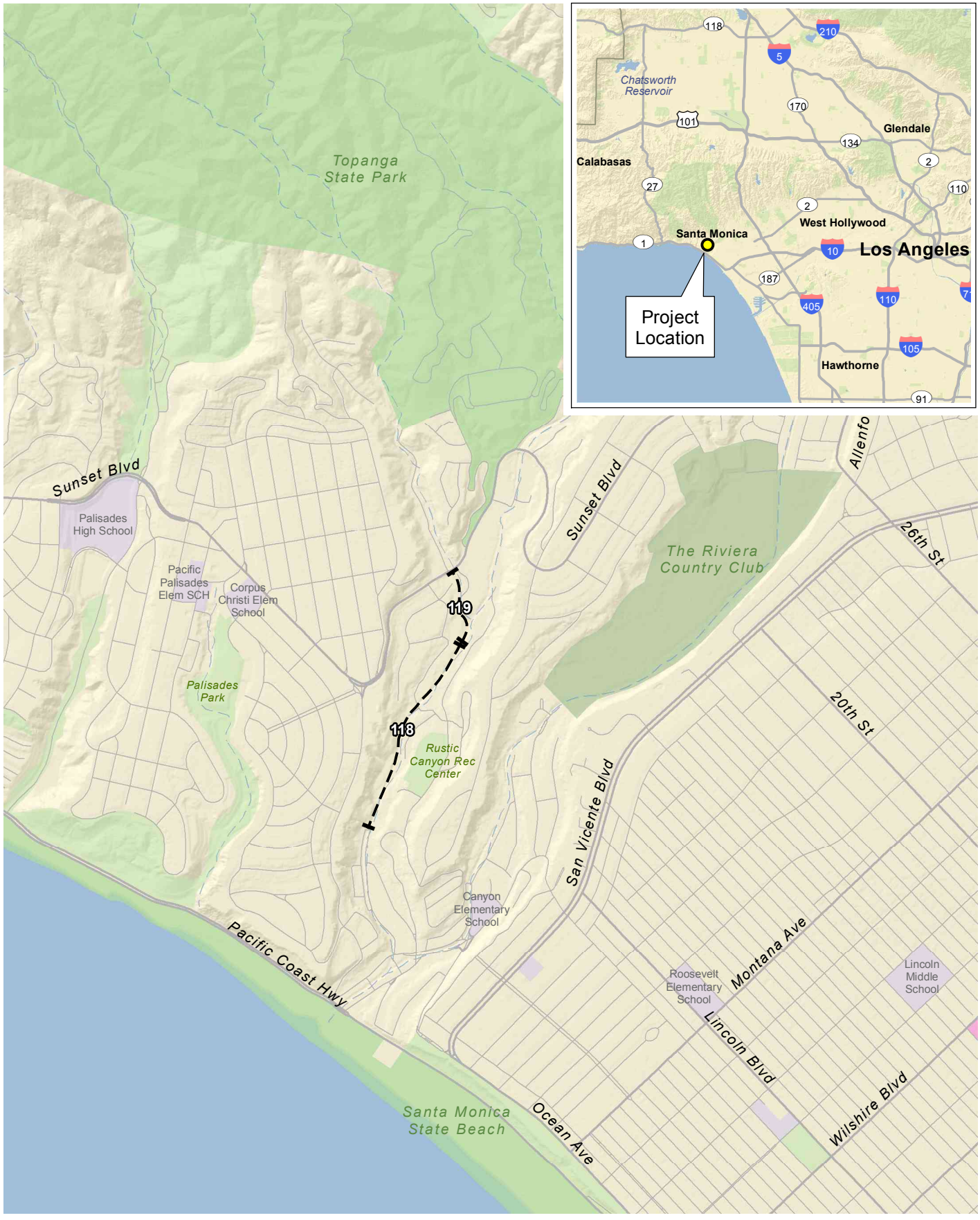
1.2 EXISTING CONDITIONS

The project site generally consists of a storm channel with vertical side walls that are constructed from wooden planks. The stream bottom appears to have been constructed from gravel and cobble with a layer of accumulated sediment that varies in depth from a few inches to as much as 20 inches. A series of drop structures (approximately 30) occur on the project site, designed to capture sediment and slow water velocities. Vegetation on the project site was largely mapped as "disturbed riparian species with escaped ornamental species" (Chambers Group 2014), with dominant plants consisting of herbaceous, weedy species such as crofton weed (*Ageratina adenophora*), English ivy (*Hedera helix*), African umbrella sedge (*Cyperus involucratus*), and water cress (*Nasturtium officinale*). A few pockets of "arroyo willow thickets" were also mapped, which are dominated by arroyo willow (*Salix lasiolepis*). Other woody species include western sycamore (*Platanus racemosa*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*) with understory species composition similar to the rest of the site. In actuality, most of the woody species (e.g., arroyo willow, western sycamore) were rooted outside of the channel boundaries.

The National Wetlands Inventory (see Section 2.4) describes Reaches 118 and 119 both as intermittent systems. Rivas Canyon Creek (Reach 119) did not have any flowing water during the late summer field visit, suggesting that flows in this channel are indeed intermittent. However, flowing surface was present throughout Rustic Canyon Creek (Reach 118) varying from two to eight feet wide. Based on this observation, this system should likely be considered to have perennial flows.

1.3 PROJECT DESCRIPTION

The LACFCD proposes to perform annual maintenance activities within the project site consisting of vegetation removal and minor repair to the flood control facilities (channels/reaches). Temporary sediment berms will be built in order for machinery to traverse the drop structures,



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Regional Location and Local Vicinity

Exhibit 1

Jurisdictional Delineation for Soft-Bottom Channel Reaches 118 and 119

N
W E
S

2,000 1,000 0 2,000
Feet

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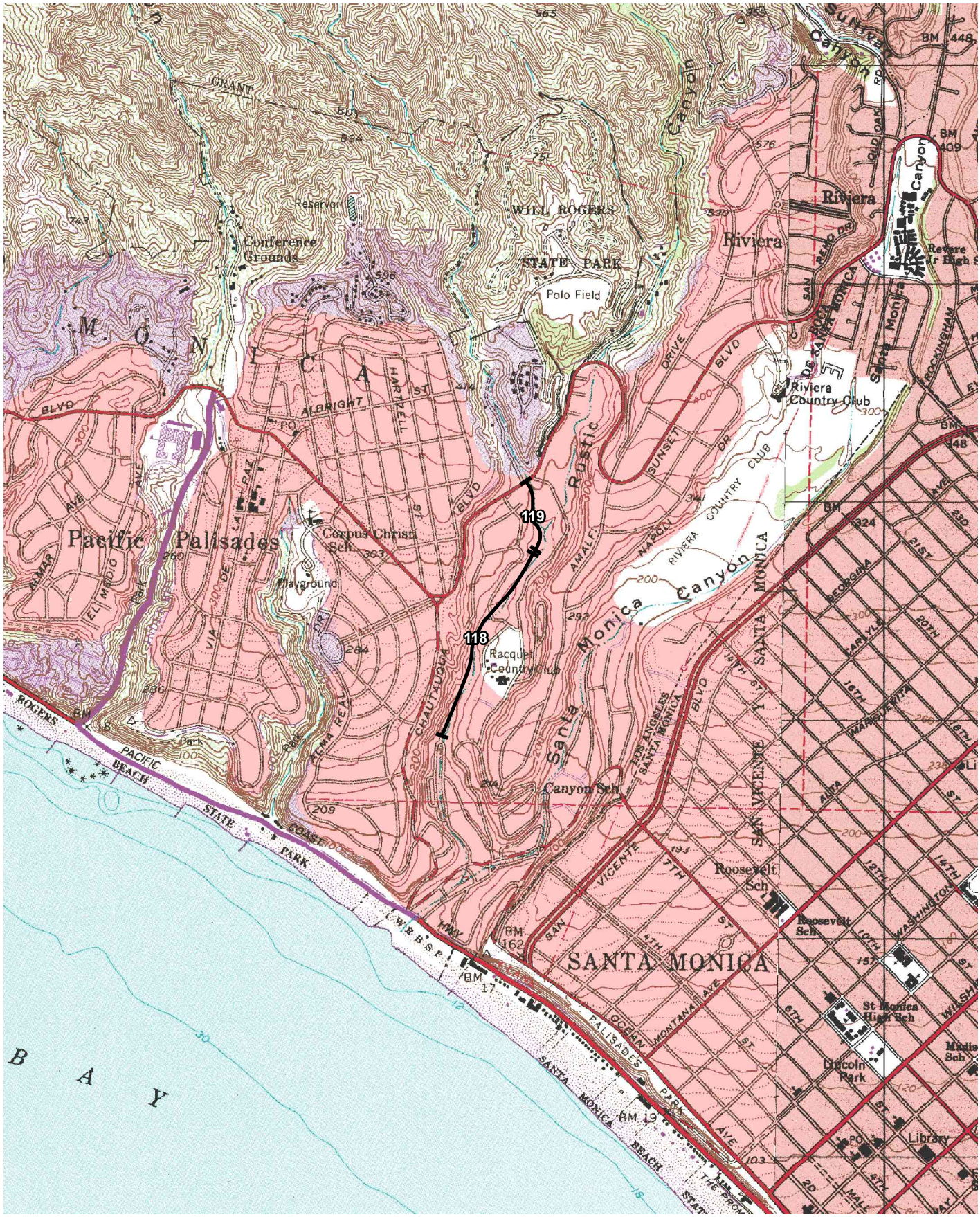

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USGS Quadrangle

Exhibit 2

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

N W E S

2,000 1,000 0 2,000 Feet

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however, sediment will be re-dispersed after work has been completed. Sediment removal will not be conducted. The purpose of this work is to allow water to pass freely through the channels to avoid the potential for flooding during the seasonal rainy period. Maintenance work is expected to combine vegetation removal with hand tools as well as small mechanical equipment (such as a skidsteer).

1.4 REGULATORY AUTHORITY

1.4.1 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 Section 404(b)(1) guidelines, which were developed by the U.S. Environmental Protection Agency (USEPA).

Waters of the United States

"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 the following:

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

The landward limit of tidal "waters of the U.S." is the high-tide line. 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 methodology 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 methodology contained in this supplement was 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.

In summary, the USACE and the USEPA will assert jurisdiction over the following waters: (1) traditional navigable waters (TNW); (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.

[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.

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 which may result in the discharge to 'Waters of the U.S.' 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. Unites 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" 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.

Los Angeles Region Water Quality Control Plan

There are nine Regional Water Quality Control Boards in California. The project site is located within Regional Water Quality Control Board Region 4, the Los Angeles Region. The State Water Resources Control Board and the Regional Water Quality Control Board (RWQCB) have adopted a Water Quality Control Plan (or "Basin Plan") for the Los Angeles 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 County Coastal Streams USGS Watershed Boundary Dataset (WBD). The Hydrologic Unit Code for the project site is 180701040402. Table 3-8 of the Basin Plan (Water Quality Objectives for Selected Constituents in Inland Surface Waters) indicates that there are no specific objectives for this WBD (Los Angeles RWQCB 1994).

Rustic Canyon Creek is included on the 2010 list of Impaired Water Bodies in the State of California, pursuant to Section 303(d) of the federal Clean Water Act (SWRCB 2010). Rustic Canyon Creek is listed as Category 3 water body (water quality information could not be used for an assessment). Municipal and Domestic Water Supply is the pertinent Beneficial Use for the study and sulfates are the pollutant that was assessed.

