CAPACITY IMPROVEMENTS AT PALOS VERDE NORTH AND DAPPLEGRAY SCHOOL ENTRANCE

CITY OF ROLLING HILLS ESTATES, LOS ANGELES COUNTY, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

Prepared For:

Willdan
13191 Crossroads Parkway North, Suite 405
Industry, California 91746
Contact: Christine Judija, J.D., AICP, MLA

Prepared By:

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

September 2021

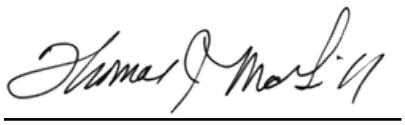
CAPACITY IMPROVEMENTS AT PALOS VERDE DRIVE NORTH AND DAPPLEGRAY SCHOOL ENTRANCE

CITY OF ROLLING HILLS ESTATES, LOS ANGELES COUNTY, CALIFORNIA

Delineation of State and Federal Jurisdictional Waters

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

Travis J. McGill
Biologist/Director



Thomas J. McGill, Ph.D.
Managing Director

September 2021

Executive Summary

ELMT Consulting (ELMT) has prepared this Delineation of State and Federal Jurisdictional Waters Report for the Capacity Improvements Project at Palos Verde Drive North and Dapplegray School Entrance (project site, site) located in the City of Rolling Hills Estates, Los Angeles County, California. The jurisdictional delineation documents the regulatory authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act, and Sections 1600 *et. seq.* of the California Fish and Game Code.[1]

A single unnamed ephemeral drainage features (Drainages 1) was observed within the boundaries of the project site during the field delineation. The onsite drainage feature generally flows in a southwest to northeast direction under Palos Verdes Drive North on the eastern half of the project site. The drainage feature only conveys surface flows in direct response to precipitation and urban runoff, and does not support riparian vegetation. The onsite drainage feature, after flowing offsite, eventually ponds on the Rolling Hills Golf Course, approximately 0.60 mile northeast of the project site. The onsite drainage feature does not have a surface hydrologic connection to downstream waters of the United States, and will not be considered jurisdictional by the Corps. However, the onsite drainage will fall under the regulatory authority of the Regional Board as waters of the State, and, potentially, CDFW as jurisdictional streambed. Table ES-1, *Jurisdictional Areas*, identifies the onsite jurisdictional features within the boundaries of the survey area.

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Likewise, the onsite drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed.

Based on the proposed project design, no impacts to the onsite drainage feature are expected to occur from project implementation. However, if any impacts occur to the drainage feature, a Regional Board Report of Waste Discharge permit and a CDFW Section 1602 Lake or Streambed Alteration Agreement will need to be obtained prior to project implementation,. Refer to Sections 1-7 for a detailed analysis of site conditions and regulatory requirements.

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

Table of Contents

Section 1 Introduction 1

1.1 Project Location 1
1.2 Project Description 1

Section 2 Regulations 5

2.1 U.S. Army Corps of Engineers 5
2.2 Regional Water Quality Control Board 5
2.3 California Department of Fish and Wildlife 6

Section 3 Methodology 7

3.1 Waters of the UnIted States 7
3.2 Waters of the State 8
3.2.1 Regional Water Quality Control Board 8
3.2.2 California Department of Fish and Wildlife 8

Section 4 Literature Review 9

4.1 Watershed Review 9
4.2 Local Climate 9
4.3 USGS Topographic Quadrangle 9
4.4 Aerial Photographs 10
4.5 Soils 10
4.6 Hydric Soils List of California 12
4.7 National Wetlands Inventory 12
4.8 Flood Zone 12

Section 5 Site Conditions 13

5.1 On-Site Features 13
5.1.1 Drainage Features 13
5.1.2 Wetland Features 13

Section 6 Findings 15

6.1 U.S. Army Corps of Engineers Determination 15
6.1.1 Waters of the United States Determination 15
6.1.2 Federal Wetland Determination 15
6.2 Regional Water Quality Control Board 15
6.2.1 Waters of the State Determination 15
6.2.2 State Wetland Determination 15
6.3 California Department of Fish and Wildlife 16

Section 7 Regulatory Approval Process 17

7.1 U.S. Army Corps of Engineers 17

7.2 Regional Water Quality Control Board 17
7.3 California Department of Fish and Wildlife 17
7.4 Recommendations 17

Section 8 References 18

EXHIBITS

Exhibit 1: Regional Vicinity 2
Exhibit 2: Site Vicinity 3
Exhibit 3: Project Site 4
Exhibit 4: Soils 11
Exhibit 5: Jurisdictional Areas 14

APPENDIX

Appendix A Site Plans
Appendix B Site Photographs
Appendix C Documentation
Appendix D Methodology

Section 1 Introduction

This delineation has been prepared for the Capacity Improvements Project at Palos Verde Drive North and Dapplegray School Entrance (project site, site) in order to document the potential jurisdictional authority of the U.S. Army Corps of Engineers (Corps), the Regional Water Quality Control Board (Regional Board), and the California Department of Fish and Wildlife (CDFW) pursuant to Section 401 and 404 of the Federal Clean Water Act (CWA), the California Porter-Cologne Water Quality Control Act and Sections 1600 *et seq.* of the California Fish and Game Code. The analysis presented in this report is supported by field surveys and verification of site conditions conducted on June 24, 2021.

