NATURAL RESOURCES ASSESSMENT, INC.

Delineation of Wetlands and Other Waters
The Shops at Jurupa
Jurupa Valley APNs 171-020-001, 171-020-025, and 171-020-002
Jurupa Valley, California
USGS 7.5-minute Fontana Topographic Quadrangle Map

Prepared For:

Panorama Development, LLC
2005 Winston Court
Upland, CA 91784

Prepared by:

Natural Resources Assessment, Inc.
3415 Valencia Hill Drive
Riverside, California 92507

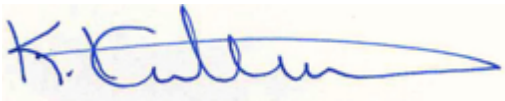
December 1, 2020

Project Number: PPI20-101

3415 Valencia Hill Drive
Riverside, California 92507
Telephone: 951 686 4483
Fax: 951 686 8418
www.naturalresourcesassessment.com

CERTIFICATION

I hereby certify that the statements furnished below and in the attached exhibits present data and information required for this biological evaluation, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.



Karen Kirtland

NATURAL RESOURCES ASSESSMENT, INC.

December 1, 2020

TABLE OF CONTENTS

1.0 INTRODUCTION 1
1.1. Project Purpose 1
1.2. Project Assessment 1
1.3. Project Location and Driving Directions 1
1.4. Project Proponent (Applicant) 1
2.0 PROJECT DESCRIPTION 4
3.0 REGULATORY SETTINGS 4
3.1. Federal 4
3.1.1. Section 404 of the Clean Water Act 4
3.1.2. Fish and Wildlife Coordination Act 9
3.1.3. Executive Order 11990 for Protection of Wetlands 9
3.2. State 9
3.2.1. Waters of the State 9
3.2.2. California Fish and Game Code §§ 1600–1616: Streambeds and Banks and Riparian Habitat 10
3.3. Local 10
3.3.1. Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools 10
4.0 METHODS 11
4.1. Literature Review 11
4.2. Field Survey 12
4.3. Hydrology 12
4.4. Vegetation 13
5.0 ENVIRONMENTAL SETTING 13
5.1. Hydrology and Hydrologic Connectivity 13
5.2. Soils 15
5.3. Vegetation 15
5.4. Wetlands 15
5.5. Vernal Pools 15
5.6. Summary of Jurisdictional Findings 17
5.7. MSHCP 6.1.2 Impacts 17

6.0 CONCLUSIONS AND CERTIFICATION 17

7.0 REFERENCES 20

Tables

Table 1. Wetland Indicator Vegetation Categories 13

Figures

Figure 1. Regional Overview and Site Vicinity 2
Figure 2. Site Location 3
Figure 3. Pyrite Channel Alignment 5
Figure 4. Watershed Boundary. 14
Figure 5. Soils Overlay 16

APPENDIX A. PHOTOS

ACRONYMS AND ABBREVIATIONS

CEQA	California Environmental Quality Act
CDFW	California Department of Fish and Wildlife
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
Corps	U.S. Army Corps of Engineers
CWA	Clean Water Act
EPA	Environmental Protection Agency
FEMA	Federal Emergency Managemen Agency
LSA	Lake and Streambed Agreement
MND	Mitigated Negative Declaration
MOU	Memorandum of Understanding
MSHCP	Multiple Species Habitat Conservation Plan
NEPA	National Environmental Policy Act
NDPES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
OHP	Office of Historic Preservation
OHW	Ordingary High Water
OHWM	Ordinary High Water Mark
NWI	National Wetlands Inventory
RWQCB	Regional Water Quality Control Board
SWRCB	State Water Resources Control Board
TNW	Traditional Navigable Waters
US	United States
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
WQD	Water Quality Certification

1.0 INTRODUCTION

Natural Resources Assessment, Inc. (NRAI) was contracted by Panorama Development, LLC. to conduct a Jurisdictional Delineation (JD) for The Shops at Jurupa, a proposed commercial center, in Jurupa Valley, California (Project).

The purpose of this JD report is to delineate any potential waters, including wetlands, that may occur within the Project site and immediately adjacent to the Project site. This JD report will also discuss the functions and values of any riparian/riverine areas or species habitat in the Project area, describe the proposed Project, and provide quantities of direct impacts to any jurisdictional waters.

1.1. Project Purpose

The purpose of this JD report is to delineate any potential waters, including wetlands, that may occur within the Project site and immediately adjacent to the Project site. This JD report will also discuss the functions and values of any riparian/riverine areas or species habitat in the Project area, describe the proposed Project, and provide quantities of direct impacts to any jurisdictional waters.

1.2. Project Assessment

This delineation of potential jurisdictional waters of the U.S., including wetlands was prepared for the project proponent and the City of Jurupa Valley for their review and consideration of any impacts to regulated waters.

1.3. Project Location and Driving Directions

The two parcels are located in the Jurupa Valley area of Riverside County on the south side of State Route 60 (Figures 1 and 2). From the west, take State Route 60 and take Exit 46 for Pyrite Street. Turn right onto Pyrite Street. The project is located on the northwest corner of Pyrite Street and State Route 60.

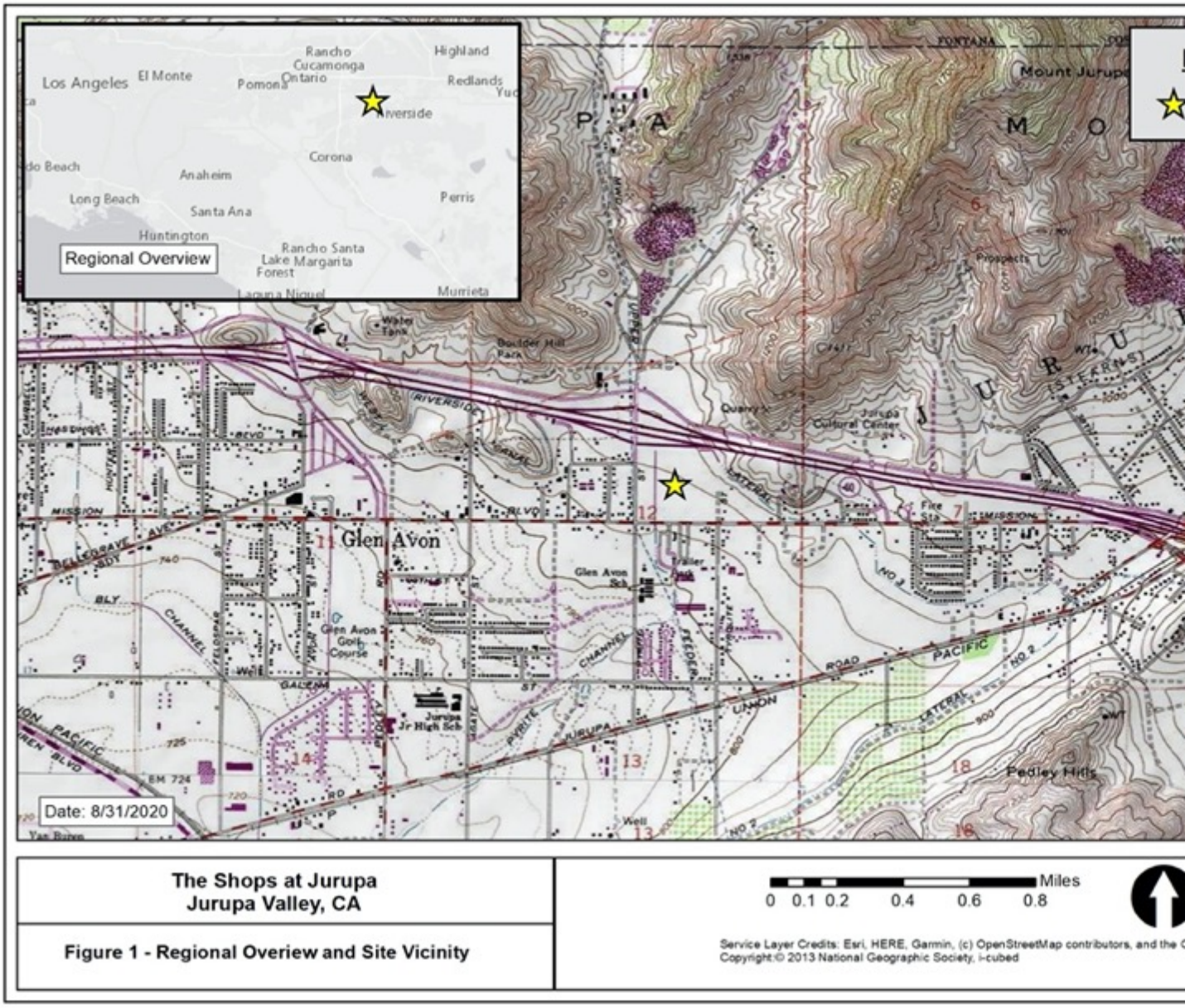
1.4. Project Proponent (Applicant)

Project Proponent
Mr. Wes Fifield
Panorama Development, LLC
2005 Winston Court
Upland, CA 91784

CEQA Contact
Unknown

Applicant
Mr. Wes Fifield
Panorama Development, LLC
2005 Winston Court
Upland, CA 91784

Preparer
Natural Resources Assessment, Inc.
3415 Valencia Hill Drive
Riverside, California 92507


Regional Overview
Los Angeles
El Monte
Pomona
Rancho Cucamonga
Ontario
Highland
Redlands
Riverside
Corona
Anaheim
Long Beach
Santa Ana
Perris
Huntington
Rancho Santa Lake Margarita Forest
Murrieta
Mount Jurupa
Glen Avon
Pedley Hills
Date: 8/31/2020
The Shops at Jurupa
Jurupa Valley, CA
Figure 1 - Regional Overiew and Site Vicinity
Miles
0 0.1 0.2 0.4 0.6 0.8
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the
Copyright:© 2013 National Geographic Society, i-cubed

The Shops at Jurupa
Jurupa Valley, CA

Figure 2 - Site Location

Feet
0 85 170 340 510 680

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user commun
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, U
the GIS User Community

2.0 PROJECT DESCRIPTION

The property is located in Jurupa Valley, Riverside County, California It consists of two parcels (APNs 171-020-001 and 171-020-025) totaling 32 acres south of State Route 60 on the northeast corner of Pyrite Street and Mission Boulevard, and a third parcel, Pyrite Channel (APN 171-020-002) consisting of 1.47 acres. Existing development is along the western and southern borders. State Route 60 forms the northern border and open space is on the east. The parcels are also bisected by the Pyrite Channel (Figure 3) which is owned and maintained by the Riverside County Flood Control and Water Conservation District (District). The proposed Project is to develop both parcels with a shopping center. This would include the conversion of the Pyrite Channel from an open concrete trapezoidal channel to a closed channel. This would allow for the development of the property and provide adequate storm drain facilities for the area.

3.0 REGULATORY SETTINGS

3.1. Federal

3.1.1. Section 404 of the Clean Water Act

Activities within inland streams, wetlands, and riparian areas in California are regulated by agencies at the federal, state, and regional levels. At the federal level, the U.S. Army Corps of Engineers (USACE) Regulatory Program regulates activities within wetlands and waters of the US pursuant to Section 404 of the Federal Clean Water Act (CWA).

At the state level, the California Department of Fish and Wildlife (CDFW) regulates activities within the bed, bank, and associated habitat of a stream under the Fish and Game Code §§ 1600–1616. The California State Water Resources Board (SWRB) delegates authority at the regional level to Regional Water Quality Control Boards (RWQCB) that are responsible for regulating discharge into waters of the US under Section 401 of the federal CWA and waters of the State under the California Porter-Cologne Water Quality Act.

The CWA was implemented to maintain and restore the chemical, physical, and biological integrity of the Waters of the United States (33 Code of Federal Regulations [CFR] Part 328 Section 328.3). "Waters of the US" are defined as follows (taken directly from the text of the 2020 rule):

(a) *Jurisdictional waters.* For purposes of the Clean Water Act, 33 U.S.C. 1251 *et seq.* and its implementing regulations, subject to the exclusions in paragraph (b) of this section, the term ''waters of the United States'' means:

(1) The territorial seas, and waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including waters which are subject to the ebb and flow of the tide;
(2) Tributaries;
(3) Lakes and ponds, and impoundments of jurisdictional waters; and
(4) Adjacent wetlands.

(b) *Non-jurisdictional waters.* The following are not ''waters of the United States'':

(1) Waters or water features that are not identified in paragraph (a)(1), (2), (3), or (4) of this section;

Date: 8/31/2020
Pyrite St
Mission Blvd
Mission Blvd
The Shops at Jurupa
Jurupa Valley, CA
Figure 3 - Pyrite Channel Alignment
Feet
0 55 110 220 330 440
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap co
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES
the GIS User Community

(2)

(3) Groundwater, including groundwater drained through subsurface drainage systems;
(4) Ephemeral features, including ephemeral streams, swales, gullies, rills, and pools;
(5) Diffuse stormwater run-off and directional sheet flow over upland;
(5) Ditches that are not waters identified in paragraph (a)(1) or (2) of this section, and those portions of ditches constructed in waters identified in paragraph (a)(4) of this section that do not satisfy the conditions of paragraph (c)(1) of this section;
(6) Prior converted cropland;
(7) Artificially irrigated areas, including fields flooded for agricultural production, that would revert to upland should application of irrigation water to that area cease;Artificial lakes and ponds, including water storage reservoirs and farm, irrigation, stock watering, and log cleaning ponds, constructed or excavated in upland or in nonjurisdictional waters, so long as those artificial lakes and ponds are not impoundments of jurisdictional waters that meet the conditions of paragraph (c)(6) of this section;
(8) Water-filled depressions constructed or excavated in upland or in non-jurisdictional waters incidental to mining or construction activity, and pits excavated in upland or in nonjurisdictional waters for the purpose of obtaining fill, sand, or gravel;
(9) Stormwater control features constructed or excavated in upland or in non-jurisdictional waters to convey, treat, infiltrate, or store stormwater runoff;
(10) Groundwater recharge, water reuse, and wastewater recycling structures, including detention, retention, and infiltration basins and ponds, constructed or excavated in upland or in non-jurisdictional waters; and
(11) Waste treatment systems.

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

(1) *Adjacent wetlands*. The term *adjacent wetlands* means wetlands that:
  (i) Abut, meaning to touch at least at one point or side of, a water identified in paragraph (a)(1), (2), or (3) of this section;
  (ii) Are inundated by flooding from a water identified in paragraph (a)(1), (2), or (3) of this section in a typical year;
  (iii) Are physically separated from a water identified in paragraph (a)(1), (2), or (3) of this section only by a natural berm, bank, dune, or similar natural feature; or
  (iv) Are physically separated from a water identified in paragraph (a)(1), (2), or (3) of this section only by an artificial dike, barrier, or similar artificial structure so long as that structure allows for a direct hydrologic surface connection between the wetlands and the water identified in paragraph (a)(1), (2), or (3) of this section in a typical year, such as through a culvert, flood or tide gate, pump, or similar artificial feature. An adjacent wetland is jurisdictional in its entirety when a road or similar artificial structure divides the wetland, as long as the structure allows for a direct hydrologic surface connection through or over that structure in a typical year.
(2) *Ditch*. The term *ditch* means a constructed or excavated channel used to convey water.

(3) *Ephemeral*. The term *ephemeral* means surface water flowing or pooling only in direct response to precipitation (e.g., rain or snow fall).

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

(5) *Intermittent*. The term *intermittent* means surface water flowing continuously during certain times of the year and more than in direct response to precipitation (e.g., seasonally when the groundwater table is elevated or when snowpack melts).

(6) *Lakes and ponds, and impoundments of jurisdictional waters*. The term *lakes and ponds, and impoundments of jurisdictional water*s means standing bodies of open water that contribute surface water flow to a water identified in paragraph (a)(1) of this section in a typical year either directly or through one or more waters identified in paragraph (a)(2), (3), or (4) of this section. A lake, pond, or impoundment of a jurisdictional water does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a culvert, dike, spillway, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. A lake or pond, or impoundment of a jurisdictional water Start Printed Page 22339is also jurisdictional if it is inundated by flooding from a water identified in paragraph (a)(1), (2), or (3) of this section in a typical year.

(7) *Ordinary high water mark*. The term *ordinary high water mark* means 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.

(8) *Perennial*. The term *perennial* means surface water flowing continuously year-round.

(9) *Prior converted cropland*. The term prior *converted cropland* means any area that, prior to December 23, 1985, was drained or otherwise manipulated for the purpose, or having the effect, of making production of an agricultural product possible. EPA and the Corps will recognize designations of prior converted cropland made by the Secretary of Agriculture. An area is no longer considered prior converted cropland for purposes of the Clean Water Act when the area is abandoned and has reverted to wetlands, as defined in paragraph (c)(16) of this section. Abandonment occurs when prior converted cropland is not used for, or in support of, agricultural purposes at least once in the immediately preceding five years. For the purposes of

the Clean Water Act, the EPA Administrator shall have the final authority to determine whether prior converted cropland has been abandoned.

(10) *Snowpack*. The term *snowpack* means layers of snow that accumulate over extended periods of time in certain geographic regions or at high elevation (e.g., in northern climes or mountainous regions).

(11) *Tidal waters and waters subject to the ebb and flow of the tide*. The terms *tidal waters and waters subject to the ebb and flow of the tide* mean those waters that rise and fall in a predictable and measurable rhythm or cycle due to the gravitational pulls of the moon and sun. Tidal waters and waters subject to the ebb and flow of the tide end where the rise and fall of the water surface can no longer be practically measured in a predictable rhythm due to masking by hydrologic, wind, or other effects.

(12) *Tributary*. The term *tributary* means a river, stream, or similar naturally occurring surface water channel that contributes surface water flow to a water identified in paragraph (a)(1) of this section in a typical year either directly or through one or more waters identified in paragraph (a)(2), (3), or (4) of this section. A tributary must be perennial or intermittent in a typical year. The alteration or relocation of a tributary does not modify its jurisdictional status as long as it continues to satisfy the flow conditions of this definition. A tributary does not lose its jurisdictional status if it contributes surface water flow to a downstream jurisdictional water in a typical year through a channelized non-jurisdictional surface water feature, through a subterranean river, through a culvert, dam, tunnel, or similar artificial feature, or through a debris pile, boulder field, or similar natural feature. The term tributary includes a ditch that either relocates a tributary, is constructed in a tributary, or is constructed in an adjacent wetland as long as the ditch satisfies the flow conditions of this definition.

(13) *Typical year*. The term *typical year* means when precipitation and other climatic variables are within the normal periodic range (e.g., seasonally, annually) for the geographic area of the applicable aquatic resource based on a rolling thirty-year period.

(14) *Upland*. The term *upland* means any land area that under normal circumstances does not satisfy all three wetland factors (i.e., hydrology, hydrophytic vegetation, hydric soils) identified in paragraph (c)(16) of this section, and does not lie below the ordinary high water mark or the high tide line of a jurisdictional water.

(15) *Waste treatment system*. The term *waste treatment system* includes all components, including lagoons and treatment ponds (such as settling or cooling ponds), designed to either convey or retain, concentrate, settle, reduce, or remove pollutants, either actively or passively, from wastewater prior to discharge (or eliminating any such discharge).

(16) *Wetlands*. The term *wetlands* means areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.

Section 404 (b)(1) compliance must be demonstrated before a Section 404 permit can be issued. Guidelines for a Section 404(b)(1) analysis were developed by the EPA in conjunction with USACE (40 CFR Parts 230). The guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

3.1.2. Fish and Wildlife Coordination Act

Under the Fish and Wildlife Coordination Act (16 U.S.C. 661-666), project proponents are required to consult with the United States Fish and Wildlife Service and the appropriate state wildlife agency for any federal project where the waters of any stream or other body of water are impounded, diverted, deepened, or otherwise modified. These agencies prepare reports and recommendations that document project effects on wildlife and identify measures that may be adopted to prevent loss or damage to wildlife resources. The term "wildlife" includes both animals and plants. Provisions of the Fish and Wildlife Coordination Act are implemented through the National Environmental Policy Act process and Section 404 permit process.

3.1.3. Executive Order 11990 for Protection of Wetlands

Executive Order 11990 for the Protection of Wetlands (May 24, 1977) establishes a national policy to avoid adverse impacts on wetlands whenever there is a practicable alternative. On federally funded projects, impacts on wetlands must be identified in the environmental document. Alternatives that avoid wetlands must be considered. If wetland impacts cannot be avoided, then all practicable measures to minimize harm must be included. This must be documented in a specific "Wetlands Only Practicable Alternative Finding" in the final environmental document. An additional requirement is to provide early public involvement for projects affecting wetlands.

3.2. State

3.2.1. Waters of the State

The California State Water Resources Control Board (SWRCB) and its Regional Water Quality Control Boards (RWQCBs) regulate discharge of waste in any region that could affect the waters of the State under the California Porter-Cologne Water Quality Act or waters of the US under Section 401 of the federal CWA.

Under the Porter-Cologne Act, a Report of Waste Discharge must be submitted prior to discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the State (California Water Code § 13260). Waste Discharge Requirements (WDRs) or a waiver of WDRs will then be issued by the RWQCB. Waters of the State are defined as any surface water or groundwater, including saline waters that are within the boundaries of the state (California Water Code § 13050). This differs from the CWA definition of waters of the US by its inclusion of groundwater and waters outside the ordinary high-water mark in its jurisdiction.

Although all waters of the US also fall under the category of waters of the State, some waters of the State may be identified beyond the delineation of waters of the US, and the RWQCB may exert authority to regulate waste discharge into these waters even if the waters do not fall under USACE federal jurisdiction. All projects that have a federal component and may affect waters of the US, including those that require a

Section 404 Permit from the USACE, must also comply with Section 401 of the CWA. If discharge into waters of the US is being proposed, a 401 Water Quality Certification from the RWQCB is required (23 California Code of Regulation §§ 3830–3869) in addition to obtaining WDRs for impacts to waters of the State.

3.2.2. California Fish and Game Code §§ 1600–1616: Streambeds and Banks and Riparian Habitat

The CDFW asserts jurisdiction over the bed and bank of a stream and associated wildlife and habitats as established in California Fish and Game Code §§ 1600–1616. In accordance with § 1602 of the code (Streambed Alteration), the CDFW regulates activities that will "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake, or 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" and requires notification prior to such activities. In addition, § 1603 of the code states that "after the notification is complete, the department shall determine whether the activity may substantially adversely affect an existing fish and wildlife resource," and a Lake and Streambed Agreement (LSA) may be pursued.

These regulations were established to protect the wildlife resources that are associated with the riparian habitats that occur within and adjacent to ephemeral or year-round drainage systems. The CDFW jurisdiction area is often defined in practice as the top of bank of the stream or to the limit (outer dripline) of the adjacent riparian vegetation.[1]

3.3. Local

3.3.1. Protection of Species Associated with Riparian/Riverine Areas and Vernal Pools

The Riverside County Multiple Species Habitat Conservation Plan (MSHCP) defines Riverine/Riparian Areas as "lands which contain Habitat dominated by trees, shrubs, persistent emergents, or emergent mosses and lichens, which occur close to or which depend upon soil moisture from a nearby fresh water source; or areas with fresh water flow during all or a portion of the year". The goal of this MSHCP section is to ensure protection of wetland resources in the MSHCP area.

Project proponents are expected to avoid or mitigate identified and mapped riparian resources not necessary for inclusion in the MSHCP Conservation Area, pursuant to CEQA. The ultimate goal is preservation of wetland functions and values, so permittees are required to develop project alternatives demonstrating efforts that first avoid, and then minimize direct and indirect effects to the wetlands. An avoidance alternative shall be selected, if feasible. If an avoidance alternative is selected, measures shall be incorporated into the project design to ensure the long-term Conservation of the areas to be avoided, and associated functions and values, through the use of deed restrictions, conservation easement, or other appropriate mechanisms.

[1] Note that "any river, stream or lake" includes those that are episodic (dry for periods of time) as well as those that are perennial. This includes ephemeral streams, desert washes, and watercourses with a subsurface flow. Permits may also apply to work undertaken within the flood plain of a body of water.

If an avoidance alternative is not Feasible and a practicable alternative is instead selected, the MSHCP requires a determination of biologically equivalent or superior preservation plan (DBESP) by the Permittee to ensure replacement of any lost functions and values of Habitat as it relates to Covered Species. Requirements for this are set forth in the MSHCP guidance documents, but include:

- A definition of the project area.
- A written project description, demonstrating why an avoidance alternative is not possible.
- A written description of biological information available for the project site including the results of resource mapping.
- Quantification of unavoidable impacts to riparian/riverine areas and vernal pools associated with the project, including direct and indirect effects.
- A written description of project design features and mitigation measures that reduce indirect effects, such as edge treatments, landscaping, elevation difference, minimization and/or compensation through restoration or enhancement.
- A finding demonstrating that although the proposed project would not avoid impacts, with proposed design and compensation measures, the project would be biologically equivalent or superior to that which would occur under an avoidance alternative without these measures, based on one or more of the following factors:
- effects on Conserved Habitats;
- effects on the species listed above under the heading, "Purpose" and,
- effects on riparian linkages and function of the MSHCP Conservation Area

Prior to approval of Biologically Equivalent or Superior Preservation Determinations, the Wildlife Agencies shall be notified and be provided a 60-day review and response period. A written record of determinations shall be maintained and shall be included in the annual reporting documentation prepared by the Permittees and submitted to the Wildlife Agencies as set forth in Section 6.11 the MSHCP.

4.0 METHODS

4.1. Literature Review

Prior to the field visit, available databases, and documentation relevant to the project site were reviewed. Historical aerial photographs were also examined to gain an understanding of the impact of land use on natural drainage patterns in the area. Review of relevant literature and materials was used to preliminarily identify areas that may fall under agency jurisdiction. The following resources were reviewed or used prior to the field surveys:

- The Corps of Engineers Wetlands Delineation Manual (USACE 1987);
- Murrieta 7.5-minute USGS Quadrangle;

- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0) (USACE 2008);
- A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States (Lichvar and McColley 2008);
- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory Wetland Geodatabase (USFWS 2018);
- Arid West 2016 Regional Wetland Plant List (Lichvar et al. 2016);
- *Hydric Soils List of California*, 2018 (Natural Resources Conservation Services 2018); and,
- Previous jurisdictional determinations by the USACE near the project area.
- Corps Navigable Waters Protection Rule 2020 (Army Corps of Engineer 2020).

A complete list of references is provided as part of the report.

4.2. Field Survey

A field survey was conducted on August 28, 2020, between the hours of 0800 and 0930. The temperatures ranged from 73 to 83 degrees Fahrenheit (°F), with no cloud cover or precipitation.

During the field survey, boundaries and dimensions of jurisdictional features were recorded on aerial photographs, Global Positioning System (GPS) units, and standardized datasheets. Features within the proposed Project were investigated for the presence of federally jurisdictional wetlands, federally jurisdictional non-wetland waters of the United States, CDFW jurisdictional streambeds including ephemeral and intermittent streambeds, RWQCB jurisdictional waters, and other water bodies, riparian habitats, potential wetlands, and connectivity. Where accessible, connectivity was determined by following the drainages from their origins to their terminal points. In areas with limited access or occurring on private property, connectivity was determined using USGS topographic maps, National Wetlands Inventory (NWI) maps, and Google Earth images. Water features (e.g., drainages, water bodies) within the Project limits were investigated for the presence of ordinary high-water marks (OHWM), bank to bank (BTB) measurements, and connectivity. The existing width of the water feature (e.g., OHWM or BTB) crossed by the proposed Project was measured (linear feet) in the field perpendicular to the drainage path. Reference photographs were taken during this survey and are included in Appendix A.

4.3. Hydrology

Typical hydrologic indicators were noted, if observed per the 1987 Wetland Manual and Arid West Supplement guidelines (USACE 1987, 2007. 2008b). Indicators include evidence of inundation, saturation, surface water, watermarks, drift lines, sediment deposits, destruction of vegetation, water-stained leaves, and the presence of oxidation/reduction features in the soil, among several others.

Consideration of the climate and flow frequency was given when observing watermarks and drift lines. To determine hydrologic connectivity to a TNW, aerial photographs, NWI maps, and USGS quadrangles were referenced. All features were inspected in the field on and off-site for true connectivity.

4.4. Vegetation

Hydrophytic vegetation is plant life that grows and is typically adapted for life, in permanently or periodically saturated soils. The hydrophytic vegetation criterion is met if more than 50 percent of the dominant plant species from all strata (tree, shrub, and herb layers) is considered hydrophytic. Hydrophytic species are those included on the 2020 National Wetland Plant List (Arid West Region) (USACE, 2020). Each species on the list is rated according to a wetland indicator category, as shown in Table 1. To be considered hydrophytic, the species must have wetland indicator status, i.e., be rated as OBL, FACW, or FAC.

Table 1: Wetland Indicator Vegetation Categories

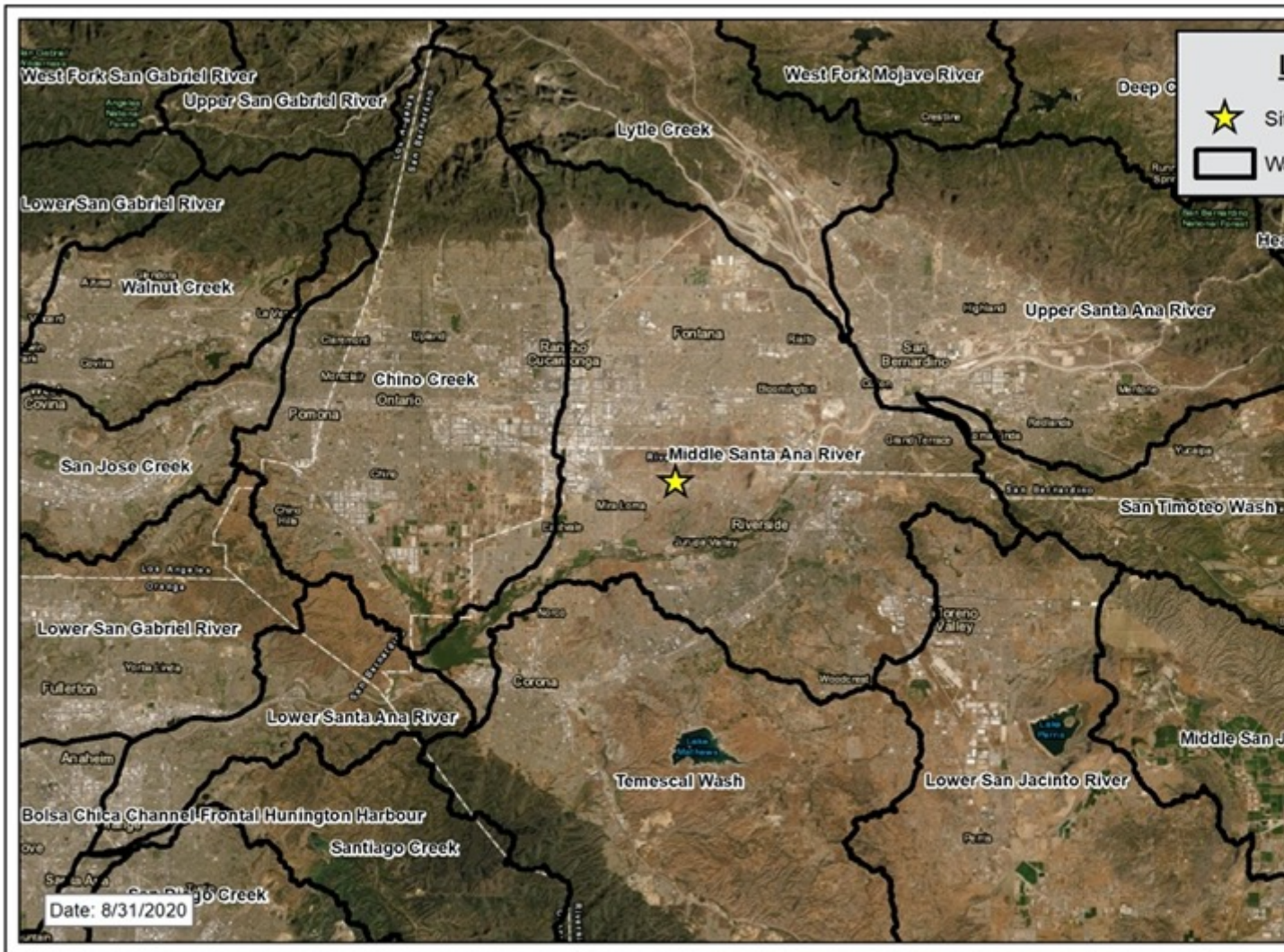
Category	Probability
Obligate Wetland (OBL)	Almost always occur in wetlands (estimated probability >99%)
Facultative Wetland (FACW)	Usually occur in wetlands (estimated probability 67 to 99%)
Facultative (FAC)	Equally likely to occur in wetlands and non-wetlands (estimated probability 34 to 66%)
Facultative Upland (FACU)	Usually occur in non-wetlands (estimated probability 67 to 99%)
Obligate Upland (UPL)	Almost always occur in non-wetlands (estimated probability >99%)

5.0 ENVIRONMENTAL SETTING

The following sections provide context and background by describing soils, vegetation, and hydrological features within the Project site. The results of the field delineation are presented below. Site photographs are included in Appendix A.

5.1. Hydrology and Hydrologic Connectivity

Hydrologically, the project site is located within Chino Hydrologic Sub-Area (HSA 801.21) which comprises a 190,515-acre drainage area within the larger Middle Santa Ana River (Hydrologic Unit Code [HUC10] 1807020308) (CalTrans, 2020) (Figure 4). The Middle Santa Ana River watershed in Jurupa Valley is bordered to the north by the Lytle Creek watershed, to the east by the Upper Santa Ana River and the San Timoteo Wash watersheds, to the south by the Lower San Jacinto River and Temescal Wash watersheds, and to the west by the Chino Creek and Lower Santa Ana River watersheds.


West Fork San Gabriel River
Upper San Gabriel River
Lower San Gabriel River
Walnut Creek
Chino Creek
San Jose Creek
Lower San Gabriel River
Lower Santa Ana River
Bolsa Chica Channel
Frontal Hunington Harbour
Santiago Creek
Lytle Creek
West Fork Mojave River
Upper Santa Ana River
Middle Santa Ana River
San Timoteo Wash
Temescal Wash
Lower San Jacinto River
Fontana
Rancho Cucamonga
Ontario
Pomona
San Bernardino
Riverside
Corona
Fullerton
Anaheim
Date: 8/31/2020
The Shops at Jurupa
Jurupa Valley, CA
Figure 4 - Watershed Boundary
Miles
0 2 4 8 12 16
Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors, and
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, U
the GIS User Community

5.2. Soils

After a review of the USDA NRCS Web Soil Survey (USDA, 2020), it was determined that the Project site is located within the Western Riverside Area, California area CA679. Based on the results of the database search none of the soils present on site are classified as hydric soils. The Project site contains 5 soil types (Figure 5):

Hanford loamy fine sand (HaC), 0 to 8 percent slopes is a well-drained soil with a high capacity to transmit water and is typically found from 150 to 900 feet amsl. This soil is typically composed of alluvium derived from granite and is considered prime farmland if irrigated.

Hanford coarse sandy loam (HcC), 2 to 8 percent slopes is a well-drained soil with a high capacity to transmit water and is typically found from 150 to 900 feet amsl. This soil is typically composed of alluvium derived from granite and is considered prime farmland if irrigated.

Madera fine sandy loam (MbC2), 2 to 8 percent slopes is a moderately well-drained soil with a very low capacity to transmit water and is typically found from 20 to 250 feet amsl. This soil is typically composed of alluvium derived from granite and is not considered prime farmland.

Ramona sandy loam (RaB2), 2 to 5 percent slopes is a well-drained soil with a moderately high capacity to transmit water and is typically found from 250 to 3,500 feet amsl. This soil is typically composed of alluvium derived from granite and is considered prime farmland if irrigated.

Ramona sandy loam (RaB3), 0 to 5 percent slopes is a well-drained soil with a moderately high capacity to transmit water and is typically found from 250 to 3,500 feet amsl. This soil is typically composed of alluvium derived from granite and is considered prime farmland if irrigated.

5.3. Vegetation

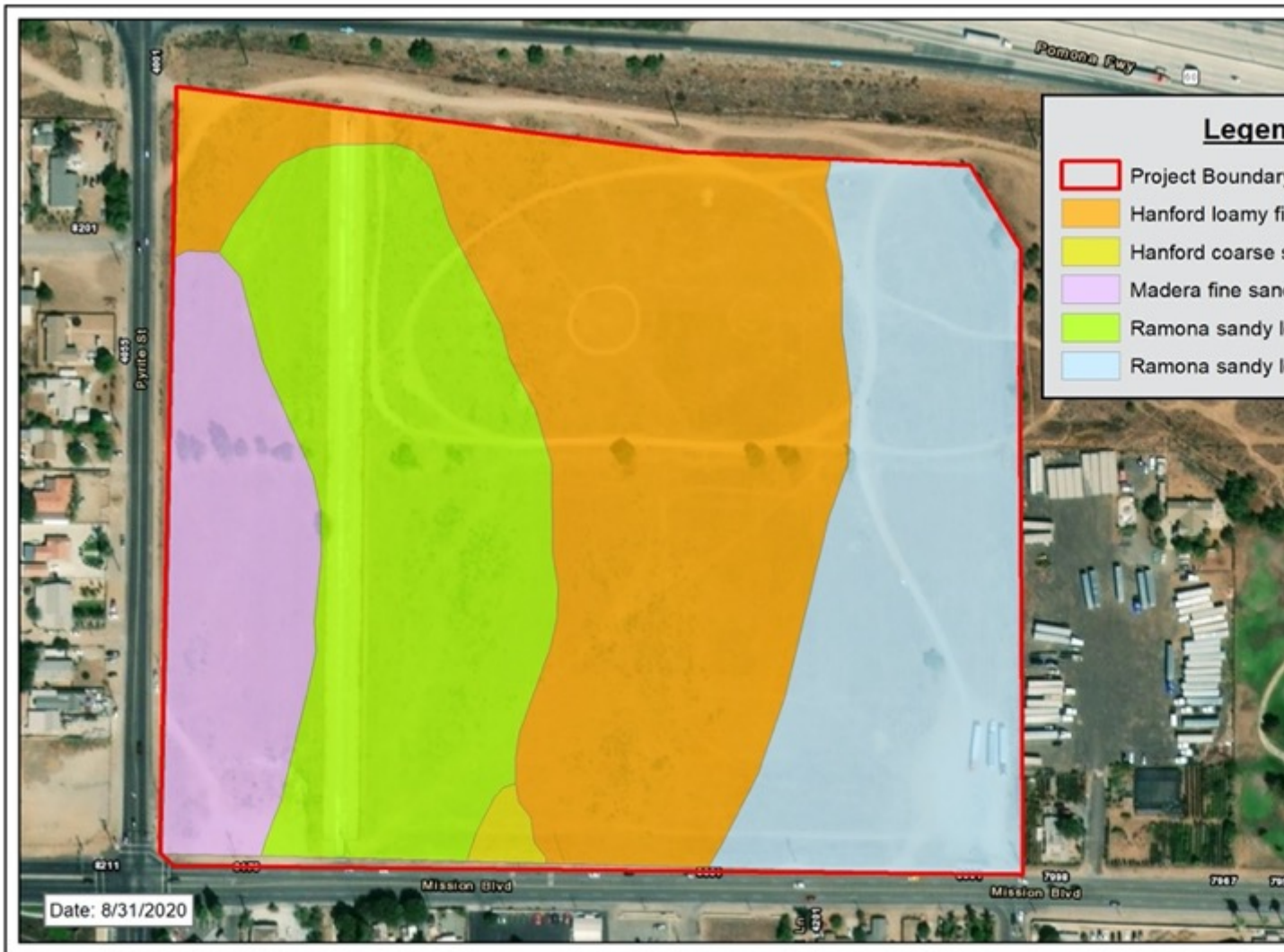
The Project site is completely disturbed and contains only ruderal vegetation and bare ground. Additionally, the Western Riverside Multi-Species Habitat Conservation Plan (MSHCP) has the vegetation community mapped as disturbed/developed (MSHCP, 2012). The site is bounded by developed parcels to the south, east, and west and the 60 freeway to the north.

5.4. Wetlands

Although the National Wetlands Inventory (NWI) maps identify the Pyrite Channel as a Riverine Habitat, the District has improved the channel and has converted the area to a concrete trapezoidal channel and no other features were present on site. None of the requirements for wetland designation (hydric vegetation, hydric soils, and/or wetland hydrology) were present on site. As such, there are no wetlands currently present on site.

5.5. Vernal Pools

There is no historical, biological, or hydrological evidence that would indicate the presence of vernal pools. No vernal swales, vernal pool-like ephemeral ponds, or stock ponds are present on site. None of the mapped soils on site are listed on the USDA-NRCS National Hydric Soils List. The duration, timing, and



The Shops at Jurupa
Jurupa Valley, CA

Figure 5 - Soils Overlay

0 75 150 300 450 600 Feet

Service Layer Credits: Esri, HERE, Garmin, (c) OpenStreetMap contributors
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user commun
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, U
the GIS User Community

frequency of inundation on-site provides no indication or validation of vernal pool ecology. Water does not accumulate on the surface for seasonal periods (more than 3 weeks) of inundation. Clay soils are not mapped on-site. The site as a whole lacks the water retention capabilities necessary to support vernal pools. The biological functions and values of Vernal Pools do not exist on site.

5.6. Summary of Jurisdictional Findings

The site does contain a portion of the Pyrite Channel, a facility owned and maintained by the District. The Pyrite Channel is a concrete lined trapezoidal channel which does not have any vegetation present onsite. Sheet flows that enter the channel flow south to the intersection of Pyrite Street and Lone Trail where the Pyrite Channel then converts to an underground facility and continues south to its terminus at the Jurupa Channel.

The Jurupa Channel then flows southwest until it undergrounds at the intersection of Jurupa Road and Agate Street, approximately 0.5 mile from the Pyrite Channel connection (Figure 6, Photos 5 – 7). Flows from the Jurupa Channel exit the underground portion and daylight onto a vacant portion of the adjacent parcel. Flows are then lost to sheet flow and various homeowner improvements, however, based on further analysis by the City of Jurupa Valley there remains a tenuous sheet flow connection to the Santa Ana River.

Therefore, the Pyrite Channel does not meet the definition of streams, channels, washes, or swales as described in Section 1600 of the State of California Fish and Game Code (FGC) under the jurisdiction of the CDFW, Section 401 ("Waters of the State") of the Clean Water Act (CWA) under the jurisdiction of the Regional Water Quality Control Board (RWQCB), or "Waters of the United States" (WoUS) as defined by Section 404 of the CWA under the jurisdiction of the U.S. Army Corps of Engineers (Corps). No regulatory permits from these agencies will be required for this project.

5.7. MSHCP 6.1.2 Impacts

Section 6.1.2 of the Western Riverside County Multi-Species Habitat Conservation Plan (MSHCP) requires an assessment of the potentially significant effects of a project on riparian/riverine habitat and vernal pools. This assessment is independent of considerations given to "waters of the United States" and "waters of the State" protected under the federal CWA and the California FGC. Projects that propose to impact riparian/riverine or vernal pool resources within the MSHCP Plan Area, that cannot be avoided, require a mitigation strategy called a DBESP analysis to ensure that the proposed alternative provides for "replacement of any lost functions and values of Habitat.

The purpose of a DBESP analysis is to demonstrate that proposed mitigation would provide an equivalent or superior preservation of habitat function and value of riparian/riverine resources. The factors to be considered in analyzing the function and value include hydrologic regime, flood storage, and flood flow modification, nutrient retention and transformation, sediment trapping and transport, toxicant trapping, public use, wildlife habitat, and aquatic habitat.

In determining impacts to downstream riverine/riparian habitat, the factors to be considered in analyzing the function and value of these resources include hydrologic regime, flood storage, and flood flow

modification, nutrient retention and transformation, sediment trapping and transport, toxicant trapping, public use, wildlife habitat, and aquatic habitat.

The Pyrite Channel does not function as a traditional riparian system, but rather as a part of the local flood control system. It provides low value for traditional riparian system functions as hydrologic regime, flood storage and flood flow modification, and sediment trapping and transport. This is largely due to the lack of habitat, its landscape position, and the relatively small drainage area that it serves.

The proposed improvements will maintain the existing drainage patterns. Stormwater runoff and nuisance flows from the Project site will sheetflow and gutterflow to various curb opening and drop inlets along Pyrite Street and Mission Boulevard. The underground on-site storm drain system will then route flows to the Pyrite Channel.

Due to the commercial nature of the proposed Project, Pyrite Channel will be converted into a 12'x 6' reinforced concrete box (RCB) structure and placed underground. To address downstream water quality impacts, the site will be designed with two drainage areas. Each drainage area will have a separate underground storm drain system that will connect to the RCB at the southern boundary. Before water quality flows enter the box structure, they will be diverted to underground detention and infiltration systems. In addition, vegetated swales will be placed throughout the Project site to decrease the required treated design capture volume in the downstream systems that ultimately discharges into the Santa Ana River.

The hydraulic analysis shows that the peak flow for the Pyrite Channel shows a change in velocity from 24.2 feet per second under existing conditions to 24.3 feet per second under post-project conditions (Madole & Associates Inc. 2020). The changed conditions include the project's contribution to the total hydrologic flow.

The 0.1 feet per second difference in velocity is inside the statistical margin of error of the analysis and insignificant. No change in scour at the outlet end of the concrete box is anticipated.

6.0 CONCLUSIONS AND CERTIFICATION

The project site has been subject to historical disturbance and shows signs of recent grading activities. Additionally, the Pyrite Channel was installed by the District. Although the Pyrite Channel does convey flows off site, there are no indications that the channel meets any of the specific qualifications to fall under the jurisdiction of the CDFW, RWQCB, or the Corps.

The wildlife value of the Pyrite Channel is near zero. The only wildlife value is the occasional water in the Channel found after rainfall. The channel is completely fenced-in, eliminating or substantially reducing wildlife access apart from birds. Other functions do not exist because of the concrete sides and bottom of the channel.

The current minimal wildlife value of occasional surface water along the actual channel will be lost. No other wildlife values will be substantially affected.

Flow rates and water volume to downstream areas will not be altered from existing conditions. The underground detention and infiltration systems, as well as vegetated swales around the project, will serve to eliminate contamination downstream.

The Project is compliant with Section 6.1.2 of the MSHCP as there are no significant impacts to Riverine areas within the site, nor are there any significant downstream impacts to Riverine/Riparian areas.

7.0 REFERENCES

Army Corps of Engineers, 2020. The Navigable Waters Protection Rule: Definition of ''Waters of the United States''. Federal Register. Vol. 85, No. 77. Tuesday, April 21, 2020.

Baldwin, B.G., D.J. Keil, R. Patterson, T.J. Rosatti, and D.H. Wilken (editors), 2012. *The Jepson Manual: Vascular Plants of California, Second Edition*. University of California Press. Berkeley and Los Angeles, California.

Barbour, M.G., J.H. Burk, W.D. Pitts, F.S. Gilliam, and M.W. Schwartz, 1999. *Terrestrial Plant Ecology*, Third Edition. Addison Wesley Longman, Inc. Menlo Park, CA.

California State Water Resources Control Board, 2018. *Porter-Cologne Water Quality Act, Water Code Division 7 and Related Sections* (As Amended, including Statutes 2017), January 2018.

Calflora, 2020. The Calflora Database: information on California plants for education, research and conservation [web application]. The Calflora Database, Berkeley, California. http://www.calflora.org/. Accessed August 2020.

Dudek and Associates, Inc. (Dudek), 2003. Western Riverside County Multiple Species Habitat Conservation Plan (Prepared for the Riverside County Integrated Project). Encinitas, CA: Dudek. http://www.wrc- rca.org/about-rca/multiple-species-habitat-conservation-plan/.

Google, 2020, Google Earth Pro, 7.3.1.4507 (64-bit). Microsoft Windows (6.2.9200.0). kh.google.com Accessed August 2020.

Lichvar, R.W., D.L. Banks, W.N. Kirchner, and N.C. Melvin, 2016. The National Wetland Plant List: 2016 wetland ratings. Phytoneuron 2016-30: 1–17. Published 28 April 2016. ISSN 2153 733X.

Lichvar, R.W. and S.M., McColley. 2008. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States: A Delineation Manual* (No. ERDC/CRREL-TR-08-12). Engineer Research And Development Center Hanover Nh Cold Regions Research And Engineering Lab.

Madole & Associates. 2020. Tentative Parcel Map 37890, The Shops at Jurupa Valley in the City of Jurupa Valley, CA. Preliminary Drainage Study. https://madoleinc.sharefile.com/share/view/se2fd9953cb604cefbcb77cb7db84f4ba

Reed, Jr., P. B. 2016. National List of Plant Species That Occur in Wetlands: California (Region 0). U.S. Fish and Wildlife Service Biological Report 88 (26.10).

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens, 2009. *A Manual of California Vegetation*, Second Edition. California Native Plant Society, Sacramento, California.

U.S. Army Corps of Engineers (USACE), 1987. *U.S. Army Corps of Engineers Wetlands Delineation Manual*. Wetlands Research Program Technical Report Y-87-1. Department of the Army, Vicksburg, Virginia. U.S. Army Waterways Experiment Station. Hickman. J.C. [ed.].

U.S. Army Corps of Engineers (USACE), 2007. *Jurisdictional Determination Form Instructional Guidebook*, Prepared by USACE and Environmental Protection Agency.

_____ 2008a. *A Field Guide to the Identification of the OHWM in the Arid West Region of the Western U.S., A Delineation Manual*.

____, 2008b. *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. Noble. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

____, 2020. National Wetland Plant List, Federal Register/Vol. 85, No. 96, May 18, 2020/Notices/29689. https://www.govinfo.gov/content/pkg/FR-2020-05-18/pdf/2020-10630.pdf

U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS), 2020. USDA Web Soil Survey. http://websoilsurvey.nrcs.usda.gov/. Accessed August 2020.

U.S. Geological Survey, 1973. 7.5-minute quadrangle. https://nationalmap.gov/ustopo/. Accessed August 2020.

Appendix A. Photographs

	Photo 1 – Southern portion of parcel. Facing north, upstream of Pyrite Channel.

	Photo 2 – Southern portion of parcel. Showing Pyrite Channel undercrossing of Mission Blvd.

	Photo 3 – Southern portion of parcel facing north. Showing disced vacant parcel and Pyrite Channel.

Photo 5 – Southeastern portion of parcel. Facing east. Showing the location of the road culvert outlet, with no evidence of flow.