The Basin Plan identifies a number of beneficial uses for Rustic Canyon Creek, including Municipal and Domestic Water Supply (MUN) waters; Water Contact Recreation (REC 1) waters; Non-Contact Water Recreation (REC 2) waters; Warm Fresh Water Habitat (WARM) waters; and Wildlife Habitat (WILD) waters (Los Angeles RWQCB 1994). Possible effects to these existing and intermittent beneficial uses would need to be addressed as part of the request for a CWA Section 401 Water Quality Certification for this project. Beneficial uses are described in more detail below:

- MUN waters support community, military, or individual water supply systems including, but not limited to, drinking water supply.

- REC 1 includes water for recreational activities involving bodily contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

- REC 2 includes water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating, tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

- 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).

- WILD waters support wildlife habitats that may include, but are not limited to, the preservation and enhancement of vegetation and prey species used by waterfowl and other wildlife.

Maintenance activities within the project site may have a temporary impact on water supply (i.e., MUN), though water will likely be diverted around work areas. Therefore, maintenance will likely not affect the overall quantity of water flowing through the system. However, there is potential for increased siltation and turbidity as a result of proposed maintenance activities. Project activities will likely have an effect on the WARM and WILD beneficial uses, though overall habitat quality is compromised by the dominance of non-native vegetation with adjacent residential areas. REC 1 beneficial uses in the project area are doubtful given the inaccessibility of Reaches 118 and 19 to the public. Also, the project will remove understory species in the channel, but will not impact the larger, perennial vegetation that occurs on the upper banks of the channels (and provides the aesthetic quality of the site) and outside of the LACFCD work areas. Therefore, the project is not expected to have an effect on the REC 1 or REC 2 beneficial uses.

California Department of Fish and Wildlife

The CDFW has jurisdictional authority over wetland resources associated with rivers, streams, and lakes pursuant to *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, and watercourses that have a surface or subsurface flow that support or have supported riparian vegetation.

2.0 METHODS

The analysis contained in this report uses the results of field surveys conducted by BonTerra Psomas Regulatory Specialist David Hughes on September 25, 2014. The three-parameter approach used to identify USACE wetlands is summarized in Sections 2.1 through 2.3; the literature reviewed for the preparation of the delineation is outlined in Section 2.4; the California Rapid Assessment Method (CRAM) is outlined in Section 2.5; and the field delineation is outlined in Section 2.6.

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, and the U.S. Department of Agriculture Natural Resources Conservation Service—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 CWA 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, such as 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 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 within 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 OHWM. Therefore, an area containing these features would meet the indicator requirements for wetland hydrology.

2.4 LITERATURE

Prior to conducting the delineation field investigations, BonTerra Psomas reviewed USGS topographic maps; the Report and General Soil Map, Los Angeles County, California (USDA NRCS 1969); the National Hydric Soils List (USDA NRCS 2012); the National Wetlands Inventory's (NWI) Wetland Mapper (USFWS 2014); and digital color aerial photography to identify areas on the project site that may fall under an agency's jurisdiction. 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 project site is shown on the USGS Topanga 7.5-minute quadrangle.

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

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 the U.S. Department of Agriculture soil data for the project site (USDA NRCS 2012).

U.S. Fish and Wildlife Service, National Wetlands Inventory. The NWI 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.

Wetlands that are identified in the NWI are shown in Exhibit 3. Reaches 118 and 119 are both mapped as R4SBCr. This Cowardin Code is described in detail below:

- ***R: System RIVERINE.*** The Riverine System includes all wetlands and deepwater habitats contained in natural or artificial channels periodically or continuously containing flowing water or which forms a connecting link between the two bodies of standing water. Upland islands or Palustrine wetlands may occur in the channel, but they are not part of the Riverine System.

- ***4: Subsystem INTERMITTENT***. This Subsystem includes channels that contain flowing water only part of the year, but may contain isolated pools when the flow stops.

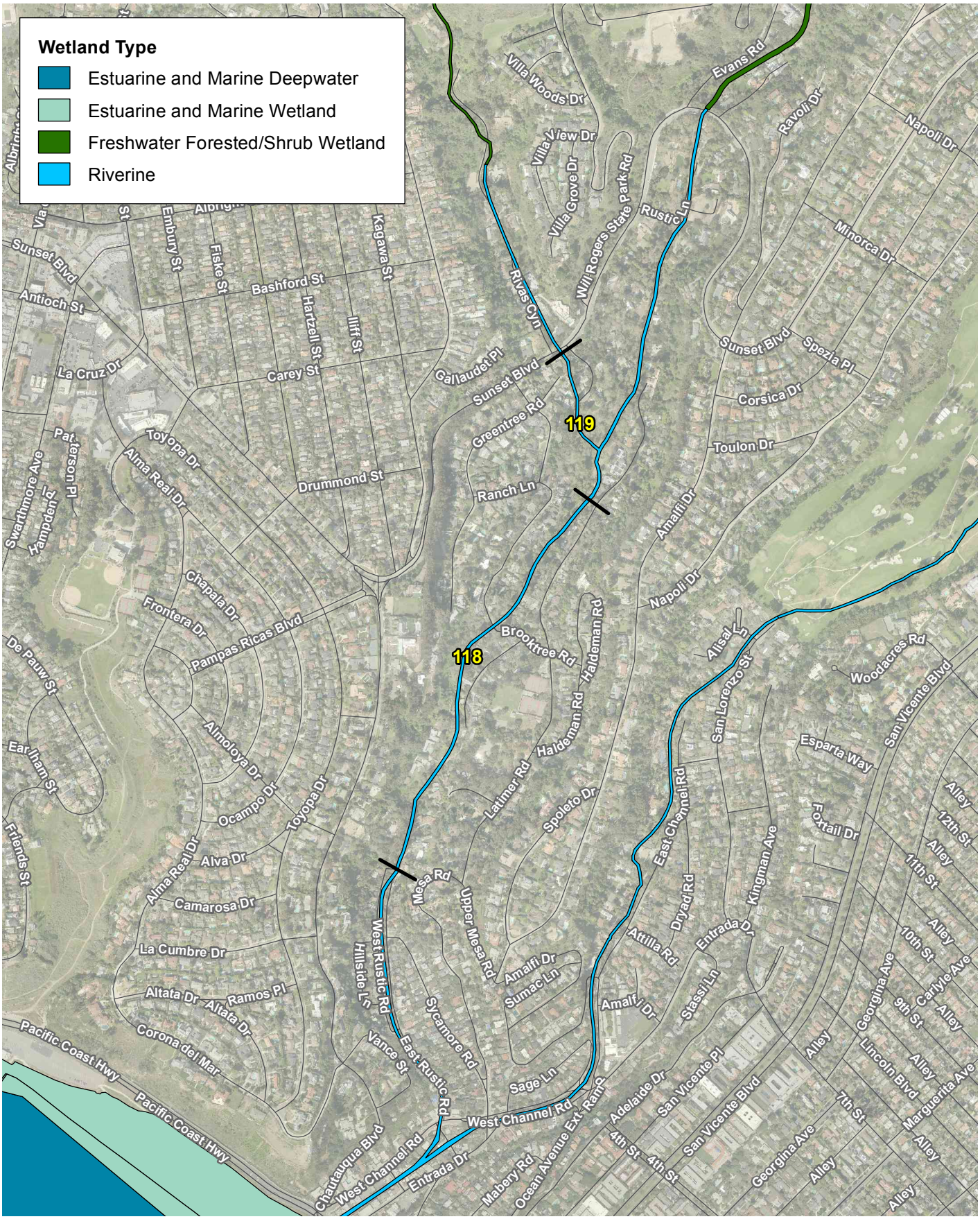
- ***SB: Class STREAMBED.*** This Class includes all wetlands contained within the Intermittent Subsystem of the Riverine System and all channels of the Estuarine System or of the Tidal Subsystem of the Riverine System that are completely dewatered at low tide.

- ***C: Water Regime Modifier SEASONALLY FLOODED.*** This modifier refers to areas where surface water is present for extended periods especially early in the growing season, but is absent by the end of the growing season in most years. The water table after flooding ceases is variable, extending from saturated to the surface to a water table well below the ground surface, in which water covers the land surface throughout the year in all years.

- ***r: Special Modifier ARTIFICIAL SUBSTRATE.*** This special modifier refers to areas with substrates classified as Rock Bottom, Unconsolidated Bottom, Rocky Shore and Unconsolidated Shore that were emplaced by man using natural materials.

2.5 CALIFORNIA RAPID ASSESSMENT METHOD

CRAM is a wetland monitoring tool that was developed in response to a monitoring framework recommended by the USEPA (2006) to help States meet monitoring requirements stated in the CWA. Personnel from the USACE, the CDFW, and the RWQCB (among other agencies)



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National Wetlands Inventory

Exhibit 3

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

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participated in the development of CRAM, which is an accepted assessment tool by these agencies.

A CRAM analysis was conducted by concurrently with the jurisdictional delineation field studies. Surveys were conducted in accordance with the *California Rapid Assessment Method (CRAM) for Wetlands and Riparian Areas (Version 6.0)* (CWMW 2013). The CRAM analysis for Riverine Wetlands[2] was used and one Assessment Area (AA) was established in an area that was characteristic of the overall project site.

The AA is the fundamental unit of evaluation for CRAM analysis. The length of the AA depends on the bankfull width of each streambed (approximately equal to the OHWM). The AA width was defined as the outer canopy of vegetation that overhung the channel, where present.

Information recorded for the AA includes the following: (1) percentage of the AA that was surrounded by a buffer and the condition of the buffer; (2) number of plant layers within the AA; (3) number of co-dominant species and invasive species; and (4) cross-sectional measurements to determine hydrologic connectivity to adjacent areas. Qualitative factors that were assessed includes: (1) degree of plant zonation; (2) vertical plant structure; (3) buffer condition; and (4) complexity of the channel's bank features. Worksheets that identified different structural patches and the degree of channel stability were also filled out for use in the assessment. Aerial photos of the site were later analyzed to determine the site's overall landscape connectivity, buffer width, and water sources.

Individual scores are obtained by "choosing the best-fit set of narrative descriptions of observable conditions ranging from the worst commonly observed [D] to the best achievable [A] for the type of wetland being assessed" (CWMW 2013). Each description has a fixed numerical value. This information was used to assess four primary attributes that are equally weighted: (1) Buffer and Landscape Context; (2) Hydrology; (3) Physical Structure; and (4) Biotic Structure. Table 1 provides a description of these attributes and associated metrics. The attribute score is calculated by first adding the values of the chosen narrative descriptions for the attribute's component metrics, and then converting the sum into a percentage of the maximum possible score for the attribute. The overall CRAM score is the average of the final attribute scores.

CRAM scores for each of the 4 attributes range from 25 to 100. CRAM scores provide an assessment of the level of the various functions and services provided by an aquatic system. The score is a relative measurement to indicate how an individual site compares to the best achievable conditions for that wetland type in the State. It is assumed that the same scores for different wetlands of the same type represent the same overall condition and functional capacity. Therefore, these scores may be used to track the progress of restoration efforts over time; to compare impacted sites to their in-kind mitigation sites; or to compare an individual wetland to the status and trends in ambient condition of its wetland type.

[2] CRAM uses the definition of a wetland provided by the NWI of the USFWS: "Wetlands are lands transitional between terrestrial and aquatic systems, where the water table is usually at or near the surface or the land is covered by shallow water. For the purposes of this classification wetlands must have one or more of the following three attributes: (1) at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is not a soil and is saturated with water or covered by shallow water at some time during the growing season of each year" (Cowardin et al. 1979).

