

Appendix E

**Santa Ana River Tributary Restoration Projects  
Jurisdictional Delineation Report**

---



# **Santa Ana River Tributary Restoration Projects, Early Implementation Services for the Upper Santa Ana River Habitat Conservation Plan Jurisdictional Delineation Report**

---

## **1.0 Summary**

This report discusses regulatory methods and provides the results of a formal delineation completed for the San Bernardino Valley Municipal Water District (SBVMWD) Early Implementation of the Upper Santa Ana River Habitat Conservation Plan (project). The purpose of this delineation is to assess the limits of potential federal jurisdiction (i.e., Waters of the U.S. subject to U.S. Army Corps of Engineers [USACE] regulation) and state jurisdiction (i.e., Waters of the State subject to Regional Water Quality Control Board [RWQCB] regulation and California Department of Fish and Wildlife [CDFW] jurisdictional waters subject to CDFW regulation) within the Tributary Restoration Sites.

A verification site visit was completed by ICF staff and Michael Ladouceur from the USACE on October 30, 2018 for Lower Hole Creek and Anza Drain/Old Farm Road (also referred to as Old Ranch Creek) sites and on May 28, 2019 for Hidden Valley Wetlands and Hidden Valley Ponds sites. Subsequent conference calls took place with Michael Ladouceur to come to agreement on the proper ordinary high water mark (OHWM) limits for the Santa Ana River as they occur within the Hidden Valley Wetlands site. The jurisdictional delineation limits and calculations in this report have been updated to reflect the changes requested by the USACE.

Additionally, the survey area for Hidden Valley Wetlands have been updated to include portions of the previous Hidden Valley Pond survey area to ensure that all project impact areas are covered under the single survey area.

Lastly, recent feedback received from CDFW has resulted in CDFW jurisdictional waters to be placed into categories that better reflect the condition of habitat onsite. These changes are reflected in this updated version of the jurisdictional delineation report.

## **2.0 Project Description**

SBVMWD proposes restoration of three sites along tributaries to the Santa Ana River (Tributary Restoration Sites) and within abandoned ponds as early implementation of the Upper Santa Ana River Habitat Conservation Plan. Each of the three Tributary Restoration Sites was assessed for jurisdictional waters: Hidden Valley Wetlands, Lower Hole Creek, and Anza Drain/Old Farm Road (assessed as one site).

## **3.0 Project Location**

The Tributary Restoration Sites are located along the Santa Ana River, mostly within the city of Riverside, Riverside County, California (Figure 1; all figures are included as Attachment 1). The

project sites are depicted on the U.S. Geological Survey Riverside West 7.5-minute topographical quadrangle map (amended 1980; Figure 2). The center coordinates for each Tributary Restoration Site in decimal degree format (in World Geodetic System 1984) are as follows.

- Hidden Valley Wetlands (33.964832°, -117.482207°)
- Lower Hole Creek (33.960120°, -117.465609°)
- Anza Drain/Old Farm Road (33.968439°, -117.420807°)

## 4.0 Methodology

Prior to beginning the field delineation, aerial photography, U.S. Geological Survey topographic maps, national hydrography dataset, and National Wetlands Inventory maps were analyzed to determine the locations of potential areas of USACE, RWQCB, and CDFW jurisdiction. Based on the pre-field analysis it was determined that there was a potential for both wetland and non-wetland features, as defined below, to occur within the project sites.

ICF biologists Team 1 (Paul Schwartz, James Hickman, and Sarah Horwath) and Team 2 (Lanika Cervantes, Brett Bowen, and Ford Bendell) conducted the jurisdictional delineation within the Tributary Restoration Sites on the following dates.

- Anza Drain/Old Farm Road: August 1–3, 2016
- Hidden Valley Wetlands: August 8, 2016
- Lower Hole Creek: August 9, 2016

The Hidden Valley Wetlands survey area was then expanded to include the adjacent abandoned ponds, this additional area was assessed by ICF biologists Lanika Cervantes and Lance Woolley on the following dates:

- August 22 and 23, 2017.

In the field, the jurisdictional features were recorded in the Arc Collector application (ESRI software) on iPads using visible landmarks on recent aerial imagery layers, and were mapped using Arc Collector with a Trimble R1 Global Navigation Satellite Systems Receiver unit, which provided sub-meter accuracy.

### USACE Jurisdiction

Potential wetlands were delineated using the methodology set forth in the 1987 USACE *Wetland Delineation Manual* (Environmental Laboratory 1987) and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008a). To meet the definition of a potential wetland, the area must be a three-parameter wetland. A three-parameter wetland must meet the following criteria: (1) a predominance of hydrophytic vegetation, (2) the presence of hydric soils, and (3) the presence of wetland hydrology. Details of the application of these techniques are described below.

- **Hydrophytic Vegetation:** The hydrophytic vegetation criterion is satisfied at a location if greater than 50% of all the dominant species present within the vegetation unit have a wetland indicator status of obligate (OBL), facultative wetland (FACW), or facultative (FAC)

(Environmental Laboratory 1987). An OBL indicator status refers to plants that almost always occur in wetlands under natural conditions. A FACW indicator status refers to plants that usually occur in wetlands but are occasionally found elsewhere. A FAC indicator status refers to plants that are equally likely to occur in wetlands or elsewhere. An NI (no indicator) status designates that insufficient information was available to determine an indicator status. An NO (no occurrence) status indicates that the species does not occur in the region; when a plant with an NO status is found within a region, it usually indicates that the plant is ornamental. The wetland indicator status used for this report follows the *National Wetland Plant List* (Lichvar et al. 2016).

- **Hydric Soils:** The definition of a hydric soil is a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA/NRCS 1994). This determination is made based on various field indicators detailed in the *Arid West Supplement* and the *Field Indicators of Hydric Soils in the United States (Version 7.0)* (USDA/NRCS 2010).
- **Wetland Hydrology:** Wetland hydrology is determined using indicators of inundation or saturation (flooding, ponding, or tidally influenced) detailed in the *Wetland Delineation Manual* and the *Arid West Supplement*.

Within areas that could potentially support wetlands, soil pits were dug to examine soil color and texture and determine the wetland boundary. Wetland Data Forms are attached as Attachment 3. A paired-pit technique was used (one sample point with wetland results paired with one sample point with non-wetland results, used to identify a wetland boundary).

Potential non-wetland waters were identified using field indicators for ordinary high water mark (OHWM) using the methodology set forth in *A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States* (USACE 2008b). Non-wetland waters are features that support indicators of flow (i.e., OHWM) but do not support a three-parameter wetland.

In addition, based on USACE guidance, three-parameter wetlands that occurred within the OHWM limits are classified as non-wetland waters (meets wetland criteria but within the OHWM). Calculations for waters of the U.S. and how waters of the U.S. limits are displayed on attached figures reflect this update.

## **RWQCB/SWRCB Jurisdiction**

Evaluation of state jurisdiction followed guidance from Section 401 of the CWA and typically follows the same jurisdictional areas as the USACE. In addition, the survey areas were reviewed for resources potentially regulated under the Porter-Cologne Act (i.e., isolated features). Isolated vernal pools, isolated wetlands, or other aquatic features not normally subject to federal regulation did not occur within the survey areas: no further evaluation was necessary.

Although the USACE considers three-parameter wetlands that occur within the OHWM limits as “non-wetland waters (meets wetland criteria but within the OHWM)”, the RWQCB still considers these areas as wetlands. Therefore, the RWQCB figure sets display all areas that met a three-parameter wetland as wetlands and only drainage features as non-wetland waters.

## CDFW Jurisdiction

CDFW jurisdiction typically includes water features with a defined bed and bank. Evaluation of potentially jurisdictional areas followed the guidance of standard practices by CDFW personnel. Briefly, CDFW jurisdiction was delineated by measuring outer width and length boundaries of potentially jurisdictional areas (lakes or streambeds), consisting of the greater of either the top of bank measurement or the extent of associated riparian or wetland vegetation.

Mainstem channels that had a defined baseflow was classified as a streambed, while the larger floodplain area that occurred within CDFW jurisdiction were classified as riparian habitat and categorized by the vegetation community present. Table 1 below presents the vegetation communities mapped within all survey areas and the CDFW category used for each vegetation community. Figures (Attachment 1) and acreages presented in Table 4 below reflect the CDFW categorization used in Table 1.

**Table 1. CDFW Categorization by Vegetation Community**

<b>CDFW Category</b>	<b>Vegetation Community</b>
<b>Native Communities</b>	
Native Riparian	Arrow Weed Thickets
	Black Willow Thickets
	Black Willow/Fremont Cottonwood Forest
	California Sycamore Woodlands
	Cattail Marshes
	Fremont Cottonwood Forest
	Fremont Cottonwood/Willow Forest
	Fremont Cottonwood/Willow/Mulefat Forest
	Fremont Cottonwood/Willow/Wild Grape Forest
	Mulefat Thickets
	Salt Grass Flats
Sandbar Willow Thickets	
Native Xeric Riparian	California Buckwheat Scrub
<b>Nonnative Communities</b>	
Nonnative Riparian	Giant Reed Breaks
	Nonnative Riparian

Nonnative Xeric Riparian	California Annual Grassland
	Urban/Developed
	Disturbed Habitat
<b>Unvegetated Communities</b>	
Streambed	Open Water – Within Santa Ana Mainstem
Open Water	Open Water – Within Larger Floodplain Area

## 5.0 Results

A summary of the delineation results for each Tributary Restoration Site is provided below. Reference photographs are provided in Attachment 2 and wetland data forms are included in Attachment 3.

### 5.1 Hidden Valley Wetlands

The Hidden Valley Wetlands site contains ten features. A summary of each feature mapped is provided below. Waters of the U.S. under the jurisdiction of USACE are shown on Figure 3, Overview and Sheets 1 through 6, Waters of the State under the jurisdiction of RWQCB are shown on Figure 6, Overview and Sheets 1 through 6, and CDFW jurisdictional waters are shown on Figure 9, Overview and Sheets 1 through 6.

The site is entirely within the wide floodplain of the Santa Ana River; therefore, the jurisdictional limits of CDFW extend throughout much of the site well beyond the OHWM and wetland limits. Additional details on how the OHWM limits and CDFW jurisdictional limits were delineated for this site are discussed under the Santa Ana River description.

#### 5.1.1 Drainage 1

A manmade canal (Drainage 1) runs along the southern and western project boundaries (Figures 3 and 6, Sheets 3 and 4). The water for the wetland ponds at the western end of Hidden Valley Wetlands was supplied by recycled water from the City of Riverside’s Regional Water Quality Control Plant upstream, not from diversion of Santa Ana River flow. The recycled water was routed alongside the Santa Ana River low flow channel, separated by a berm, until it reached the upstream end of the site and entered a headworks structure and into the 4,000-foot-long canal (Drainage 1) that routed the water to the wetlands. A major storm in 2010 led the Santa Ana River to erode the berm separating the recycled water from the river, damaged the headworks infrastructure, and lowered the riverbed by about 8 feet (Danelski 2014). Because the canal is presently elevated about 8 feet above the low-flow channel water surface, only during large and infrequent flood events would Santa Ana River floodwater flow into the damaged headworks and into the abandoned canal.

The canal supports wetland and riparian habitat throughout most of the channel, dominated by black willow (*Salix gooddingii*), red willow (*Salix laevigata*), sandbar willow (*Salix exigua*), and mulefat (*Baccharis salicifolia*). Southern California grape (*Vitis girdiana*) dominates areas where the

riparian canopy is open. OHWM indicators observed included shelving and sediment sorting. The canal enters a culvert about 1,300 feet west of the headworks (Figures 3 and 6, Sheet 4), then traverses southwest for 1,600 feet, general paralleling the access road, before entering another culvert at the southwestern corner of the site (Figures 3 and 6, Sheet 3). The canal then outlets about 60 feet north of the inlet where it flows northwest until joining the Santa Ana River at the northwestern corner of the site. This downstream segment is a more confined channel compared to the upstream segment and supports wetland habitat and a riparian canopy throughout. The center portion of the drainage that does not support vegetation (low-flow area) is considered CDFW streambed, whereas the majority of this area is considered CDFW riparian.

### **5.1.2 Drainage 2**

Drainage 2 is a high flow channel that flows out of the Santa Ana River on higher flow events and travels west for 690 linear feet until draining back into the Santa Ana River (Figures 3 and 6, Sheet 2). This drainage was the historic low flow channel for Santa Ana River prior to 2010 when the Santa Ana shifted to the northern edge of the survey area. This drainage supports OHWM but does not support wetland habitat. CDFW streambed includes the length of the drainage.

### **5.1.3 Drainage 3**

A manmade canal (Drainage 3) runs along the southern project boundaries (Figures 3 and 6, Sheets 3, 4, and 5). Drainage 3 is a canal that was constructed to supply recycled water for the wetland ponds (including Depressions 3 through 6). This channel starts at an outlet where recycled water historically had been diverted into Drainage 3 from Drainage 1. However, following a major storm in 2010, the headworks infrastructure was damaged and water has not been actively pumped within this channel since then (Danelski 2014). Currently, this canal is hydrologically supported by the surrounding hillsides and stormwater runoff from the adjacent trails.

The canal supports wetland and riparian habitat throughout most of the channel, dominated by black willow, red willow, sandbar willow, and mulefat. OHWM indicators observed included shelving and drift deposits. The upstream segment is characterized by a loamy/clay channel bottom compared to the downstream segment which is characterized by a sandy alluvial channel bottom.

### **5.1.4 Drainages 4 and 5**

Drainages 4 and 5 are high flow channels that flows out of the Santa Ana River on higher flow events and then splits into two distinct drainages. Drainage 4 travels continues to travel west then north into the Santa Ana River, while Drainage 5 travels north until draining back into the Santa Ana River (Figures 3 and 6, Sheets 2 through 4). These drainages support sandy bottoms and recent flows were evident by the splays of sediment and lack of tree litter in the drainages. CDFW streambed includes the length of the drainages.

### **5.1.5 Depressions 3 through 6**

Depressions 3 through 6 are constructed depression pond features located at the western portion of the survey area (Figures 3 and 6, Sheet 3). Analysis of historic aerial imagery indicated that these features were constructed over 40 years ago and actively maintained as ponds until a major storm in 2010. After this storm, the headworks infrastructure was damaged and water has no longer been

pumped into these wetland ponds. Due to the depth of these ponds and their proximity to the Santa Ana River, the wetlands and riparian habitat continue to be supported primarily by shallow groundwater. The wetland ponds are dominated by black willow, red willow, arroyo willow, Oregon ash (*Fraxinus latifolia*), and mulefat. However, mulefat and willows occurring within the center of Depression 5 have been dying off in the recent years. Although this pond is still dominated with wetland vegetation it appears that this pond will soon have portions revert to upland habitat as the hydrology is no longer present to support the wetland and riparian habitat.

