

Appendix 2C
Jurisdictional Delineation

Sunset Crossings Residential Project
Initial Study

October 27, 2022

JN 184659

HIGHPOINTE COMMUNITIES, INC.Attn: *Ross Yamaguchi*

530 Technology, Suite 100

Irvine, California 92618

SUBJECT: Delineation of State and Federal Jurisdictional Waters for the Sunset Crossing TTM 38443 Project – City of Moreno Valley, County of Riverside, California

Dear Mr. Yamaguchi:

Michael Baker International (Michael Baker) has prepared this report to document the results of a literature review and formal delineation of State and federal jurisdictional waters, including wetlands, that was conducted for the proposed Sunset Crossing TTM 38443 Project (project or project site) located in the City of Moreno Valley, Riverside County, California. Specifically, the delineation was conducted to identify and document the extent of aquatic and other hydrologic features within the project site that potentially fall under the jurisdictional authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). This report summarizes the methodology utilized throughout the course of the delineation, defines the jurisdictional authority of the regulatory agencies, and documents the findings made by Michael Baker. This report presents Michael Baker's determination of jurisdictional boundaries based on the most up-to-date regulations, written policy, and guidance approved by the regulatory agencies. However, please note that only the regulatory agencies can make a final determination of jurisdictional limits.

PROJECT LOCATION

The project site is located within the City of Moreno Valley, generally to the north of Alessandro Boulevard, east of Nason Street, south of Cottonwood Avenue, and west of Marion Road (refer to Figure 1, *Regional Vicinity*, provided in Attachment A). The project site is depicted in Section 10, Township 3 South, Range 3 West, on the U.S. Geological Survey's (USGS) *Sunnymead, California 7.5-minute quadrangle map* (refer to Figure 2, *Project Vicinity*). Specifically, the project site is located on assessor's parcel numbers (APN) 488-190-005, 488-190-027, and 488-190-028, and is bounded by Cottonwood Avenue to the north, residential development and Martha Crawford Street to the northeast, undeveloped land and Bay Avenue to the south, and residential development and Nason Street to the west (refer to Figure 3, *Project Site*).

PROJECT DESCRIPTION

The proposed project includes the development of up to 134 residential units, a water basin, a park, and road construction on 28.2 gross acres (23.1 net acres). Refer to Appendix A, Conceptual Site Plan.

STATE AND FEDERAL REGULATIONS

There are three key agencies that regulate activities within inland lakes, streams, wetlands, and riparian areas in California. The USACE regulates activities that result in the discharge of dredged or fill material into waters of the U.S. (WoUS), including wetlands, pursuant to Section 404 of the federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the State agencies, the RWQCB regulates discharges to waters of the State (WotS), including wetlands, pursuant to Section 401 of the CWA, Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State; and, the CDFW regulates alterations to lakes, streambeds, and riparian habitats pursuant to Section 1600 *et seq.* of the California Fish and Game Code (CFGC).

LITERATURE REVIEW

Prior to conducting the field delineation, Michael Baker conducted a review of relevant literature and materials to obtain a general understanding of the environmental setting and preliminarily identify features/areas within the project site that may fall under the jurisdiction of the regulatory agencies. Refer to the subsections below for a summary of relevant materials, databases, technical reports, and guidance documents that were obtained/reviewed by Michael Baker. In addition, a complete list of references is provided as Attachment G to this report.

San Jacinto River Watershed

The project site is located within the Perris Valley Hydrologic Subarea 802.11 (HSA) of the Perris Hydrologic Area 802.10 (HA), which in turn is located within the San Jacinto Valley Hydrologic Unit (802.0) of the larger San Jacinto River Watershed (HUC 18070202). The San Jacinto River Watershed covers approximately 780 square miles within western Riverside County. Flows originate in Santa Rosa and the San Jacinto Mountains and form the San Jacinto River, which flows generally west until terminating at the lowest point within the watershed at Lake Elsinore. Tributaries to the San Jacinto River include Cottonwood Canyon Creek, Canyon Lake, Salt Creek, Perris Valley Channel, Bautista Creek, Indian Creek, North Forks San Jacinto River, Logan Creek, Stone Creek, Black Mountain Creek, Fuller Mill Creek, South Fork San Jacinto River, Dry Creek, Strawberry Creek, Coldwater Creek, Spillway Creek, Canyon Creek, Lake Hemet, Herkey Creek, Fobes Canyon Creek, Pipe Creek, Martinez Creek, Gold Shot Creek, and Penrod Canyon Creek.

Soils

According to the *Custom Soil Resources Report for Western Riverside Area, California* (U.S. Department of Agriculture [USDA] 2022a), the project site is underlain by two soil map units: HcC: Hanford coarse sandy loam, 2 to 8 percent slopes (HcC); and RaB3: Ramona sandy loam, 0 to 5 percent slopes, severely eroded (RaB3). Michael Baker also reviewed the *Hydric Soils List for California* (USDA 2022b) to preliminarily verify whether any of the soil map units listed above were classified as a “hydric soil” in the Western Riverside Area. According to the list, none of the soil map units listed to occur within the project site are listed as hydric.

National Wetlands Inventory

Based on a review of the U.S. Fish and Wildlife Service’s (USFWS) National Wetlands Inventory (USFWS 2022), no riparian or wetland features mapped in the NWI directly overlay the project site. However, one feature is mapped immediately northeast of the project site and connects to Aquatic Feature 1 downstream; this wetland feature falls within the riverine system and is described as an intermittent streambed with a seasonally flooded water regime (R4SBC).

Flood Zone

Based on a review of the Federal Emergency Management Agency’s (FEMA) National Flood Hazard Layer Viewer (FEMA 2022), the project site is located within Flood Insurance Rate Map (FIRM) Panel Number 06065C0770G. Specifically, the project site is located in Zone X and described as an area of minimal flood hazard (refer to Attachment C).