TABLE 1
DESCRIPTION OF CRAM ATTRIBUTES AND METRICS

Attribute	Metric		Description
Buffer and Landscape Context	Landscape Connectivity		Measures connectivity along the riparian corridor for wildlife movement; non-buffer land types are identified 500 meters upstream and downstream of Assessment Area.
	Buffer Condition		Combination of the three sub-metric scores described below.
	Sub-metrics	Percent of Assessment Area with Buffer	Measures percentage of Assessment Area perimeter that contains land cover types that provide a buffer.
		Average Buffer Width	Measures the average width of identified buffer land types around Assessment Area.
		Buffer Condition	Qualitatively evaluates buffer condition.
Hydrology	Water Source		Qualitatively evaluates impacts to the extent, duration, and frequency of saturated or ponded conditions.
	Hydroperiod/Channel Stability		Qualitatively evaluates channel equilibrium, degradation, or aggradation.
	Hydrologic Connectivity		Measures the entrenchment of the channel to determine the ability for water to inundate adjacent upland areas.
Physical Structure	Structural Patch Richness		Measures the diversity of physical riparian features that may potentially provide habitat for aquatic species (e.g., vegetated islands, pools, riffles).
	Topographic Complexity		Qualitatively evaluates the variety of elevations (i.e. micro-topographic heterogeneity).
Biotic Structure	Plant Community		Average of the three sub-metric scores described below.
	Sub-metrics	Number of Plant Layers	Identifies of number of plant strata.
		Number of Co-dominant Species	Identifies the number of co-dominant plant species based on visual estimation.
		Percent Invasive Species	Measures the percent of invasive plant species among the co-dominant species identified above.
	Horizontal Interspersion		Qualitatively evaluates the variety and distribution of plant associations.
	Vertical Biotic Structure		Identifies the number and distribution of plant strata.
Source: CWMW 2013.			

2.6 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 wetland "waters of the U.S.". 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. For the project site, the vertical side walls of the channel often provided the boundary for "waters of the U.S." since water appears to reach both edges of storm drain on an annual basis.

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 methodology 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.

Jurisdictional features were delineated using a 1 inch equals 100-foot (1″ = 100′) scale aerial photograph. The field survey included the collection of vegetation, soils, and hydrologic data from eight sampling points in the survey area; this information was recorded on Wetland Determination Data Forms (Attachment A). Representative photographs of the survey area are included in Attachment B.

3.0 RESULTS

Eight sampling locations were assessed on the project site. The results of collected data are described below and are summarized in Table 2.

3.1 VEGETATION

The following vegetation types were observed on the project site: arroyo willow thickets and disturbed riparian species with escaped ornamental species (Chambers 2014). Both of these vegetation types were dominated by herbaceous, weedy species such as crofton weed, English ivy, African umbrella sedge, and water cress, though the arroyo willow thickets contained an overstory of arroyo willow, western sycamore, and blue elderberry. Much of the overstory vegetation in the arroyo willow thickets were actually rooted outside of the channel, above the vertical walls, though they overhang the channel.

The hydrophytic vegetation criterion was met at sampling locations 3 through 8. These sites tended to be dominated by herbaceous vegetation such as crofton weed and African umbrella sedge, often with an overstory of arroyo willow or western sycamore.

3.2 SOILS

No soil data were available for the project site (USDA NRCS 2014), though soils generally consist of coarse sand. Sandy silt was observed at the downstream portion of Rustic Canyon Creek. Hydric soil indicators were observed at sample sites 1, 7, and 8, though their presence was fairly localized to these locations. Soil was excavated at many locations throughout the project site to search for the presence of hydric soil, though it was only encountered at these three locations.

3.3 HYDROLOGY

The project site is within the 611-square-mile Santa Monica Bay Watershed. Rivas Canyon Creek (Reach 119) flows into Rustic Canyon Creek (Reach 118) which flows in a southerly direction for approximately 3,200 linear feet until it reaches Rustic Road where it transitions to a concrete-lined channel. From this point, Rustic Canyon Creek continues for approximately 2,500 linear feet until it flows into Santa Monica Canyon Channel. From there, water flows approximately 1,500 linear feet further until it reaches the Pacific Ocean, a traditionally navigable water (TNW).

All sampling points exhibit indicators of wetland hydrology, principally determined by the presence of flowing water.

TABLE 2
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Plant Species	Wetland Indicator Status*	Passed Dominance Test	Passed Prevalence Index	Meets Hydrophytic Vegetation Criterion	Meets Hydric Soils Criterion	Meets Wetlands Hydrology Criterion
1	*Eriobotrya japonica* loquat	UPL	No	No	No	Yes	Yes
	Zantedeschia aethiopica Calla-lily	UPL					
	Hedera helix English ivy	UPL					
2	*Salix lasiolepis* arroyo willow	FACW	No	No	No	No	Yes
	Hedera helix English ivy	UPL					
3	*Salix lasiolepis* arroyo willow	FACW	No	Yes	Yes	No	Yes
	Populus fremontii Fremont cottonwood	FACW					
	Ageratina adenophora crofton weed	FAC					
	Cyperus involucratus African umbrella sedge	FACW					
	Hedera helix English ivy	UPL					
4	*Salix lasiolepis* arroyo willow	FACW	Yes	Yes	Yes	No	Yes
	Populus fremontii Fremont cottonwood	FACW					
	Ageratina adenophora crofton weed	FAC					
	Hedera helix English ivy	UPL					

TABLE 2
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Plant Species	Wetland Indicator Status*	Passed Dominance Test	Passed Prevalence Index	Meets Hydrophytic Vegetation Criterion	Meets Hydric Soils Criterion	Meets Wetlands Hydrology Criterion
5	*Cyperus involucratus* African umbrella sedge	FACW	Yes	Yes	Yes	No	Yes
	Nasturtium officinale water cress	OBL					
	Hedera helix English ivy	UPL					
6	*Platanus racemosa* western sycamore	FACW	Yes	Yes	Yes	No	Yes
	Cyperus involucratus African umbrella sedge	FACW					
	Nasturtium officinale water cress	OBL					
	Solanum douglasii Douglas' nightshade	FAC					
	Plantago major common plantain	FACW					
7	*Salix lasiolepis* arroyo willow	FACW	Yes	Yes	Yes	Yes	Yes
	Fraxinus uhdei shamel ash	FACW					
	Sambucus nigra ssp. *caerulea* blue elderberry	FAC					
	Cyperus involucratus African umbrella sedge	FACW					
	Apium graveolens common celery	FACW					
	Hedera helix English ivy	UPL					

TABLE 2
SUMMARY OF HYDROPHYTIC VEGETATION, HYDRIC SOILS, AND WETLANDS HYDROLOGY WETLANDS INDICATOR STATUS BY SOIL TEST PIT LOCATION

Soil Test Pit	Plant Species	Wetland Indicator Status*	Passed Dominance Test	Passed Prevalence Index	Meets Hydrophytic Vegetation Criterion	Meets Hydric Soils Criterion	Meets Wetlands Hydrology Criterion
8	*Cyperus involucratus* African umbrella sedge	FACW	Yes	Yes	Yes	Yes	Yes
	Nasturtium officinale water cress	OBL					
	Apium graveolens common celery	FACW					
	Urtica dioica ssp. *holosericea* hoary nettle	FACW					
	Plantago major common plantain	FACW					

* UPL: obligate upland; FACW: facultative wetland; FAC: facultative; OBL: obligate wetland.

3.4 CALIFORNIA RAPID ASSESSMENT METHOD

A CRAM evaluation was performed in a portion of the project site that was generally in the middle of the site and was characteristic of the channel's general condition. The CRAM score associated with the jurisdictional resources was 48.6, which would be considered a moderately low score. A summary of the results of the CRAM evaluation is provided in Table 3. The CRAM datasheet for this analysis is provided in Attachment C.

A summary of field conditions that determined the CRAM scores for each attribute is provided below.

TABLE 3
SUMMARY OF CRAM SCORES

Attribute	Metric	Score
Buffer and Landscape Context	Landscape Connectivity	A (12)
	Buffer Condition (sub-metrics below)	
	Percentage of Assessment Area Perimeter with Buffer	A (12)
	Average Buffer Width	D (3)
	Buffer Condition	C (6)
	Attribute Score	**75.0**
Hydrology	Water Source	C (6)
	Hydroperiod/Channel Stability	C (6)
	Hydrologic Connectivity	D (3)
	Attribute Score	**41.7**
Physical Structure	Structural Patch Richness	D (3)
	Topographic Complexity	D (3)
	Attribute Score	**25.0**
Biotic Structure	Plant Community (sub-metrics below)	
	Number of Plant Layers	A (12)
	Number of Co-dominant Species	B (9)
	Percent of Co-dominant Species Known to be Invasive	B (9)
	Horizontal Interspersion/Plant Zonation	D (3)
	Vertical Biotic Structure	B (9)
	Attribute Score	**52.8**
	Overall AA Score	***48.6***

Note: Scores are shown as the letter grade given to each metric with the corresponding numeric score in parentheses.

3.4.1 BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE

The Landscape Connectivity and Perimeter Buffer metrics received maximum scores of 'A". Though the channel is narrow with vertical side walls, the only barriers to movement within the channel would be the Brooktree Road Bridge and the various small pedestrian bridges that cross the creek. The entire AA was buffered by a narrow strip of ornamental landscaping on both sides before the upland edges transition to residential development which does not constitute a buffer. Because the buffer is narrow and dominated by non-native vegetation, the AA received low scores for Average Buffer Width (score = D) and Buffer Condition (score = C).

3.4.2 HYDROLOGY ATTRIBUTE

Scores for this attribute were generally low. The Water Source metric received a score of C because the watershed for the channels are dominated by residential development. The presence of multiple drop structures has resulted in significant sediment deposition (referred to as aggradation). This resulted in a Channel Stability score of C. The presence of vertical side walls along the channel prevent water from influencing any areas outside the AA. Therefore, the Hydrologic Connectivity metric received a score of D.

3.4.3 PHYSICAL STRUCTURE ATTRIBUTE

For the Structural Patch Richness and Topographic Complexity metrics both received a score of D. Only three structural patches were observed, a result of the highly modified condition of the channel, which resulted in a minimum score. The vertical side walls have removed the potential for any microtopographic heterogeneity, which resulted in a minimum score for Topographic Complexity.

3.4.4 BIOTIC STRUCTURE ATTRIBUTE

The AA was determined to have four plant strata and ten co-dominant species. As a result, the AA received a maximum score of A for the Number of Plant Layers Present and a score of B for the Number of Co-dominant Species. Many of the species in the AA are non-native, though only three are considered invasive. The Percent of Invasive Species therefore received a score of B. More than 50 percent of the AA contained moderate (two strata) overlap, resulting in a score of B. The AA was uniformly and densely vegetated resulting in a score of D for Horizontal Interspersion.

4.0 JURISDICTIONAL DELINEATION

4.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

4.1.1 "WATERS OF THE U.S." DETERMINATION (NON-WETLAND)

The National Wetlands Inventory lists both Rivas Canyon Creek and Rustic Canyon Creek as intermittent streams. This appears to be accurate for Rivas Canyon Creek (Reach 119) though Rustic Canyon Creek (Reach 118) appears to have perennial flows. Both creeks emanate from natural open space in Topanga State Park with additional water flowing into the system from urban runoff from adjacent residential neighborhoods. Beyond the downstream extent of the study area for this report, Rustic Canyon Creek flows in a southerly direction for approximately 2,500 linear feet until it joins Santa Monica Canyon Channel. From there, water flows approximately 1,500 linear feet further until it reaches the Pacific Ocean, a TNW.

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." are defined by the presence of the OHWM though the jurisdictional limits were determined in most parts of the project site by the presence of a vertical side wall.

Based on field observations and data collected, Rustic Canyon Creek and Rivas Canyon Creek would be considered "Relatively Permanent Waters", due to their "Significant Nexus" with the Pacific Ocean, a Traditional Navigable Waterway. For these reasons, waters on the project site would be under the jurisdiction of the USACE. In all, a total of 1.66 acres of non-wetland "waters of the U.S." occur within the project boundaries (Table 4; Exhibits 4a–4c).

