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# 3.0 Methodology

#### 3.1 Jurisdictional Waters

Prior to the field investigation, CSLS biologists reviewed historic aerial imagery, topographic maps, and background information for the Study Area to determine the potential for perennial, intermittent, or ephemeral drainages and associated riparian resources.

# 3.1.1 Federal Clean Water Act (CWA)

The Clean Water Act (CWA), Section 401 provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires a project operator to obtain a federal license or permit that allows activities resulting in a discharge to waters of the United States to obtain state certification, thereby ensuring that the discharge will comply with provisions of the CWA. The Regional Water Quality Control Board administers the certification program in California. Section 404 establishes a permit program administered by the United States Army Corps of Engineers (Corps) that regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The Corps implementing regulations are found at 33 CFR 320 and 330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines, which were developed by the United States Environmental Protection Agency in conjunction with the Corps (40 CFR 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 Wetlands and Other Waters of the United States

Aquatic resources, including riparian areas, wetlands, and certain aquatic vegetation communities, are considered sensitive biological resources and fall under the jurisdiction of several regulatory agencies. The Corps exerts jurisdiction over waters of the United States, including all waters that are subject to the ebb and flow of the tide; wetlands and other waters such as lakes, rivers, streams (including intermittent or ephemeral streams), mudflats, sandflats, sloughs, prairie potholes, vernal pools, wet meadows, playa lakes, or natural ponds; and tributaries of the above features. The extent of waters of the United States is generally defined as the portion that falls within the limits of the Ordinary High-Water Mark (OHWM). The OHWM is defined as the "line on the shore established by the fluctuation 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."

The definition of Navigable Waters has undergone several iterations, including a much more streamlined definition which was published and formally adopted in April 2020. However, in August 2021, the April 2020 Navigable Waters definition was challenged in the case Pascua Yaqui Tribe v. U.S. Environmental Protection Agency. In light of this case and subsequent order from US District Court for the District of Arizona, the U.S. Environmental Protection Agency (EPA) and Corps have halted implementation of the Navigable Waters Protection Rule from 2020 and

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are interpreting "waters of the United States" consistent with the pre-2015 regulatory regime until further notice.

The pre-2015 definition of Navigable Waters includes (1) 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; (2) All interstate waters including interstate wetlands; (3) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters: (4) All impoundments of waters otherwise defined as waters of the United States under this definition; (5) Tributaries of waters identified in paragraphs (s)(1) through (4) of this section; (6) The territorial sea; and (7) Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (s)(1) through (6) of this section..

Wetlands, including swamps, bogs, seasonal wetlands, seeps, marshes, and similar areas, are defined by Corps as "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" (33 CFR 328.3[b]; 40 CFR 230.3[t]). Indicators of three wetland parameters (i.e., hydric soils, hydrophytic vegetation, and wetlands hydrology), as determined by field investigation, must be present for a site to be classified as a wetland by Corps (USACE 1987).

It is important to note that the RWQCB definition of wetland was redefined and the new definition went into effect May 28, 2020. The definition of a wetland is as follows: An area is 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. This RWQCB modified three-parameter definition is similar to the federal definition in that it identifies three wetland characteristics that determine the presence of a wetland: wetland hydrology, hydric soils, and hydrophytic vegetation. Unlike the federal definition, however, the RWQCB wetland definition allows for the presence of hydric substrates as a criterion for wetland identification (not just wetland soils) and wetland hydrology for an area devoid of vegetation (less than 5% cover) to be considered a wetland.

However, if any vegetation is present, then the Corps delineation procedures would apply to the vegetated component (i.e., hydrophytes must dominate). Examples of waters that would be considered wetlands by the RWQCB definition, but not by the federal wetland definition, are non-vegetated wetlands, or wetlands characterized by exposed bare substrates like mudflats and playas, as long as they meet the three-parameters as described in the RWQCB definition. It

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is important to note that while the Corps may not designate a feature as a wetland, that feature could be considered a special aquatic site or other water of the U.S. by the Corps and potentially subject to Corps' jurisdiction.