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

1.1 PROJECT LOCATION

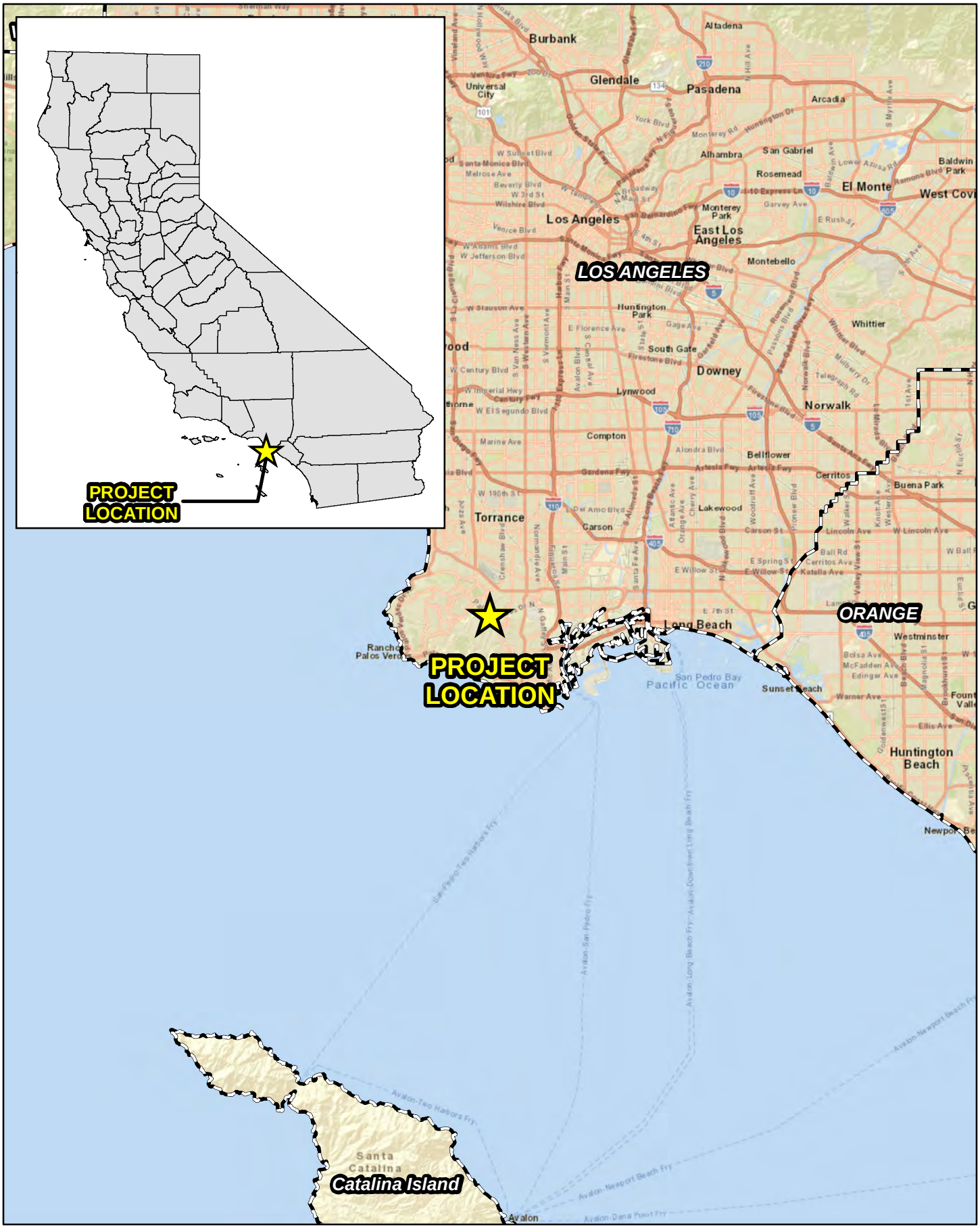
The project site is generally located south of State Route 1, west of Interstate 110, northwest of the City of Rancho Palos Verdes, and west of County Route N7 in the City of Rolling Hills Estates, Los Angeles County, California (Exhibit 1, *Regional Vicinity*). The project site is depicted on the Torrance quadrangle of the United States Geological Survey (USGS) 7.5-minute topographic map series in unsectioned portions of Township 5 South, Range 14 West (Exhibit 2, *Site Vicinity*). Specifically, the project site is located within a public-right-of-way immediately north and south of the intersection of Palos Verdes Road North and the Dapplegray School Entrance (Exhibit 3, *Project Site*).

1.2 PROJECT DESCRIPTION

The project proposes the following improvements:

- Proposed additional lane in the eastbound and westbound directions.
- Redesign equestrian trail on the north side to accommodate street widening
- Proposed retaining walls for slope protection on the north and south sides.
- Redesign school access road to accommodate street widening.

Refer to Appendix A, *Site Plans.*

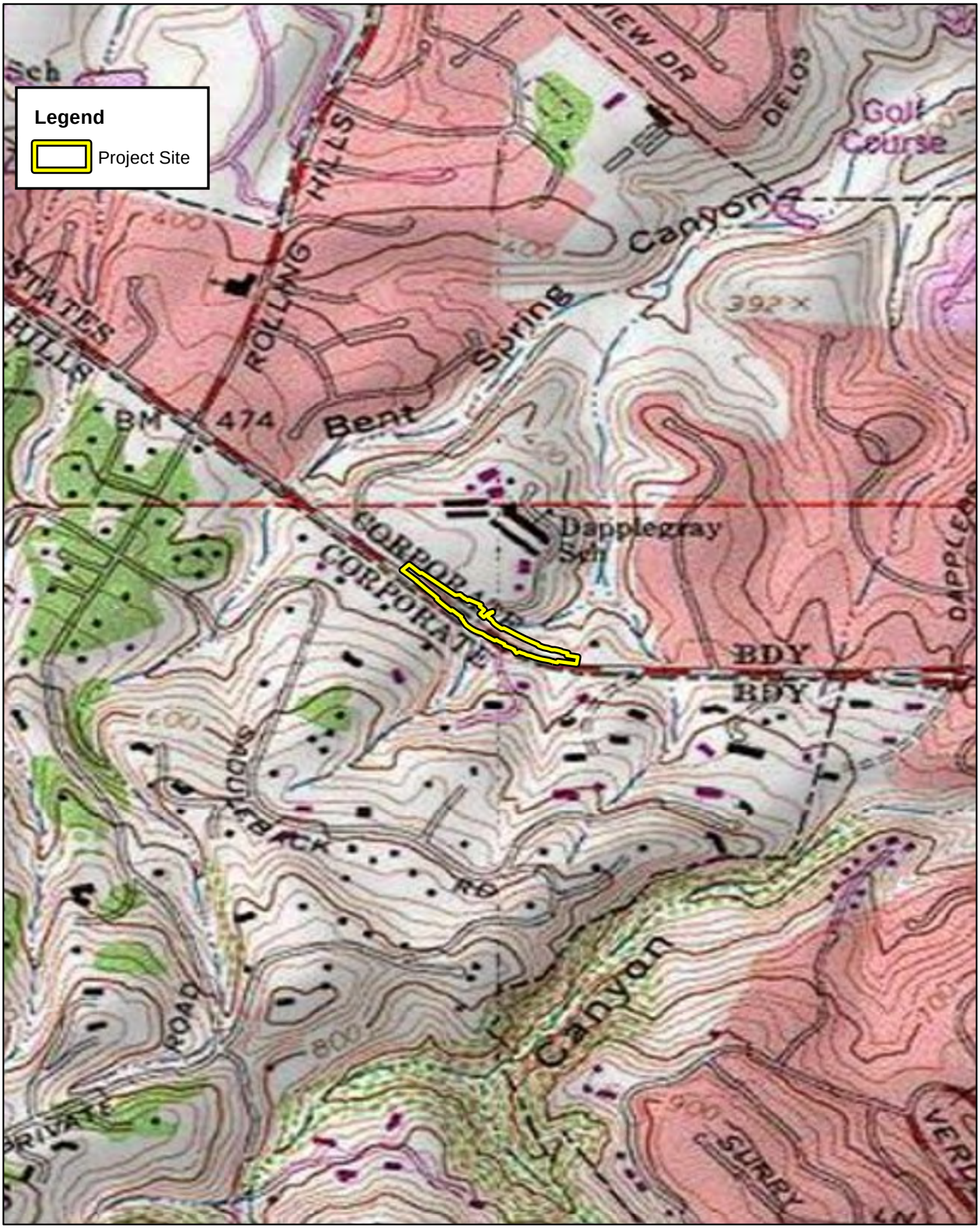


Source: World Street Map, Los Angeles County

Palo Verdes Drive North and Dapplegray School Entrance
Delineation of State and Federal Jurisdictional Waters