Maintenance is proposed within the entire project site, consisting of the removal of vegetation and excess sediment. Therefore, all impacts associated with this project are considered temporary.

4.1.2 WETLAND "WATERS OF THE U.S." 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 wetland. Of the eight sampling locations on the project site, two of them exhibited all three of the necessary parameters to be considered a wetland (i.e., hydrophytic vegetation, hydric soils, wetland hydrology). Wetland Determination Data Forms that document field observations are provided in Attachment A.

Wetland conditions were observed in the extreme downstream portion of the project site at sampling locations 7 and 8. Hydric soil was indicated by the presence of hydrogen sulfide smell. Additionally, the presence of hydrophytic vegetation and flowing surface water met the requirements for these areas to be considered wetlands. Wetland conditions were only observed along the left bank of the channel and totaled 0.05 acres on the project site.

In addition to these wetland areas, hydric soils were observed at sampling location 1. This is a low spot in the channel where several inches of organic debris collected and are saturated. However, this area did not contain any hydrophytic vegetation and does not meet the criteria to be considered a wetland.

TABLE 4
JURISDICTIONAL RESOURCES IMPACT SUMMARY

Impact Type	Jurisdictional Feature		
	USACE/RWQCB		CDFW Jurisdictional Limits
	Non-wetland "waters of the U.S."	Wetlands	
Reach 118 (Rustic Canyon Creek)			
Permanent	0.00	0.00	0.00
Temporary	1.23	0.05	1.30
Reach 119 (Rivas Canyon Creek)			
Permanent	0.00	0.00	0.00
Temporary	0.43	0.00	0.48
Total	**1.66**	**0.05**	**1.78**

USACE: U.S. Army Corps of Engineers; RWQCB: Regional Water Quality Control Board; CDFW: California Department of Fish and Wildlife.

4.2 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.

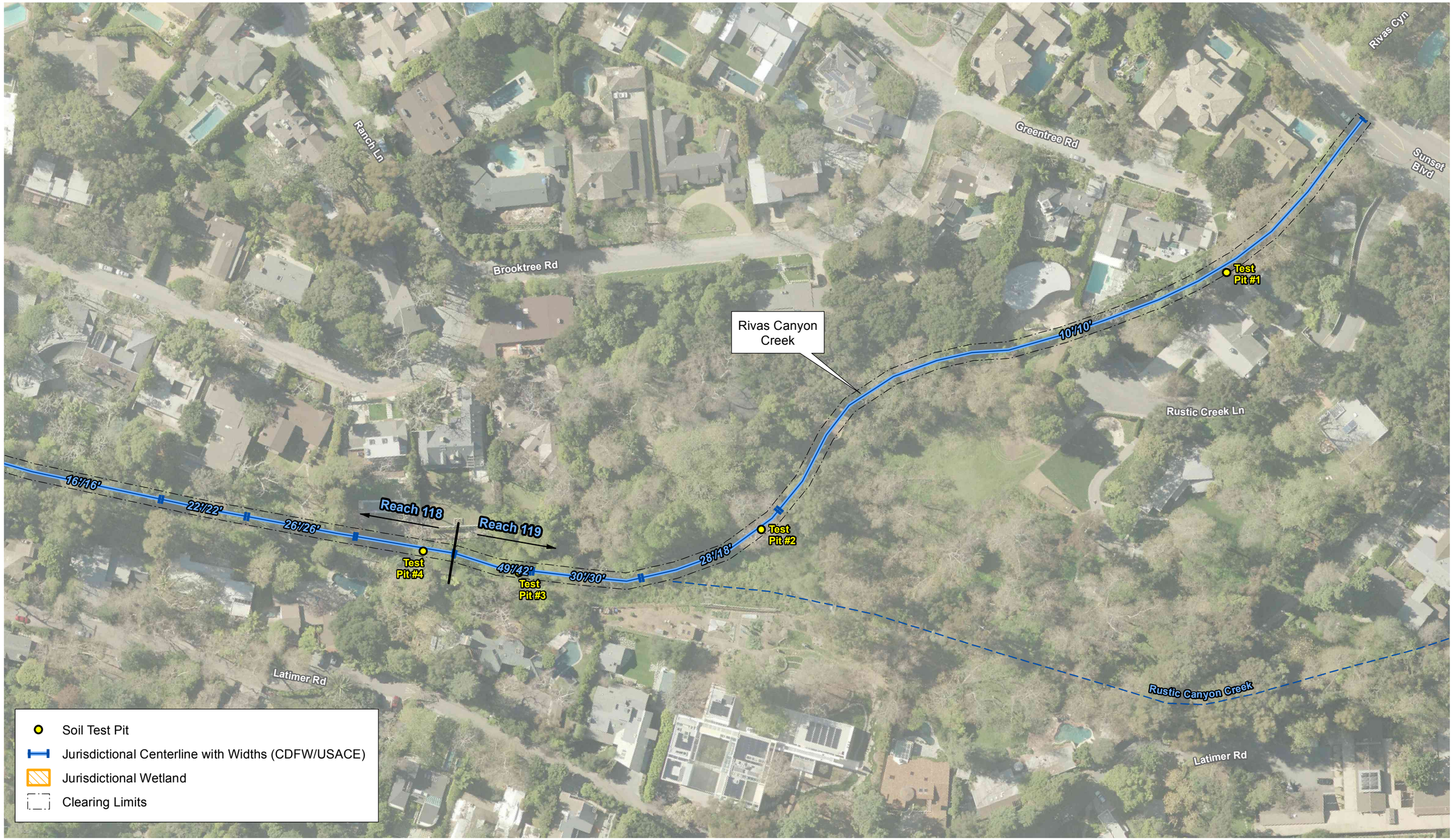
For this analysis, waters under the jurisdiction of the RWQCB are equal to that of the USACE. No isolated waters exist on the project site.

4.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE DETERMINATION

The CDFW jurisdiction extends from the top of the bank to the top of the bank, except where there is adjacent riparian vegetation. CDFW jurisdictional areas extend to the outer canopy of adjacent native riparian habitat. Several native trees occur on the banks above the vertical side walls of the channels. While these trees are under the jurisdiction of the CDFW, they are not included in the overall delineation, as they occur outside the channel boundaries and will not be impacted by maintenance activities. Because the channels have vertical side walls throughout most of the project site, the limits of CDFW jurisdictional generally match those of the USACE and RWQCB. CDFW jurisdictional areas slightly exceed those of the USACE at the confluence of the two reaches, as these areas have a more natural bank.

Impacts to CDFW jurisdictional areas consist of the removal of native herbaceous vegetation within the channels and removal of sediment. Native woody vegetation (e.g. arroyo willows, blue elderberry) may be trimmed as part of the project, but this is not expected to result in the death of this vegetation. Native herbaceous vegetation (i.e., mugwort [*Artemisia douglasiana*], water cress, stinging nettle [*Urtica dioica* ssp*. holosericea*]) will be removed but is expected to re-establish naturally after the completion of maintenance activities.

In all, a total of 1.78 acres of CDFW jurisdictional areas occur within the project boundaries (Table 4; Exhibits 4a–4c).



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Jurisdictional Resources

Exhibit 4a

Jurisdictional Delineation for Soft-Bottom Channel Reaches 118 and 119

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Jurisdictional Resources

Exhibit 4b

Jurisdictional Delineation for Soft-Bottom Channel Reaches 118 and 119

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BonTerra PSOMAS

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Jurisdictional Resources

Exhibit 4c

Jurisdictional Delineation for Soft-Bottom Channel Reaches 118 and 119

100 50 0 100 Feet

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APPENDIX A

WETLAND DATA FORMS

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 119 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 1

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.731' Long: -118° 30.807' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1. Eriobotrya japonica	5	Y	UPL
2.			
3.			
4.			
5.			
	5	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Zantedeschia aethiopica	2	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	2	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	80	Y	UPL
2.			
	80	= Total Cover	

% Bare Ground in Herb Stratum 98 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	87	x 5 =	435
Column Totals:	87 (A)		435 (B)

Prevalence Index = B/A = 5.0

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Sycamores, pines, and ash trees are located on upper portion of channel above vertical wall. These plants are not included above because they are not connected hydrologically to the sampling area.

SOIL

Sampling Point: 1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	5 YR 2.5/1	100					fibric	undecomposed organic material

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: compacted gravel

Depth (inches): 3 inches

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

Location is a low spot where water and organic material have settled. Depth is 3 inches on top of a concrete layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ✓ No ___ Depth (inches): 1"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

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

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 119 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 2

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.673' Long: -118° 30.799' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✓	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	90	Y	FACW
2.			
3.			
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	0	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	100	Y	UPL
2.			
	100	= Total Cover	

% Bare Ground in Herb Stratum 100 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	100	x 5 =	500
Column Totals:	190 (A)		680 (B)

Prevalence Index = B/A = 3.58

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No ✓

Remarks:

Sycamore overhangs the site but is rooted above vertical wall and is not connected hydrologically.

SOIL

Sampling Point: 2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10 YR 3/1	100					rocky sar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 3 inches

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): ___

Water Table Present? Yes ___ No ✓ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): ___

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

soil is moist, not saturated.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 3

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.614' Long: -118° 30.795' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	40	Y	FACW
2. Populus fremontii	20	Y	FACW
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Ageratina adenophora	50	Y	FAC
2. Cyperus involucratus	5	N	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	55	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	30	Y	UPL
2.			
	30	= Total Cover	

% Bare Ground in Herb Stratum 45 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	65	x 2 =	130
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	145 (A)		430 (B)

Prevalence Index = B/A = 2.96

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

Area is mapped as arroyo willow thicket but most the willow coverage is rooted above the upper banks and is overhanging. This sample point is near a willow that is rooted in the streambed.

SOIL

Sampling Point: 3

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 3/1	100					rocky sar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 7 inches

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 4

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.589' Long: -118° 30.798' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	50	Y	FACW
2. Populus fremontii	10	N	FACW
3.			
4.			
	60	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Ageratina adenophora	40	Y	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	40	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	20	Y	UPL
2.			
	20	= Total Cover	

% Bare Ground in Herb Stratum 60 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	40	x 3 =	120
FACU species	0	x 4 =	0
UPL species	20	x 5 =	100
Column Totals:	120 (A)		340 (B)

Prevalence Index = B/A = 2.83

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 4

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-20	10 YR 4/2	100					rocky sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

deep accumulated sediment

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ✓ No ___ Depth (inches): 10"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 2"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 5

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.473' Long: -118° 30.887' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cyperus involucratus	40	Y	FACW
2. Nasturtium officinale	80	Y	OBL
3.			
4.			
5.			
6.			
7.			
8.			
	120	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	30	Y	UPL
2.			
	30	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	30	x 5 =	150
Column Totals:	150 (A)		310 (B)

Prevalence Index = B/A = 2.07

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 5

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 3/2	100					rocky sa	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 10"

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ✓ Depth (inches): 0"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 6

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.384' Long: -118° 30.958' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✓
Hydric Soil Present?	Yes _____	No ✓	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Platanus racemosa	40	Y	FACW
2.			
3.			
4.			
	40	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cyperus involucratus	30	Y	FACW
2. Nasturtium officinale	40	Y	OBL
3. Solanum douglasii	20	Y	FAC
4. Plantago major	10	N	FACW
5.			
6.			
7.			
8.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	80	x 2 =	160
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	140 (A)		260 (B)

Prevalence Index = B/A = 1.86

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 6

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-3	10 YR 3/2	100					rocky sar	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 3"

Hydric Soil Present? Yes ____ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No ✓ Depth (inches): 0"

Water Table Present? Yes ✓ No ____ Depth (inches): 2"

Saturation Present? (includes capillary fringe) Yes ✓ No ____ Depth (inches): 1"