National Hydrography Dataset

Based on a review of the National Hydrography Dataset (NHD) Advanced Viewer (USGS 2022b), one ephemeral drainage enters the northeastern corner of the project site and flows generally south before continuing offsite. The upstream portion of this ephemeral feature immediately northeast of the project site appears to coincide with the offsite riverine feature mapped by the NWI (refer to Attachment D).

FIELD METHODOLOGY

Michael Baker wetland delineators Tom Millington and April Nakagawa conducted a jurisdictional delineation/field survey of the project site and an additional 50-foot buffer of survey area around the project site on April 12, 2022, using the most recent, agency approved methodology, to identify and map the extent of State and federal jurisdictional features (i.e., wetland and non-wetland WoUS, waters of the State, streambed, riparian vegetation) located within the boundaries of the project site. Based on the project’s location, potential State and federal wetlands were delineated in accordance with the methods and guidance provided in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version*

2.0 (Arid West Regional Supplement; USACE 2008), and the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2019).

While in the field, jurisdictional features were recorded on an aerial photograph at a scale of 1" = 120' using topographic contours and visible landmarks as guidelines. Data points were recorded in the field using a Garmin GPS Map 64 Global Positioning System (GPS) to identify specific widths and length of jurisdictional features and the location of any ordinary high water mark (OHWM) indicators, photograph points, soil pits, and other pertinent site characteristics. These data were then uploaded as a .shp file and confirmed/refined to ensure accuracy and consistency with hardcopy notes and aerial mapping completed in the field. Michael Baker then used ESRI ArcGIS Pro software to calculate the total acreage of jurisdictional features and prepare final project figures.

RESULTS

Non-Wetland Features

Two ephemeral drainage features, Aquatic Feature 1 (AF-1) and Aquatic Feature 2 (AF-2), were identified within the project site and survey area during the April 12, 2022 site visit (refer to Attachment E, *Site Photographs*).

Aquatic Feature 1

AF-1 collects/transportes municipal stormwater from the adjacent residential development and surrounding foothills north of the project site, undergrounds beneath Cottonwood Avenue, and discharges into the northeastern corner of the project site and survey area via a corrugated concrete pipe culvert with concrete wingwalls. The offsite upstream portion of AF-1 appears to be the feature that has been mapped by both NWI and NHD. Flows drain south into a riprap-lined flood control channel which is confined by residential development on both banks. Approximately 360 linear feet downstream, AF-1 begins to transition from the riprap-lined flood control channel to an incised earthen channel. A small culvert with concrete wingwalls is located on the eastern bank in this transitional area. At the time of the site visit, the culvert was obstructed by sediment resulting in a small erosional rill. A minimal amount of saturated soil and surface water were noted in the immediate location of the obstructed culvert and rill on the eastern bank, but not within the main channel bed or the surrounding banks. No other standing or flowing water was observed in association with AF-1.

AF-1 continues south for approximately 180 linear feet and then begins to meander southwest towards the southern project boundary where it is no longer constrained by residential development on either bank. A large concrete retaining wall is located along the southern project site boundary and flows appear to be conveyed beneath this retaining wall, likely via a pipe or culvert; however, a significant amount of sediment deposition has occurred in the immediate vicinity of the retaining wall which reduces visibility. Additionally, a large debris-filled non-jurisdictional erosional rill occurs immediately northwest of where AF-1 flows beneath the retaining wall and exits the project site and survey area. AF-1 exhibited clear

evidence of hydrology and an OHWM ranging from 2 to 25 feet in width was observed via the following indicators: via a natural line impressed on the bank, change in particle size distribution, presence of a wrack line, and shelving.

The riprap-lined and soft-bottomed portions of AF-1 exhibited similar vegetation comprised of upland disturbance-tolerant non-native plant species consistent with the surrounding uplands; however, these species generally occurred in sparser patches within AF-1. Dominant species included foxtail barley (*Hordeum murinum*, FACU), foxtail brome (*Bromus rubens*, UPL), red stemmed filaree (*Erodium cicutarium*, UPL), ripgut brome (*Bromus diandrus*, UPL), sagebrush combseed (*Pectocarya linearis*, UPL), stinknet (*Oncosiphon piluliferum*, FACU), and summer mustard (*Hirschfeldia incana*, UPL). Additionally, a small amount of hydrophytic vegetation comprised of tall flatsedge (*Cyperus eragrostis*, FACW) and willowherb (*Epilobium ciliatum*, FACW) was observed in association with the obstructed culvert on the eastern bank. Within the project site and survey area, AF-1 measures a total of approximately 1,444 linear feet.

Aquatic Feature 2

AF-2 originates offsite as an ephemeral drainage which drains stormwater and other surface flows from the surrounding residential developments and foothills north of the project site; flows are conveyed south via a corrugated metal pipe underneath Cottonwood Avenue and enter the northwestern portion of the project site and survey area via a corrugated metal pipe with broken concrete wingwalls. AF-2 flows south for approximately 611 linear feet as an unmaintained ephemeral earthen drainage before transitioning to discontinuous unconfined/overland sheet flow which ultimately fans out and infiltrates on the northwestern portion of the project site. No standing or flowing surface water was observed within the AF-2 during the field survey. However, evidence of an OHWM ranging from 5 to 10 feet in width was observed via a natural line impressed on the bank, change in particle size distribution, presence of a wrack line, and shelving.

AF-2 exhibited the same upland vegetation as AF-1 with a predominance of ripgut brome and summer mustard and occasional patches of bare sandy soil. A patch of Peruvian pepper trees (*Schinus molle*, FACU) occurs in the northern portion of AF-2 in association with the residential development immediately to the west. Additionally, a small patch of mature mulefat (*Baccharis salicifolia*, FAC) occurs approximately 230 feet downstream of where AF-2 enters the project site and survey area.

Wetland Features

In order to confirm the presence/absence of wetlands within the project site and survey area, two soil pits (SP1 and SP2) were dug in areas where wetland hydrology or hydrophytic vegetation was observed. SP1 was located near the obstructed culvert in an area where urban runoff and stormwater from surrounding residential development collects/infiltrates within the project site. Plant species in this location included a mixture of the upland disturbance-tolerant non-native plant species and native hydrophytic vegetation including foxtail brome (UPL), ripgut brome (UPL), tree tobacco (*Nicotiana glauca*, FAC), stinknet (FACU), summer mustard (UPL), tall flatsedge (FACW), and willowherb (FACW). SP1 was excavated to a depth of approximately 24 inches. Soils exhibited a sandy texture and displayed a matrix color of 10YR

3/3 when moist. No redoximorphic features were observed. Due to the absence of hydric soils, it was determined that SP1 met two (hydrophytic vegetation and wetland hydrology) of the three required parameters, and thus did not qualify as a wetland (refer to Attachment F, *Wetland Determination Data Forms*).

SP2 was located within the AF-2 due to the presence of mulefat (FAC) and secondary hydrology indicators (i.e., sediment deposits and drift deposits). SP2 was excavated to a depth of approximately 16 inches. Soils exhibited a sandy texture and displayed a matrix color of 7.5YR 4/4 when moist with no redoximorphic features observed. Additionally, SP2 did not pass the Dominance Test or the FAC-Neutral Test for hydrophytic vegetation. Due to the absence hydrophytic vegetation and hydric soils, it was determined that SP2 only met one (hydrology) of the three required parameters, and thus did not qualify as a wetland (refer to Attachment F, *Wetland Determination Data Forms*).

FINDINGS

AF-1 occurs within the eastern portion of the project site and survey area and does not exhibit a surface hydrologic connection to any Relatively Permanent Water (RPW) or Traditionally Navigable Water (TNW). Flows from AF-1 continue south offsite and drain into a roadside ditch which runs easterly along the northern side of Alessandro Boulevard before emptying into a small concrete culvert. Flows from AF-1 are then conveyed onto the property south of Alessandro Boulevard via a concrete culvert where AF-1 then transitions to discontinuous unconfined/overland sheet flow which ultimately fans out and infiltrates offsite. Furthermore, AF-1 appears to be an ephemeral feature which flows only in direct response to precipitation. Therefore, AF-1 would not qualify as a WoUS and would not fall under the regulatory authority of the USACE. However, based on the results of the field delineation, AF-1 does comprise approximately 0.27 acre (1,444 linear feet) of RWQCB non-wetland waters of the State/CDFW vegetated streambed (consisting of 0.27 acre located within the project site and an additional <0.01 acre located within the survey area). Refer to Table 1 below and Figure 4, *Regional Board/CDFW Jurisdictional Map* provided in Attachment A).

AF-2 occurs within the northwestern portion of the project site and survey area and also does not exhibit a surface hydrologic connection to any RPW or TNW. Flows from AF-2 transition to discontinuous unconfined/overland sheet flow which ultimately fans out and infiltrates within the western portion of the project site. Furthermore, AF-2 appears to be an ephemeral feature which flows only in direct response to precipitation. Therefore, AF-2 would not qualify as a WoUS and would not fall under the regulatory authority of the USACE. However, based on the results of the field delineation, AF-2 does comprise a total of 0.10 acre (611 linear feet) of RWQCB non-wetland waters of the State/CDFW vegetated streambed (consisting of <0.001 acre located within the project site and an additional 0.10 acre located within the survey area), and approximately 0.02 acre of CDFW associated riparian (consisting of <0.01 acre located within the project site and an additional 0.02 acre located within the survey area).

Table 1: State and Federal Jurisdictional Resources

Feature Name	Cowardin Class	Class of Aquatic Feature	Linear Feet	Acreage within Project Site				Acreage within Survey Area			
				RWQCB		CDFW		RWQCB		CDFW	
				Non-Wetland WotS	Wetland WotS	Streambed	Riparian	Non-Wetland WotS	Wetland WotS	Streambed	Riparian
Aquatic Feature 1	None	Non-Wetland	1,444	0.27	0.00	0.27	0.00	<0.01	0.00	<0.01	0.00
Aquatic Feature 2	None	Non-Wetland	611	<0.001	0.00	<0.001	<0.01	0.10	0.00	0.10	0.02
TOTAL*			2,055	0.27	0.00	0.27	<0.01	0.10	0.00	0.10	0.02

*Total may not equal to sum due to rounding.

CONCLUSIONS AND RECOMMENDATIONS

The USACE regulates discharge of dredged or fill material into WoUS pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. No USACE jurisdiction occurs in association with the project site, as neither AF-1 nor AF-2 exhibit any downstream surface connection (significant nexus) to a RPW or a TNW..

The RWQCB regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the California Porter-Cologne Water Quality Control Act. Based on a review of the conceptual site plan, approximately 0.37 acre of impacts to RWQCB jurisdiction (non-wetland WotS) are anticipated, comprised of 0.27 acre of permanent impacts within the project site, and 0.10 acre of temporary impacts within the survey area. Therefore, it would be necessary for the project proponent to obtain a Waste Discharge Requirement (WDR) from the RWQCB prior to impacts occurring within RWQCB jurisdictional areas.

The CDFW regulates alterations to lakes, streambeds, and riparian habitats pursuant to Section 1600 *et seq.* of the CFGC. Based on a review of the conceptual site plan, a total of 0.39 acre of impacts to CDFW jurisdiction are anticipated. Anticipated impacts consist of 0.27 acre of permanent impacts and 0.10 acre of temporary impacts to vegetated streambed, and <0.01 acre of permanent impacts and 0.02 acre of temporary impacts to associated riparian. Therefore, it would be necessary for the project proponent to obtain a Section 1602 Streambed Alteration Agreement (SAA) from the CDFW prior to impacts occurring within CDFW jurisdictional areas.

Please do not hesitate to contact me at (949) 472-3468 or april.nakagawa@mbakerintl.com should you have any questions or require further information.

Sincerely,



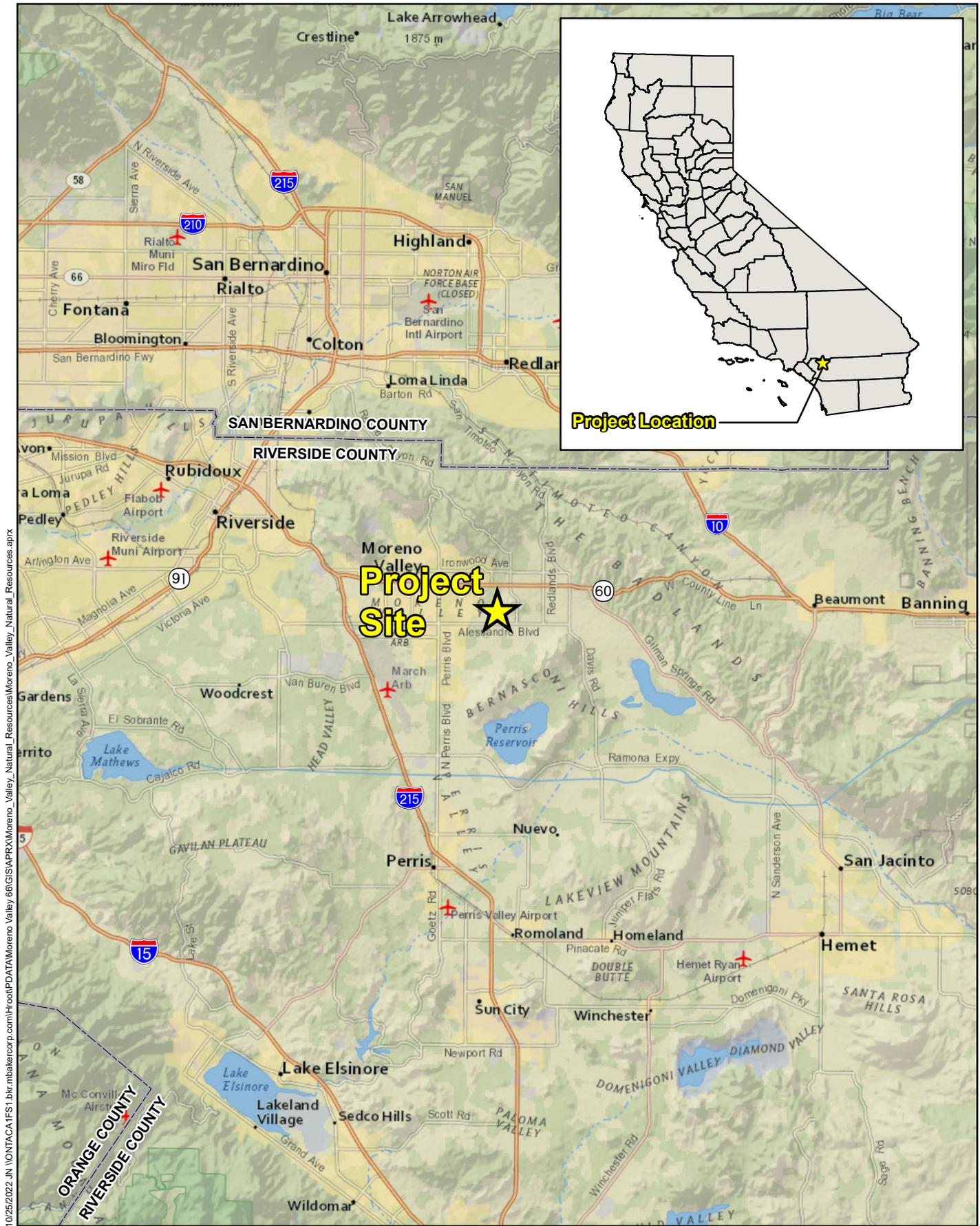
April Nakagawa
Regulatory Specialist
Natural Resources & Environmental Services

Attachments:

- A. Project Figures*
- B. USFWS National Wetlands Inventory Map*
- C. FEMA Flood Insurance Rate Map*
- D. USGS National Hydrography Dataset Advanced Viewer Map*
- E. Site Photographs*
- F. Wetland Determination Data Forms*
- G. References*

Attachment A

Project Figures



10/25/2022 J:\MONTACA\1FS1\lkr.mbakercorp.com\Hoot\PDATA\Moreno_Valley_66\GIS\APRX\Moreno_Valley_Natural_Resources.aprx

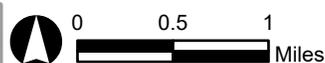
10/25/2022, IN:\MONTACA\FS1_bkr.mbakercorp.com\Hoot\PDATA\Moreno Valley 66\GIS\APR\X\Moreno_Valley_Natural_Resources.aprx



Legend

 Project Site (23.39 acres)

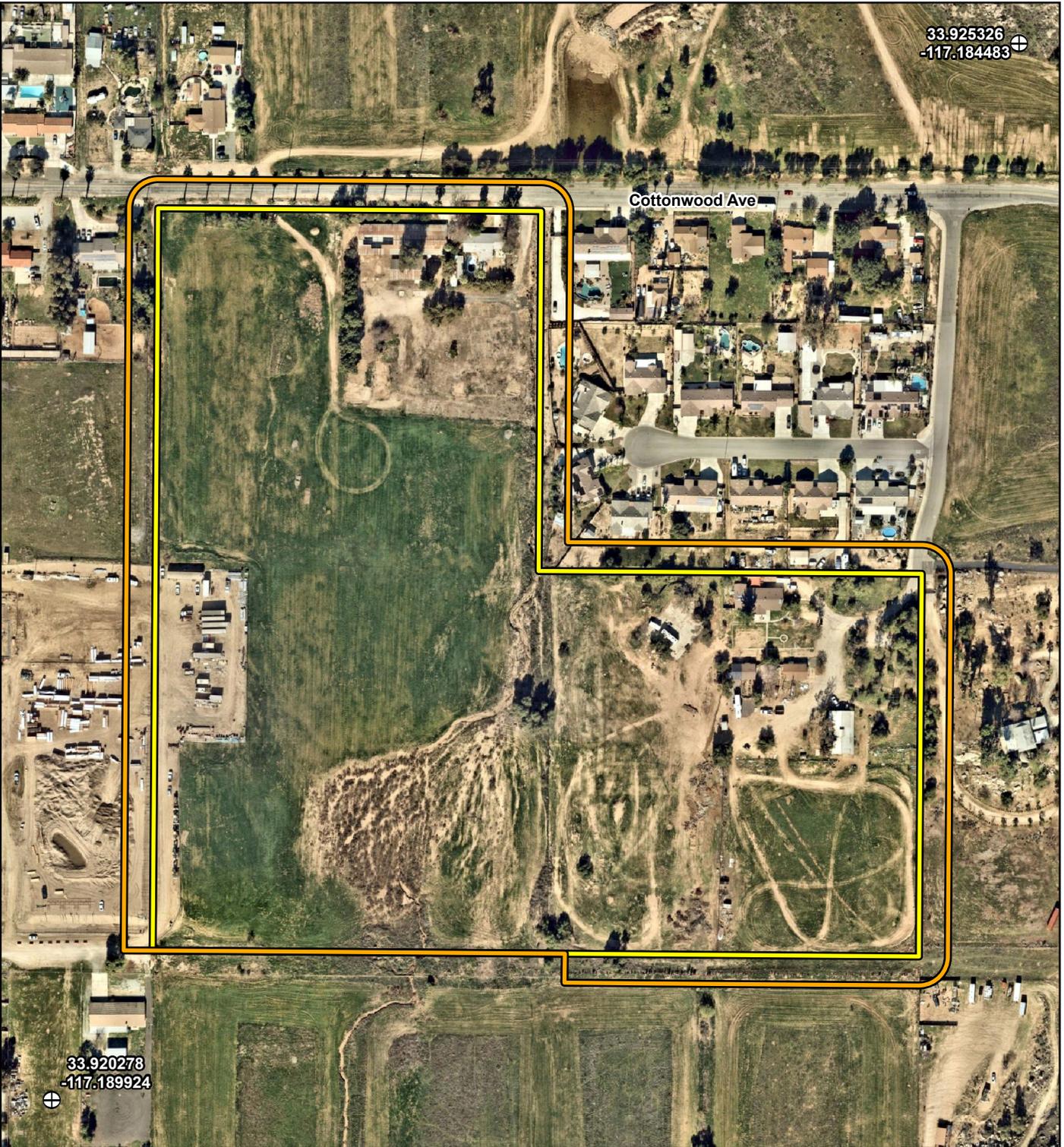
MORENO VALLEY SUNSET CROSSING NORTH
 DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Project Vicinity



Source: USGS 7.5-Minute topographic quadrangle maps: Perris and Sunnymead, California (2021)

Figure 2

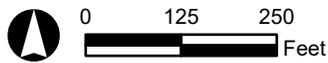
10/25/2022 11:00:00 AM \\MONTACA\FS1_bkr.mbakercorp.com\Hrcot\PDAT\Moreno Valley 66\GIS\APR\Moreno_Valley_Natural_Resources.aprx



Legend

-  Project Site (29.39 acres)
-  Survey Area (34.66 acres)
-  Reference Point

Michael Baker
INTERNATIONAL

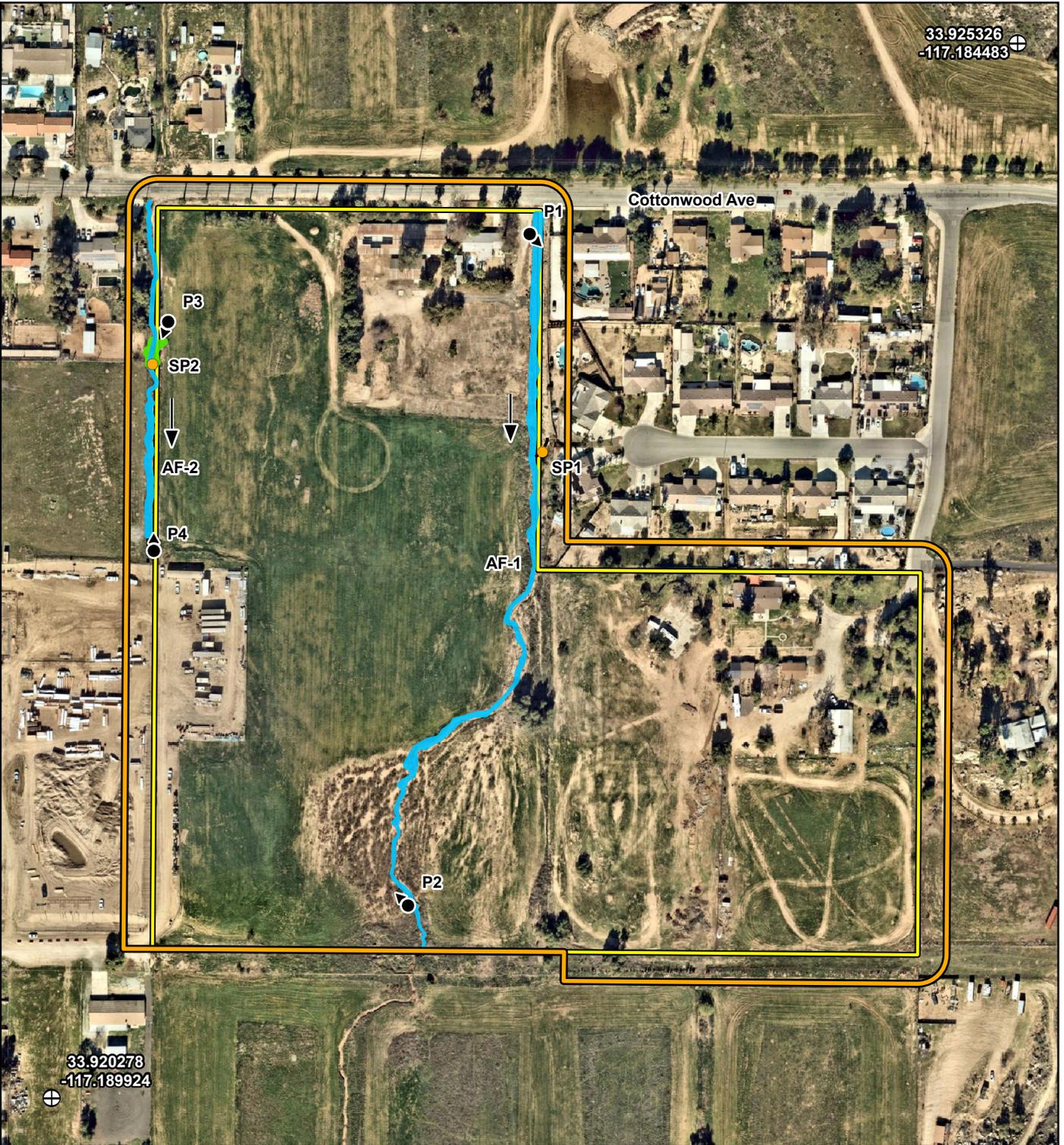


Source: Nearmap (01/2022)

MORENO VALLEY SUNSET CROSSING NORTH
DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS
Project Site

Figure 3

10/25/2022, IN \\MONTACA\FS1_bkr.mbakercorp.com\Hrcot\PDATA\Moreno Valley 66\GIS\APR\Moreno_Valley_Natural_Resources.aprx



Legend

Project Site (29.39 acres)	CDFW Associated Riparian Vegetation (0.02 acre)	Discontinuous OHWM	Photograph Point and Direction
Survey Area (34.66 acres)	Regional Board Non-Wetland Waters of the State / CDFW Vegetated Streambed (0.37 acre)	Flow Direction	Soil Pit
Reference Point			

Attachment B

USFWS National Wetlands Inventory Map



April 12, 2022

Wetlands

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

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Attachment C

FEMA Flood Insurance Rate Map

National Flood Hazard Layer FIRMette



117°11'37"W 33°55'30"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 6/16/2022 at 7:10 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

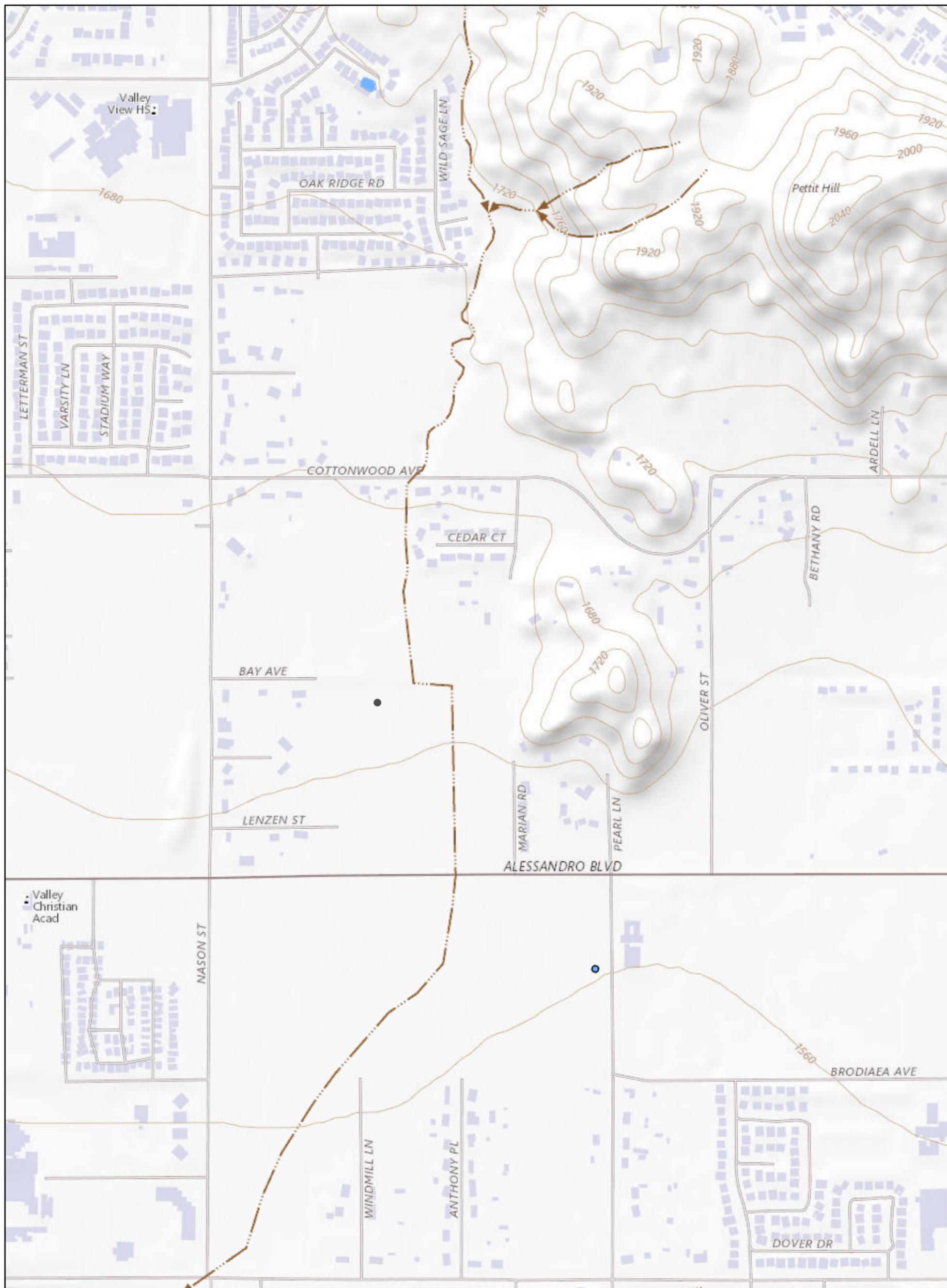


117°10'59"W 33°55'N

Attachment D

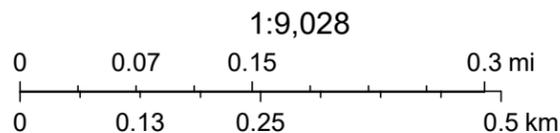
USGS National Hydrography Dataset Advanced Viewer Map

The National Map Advanced Viewer



4/11/2022, 5:27:53 PM

Waterbody - Large Scale	Area - Large Scale	Foreshore	Stream/River
Estuary	Area of Complex Channels	Hazard Zone	Submerged Stream
Ice Mass	Area to be Submerged	Inundation Area	Wash
Lake/Pond	Bay/Inlet	Lock Chamber	Water Intake/Outflow
Playa	Bridge	Rapids	Flowline - Large Scale
Reservoir	Canal/Ditch	Sea/Ocean	Perennial
Swamp/Marsh	Dam/Weir	Special Use Zone	Intermittent
	Flume	Spillway	Ephemeral



USGS The National Map: National Boundaries Dataset, 3DEP Elevation Program, Geographic Names Information System, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; USGS Global Ecosystems; U.S. Census Bureau TIGER/Line data;

Attachment E

Site Photographs



Photograph 1: View facing approximately southeast depicting AF-1 where it enters the project site.



Photograph 2: View facing approximately northwest depicting typical conditions within AF-1.



Photograph 3: View facing approximately southwest depicting AF-2. Note the small amount of *Baccharis salicifolia* located within the feature.



Photograph 4: View facing approximately north depicting the location where AF-2 transitions to discontinuous flow and terminates within the project site.

PROJECT NAME • QUALITATIVE MONITORING

Site Photographs

Attachment E

Attachment F

Wetland Determination Data Forms

Project/Site: Sunset Crossing TTM 38443 Project City/County: Morneo Valley / Riverside Sampling Date: 04/12/22
 Applicant/Owner: Highpointe Communities, Inc. State: CA Sampling Point: SP1
 Investigator(s): T. Millington and A. Nakagawa Section, Township, Range: Section 10, Township 3 South, Range 3 West
 Landform (hillside, terrace, etc.): Hillslope with buried culvert Local relief (concave, convex, none): Convex Slope (%): 20
 Subregion (LRR): LRR C Lat: 33.923374° Long: -117.187149° Datum: WGS84
 Soil Map Unit Name: Ramona sandy loam, 0 to 5 percent slopes, severely eroded (RaB3) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:
 Significant drought conditions present. Cottonwood Avenue to north, vacant land that is routinely disked/maintained and dominated by various upland/non-native species to south and east, and residential development to east and west.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>N/A</u>	<u>0</u>			Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2. _____				
3. _____				
4. _____				
=Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Nicotiana glauca</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>35</u> x 2 = <u>70</u> FAC species <u>5</u> x 3 = <u>15</u> FACU species <u>5</u> x 4 = <u>20</u> UPL species <u>55</u> x 5 = <u>275</u> Column Totals: <u>100</u> (A) <u>380</u> (B) Prevalence Index = B/A = <u>3.80</u>
2. _____				
3. _____				
4. _____				
5. _____				
=Total Cover				
Herb Stratum (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Bromus madritensis</u>	<u>35</u>	<u>Yes</u>	<u>UPL</u>	<input checked="" type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Cyperus eragrostis</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Bromus diandrus</u>	<u>15</u>	<u>No</u>	<u>UPL</u>	
4. <u>Hirschfeldia incana</u>	<u>5</u>	<u>No</u>	<u>UPL</u>	
5. <u>Epilobium ciliatum</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
6. <u>Oncosiphon piluliferum</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
7. _____				
8. _____				
=Total Cover				
Woody Vine Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present?
1. <u>N/A</u>				Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
2. _____				
=Total Cover				
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks:
 Plot size and shape constrained by the topography of the flood control channel, riprap sections, and partially buried concrete culvert. A small discrete patch of hydrophytic plant species was observed in the direct area of the culvert

SOIL

Sampling Point: SP1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-24	10YR 3/3	100					Sandy	Single consistent layer with no redox

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

Restrictive Layer (if observed):

Type: None
 Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:
 No hydric soil indicators observed. Soil would not form a ball - very gritty sand.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)	<input type="checkbox"/> Water Marks (B1) (Riverine)	
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)	<input type="checkbox"/> Sediment Deposits (B2) (Riverine)	
<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)	<input type="checkbox"/> Drift Deposits (B3) (Riverine)	
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0
 Water Table Present? Yes X No _____ Depth (inches): 0
 Saturation Present? Yes X No _____ Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes X No _____

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

N/A

Remarks:

Minimal amount of surface water visible underneath vegetation, but not in main flood control channel bottom or banks. Soil pit filled in with water to the top of the pit. Very small area approx 3ft x 3ft

Project/Site: Sunset Crossing TTM 38443 Project City/County: Morono Valley / Riverside Sampling Date: 04/12/22
 Applicant/Owner: Highpointe Communities, Inc. State: CA Sampling Point: SP2
 Investigator(s): T. Millington and A. Nakagawa Section, Township, Range: Section 10, Township 3 South, Range 3 West
 Landform (hillside, terrace, etc.): Channel bottom Local relief (concave, convex, none): None Slope (%): 1
 Subregion (LRR): LRR C Lat: 33.924018° Long: -117.189395° Datum: WGS84
 Soil Map Unit Name: Ramona sandy loam, 0 to 5 percent slopes, severely eroded (RaB3) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---	---

Remarks:
 Significant drought conditions present. Cottonwood Avenue to north, vacant land that is routinely disked/maintained and dominated by various upland/non-native species to south and east, and residential development to east and west.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Baccharis salicifolia</u>	50	Yes	FAC	Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
=Total Cover			50	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>50</u> x 3 = <u>150</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>15</u> x 5 = <u>75</u> Column Totals: <u>65</u> (A) <u>225</u> (B) Prevalence Index = B/A = <u>3.46</u>
Sapling/Shrub Stratum (Plot size: <u>15 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>None</u>	0	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
=Total Cover			_____	
Herb Stratum (Plot size: <u>5 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <input type="checkbox"/> Dominance Test is >50% <input type="checkbox"/> Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Hirschfeldia incana</u>	10	Yes	UPL	
2. <u>Bromus diandrus</u>	5	Yes	UPL	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
=Total Cover			15	
Woody Vine Stratum (Plot size: <u>30 feet</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
1. <u>None</u>	0	_____	_____	
2. _____	_____	_____	_____	_____
=Total Cover			_____	
% Bare Ground in Herb Stratum <u>0</u> % Cover of Biotic Crust <u>0</u>				

Remarks:
 Small patch of mature mulefat located in ephemeral drainage. Large mature Peruvian pepper trees upstream.

SOIL

Sampling Point: SP2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 16	7.5YR 4/4	100					Sandy	Single consistent layer with no redox

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

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> 1 cm Muck (A9) (LRR C)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> 2 cm Muck (A10) (LRR B)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Iron-Manganese Masses (F12) (LRR D)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)	<input type="checkbox"/> Reduced Vertic (F18)			
<input type="checkbox"/> Stratified Layers (A5) (LRR C)	<input type="checkbox"/> Depleted Matrix (F3)	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)	<input type="checkbox"/> Redox Dark Surface (F6)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Dark Surface (F7)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Depressions (F8)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)					
<input type="checkbox"/> Sandy Gleyed Matrix (S4)					

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

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes _____ No <u>X</u>
---	---

Remarks:
No hydric soil indicators observed. Soil would not form a ball - very gritty sand.

HYDROLOGY

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Salt Crust (B11)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Biotic Crust (B12)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Aquatic Invertebrates (B13)
<input type="checkbox"/> Water Marks (B1) (Nonriverine)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)
<input type="checkbox"/> Sediment Deposits (B2) (Nonriverine)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)
<input type="checkbox"/> Drift Deposits (B3) (Nonriverine)	<input type="checkbox"/> Presence of Reduced Iron (C4)
<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Thin Muck Surface (C7)
<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Other (Explain in Remarks)
	<input type="checkbox"/> Water Marks (B1) (Riverine)
	<input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine)
	<input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine)
	<input type="checkbox"/> Drainage Patterns (B10)
	<input type="checkbox"/> Dry-Season Water Table (C2)
	<input type="checkbox"/> Crayfish Burrows (C8)
	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
	<input type="checkbox"/> Shallow Aquitard (D3)
	<input type="checkbox"/> FAC-Neutral Test (D5)

Field Observations: Surface Water Present? Yes _____ No <u>X</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>X</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>X</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <u>X</u> No _____
---	---

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

Remarks:
Location meets hydrology with secondary indicators. No flowing or ponded water; pit did not fill with water and no saturation. Dry ephemeral streambed at time of site visit.

Attachment G

References

- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experiment Station.
- Federal Emergency Management Agency (FEMA). 2022. National Flood Hazard Layer (NFHL) Viewer. Flood Insurance Rate Map (FIRM) Panel Number 06065C0765G. Effective date August 28, 2008. Accessed online at: <https://msc.fema.gov/portal/home>.
- Google, Inc. 2022. Google Earth Pro Imagery Version 7.3.4.8642, build date May 12, 2022. Historical Aerial Imagery from 1985 to 2021.
- Lake Elsinore and San Jacinto Watersheds Authority. 2022. *The San Jacinto River Watershed*. Accessed online at <https://mywatersheds.com/the-san-jacinto-river-watersheds/>.
- Lichvar, R.W., D.C. Finnegan, M.P. Ericsson, and W. Ochs. 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*. ERDC/CRREL TR-06-5. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- 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*. ERDC/CRREL TR-08-12. Hanover, NH: U.S. Army Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory.
- Regional Water Quality Control Board (RWQCB). 2019. *Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin (Region 8)*. Updated June 2019. Available online at: https://www.waterboards.ca.gov/santaana/water_issues/programs/basin_plan/.
- State Water Resources Control Board. 2019. *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Effective May 28, 2020. Available online at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/wrapp.html.
- U.S. Army Corps of Engineers (USACE). 2008. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)*. ERDC/EL TR-08-28. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- USACE. 2016. *Special Public Notice: Updated Map and Drawing Standards for the South Pacific Regulatory Division Regulatory Program*. Issued on February 10, 2016.
- USACE. 2017. *Special Public Notice: Minimum Standards for Acceptance of Aquatic Resources Delineation Reports*. Issued on March 16, 2017.

- USACE. 2020. *National Wetland Plant List, Version 3.5*. U.S. Army Corps of Engineers, Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory. Accessed online at: https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html.
- U.S. Department of Agriculture (USDA). 2022a. *Custom Soil Resources Report for Western Riverside Area, California*. Accessed online at: <https://websoilsurvey.sc.egov.usda.gov/>.
- USDA. 2022b. *Hydric Soils List for the Western Riverside Area, California*. Accessed online at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>.
- U.S. Fish and Wildlife Service (USFWS). 2022. National Wetlands Inventory. Accessed online at: <http://www.fws.gov/wetlands/Data/Mapper.html>.
- U.S. Geological Survey (USGS). 2022a. Sunnymead, California 7.5-minute Series Topographic Quadrangle Map.
- USGS. 2022b. National Hydrography Dataset Advanced Viewer. Accessed online at: <https://viewer.nationalmap.gov/advanced-viewer/>.