Depression 6 is the western-most pond and due to the lack of recent hydrology has begun to revert to upland habitat within the majority of its footprint. Only the portions of this pond occurring at lower elevations and along the trails still support evidence of hydrology and allow for the wetland and riparian habitat to persist (Figures 3 and 6, Sheets 4 and 5). Riparian vegetation extends along the slope of the depressions banks (Figure 9, Sheet 4 and 5).

#### **5.1.6 Santa Ana River**

The Santa Ana River runs along the northern project boundary (Figures 3 and 6, Sheets 1 through 4). The OHWM of this feature was defined by clear breaks in slope that occurred along the most upstream and downstream segments of this feature (Figures 3 and 6, Sheets 1 and 4). As the river travels downstream however, the area is more of a large sandbar and has a gentle slope. After further desktop evaluation of this site and discussions with the USACE, the elevations of the OHWM limits within the areas where clear breaks in slope were recorded in the field were determined and by using LiDAR data, those same elevations were followed within the segment of the Santa Ana River where the OHWM limits were not as evident in the field (Figures 3 and 6, Sheets 1 and 3). Wetland habitat occurs along a historic (pre-2010) low flow channel of the Santa Ana River, within the limits of the OHWM, and is dominated by red willow, sandbar willow, arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus deltoides*), and mulefat. Additionally, the previously identified Depressions 1 and 2, are now mapped within the limits of the Santa Ana River and shown as wetland habitat within the limits of the OHWM (Figures 3 and 6, Sheets 1 and 3). Analysis of historic aerial imagery indicated that these wetland features are remnants of the former Santa Ana River mainstem oxbow prior to the 2010/2011 rain season, when its path took a more southerly route in the vicinity.

Due to the flat topography, the majority of this area was determined to be within the large floodplain of the Santa Ana River. A defined break in slope within the higher terrace was considered CDFW top of bank and is located along the southern edge of the site along the trail. All areas with open water or areas supporting disturbed or upland scrub vegetation were considered CDFW streambed, and all areas supporting wetlands and/or vegetation communities dominated by wetland vegetation were considered CDFW riparian (Figure 9, Sheets 1 through 4).

#### **5.1.7 Summary of Jurisdictional Features within Hidden Valley Wetlands Site**

Within the Hidden Valley Wetlands site, there is a total of 55.39 acres of Waters of the U.S. and State under the jurisdiction of USACE and RWQCB. Refer to Table 2 for a breakdown of the amount and type of waters of the U.S. that occur within the survey area. Refer to Table 3 for a breakdown of the amount and type of waters of the State that occur within the survey area. There are 143.52 acres of CDFW jurisdiction. Refer to Table 4 for a breakdown of the amount and type of CDFW jurisdictional waters that occur within the survey area.

## 5.2 Lower Hole Creek

Hole Creek is confined within a small and steep valley and is divided into an upper reach (“Upper Hole Creek”) and lower reach (“Lower Hole Creek”) by Jurupa Avenue, where the stream passes under the road through a large 40-foot concrete box culvert with extensive downstream protections. The Lower Hole Creek site begins downstream of Jurupa Avenue where the stream passes under the road through a large 40-foot concrete box culvert with extensive downstream protections and contains three features. A summary of each feature is provided below. Waters of the U.S. under the jurisdiction of USACE are shown on Figure 4, Waters of the State under the jurisdiction of RWQCB are shown on Figure 7, and CDFW jurisdictional waters are shown on Figure 10.

### 5.2.1 Lower Hole Creek Channel

The upstream half of Lower Hole Creek has steep banks, is heavily affected by human use, and has many access trails running down the banks and across the stream. In the downstream half of Lower Hole Creek, stream meandering is prevented by a steep bedrock wall along the western side of the stream and by bank stabilization in the form of interlocking concrete mat and Pedley Landfill on the eastern side of the stream. OHWM is present along the entire creek consisting of shelving and vegetation destruction. Fringing wetland habitat is present along portions of the creek with more substantial wetlands present within the floodplain of the Santa Ana River near the creek’s confluence with the river. Fringed wetland habitat is dominated by black willow, mulefat, saltcedar (*Tamarix ramosissima*), Pacific willow (*Salix lasiandra*), and white sweet clover (*Melilotus albus*).

Areas supporting open water or nonvegetated low-flow channel were considered CDFW streambed. CDFW riparian vegetation is present along most of the upstream half of Lower Hole Creek, and is less abundant along the downstream reach. CDFW riparian habitat is dominated by black willow, tree of heaven (*Ailanthus altissima*), velvet ash (*Fraxinus velutina*), Southern California grape, giant reed (*Arundo donax*), cocklebur (*Xanthium strumarium*), and castor bean (*Ricinus communis*).

### 5.2.2 Unnamed Drainage 1

Drainage 1 is an unnamed eastern tributary to Lower Hole Creek, fed by urban runoff through a culvert that runs under the bike path and Van Buren Boulevard. The banks below the culvert are severely eroded and are steep along the entire drainage. This drainage supports OHWM but does not support wetland habitat.

CDFW streambed includes the open water areas/unvegetated low-flow channel. CDFW riparian vegetation consists of a black willow and California ash closed canopy; the banks largely lack understory due to human access of the drainage.

### 5.2.3 Santa Ana River

The Santa Ana River flows westward along the northern edge of the site boundary. In 2010, a large flood in the Santa Ana River altered the channel morphology near the confluence with Hole Creek and caused substantial erosion into Pedley Landfill. As a result of the risk for continued erosion into the landfill, a project was initiated to excavate approximately 1.3 acres of the landfill and install interlocking concrete mat on the river’s south bank. The OHWM of the Santa Ana River now extends across the wide sandbar to the current bank of the landfill and into the downstream portion of

Lower Hole Creek. Based on the more recent site visit on October 30, 2018, this area was determined to now support wetland habitat.

#### **5.2.4 Summary of Jurisdictional Features within Lower Hole Creek Site**

Within the Lower Hole Creek site, there are 2.91 acres of waters of the U.S. and State. Refer to Table 2 for a breakdown of the amount and type of waters of the U.S. that occur within the survey area. Refer to Table 3 for a breakdown of the amount and type of waters of the State that occur within the survey area. There are 4.75 acres of CDFW jurisdiction. Refer to Table 4 for a breakdown of the amount and type of CDFW jurisdictional waters that occur within the survey area.

### **5.3 Anza Drain/Old Farm Road**

The Anza Drain/Old Farm Road site contains seven features, some of which support wetland habitat. The summary below includes descriptions of each feature. Waters of the U.S. under USACE jurisdiction are shown on Figure 5, Overview and Sheets 1 through 9, Waters of the State under RWQCB jurisdiction are shown on Figure 8, Overview and Sheets 1 through 9, and CDFW jurisdictional waters extend well beyond the OHWM and include the entire floodplain area as shown on Figure 11, Overview and Sheets 1 through 9.

The site is entirely within the wide floodplain of the Santa Ana River; therefore, the jurisdictional limits of CDFW extend throughout much of the site well beyond the OHWM and wetland limits. Additional details on how CDFW jurisdictional limits were delineated for this site are discussed under the Santa Ana River description.

#### **5.3.1 Old Farm Road Channel**

This drainage is the former Old Farm Road Channel (also referred to as Old Ranch Creek), which originates from a 10-foot concrete box culvert in the southeastern corner of the site and flows in a northwesterly direction. This drainage is also fed by stormwater runoff from surrounding habitat via an outlet that occurs near the southwest corner of the closed Tequesquite Landfill property (Figures 5, 8, and 11, Sheet 6).

The Old Farm Road Channel used to connect with the Santa Ana River based on observation of an aerial image from 1948. Observation of a 1980 aerial shows that a flood likely occurred sometime between 1966 and 1980 that caused the Santa Ana River to shift to the south and erode the downstream half of the Old Farm Road Channel that connected with the river. The signature of this previous channel alignment is still observable today by an arcing swath of dense vegetation and topographic changes. It does not appear the river has migrated south into this area since a flood that occurred prior to the 1980 aerial. The presence of Tequesquite Landfill on the eastern boundary of the site likely constrains the ability of the Santa Ana River to migrate south into the area it formerly occupied.

The upstream portion of this drainage supports OHWM indicators consisting of shelving and sediment sorting and is vegetated with predominantly upland species. However, after passing a low-flow road crossing, the drainage turns westward, and becomes a broader and less-defined channel (Figures 5, 8, and 11, Sheets 5 and 6). This segment of the Old Farm Road Channel supports wetland habitat dominated by black willow, arroyo willow, giant reed, common fig (*Ficus carica*), Southern California grape, willow baccharis (*Baccharis salicina*), and Fremont cottonwood. Directly

downstream of a well-defined dirt road/trail that crosses the Old Farm Road Channel, approximately halfway along its length (Figures 5, 8, 11, Sheet 6), the drainage is confined in a steep channel supporting wetland habitat (Figures 5 and 8, Sheet 5). Riparian trees are sparse and Southern California grape covers most of the drainage.

At the downstream end of the Old Farm Road channel, sediment accumulation has resulted in a natural berm and a subsequent shallow pool. From this point water may spill out and over the berm at high flows and enter an unnamed ephemeral drainage. In addition, Old Farm Road Channel appears to split off at the upstream end where a distributary channel (Drainage 2) heads south (Figures 5 and 8, Sheet 6) and connects to Anza Drain (described below under Drainage 2).

### **5.3.2 Unnamed Ephemeral Drainage**

An unnamed ephemeral drainage begins at the downstream end of Old Farm Road channel. The drainage appears to be fed during high events from the spill-out from Old Farm Road channel as well as over-banking by the Santa Ana River and other small swale features in the floodplain. The water accumulates and enters the upstream end of the ephemeral drainage and continues through desert wash conditions (Figures 5, 8, and 11, Sheets 4, 5, and 8). The ephemeral drainage continues southwest supporting OHWM indicators consisting of shelving and sediment sorting dominated by salt grass (*Distichlis spicata*), mulefat, and Fremont cottonwood before flowing toward the wetland habitat associated with Anza Drain.

### **5.3.3 Drainage 2**

Drainage 2 is an unnamed northern distributary of the Old Farm Road Channel that flows southwest into a large depressional area that receives runoff from Anza Drain to the south where it outlets at the bicycle trail (Figures 5 and 8, Sheets 5, 6, and 9). This feature does not support OHWM indicators but appears to be a large wetland habitat that splits off of Old Farm Road Channel and travel south connecting to wetland supported by Anza Drain. The feature is heavily vegetated with riparian/wetland species dominated by arroyo willow, black willow, willow baccharis, salt grass, Yerba mansa (*Anemopsis californica*), Southern California grape, and California blackberry (*Rubus ursinus*).

### **5.3.4 Depression 2**

This depressional wetland feature is east of Drainage 2 (Figure 5, Sheet 6). Wetland habitat is dominated by Yerba mansa and supports hydric soils.

Previously mapped depression 1 occurred within a low area of a trail and was dominated by Yerba mansa, upon further investigation with the USACE on October 30, 2018 and completion of a wetland datasheet by the USACE, depression 1 was determined to not meet a three-parameter wetland. Therefore, this small depression has been removed from this report.

### **5.3.5 Anza Drain**

The Anza Drain is the larger drainage that flows along the southern edge of the site (Figures 5 and 8, Sheets 3, 7, 8, and 9). This drainage supports OHWM indicators consisting of shelving, vegetation destruction, and sediment sorting. This drainage also supports wetland/riparian habitat. The upper 2,000 feet of the present-day Anza Drain channel was the active channel of the Santa Ana River in

1931, which had a large meander bend that extended south up against the present-day bicycle trail. Portions of the middle section of the present Anza Drain are located on land that appears to be a terrace feature in the 1931 aerial. A flood event that occurred prior to 1980 appears to have eroded portions of this high ground where the Anza Drain channel is presently located near Anza Narrows Park. The confluence of the present-day Anza Drain channel with the Santa Ana River is a dynamic area, as the exact location of the confluence changes depending on shifts in the position of the Santa Ana River in response to flood events.

Flows originate from a large 20-foot concrete box culvert under the Santa Ana River bike trail (Figures 5 and 8, Sheet 9, and Figure 8, Sheet 9) and a concrete box culvert that enters from the southeast corner of Anza Narrows Park (Figures 5 and 8, Sheet 7). Surface water was present during the survey at the upstream and downstream segments of this drainage. Surface flow is consistently weak from Anza Drain outlet until the middle segment of this drainage, at which point additional groundwater springs help sustain flow and creates more of a single thread perennial channel (Figures 5 and 8, Sheets 8 and 9).

At a trail crossing (Figures 5 and 8, Sheet 8), where the drainage was accessible, the Anza Drain consisted of a small wetted channel. Proceeding downstream, the surface flow quickly grew due to groundwater upwelling and stormwater runoff from the concrete box culvert located at the southeast corner of Anza Narrows Park (Figures 5 and 8, Sheet 7) that drains higher-elevation land to the south. At the time of the survey, water temperatures in the Anza Drain were considerably cooler than in the Santa Ana River, indicating groundwater upwelling may be occurring. The drainage becomes well defined approximately 0.6 mile upstream of the confluence with the Santa Ana River; at this location the banks are steep and OHWM extent more confined (Figures 5 and 8, Sheets 3 and 7). Wetland habitat surrounding the Anza Drain is supported by stormwater inputs from the upstream outfall, high groundwater, and several tributaries that enter the drainage. Wetlands within this drainage are dominated by sandbar willow, black willow, red willow, arroyo willow, yerba mansa, willow baccharis, white sweetclover, Broadleaved pepperweed (*Lepidium latifolium*), giant reed, Southern California grape, flatsedge (*Cyperus* sp.), California fan palm (*Washingtonia filifera*), and Mexican fan palm (*Washingtonia robusta*).

### **5.3.6 Drainage 3**

Drainage 3 is an unnamed southern tributary to Anza Drain that originates as an input through a 12-foot-wide concrete box culvert at the southwestern side of the project boundary (Figures 5 and 8, Sheet 7). This drainage also receives input from groundwater upwelling as the ground elevation drops in the western portion of the site. Drainage 3 supports OHWM indicators consisting of shelving, vegetation destruction, and sediment sorting. This drainage also supports wetland habitat dominated by dense vegetation including red willow, black willow, giant reed (*Arundo donax*), and Southern California grape. This drainage flows north until its confluence with Anza Drain

### **5.3.7 Santa Ana River**

The Santa Ana River flows westerly along the northern site boundary (Figures 5, 8 and 11, Sheets 1 through 4). OHWM of this area extends to the edge of the wetland habitat and consists of shelving, sediment sorting, and woody debris. The wetland habitat occurs within the limits of the OHWM and is dominated by black willow, arroyo willow, sandbar willow, mulefat, branching phacelia (*Phacelia*

*Ramosissima*), salt cedar, mulefat, white sweet clover, watercress (*Nasturtium officinale*), Fremont cottonwood, Ash (*Fraxinus* sp.), castor bean, and Southern California grape.

Due to the flat topography, the majority of this area was determined to be within the large floodplain of the Santa Ana River. A defined break in slope that was considered CDFW top of bank is located along the southern edge of the site along the Santa Ana River bike trail. All areas with open water or areas supporting disturbed or upland scrub vegetation were considered CDFW streambed; all areas supporting wetlands and/or vegetation communities dominated by wetland vegetation were considered CDFW riparian (Figure 11, Sheets 1 through 9).

### **5.3.8 Summary of Jurisdictional Features within Anza Drain/Old Farm Road**

Within the Anza Drain/Old Farm Road site, there are 89.95 acres of waters of the U.S and State. Refer to Table 2 for a breakdown of the amount and type of waters of the U.S. that occur within the survey area. Refer to Table 3 for a breakdown of the amount and type of waters of the State that occur within the survey area. There are 311.31 acres of CDFW jurisdiction. Refer to Table 4 for a breakdown of the amount and type of CDFW jurisdiction that occur within the survey area.

**Table 2: Waters of the U.S. under the USACE Jurisdiction within the Tributary Restoration Sites**

Site/Feature	Linear Feet	USACE		
		Non-wetland Acres <sup>1</sup>	Nonwetland (wetlands below OHWM) Acres <sup>1</sup>	Adjacent Wetlands Acres <sup>1</sup>
<b>Hidden Valley Wetlands</b>				
Drainage 1	4,079	0.31	1.01	-
Drainage 2	773	0.19	-	-
Drainage 3	4,020	-	1.82	-
Drainage 4	2,228	0.37	-	-
Drainage 5	609	0.11	-	-
Culvert	516	0.01	-	-
Depression 3	-	-	-	4.28
Depression 4	-	-	-	1.05
Depression 5	-	-	-	1.03
Depression 6	-	-	-	2.19
Santa Ana River	4,825	26.43	15.69	0.90
<i>Subtotal</i>	<i>17,050</i>	<i>27.42</i>	<i>18.52</i>	<i>9.45</i>
<b>Lower Hole Creek</b>				
Lower Hole Creek	2,173	1.63	0.42	-
Culvert	116	0.11	-	-
Drainage 1	238	0.12	-	-
Santa Ana River	171	0.24	0.38	-
<i>Subtotal</i>	<i>2,698</i>	<i>2.11</i>	<i>0.80</i>	<i>-</i>
<b>Anza Drain/Old Farm Road</b>				
Old Farm Road Channel	4,662	0.31	6.74	0.02
Unnamed Ephemeral Drainage	1,464	0.51	-	-
Depression 2	-	-	-	0.08
Drainage 2	1,076	-	-	7.09
Drainage 3	551	-	0.76	0.01
Anza Drain	8,416	0.17	11.83	33.41
Santa Ana River	7,519	6.03	23.02	-
<i>Subtotal</i>	<i>23,689</i>	<i>7.02</i>	<i>42.33</i>	<i>40.60</i>
<b>TOTAL</b>	<b>43,437</b>	<b>36.55</b>	<b>61.65</b>	<b>50.05</b>

<sup>1</sup> Total acreage may not add up to the total shown; total is reflective of rounding geographic information systems raw data in each category.

**Table 3: Waters of the State under the RWQCB Jurisdiction within the Tributary Restoration Sites**

Site/Feature	Linear Feet	RWQCB	
		Non-wetland	Wetland
		Acres <sup>1</sup>	Acres <sup>1</sup>
<b>Hidden Valley Wetlands</b>			
Drainage 1	4,079	0.31	1.01
Drainage 2	773	0.19	-
Drainage 3	4,020	-	1.82
Drainage 4	2,228	0.37	-
Drainage 5	609	0.11	-
Culvert	516	0.01	
Depression 3	-	-	4.28
Depression 4	-	-	1.05
Depression 5	-	-	1.03
Depression 6	-	-	2.19
Santa Ana River	4,825	26.43	16.59
<i>Subtotal</i>	<i>17,050</i>	<i>27.42</i>	<i>27.97</i>
<b>Lower Hole Creek</b>			
Lower Hole Creek <sup>2</sup>	2,173	1.63	0.42
Culvert	116	0.11	-
Drainage 1 <sup>2</sup>	238	0.12	-
Santa Ana River <sup>2</sup>	171	0.24	0.38
<i>Subtotal</i>	<i>2,698</i>	<i>2.11</i>	<i>0.80</i>
<b>Anza Drain/Old Farm Road</b>			
Old Farm Road Channel	4,662	0.31	6.75
Unnamed Ephemeral Drainage	1,464	0.51	-
Depression 2	-	-	0.08
Drainage 2	1,076	-	7.09
Drainage 3	551	-	0.76
Anza Drain	8,416	0.17	45.23
Santa Ana River	7,519	6.03	23.02
<i>Subtotal</i>	<i>23,689</i>	<i>7.02</i>	<i>82.93</i>
<b>TOTAL</b>	<b>43,437</b>	<b>36.55</b>	<b>111.70</b>

<sup>1</sup> Total acreage may not add up to the total shown; total is reflective of rounding geographic information systems raw data in each category.

**Table 4: CDFW Jurisdictional Waters within the Tributary Restoration Sites**

<b>Site/CDFW Categorization</b>	<b>Acres</b>
<b>Hidden Valley Wetlands</b>	
Native Riparian	112.24
Native Xeric Riparian	2.61
Nonnative Xeric Riparian	20.05
Open Water	0.41
Streambed	8.21
<i>Subtotal</i>	<i>143.52</i>
<b>Lower Hole Creek</b>	
Culvert	0.11
Native Riparian	2.23
Nonnative Xeric Riparian	0.28
Streambed	2.13
<i>Subtotal</i>	<i>4.75</i>
<b>Anza Drain/Old Farm Road</b>	
Native Riparian	250.88
Nonnative Riparian	25.17
Nonnative Xeric Riparian	27.52
Open Water	0.77
Streambed	6.97
<i>Subtotal</i>	<i>311.31</i>
<b>Total</b>	<b>459.59</b>
<sup>1</sup> Total acreage may not add up to the total shown; total is reflective of rounding geographic information systems raw data in each category.	

## 6.0 Conclusion

The Tributary Restoration Sites are within the Middle Santa Ana River hydrologic unit code 10 watershed (1807020308) (Figure 12). All potential aquatic resources described above ultimately flow into the Santa Ana River, which in turn flows into the Pacific Ocean (a Traditional Navigable Waterway). All potential aquatic resources described in this letter report meet the definition of a tributary and therefore would be subject to regulation under Sections 404 and 401 of the Clean Water Act. They would also be subject to CDFW jurisdiction under Sections 1600–1616 of the California Fish and Game Code.

The information and results presented herein document the investigation, best professional judgment, and conclusions of ICF. It is correct and complete to the best of our knowledge. All jurisdictional delineations should be considered preliminary until reviewed and approved/determined by the regulatory agencies.

### Attachments

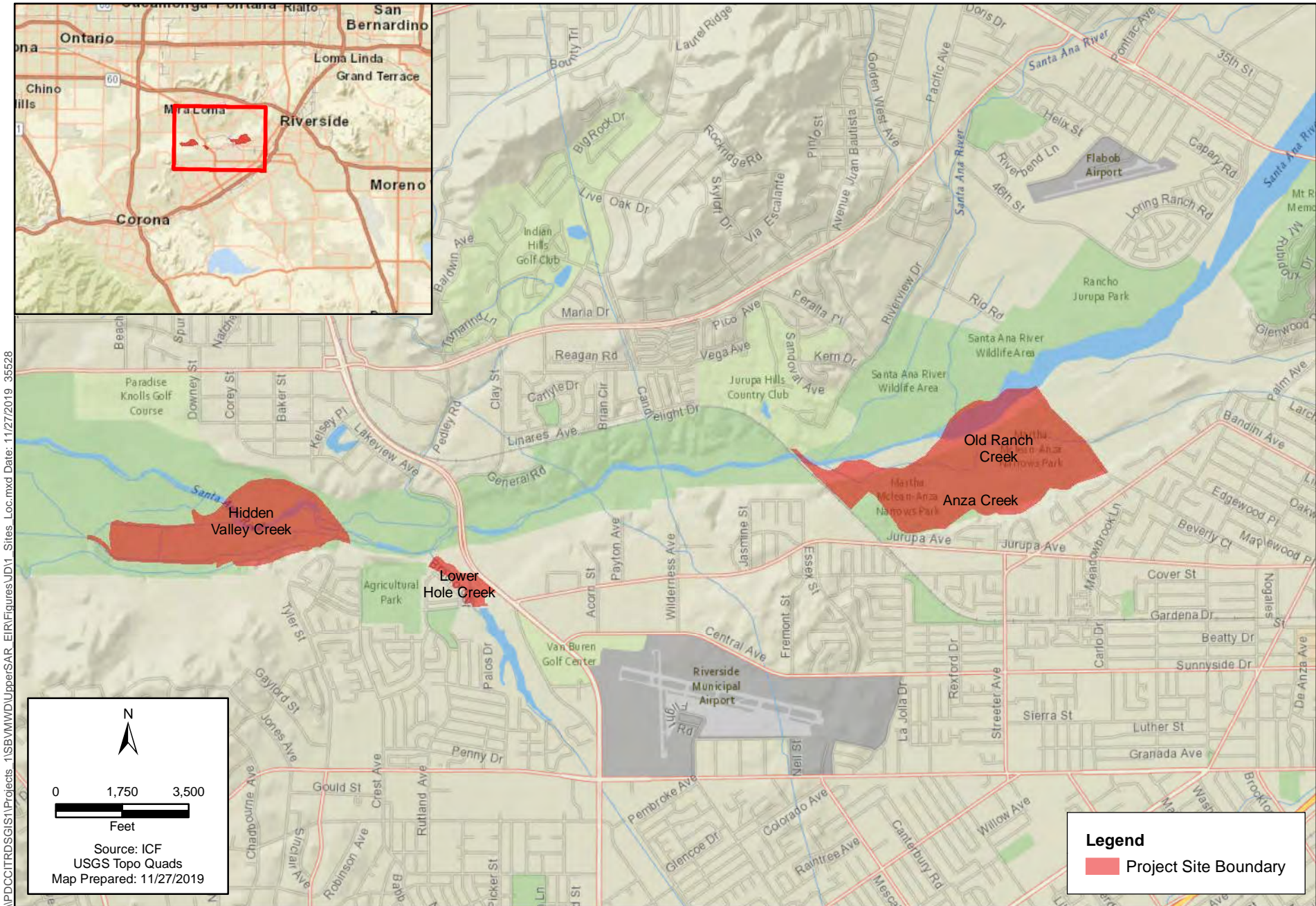
1. Figures
  - 1 Regional Vicinity Map
  - 2 Project Vicinity Map
  - 3 Jurisdictional Waters of the U.S.: Hidden Valley Wetlands
  - 4 Jurisdictional Waters of the U.S.: Lower Hole Creek
  - 5 Jurisdictional Waters of the U.S.: Anza Drain/Old Farm Road
  - 6 Jurisdictional Waters of the State: Hidden Valley Wetlands
  - 7 Jurisdictional Waters of the State: Lower Hole Creek
  - 8 Jurisdictional Waters of the State: Anza Drain/Old Farm Road
  - 9 CDFW Jurisdictional Waters: Hidden Valley Wetlands
  - 10 CDFW Jurisdictional Waters: Lower Hole Creek
  - 11 CDFW Jurisdictional Waters: Anza Drain/Old Farm Road
  - 12 Watershed: Hydrologic Unit Code 10 Map
2. Photo Log
3. Wetland Data Forms

## 7.0 References

- Danelski, David. 2014. Riverside: Waterfowl ponds dry and languishing at county park. Article in *The Press Enterprise* published March 25, 2014. Available: <http://www.pe.com/articles/city-688799-water-ponds.html>.
- Environmental Laboratory. 1987. *Corps of Engineers Wetland Delineation Manual*. Technical Report Y-87-1. Vicksburg, MS: U.S. Army Engineer Waterways Experimental Station.
- 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.
- U.S. Army Corps of Engineers (USACE). 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Version 2.0. Vicksburg, MS: U.S. Army Engineer Research and Development Center. Report dated September 2008.
- . 2008b. A Field Guide to the Identification of the Ordinary High Water Mark in the Arid West Region of the Western United States: A Determination Manual. August. Available: <http://www.crrel.usace.army.mil/library/technicalreports/ERDC-CRREL-TR-08-12.pdf>.
- U.S. Department of Agriculture, Natural Resources Conservation Service (USDA/NRCS). 1994. Changes in Hydric Soils of the United States. *Federal Register* 59(133): 35680–35681, July 13, 1994.
- . 2010. *Field Indicators of Hydric Soils in the United States, Version 7.0*. L. M. Vasilas, G. W. Hurt, and C. V. Noble (eds.). USDA, NRCS, in cooperation with the National Technical Committee for Hydric Soils.
- U.S. Geological Survey (USGS). 1953. Amended 1980. *Riverside West, California, 7.5-minute Quadrangle*.

Attachment 1  
**Figures**

---



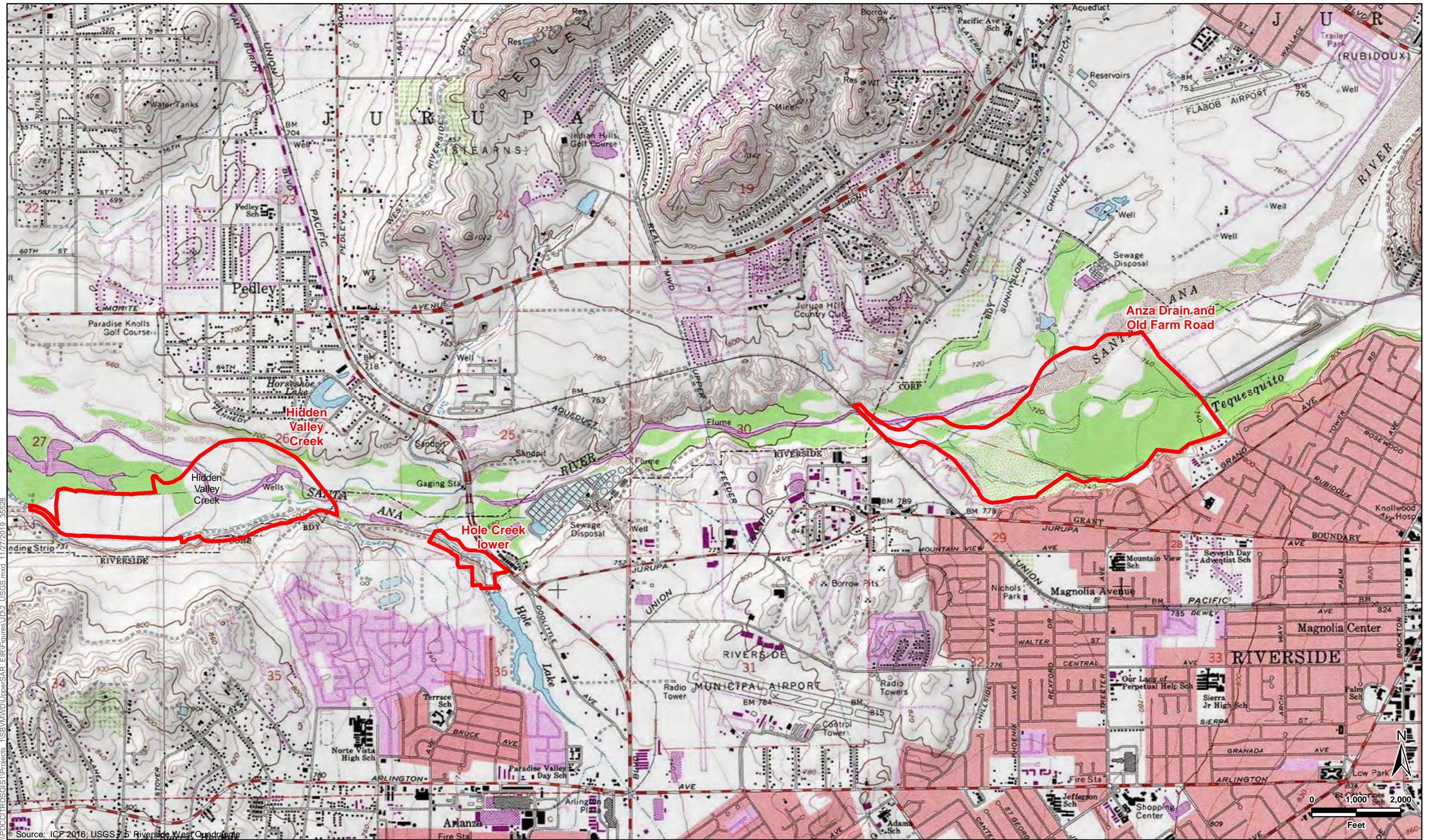
I:\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\JD1\_Sites\_Loc.mxd Date: 11/27/2019 35528

N  
 0 1,750 3,500  
 Feet  
 Source: ICF  
 USGS Topo Quads  
 Map Prepared: 11/27/2019

**Legend**  
 Project Site Boundary


**Figure 1**  
**Project Location Map**  
**Upper Santa Ana River Restoration Project**



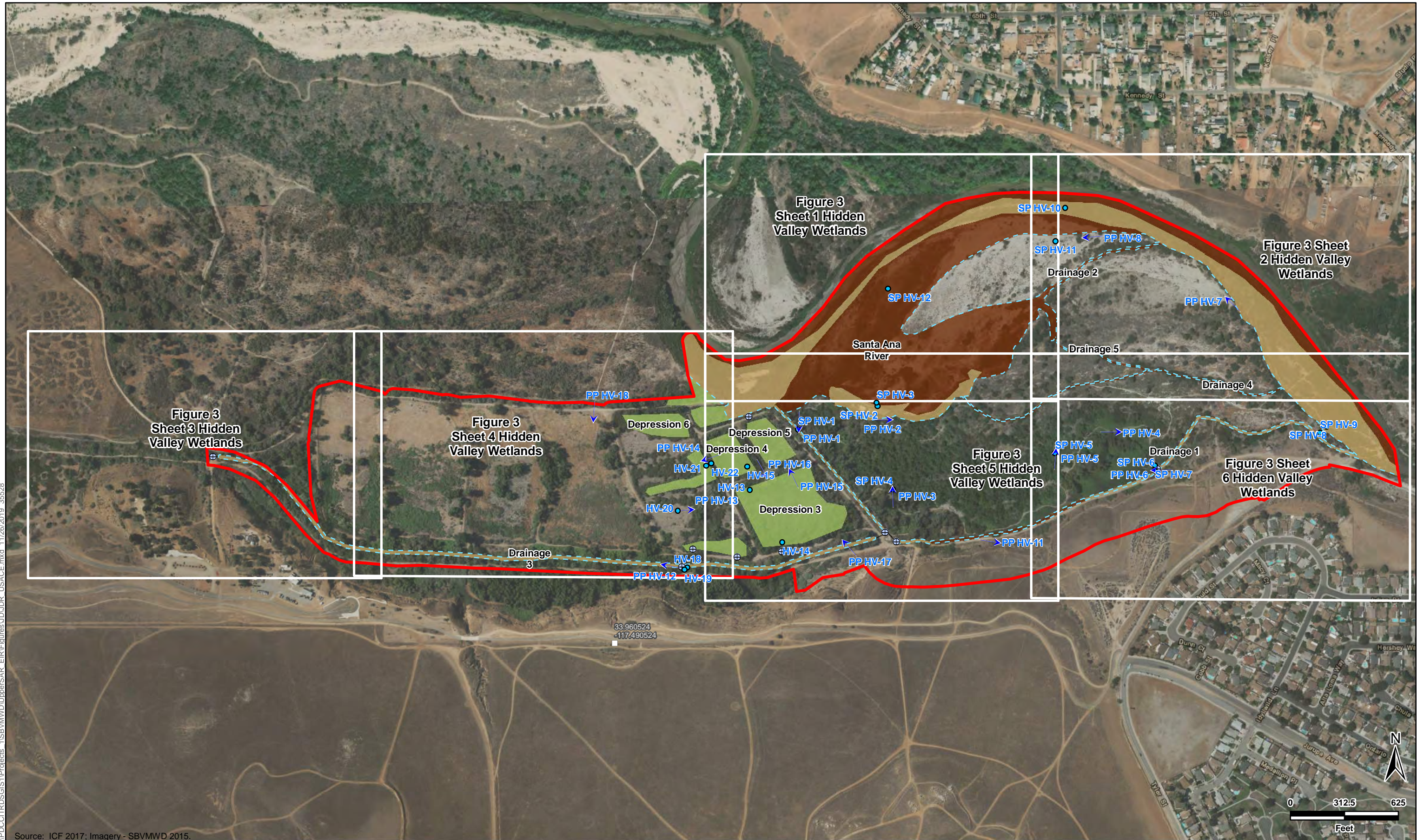


\P\DC\ITR\GIS\Projects\_1\SB\MWD\UpperSAR\_EIR\Figures\UD2\_USGS.mxd 11/27/2019 3:55:28

Source: ICF 2016; USGS 7.5' Riverside West Quadrangle


▭ Tributary Restoration Site Boundary

**Figure 2**  
**Project Location**  
**Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |  |
|---|--|
| <span style="color: red;">▭</span> Study Areas      | <b>Waters of the U.S.</b>  |
| <span style="color: blue;">- - -</span> OHWM Limits | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   |
|   | <span style="background-color: #808080; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Culvert  |
|   | <span style="background-color: #A52A2A; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   |
|   | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |

- ⊕ Culvert
- Photo Point
- Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Overview Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\DRS\GIS\1\Projects - 1\SBVMWD\UpperSAR - EIR\Figures\UD\UDR\_USACE.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



Study Areas  
 OHWM Limits

**Waters of the U.S.**  
 Adjacent Wetland  
 Nonwetland  
 Nonwetland (Meets wetland criteria but located within OHWM\*)

● Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 1 Hidden Valley Wetlands Site  
 Jurisdictional Waters of the U.S  
 Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\JDR\_USACE.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |   |
|---|---|
| <span style="color: red;">▭</span> Study Areas      | <b>Waters of the U.S.</b>   |
| <span style="color: blue;">- - -</span> OHWM Limits | <span style="background-color: #8B4513; width: 15px; height: 10px; display: inline-block;"></span> Nonwetland   |
|   | <span style="background-color: #D2B48C; width: 15px; height: 10px; display: inline-block;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |

- Photo Point
- Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 2 Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



\IPDC\ITRDS\GIS\1\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/26/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |   |  |
|--|---|--|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the U.S.</b>   | <span style="display: inline-block; width: 10px; height: 10px; border: 1px solid black; border-radius: 50%;"></span> Culvert |
| <span style="border-bottom: 2px dashed blue; width: 20px;"></span> OHWM Limits                             | <span style="display: inline-block; width: 15px; height: 10px; background-color: black;"></span> Culvert  |  |
|  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #d2b48c;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |  |

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 3 Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\PDC\ITR\DSGIS\1\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/26/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |  |
|--|--|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the U.S.</b>  |
| <span style="border-bottom: 2px dashed blue; width: 20px;"></span> OHWM Limits                             | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   |
|  | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   |
|  | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |

- + Culvert
- Photo Point
- Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 4 Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\EIR\Figures\UD\DR\_USACE.mxd 11/26/2019 3:55:28

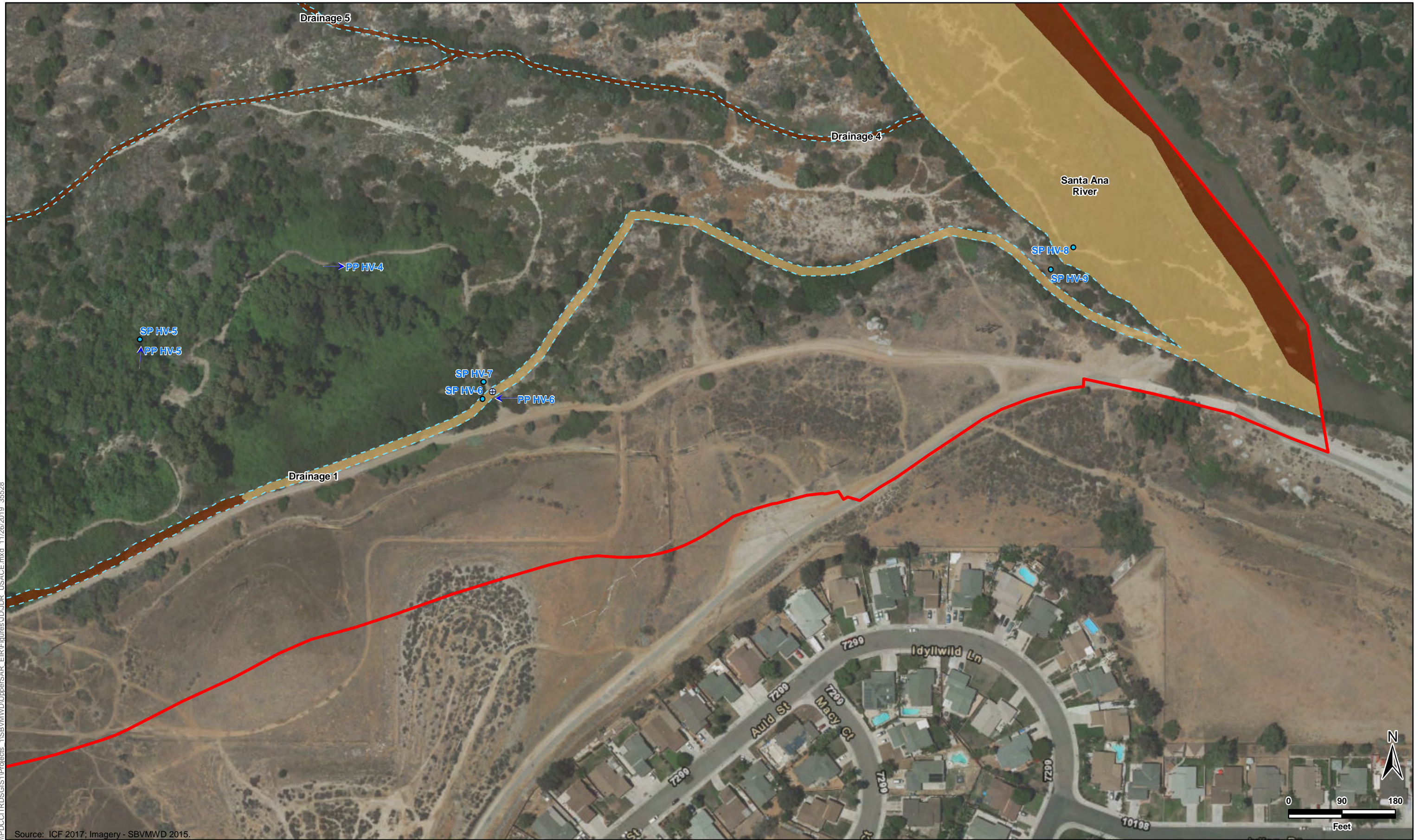
Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |  |   |
|---|--|---|
| <span style="color: red;">▭</span> Study Areas      | <b>Waters of the U.S.</b>  | <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">⊕</span> Culvert |
| <span style="color: blue;">- - -</span> OHWM Limits | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   | <span style="color: blue;">→</span> Photo Point   |
|   | <span style="background-color: #654321; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Culvert  | <span style="color: blue;">●</span> Sample Point  |
|   | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   |   |
|   | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |   |

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 5 Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\Projects\15BVMWWD\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |  |   |
|---|--|---|
| <span style="color: red;">▭</span> Study Areas      | <b>Waters of the U.S.</b>  | <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">⊕</span> Culvert |
| <span style="color: cyan;">- - -</span> OHWM Limits | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   | <span style="color: blue;">→</span> Photo Point   |
|   | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   | <span style="color: blue;">●</span> Sample Point  |
|   | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |   |

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 3 Sheet 6 Hidden Valley Wetlands Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



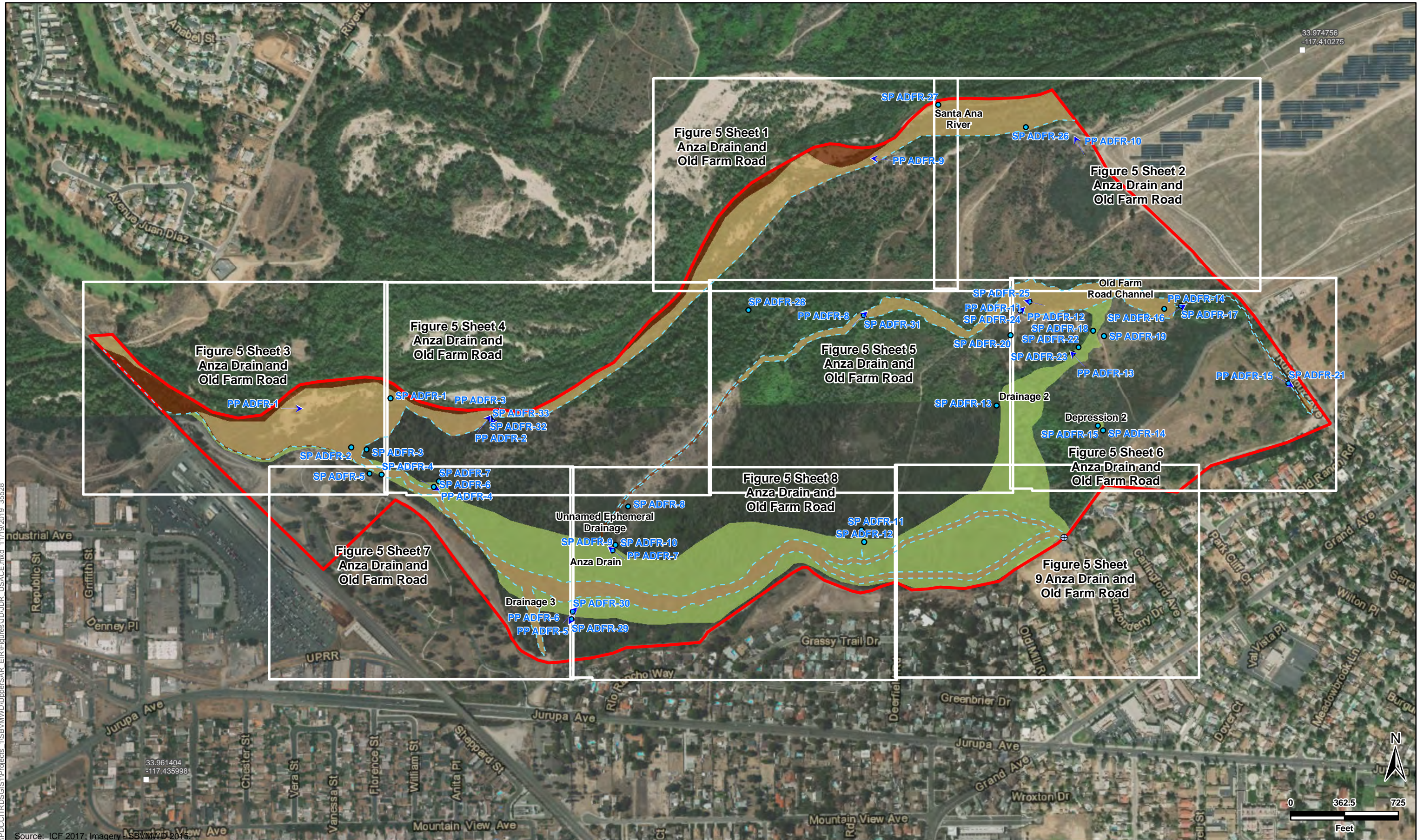
I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 4 Lower Hole Creek Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\Projects\15B\MMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28  
 I:\Projects\15B\MMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery: SBMMWD 2016



\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Overview Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the U.S**  
**Upper Santa Ana River Restoration Project**



I:\P\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



Study Areas  
 OHWM Limits

**Waters of the U.S.**  
 Nonwetland  
 Nonwetland (Meets wetland criteria but located within OHWM\*)

→ Photo Point  
● Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 1 Anza Drain and Old Farm Road Site  
 Jurisdictional Waters of the U.S  
 Upper Santa Ana River Restoration Project**



I:\PDC\ITRDS\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28



- ▭ Study Areas
- - - OHWM Limits
- Nonwetland (Meets wetland criteria but located within OHWM\*)
- Photo Point
- Sample Point

**Waters of the U.S.**

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 2 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\Projects\15BVMWWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 35528  
 Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |  |
|--|--|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the U.S.</b>  |
| <span style="border-bottom: 1px dashed cyan; width: 20px; display: inline-block;"></span> OHWM Limits      | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   |
|  | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   |
|  | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |

- Photo Point
- Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 3 Anza Drain and Old Farm Road Site Jurisdictional Waters of the U.S Upper Santa Ana River Restoration Project**



I:\Projects\18BVMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28  
 I:\Projects\18BVMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |   |  |
|---|---|--|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Study Areas | <b>Waters of the U.S.</b>   | <span style="color: blue;">→</span> Photo Point  |
| <span style="border-bottom: 1px dashed blue; width: 20px; margin-right: 5px;"></span> OHWM Limits                             | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Adjacent Wetland   | <span style="color: blue;">●</span> Sample Point |
|   | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Nonwetland   |  |
|   | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |  |

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 4 Anza Drain and Old Farm Road Site Jurisdictional Waters of the U.S Upper Santa Ana River Restoration Project**



I:\P\CCITR\DRS\GIS\1\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |  |  |
|--|--|--|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the U.S.</b>  | <span style="color: blue;">→</span> Photo Point  |
| <span style="border-bottom: 1px dashed blue; display: inline-block; width: 20px;"></span> OHWM Limits      | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Adjacent Wetland   | <span style="color: blue;">●</span> Sample Point |
|  | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland   |  |
|  | <span style="background-color: #D2B48C; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonwetland (Meets wetland criteria but located within OHWM*) |  |

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 5 Anza Drain and Old Farm Road Site Jurisdictional Waters of the U.S Upper Santa Ana River Restoration Project**



I:\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015.



- Study Areas
- OHWM Limits
- Adjacent Wetland
- Nonwetland
- Nonwetland (Meets wetland criteria but located within OHWM\*)

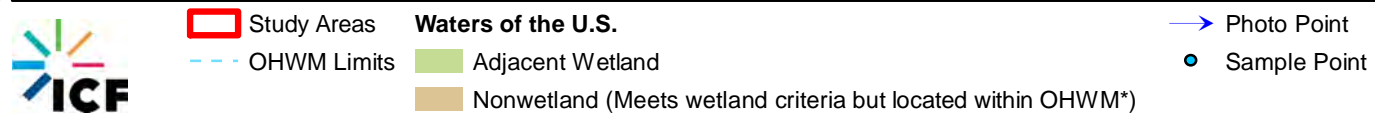
- Photo Point
- Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 6 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



\P\DC\ITR\DSGIS\1\Projects - 1\SBVMWD\UpperSAR - EIR\Figures\UD\UDR - USACE.mxd 11/19/2019 3:55:28  
 Source: ICF 2017; Imagery - SBVMWD 2015.



\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 7 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\Projects\15BVMWD\UpperSAR\_EIR\Figures\UD\DR\_USACE.mxd 11/19/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015.



Study Areas  
 OHWM Limits

**Waters of the U.S.**

Adjacent Wetland  
 Nonwetland  
 Nonwetland (Meets wetland criteria but located within OHWM\*)

→ Photo Point  
● Sample Point

\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 8 Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the U.S**  
**Upper Santa Ana River Restoration Project**



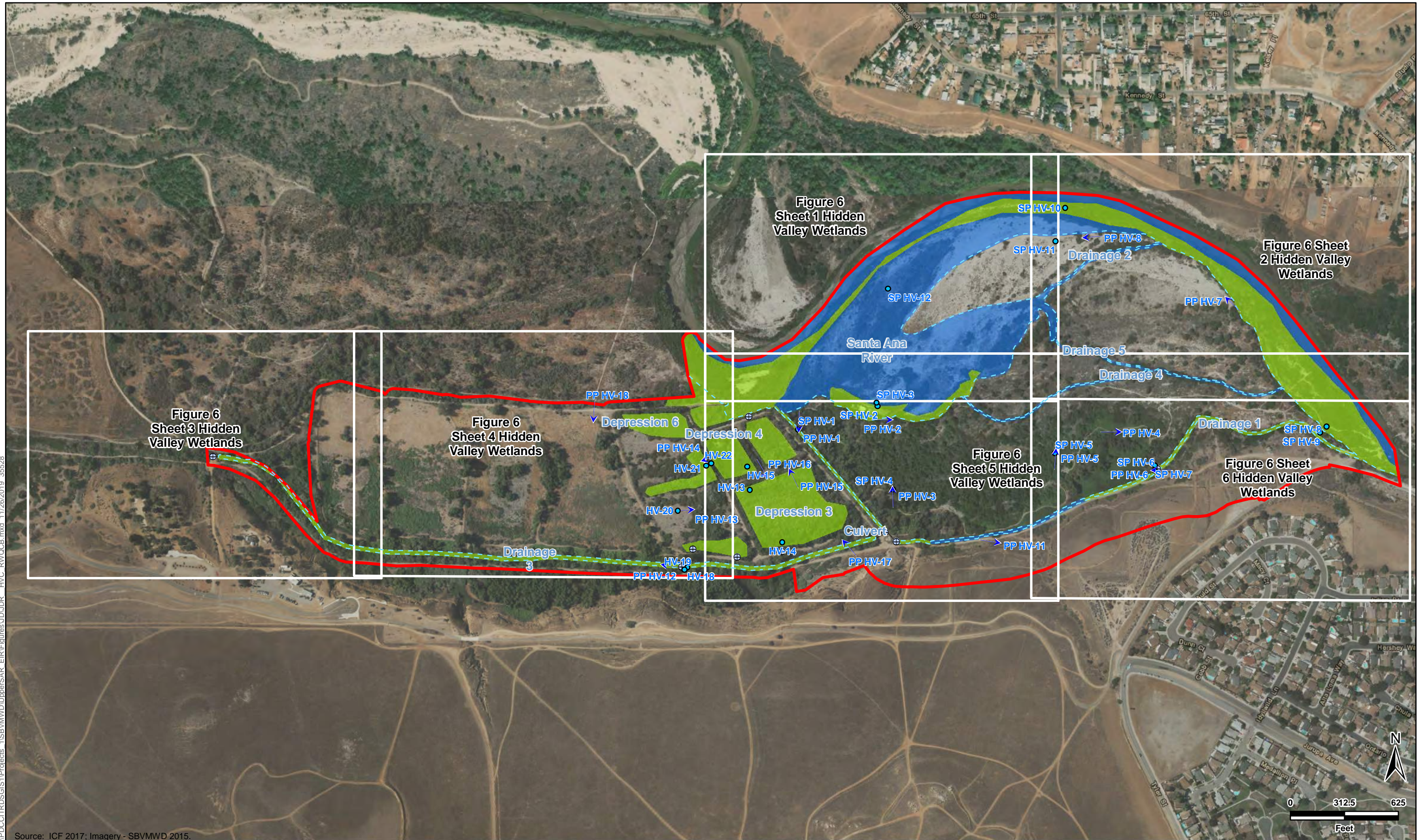
I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_USACE.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



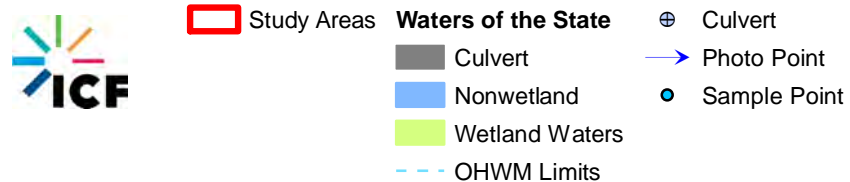
\* Revised to be described this way per our 10/30 field meeting with Michael Ladouceur, Senior Project Manager (USACE)

**Figure 5 Sheet 9 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the U.S  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 6 Overview Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



\\PDC\ITRDS\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_R\W\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



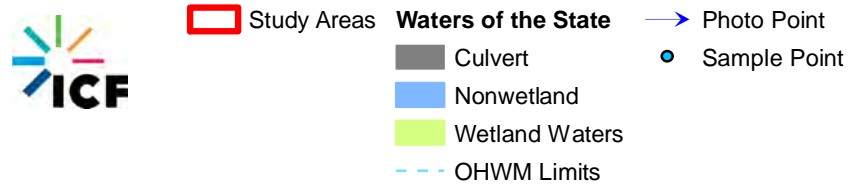
- Study Areas
- Waters of the State**
- Culvert
- Nonwetland
- Wetland Waters
- OHWM Limits
- Sample Point

**Figure 6 Sheet 1 Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 6 Sheet 2 Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



\IPDCCITRDSGIS\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- ▭ Study Areas
- Waters of the State**
- Culvert
- Nonwetland
- Wetland Waters
- OHWM Limits
- ⊕ Culvert

**Figure 6 Sheet 3 Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\DSGIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



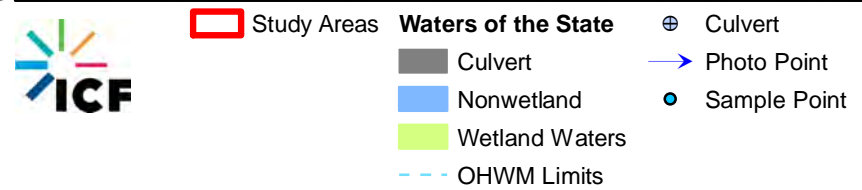
- |  |   |   |
|--|---|---|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the State</b>  | <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">+</span> Culvert |
| <span style="background-color: gray; width: 15px; height: 10px;"></span> Culvert                           | <span style="background-color: blue; width: 15px; height: 10px;"></span> Nonwetland                   | <span style="color: blue;">→</span> Photo Point   |
| <span style="background-color: lightgreen; width: 15px; height: 10px;"></span> Wetland Waters              | <span style="border-bottom: 1px dashed blue; width: 15px; display: inline-block;"></span> OHWM Limits | <span style="color: blue;">•</span> Sample Point  |

**Figure 6 Sheet 4 Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMWD\UpperSAR\EIR\Figures\UD\DR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.

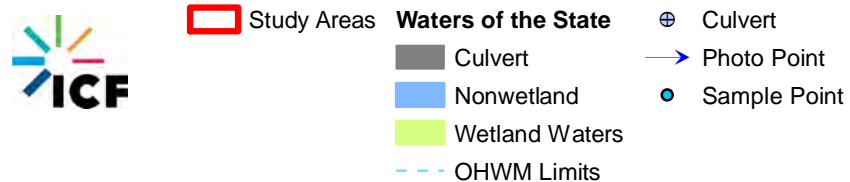


**Figure 6 Sheet 5 Hidden Valley Wetlands Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\Projects\158\158MWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_RV\OCB.mxd 11/26/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.

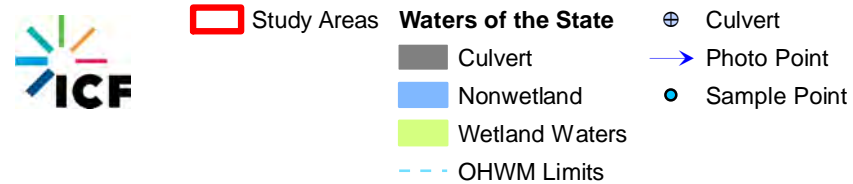


**Figure 6 Sheet 6 Hidden Valley Wetlands Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**

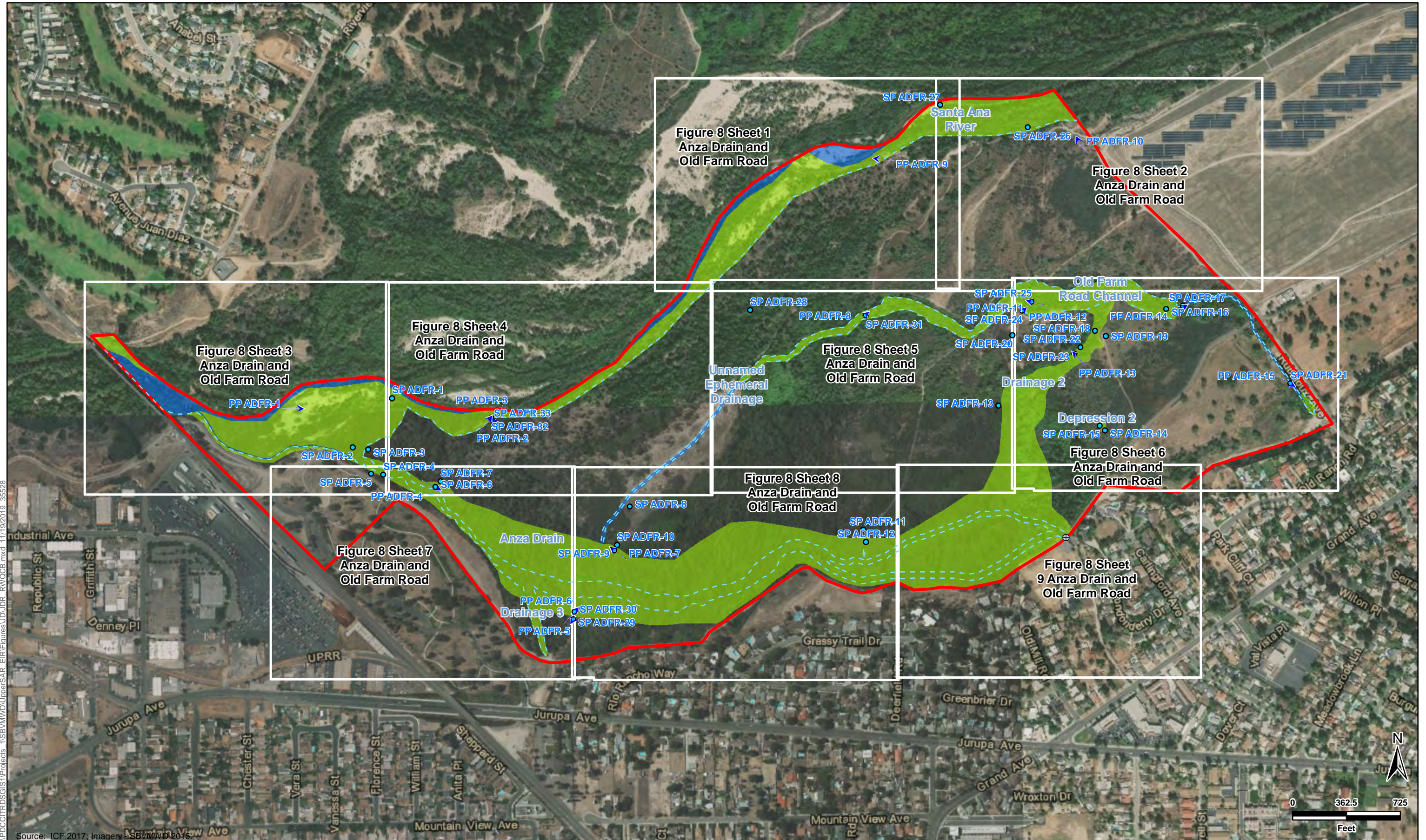


\P\DC\ITR\GIS\1\Projects - 1\SBVMW\UpperSAR EIR\Figures\UD\DR\_R\WOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 7 Lower Hole Creek Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



**Figure 8 Overview Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**



\P\DC\ITR\DRS\GIS\1\Projects - 1\SBVMWD\UpperSAR\_EIR\Figures\UD\JDR\_RWOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- Study Areas
- Waters of the State**
- Culvert
- Nonwetland
- Wetland Waters
- OHWM Limits
- Photo Point
- Sample Point

**Figure 8 Sheet 1 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



\IPDCCITRDSGIS\Projects\1\SBVMWWD\UpperSAR\_EIR\Figures\UD\DR\_RWOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- Study Areas
- Waters of the State
- Culvert
- Nonwetland
- Wetland Waters
- OHWM Limits
- Photo Point
- Sample Point

**Figure 8 Sheet 2 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\Projects\15BVMWD\UpperSAR\_EIR\Figures\UD\UDR\_RWOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- Study Areas
- Waters of the State**
- Culvert
- Nonwetland
- Wetland Waters
- OHWM Limits
- Photo Point
- Sample Point

**Figure 8 Sheet 3 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_RWOCB.mxd 11/19/2019 3:55:28  
 Source: ICF 2017; Imagery - SBVMWD 2015.

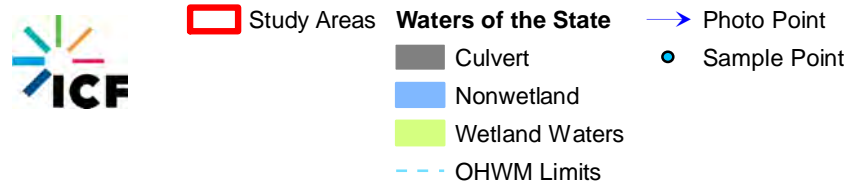
**ICF**

<span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas	<b>Waters of the State</b>	<span style="color: blue;">→</span> Photo Point
<span style="display: inline-block; width: 15px; height: 10px; background-color: gray;"></span> Culvert	<span style="display: inline-block; width: 15px; height: 10px; background-color: lightblue;"></span> Nonwetland	<span style="color: blue;">●</span> Sample Point
<span style="display: inline-block; width: 15px; height: 10px; background-color: lightgreen;"></span> Wetland Waters	<span style="border-bottom: 1px dashed white; width: 15px; display: inline-block;"></span> OHWM Limits	

**Figure 8 Sheet 4 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



Source: ICF 2017; Imagery - SBVMWD 2015.

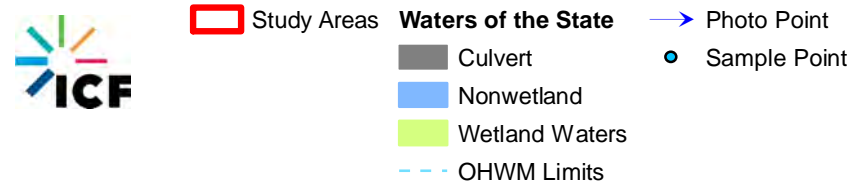


**Figure 8 Sheet 5 Anza Drain and Old Farm Road Site  
Jurisdictional Waters of the State  
Upper Santa Ana River Restoration Project**



I:\Projects\15BVMWD\UpperSAR\_EIR\Figures\UD\UDR\_RWOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.

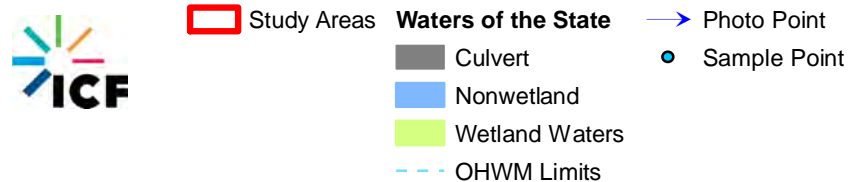


**Figure 8 Sheet 6 Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**



I:\Projects\15BVMW\UpperSAR\_EIR\Figures\UD\UDR\_R\WOCB.mxd 11/19/2019 3:55:28

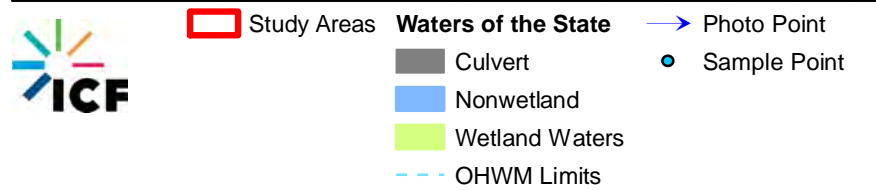
Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 8 Sheet 7 Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**



I:\P\CCITRDSGIS\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\DR\_RWOCB.mxd 11/19/2019 3:55:28  
 Source: ICF 2017; Imagery - SBVMWD 2015

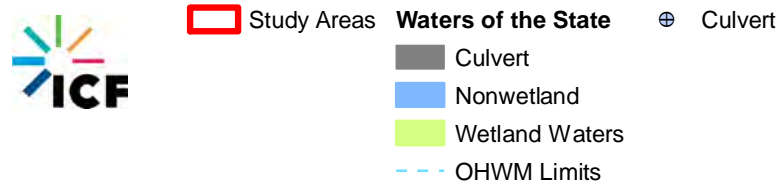


**Figure 8 Sheet 8 Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**

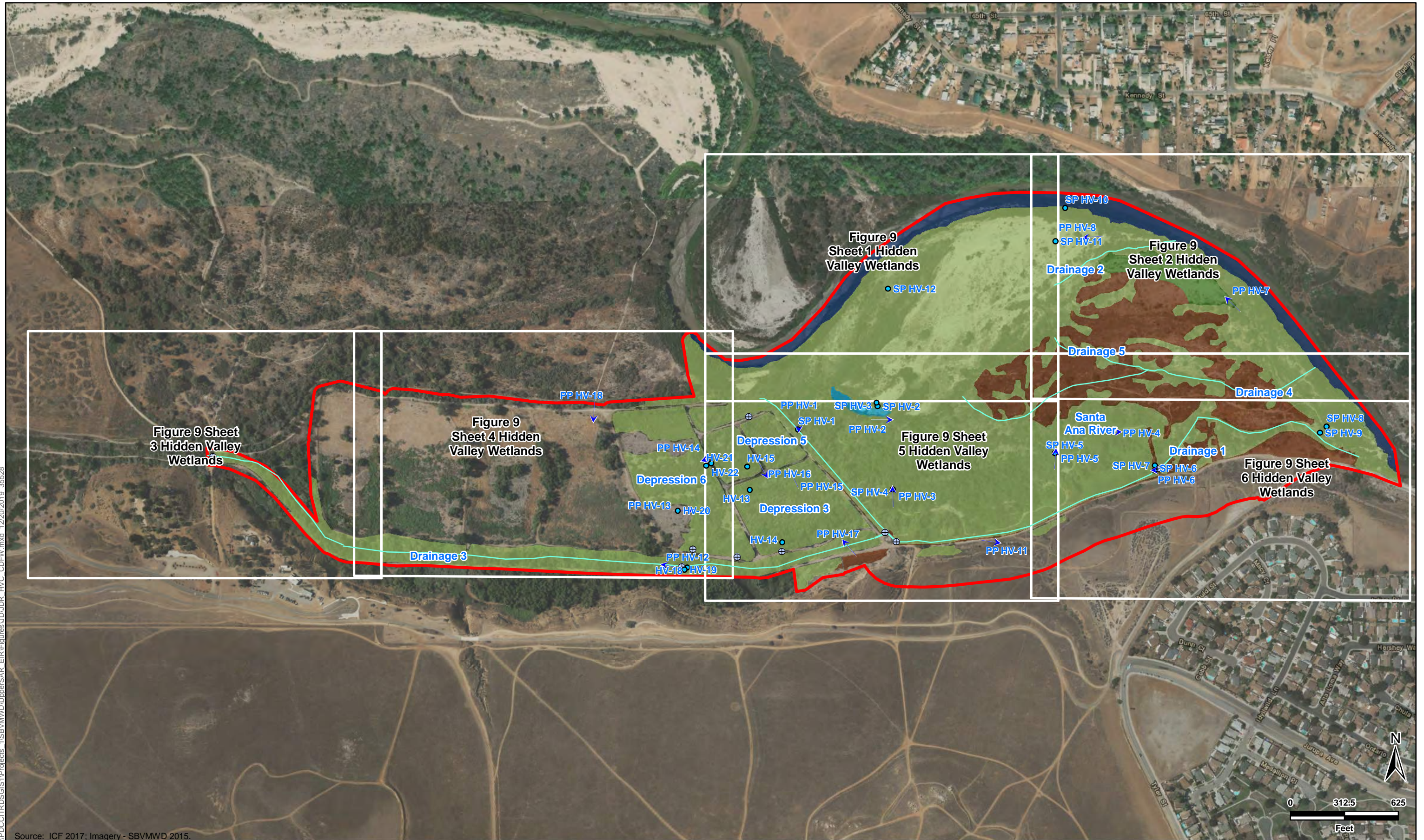


I:\Projects\15BVMW\UpperSAR\_EIR\Figures\UD\DR\_RWOCB.mxd 11/19/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 8 Sheet 9 Anza Drain and Old Farm Road Site**  
**Jurisdictional Waters of the State**  
**Upper Santa Ana River Restoration Project**



I:\P\CCITRDSGIS\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 9 Overview Hidden Valley Wetlands Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



I:\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.

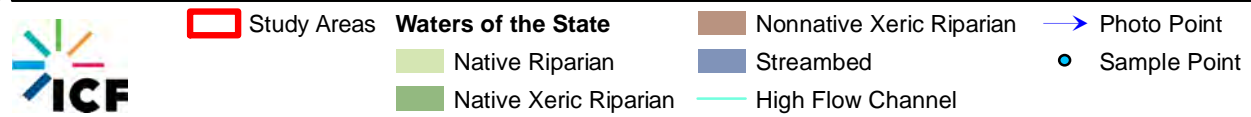
	Study Areas	<b>Waters of the State</b>	Open Water	Sample Point
		Native Riparian	Streambed	
		Nonnative Xeric Riparian	High Flow Channel	

**Figure 9 Sheet 1 Hidden Valley Wetlands Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



I:\P\CCITR\DRS\GIS\1\Projects\_1\SBVMWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 9 Sheet 2 Hidden Valley Wetlands Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



I:\PDC\ITRDS\GIS\1\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\UDR\_HVC\_CDFW.mxd 12/20/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015.



- Study Areas
- Waters of the State**
- Native Riparian
- High Flow Channel
- Nonnative Xeric Riparian
- Culvert

**Figure 9 Sheet 3 Hidden Valley Wetlands Site  
 CDFW Jurisdictional Waters  
 Upper Santa Ana River Restoration Project**



\IPDCCITRDSGIS1\Projects\_1\SBVMWWD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



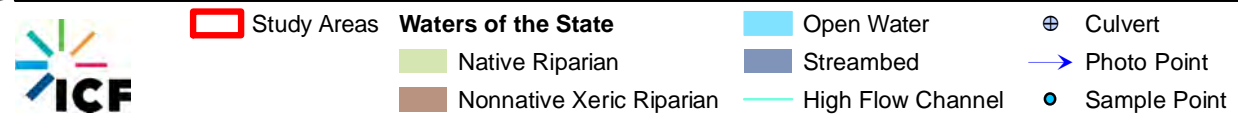
- |  |   |  |   |
|--|---|--|---|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the State</b>  | <span style="background-color: #c08060; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Xeric Riparian | <span style="border: 1px solid black; border-radius: 50%; width: 10px; height: 10px; display: inline-block; text-align: center; vertical-align: middle;">+</span> Culvert |
|  | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Native Riparian | <span style="background-color: #4682b4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Streambed                | <span style="color: blue;">→</span> Photo Point   |
|  | <span style="border-bottom: 2px solid cyan; display: inline-block; width: 15px;"></span> High Flow Channel                                  |  | <span style="color: blue;">●</span> Sample Point  |

**Figure 9 Sheet 4 Hidden Valley Wetlands Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



I:\P\CCITR\GIS\1\Projects\1\SBVMW\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.

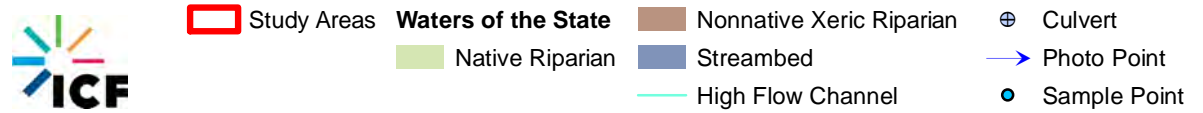


**Figure 9 Sheet 5 Hidden Valley Wetlands Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



I:\Projects\158M\WMD\UpperSAR\_EIR\Figures\UD\DR\_HVC\_CDFW.mxd 12/20/2019 3:55:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 9 Sheet 6 Hidden Valley Wetlands Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



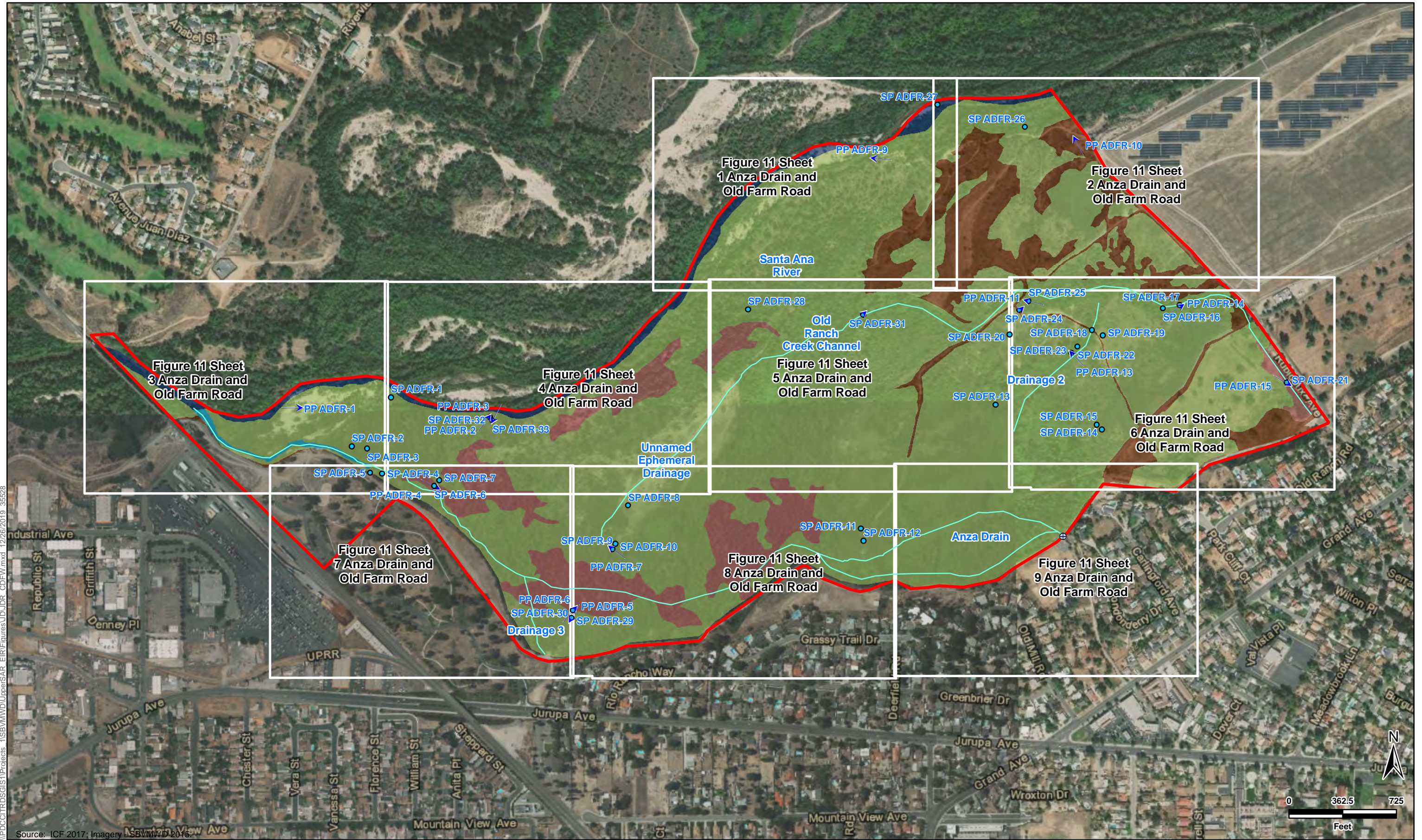
\P\DC\ITR\DSGIS\1\Projects - 1\SBVMW\UpperSAR - EIR\Figures\UD\DR - CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



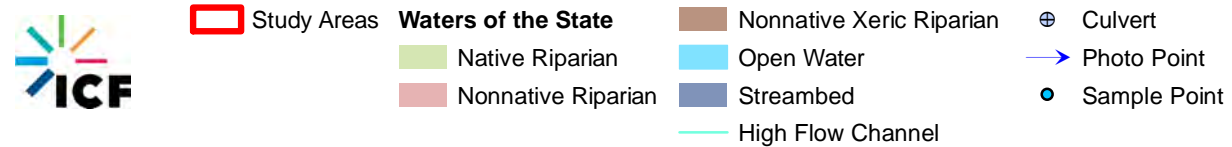
- |  |   |  |   |
|--|---|--|---|
| <span style="color: red;">▭</span> Study Areas | <b>Waters of the State</b>  | <span style="background-color: #c08040; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Xeric Riparian | <span style="border: 1px solid black; border-radius: 50%; padding: 2px;">⊕</span> Culvert |
|  | <span style="background-color: #666666; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Culvert         | <span style="background-color: #336699; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Streambed                | <span style="color: blue;">→</span> Photo Point   |
|  | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Native Riparian |  | <span style="color: blue;">●</span> Sample Point  |

**Figure 10 Lower Hole Creek Site**  
**CDFW Jurisdictional Waters**  
 Upper Santa Ana River Restoration Project

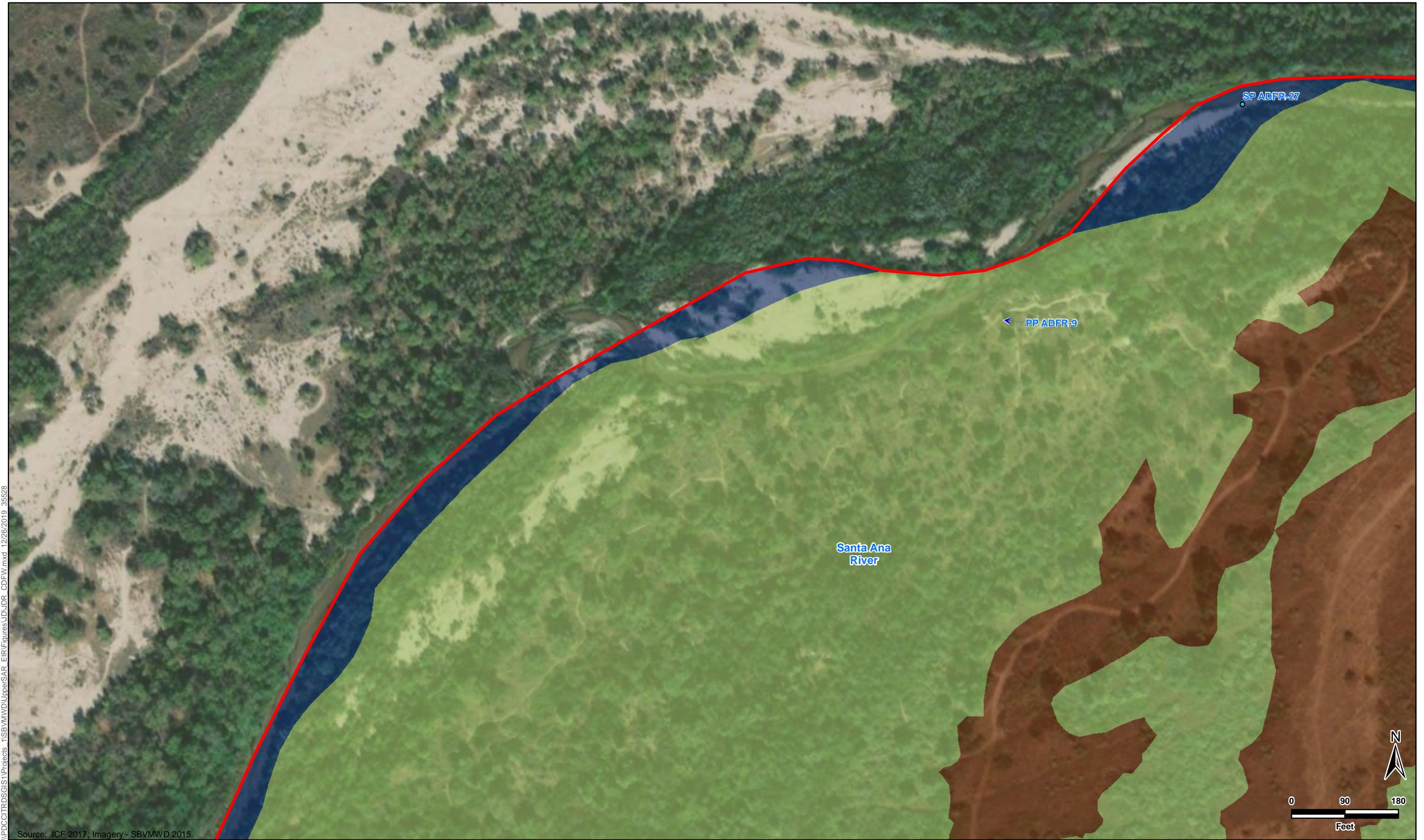


\P\DC\ITR\DSGIS\Projects\1\SBM\W\UpperSAR\_EIR\Figures\UD\DR\_CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery: SBM\W\UD 2016



**Figure 11 Overview Anza Drain and Old Farm Road Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



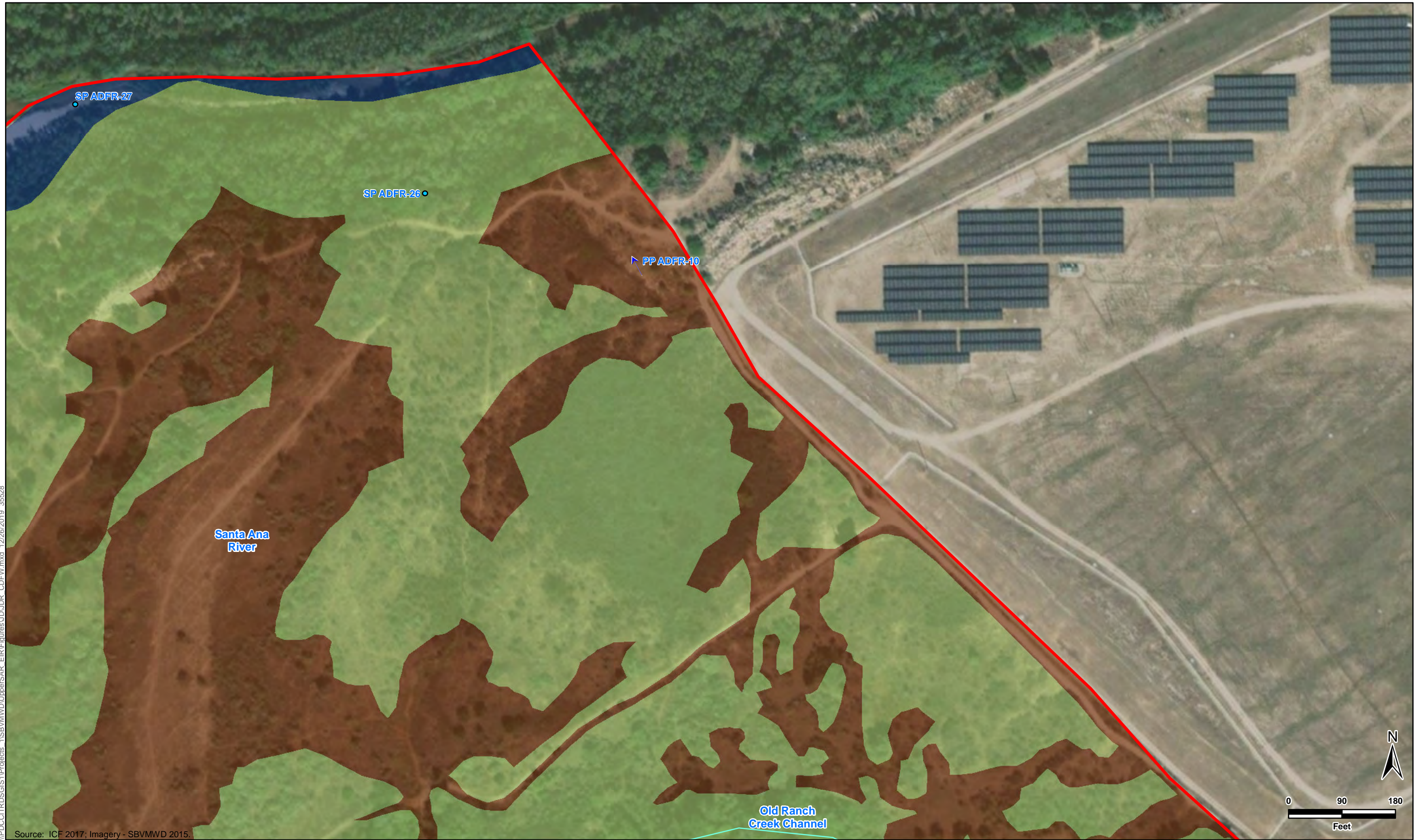
\P\DC\ITR\DRS\GIS\1\Projects - 1\SBVMWD\UpperSAR - EIR\Figures\UD\DR - CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |  |   |   |
|--|--|---|---|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas         | <b>Waters of the State</b>   | <span style="background-color: #8B4513; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Xeric Riparian | <span style="color: blue;">←</span> Photo Point |
| <span style="background-color: #90EE90; display: inline-block; width: 15px; height: 10px;"></span> Native Riparian | <span style="background-color: #00008B; display: inline-block; width: 15px; height: 10px;"></span> Streambed | <span style="color: blue;">●</span> Sample Point  |   |

**Figure 11 Sheet 1 Anza Drain and Old Farm Road Site  
 CDFW Jurisdictional Waters  
 Upper Santa Ana River Restoration Project**



\IPDCCITRDSGIS\Projects\1\SBVMWWD\UpperSAR\_EIR\Figures\UD\DR\_CDFW.mxd 12/26/2019 3528

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |   |  |  |
|--|---|--|--|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the State</b>  | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Xeric Riparian | <span style="color: blue;">→</span> Photo Point  |
|  | <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Native Riparian | <span style="background-color: #00008B; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Streambed                | <span style="color: blue;">●</span> Sample Point |
|  | <span style="border-bottom: 1px solid cyan; display: inline-block; width: 15px;"></span> High Flow Channel                                  |  |  |

**Figure 11 Sheet 2 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



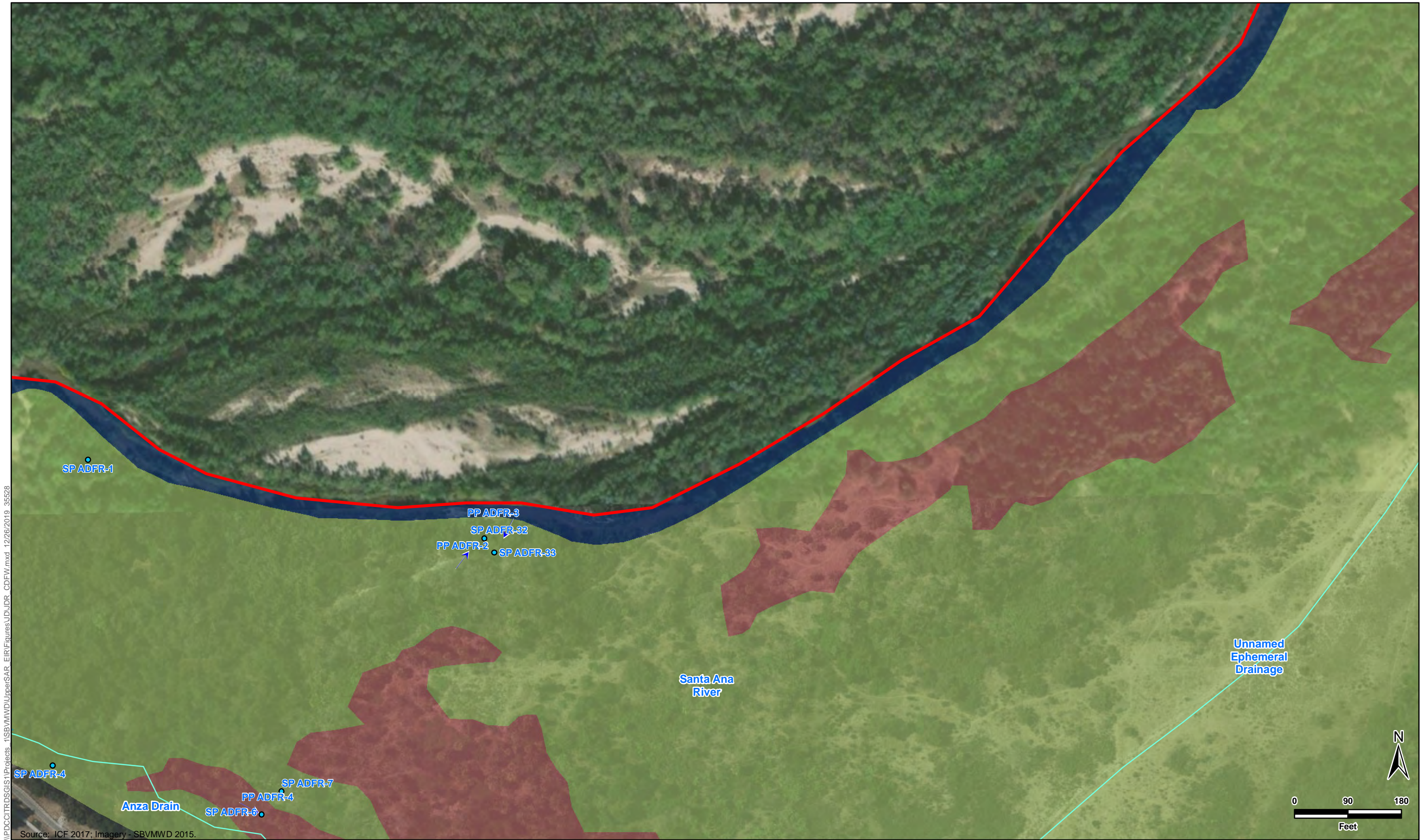
\IPDCCITR\DRS\GIS\1\Projects - 1\SBVMW\UpperSAR - EIR\Figures\UD\UDR - CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |  |  |  |
|--|--|--|--|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas                                     | <b>Waters of the State</b>   | <span style="background-color: #8B4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Xeric Riparian | <span style="color: blue;">→</span> Photo Point  |
| <span style="background-color: #90EE90; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Native Riparian    | <span style="background-color: #00BFFF; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Open Water | <span style="background-color: #4682B4; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Streambed                | <span style="color: blue;">●</span> Sample Point |
| <span style="background-color: #F08080; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Nonnative Riparian | <span style="border-bottom: 1px solid cyan; display: inline-block; width: 15px;"></span> High Flow Channel                             |  |  |

**Figure 11 Sheet 3 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



\\PDC\ITR\GIS\1\Projects\_1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |  |  |  |
|---|--|--|--|
| <span style="border: 1px solid red; display: inline-block; width: 10px; height: 10px;"></span> Study Areas                                    | <b>Waters of the State</b>   | <span style="background-color: lightblue; border: 1px solid lightblue; display: inline-block; width: 10px; height: 10px;"></span> Open Water | <span style="color: blue;">→</span> Photo Point  |
| <span style="background-color: #90EE90; border: 1px solid #90EE90; display: inline-block; width: 10px; height: 10px;"></span> Native Riparian | <span style="background-color: #8B4513; border: 1px solid #8B4513; display: inline-block; width: 10px; height: 10px;"></span> Nonnative Riparian | <span style="background-color: #00008B; border: 1px solid #00008B; display: inline-block; width: 10px; height: 10px;"></span> Streambed      | <span style="color: blue;">●</span> Sample Point |
|   | <span style="border-bottom: 1px solid cyan; display: inline-block; width: 10px;"></span> High Flow Channel                                       |  |  |

**Figure 11 Sheet 4 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



\P\DC\ITR\DRS\GIS\1\Projects\1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |  |   |   |  |
|--|---|---|--|
| <span style="border: 1px solid red; display: inline-block; width: 15px; height: 10px;"></span> Study Areas | <b>Waters of the State</b>  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #8B4513;"></span> Nonnative Xeric Riparian | <span style="color: blue;">→</span> Photo Point  |
|  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #90EE90;"></span> Native Riparian    | <span style="display: inline-block; width: 15px; height: 10px; background-color: #4682B4;"></span> Streambed                | <span style="color: blue;">●</span> Sample Point |
|  | <span style="display: inline-block; width: 15px; height: 10px; background-color: #C06060;"></span> Nonnative Riparian | <span style="display: inline-block; width: 15px; border-bottom: 1px solid cyan;"></span> High Flow Channel                  |  |

**Figure 11 Sheet 5 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



\IPDCCITRDSGIS\Projects - 1\SBVMWMD\UpperSAR - EIR\Figures\UD\JDR - CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



- |   |  |   |  |
|---|--|---|--|
| <span style="border: 2px solid red; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Study Areas | <b>Waters of the State</b>   | <span style="background-color: #d2b48c; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Nonnative Riparian       | <span style="color: blue;">→</span> Photo Point  |
|   | <span style="background-color: #90ee90; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Native Riparian | <span style="background-color: #8b4513; border: 1px solid black; display: inline-block; width: 15px; height: 10px; margin-right: 5px;"></span> Nonnative Xeric Riparian | <span style="color: blue;">●</span> Sample Point |
|   | <span style="border-bottom: 2px solid cyan; display: inline-block; width: 15px; margin-right: 5px;"></span> High Flow Channel                                  |   |  |

**Figure 11 Sheet 6 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**



\P\DC\ITR\DSGIS\1\Projects - 1\SBVMWD\UpperSAR - EIR\Figures\UD\DR\_CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 11 Sheet 7 Anza Drain and Old Farm Road Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



I:\Projects\15BVMW\UpperSAR\_EIR\Figures\UD\DR\_CDFW.mxd 12/26/2019 35528

Source: ICF 2017; Imagery - SBVMWD 2015



**Figure 11 Sheet 8 Anza Drain and Old Farm Road Site  
CDFW Jurisdictional Waters  
Upper Santa Ana River Restoration Project**

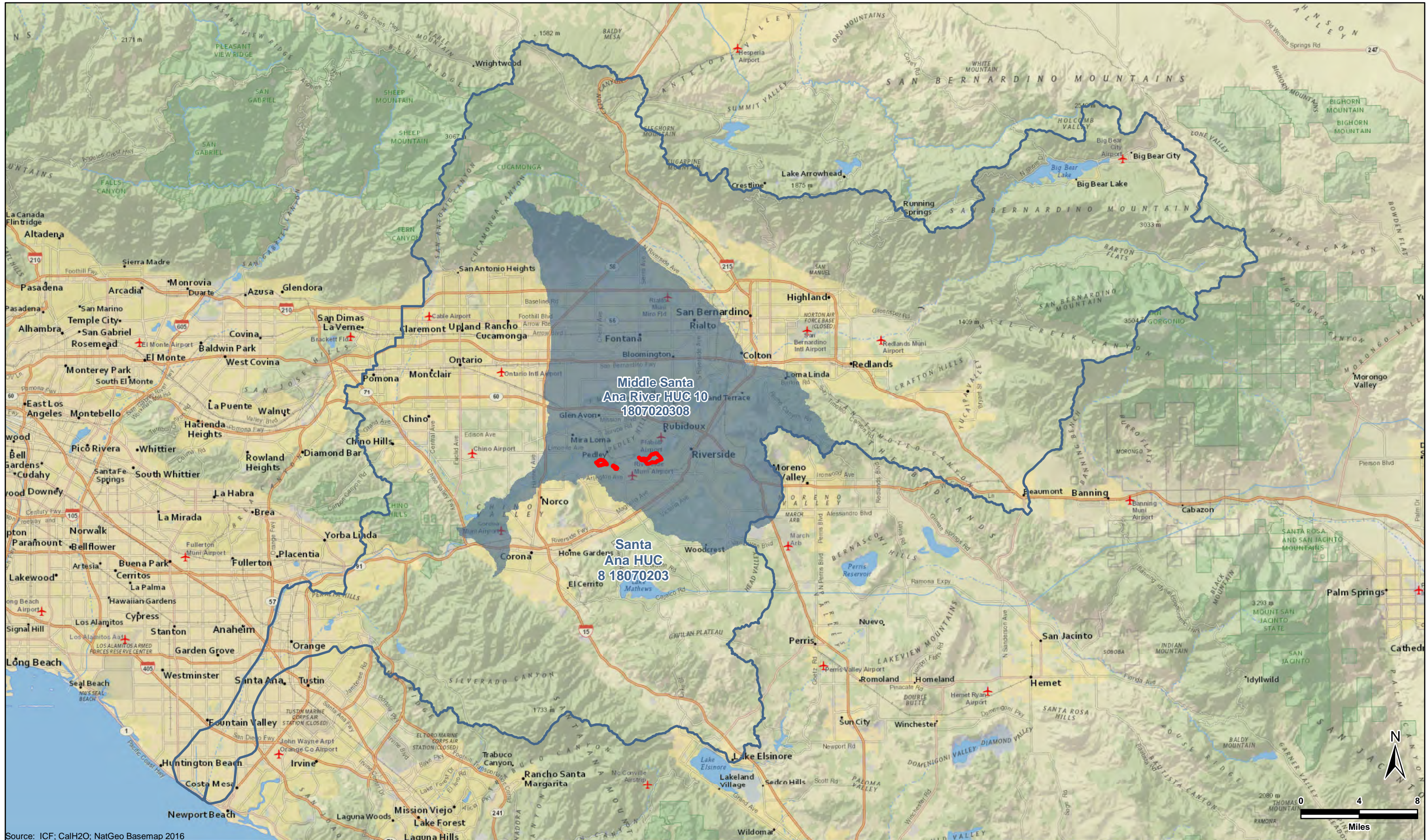


I:\PDC\ITRDS\GIS\1\Projects\_1\SBVMWD\UpperSAR\_EIR\Figures\UD\UDR\_CDFW.mxd 12/26/2019 3:52:28

Source: ICF 2017; Imagery - SBVMWD 2015.



**Figure 11 Sheet 9 Anza Drain and Old Farm Road Site**  
**CDFW Jurisdictional Waters**  
**Upper Santa Ana River Restoration Project**



\\PDC\ITRDS\GIS\1\Projects\_1\SBM\W\UpperSAR\_EIR\Figures\UD\DR\_HUC.mxd 11/8/2019 35528

Source: ICF; CalH2O; NatGeo Basemap 2016

- Tributary Restoration Site Boundary
- Santa Ana HUC 8 Watershed
- Middle Santa Ana River HUC 10 Watershed

**Figure 12**  
**Watersheds**  
 Upper Santa Ana River Restoration Project