Wetland Hydrology Present? Yes ✓ No ____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 7

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.216' Long: -118° 31.021' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix lasiolepis	70	Y	FACW
2. Fraxinus uhdei	20	Y	FACW
3.			
4.			
	90	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1. Sambucus nigra	20	Y	FAC
2.			
3.			
4.			
5.			
	20	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cyperus involucratus	10	Y	FACW
2. Apium graveolens	10	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	20	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1. Hedera helix	60	Y	UPL
2.			
	60	= Total Cover	

% Bare Ground in Herb Stratum 80 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	20	x 3 =	60
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		280 (B)

Prevalence Index = B/A = 2.15

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 7

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 3/1	100					silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 7"

Hydric Soil Present? Yes ✓ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

Wetland Hydrology Present? Yes ✓ No ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Soft Bottom Channel Reach 118 City/County: Pacific Palisades/Los Angeles Sampling Date: 09/25/2014

Applicant/Owner: Los Angeles County Department of Public Works State: CA Sampling Point: 8

Investigator(s): David Hughes Section, Township, Range: Section 36, Township 1 South, Range 16 West

Landform (hillslope, terrace, etc.): canyon Local relief (concave, convex, none): concave Slope (%): 5

Subregion (LRR): CA Lat: 34° 02.151' Long: -118° 31.051' Datum: NAD 83

Soil Map Unit Name: N/A NWI classification: R4SBCr

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓	No _____	**Is the Sampled Area within a Wetland?** Yes ✓ No _____
Hydric Soil Present?	Yes ✓	No _____	
Wetland Hydrology Present?	Yes ✓	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 5')			
1. Cyperus involucratus	50	Y	FACW
2. Nasturtium oficinale	40	Y	OBL
3. Apium graveolens	10	N	FACW
4. Urtica dioica	5	N	FACW
5. Plantago major	2	N	FACW
6.			
7.			
8.			
	107	= Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
	0	= Total Cover	

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	67	x 2 =	134
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	107 (A)		174 (B)

Prevalence Index = B/A = 1.63

Hydrophytic Vegetation Indicators:

✓ Dominance Test is >50%

✓ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ✓ No _____

Remarks:

SOIL

Sampling Point: 8

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-7	10 YR 3/1	100					silty sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ✓ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: cobble

Depth (inches): 7"

Hydric Soil Present? Yes ✓ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ✓ Surface Water (A1)
- ✓ High Water Table (A2)
- ✓ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ✓ Water Marks (B1) (**Riverine**)
- ✓ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✓ No ___ Depth (inches): 0"

Water Table Present? Yes ✓ No ___ Depth (inches): 0"

Saturation Present? (includes capillary fringe) Yes ✓ No ___ Depth (inches): 0"

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

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

Remarks:

ATTACHMENT B

SITE PHOTOGRAPHS

September 25, 2014. View of 48-inch culvert at upstream end of Reach 119.

September 25, 2014. View of soil test pit 1.

September 25, 2014. View of Reach 119, facing upstream from soil test pit 1.

September 25, 2014. View of Reach 119, facing downstream from soil test pit 1.

Site Photographs

Exhibit B-1

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosA.pdf

D:\Projects\COLADPWJ268\graphics\Ex_photosA_20141003.ai

September 25, 2014. View of soil test pit 2.

September 25, 2014. View of Reach 119, facing upstream from soil test pit 2.

September 25, 2014. View of soil test pit 3.

September 25, 2014. View of Reach 118, facing upstream from soil test pit 3.

D:\Projects\COLADPWJ268\graphics\Ex_photosB_20141003.ai

Site Photographs

Exhibit B-2

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosB.pdf

September 25, 2014. View of soil test pit 4.

September 25, 2014. View of Reach 119, facing downstream from soil test pit 4.

September 25, 2014. View of soil test pit 5.

September 25, 2014. View of Reach 119, facing downstream from soil test pit 5.

D:\Projects\COLADPWJ268\graphics\Ex_photosC_20141003.ai

Site Photographs

Exhibit B-3

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosC.pdf

September 25, 2014. View of Reach 119, facing upstream near Brooktree Road bridge.

September 25, 2014. View of Reach 119, facing downstream near Brooktree Road bridge.

September 25, 2014. View of Reach 119, View of soil test pit 6.

September 25, 2014. View of Reach 119, facing upstream from soil test pit 6.

D:\Projects\COLADPWJ268\graphics\Ex_photosD_20141003.ai

Site Photographs

Exhibit B-4

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosD.pdf

September 25, 2014. View of Reach 119, facing downstream from soil test pit 6.

September 25, 2014. View of soil test pit 7.

September 25, 2014. View of Reach 119, facing upstream from soil test pit 7.

September 25, 2014. View of Reach 119, facing downstream from soil test pit 7.

D:\Projects\COLADPWJ268\graphics\Ex_photosE_20141003.ai

Site Photographs

Exhibit B-5

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosE.pdf

September 25, 2014. View of soil test pit 8.

September 25, 2014. View of Reach 119, facing upstream from soil test pit 8.

September 25, 2014. View of Reach 119, facing downstream from soil test pit 8, showing transition to concrete lined channel.

September 25, 2014. View of typical drop structure within Reach 119.

D:\Projects\COLADPWJ268\graphics\Ex_photosF_20141003.ai

Site Photographs

Exhibit B-6

Jurisdictional Delineation Report for Soft Bottom Channel Reaches 118 and 119

BonTerra PSOMAS

(10/03/2014 CJS) R:\Projects\CoLADPW (DPW)\J268\Graphics\JD\Ex_photosF.pdf

ATTACHMENT C

CALIFORNIA RAPID ASSESSMENT METHOD DATASHEETS

Basic Information Sheet: Riverine Wetlands

Assessment Area Name: REACH 118	
Project Name:	
Assessment Area ID #:	
Project ID #:	**Date:** 9/25/2014
Assessment Team Members for This AA:	
~~DFF~~ David Hughes	
Average Bankfull Width: 6 m	
Approximate Length of AA (10 times bankfull width, min 100 m, max 200 m): 100 m	
Upstream Point Latitude:	**Longitude:**
Downstream Point Latitude:	**Longitude:**
Wetland Sub-type: ☒ Confined ☐ Non-confined	
AA Category: ☐ Restoration ☐ Mitigation ☐ Impacted ☐ Ambient ☐ Reference ☐ Training ☐ Other:	
Did the river/stream have flowing water at the time of the assessment? ☒ yes ☐ no	
What is the apparent hydrologic flow regime of the reach you are assessing? The hydrologic flow regime of a stream describes the frequency with which the channel conducts water. *Perennial* streams conduct water all year long, whereas *ephemeral* streams conduct water only during and immediately following precipitation events. *Intermittent* streams are dry for part of the year, but conduct water for periods longer than ephemeral streams, as a function of watershed size and water source. ☐ perennial ☒ intermittent ☐ ephemeral	

Photo Identification Numbers and Description:

	Photo ID No.	Description	Latitude	Longitude	Datum
1		Upstream			
2		Middle Left			
3		Middle Right			
4		Downstream			
5					
6					
7					
8					
9					
10					

Site Location Description:

Site is within soft-bottom channel Reach 1R, a storm drain that is maintained by the County of Los Angeles

Comments:

Channel has vertical side walls and is dominated by non-native vegetation. Channel flows through residential areas of Pacific Palisades

Scoring Sheet: Riverine Wetlands

AA Name:				**Date:**
Attribute 1: Buffer and Landscape Context (pp. 11-19)				**Comments**
Stream Corridor Continuity (D)		Alpha. A	Numeric 12	
Buffer:				
Buffer submetric A: Percent of AA with Buffer	Alpha. A	Numeric 12		
Buffer submetric B: Average Buffer Width	D	3		
Buffer submetric C: Buffer Condition	C	6		
Raw Attribute Score = D+[C x (A x B)½]½				**Final Attribute Score = (Raw Score/24) x 100**
Attribute 2: Hydrology (pp. 20-26)				
Water Source		Alpha. C	Numeric 6	
Channel Stability		C	6	
Hydrologic Connectivity		D	3	
Raw Attribute Score = sum of numeric scores				**Final Attribute Score = (Raw Score/36) x 100**
Attribute 3: Physical Structure (pp. 27-33)				
Structural Patch Richness		Alpha. D	Numeric 3	
Topographic Complexity		D	3	
Raw Attribute Score = sum of numeric scores				**Final Attribute Score = (Raw Score/24) x 100**
Attribute 4: Biotic Structure (pp. 34-41)				
Plant Community Composition (based on sub-metrics A-C)				
Plant Community submetric A: Number of plant layers	Alpha. A	Numeric 12		
Plant Community submetric B: Number of Co-dominant species	B	9		
Plant Community submetric C: Percent Invasion	B	9		
Plant Community Composition Metric *(numeric average of submetrics A-C)*				
Horizontal Interspersion		D	3	
Vertical Biotic Structure		B	9	
Raw Attribute Score = sum of numeric scores				**Final Attribute Score = (Raw Score/36) x 100**
Overall AA Score (average of four final Attribute Scores)				

Table 5a: Rating for Stream Corridor Continuity for Wadeable Riverine Wetlands.

Rating	For Distance of 500 m Upstream of AA:	For Distance of 500 m Downstream of AA:
A	The combined total length of all non-buffer segments is less than 100 m.	The combined total length of all non-buffer segments is less than 100 m.
B	The combined total length of all non-buffer segments is less than 100 m.	The combined total length of all non-buffer segments is between 100 m and 200 m.
	OR	
	The combined total length of all non-buffer segments is between 100 m and 200 m.	The combined total length of all non-buffer segments is less than 100 m.
C	The combined total length of all non-buffer segments is between 100 m and 200 m.	The combined total length of all non-buffer segments is between 100 m and 200 m.
D	The combined total length of non-buffer segments is greater than 200 m.	any condition
	OR	
	any condition	The combined total length of non-buffer segments is greater than 200 m.

Table 5b: Rating of Stream Corridor Continuity for Non-wadeable Riverine (1-sided AAs).

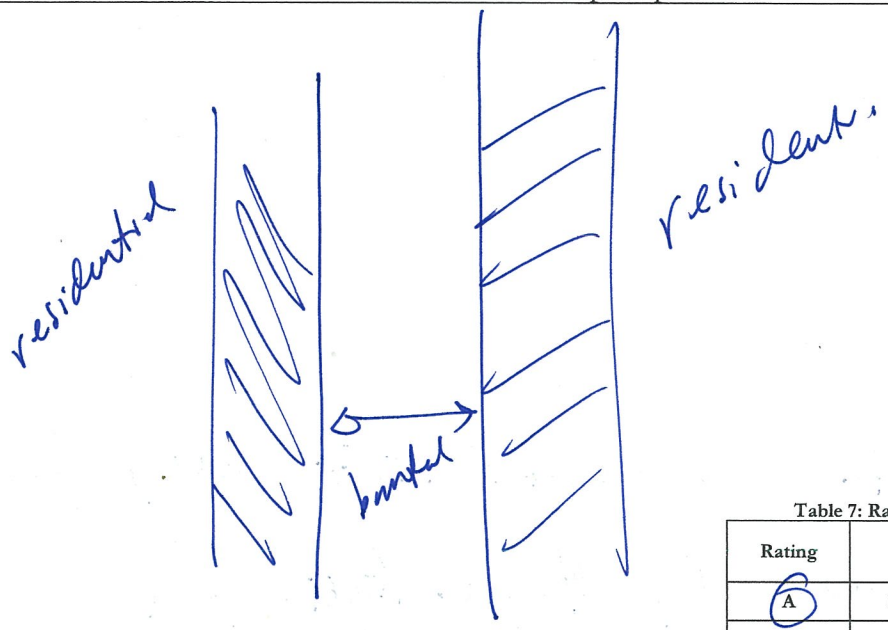
Rating	For Distance of 500 m Upstream of AA:	For Distance of 500 m Downstream of AA:
A	The combined total length of all non-buffer segments is less 50 m.	The combined total length of all non-buffer segments is less than 50 m.
B	The combined total length of all non-buffer segments is less than 50 m.	The combined total length of all non-buffer segments is between 50 m and 100 m.
	OR	
	The combined total length of all non-buffer segments is between 50 m and 100 m.	The combined total length of all non-buffer segments is less than is less than 50 m.
C	The combined total length of all non-buffer segments is between 50 m and 100 m.	The combined total length of all non-buffer segments is between; 50 m and 100 m.
D	The combined total length of non-buffer segments is greater than 100 m.	any condition
	OR	
	any condition	The combined total length of non-buffer segments is greater than 100 m.