Regional Vicinity

Exhibit 1



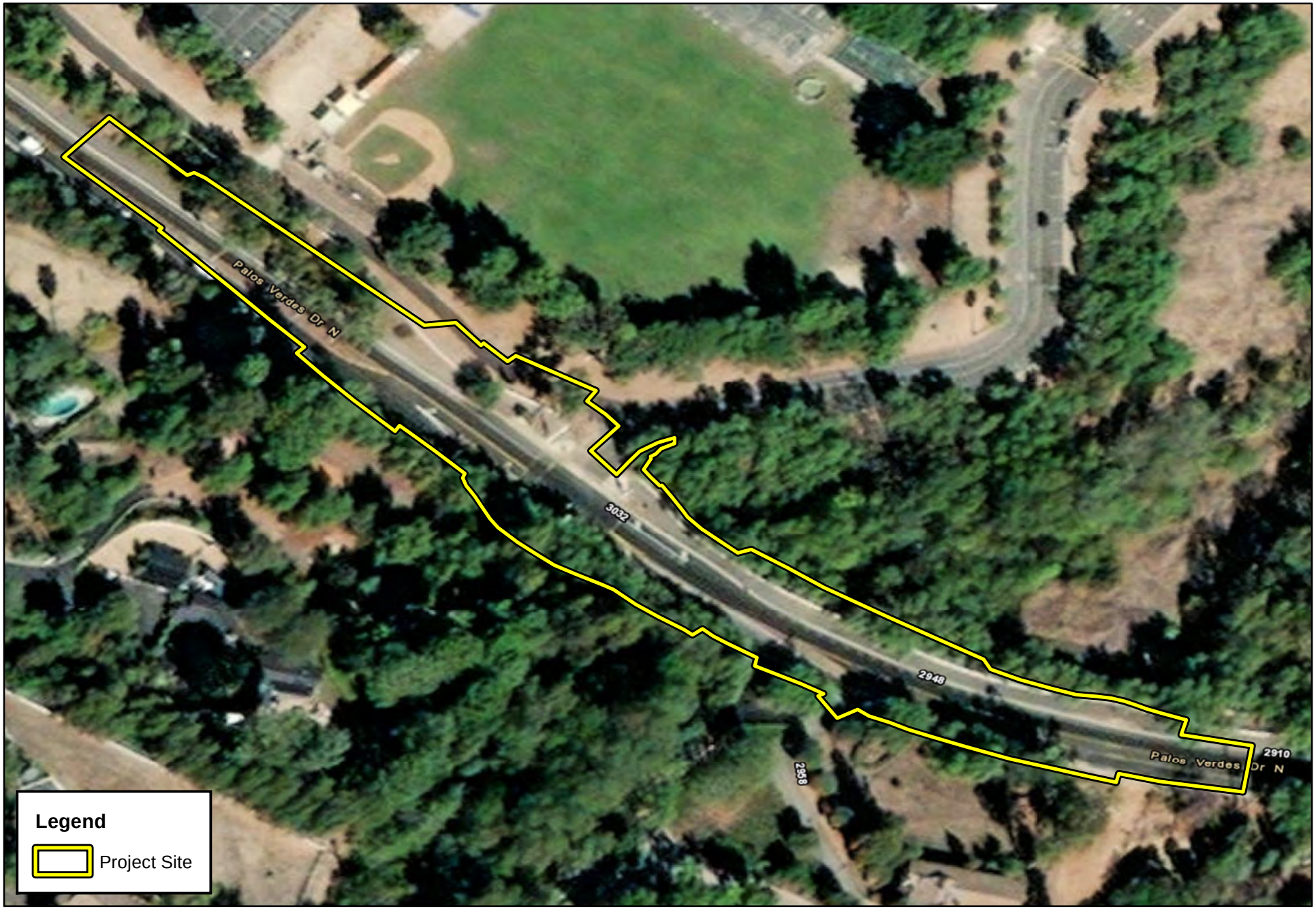
Palo Verdes Drive North and Dapplegray School Entrance
Delineation of State and Federal Jurisdictional Waters

Site Vicinity

ELMT CONSULTING

Source: USA Topographic Map, Los Angeles County

Exhibit 2



Palo Verdes Drive North and Dapplegray School Entrance
Delineation of State and Federal Jurisdictional Waters

Project Site

ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Los Angeles County

Exhibit 3

Section 2 Regulations

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

2.1 U.S. ARMY CORPS OF ENGINEERS

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

2.2 REGIONAL WATER QUALITY CONTROL BOARD

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

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

[2] Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers, 531 U.S. 159 (2001)
[3] Rapanos v. United States, 547 U.S. 715 (2006)

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

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

2.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

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

Section 3 Methodology

The analysis presented in this report is supported by field surveys and verification of site conditions conducted on March 25, 2021. ELMT conducted a field delineation to determine the jurisdictional limits of "waters of the State" and jurisdictional streambed (including potential wetlands), located within the boundaries of the project site. While in the field, jurisdictional features were recorded on an aerial base map at a scale of 1" = 50' using topographic contours and visible landmarks as guidelines. Data points were obtained with a Garmin Map62 Global Positioning System to record and identify specific widths for ordinary high water mark (OHWM) indicators and the locations of photographs, soil pits, and other pertinent jurisdictional features, if present. This data was then transferred as a .shp file and added to the Project's jurisdictional exhibits. The jurisdictional exhibits were prepared using ESRI ArcInfo Version 10 software.

3.1 WATERS OF THE UNITED STATES

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

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

[4] CWA regulations 33 CFR §328.3(e).

3.2 WATERS OF THE STATE

3.2.1 REGIONAL WATER QUALITY CONTROL BOARD

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

3.2.2 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Sections 1600 *et seq*. of the California Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes in the State. CDFW Regulations define "stream" as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and that supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation." (14 Cal. Code Regs., § 1.72.) For this project location, CDFW jurisdictional limits were delineated using this definition of "stream."

Section 4 Literature Review

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

4.1 WATERSHED REVIEW

The project site is located within the San Gabriel Watershed (HUC 18070106). The San Gabriel watershed encompasses over 579,966 acres and stretches across southern California. Drainage basins like this one funnel all the streams, snowmelt, and rainfall to a common outlet such as the outflow of a reservoir, or mouth of a bay. The watershed drains into the San Gabriel River from the San Gabriel Mountains flowing 58 miles south until its confluence with the Pacific Ocean. Major tributaries to the San Gabriel River include Walnut Creek, San Jose Creek, Coyote Creek, and numerous storm drains entering from the 19 cities that the San Gabriel River passes through. Channel flows pass through different sections in the San Gabriel river, diverting from the riverbed into four different spreading grounds, held behind several rubber dams for controlled flow and ground water recharge, and controlled through 10 miles of concrete channel bottom from below Whittier Narrows Dam to past Coyote Creek.

4.2 LOCAL CLIMATE

Los Angeles County features a Mediterranean climate with warm, sunny, dry summers and cool, rainy, mild winters. Climatological data obtained for the nearby City of Rancho Palos Verdes in Los Angeles County indicates the average annual precipitation is 13.07 inches per year. Almost all the precipitation occurs in the months between November and March, with hardly any occurring between the months of May and October. The wettest month is January, with a monthly average total precipitation of 2.80 inches. The average maximum and minimum temperatures for the Palos Verdes Peninsula are 72.3 and 54.6 degrees Fahrenheit (F), respectively, with August being the hottest month (monthly average 71.8° F) and December being the coldest (monthly average 56.7° F). Temperatures during the site visits were in the mid- to high 70s (degrees Fahrenheit) with infrequent, light winds and little to no cloud cover.

4.3 USGS TOPOGRAPHIC QUADRANGLE

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

The project site is depicted on the Torrance quadrangle of the United States Geological Survey (USGS) 7.5-minute topographic map series in unsectioned portions of Township 5 South, Range 14. According to the topographic map, the project site primarily consists of developed land along Palos Verdes Drive North and is immediately surrounded by vacant/undeveloped land to the north and south.