# 3.1.3 Porter-Cologne Water Quality Act - California Code, Division 7

The RWQCB also has jurisdiction over waters deemed "isolated" or not subject to Section 404 jurisdiction under the *Solid Waste Agency of Northern Cook County v. Corps* decision. Dredging, filling, or excavation of isolated waters constitutes a discharge of waste to waters of the state and prospective dischargers are required to obtain authorization through an Order of Waste Discharge or waiver thereof from the RWQCB and comply with other requirements of Porter-Cologne Act.

Under Section 401 of the CWA, the local RWQCB must certify that actions receiving authorization under Section 404 of the CWA also meet state water quality standards. The RWQCB requires projects to avoid impacts to wetlands if feasible and requires that projects do not result in a net loss of wetland acreage or a net loss of wetland function and values. Compensatory mitigation for impacts to wetlands and/or waters of the state is required.

# 3.1.4 <u>California Fish and Game Code Section 1600-1616</u>

Waters of the State are regulated by the California Department of Fish and Wildlife (CDFW) through Section 1600 et seq. of the California Fish and Game Code. Section 1600 et seq. requires notifying the CDFW prior to any project activity that might (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. If, after this notification, the CDFW determines that the activity may substantially adversely affect fish and wildlife resources, a Lake or Streambed Alteration Agreement will need to be obtained. CDFW may then place conditions in the Section 1602 Streambed Alteration Agreement to avoid, minimize, and mitigate any potentially significant adverse impacts within CDFW jurisdictional limits.

The limits of Waters of the State are defined as the "body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation." Therefore, the limits extend from the channel bed to the top of the bank, with the addition of the canopy of any riparian habitat associated with the watercourse.

#### 4.0 Results

### 4.1 Jurisdictional Waters

Prior to the site visit, a thorough review of historic aerials was performed to help determine the presence of historical or current jurisdictional features. Further, the National Wetlands Inventory map was reviewed, along with USGS 7.5-minute topo map to determine the potential presence or absence of jurisdictional streams/drainages, wetlands, and their location within any watersheds associated with the site, and other features that might contribute to federal authority

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located within watersheds associated with the Project Site. Lastly, a field survey was performed on January 20, 2021.

The earliest aerial available on Google Earth is 1994, which was the base for the historic aerial review. As observed on the 1994 aerial, the Project Site is undisturbed. It appears a natural drainage had originated in the eastern portion of the Project Site and extended north off the Project Site, parallel to Dauchy Road, and converged with a drainage far to the north of the Project Site. In the 1994 aerial, the drainage appeared to cross over Ferrari Drive and across Cactus Avenue, eventually converging with the water course located approximately 1,000 feet in distance from the northern edge of the Project site. In 2002, the construction of the existing homes to the north and east of the Project Site and construction of Cactus Avenue appears to have interrupted the drainage course. Furthermore, during the January field survey no observations of an ordinary high-water mark occurred over Ferrari Drive. The property located to the north of Ferrari Drive is heavily vegetated with prickly pear (Opuntia littoralis) and eucalyptus species, which is associated with upland vegetation communities and not a natural drainage course. Therefore, based on the field indicators and historic aerial review, the mapping of the eastern drainage terminates at Ferrari Drive due to the lack of indicators crossing Ferrari Drive and lack of hydraulic connection to a drainage course. Patches of blue elderberry scrub, coyote bush scrub and mulefat scrub, occur on the Project Site within Unnamed Drainage A. Further, a headwall is located at the upstream end of the tributary to Unnamed Drainage A. The headwall is a stormdrain for the housing development located to the east of the Project Site.

Prenda Arroyo meanders onsite and offsite on the west side of the Project Boundary. The reach of the blue-line drainage, Prenda Arroyo, which bisects the property was not mapped as a regulated arroyo or tributary because the Project site was annexed to the City in 2007. At that time Prenda Arroyo was not mapped. At the time of the site visit, water was present and flowing in Prenda Arroyo, therefore, it is assumed the watercourse is perennial. Associated vegetation includes large stands of giant reed (*Arundo donax*) and southern willow scrub. Tributaries to Prenda Arroyo are dry and tend to consist of natural topography low points that feed into Prenda Arroyo. These tributaries are either void of vegetation or scattered upland species. Since the tributaries feed Prenda Arroyo, these features were delineated. The tributaries are generally 1 to 3 feet in width.

#### 4.2 Waters of the United States

This section relies on the term "Waters of the United States" as it applies to the jurisdictional limits under the authority of the Army Corps of Engineers definition as of April 2020 under the Clean Water Act. Based on the methodology described in Section 3.1, both literature/data base review and a field delineation were conducted to determine the presence of Waters of the United States as shown in Figure 3.

Based on the discussion and evidence presented in Section 4.1 and definition of "waters," the Unnamed Drainage A and it's single tributary are not subject to Section 404 based on the April

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2020 definition of "waters." Unnamed Drainage A is an ephemeral drainage and lacks connectivity to the large drainage course located to the north due to interruptions of flows caused by Ferrari Drive and Cactus Avenue and the homes built in 2002 to the east of the Project Site. Further, the property located north of Ferrari Drive contains upland species such as prickly pear and eucalyptus species and lacks any identifiable OHWM.

However, it is expected the Unnamed Drainage A and its associated tributary drainage course collects street run-off, as well as runoff from the residential community located to the east. While ephemeral in nature, Unnamed Drainage A and its associated tributary meets the definition of Porter-Cologne, therefore is subject to regulation by Regional Water Quality Control Board. The perennial Prenda Arroyo and its tributaries are jurisdictional under both the Section 404 and Section 401. Several tributaries were identified throughout the length of Prenda Arroyo found onsite. These tributaries contained OHWM and flow into Prenda Arroyo, therefore, while these tributaries are ephemeral in nature, they meet the definition of "waters" and are tributaries to a perennial water course and under jurisdictional regulation by the Section 404. Prenda Arroyo and its associated tributaries meet the definition of Porter-Cologne and under the jurisdictional regulation of Section 401.

Table 1 provides acreage of jurisdictional features found onsite.

Table 1. Jurisdictional Waters - Corps and RWQCB found on the Project site

Drainage	Corps Jurisdiction (wetland/non-wetland)	RWQCB Jurisdiction (wetland/non-wetland)	Linear Feet
Unnamed Drainage A	0.00 ac / 0.02 ac	0.00 ac / 0.02 ac	674
Unnamed Drainage A Tributary	0.00 ac / 0.01 ac	0.00 ac / 0.01 ac	146
Prenda Arroyo <sup>1</sup>	0.10 ac / 0.53 ac	0.10 ac / 0.53 ac	400
Prenda Arroyo - Tributaries <sup>1</sup>	0.00 ac / 0.07 ac	0.00 ac / 0.07 ac	10 - 500 <sup>2</sup>

<sup>&</sup>lt;sup>1</sup>. Prenda Arroyo and associated tributaries meanders onsite and offsite, which is not included within the onsite acreages. <sup>2</sup> Tributaries range in length from 10 to 500 feet.

#### 4.2.1 Wetlands

As outlined within the Corps and RWQCB protocol and based on soil pits and field observations, wetlands were identified or observed only within Prenda Arroyo as shown on the Figure 3.

### 4.3 Waters of the State

Based on the methodology described in Section 3.1, both literature/data base review and a field delineation were conducted to determine the presence of Waters of the State.

The Project site includes waters that meet CDFW characteristics in accordance with FGC Section 1600. Based on the discussion and evidence presented in Section 4.1, both the Unnamed Drainage A and Prenda Arroyo meet the definition of Waters of the State. The features exhibit

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biological and physical indicators of Waters of the State through the presence of channel bed and bank. The total inventory of Waters of the State is presented in Table 2 and shown on Figure 4

Table 2. Jurisdictional Waters - CDFW found on the Project site

Drainage	CDFW Jurisdiction			
Unnamed Drainage A	0.11 ac			
Unnamed Drainage A Tributary	0.07 ac			
Prenda Arroyo <sup>1</sup>	2.15 ac			
Prenda Arroyo - Tributaries <sup>1</sup>	0.05 ac			
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<sup>&</sup>lt;sup>1</sup>. Prenda Arroyo and associated tributaries meanders onsite and offsite, which is not included within the onsite acreages.

Corps/RWQCB - Wetlands

**Test Soil Pit** 

**Jurisdictional Waters** 

Project Boundary

GIS Prepared By: Carlson SLS

Created: April 14, 2022

**FIGURE 4** 

# 5.0 Impacts

Calculations of impacts were based on the currently proposed development design in combination with the jurisdictional mapping map from the field survey and aerial imagery. Impacts are presented in Tables 3 and 4 and shown on Figures 5 and 6.

Table 3. Impacts Summary to Corps and RWQCB Jurisdictional Waters

Drainage	Corps Jurisdiction (wetlands/non-wetland)		RWQCB Jurisdiction (wetlands/non-wetland)			
	Total (acres)	Impacts (acres)	Avoided (acres)	Total (acres)	Impacts (acres)	Avoided (acres)
Unnamed Drainage A	- / 0.02	- / 0.002	- / 0.018	- / 0.02	- / 0.002	- / 0.018
Unnamed Drainage A Tributary	- / 0.01	- / 0.01	- / 0.00	- / 0.01	- / 0.01	- / 0.00
Prenda Arroyo <sup>1</sup>	0.10 / 0.53	-	0.10 / 0.53	0.10 / 0.53	-	0.10 / 0.53
Prenda Arroyo - Tributaries²	- / 0.07	-/0.006 <sup>2</sup>	-/0.064	- / 0.07	-/ 0.006 <sup>2</sup>	- / 0.064
TOTAL	0.10 / 0.63	- / 0.018 <sup>2</sup>	0.10 / 0.61	0.10 / 0.63	- / 0.018 <sup>2</sup>	0.10 / 0.61

<sup>1.</sup> No Impacts are expected to occur to Prenda Arroyo.

Table 4. Impacts Summary to CDFW Jurisdictional Waters

Drainage	CDFW Jurisdiction			
	Total (acres)	Impacts (acres)	Avoided (acres)	
Unnamed Drainage A	0.11 ac	0.02	0.09	
Unnamed Drainage A Tributary	0.07 ac	0.07	0.00	
Prenda Arroyo <sup>1</sup>	2.15 ac	-	2.15	
Prenda Arroyo - Tributaries²	0.05 ac	0.006 <sup>2</sup>	0.044	
TOTAL	2.38	0.096 <sup>2</sup>	2.284	

<sup>1.</sup> No Impacts are expected to occur to Prenda Arroyo.

### 5.1.1 <u>Temporary Impacts</u>

Implementation of the Project does not include temporary impacts.

#### 5.1.2 <u>Permanent Impacts</u>

The permanent impacts to Unnamed Drainage A and associated Tributary are due to the improvements of Dauchy Avenue and Ferrari Drive, which includes on-street improvements such as sidewalks, curb, and gutter. The headwall at the upstream end of the tributary to Unnamed Drainage A, adjacent to Dauchy Avenue, will be moved to the edge of the revised right-of-way. The approximately 0.018 acres of Corps and RWQCB Jurisdictional Waters and 0.096 acres of CDFW Jurisdictional Waters impacts occur to mainly non-vegetated areas and do not occur to any wetlands.

<sup>2.</sup> The 0.005 acres of impacts to the southern-most Prenda Arroyo Tributary occur due to the construction of Victor Hugo Drive.

<sup>2.</sup> The 0.005 acres of impacts to the southern-most Prenda Arroyo Tributary occur due to the construction of Victor Hugo Drive.

No impacts are anticipated to occur to Prenda Arroyo. Permanent impacts are expected to occur to a single tributary of Prenda Arroyo. Approximately 0.006 acres of non-wetland Corps/RWQCB and CDFW jurisdictional features are anticipated to be impacted to the southern-most tributary, which is due to the construction of Victor Hugo Drive. These impacts are primarily to upland non-native and invasive species and scattered natives and do not occur to any wetlands.

### 5.1.3 <u>Mitigation</u>

As discussed above, no wetlands are impacted as part of Project implementation. Furthermore, the impacted jurisdictional waters occur within unvegetated streambeds, which consists of no vegetation or scattered invasive species, While the impacts to jurisdictional features are minor in nature, impacts to jurisdictional features would be mitigated at a minimum of 2:1 ratio to the highest jurisdictional impacts (CDFW jurisdiction) as outlined within **Mitigation Measure BIO-1**. The highest jurisdictional impacts occur to CDFW for a total of 0.096 acres, therefore a total of 0.192 acres of re-establishment credits would be purchased at Riverpark Mitigation Bank. Furthermore, a total of 2.284 acres of CDFW jurisdiction is being avoided and will be place within a Conservation Easement in favor of a conservation-mission third party (for oversight and compliance verification)as outlined within **Mitigation Measure BIO-2**. With the purchase of the mitigation credits from Riverpark Mitigation Bank, avoidance of jurisdictional features, and all avoidable drainages placed within a Conservation Easement, any potential impacts would be mitigated to a less than significant level.

Furthermore, Mitigation Measure BIO-3 through Mitigation Measure BIO-5 outlines standard best management practices and erosion control measures including the installation of construction boundaries by flagging or temporary fencing and obtaining the appropriate Regulatory Permits shall all be adhered to prior to any impacts further providing protection for the avoided Jurisdiction features onsite.

<u>Mitigation Measure BIO-1:</u> Permanent impacts to 0.096-acres of jurisdictional features will be mitigated at a 2:1 ratio through the purchase of 0.192 acres of re-establishment credits at the Riverpark Mitigation Bank. An agreement for sale of credits from the Riverpark Mitigation Bank will be submitted to the City of Riverside prior to grading permit issuance.

<u>Mitigation Measure BIO-2:</u> Prior to grading permit issuance, a conservation easement in favor of a conservation-mission third party (for oversight and compliance verification) shall be placed over all onsite "avoidance areas," including riparian/riverine resources within the western blue-line drainage, unnamed drainage A, and adjacent upland habitats.

<u>Mitigation Measure BIO-3:</u> Prior to initiation of construction, the construction contractor shall install temporary erosion control measures around avoided drainages and conservation areas to reduce impacts to onsite drainages and open space habitat from the excess sedimentation, siltation and erosion. These measures shall consist of the installation of silt fencing, coirs, berms, or dikes to protect storm drain inlets and drainages.

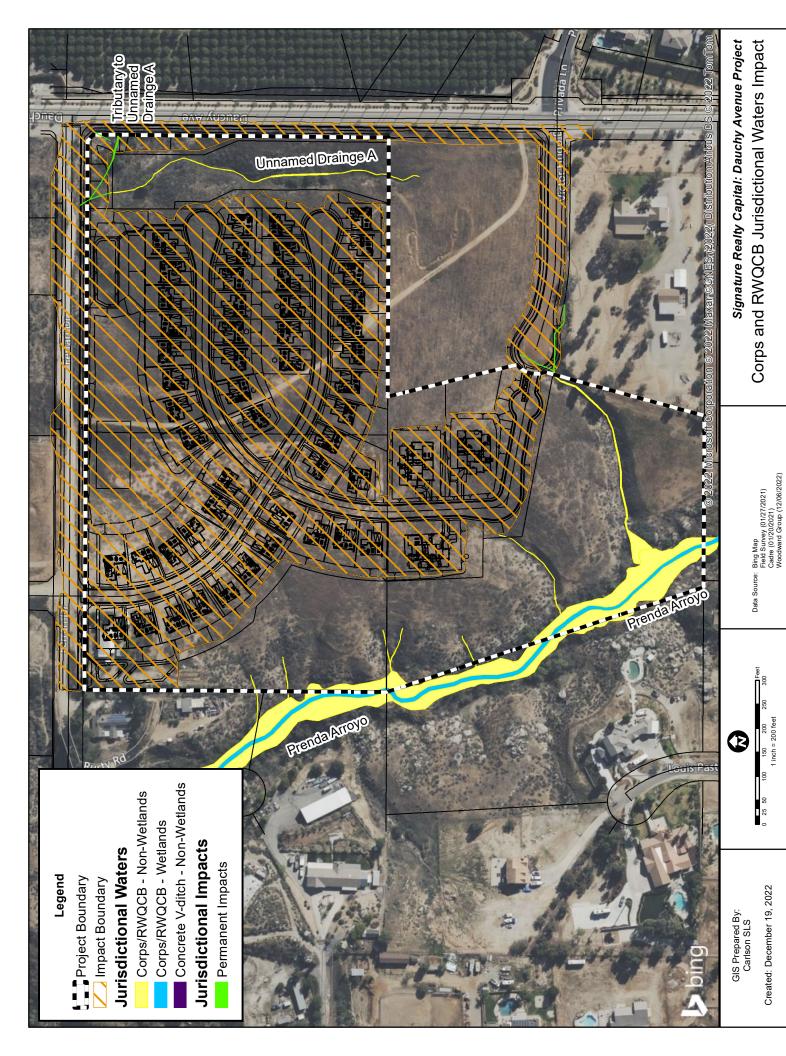
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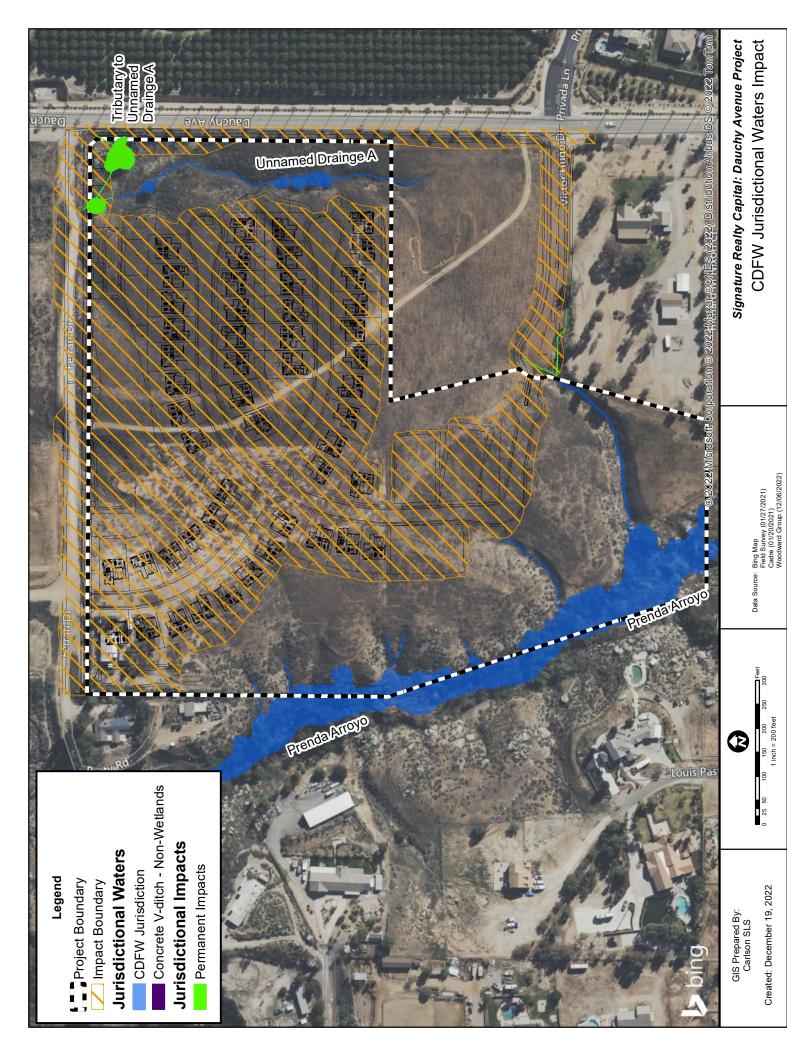
<u>Mitigation Measure BIO-4:</u> During construction of the Project, the construction contractor shall implement the following measures during construction to avoid impacts to Unnamed Drainage A and its single tributary, and western blue-line drainage and its associated tributaries:

- No changing of oil or other fluids, or discarding of any trash or other construction waste materials shall occur on the Project Site.
- Any equipment or vehicles driven and/or operated within or adjacent to onsite drains shall be checked and maintained daily, to prevent leaks of materials into onsite drainages. No equipment maintenance shall be conducted near onsite drains.

<u>Mitigation Measure BIO-5:</u> No impacts shall occur to onsite drainages until appropriate permits have been obtained from the US Army Corps of Engineers (Corps) Section 404 Nation Wide Permit, Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certificate, and/or California Department of Fish and Wildlife (CDFW) Section 1602 Streambed Alteration Agreement. Specifically, the following permits or certificated will be required:

- USACE Section 404 Nation Wide Permit
- RWQCB 401 Water Quality Certificate
- CDFW Section 1602 Streambed Alteration Agreement





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# 6.0 Summary

The Project site contains jurisdictional waters. The proposed implementation of the Project results in the following impacts to non-wetland jurisdictional features:

- 0.018 acres of Permanent Impacts of Corps Jurisdiction
- 0.018 acres of Permanent Impacts of RWQCB Jurisdiction
- 0.096 acres of Permanent Impacts of CDFW Jurisdiction

As discussed above, no impacts occur to Prenda Arroyo or wetlands as part of Project implementation. Furthermore, the permanent impacted jurisdictional waters to unvegetated streambed, which consists of no vegetation, invasive species or scattered native species, and are not considered significant due to the lack of biological habitat and is required to purchase re-establishment credits from Riverpark Mitigation Bank. Mitigation Measure BIO-1 and BIO-2, include the purchase of re-establishment mitigation credits from Riverpark Mitigation Bank and the incorporation of a conservation easement of the avoided blue-line drainage areas. Mitigation Measures BIO-3 through Mitigation Measure BIO-5 include best management practices through erosion control measures, temporary fencing or flagging construction limits, and obtaining the appropriate Regulatory Permits. With the adherence to Mitigation Measure BIO-1 through Mitigation Measure BIO-5 potential impacts to jurisdictional would be mitigated to less than significant level.

Please contact me at bbernard@carlsonsls.com or 949.542.7042, should you have any questions or comments.

Brianna Bernard Project Manager

#### **Enclosures:**

• Figures:

Figure 1: Regional Location

Figure 2: Project Site Location Map

Figure 3: Corps and RWQCB Jurisdictional Waters

Figure 4: CDFW Jurisdictional Waters

Figure 5: Corps and RWQCB Jurisdictional Waters Impact

Figure 6: CDFW Jurisdictional Waters Impact

• Attachment A: Representative Photographs





Existing headwall located at the upstream end of Unnamed Drainage A Tributary.



Looking south (upstream) at Unnamed Drainage A.

Attachment A Page 1



Looking north (downstream) at Unnamed Drainage A.



At the head of Unnamed Drainage  $\boldsymbol{\mathsf{A}}$  .

Attachment A Page 2



Southern most tributary to Prenda Arroyo, looking west.



Looking north at Prenda Arroyo.

Attachment A Page 3