Worksheet for Stream Corridor Continuity Metric for Riverine Wetlands

Lengths of Non-buffer Segments For Distance of 500 m Upstream of AA		Lengths of Non-buffer Segments For Distance of 500 m Downstream of AA	
Segment No.	Length (m)	Segment No.	Length (m)
1	10	1	10
2		2	5
3		3	10
4		4	
5		5	
Upstream Total Length		Downstream Total Length	

Percent of AA with Buffer Worksheet

In the space provided below make a quick sketch of the AA, or perform the assessment directly on the aerial imagery; indicate where buffer is present, estimate the percentage of the AA perimeter providing buffer functions, and record the estimate amount in the space provided.



Percent of AA with Buffer: %

Table 7: Rating for Percent of AA with Buffer.

Rating	Alternative States (not including open-water areas)
A	Buffer is 75 - 100% of AA perimeter.
B	Buffer is 50 – 74% of AA perimeter.
C	Buffer is 25 – 49% of AA perimeter.
D	Buffer is 0 – 24% of AA perimeter.

Worksheet for calculating average buffer width of AA

Line	Buffer Width (m)
A	8 m
B	8 m
C	4 m
D	10 m
E	4 m
F	8 m
G	12 m
H	8 m
Average Buffer Width *Round to the nearest integer*	

Table 9: Rating for average buffer width.

Rating	Alternative States
A	Average buffer width is 190 – 250 m.
B	Average buffer width 130 – 189 m.
C	Average buffer width is 65 – 129 m.
D	Average buffer width is 0 – 64 m.

Table 10: Rating for Buffer Condition.

**Please refer to the CRAM Photo Dictionary at www.cramwetlands.org for photos of each of the following ratings.*

Rating	Alternative States
A	Buffer for AA is dominated by native vegetation, has undisturbed soils, and is apparently subject to little or no human visitation.
B	Buffer for AA is characterized by an intermediate mix of native and non-native vegetation (25% to 75% non-native), but mostly undisturbed soils and is apparently subject to little or low impact human visitation.
	OR
	Buffer for AA is dominated by native vegetation, but shows some soil disturbance and is apparently subject to little or low impact human visitation.
C	Buffer for AA is characterized by substantial (>75%) amounts of non-native vegetation AND there is at least a moderate degree of soil disturbance/compaction, and/or there is evidence of at least moderate intensity of human visitation.
D	Buffer for AA is characterized by barren ground and/or highly compacted or otherwise disturbed soils, and/or there is evidence of very intense human visitation, or there is no buffer present.

2 buffers are narrow strips along bank dominated by Hedera Helix and other non-natives

Table 11: Rating for Water Source.

Rating	Alternative States
A	Freshwater sources that affect the dry season condition of the AA, such as its flow characteristics, hydroperiod, or salinity regime, are precipitation, snow melt, groundwater, and/or natural runoff, or natural flow from an adjacent freshwater body, or the AA naturally lacks water in the dry season. There is **no indication** that dry season conditions are substantially controlled by artificial water sources.
B	Freshwater sources that affect the dry season condition of the AA are mostly natural, but also obviously include occasional or small effects of modified hydrology. Indications of such anthropogenic inputs include developed land or irrigated agricultural land that comprises **less than 20%** of the immediate drainage basin within about 2 km upstream of the AA, or that is characterized by the presence of a few small stormdrains or scattered homes with septic systems. No large point sources or dams control the overall hydrology of the AA.
C	Freshwater sources that affect the dry season conditions of the AA are primarily urban runoff, direct irrigation, pumped water, artificially impounded water, water remaining after diversions, regulated releases of water through a dam, or other artificial hydrology. Indications of substantial artificial hydrology include developed or irrigated agricultural land that comprises **more than 20%** of the immediate drainage basin within about 2 km upstream of the AA, or the presence of major point source discharges that obviously control the hydrology of the AA. OR Freshwater sources that affect the dry season conditions of the AA are **substantially controlled** by known diversions of water or other withdrawals directly from the AA, its encompassing wetland, or from its drainage basin.
D	Natural, freshwater sources that affect the dry season conditions of the AA have **been eliminated** based on the following indicators: impoundment of all possible wet season inflows, diversion of all dry-season inflow, predominance of xeric vegetation, etc.

Watershed is ~~a~~ dominated by urban residential development

Worksheet for Assessing Channel Stability for Riverine Wetlands

Condition	Field Indicators (check all existing conditions)
Indicators of Channel Equilibrium	☐ The channel (or multiple channels in braided systems) has a well-defined bankfull contour that clearly demarcates an obvious active floodplain in the cross-sectional profile of the channel throughout most of the AA. ☐ Perennial riparian vegetation is abundant and well established along the bankfull contour, but not below it. ☐ There is leaf litter, thatch, or wrack in most pools (if pools are present). ☐ The channel contains embedded woody debris of the size and amount consistent with what is naturally available in the riparian area. ☐ There is little or no active undercutting or burial of riparian vegetation. ☐ If mid-channel bars and/or point bars are present, they are not densely vegetated with perennial vegetation. ☐ Channel bars consist of well-sorted bed material (smaller grain size on the top and downstream end of the bar, larger grain size along the margins and upstream end of the bar). ☐ There are channel pools, the spacing between pools tends to be regular and the bed is not planar throughout the AA ☐ The larger bed material supports abundant mosses or periphyton.
Indicators of Active Degradation	☐ The channel is characterized by deeply undercut banks with exposed living roots of trees or shrubs. ☐ There are abundant bank slides or slumps. ☐ The lower banks are uniformly scoured and not vegetated. ☐ Riparian vegetation is declining in stature or vigor, or many riparian trees and shrubs along the banks are leaning or falling into the channel. ☐ An obvious historical floodplain has recently been abandoned, as indicated by the age structure of its riparian vegetation. ☐ The channel bed appears scoured to bedrock or dense clay. ☐ Recently active flow pathways appear to have coalesced into one channel (i.e. a previously braided system is no longer braided). ☐ The channel has one or more knickpoints indicating headward erosion of the bed.
Indicators of Active Aggradation	☐ There is an active floodplain with fresh splays of coarse sediment (sand and larger that is not vegetated) deposited in the current or previous year. ☐ There are partially buried living tree trunks or shrubs along the banks. ☒ The bed is planar (flat or uniform gradient) overall; it lacks well-defined channel pools, or they are uncommon and irregularly spaced. ☐ There are partially buried, or sediment-choked, culverts. ☐ Perennial terrestrial or riparian vegetation is encroaching into the channel or onto channel bars below the bankfull contour. ☐ There are avulsion channels on the floodplain or adjacent valley floor.
Overall	☐ **Equilibrium** ☐ **Degradation** ☒ **Aggradation**

Table 12: Rating for Riverine Channel Stability.

Rating	Alternative State (based on the field indicators listed in the worksheet above)
A	Most of the channel through the AA is characterized by equilibrium conditions, with little evidence of aggradation or degradation. Based on the indicators of condition, typical sediment transport processes are occurring.
B	Most of the channel through the AA is characterized by some aggradation or degradation, none of which is severe. The channel may be approaching or moving away from equilibrium. Based on the indicators of condition, typical sediment transport processes are occurring, however the reach is trending toward excess transport or deposition due to moderate disequilibrium conditions.
C	There is evidence of severe aggradation or degradation of most of the channel through the AA or the channel bed is artificially hardened through less than half of the AA. Based on the indicators of condition, typical sediment transport processes are severely altered.
D	The channel bed is concrete or otherwise artificially hardened through most of AA.

Drop structures have resulted in moderate aggradation.

Riverine Wetland Entrenchment Ratio Calculation Worksheet

The following 5 steps should be conducted for each of 3 cross-sections located in the AA at the approximate midpoints along straight riffles or glides, away from deep pools or meander bends. An attempt should be made to place them at the top, middle, and bottom of the AA.

Steps	Replicate Cross-sections - ►	TOP	MID	BOT
1 Estimate bankfull width.	This is a critical step requiring familiarity with field indicators of the bankfull contour. Estimate or measure the distance between the right and left bankfull contours.	16'	16'	16'
2: Estimate max. bankfull depth.	Imagine a level line between the right and left bankfull contours; estimate or measure the height of the line above the thalweg (the deepest part of the channel).	0.5'	0.5'	0.5'
3: Estimate flood prone depth.	Double the estimate of maximum bankfull depth from Step 2.	1.0'	1.0'	1.0'
4: Estimate flood prone width.	Imagine a level line having a height equal to the flood prone depth from Step 3; note where the line intercepts the right and left banks; estimate or measure the length of this line.	16'	16'	16'
5: Calculate entrenchment ratio.	Divide the flood prone width (Step 4) by the bankfull width (Step 1).	1.0	1.0	1.0
6: Calculate average entrenchment ratio.	Calculate the average results for Step 5 for all 3 replicate cross-sections. Enter the average result here and use it in Table 13a or 13b.			1.0

Table 13a: Rating of Hydrologic Connectivity for Non-confined Riverine wetlands.

Rating	Alternative States (based on the entrenchment ratio calculation worksheet above)
A	Entrenchment ratio is > 2.2.
B	Entrenchment ratio is 1.9 to 2.2.
C	Entrenchment ratio is 1.5 to 1.8.
D	Entrenchment ratio is <1.5.

Table 13b: Rating of Hydrologic Connectivity for Confined Riverine wetlands.

Rating	Alternative States (based on the entrenchment ratio calculation worksheet above)
A	Entrenchment ratio is > 1.8.
B	Entrenchment ratio is 1.6 to 1.8.
C	Entrenchment ratio is 1.2 to 1.5.
D	Entrenchment ratio is < 1.2.

Structural Patch Type Worksheet for Riverine wetlands

Circle each type of patch that is observed in the AA and enter the total number of observed patches in Table below. In the case of riverine wetlands, their status as confined or non-confined must first be determined (see page 6) to determine with patches are expected in the system (indicated by a "1" in the table below). Any feature onsite should only be counted once as a patch type. If a feature appears to meet the definition of more than one patch type (i.e. swale and secondary channel) the practitioner should choose which patch type best illustrates the feature. Not all features at a site will be patch types.