Onsite surface elevation ranges from approximately 460 to 470 feet above mean sea level. The site is linear in nature, following Palos Verdes Drive North which is generally oriented northwest to southeast, and onsite topography generally slopes from the northern and southern boundaries to Palos Verdes Drive North.

4.4 AERIAL PHOTOGRAPHS

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

The project site is located in a primarily developed area in the City of Rolling Hills Estates on the Rancho Palos Verdes Peninsula, approximately 0.6 miles west of the Palos Verde Reservoir, 0.5 miles southwest of the Rolling Hills County Club, and immediately south of Dapplegray Elementary School. Land uses near the site consist almost entirely of residential developments, with institutional and commercial developments scattered throughout. In addition, several open space parks and recreational parks occur throughout the area. Most of the remaining undeveloped land in the area supports valleys and associated drainage features. The Pacific Ocean occurs approximately 4 miles to the east and 2.8 miles to the south.

The proposed project site generally occurs along the paved road right-of-way and disturbed road shoulder of Palos Verdes Drive North. The proposed grading limits will extend slightly off the edge of the existing paved street in areas that primarily support disturbed slopes and non-native tree species. Refer to Appendix B, *Site Photographs*.

4.5 SOILS

Soils within and adjacent to the Project site were researched prior to the field delineation using the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for Los Angeles County, Southeastern Part. Soil surveys furnish soil maps and interpretations originally needed in providing technical assistance to farmers and ranchers; in guiding other decisions about soil selection, use, and management; and in planning, research, and disseminating the results of the research. In addition, soil surveys are now heavily utilized in order to obtain soil information with respect to potential wetland environments and jurisdictional areas (i.e., soil characteristics, drainage, and color).

Based on the NRCS USDA Web Soil Survey, the Project site is underlain by Dapplegray-Urban land-Lunada complex (22 to 55 percent slopes). Refer to Exhibit 4, *Soils*. The majority of the soils within the project footprint have been disturbed from existing development associated with the existing roadway.

Palo Verdes Drive North and Dapplegray School Entrance
Delineation of State and Federal Jurisdictional Waters

Soils

ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Soil Survey Geographic Database, Los Angeles County

Exhibit 4

4.6 HYDRIC SOILS LIST OF CALIFORNIA

ELMT reviewed the USDA NRCS Hydric Soils List of California in an effort to verify whether on-site soils are considered to be hydric[5]. It should be noted that lists of hydric soils along with soil survey maps provide off-site ancillary tools to assist in wetland determinations, but they are not a substitute for field investigations. The presence of hydric soils is initially investigated by comparing the mapped soil series for the site to the County list of hydric soils. According to the hydric soils list, none of the onsite soils have been listed as hydric in Los Angeles County, Southeastern Part.

4.7 NATIONAL WETLANDS INVENTORY

The USFWS NWI and the USGS National Hydrography Dataset were reviewed to determine if any blueline streams or riverine resources have been documented within or immediate surrounding the project site. Based on this review, one (1) riverine feature was documented on the project site. This riverine feature originates within a small canyon, south of Palos Verdes Drive North and flows southwest to northeast under Palos Verdes Drive North on the southern portion of the project site. No other features were identified as occurring within the boundary of the project. Refer to Appendix C, *Documentation*.

4.8 FLOOD ZONE

The Federal Emergency Management Act (FEMA) website was searched for flood data for the project site. Based on Flood Insurance Rate Map No. 06037C1940F that project site is located within Zone X – areas determined to be outside the 0.2% annual chance floodplain, minimal risk of flooding. Refer to Appendix C, *Documentation*.

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

Section 5 Site Conditions

ELMT biologist Travis J. McGill conducted a field delineation on June 24, 2021 to verify existing site conditions and document the extent of potential jurisdictional areas within the boundaries of the project site. ELMT field staff encountered no limitations during the field delineation.

5.1 ON-SITE FEATURES

5.1.1 DRAINAGE FEATURES

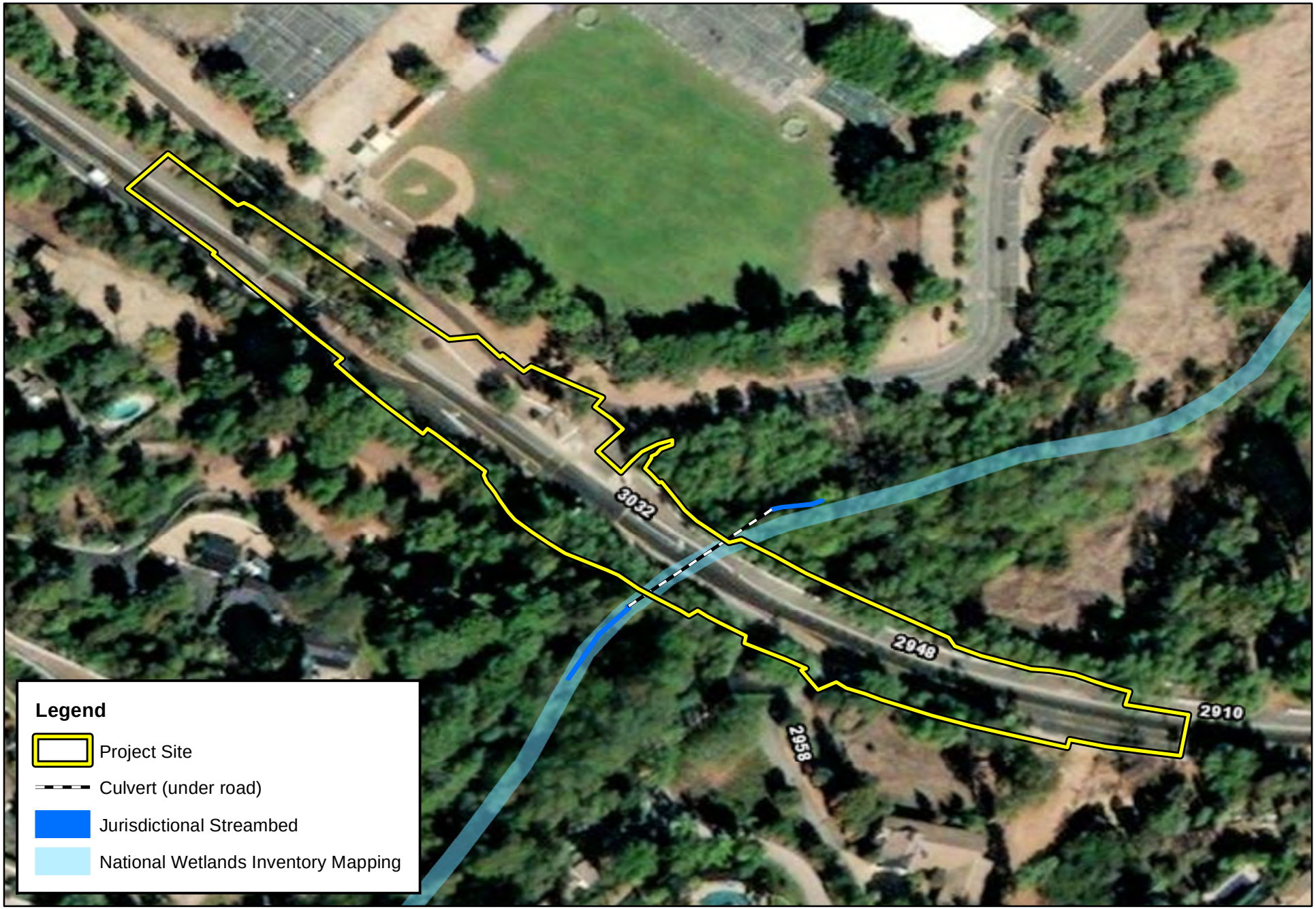
A single unnamed drainage feature was observed extending southwest to northeast under Palos Verde Drive north that had minimal water within it during the field investigation. Surface flows within with these features are only provided by direct precipitation following from storm events and from urban runoff. The channel invert exhibits an earthen streambed consisting of a natural substrate with an even distribution of gravel and sand. Generally, the OHWM ranged from 2 to 4 feet in width and was observed via the following indicators: scour; debris lines; and standing water. Approximately 2-6 inches of water were observed in small pockets, north of Palos Verdes Drive North during the field survey. The drainage feature is generally devoid of vegetation, with a large amount of leaf litter covering the drainage and understory of the Peruvian pepper tree stands.

Stormwater within the unnamed drainage feature continues to flow to the northeast and eventually ponds, approximately 0.60 mile northeast of the project site on the Rolling Hills Golf Course, within apparent connection to downstream waters.

The onsite drainage feature flows through an ornamental plant community. This non-native plant community is located along the northern and southern boundaries of the proposed limits of disturbances along outside of the existing paved road right-of-way. This plant community is dominated by Peruvian pepper (*Schinus molle*), with Brazilian pepper (*Schinus terebinthifolia*), eucalyptus (*Eucalyptus ssp.*), Shamel ash (*Fraxinus uhdei*), and Italian stone pine (*Pinus pinea*) intermixed throughout. The understory of the plant community supports a mix of native early successional and non-native/invasive plant species. Common plant species found in the understory of include. mouse barley (*Hordeum murinum*), periwinkle (*Vinca minor*), smilo grass (*Stipa miliacea*), cheeseweed (*Malva parviflora*), prickly lettuce (*Lactuca serriola*), short-podded mustard (*Hirschfeldia incana*), wild oat (*Avena fatua*), ripgut brome (*Bromus diandrus*), fountain grass (*Pennisetum setaceum*), common sweet pea (*Lathyrus odoratus*), horseweed (*Erigeron bonariensis*), pigweed (*Chenopodium album*), and London rocket (*Sisymbrium irio*).

5.1.2 WETLAND FEATURES

In order to qualify as a wetland, a feature must exhibit all three wetland parameters (i.e., vegetation, soils, and hydrology) described in the Corps Arid West Regional Supplement. Although evidence of hydrology (i.e., scour, changes in substrate, shelving) was present within the onsite drainages, these areas were primarily dominated by upland plant species. Further, the drainage did not support a dominance of hydrophytic vegetation. As a result, the onsite drainage feature is not expected to meet the Corps' or Regional Board's wetland definition to qualify as jurisdictional wetlands.



ELMT CONSULTING

0 62.5 125 250 Feet

Source: ESRI Aerial Imagery, Los Angeles County

Palo Verdes Drive North and Dapplegray School Entrance
Delineation of State and Federal Jurisdictional Waters

Jurisdictional Areas

Exhibit 5

Section 6 Findings

This report presents ELMT's best effort at determining the extent of jurisdictional features using the most up-to-date regulations, written policy, and guidance from the regulatory agencies. Please refer to the following sections for a summary of jurisdictional areas within the project site and Tables 1 and 2.

6.1 U.S. ARMY CORPS OF ENGINEERS DETERMINATION

6.1.1 WATERS OF THE UNITED STATES DETERMINATION

Prior to leaving the site, and after transmission losses, all surface flows within the drainage continue northeast until they are redirected or dammed due to existing developments and pond on the Rolling Hills Golf Course. It was preliminarily determined that the onsite drainage feature does not have a significant nexus to the downstream waters of the United States.

Based on the information above, the on-site drainage feature exhibits evidence of an OHWM; however, these drainage feature does not present a "significant nexus" to any downstream waters and is considered intrastate, isolated waters (Rapanos) with no apparent interstate or foreign commerce connection. Therefore, the on-site drainage feature is not considered to be jurisdictional waters of the United States by the Corps.

6.1.2 FEDERAL WETLAND DETERMINATION

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

6.2 REGIONAL WATER QUALITY CONTROL BOARD

6.2.1 WATERS OF THE STATE DETERMINATION

The onsite drainage features exhibit characteristics consistent with the Regional Board's methodology and would be considered jurisdictional waters of the State. Refer to Exhibit 5, *Jurisdictional Areas*, for an illustration of the Regional Board waters of the State mapped onsite.

6.2.2 STATE WETLAND DETERMINATION

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

Based on the results of the field delineation, it was determined that no areas within the project site meet the State Wetland Definition. Therefore, no state wetland features exist within the project site.

6.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

The onsite drainage features exhibit characteristics consistent with CDFW's methodology and would be considered CDFW streambed. Refer to Exhibit 5, *Jurisdictional Areas*, for an illustration of CDFW jurisdictional streambed mapped onsite areas.

Section 7 Regulatory Approval Process

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

7.1 U.S. ARMY CORPS OF ENGINEERS

A permit would not be required from the Corps Regulatory Branch-Los Angeles District Office, as no Corps jurisdictional areas were located within the project site. However, an Approved Jurisdictional Determination (AJD) shall be obtained from the Corps. A concurrence from the Corps would document the findings of the delineation to confirm that the on-site drainage features do not qualify as waters of the United States and provide a determination concerning the isolated nature of the on-site conditions.

7.2 REGIONAL WATER QUALITY CONTROL BOARD

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

7.3 CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE

Pursuant to Section 1602 of the California Fish and Game Code, the CDFW regulates any activity that will divert or obstruct the natural flow or alter the bed, channel, or bank (which may include associated biological resources) of a river or stream. Therefore, any impacts to the on-site jurisdictional areas may require a Section 1602 Streambed Alteration Agreement from the CDFW prior to project implementation, if the project will have a substantial adverse impact on an existing fish or wildlife resource. The notification fee is based on the term and cost of a project. The Section 1602 Streambed Alteration Agreement will not be issued until all fees are paid to the CDFW.

7.4 RECOMMENDATIONS

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

Section 8 References

Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station, 1987.

Google, Inc. 2013. Google Earth Pro version 7.3.4.8248, build date 07/16/2021. Historical aerial imagery from 1994 to 2021.

U.S. Army Corps of Engineers (Corps). 2006. *Distribution of Ordinary High Water Mark Indicators and their Reliability in Identifying the Limits of "Waters of the United States" in the Arid Southwestern Channels*. February 2006.

Corps. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States*. August 2008.

Corps. 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*, ed. J.S. Wakeley, R. W. Lichvar, and C. V. Nobel. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

Corps. 2016. *Arid West 2016 Regional Wetland Plant List*. 2016 NWPL v3.3. Accessed online at http://wetland-plants.usace.army.mil/nwpl_static/index.html.

Corps. 2016. *Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. February 2016.

Corps. 2017. *Los Angeles District Regulatory Program* (www.spl.usace.army.mil/).

Corps. 2017. *Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. March 2017.

Corps. 2017. *Reissuance of the Nationwide Permits and Issuance of Final Regional Conditions for the Los Angeles District*. March 2017.

Corps. 2020. *The Navigable Waters Protection Rule: Definition of "Waters of the United States*. 33 CFR Part 328. April 2020.

State Water Resources Control Board. 2019. *State wetland Definition and procedures for Discharges of Dredged or Fill Material to Waters of the State*. Adopted May 28, 2020.

U.S. Department of Agriculture, Natural Resources Conservation Service (USDA NRCS). *List of Hydric Soils*. Accessed online at https://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/.

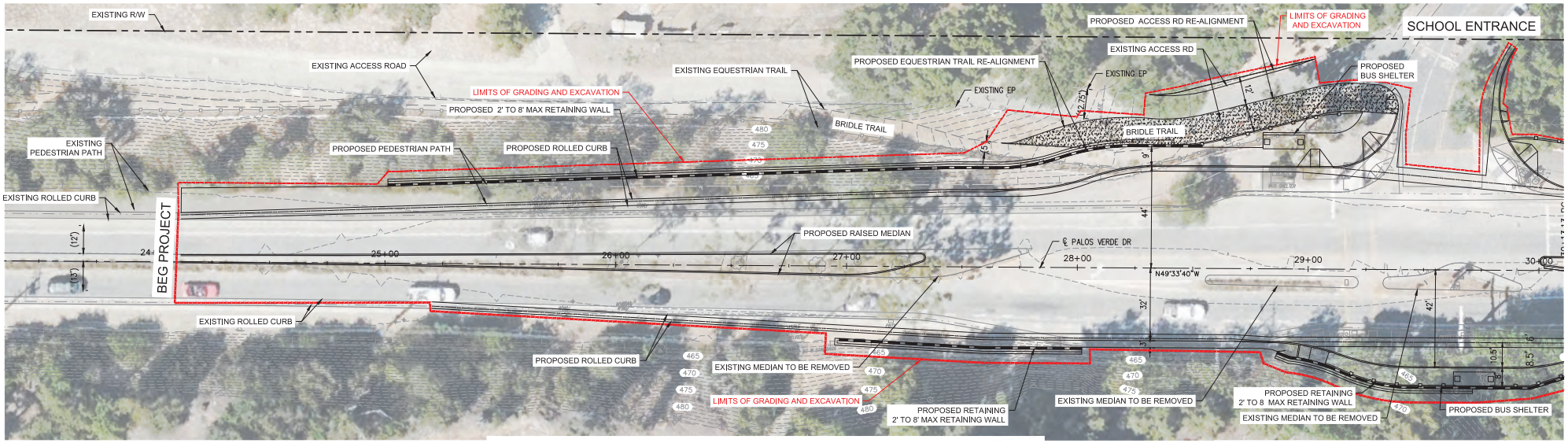
USDA NRCS. 2017. *Field Indicators of Hydric Soils in the United States: A Guide to Identifying and Delineating Hydric Soils, Version 8.1*. 2017.

U.S. Department of Homeland Security, Federal Emergency Management Agency, National Flood Insurance Program, *Flood Insurance Rate Map No. 06037C1940F*.

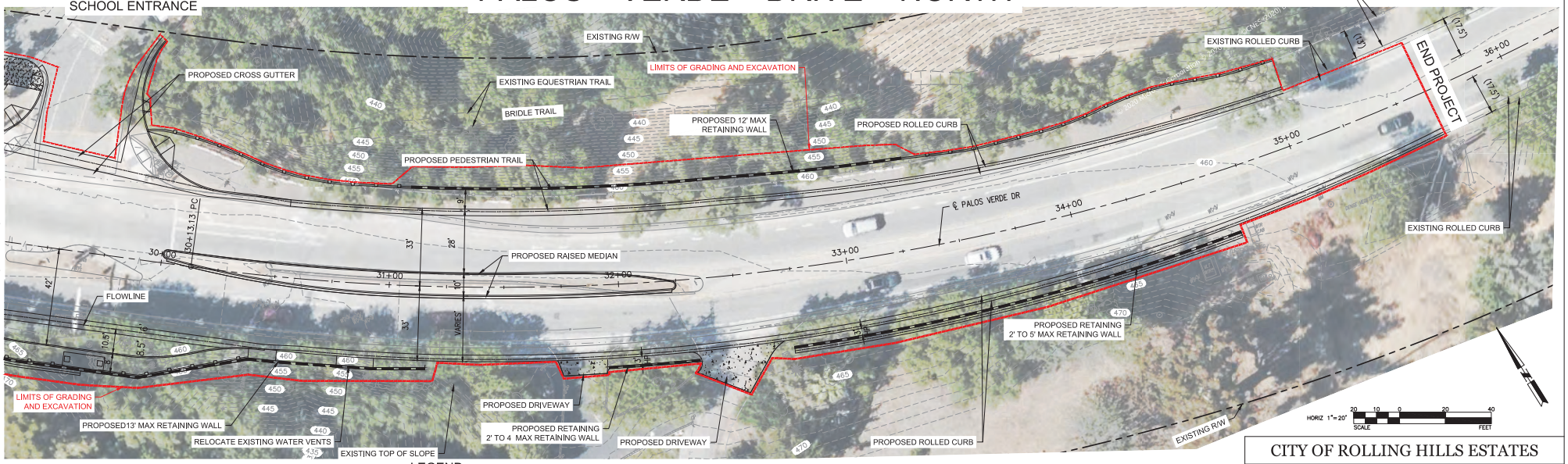
U.S. Fish and Wildlife Service, Department of Habitat and Resource Conservation. 2019. *Wetland Geodatabase*. Accessed online at https://www.fws.gov/wetlands/data/Mapper.html.

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

Appendix A Site Plans



PALOS VERDE DRIVE NORTH



GENERAL DESCRIPTION

1. PROPOSED ADDITIONAL LANE IN THE EASTBOUND AND WESTBOUND DIRECTIONS.
2. REDESIGN EQUESTRIAN TRAIL ON THE NORTH SIDE TO ACCOMMODATE STREET WIDENING.
3. PROPOSED RETAINING WALLS FOR SLOPE PROTECTION ON THE NORTH AND SOUTH SIDES.
4. REDESIGN SCHOOL ACCESS ROAD TO ACCOMMODATE STREET WIDENING.

LEGEND

- LIMITS OF GRADING AND EXCAVATION
- PROPOSED CURB
- EXISTING CENTERLINE
- PROPOSED RETAINING WALL
- RIGHT OF WAY
- PROPOSED FENCE

DRIVEWAY ENTRANCE

PLANS PREPARED BY:
WILLDAN Engineering — Comprehensive Innovative Trusted
13191 CROSSROADS PARKWAY NORTH
SUITE 405 INDUSTRY, CA 91746-3497
(562) 908-6200
UNDER THE SUPERVISION OF

BENCH MARK:
NO. _____ ELEV. _____
DATE ADJ. _____ QUAD. _____
NONE

NO.	REVISIONS DESCRIPTION	APP.	DATE

CITY OF ROLLING HILLS ESTATES

PRELIMINARY STREET IMPROVEMENT PLAN

LIMITS OF GRADING AND EXCAVATION

CAPACITY IMPROVEMENTS AT PALOS VERDE NORTH AND DAPPLEGRAY SCHOOL ENTRANCE

DRAWN BY: BR	SHT. 1 OF 1 SHTS.	EXHIBIT
DESIGNED BY: BR		
CHECKED BY: FW		

U:\110176 - RHE PVDN@DAPPLEGRAY ELM SCHOOL\900-PS&E\901-Plans\Concepts\110176 - ENVIRO.dwg Aug 05, 21 - 2:59pm

Appendix B Site Photographs

Photograph 1: From the western limits of the project site looking east along Palos Verdes Drive North from the northern side of the street.

Photograph 2: From the western limits of the project site looking east along Palos Verdes Drive North from the southern side of the street.

Photograph 3: From the southern side of Palos Verdes Drive North looking west at the western portion of the proposed project.

Photograph 4: Looking at the intersection of Palos Verdes Drive North and the Dapplegray School entrance from the southern side of the street.

Photograph 5: From the eastern limits of the project site looking west along Palos Verdes Drive North from the southern side of the street.

Photograph 6: From the eastern limits of the project site looking west along Palos Verdes Drive North from the northern side of the street.

Photograph 7: Looking at the intersection of Palos Verdes Drive North and the Dapplegray School entrance from the northern side of the street.

Photograph 8: Equestrian trail on the northeast corner of the intersection of Palos Verdes Drive North and the Dapplegray School entrance, that separates the project site from the unnamed drainage feature that extends under Palos Verdes Drive North.

Photograph 9: View of the drainage feature on the south side of Palos Verdes Drive North.

Photograph 10: Another view of the drainage feature on the south side of Palos Verdes Drive North.

Photograph 11: View of the beginning portion of the drainage feature on the north side of Palos Verdes Drive North, north of the equestrian trail.

Photograph 12: Water ponding at the beginning of the drainage feature on the north side of Palos Verdes Drive North.

Photograph 13: Looking north along the drainage feature, north of, and outside of the project footprint.

Photograph 14: Dry portion of the drainage feature, north of the project site.

Appendix C Documentation

U.S. Fish and Wildlife Service

National Wetlands Inventory

PV Dr North and Dapplegray

October 5, 2021

Wetlands

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

NOTES TO USERS

...ose in administering the National Flood Insurance Program. ...arly identify all areas subject to flooding, particularly from local ...of small size. The **community map repository** should be ...ssible updated or additional flood hazard information.

...detailed information in areas where **Base Flood Elevations** ...**oodways** have been determined, users are encouraged to consult ...es and Floodway Data and/or Summary of Stillwater Elevations ...within the Flood Insurance Study (FIS) report that accompanies ...rs should be aware that BFEs shown on the FIRM represent ...lood elevations. These BFEs are intended for flood insurance ...only and should not be used as the sole source of flood ...ation. Accordingly, flood elevation data presented in the FIS ...be utilized in conjunction with the FIRM for purposes of ...or floodplain management.

Flood Elevations shown on this map apply only landward ...American Vertical Datum of 1988 (NAVD 88). Users of this ...aware that coastal flood elevations are also provided in the ...llwater Elevations table in the Flood Insurance Study report ...on. Elevations shown in the Summary of Stillwater Elevations ...used for construction and/or floodplain management purposes ...igher than the elevations shown on this FIRM.

floodways were computed at cross sections and interpolated ...ections. The floodways were based on hydraulic considerations ...quirements of the National Flood Insurance Program. Floodway ...er pertinent floodway data are provided in the Flood Insurance ...this jurisdiction.

...t in Special Flood Hazard Areas may be protected by **flood ...es**. Refer to Section 2.4 "Flood Protection Measures" of ...nce Study report for information on flood control structures ...n.

...used in the preparation of this map was Universal Transverse ... zone 11. The **horizontal datum** was NAD83, GRS1980 ...nces in datum, spheroid, projection or UTM zones used in ... FIRMs for adjacent jurisdictions may result in slight positional ...ap features across jurisdiction boundaries. These differences ...accuracy of this FIRM.

...on this map are referenced to the North American Vertical ... These flood elevations must be compared to structure and ...ns referenced to the same **vertical datum**. For information ...rsion between the National Geodetic Vertical Datum of 1929 ...American Vertical Datum of 1988, visit the National Geodetic ...at http://www.ngs.noaa.gov/ or contact the National Geodetic ...llowing address:

...Services

...Survey

...Highway
...20910–3282

...elevation, description, and/or location information for **bench marks** ...map, please contact the Information Services Branch of the ...ic Survey at **(301) 713–3242**, or visit its website at ...aa.gov/.

...ation shown on this FIRM was derived from U.S. Geological Survey ...Quadrangles produced at a scale of 1:12,000 from photography ...er and from National Geospatial Intelligence Agency imagery produced ...00 from photography dated 2003 or later.

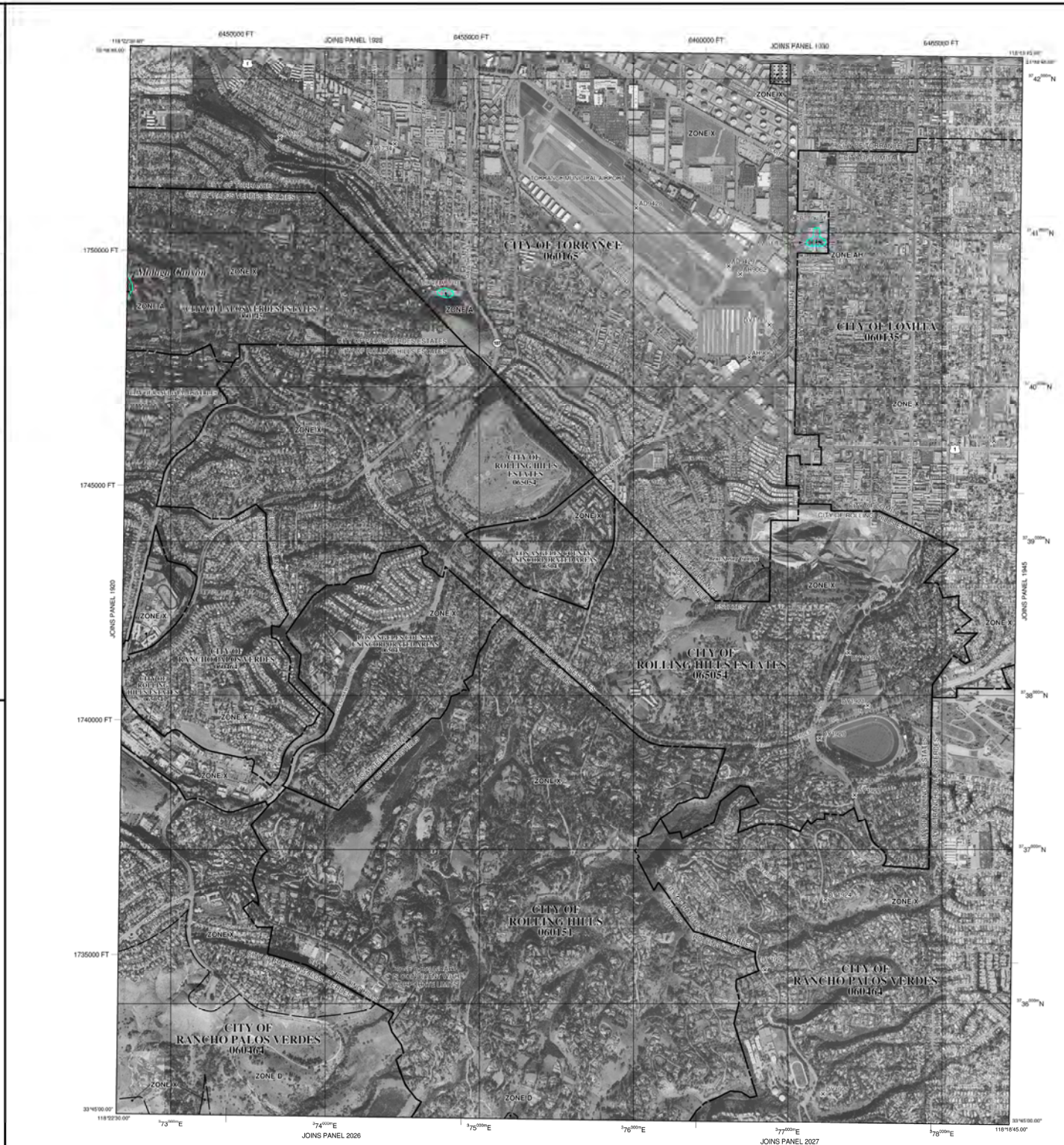
...more detailed and up-to-date **stream channel configurations** ...n on the previous FIRM for this jurisdiction. The floodplains ...hat were transferred from the previous FIRM may have been ...nform to these new stream channel configurations. As a ...d Profiles and Floodway Data tables *in the Flood Insurance ...ich contains authoritative hydraulic data*) may reflect stream ...s that differ from what is shown on this map.

...s shown on this map are based on the best data available ...blication. Because changes due to annexations or de-annexations ...rred after this map was published, map users should contact ...munity officials to verify current corporate limit locations.

...the separately printed **Map Index** for an overview map of the ...the layout of map panels; community map repository addresses; ...Communities table containing National Flood Insurance Program ...community as well as a listing of the panels on which each ...ated.

...A Map Service Center at 1–800–358–9616 for information on ...ts associated with this FIRM. Available products may include ...d Letters of Map Change, a *Flood Insurance Study* report, ...sions of this map. The FEMA Map Service Center may also be ...at 1–800–358–9620 and its website at http://www.msc.fema.gov/.

...estions about this map or questions concerning the National ...Program in general, please call **1–877–FEMA MAP** (1–877–336–2627) ...A website at http://www.fema.gov/.



LEGEND

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, AR/A, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- **ZONE A** No Base Flood Elevations determined.
- **ZONE AE** Base Flood Elevations determined.
- **ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- **ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE AR** Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- **ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- **ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- **ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

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

OTHER AREAS

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

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

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

- 1% annual chance floodplain boundary
- 0.2% annual chance floodplain boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.
- 513 — Base Flood Elevation line and value; elevation in feet*
- (EL 987) — Base Flood Elevation value where uniform within zone; elevation in feet*

* Referenced to the North American Vertical Datum of 1988 (NAVD 88)

- A — A — Cross section line
- 23 — 23 — Transect line
- 97°07'30", 32°22'30" — Geographic coordinates referenced to the North American Datum of 1983 (NAD 83)
- 4375000 N — 1000-meter Universal Transverse Mercator grid values, zone 11
- 6000000 FT — 5000-foot grid ticks: California State Plane coordinate system, V zone (FIPSZONE 0405), Lambert Conformal Conic
- DX5510 — Bench mark (see explanation in Notes to Users section of this FIRM panel)
- M1.5 — River Mile

MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
September 26, 2008
EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

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

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

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

NFIP
NATIONAL FLOOD INSURANCE PROGRAM

PANEL 1940F

FIRM
FLOOD INSURANCE RATE MAP
LOS ANGELES COUNTY, CALIFORNIA
AND INCORPORATED AREAS

PANEL 1940 OF 2350
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
LOS ANGELES COUNTY	065043	1940	F
LOMITA, CITY OF	060135	1940	F
PALOS VERDES ESTATES, CITY OF	060145	1940	F
RANCHO PALOS VERDES, CITY OF	060464	1940	F
ROLLING HILLS ESTATES, CITY OF	065054	1940	F
ROLLING HILLS, CITY OF	060151	1940	F
TORRANCE, CITY OF	060165	1940	F

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
06037C1940F

EFFECTIVE DATE
SEPTEMBER 26, 2008

Federal Emergency Management Agency

Appendix D Methodology

WATERS OF THE UNITED STATES

Section 404 of the Clean Water Act

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

(i) All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

(ii) All interstate waters, including interstate wetlands[1].

(iii) The territorial seas.

(iv) All impoundments of waters otherwise defined as waters of the United States under the definition.

(v) All tributaries[2] of waters identified in paragraphs (i) through (iii) mentioned above.

(vi) All waters adjacent[3] to a water identified in paragraphs (i) through (v) mentioned above, including wetlands, ponds, lakes, oxbows, impoundments, and similar waters.

(vii) All prairie potholes, Carolina bays and Delmarva bays, Pocosins, western vernals pools, Texas coastal prairie wetlands, where they are determined, on a case-specific basis, to have a significant nexus to a water identified in paragraphs (i) through (iii) meantioned above.

(viii) All waters located within the 100-year floodplain of a water identified in paragraphs (i) through (iii) mentioned above and all waters located within 4,000 feet of the high tide line or ordinary

---

1 The term *wetlands* means those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

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

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

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

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

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

(ii) Prior converted cropland.

(iii) The following ditches:

(A) Ditches with ephemeral flow that are not a relocated tributary or excavated in a tributary.
(B) Ditches with intermittent flow that are not a relocated tributary, excavated in a tributary, or drain wetlands.
(C) Ditches that do not flow, either directly or through another water, into a water of the United States as identified in paragraphs (i) through (iii) of the previous section.

(iv) The following features:

(A) Artificially irrigated areas that would revert to dry land should application of water to that area cease;
(B) Artificial, constructed lakes and ponds created in dry land such as farm and stock watering ponds, irrigation ponds, settling basins, fields flooded for rice growing, log cleaning ponds, or cooling ponds;
(C) Artificial reflecting pools or swimming pools created in dry land;
(D) Small ornamental waters created in dry land;
(E) Water-filled depressions created in dry land incidental to mining or construction activity, including pits excavated for obtaining fill, sand, or gravel that fill with water;
(F) Erosional features, including gullies, rills, and other ephemeral features that do not meet the definition of a tributary, non-wetland swales, and lawfully constructed grassed waterways; and
(G) Puddles.

(v) Groundwater, including groundwater drained through subsurface drainage systems.

(vi) Stormwater control features constructed to convey, treat, or store stormwater that are created in dry land.

(vii) Wastewater recycling structures constructed in dry land; detention and retention basins built for wastewater recycling; groundwater recharge basins; percolation ponds built for wastewater recycling; and water distributary structures built for wastewater recycling.

WETLANDS

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

Vegetation

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

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

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

<u>Indicator 1 – Dominance Test</u>

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

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

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

Hydrology

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

Group A – Observation of Surface Water or Saturated Soils

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

Group B – Evidence of Recent Inundation

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

Group C – Evidence of Recent Soil Saturation

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

Group D – Evidence from Other Site Conditions or Data

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

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

Soils

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

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

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

<u>All Soils</u>

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

<u>Sandy Soils</u>

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

<u>Loamy and Clayey Soils</u>

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

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

SWANCC WATERS

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