**Please refer to the CRAM Photo Dictionary at www.cramwetlands.org for photos of each of the following patch types.*

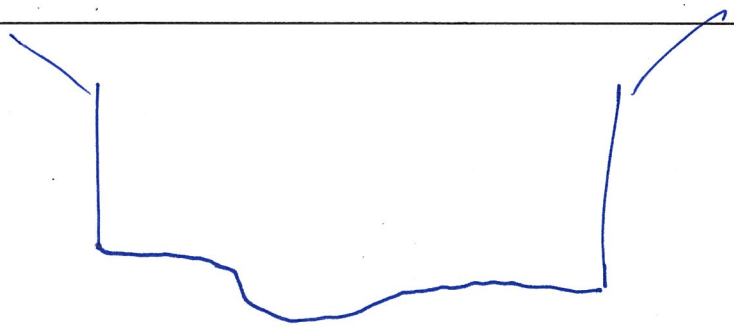
STRUCTURAL PATCH TYPE (circle for presence)	Riverine (Non-confined)	Riverine (Confined)
Minimum Patch Size	**3 m^2**	**3 m^2**
Abundant wrackline or organic debris in channel, on floodplain	1	1
Bank slumps or undercut banks in channels or along shoreline	1	1
Cobbles and/or Boulders	1	1
Debris jams	1	1
Filamentous macroalgae or algal mats	1	1
Large woody debris	1	1
Pannes or pools on floodplain	1	N/A
Plant hummocks and/or sediment mounds	1	1
Point bars and in-channel bars	1	1
Pools or depressions in channels (wet or dry channels)	1	1
Riffles or rapids (wet or dry channels)	1	1
Secondary channels on floodplains or along shorelines	1	N/A
Standing snags (at least 3 m tall)	1	1
Submerged vegetation	1	N/A
Swales on floodplain or along shoreline	1	N/A
Variegated, convoluted, or crenulated foreshore (instead of broadly arcuate or mostly straight)	1	1
Vegetated islands (mostly above high-water)	1	N/A
Total Possible	**17**	**12**
No. Observed Patch Types (enter here and use in Table 14 below)		3

Rating	Confined Riverine	Non-confined Riverine
A	≥ 8	≥ 12
B	6 – 7	9 – 11
C	4 – 5	6 – 8
D	≤ 3	≤ 5

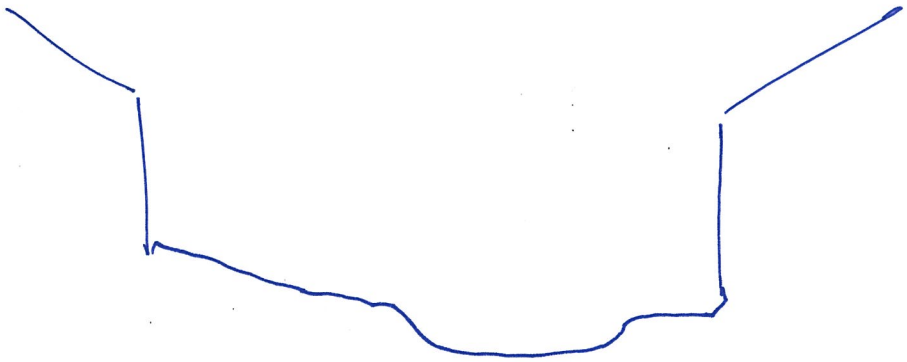
Worksheet for AA Topographic Complexity

At three locations along the AA, make a sketch of the profile of the stream from the AA boundary down to its deepest area then back out to the other AA boundary. Try to capture the benches and the intervening micro-topographic relief. To maintain consistency, make drawings at each of the stream hydrologic connectivity measurements, always facing downstream. Include the water level, an arrow at the bankfull contour, and label the benches. Based on these sketches and the profiles in Figure 10, choose a description in Table 16 that best describes the overall topographic complexity of the AA.

Profile 1



Profile 2



Profile 3

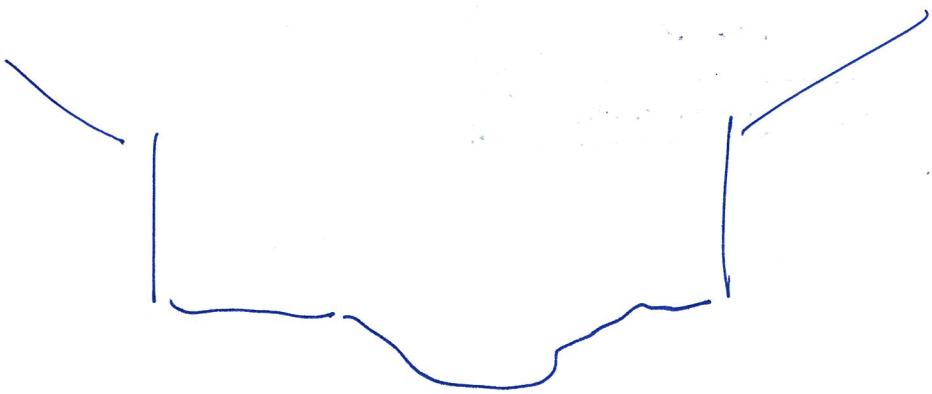
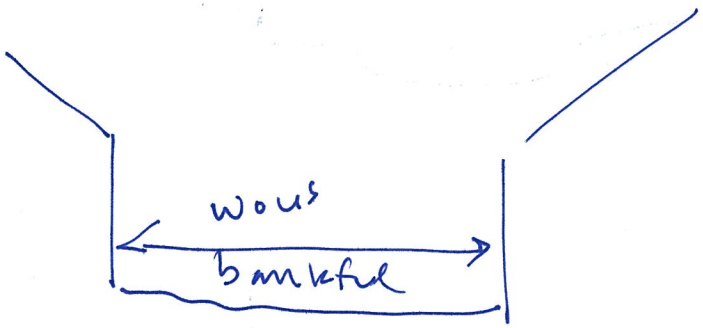


Table 16: Rating of Topographic Complexity for Riverine Wetlands.

Rating	Alternative States (based on worksheet and diagrams in Figure 10 above)
A	AA as viewed along a typical cross-section has at least two benches at different elevations (not including the channel bottom or high riparian terraces not influenced by fluvial processes). Features below the bankfull elevation are part of the active channel and cannot be considered benches. Additionally, each of these benches, plus the slopes between the benches, contain physical patch types or micro-topographic features such as boulders or cobbles, partially buried woody debris, undercut banks, secondary channels and debris jams that contribute to abundant micro-topographic relief as illustrated in profile A.
B	AA has at least two benches above bankfull elevation, but these benches mostly lack abundant micro-topographic complexity. The AA resembles profile B1.
	OR
	AA has one bench above bankfull elevation, and this bench has abundant micro-topographic complexity as described in the A condition above. The AA resembles profile B2.
C	AA has a single bench that lacks abundant micro-topographic complexity, as illustrated in profile C.
D	AA as viewed along a typical cross-section lacks any obvious bench. The cross-section is best characterized as a single, uniform slope with or without micro-topographic complexity, as illustrated in profile D (includes concrete channels).



Plant Community Metric Worksheet: Co-dominant species richness for Riverine wetlands
(A dominant species represents ≥10% *relative* cover)

Special Note:

** Combine the counts of co-dominant species from all layers to identify the total species count. Each plant species is only counted once when calculating the Number of Co-dominant Species and Percent Invasion submetric scores, regardless of the numbers of layers in which it occurs.*

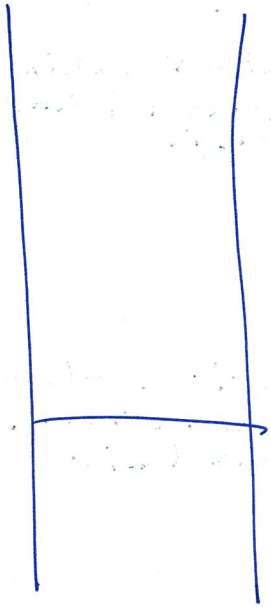
Floating or Canopy-forming (non-confined only)	Invasive?	Short (<0.5 m)	Invasive?
		Hedera helix	—
		~~Kikuyu grass~~	~~—~~
		Rorippa	
Medium (0.5-1.5 m)	**Invasive?**	**Tall (1.5-3.0 m)**	**Invasive?**
Cyperus involucratus	—	Nerium oleander	
White nettle		Bougainvilla.	
		Salix lasiu	
Very Tall (>3.0 m)	**Invasive?**	**Total number of co-dominant species for all layers combined (enter here and use in Table 18)**	10
Platanus racemosa			
Redwood			
Eucalyptus glob.	—	**Percent Invasion *Round to the nearest integer* (enter here and use in Table 18)**	3/10

Table 18: Ratings for submetrics of Plant Community Metric.

Rating	Number of Plant Layers Present	Number of Co-dominant Species	Percent Invasion
Non-confined Riverine Wetlands			
A	4 – 5	≥ 12	0 – 15%
B	3	9 – 11	16 – 30%
C	2	6 – 8	31 – 45%
D	0-1	0 – 5	46 – 100%
Confined Riverine Wetlands			
A	4	~~≥ 11~~	~~0 – 15%~~
B	3	~~8 – 10~~	~~16 – 30%~~
C	2	5 – 7	31 – 45%
D	0-1	0 – 4	46 – 100%

Horizontal Interspersion Worksheet.

Use the spaces below to make a quick sketch of the AA in plan view, outlining the major plant zones (this should take no longer than 10 minutes). Assign the zones names and record them on the right. Based on the sketch, choose a single profile from Figure 12 that best represents the AA overall.



Assigned zones:

1)

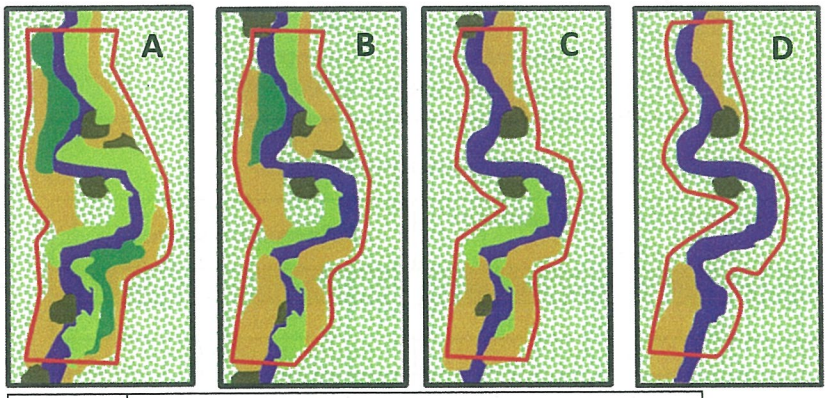
2)

3)

4)

5)

6)



Rating	Alternative States (based on Worksheet drawings and Figure 10)
A	AA has a high degree of plan-view interspersion.
B	AA has a moderate degree of plan-view interspersion.
C	AA has a low degree of plan-view interspersion.
D	AA has minimal plan-view interspersion.

CRAM area has 2 deep structures with pools below, open water channels and dense hom nature veg throughout

Metric 3: Vertical Biotic Structure

Definition The vertical component of biotic structure assesses the degree of overlap among plant layers. The same plant layers used to assess the Plant Community Composition Metrics are used to assess Vertical Biotic Structure. To be counted in CRAM, a layer must cover at least 5% of the portion of the AA that is suitable for the layer.

Special Notes:

**The "A" condition can be obtained only when >50% of the vegetated area of the AA has three layers that overlap abundantly.*

**It is important to accurately estimate the extent of overlap, particularly when the AA contains only two layers. The aerial imagery can help in determining the extent of overlap between layers.*

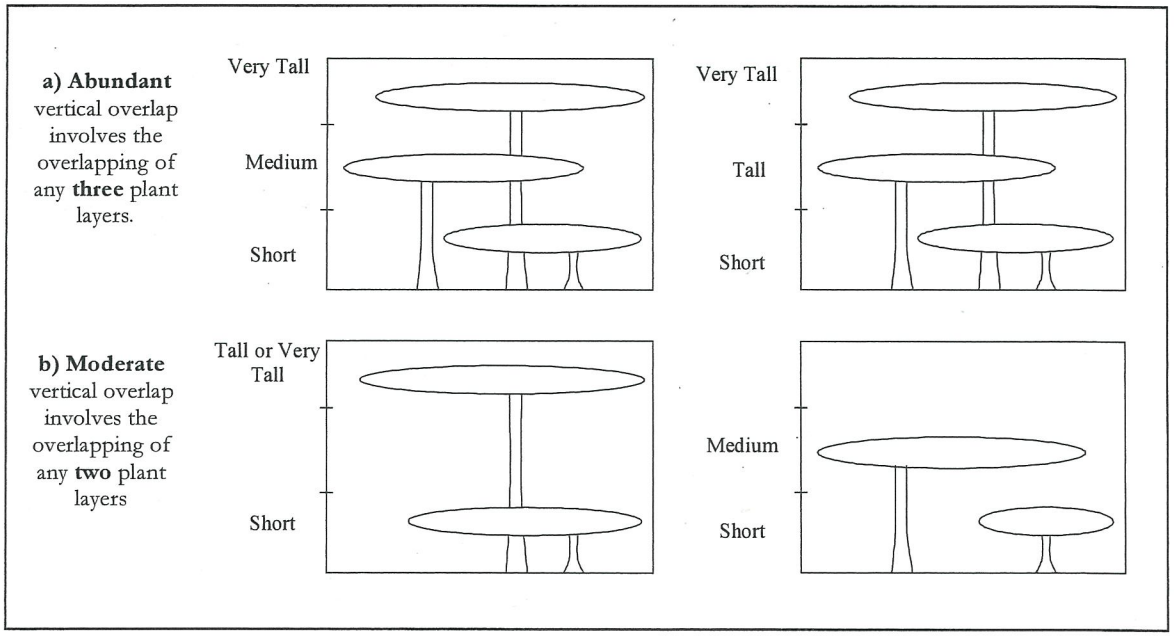


Figure 13: Schematic diagrams potential examples of (a) **abundant** and (b) **moderate** vertical overlap of plant layers for Riverine AAs. *Additional combinations of layer overlap exist for both.*

Table 20: Rating of Vertical Biotic Structure for Riverine AAs

Rating	Alternative States
A	More than 50% of the vegetated area of the AA supports **abundant** overlap of 3 plant layers (see Figure 13a).
B	More than 50% of the area supports at least **moderate** overlap of 2 plant layers (see Figure 13b).
C	25–50% of the vegetated AA supports at least **moderate** overlap of 2 plant layers.
D	Less than 25% of the vegetated AA supports **moderate** overlap of 2 plant layers, **or** AA is sparsely vegetated overall.

moderate overlap common through VT + T or T or medium.

Worksheet for Wetland disturbances and conversions

Has a major disturbance occurred at this wetland?	Yes	No		
If yes, was it a flood, fire, landslide, or other?	flood	fire	landslide	other
If yes, then how severe is the disturbance?	likely to affect site next 5 or more years	likely to affect site next 3-5 years	likely to affect site next 1-2 years	
Has this wetland been converted from another type? If yes, then what was the previous type?	depressional	vernal pool	vernal pool system	
	non-confined riverine	confined riverine	seasonal estuarine	
	perennial saline estuarine	perennial non-saline estuarine	wet meadow	
	lacustrine	seep or spring	playa	

Stressor Checklist Worksheet

HYDROLOGY ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Point Source (PS) discharges (POTW, other non-stormwater discharge)		
Non-point Source (Non-PS) discharges (urban runoff, farm drainage)	✓	
Flow diversions or unnatural inflows		
Dams (reservoirs, detention basins, recharge basins)		
Flow obstructions (culverts, paved stream crossings)		
Weir/drop structure, tide gates	✓	✓
Dredged inlet/channel		
Engineered channel (riprap, armored channel bank, bed)		
Dike/levees		
Groundwater extraction		
Ditches (borrow, agricultural drainage, mosquito control, etc.)		
Actively managed hydrology		
Comments		

PHYSICAL STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Filling or dumping of sediment or soils **(N/A for restoration areas)**		
Grading/ compaction **(N/A for restoration areas)**		
Plowing/Discing **(N/A for restoration areas)**		
Resource extraction (sediment, gravel, oil and/or gas)		
Vegetation management	✓	✓
Excessive sediment or organic debris from watershed		
Excessive runoff from watershed		
Nutrient impaired (PS or Non-PS pollution)		
Heavy metal impaired (PS or Non-PS pollution)		
Pesticides or trace organics impaired (PS or Non-PS pollution)		
Bacteria and pathogens impaired (PS or Non-PS pollution)		
Trash or refuse	•	
Comments		

BIOTIC STRUCTURE ATTRIBUTE (WITHIN 50 M OF AA)	Present	Significant negative effect on AA
Mowing, grazing, excessive herbivory (within AA)		
Excessive human visitation	✓	
Predation and habitat destruction by non-native vertebrates (e.g., *Virginia opossum* and domestic predators, such as feral pets)		
Tree cutting/sapling removal		
Removal of woody debris	✓	
Treatment of non-native and nuisance plant species	✓	
Pesticide application or vector control		
Biological resource extraction or stocking (fisheries, aquaculture)		
Excessive organic debris in matrix (for vernal pools)		
Lack of vegetation management to conserve natural resources		
Lack of treatment of invasive plants adjacent to AA or buffer		
Comments		

BUFFER AND LANDSCAPE CONTEXT ATTRIBUTE (WITHIN 500 M OF AA)	Present	Significant negative effect on AA
Urban residential	✓	✓
Industrial/commercial		
Military training/Air traffic		
Dams (or other major flow regulation or disruption)		
Dryland farming		
Intensive row-crop agriculture		
Orchards/nurseries		
Commercial feedlots		
Dairies		
Ranching (enclosed livestock grazing or horse paddock or feedlot)		
Transportation corridor		
Rangeland (livestock rangeland also managed for native vegetation)		
Sports fields and urban parklands (golf courses, soccer fields, etc.)		
Passive recreation (bird-watching, hiking, etc.)		
Active recreation (off-road vehicles, mountain biking, hunting, fishing)		
Physical resource extraction (rock, sediment, oil/gas)		
Biological resource extraction (aquaculture, commercial fisheries)		
Comments		

ATTACHMENT D

PRELIMINARY JURISDICTIONAL DETERMINATION FORMS

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

District Office: | File/ORM #: | PJD Date:

State: | City/County: Los Angeles/Los Angeles

Nearest Waterbody: Rustic Canyon Creek (Reach 119)

Location: TRS, LatLong or UTM: 34.035967, -118.517535
Township 1 S, Range 16 W, Section 36

Name/ Address of Person Requesting PJD:
Ms. Jemellee Cruz, P.E.
Los Angeles County Dept of Public Works
Flood Maintenance Division
900 South Fremont Avenue
Alhambra, California 91802-1460

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 3,200 linear ft | 16 width | 1.23 acres | Stream Flow:

Wetlands: 0.05 acre(s) | Cowardin Class:

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Topanga
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☐ Photographs: ☐ Aerial (Name & Date): ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.

Signature and Date of Regulatory Project Manager (REQUIRED)

Signature and Date of Person Requesting Preliminary JD (REQUIRED, unless obtaining the signature is impracticable)

EXPLANATION OF PRELIMINARY AND APPROVED JURISDICTIONAL DETERMINATIONS:

1. The Corps of Engineers believes that there may be jurisdictional waters of the United States on the subject site, and the permit applicant or other affected party who requested this preliminary JD is hereby advised of his or her option to request and obtain an approved jurisdictional determination (JD) for that site. Nevertheless, the permit applicant or other person who requested this preliminary JD has declined to exercise the option to obtain an approved JD in this instance and at this time.

2. In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "preconstruction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an approved JD for the activity, the permit applicant is hereby made aware of the following: (1) the permit applicant has elected to seek a permit authorization based on a preliminary JD, which does not make an official determination of jurisdictional waters; (2) that the applicant has the option to request an approved JD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an approved JD could possibly result in less compensatory mitigation being required or different special conditions; (3) that the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) that the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) that undertaking any activity in reliance upon the subject permit authorization without requesting an approved JD constitutes the applicant's acceptance of the use of the preliminary JD, but that either form of JD will be processed as soon as is practicable; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a preliminary JD constitutes agreement that all wetlands and other water bodies on the site affected in any way by that activity are jurisdictional waters of the United States, and precludes any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an approved JD or a preliminary JD, that JD will be processed as soon as is practicable. Further, an approved JD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331, and that in any administrative appeal, jurisdictional issues can be raised (see 33 C.F.R. 331.5(a)(2)). If, during that administrative appeal, it becomes necessary to make an official determination whether CWA jurisdiction exists over a site, or to provide an official delineation of jurisdictional waters on the site, the Corps will provide an approved JD to accomplish that result, as soon as is practicable.

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

This preliminary JD finds that there *"may be"* waters of the United States on the subject project site, and identifies all aquatic features on the site that could be affected by the proposed activity, based on the following information:

Appendix A - Sites

District Office | File/ORM # | PJD Date:

State | City/County: Los Angeles/Los Angeles | Person Requestinq PJD: Ms. Jemellee Cruz

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	34° 02.614’	-118° 30.795’		0.35	
2	34° 02.589'	-118° 30.798'		0.31	
3	34° 02.473'	-118° 30.887'		0.24	
4	34° 02.384'	-118° 30.958'		0.33	
5	34° 02.216'	-118° 31.021'	Riverine	0.025	
6	34° 02.151'	-118° 31.051'		0.025	

Notes:

PRELIMINARY JURISDICTIONAL DETERMINATION FORM

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District Office: | File/ORM #: | PJD Date:

State: | City/County: Los Angeles/Los Angeles

Nearest Waterbody: Rivas Canyon Creek (Reach 119)

Location: TRS, LatLong or UTM: 34.045499, -118.513489
Township 1 S, Range 16 W, Section 36

Name/ Address of Person Requesting PJD:
Ms. Jemellee Cruz, P.E.
Los Angeles County Dept of Public Works
Flood Maintenance Division
900 South Fremont Avenue
Alhambra, California 91802-1460

Identify (Estimate) Amount of Waters in the Review Area:

Non-Wetland Waters: 1,200 linear ft | 15 width | 0.43 acres | Stream Flow: Intermittent

Wetlands: acre(s) | Cowardin Class: N/A

Name of Any Water Bodies on the Site Identified as Section 10 Waters: Tidal: | Non-Tidal:

☐ Office (Desk) Determination
☐ Field Determination: Date of Field Trip:

SUPPORTING DATA: Data reviewed for preliminary JD (check all that apply - checked items should be included in case file and, where checked and requested, appropriately reference sources below):

- ☑ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant:
- ☑ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - ☐ Office concurs with data sheets/delineation report.
  - ☐ Office does not concur with data sheets/delineation report.
- ☐ Data sheets prepared by the Corps
- ☐ Corps navigable waters' study:
- ☐ U.S. Geological Survey Hydrologic Atlas:
  - ☐ USGS NHD data.
  - ☐ USGS 8 and 12 digit HUC maps.
- ☑ U.S. Geological Survey map(s). Cite quad name: Topanga
- ☐ USDA Natural Resources Conservation Service Soil Survey. Citation:
- ☐ National wetlands inventory map(s). Cite name:
- ☐ State/Local wetland inventory map(s):
- ☐ FEMA/FIRM maps:
- ☐ 100-year Floodplain Elevation is:
- ☐ Photographs: ☐ Aerial (Name & Date):
  ☐ Other (Name & Date):
- ☐ Previous determination(s). File no. and date of response letter:
- ☐ Other information (please specify):

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Appendix A - Sites

District Office	Los Angeles District	File/ORM #		PJD Date:	
State		City/County	Los Angeles/Los Angeles	Person Requestinq PJD	Ms. Jemellee Cruz

Site Number	Latitude	Longitude	Cowardin Class	Est. Amount of Aquatic Resource in Review Area	Class of Aquatic Resource
1	34° 02.731’	-118° 30.807’		0.43	

Notes: