# **Appendix D**

Preliminary Jurisdictional Waters and Wetlands Delineation Report

# **Preliminary Jurisdictional Delineation and Wetland Determination Report**

# **Thousand Palms Flood Control Project**

## **Prepared for:**



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March 2020 (Updated June 2020)

# Preliminary Jurisdictional Delineation and Wetland Determination Report

# Thousand Palms Flood Control Project Riverside County, California

The undersigned certify that this report is a complete and accurate account of the findings and conclusions of a jurisdictional determination and delineation for the above-referenced project.

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March 2020 (Updated June 2020)



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### Disclaimer

This document is a Draft Preliminary Jurisdictional Delineation (PJD) and Wetland Determination Report for the Thousand Palms Flood Control Project, prepared by Aspen Environmental Group on behalf of the Coachella Valley Water District (CVWD). The purpose of this Draft PJD and Wetland Determination Report is limited to internal review by the CVWD and resource agencies with regulatory jurisdiction over this project. This document is a work in progress; portions will be revised, and the page numbers will change. This Draft PJD and Wetland Determination Report shall not be published or otherwise circulated to the public this time. As the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes for this project move forward, the Draft PJD and Wetland Determination Report will be refined, and a public draft will be published.



### 1.0 Introduction

This report presents the findings of an investigation of potential federally jurisdictional features conducted by Aspen Environmental Group (Aspen) for the Thousand Palms Flood Control Project (Project). This report is a stand-alone report prepared by Aspen for the Project and is independent of a previous Final Draft Preliminary Jurisdictional Delineation Report prepared by Aspen in 2013 for an earlier design of the same Project (Aspen, 2013).

The Project is located in the Thousand Palms area of the Coachella Valley in Riverside County, California. For the purpose of this report we have focused on a clearly defined Review Area that refers to the proposed impact areas refer to Figure 1, Attachment A. The Review Area refers to areas that will be either permanently or temporarily disturbed during construction of the Project. This also includes a sediment disposal area just south of Reach 4 which is also expected to be disturbed by the Project. Refer to Section 4 for additional information on the extent of the Review Area.

The majority of the Review Area is located within unincorporated Riverside County and includes the community of Thousand Palms. Cities near the Review Area include Cathedral City to the northwest, Indio to the southeast, and both Rancho Mirage and Palm Desert to the south. The primary land use of the Review Area is natural open space, with residential, recreational, commercial and agricultural uses concentrated in areas just north of Interstate 10. Industrial uses are scattered throughout the central portion of the Review Area between Interstate 10 and the base of the Indio (USACE, 2000). Access to the site from Palm Springs can be achieved by heading north on Bob Hope Drive (Rio Del Sol Road to the north of Varner Road) and continuing north to its terminus at 28th Avenue. The Review Area is shown on the United States Geological Survey (USGS) Cathedral City and Myoma, California 7.5-minute Topographic Quadrangle (Sections 7, 8, 16, 17, 27, 34, 35, and 36, T4S, R6E). The Latitude-Longitude coordinates corresponding to the northwestern and southeastern boundaries of the Review Area are 33°50'26.4"N, -116°24'20.2"W and 33°46'22.5"N, -116°18'14.5"W respectively.

The assessment of potentially jurisdictional wetlands and non-wetland "waters of the U.S." within the Review Area was conducted by Aspen senior biologists Justin Wood and Chris Huntley on December 19 and 20, 2018 and Mr. Wood on March 18 and 19, 2019. Mr. Wood also visited the Review Area with William Patterson from the CVWD and Kyle Dahl from the Army Corps of Engineers (USACE) on February 22, 2019. Mr. Huntley and Mr. Patterson visited the Review Area with Christopher Allen from the USACE on September 16, 2019. A final site visit was conducted by Mr. Wood and Mr. Huntley on December 11, 2019. Data collected in 2013 for a previous JD report was also reviewed as part of this most current assessment. This assessment was conducted to determine the extent of streambeds and other resources that may be under the jurisdiction of the USACE).

# 1.1 Project Description

The Coachella Valley Water District (CVWD) proposes to construct a series of flood control improvements (i.e., levees, channels, and energy dissipaters) to reduce flood hazards in the Thousand Palms area. Flood control improvements associated with the Project would reduce flood hazards from coalescing alluvial fans in the area between the Indio Hills and Interstate 10. A community consists of approximately 3,000 homes (encompassing approximately 2,000 acres) is present downslope of the Review Area and lacks storm water control features. It is the Projects primary objective to protect existing and future development in this area.

As a secondary objective, the Project would maintain an important sand transport corridor (via aeolian and/or fluvial means) to the Coachella Valley Preserve. A portion of the 15,000-acre Coachella Valley



Preserve, including the Coachella Valley National Wildlife Refuge, is located within the Review Area. The lands lying within the Preserve are owned and administered by the U.S. Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), and the California Department of Fish and Wildlife (USACE, 2000). The Preserve supports Critical Habitat, including sand dunes, for populations of the State endangered and federally threatened Coachella Valley fringe-toed lizards.

The Project includes levees, channels, and energy dissipating structures. The levees and channels would be comprised of native material excavated from the Review Areas. To provide scour protection, the upslope sides of each levee and channel would be armored with soil cement, which is typically a compacted, high-density mix of pulverized rocks and soils combined with cement and water. The types of facilities that would be constructed for each of the Project reaches is described below.

■ Reach 1. Reach 1 is comprised of a 12,667-foot-long (2.4 miles) levee (Levee 1) with an access road at Via Las Palmas. Levee 1 would have a height of approximately 11.5 feet on the upstream end, increasing to approximately 14 feet on the downstream end, in order to ensure capacity associated with a 100-year storm event. Levee 1 would initiate approximately 0.1 miles to the east of the intersection of 28<sup>th</sup> Avenue and Rio del Sol and then extend in an east-southeasterly direction. The levee would generally run parallel to and north of Southern California Edison's (SCE) existing utility corridor. Continuing in a southeasterly direction, Levee 1 would cross over Sierra del Sol and Desert Moon Drive. Water and sediment from the Indio Hills would flow naturally toward Reach 1 and be diverted to the approximately 550-acre floodway in the wind corridor.

Road Crossing. At Via Las Palmas, a road would be constructed over the levee to maintain access between the communities north and south of Levee 1. The access road would be 20 feet wide with a 10 percent grade, designed for motor vehicle traffic at speeds of approximately 35 miles per hour. The selected road design would result in the smallest permanent footprint to reduce the potential for interfering with sand migration.

Reservoir 4602. Adjacent to the west of Via Las Palmas and to the north of the proposed Reach 1 alignment is an existing water tank that is owned and operated by CVWD, referred to as "Reservoir 4602." A small berm with established vegetation protects the west (upstream) side of the Reservoir 4602. This facility would be protected and maintained with implementation of the Project, however additional flood protection may be provided to ensure the integrity of the structure.

Energy Dissipater. An energy dissipater structure may be installed at the downstream end of the Reach 1 Levee, in order to slow the velocity of stormwater across the Preserve and avoid adverse effects associated with erosion. The energy dissipater structure may consist of a field of boulders, or soil cement, and would be designed to achieve the following: (1) reduce flow velocity and depth; (2) spread flow out onto the alluvial fan; and (3) induce deposition of fluvially-transported sediment on the wind corridor, for natural transport onto the Coachella Valley Preserve.

Stormwater from the Indio Hills would be directed by the Reach 1 levee away from the community of Thousand Palms and across the energy dissipater structure, continuing overland in a southeast direction towards Reaches 2 and 3.

■ Reach 2. Reach 2 is comprised of a 1,747-foot-long (0.33 mile) levee (Levee 2) with a height of approximately 14 feet. Levee 2 is located in the mid-alluvial fan area just northeast of an existing electrical substation and adjacent residential development. Reach 2 would accept flows from Reach 1 and divert flows to the southeast along the western border of the Coachella Valley Preserve. Levee 2 would be situated in the direction of the prevailing wind to avoid interference with aeolian processes, or the movement of sand by wind.



■ Reach 3. Reach 3 is comprised of a 6,498-foot-long (1.23 mile) levee (Levee 3), an access road, and a 5,314-foot-long (1.01 mile) incised channel (Reach 3 Channel). Levee 3 would have a height of approximately 14 feet at the upstream end, increasing to approximately 18 feet at the downstreamend in order to accommodate the 100-year storm event. Levee 3 would initiate approximately 2,000 feet southwest of the downstream end of Levee 2, roughly 1,000 feet south of Ramon Road. Levee 3 would run parallel to the north of the future Cook Avenue, then transition to an incised channel. The Reach 3 Channel would divert flows from Levee 3 into the Classic Club Golf Course, where existing stormwater drainage features are sufficient to transport flows through the golf course property. The Project would not alter the Classic Club Golf Course, and the Project has been developed in coordination with golf course management.

A portion of the Reach 3 Channel would traverse athletic facilities located in the northeast corner of the Xavier High School, then turn south to follow the school's eastern border before turning east and terminating at the Classic Club Golf Course. The Reach 3 Channel would be supplemented with a five-foot-tall embankment on the west side and lined with either concrete or soil cement. A 15-foot-wide access road would be located adjacent to the north (east) of Levee 3 and the Reach 3 Channel to support operation and maintenance activities. A proposed sediment disposal site is also located just east of Reach 3 near the Pegasus Therapeutic Riding facility.

- Reach 4. Reach 4 is comprised of an approximately 10,560-foot-long (two-mile) incised channel (Reach 4 Channel). The Reach 4 Channel would accept stormwater flows from the southeast end of the Classic Club Golf Course and continue south then east, north of Avenue 38 (to be re-aligned) and Interstate 10. Reach 4 is located immediately south of the Coachella Valley Preserve and would terminate at Washington Street near the community of Del Webb / Sun City where the flows enter existing storm water facilities. A sediment disposal area is also included in Reach 4. This area will be used to dispose of excess sediment that accumulates in the Reach 4 Channel.
- Washington Street Crossing. The Project would include construction of a series of culverts to direct stormwater flows under Washington Street and into an existing stormwater conveyance system in the community of Del Webb/Sun City. The existing system has sufficient capacity to accommodate the additional flows that would be contributed by the Project. The Washington Street crossing would disturb a maximum of five acres, accounting for any road realignment that may be necessary.
- Floodway. The Project includes acquisition of an approximate 550-acre floodway located along the levees and on the active wind corridor between Reach 1 and Reach 3. Development would be prohibited on this floodway area to protect the existing sand transport corridor. During operation and maintenance of the Project, some of the material that accumulates along Project levees and channels would be excavated and distributed on the preserved floodway to provide source material for natural sand distribution onto the Preserve

### 1.2 Contact Information

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### 1.3 Site Access

The submittal of this report grants the USACE access to all CVWD-owned parcels within the Review Area. All other parcels within the Review Area and applicable contact information is provided in Attachment G. These parcels can all be legally accessed by public roads. The northwestern extent of the Review Area is just east of the intersection of Rio Del Sol Road and 28<sup>th</sup> Avenue; driving directions to this area are provided below.

### Table 1. Driving Directions to the Review Area

From The Greater Los Angeles Area of Southern California:

Take Interstate 10 east towards San Bernardino/Palm Springs

Exit at Bob Hope Drive

Turn left on Bob Hope Drive

Continue on Bob Hope Drive which turns into Rio Del Sol Road and crosses Varner Road

Continue North on Rio Del Sol Road to its terminus at 28th Avenue

# 2.0 Existing Site Conditions

### 2.1 Topography and Surrounding Land Uses

The Coachella Valley averages about six-miles-wide and slopes gradually from west to east for approximately 40 miles between the San Gorgonio Pass and the Salton Sea. The Coachella Valley's defining mountain ranges, the San Jacinto and Santa Rosa Mountains to the southwest and the Little San Bernardino Mountains to the north, are composed primarily of granitic and metamorphic rock. Over the past three million years, erosion of the mountains has filled the basin (valley) floor with alluvial, colluvial, and aeolian (wind-transported) materials which are estimated to be more than 1,000 feet deep near San Gorgonio Pass, increasing to 14,000 feet in depth near the southern part of the valley. Elevations within the Review Area range from 1,614 feet above sea level at Edom Hill near the northwestern end of the Indio Hills to about 30 feet above sea level at the southern end of the Review Area near Indio. (USACE, 2000)

A substantial portion of the Coachella Valley is urbanized with the majority of urban development located along the southern edge of the valley near the base of the San Jacinto and Santa Rosa Mountains. Nearly continuous urban development exists along the south side of the valley from the City of Palm Springs in the northwest, near San Gorgonio Pass, to the Cities of Indio, Coachella, and La Quinta in the southeast. The only incorporated community on the north side of the Coachella Valley is the City of Desert Hot Springs, located north of Palm Springs. (USACE, 2000)

# 2.2 Existing Vegetation

The alluvial fans, sand fields, and shallow drainages present within the Review Area support a broad assemblage of native plants and also several non-native plant species. Vegetation mapping of the Review Area has been completed several times over the last 15 years, to support the original EIR/EIS and then for subsequent Project-related efforts. Vegetation was remapped in 2013 to reflect vegetation communities, as the conditions in the Review Area are dynamic due to anthropogenic (development, varying levels of



OHV use, trash dumping, etc.) and natural processes (fluvial and aeolian sand transport and associated shifts in vegetation composition). During the 2018 and 2019 site visits, Aspen verified the vegetation mapped within the Review Area and updated the nomenclature (Figure 3 in Attachment 1). The vegetation types described in this report do not follow the vegetation classifications described in the 2000 EIR/EIS but were selected because they are the most current accepted nomenclature described in *A Manual of California Vegetation* (Sawyer et al. 2009).

### Allscale scrub (Atriplex polycarpa Shrubland Alliance)

Allscale scrub is dominated by cattle saltbush (*Atriplex polycarpa*), also referred to as allscale. It tends to grow in nearly monotypic stands that have very low species diversity. It is similar to desert saltbush scrub described in the EIR/EIS (USACE, 2000). Allscale scrub is only found within Reach 3 where it grows in low, poorly drained areas with sandy or loamy alkali soils, as well as at the margins of the sand fields. The soils within the areas mapped as allscale scrub is composed of playa and stabilized sand fields.

### Cheesebush - sweetbush scrub (Ambrosia salsola - Bebbia juncea Shrubland Alliance)

Cheesebush - sweetbush scrub is dominated by cheesebush (*Ambrosia salsola*). Other associated plants include smoke tree (*Psorothamnus spinosus*), desert lavender (*Hyptis emoryi*), and catclaw (*Senegalia greggii*), which occur in limited numbers. This vegetation is similar to desert wash described in the EIR/EIS (USACE, 2000). Cheesebush scrub is found in the sandy washes crossed by Reach 1, which are routinely subjected to scour by intermittent storm flows.

### Creosote bush scrub (Larrea tridentata Shrubland Alliance)

Creosote bush scrub is dominated by creosote bush (*Larrea tridentata*), which tends to form nearly monotypic stands. There is a limited number of other shrubs present; some of these include burrobush (*Ambrosia dumosa*), brittlebush (*Encelia farinosa*), and dyebush (*Psorothamnus emoryi*), as well as a variety of seasonal annuals such as birdcage evening primrose (*Oenothera deltoides*) and Spanish needle (*Palafoxia arida*). It is similar to creosote hummocks described in the EIR/EIS (USACE 2000). The westem portions of Reaches 3 and 4 are the only portions of the project that support creosote bush scrub. Other portions of the Review Area have creosote bush present, but it tends to co-occur with other dominant shrub species and is therefore classified as a different vegetation type, as addressed below. The soils within the areas mapped as creosote bush scrub are primarily stabilized sand fields.

# Creosote bush-allscale scrub (*Larrea tridentata-Atriplex polycarpa* Association of *Larrea tridentata* Shrubland Alliance)

Creosote bush-allscale scrub is characterized by co-dominant cattle saltbush and creosote bush. It is similar to allscale scrub as described above, with a larger proportion of creosote bush. It is similar to desert saltbush scrub described in the EIR/EIS (USACE, 2000). Creosote bush-allscale scrub is only found within Reach 3 of the Review Area. It occurs at the margins of low-lying, poorly drained areas, and at the transition from these areas to adjacent stabilized sand fields. The soils within the areas mapped as creosote bush-allscale scrub is composed of playa and stabilized sand fields.

### Creosote bush-white bursage scrub (Larrea tridentata - Ambrosia dumosa Shrubland Alliance)

Creosote bush-white bursage scrub is characterized by co-dominant creosote bush and burrobush, also called white bursage. Other shrubs occur less commonly, including Schott's dalea (*Psorothamnus schottii*) and cheesebush. Creosote bush-white bursage scrub is similar to creosote bush scrub, but burrobush is much more abundant. Some common annuals observed within this vegetation include pincushions (*Chaenactis* spp.), hairy desert sunflower (*Geraea canescens*), and brittle spineflower (*Chorizanthe brevicornu*). It is similar to burro-weed scrub described in the EIR/EIS (USACE, 2000). This vegetation type



covers portions of Reach 1 and all of Reach 2. The soils within the areas mapped as creo sote bush-white bursage scrub is primarily rocky and sandy bajada.

# *Creosote bush—white bursage- indigo bush scrub* (Larrea tridentata-Ambrosia dumosa-Psorothamnus schottii *Association of* Larrea tridentata-Ambrosia dumosa *Shrubland Alliance*)

Creosote bush mixed scrub is characterized by creosote bush co-occurring with Schott's dalea, silver cholla (*Cylindropuntia echinocarpa*), beavertail cactus (*Opuntia basilaris*), burrobush, and cheesebush. It is the only community in the Review Area with a substantial proportion of cacti and other stem succulents. It is similar to creosote bush scrub, but more varied in composition and usually with a higher plant density. It has a similar assemblage of annuals as listed for creosote bush-white bursage scrub. It is similar to burroweed scrub described in the EIR/EIS (USACE, 2000). This vegetation type covers the majority of Reach 1. The soils within the areas mapped as creosote bush mixed scrub is primarily rocky and sandy bajada.

# Mojave-Sonoran desert dunes (*Dicoria canescens - Abronia villosa - Panicum urvilleanum* Sparsely Vegetated Alliance)

Several portions of the Review Area support active and inactive desert dunes that are largely unvegetated. In years of good rainfall, the dunes have a high cover of native annuals such as desert twinbugs (*Dicoria canescens*), desert sand verbena (*Abronia villosa* var. *villosa*), milk-vetches (*Astragalus* ssp.), hairy desert sunflower, pincushions, and birdcage evening primrose. There are a few cattle saltbush and burrobush shrubs in the dunes but many of these are dead or dying because of the shifting sands. It matches the areas mapped as stabilized and partially stabilized sand fields and dunes in the EIR/EIS (USACE 2000). The only desert dunes mapped in the Review Area are in Reach 4.

### Non-native vegetation

Areas mapped as non-native vegetation are largely associated with development including residential and agriculture. There are several private residences in or adjacent to the Review Area in Reaches 1 and 3 with ornamental trees and shrubs. At the western end of Reach 4 there is a fallow agricultural field that was previously used as a farm for jojoba (*Simmondsia chinensis*), however most of the shrubs are now dead. Golf courses between Reaches 3 and 4 and adjacent to the eastern end of Reach 4 support dense cover of ornamental vegetation. Reaches 3 and 4 also contain several old windrows of tamarisk (*Tamarix ramosissima*) that were likely planted to catch drifting sand. These windrows match the description of *Tamarix* spp. Semi-natural Shrubland Stands (Tamarisk thickets) in *A Manual of California Vegetation* (Sawyer et al, 2009).

#### Ruderal

Several areas are mapped as ruderal (weedy) vegetation. Most of these areas have been disturbed or cleared in the past and support little vegetation. However, the density of ruderal vegetation in these areas is strongly linked to annual rainfall. The sparse vegetation present is composed of weedy native annuals and non-native annuals such as Asian mustard (*Brassica tournefortii*) and Mediterranean grass (*Schismus* sp.). The vegetation in these areas partially matches the description of upland mustards as described in *A Manual of California Vegetation* (Sawyer et al, 2009). These areas were not distinguished from the surrounding vegetation types in the EIR/EIS (USACE 2000). Ruderal vegetation was mapped in Reaches 1, 3, and 4.

### Unvegetated

The remainder of the Review Area consists of roads, graded areas, and residential and commercial development that generally do not support vegetation. These areas were mapped as developed in the EIR/EIS (USACE 2000).



### 2.3 Climate

The basin of the Coachella Valley is considered a part of the Colorado Desert and the climate is characterized by extreme heat and dryness (USACE, 2000). Average annual rainfall for the region as recorded at the Palms Spring International Airport about 5 miles west of the Review Area is 4.85 inches (U.S. Climate Data, 2019). Estimates for the community of Thousand Palms are closer to an annual average of 4.0 inches. The seasonal rainfall variability is extremely high in the region.

During early 2019, the region experienced several significant storms. The first of which moved through the area on January 15, 2019. The second and more significant storm moved through the region on February 14 and 15, 2019. This larger storm inundated many streambeds throughout the region and caused significant flooding and damage in watersheds such as Mission Creek, White water River, and Chino Canyon. Rainfall to-date in Desert Hot Springs, approximately 8 miles to the northwest of the Review Area, is 7.79 inches with an average annual of about 6 inches (Riverside County, 2019). Rainfall to-date on Indio, approximately 6 miles to the southeast of the Review Area, is 3.45 inches with an average annual of about 3 inches (Riverside County, 2019). Based on monsoonal and winter storm events, much of the annual rainfall is incurred during distinct episodic precipitation events, rather than distributed evenly or seasonally. Furthermore, isolated events often occur in the Coachella Valley, for example a significant rainfall event of 1-2 inches can occur in Palm Springs, while no precipitation is received during the same time in Indio.

## 2.4 Hydrology and Geomorphology

The Review Area is located near the center of the Coachella Valley and consists primarily of intersecting alluvial fans and a portion of the Indio Hills. The alluvial fans which cover most of this area were formed by sediment washing down from the Little San Bernardino Mountains and the Indio Hills. Alluvial fans represent a dynamic and ever-changing landscape consisting of highly erodible soils often consisting of active and inactive channel features in a braided network system. Upslope of the Review Area, the natural hydrology leading into the Review Area has been previously impacted by road development and some scattered residential and commercial development. The Review Area is also traversed by two segments of the San Andreas Fault — the Mission Creek Fault along the north edge of the Indio Hills and the Banning Fault along the south edge of the Indio Hills. (USACE, 2000).

The lower portions of the alluvial fans which have formed much of the valley floor, generally lack defined natural channels and are subsequently subject to unpredictable sheet flow patterns on the lower fans (Pacific Advanced Civil Engineering, Inc., 2017). This appears to have been the case in 1976 following Hurricane Kathleen which moved through the region and caused large flows in portions of the valley floor that do not typically receive such flows. This was evident on aerial images from 1977 which showed large areas of flow in Reaches 3 and 4 that is not otherwise well defined as show on Figure 6A and 6B (Attachment A). As flows travel downstream towards Interstate-10, they encounter a defined break in the radial contour lines and break in slope, which occurs just before Interstate 10 (Pacific Advanced Civil Engineering, Inc., 2017). Typical storm flows enter these low areas in the valley just northeast of Interstate 10 and tend to rapidly percolate or seasonally pond depending on the substrate composition in a given location. In 1976, significant flows from Hurricane Kathleen created widespread flow paths and destruction in low-lying portions of the valley floor. Flood control retention basins are also located in this area, significantly reducing surface waters flowing down valley. The valley to the southeast lacks well defined streambeds and lacks flood control conveyance infrastructure, therefore reducing the chances that flows will continue to flow southeast towards the Whitewater River. The Whitewater River enters the Salton Sea, a traditional navigable water, approximately 25 miles to the southeast of the Review Area.



### 2.5 Geology

The major fault zone is defined by the San Andreas Fault, which extends the entire length of the Whitewater River basin and beyond. Just east of the Review Area, near Biskra Palms, the San Andreas Fault branches into two major segments, referred to as the North Branch and South Branch. The North Branch San Andreas Fault, also known as Mission Creek Fault, runs from Biskra Palms to Thousand Palms Oasis, then along the northerly edge of the Indio Hills. The South Branch San Andreas Fault, sometimes referred to as part of the Banning fault zone, runs through the Review Area along the southerly edge of the Indio Hills (USACE, 2000).

The weathering of the granitic and metamorphic rock of the surrounding mountains has produced large quantities of sand composed primarily of quartz, biotite, and feldspar. Frequent, strong winds that blow southeastward through the San Gorgonio Pass distribute these fine-grained materials throughout large areas of the northern Coachella Valley, forming dune complexes and sand sheets. Sand movement occurs primarily along a corridor which runs in a northwest-to-southeast direction between the Indio Hills and the Whitewater River (USACE, 2000).

### 2.6 Soils

A typical assessment of jurisdictional wetlands and other non-wetland "waters of the U.S." includes a review of soil data from the Natural Resources Conservation Service (NRCS) historic mapping projects to determine if and where hydric soils could be present in the Review Area (NRCS, 2019a; NRCS, 2019b). Figures 2A through 2C (Attachment 2) illustrate the location of these mapped soil types in relation to the Review Area. Refer to Table 2 for a brief description of the soils within the Review Area. All of the mapped soil types are described as excessively drained, well-drained, or moderately well-drained and are not prone to flooding (or "experiences rare flooding" for map unit symbols GbA). In general, the descriptions of soil types within the Review Area indicate that hydric soils conditions are not expected. It is possible that the mapped soils below may include small pockets of other soil types that were not captured within the NRCS mapping scale but that were assessed as part of the field work discussed below in Section 4.

Table 2. Mapped Soil Types within the Review Area

Map Unit Symbol	Map Unit Name	Description
CdC	Carsitas gravelly sand, 0 to 9 percent slopes	An excessively drained soil generally found around 800 feet in elevation; parent material consists of gravelly alluvium derived from granite; depth to water table is generally more than 80 inches; not prone to flooding; gravelly sand (0 – 60 inches)
ChC	Carsitas cobbly sand, 2 to 9 percent slopes	An excessively drained soil generally found around 800 feet in elevation; parent material consists of gravelly alluvium derived from granite; depth to water table is generally more than 80 inches; not prone to flooding; cobbly sand (0 – 10 inches), gravelly sand (10 – 60 inches)
CkB	Carsitas fine sand, 0 to 5 percent slopes	An excessively drained soil generally found around 800 feet in elevation; parent material consists of gravelly alluvium derived from granite; depth to water table is generally more than 80 inches; not prone to flooding; fine sand (0 – 10 inches), gravelly sand (10 – 60 inches)
СрА	Coachella fine sand, 0 – 2 percent slopes	A well-drained soil generally found around 40 feet in elevation; parent material consists of gravelly alluvium derived from igneous rock; depth to water table is generally more than 80 inches; not prone to flooding; fine sand (0 – 11 inches), sand (10 – 60 inches)
СрВ	Coachella fine sand, hummocky, 2 to 5 percent slopes	A well-drained to well-drained soil generally found around 40 feet in elevation; parent material consists of gravelly alluvium derived from igneous rock; depth to water table is generally more than 80 inches; not prone to flooding; fine sand (0 – 11 inches), sand (10 – 60 inches)



Map Unit Symbol	Map Unit Name	Description
CsA	Coachella fine sandy loam, 0 – 2 percent slopes	A well-drained to well-drained soil generally found around 40 feet in elevation; parent material consists of gravelly alluvium derived from igneous rock; depth to water table is generally more than 80 inches; not prone to flooding; fine sandy loam (0 – 10 inches), sand (10 – 40 inches), loamy sand (40 -60 inches)
GbA	Gilman fine sandy loam, 0 to 2 percent slopes	A well-drained soil generally found around 1,080 to 1.600 feet in elevation; parent material consists of alluvium; depth to water table is generally more than 80 inches; experiences rare flooding; fine sandy loam (0 – 8 inches), stratified loamy sand to silty clay loam (8 – 60 inches)
GcA	Gilman fine sandy loam, wet, 0 to 2 percent slopes	A moderately well-drained soil generally found around 400 feet in elevation; parent material consists of wind-blown sandy alluvium; depth to water table is generally 36 – 60 inches; not prone to flooding; fine sandy loam (0 – 8 inches), stratified loamy sand to silty clay loam (8 – 60 inches)
MaB	Myoma fine sand, 0 – 5 percent slopes	A somewhat excessively drained soil generally found from $200 - 1,800$ feet in elevation; parent material consists of alluvium; depth to water table is generally more than 80 inches; not prone to flooding; fine sand $(0 - 18$ inches), sand $(18 - 60$ inches)
MaD	Myoma fine sand, 5 to 15 percent slopes	A somewhat excessively drained soil generally found from $200 - 1,800$ feet in elevation; parent material consists of alluvium; depth to water table is generally more than 80 inches; not prone to flooding; fine sand $(0 - 18$ inches), sand $(18 - 60$ inches)

# 3.0 Regulatory Background

Jurisdictional waters and wetlands in the Review Area are regulated by the USACE. The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA). Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within jurisdictional waters of the U.S. (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). Waters of the U.S. are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands."

The USACE is currently operating under the 2015 Final Rule defining the scope of Waters of the U.S. protected under the CWA (USACE and EPA, 2015). The USACE recently proposed a revision to the definition of Waters of the U.S. protected under the CWA (USACE and EPA, 2019). This delineation was prepared under the 2015 publication. If the 2019 proposal is adopted, it is unclear whether these ephemeral streambeds and or erosional alluvial fan features will continue to meet the definition of Waters of the U.S. as defined in the CWA.

# 4.0 Waters/Wetlands Delineation

# 4.1 Delineation Methodology

This section describes the methods employed by Aspen during surveys conducted in December 2018, March 2019, and December 2019 to determine the extent of potentially jurisdictional wetlands and/or waters that occur in the Review Area. Prior to conducting the field assessment Aspen reviewed current and historic aerial photographs, detailed topographic maps, available soils information, and local and state hydric soil list information to evaluate potential jurisdictional features. Aspen also reviewed the National Wetlands Inventory to evaluate existing mapped surface drainages and wetlands that may be present (USFWS, 2019). Many potentially jurisdictional features identified in the review of current and historical aerial photography were later determined in the field to be roads and/or off-road vehicle trails that did not exhibit and ordinary high-water mark (OHWM) or other hydrologic features.



To determination the limits of jurisdictional features, a single transect was placed down the centerline of the four Phases, this is similar to the methods in the USACE's Wetland Delineation Manual (1987). This allowed the field work to focus on potentially jurisdictional features within the Review Area. Additional parallel transects were placed downstream, as needed, to determine the location of downstream features. During the field assessment, points where these transects intercepted potentially jurisdict ional waters were mapped on the aerial photographs which were accessed via Google Earth. The most recent field mapping and verification was done using aerial imagery from August 26, 2018 (DigitialGlobe, 2018). Aspen also reviewed historic aerial imagery including photographs documenting the flooding associated with Hurricane Kathleen which moved through the region and caused large flows in portions of the valley in 1976. This was evident on aerial images from 1977 which showed large areas of flow in Reaches 3 and 4 that is not otherwise well defined. The points where the transect intercepts the potentially jurisdictional waters were also recorded using a Trimble Juno SB GPS unit with an accuracy of approximately 3.3 – 6.6 feet (1 – 2 meters). The combination of the GPS unit, high-resolution aerial images, and the use of Global Information System (GIS) technology allowed us to accurately map the location and quantify the limits of the potentially jurisdictional features. ESRI format GIS shape files have been included in this submission as support in the verification and delineation / determination process.

### 4.1.1 Federal Wetlands

Jurisdictional wetlands were delineated using a routine determination according to the methods outlined in the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) based on three wetland parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. Data on vegetation, hydrology, and soils were collected using the methods described below and, when necessary, recorded on **Wetland Determination Data Forms**. Additional information is available in Attachment D.

### 4.1.2 Federal Non-Wetland Waters

Jurisdictional non-wetland "waters of the U.S." were delineated based on the limits of the OHWM as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetative characteristics. Data for most of the features within the Review Area were collected on the updated **Arid West Ephemeral and Intermittent Streams OHWM Datasheet**. Two GPS points were collected at each location where an Intermittent Streams OHWM Datasheet was completed. The coordinates for these points are provided on the datasheets and a single point representing the center of each cross-section is shown on Figure 5 (Attachment A). See Tables 1 – 2 in Attachment D for a list of key physical features for determining the OHWM identified by the arid west manual.

### 4.2 Results

Ephemeral desert wash and upland habitats occur within the Review Area. Aspen delineated the limits of the potential USACE jurisdictional non-wetland "Waters of the U.S." within the Review Area (refer to Figures 5A – 5C, Attachment A). Refer to Tables 3 and Figures 5A – 5C for the locations, widths and acreages of potential jurisdictional features occurring within the Review Area. All the drainages in the Review Area flow or pond only in direct response to storms and have therefore been classified as intermittent riverine according to the Cowardin (1979) Classification System. Within the Review Area, all ephemeral desert washes and seasonal playas were classified as intermittent riverine.



Table 3. Area, Length, Width, and Classification of Jurisdictional Waters of the U.S.

145.007	able 5. Area, Length, Width, and Classification of Jurisdictional Waters of the 0.5.									
Drainage ID	Latitude	Longitude	Drainage Area (acres)	Drainage Length (feet)	Drainage Width (feet) <sup>1</sup>	OHWM Data Sheet Number	OHWM vs. Wetland	Cowardin Classification <sup>2</sup>	Dominant Vegetation Type	
1-1	33.84466383	-116.4038552	0.003	146	0.9		OHWM	Ephemeral, Riverine	Disturbed/Developed	
1-2	33.84463967	-116.4037696	0.035	160	9.5	Reach 1 - 1	OHWM	Ephemeral, Riverine	Disturbed/Developed	
1-3	33.84406318	-116.4031467	0.013	145	3.9	Reach 1 - 2	OHWM	Ephemeral, Riverine	Disturbed/Developed	
1-4	33.8437784	-116.4028461	0.018	134	5.9	Reach 1 - 3	OHWM	Ephemeral, Riverine	Disturbed/Developed	
1-53	33.84227207	-116.4009543	0.047	171	12.0	Reach 1 - 4	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-6	33.84100848	-116.3989095	0.038	168	9.9	Reach 1 - 5	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-7	33.83979783	-116.3964145	0.021	233	3.9	Reach 1 - 6	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-83	33.83862613	-116.3931115	0.039	173	9.8	Reach 1 - 7	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-9	33.83881385	-116.3931107	0.003	104	1.3		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-103	33.83788999	-116.3903711	0.003	134	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-12	33.83741838	-116.3885969	0.003	123	1.1		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-13	33.83702754	-116.3871893	0.023	175	5.7	Reach 1 - 8	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-14	33.83671542	-116.3860891	0.207	138	65.3	Reach 1 - 9	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-15	33.83661868	-116.3853749	0.218	145	65.5	Reach 1 - 10A, 10B, 10C, 10D	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-16	33.83624794	-116.3849682	0.076	135	24.5	Reach 1 - 11	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-17	33.83621541	-116.3847329	0.020	143	6.1	Reach 1 - 12	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-183	33.83614684	-116.3842019	0.095	166	24.9	Reach 1 - 13	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-19	33.83585659	-116.3829285	0.003	137	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-20	33.83573544	-116.3825836	0.003	139	0.9	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-21	33.83548222	-116.3819479	0.002	69	1.3	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-22	33.83443864	-116.3799598	0.024	512	2.0	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-23	33.83435157	-116.3797481	0.010	197	2.2		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-24	33.83420191	-116.3796014	0.007	166	1.8	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-25	33.83417431	-116.379897	0.017	193	3.8	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-26	33.83369647	-116.3796248	0.006	263	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-27	33.83311593	-116.3798172	0.007	308	1.0	==	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-28	33.83451781	-116.3786217	0.002	46	1.9		OHWM	Ephemeral, Riverine	Creosote Scrub	
1-29	33.83445464	-116.3773713	0.188	140	58.5	Reach 1 - 14A, 14B, 14C	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-30	33.83436453	-116.376993	0.090	140	28.0	Reach 1 - 15	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-31	33.83416532	-116.376836	0.055	144	16.6	Reach 1 - 16	OHWM	Ephemeral, Riverine	Creosote Scrub	
1-32	33.83403118	-116.3765535	0.017	187	4.0	Reach 1 - 17	OHWM	Ephemeral, Riverine	Creosote Scrub	



Drainage ID	Latitude	Longitude	Drainage Area (acres)	Drainage Length (feet)	Drainage Width (feet) <sup>1</sup>	OHWM Data Sheet Number	OHWM vs. Wetland	Cowardin Classification <sup>2</sup>	Dominant Vegetation Type
1-33	33.83386363	-116.3758866	0.030	152	8.6	Reach 1 - 18	OHWM	Ephemeral, Riverine	Creosote Scrub
1-34	33.83382195	-116.3756706	0.003	149	0.9	==	OHWM	Ephemeral, Riverine	Creosote Scrub
1-35	33.8335468	-116.3753635	0.006	136	1.9		OHWM	Ephemeral, Riverine	Creosote Scrub
1-36	33.83383965	-116.375111	0.104	154	29.4	Reach 1 - 19A, 19B	OHWM	Ephemeral, Riverine	Creosote Scrub
1-37	33.83342018	-116.3748379	0.110	166	28.9	Reach 1 - 20A, 20B	OHWM	Ephemeral, Riverine	Creosote Scrub
1-38	33.83276116	-116.3736735	0.007	305	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub
1-39	33.83199147	-116.3735208	0.016	676	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub
1-40	33.83346104	-116.3731725	0.029	962	1.3		OHWM	Ephemeral, Riverine	Creosote Scrub
1-41	33.8330378	-116.3731801	0.007	150	2.0		OHWM	Ephemeral, Riverine	Creosote Scrub
1-42	33.83305178	-116.3722441	0.001	55	0.8	==	OHWM	Ephemeral, Riverine	Creosote Scrub
1-43	33.83297355	-116.3720247	0.001	26	1.7		OHWM	Ephemeral, Riverine	Creosote Scrub
1-44	33.83292202	-116.371836	0.001	8	0.5		OHWM	Ephemeral, Riverine	Creosote Scrub
1-45	33.83259761	-116.3712333	0.003	148	0.9		OHWM	Ephemeral, Riverine	Creosote Scrub
1-46	33.83258921	-116.3711059	0.006	139	1.9		OHWM	Ephemeral, Riverine	Creosote Scrub
1-47	33.83259327	-116.3706905	0.532	153	151.5	Reach 1 - 21A, 21B, 21C, 21D	OHWM	Ephemeral, Riverine	Creosote Scrub
1-48	33.83207084	-116.3698428	0.299	175	74.4	Reach 1 - 22A, 22B	OHWM	Ephemeral, Riverine	Creosote Scrub
1-49	33.83199453	-116.3690235	0.003	144	0.9	==	OHWM	Ephemeral, Riverine	Creosote Scrub
1-50	33.83202187	-116.3685301	0.004	158	1.1		OHWM	Ephemeral, Riverine	Creosote Scrub
1-51	33.8319695	-116.3684406	0.002	96	0.9	==	OHWM	Ephemeral, Riverine	Creosote Scrub
1-52	33.83176836	-116.3683092	0.003	149	0.9		OHWM	Ephemeral, Riverine	Creosote Scrub
1-53	33.83173431	-116.3682833	0.003	145	0.9		OHWM	Ephemeral, Riverine	Creosote Scrub
1-54	33.83167864	-116.3678611	0.007	147	2.1	Reach 1 - 23	OHWM	Ephemeral, Riverine	Creosote Scrub
1-55	33.83173969	-116.3675337	0.070	191	16.0	Reach 1 - 24A, 24B	OHWM	Ephemeral, Riverine	Creosote Scrub
1-56	33.83165599	-116.367251	0.008	173	2.0	Reach 1 - 25	OHWM	Ephemeral, Riverine	Creosote Scrub
1-57	33.83159035	-116.3669983	0.033	180	8.0	Reach 1 - 26	OHWM	Ephemeral, Riverine	Creosote Scrub
1-58	33.83127586	-116.3666981	0.008	340	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub
1-59	33.83092794	-116.3662463	0.004	161	1.1		OHWM	Ephemeral, Riverine	Creosote Scrub
1-60	33.83116539	-116.3659087	0.004	179	1.0		OHWM	Ephemeral, Riverine	Creosote Scrub
2-1	33.82304396	-116.3708062	0.001	58	0.8		OHWM	Ephemeral, Riverine	Creosote Scrub
2-2	33.82312197	-116.3704838	0.392	1874	9.1	Reach 2 - 1	OHWM	Ephemeral, Riverine	Creosote Scrub
2-3	33.82285547	-116.3699907	0.001	30	1.5		OHWM	Ephemeral, Riverine	Creosote Scrub



Drainage ID	Latitude	Longitude	Drainage Area (acres)	Drainage Length (feet)	Drainage Width (feet) <sup>1</sup>	OHWM Data Sheet Number	OHWM vs. Wetland	Cowardin Classification <sup>2</sup>	Dominant Vegetation Type
2-4	33.82273688	-116.369775	0.002	104	0.8		OHWM	Ephemeral, Riverine	Creosote Scrub
2-5	33.82137564	-116.3682912	0.029	140	9.0	Reach 2 - 2	OHWM	Ephemeral, Riverine	Creosote Scrub
2-6	33.8189734	-116.365909	0.007	333	0.9		OHWM	Ephemeral, Riverine	Creosote Scrub
3-1	33.8095457	-116.3630288	0.004	157	1.1		OHWM	Ephemeral, Riverine	Creosote Scrub
3-2	33.80938056	-116.3631784	0.003	112	1.2		OHWM	Ephemeral, Riverine	Creosote Scrub
3-3	33.80896859	-116.3621075	0.155	225	30.0	Reach 3 - 1	OHWM	Ephemeral, Riverine	Cheesebush Scrub
3-4	33.80672521	-116.3592614	3.939	1498	114.5		OHWM	Ephemeral, Riverine	Asian Mustard Stand
3-5	33.80163678	-116.3536505	0.028	276	4.4	Reach 3 - 2	OHWM	Ephemeral, Riverine	Asian Mustard Stand
3-6	33.80115813	-116.3533849	0.028	315	3.9	==	OHWM	Ephemeral, Riverine	Asian Mustard Stand
3-7	33.79665531	-116.3485887	1.002	435	100.3		OHWM	Ephemeral, Riverine	Asian Mustard Stand
3-8	33.79375687	-116.3466935	0.048	47	44.5		OHWM	Ephemeral, Riverine	Allscale scrub
3-9	33.79347004	-116.3460187	0.185	220	36.6		OHWM	Ephemeral, Riverine	Allscale scrub
3-10	33.79302899	-116.3456504	0.197	254	33.8		OHWM	Ephemeral, Riverine	Allscale scrub
3-11	33.79160581	-116.3442987	0.107	60	77.7		OHWM	Ephemeral, Riverine	Creosote Scrub
4-1	33.77466181	-116.333238	0.338	177	83.2		OHWM	Ephemeral, Riverine	Asian Mustard Stand
4-2	33.77423311	-116.3329984	0.450	289	67.8		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-3	33.77221977	-116.3143107	0.448	336	58.1	Reach 4 - 1	OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-4	33.77194789	-116.3106466	1.011	377	116.8		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-5	33.77210541	-116.3090468	1.465	695	91.8		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-6	33.77234974	-116.3072497	0.102	112	39.7	==	OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-7	33.77209484	-116.3067289	0.230	162	61.8	Reach 4 - 2	OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-8	33.77263532	-116.3054702	0.270	387	30.4		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-9	33.77251705	-116.3041076	0.121	357	14.8		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
4-10	33.77105103	-116.3069854	1.924	521	160.9		OHWM	Ephemeral, Riverine	Active Sand Dune / Stabilized Sand Field
Total:			15.087	20,398	1913.2				

# Preliminary Jurisdictional Waters and Wetlands Delineation Report THOUSAND PALMS FLOOD CONTROL PROJECT



Drainage ID	Latitude Longitude	Drainage Area (acres)	Drainage Length (feet)	Drainage Width (feet) <sup>1</sup>	OHWM Data Sheet Number		Cowardin Classification <sup>2</sup>	Dominant Vegetation Type
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<sup>&</sup>lt;sup>1</sup> = Drainage widths were primarily calculated using the length and area of each drainage.

Riverine: These systems include all wetlands and deepwater habitats contained within a channel, except for wetlands dominated by vegetation (trees, shrubs, emergents, mosses, or lichens) or habitats with ocean-derived brackish water. Riverine systems can be divided into four subsystems:

- Tidal subsystems, in which water level and velocity varies under tidal influences, though always with salinities less than 0.05%
- Lower Perennial subsystems, in which low gradients result in low water velocity and a well-developed floodplain, usually with a muddy, sandy, or silty substrate.
- Upper Perennial subsystems, in which higher gradients result in high water velocity, with limited floodplain development and a substrate of primarily gravel and cobbles.
- Intermittent subsystems, in which water flows only for part of the year, and forming either isolated pools or drying up completely throughout the rest of the year.
- $^{3}$  = These drainages are included in the National Wetlands Inventory (USFWS, 2019).

<sup>&</sup>lt;sup>2</sup> = Cowardin (1979) Classification System is based on five systems: Riverine, Lacustrine, Palustrine, Marine, and Estuarine (the latter two are associated with saltwater and/or coastal waterbodies, and as such are not applicable to this region). These are further divided into subsystems based on the degree or frequency of inundation, and then into classes based on hydrological, substrate, and/or vegetation characteristics. Furthermore, Lacustrine is absent from the Review Area and is therefore not further defined.



### 4.2.1 Federal Wetlands

Based on assessment of hydrology, vegetation and soils during the field surveys and in Aspen's professional opinion, none of the features within the Review Area satisfies the criteria to be wetlands pursuant to the USACE 1987 Wetlands Delineation Manual, and 2008 Regional Supplement (Arid West Region) with subsequent clarification memoranda and dependent on confirmation by the USACE. Wetland Determination Data Forms were also completed within Reaches 1, 2 and 3 (Attachment B).

### Hydrology

Based on field observations within the Review Area, the required minimum of one primary indicator of wetland hydrology was observed (surface soil cracks) within portions of the Review Area. In addition, two secondary indicators were observed (sediment deposits and drift deposits). Based on the criteria defined by the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) for wetland hydrology, wetland hydrology was present. Refer to Section 4.4.2 below for additional information on these features.

### Vegetation

Based on field observations within the Review Area, a dominance of wetland plant species or hydrophytes were not found; the majority of vegetation observed was an assemblage of native xerophytic vegetation (dominated by creosote bush and cheesebush) and invasive weedy species (dominated by Asian mustard and Mediterranean grasses) with no wetland indicator status. Therefore, the criteria defined by the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) for wetland vegetation were not met.

### Soils

Based on field observations within the Review Area, indicators of hydric soils were not observed; therefore, the criteria defined by the USACE Wetland Delineation Manual (1987) and the Arid West Supplement (2008) for hydric soils were not met. Observations of soils within the Review Area did not reveal evidence of ponding or soil saturation with the exception of a few select areas in Reach 2 and 3. While these areas showed evidence of ponding (i.e., surface soil cracks, shift in vegetation) the lack of hydric vegetation and soil saturation correlates with the nature of the non-hydric soils known to occur in the area.

### 4.2.2 Federal Non-Wetland Waters

Based on assessment of hydrology and the limits of the OHWM as determined by aerial imagery, evidence of flow, changes in physical and biological features (i.e. bank erosion, sorted sediments, deposited vegetation or debris), and vegetative characteristics, the ephemeral desert dry washes mapped within the Review Area shown in Figures 5A – 5C (Attachment A) and summarized in Table 3 may meet the definition of "waters of the United States" as defined in 33 CFR Part 328. Data on the drainages that cross the center line of the Review Area was captured on Arid West Ephemeral and Intermittent Streams OHWM Datasheet (Attachment C).

Historically the drainages present within the Review Area would have generally flowed in a southeasterly direction towards the Whitewater River about 4.2 miles southeast of the Review Area. Current flows from most of the Review Area drain south into a series of flood detention basins and seasonal playas. These



drainages are disconnected from flows that could reach the Whitewater River under ordinary flows. During significant storms, such as Hurricane Kathleen in 1976, flows inundate or bypass these flood control structures and playas and continue off-site to the southeast. A portion of the drainages within Reach 1 flow south, through several city streets and open areas and eventually are conveyed by a series of storm water structure (i.e. golf courses swales) until reaching the flood control basins (refer to Figure 6, Attachment A). The flows from these drainages and basins are not expected reach the Whitewater during normal storms but may reach the Whitewater during significant storm events and connectivity would therefore be established. The Whitewater River flows into the Salton Sea, a traditional navigable water and known jurisdictional "Waters of the U.S.".

# 5.0 Summary and Conclusions

All of the potentially jurisdictional features mapped within the Review Area are characterized as ephemeral desert dry washes. These washes exhibited field indicators of hydrology such as but not limited to water marks, linear deposits of sediment and/or plant debris, bank scour, and erosion. These washes were determined to have a defined OHWM and may be federally jurisdictional non-wetland "Waters of the U.S.". Using the methods described above, approximately 15.1 acres of potentially jurisdictional non-wetland "Waters of the U.S." were identified within the Review Area.

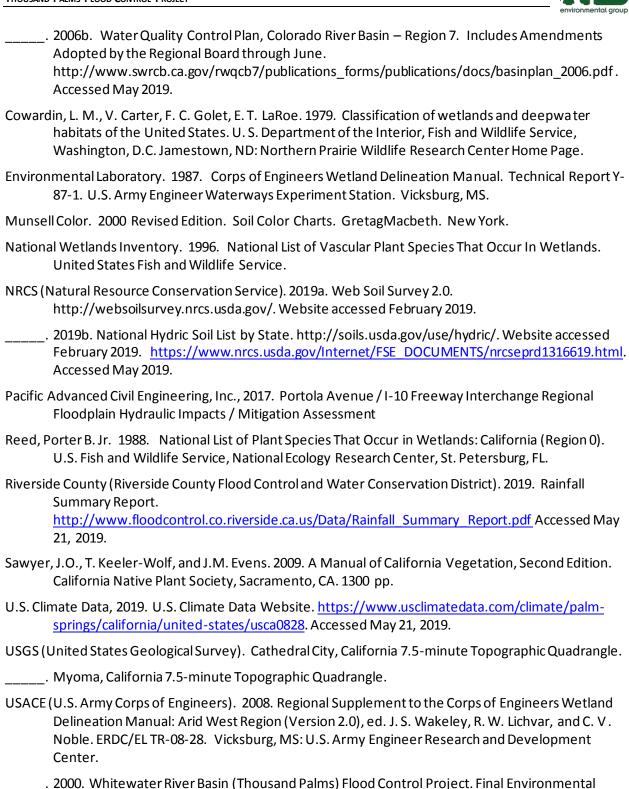
Evidence of wetland hydrology was present at several locations within the Review Area. However, no portion of the Review Area was found to support hydrophytic vegetation or hydric soils; therefore none of the habitat within the Review Area satisfies the criteria to be wetlands pursuant to the USACE 1987 Wetlands Delineation Manual, and 2008 Regional Supplement (Arid West Region) with subsequent clarification memoranda and dependent on confirmation by the USACE. Evidence of hydrology and/or a discernible OHWM was visible within many of the ephemeral desert dry washes and therefore meet the definition of "waters of the U.S." as defined in 33 CFR Part 328. This determination was based on the presence of a defined OHWM and did not rely on connectivity to known "waters of the U.S." which is problematic in this sandy alluvial valley system.

The conclusions presented above represent observations made in the field and on Aspen's knowledge and experience with the USACE regulation, including regulatory guidance documents and manuals. The USACE has final authority in determining the status and presence and extent of jurisdictional wetlands and waters within the Review Area.

## 6.0 References

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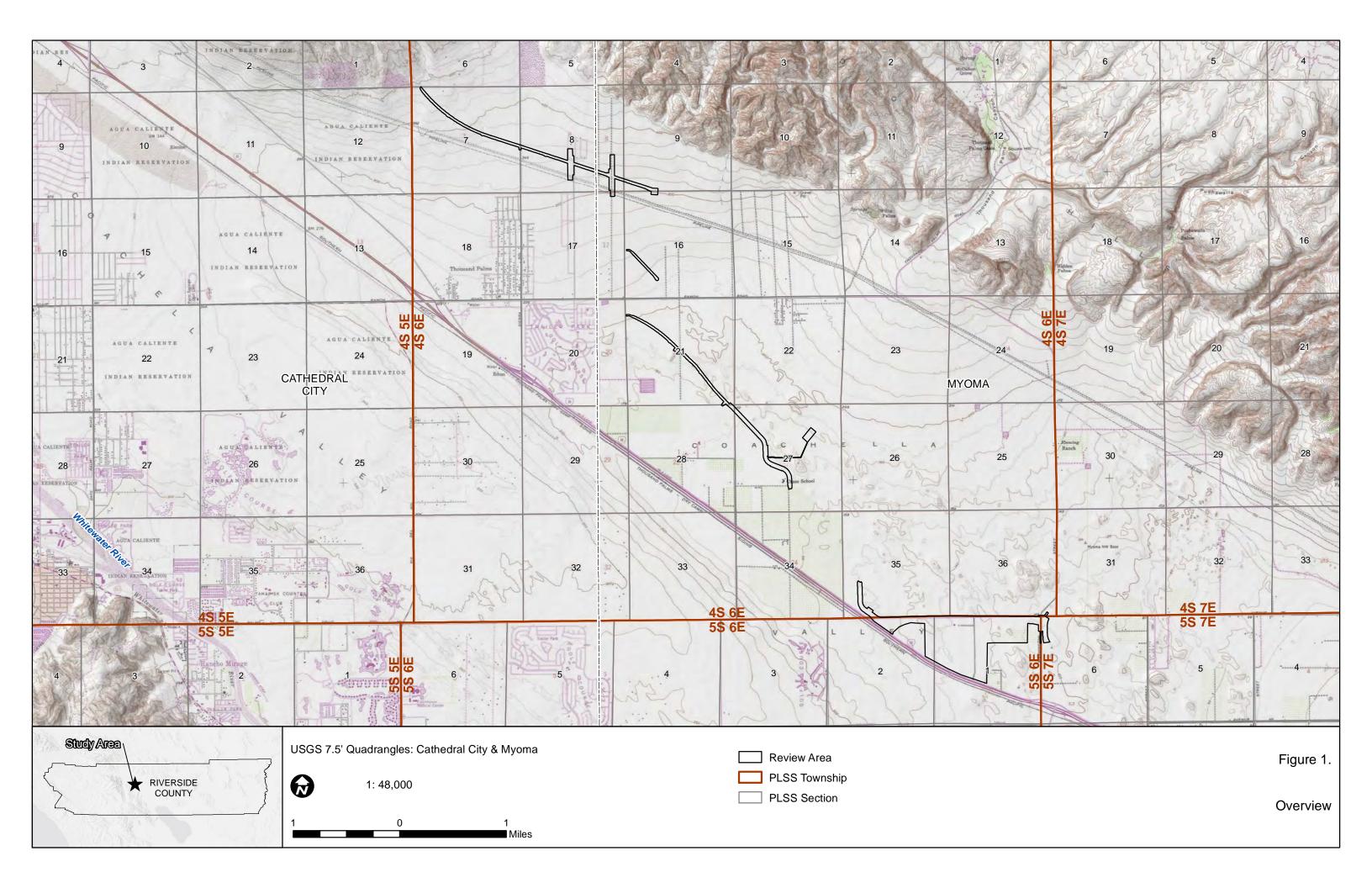
17

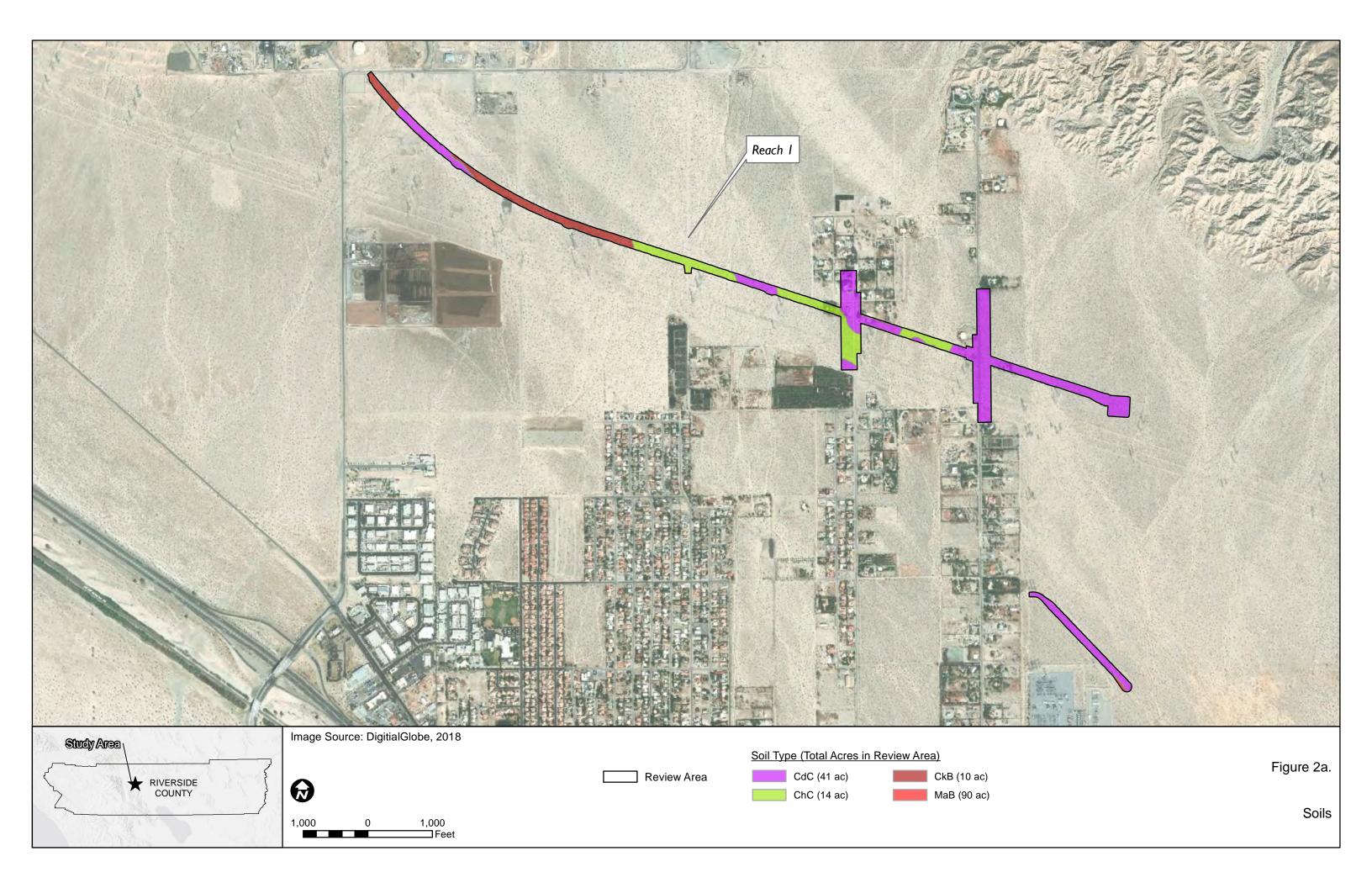
Hanover, NH.

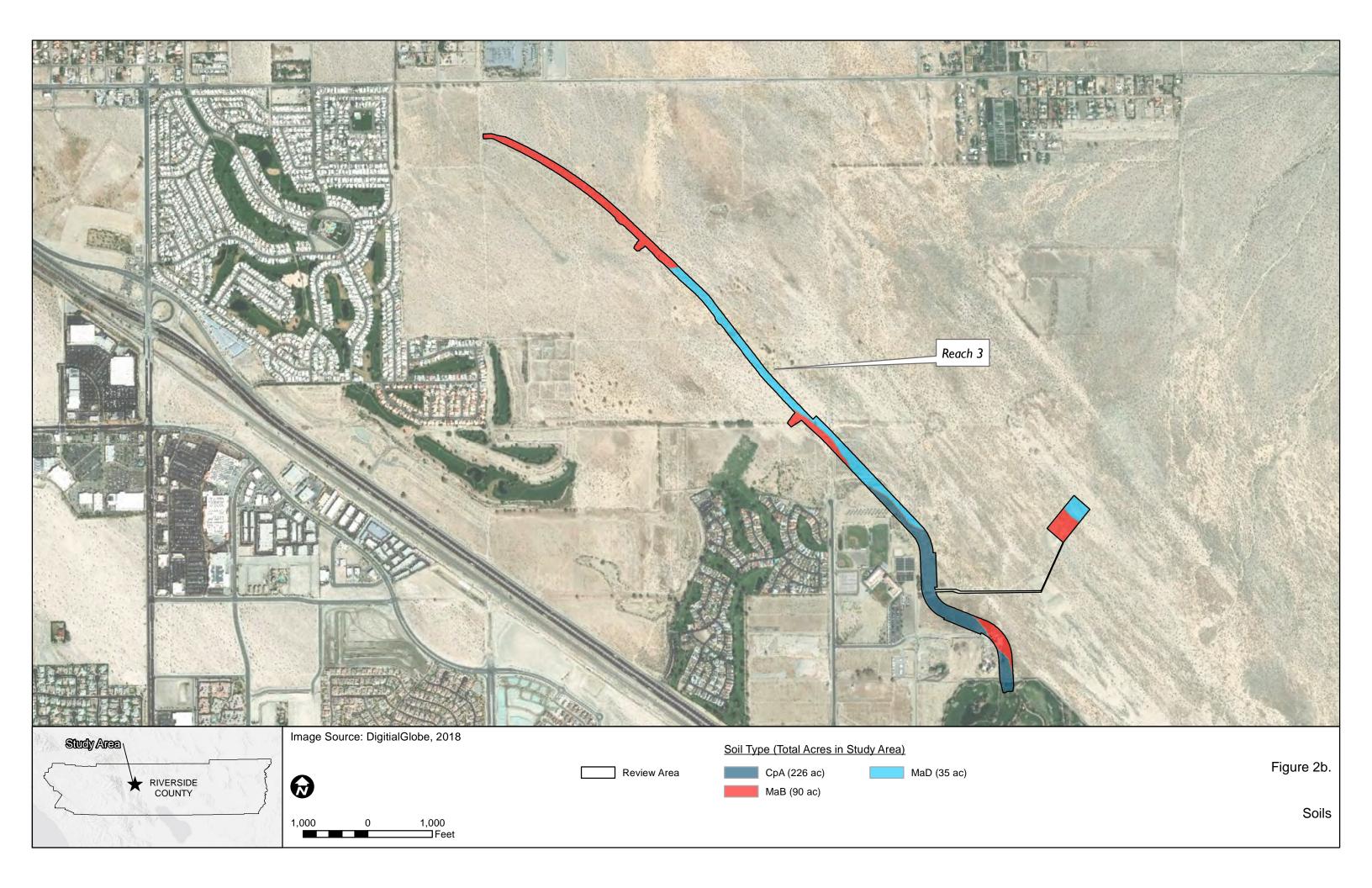


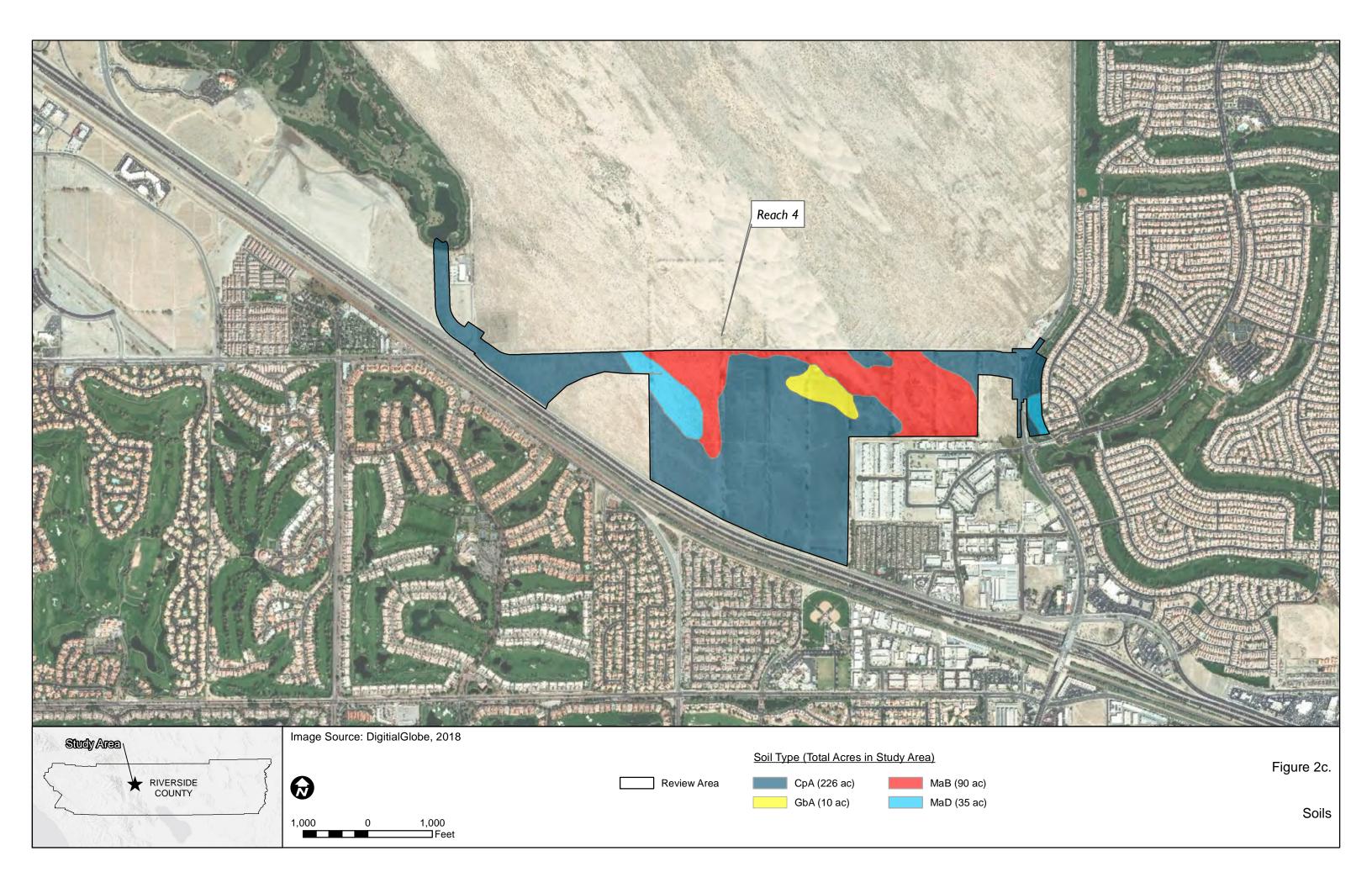
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- \_\_\_\_\_. 2019. Clean Water Rule: Revised Definition of "Waters of the United States". Proposed Rule. Federal Register 84:4154-4220 (February 14).
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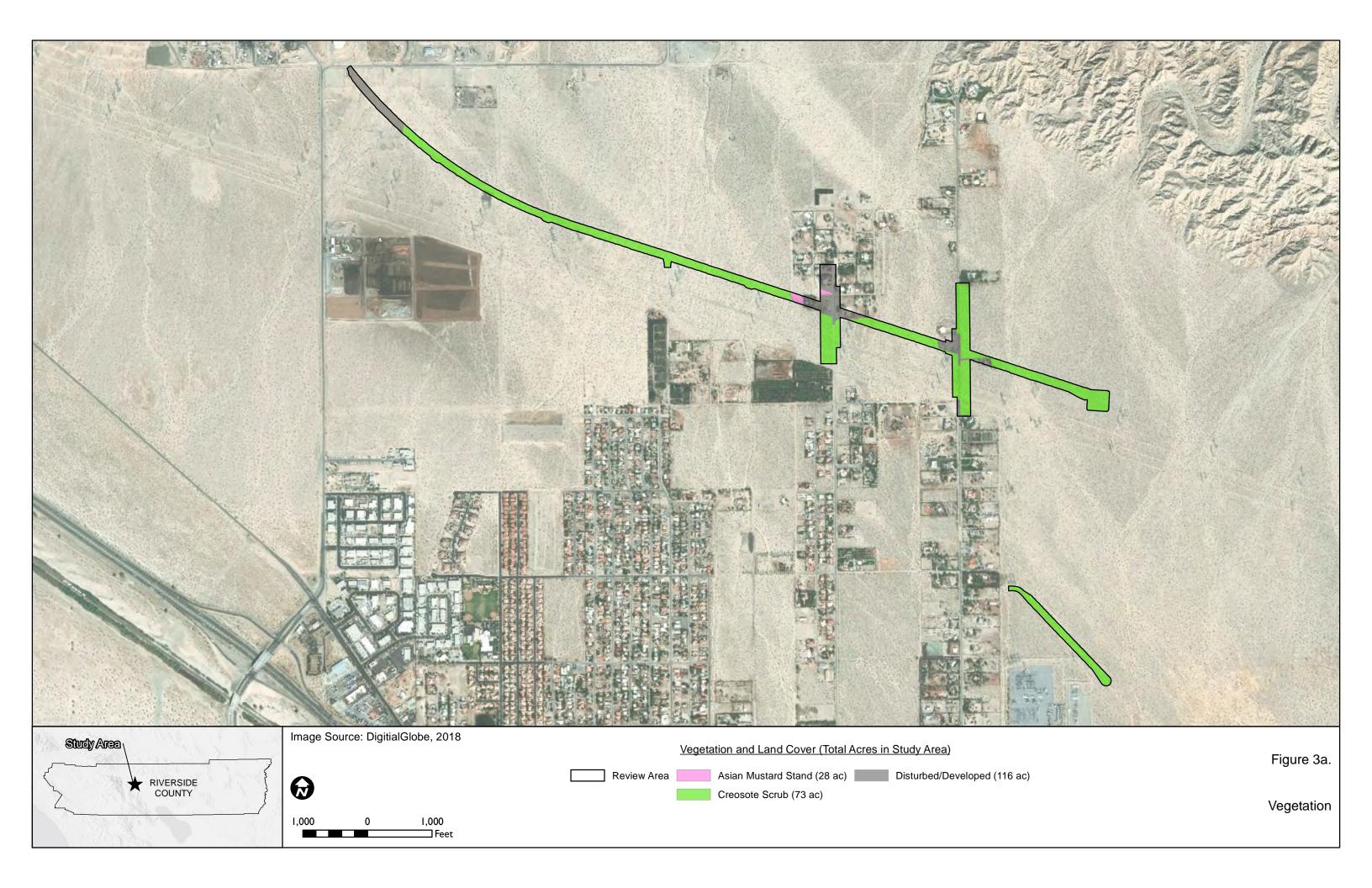


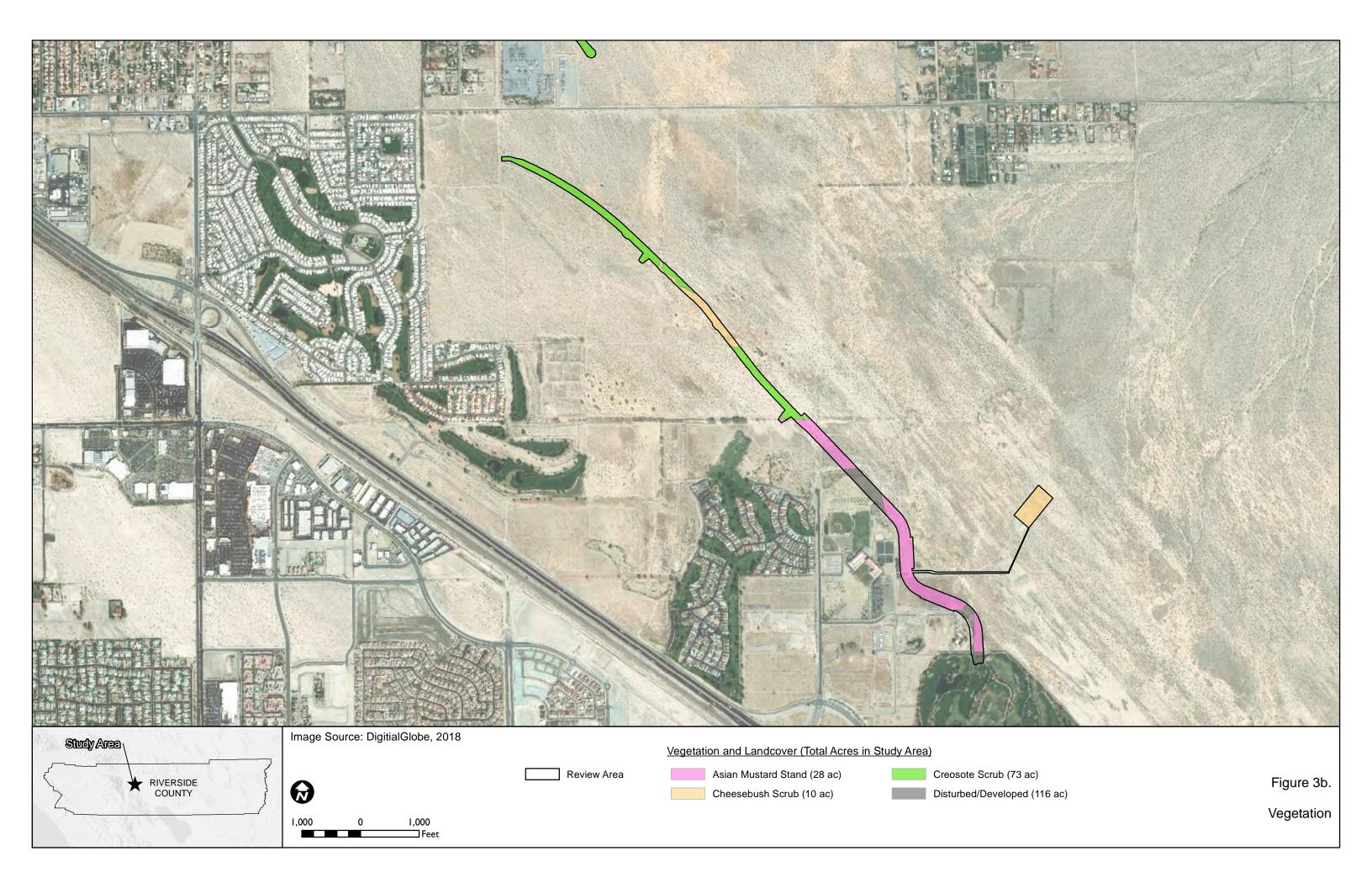


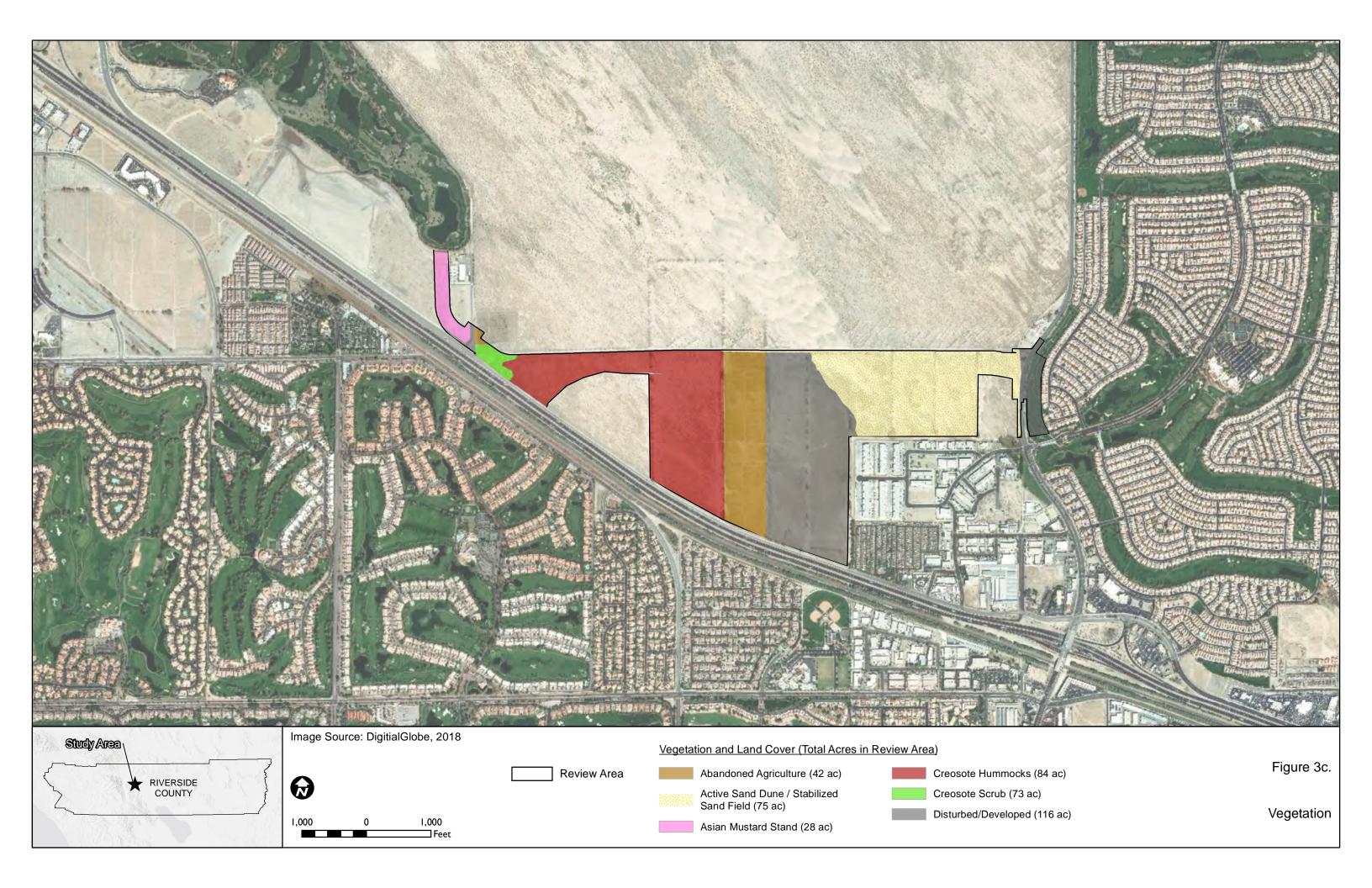


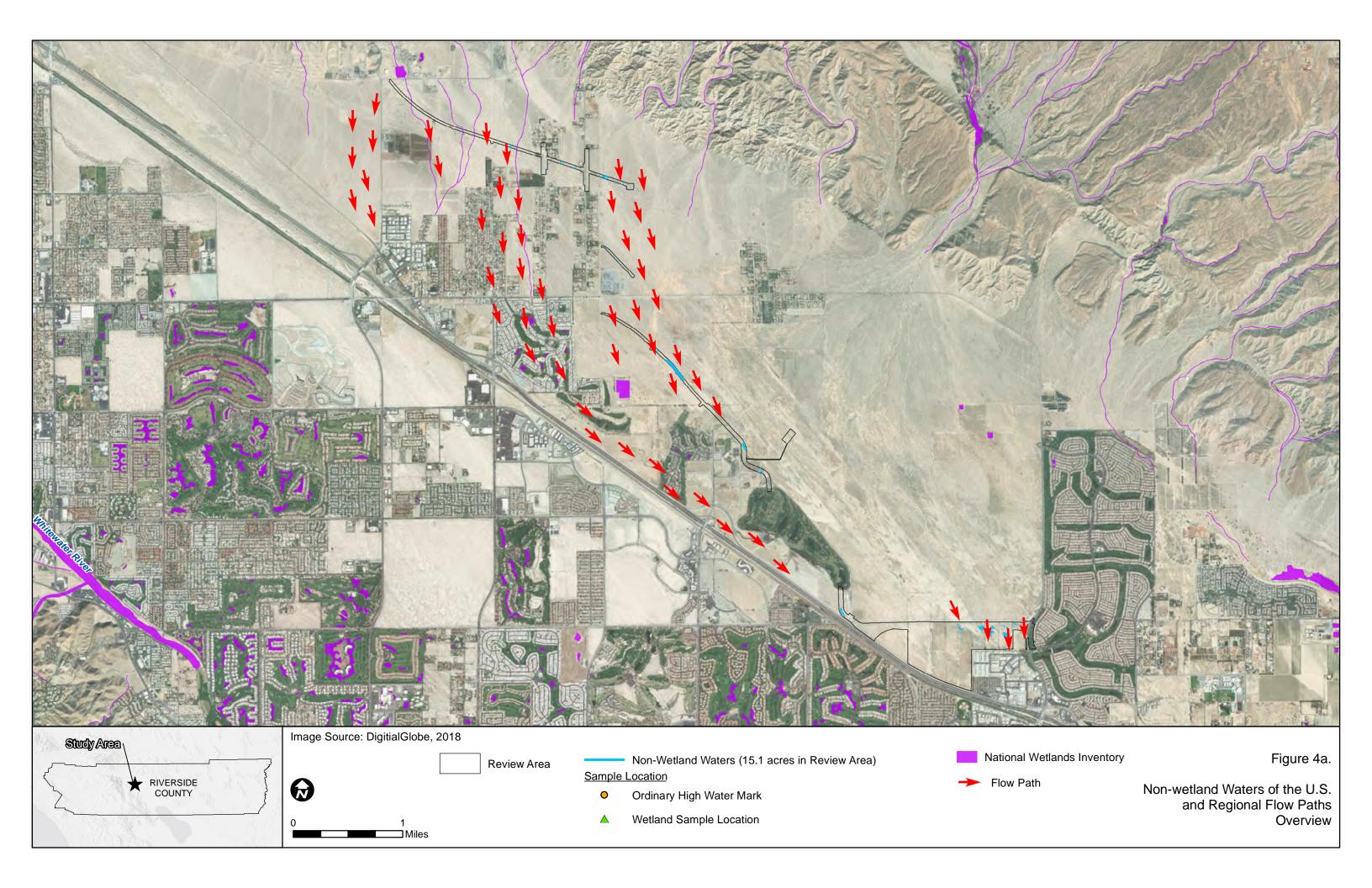


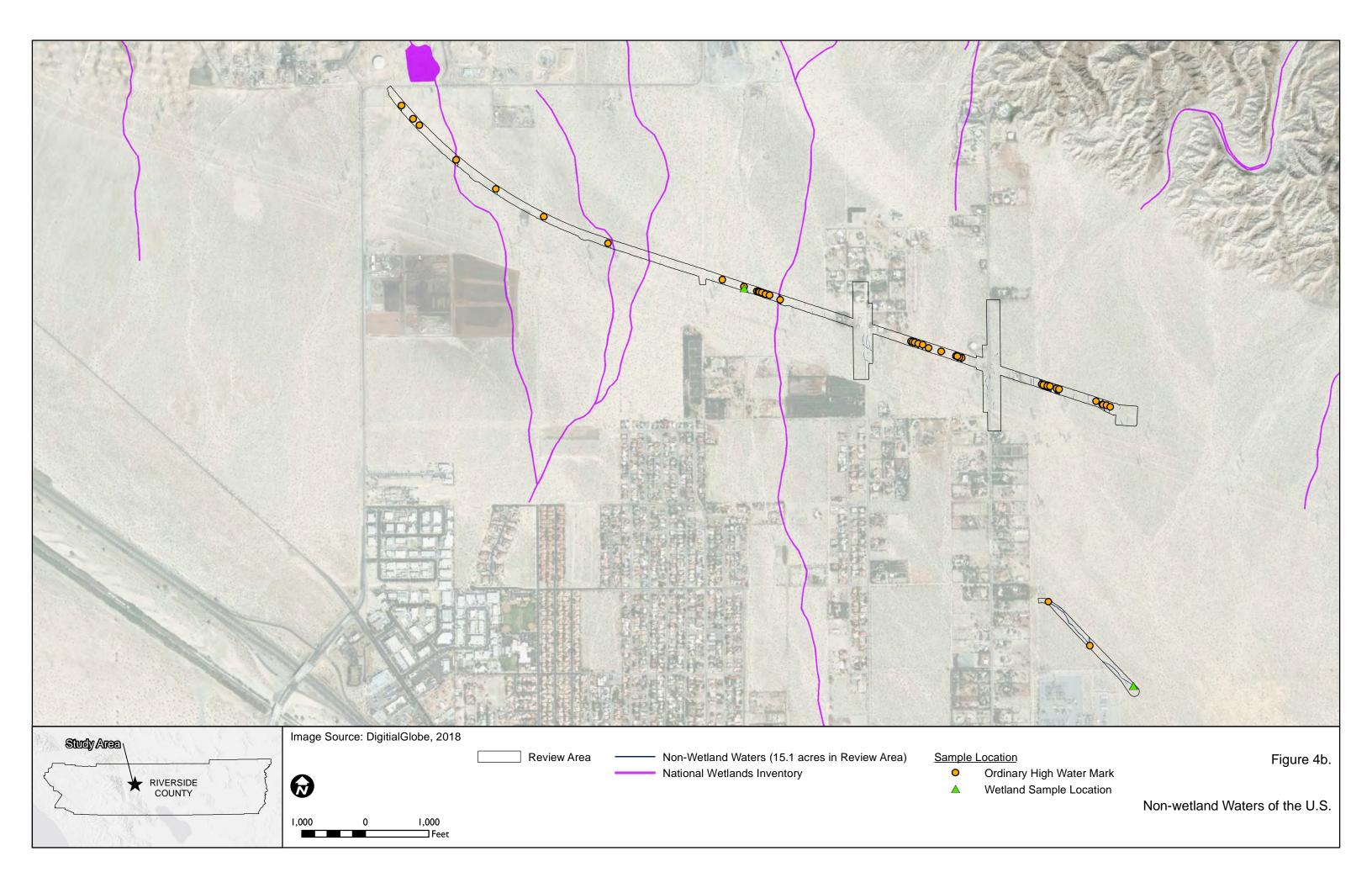


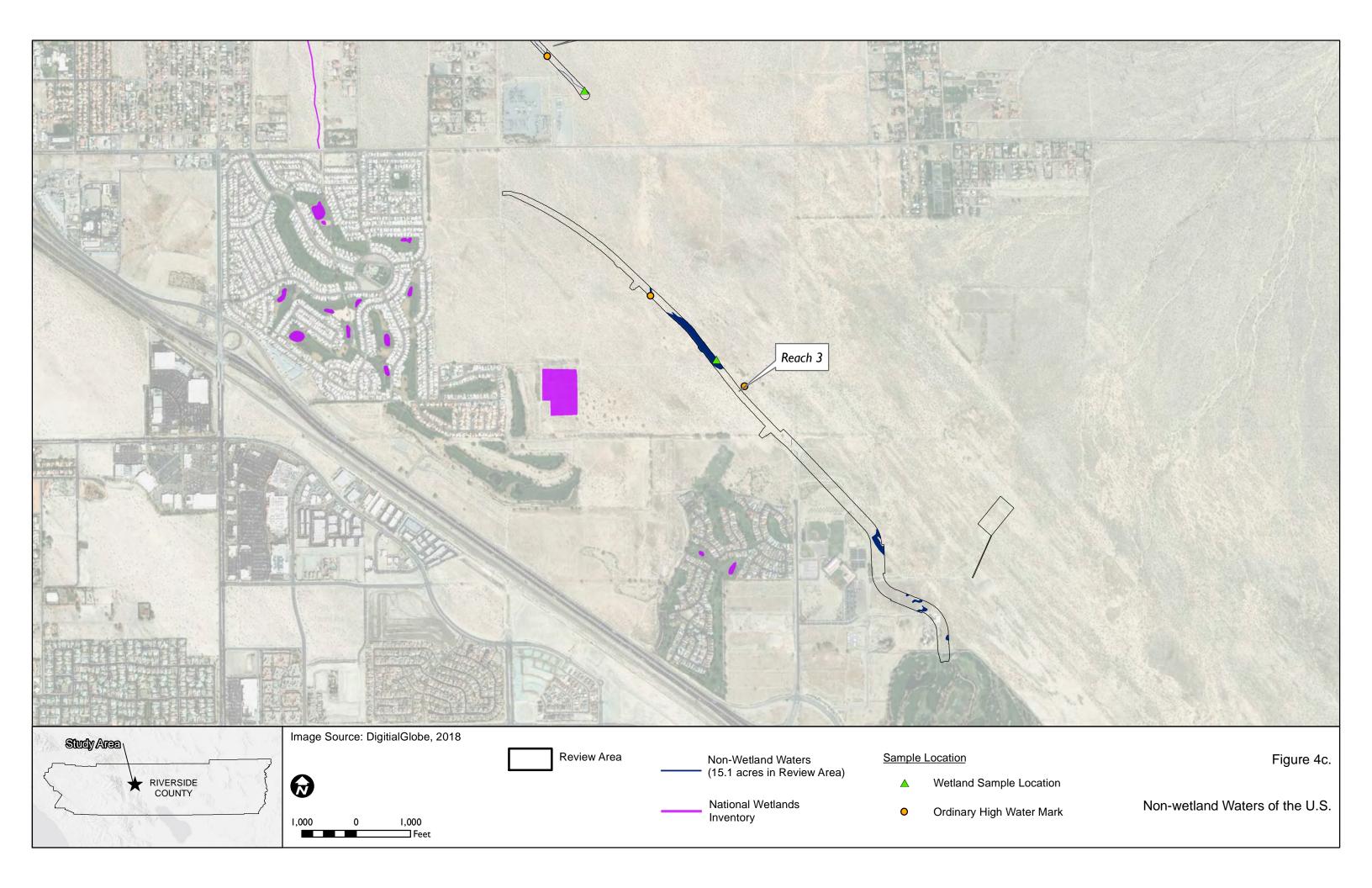


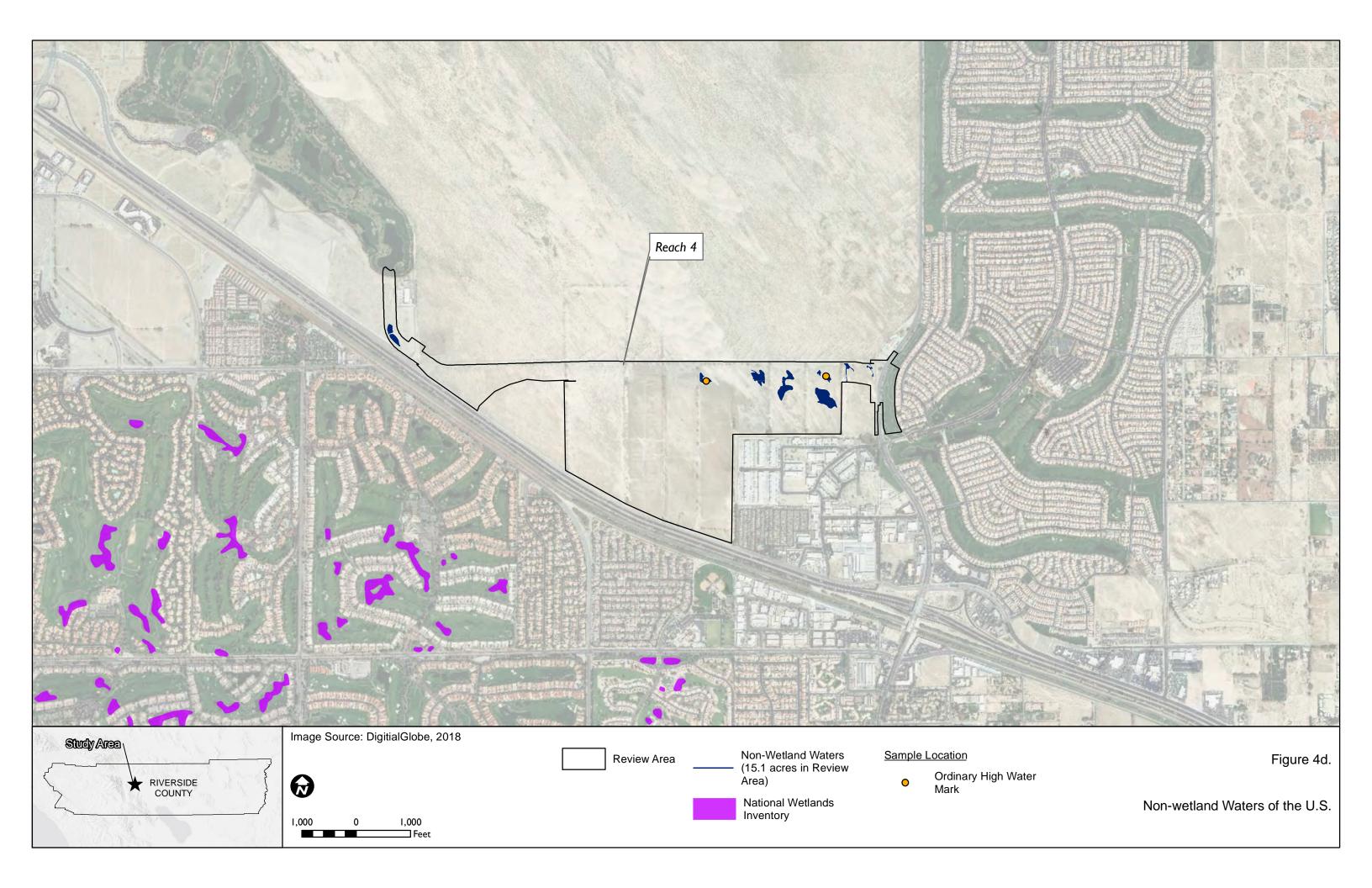


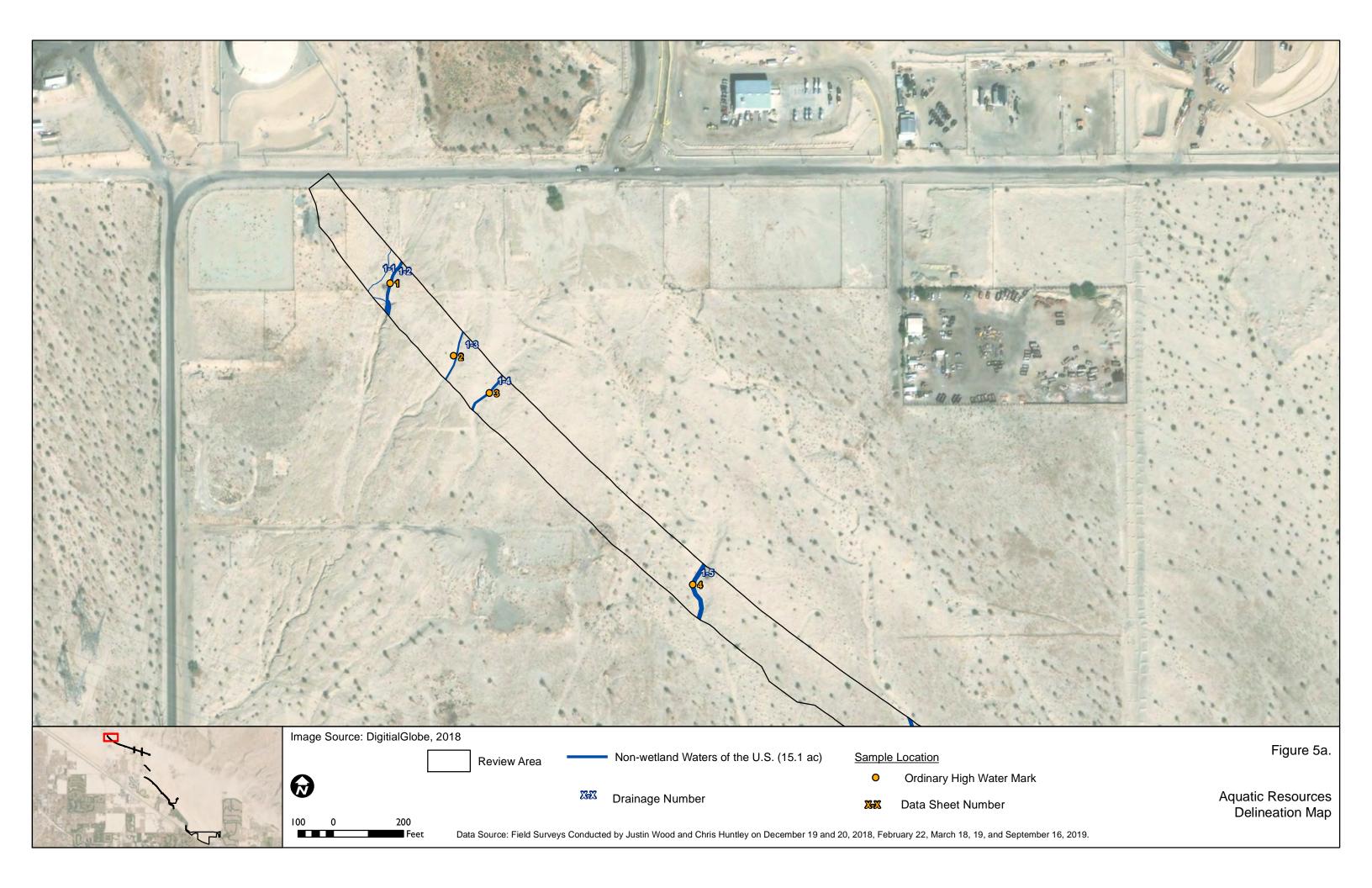




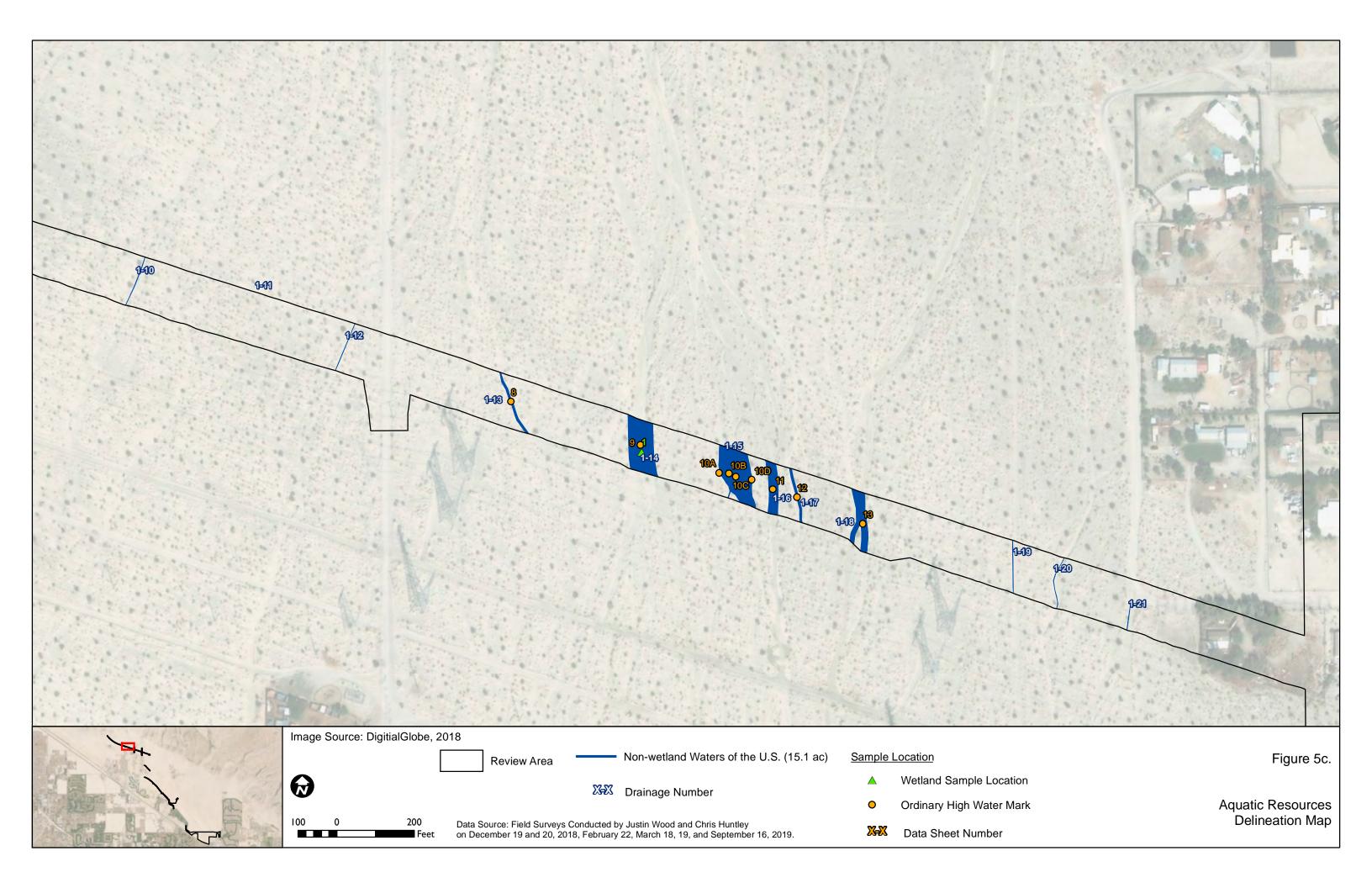


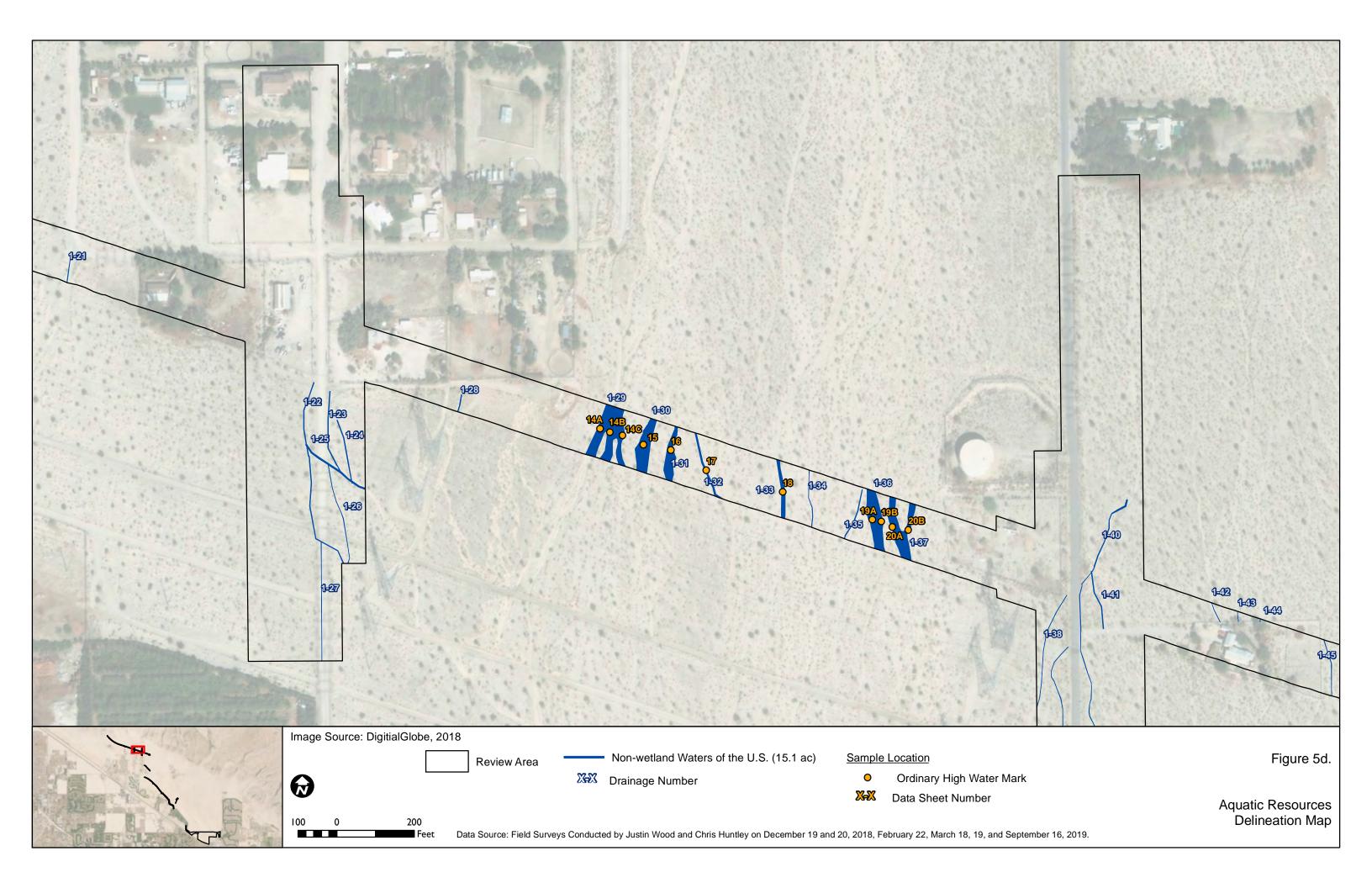






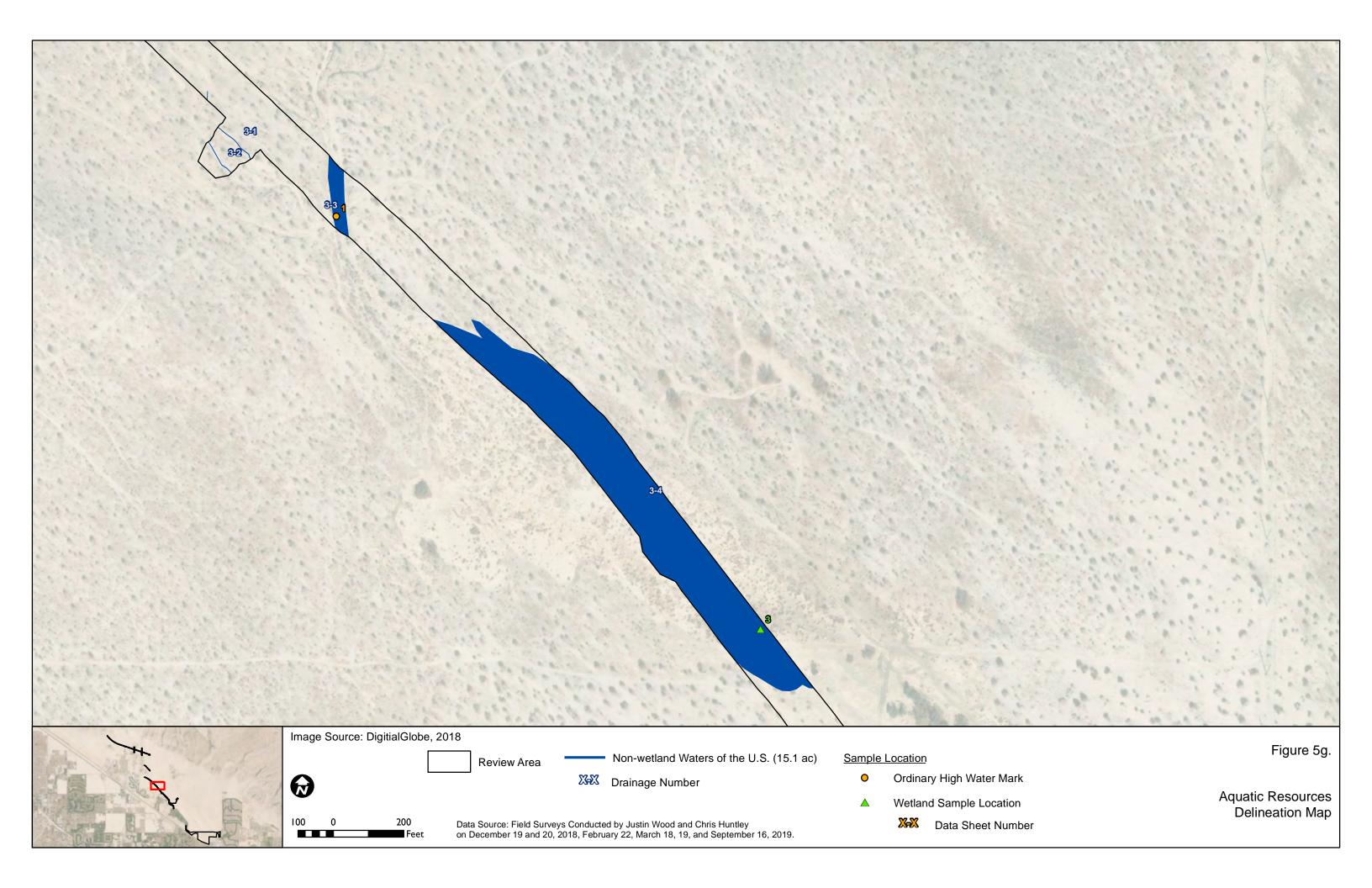


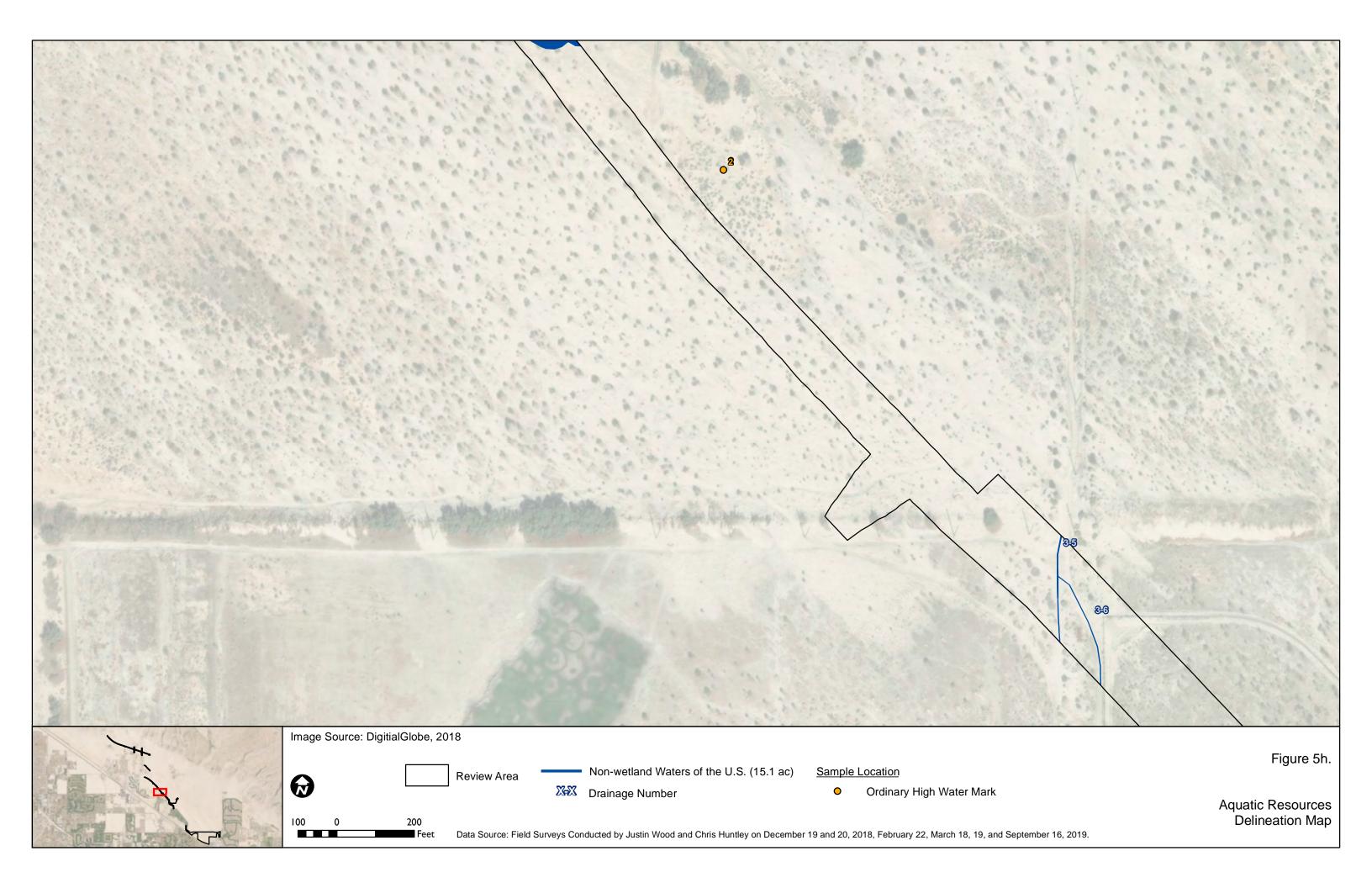


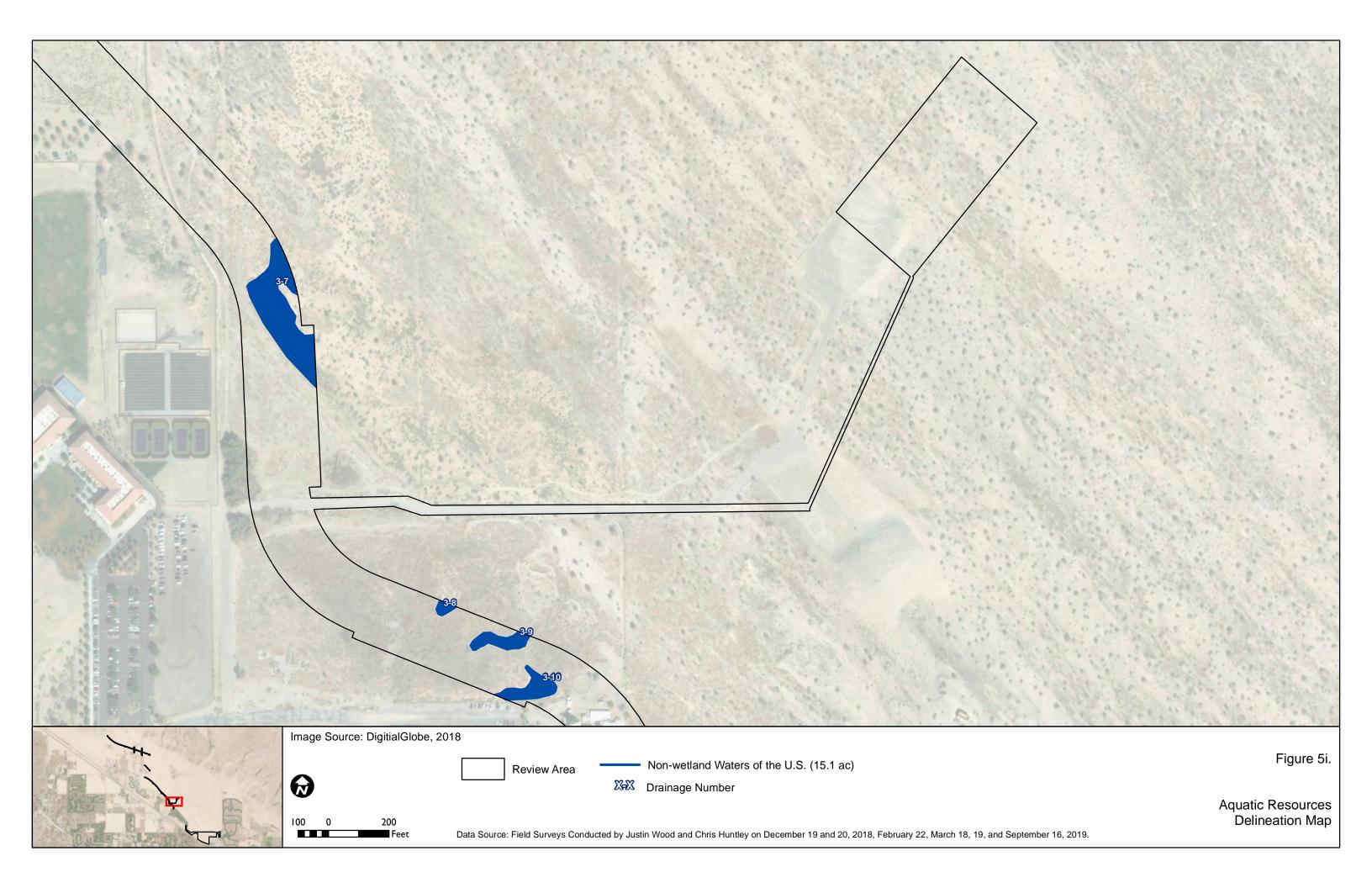


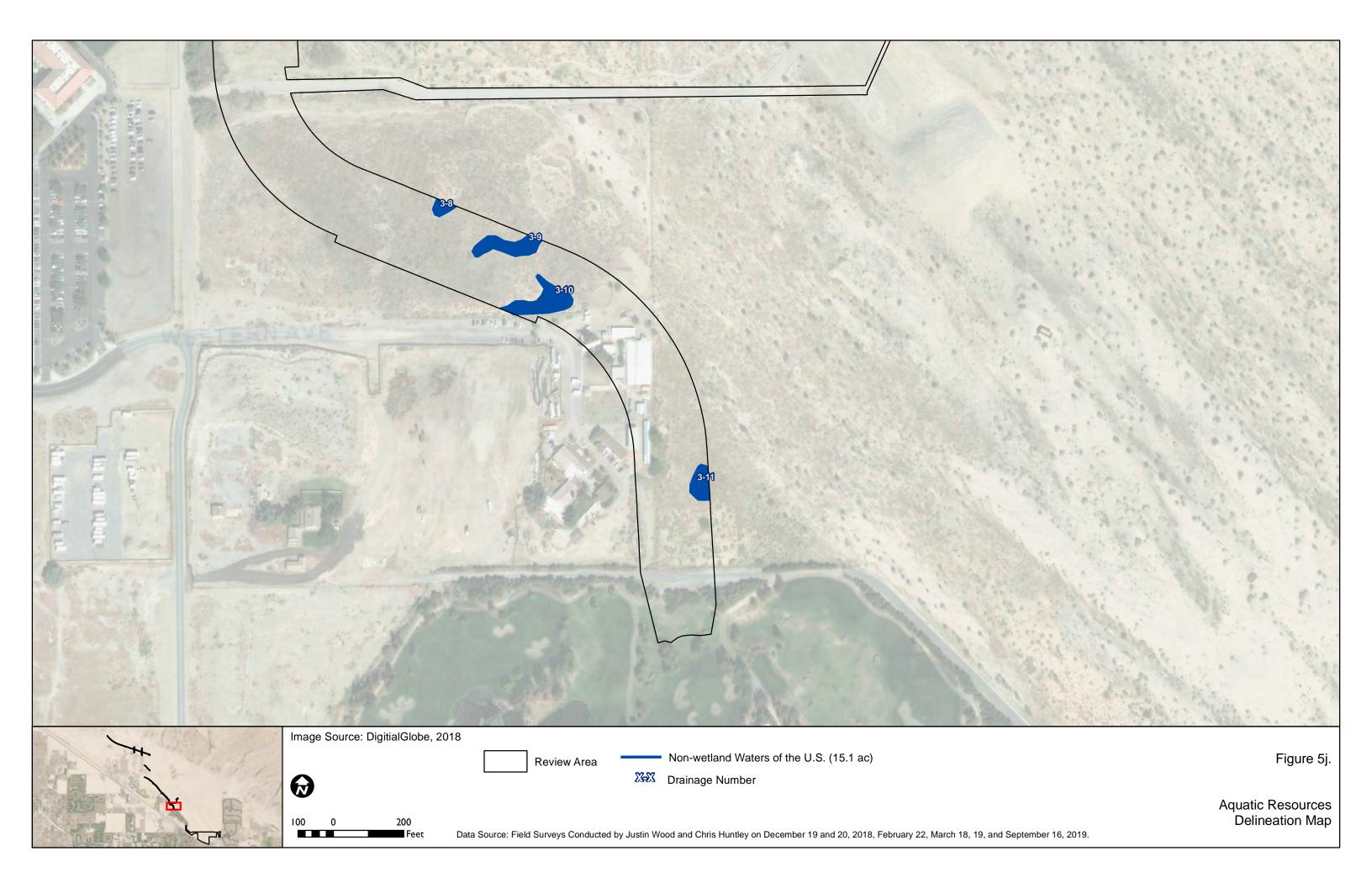


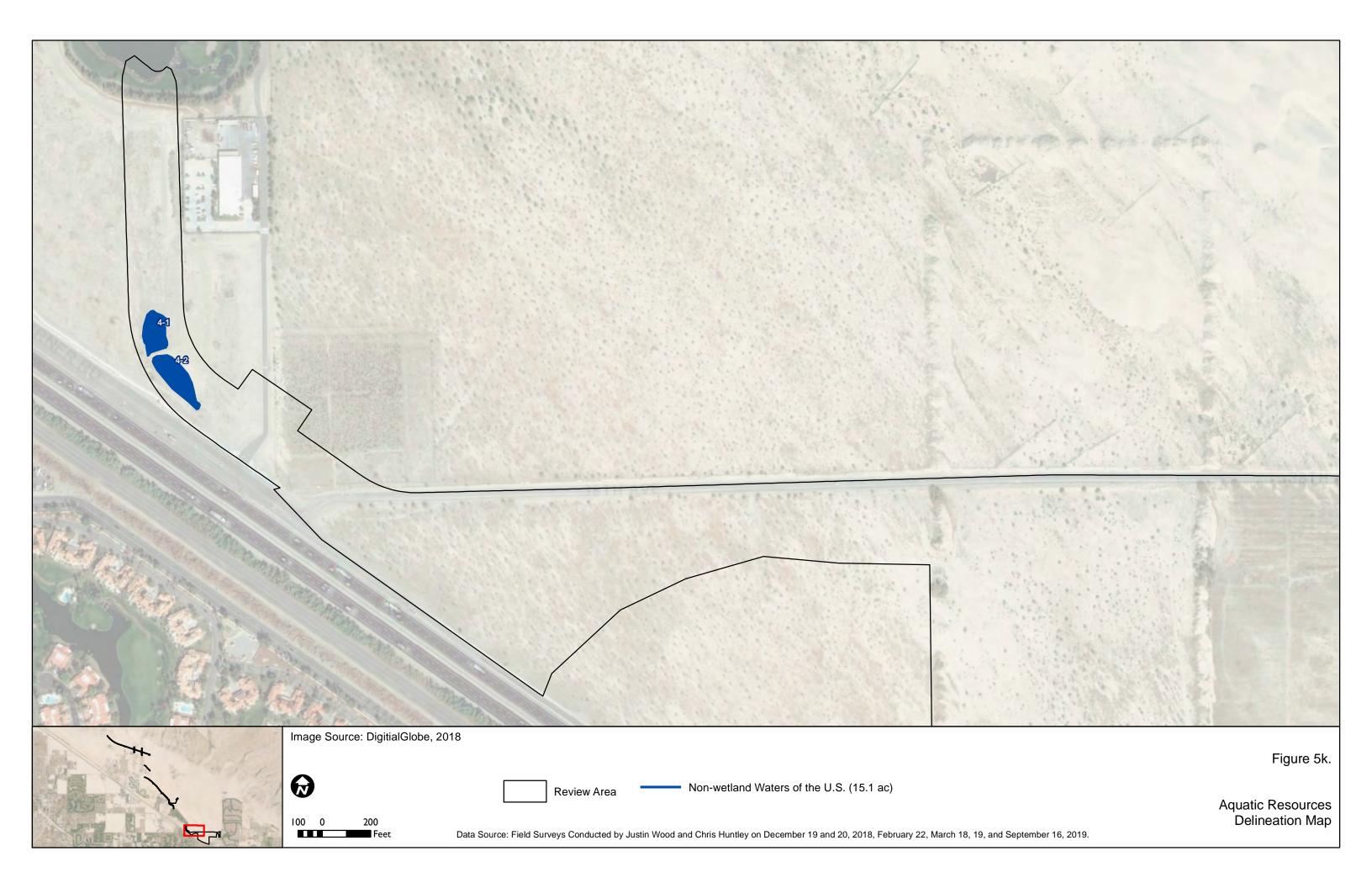


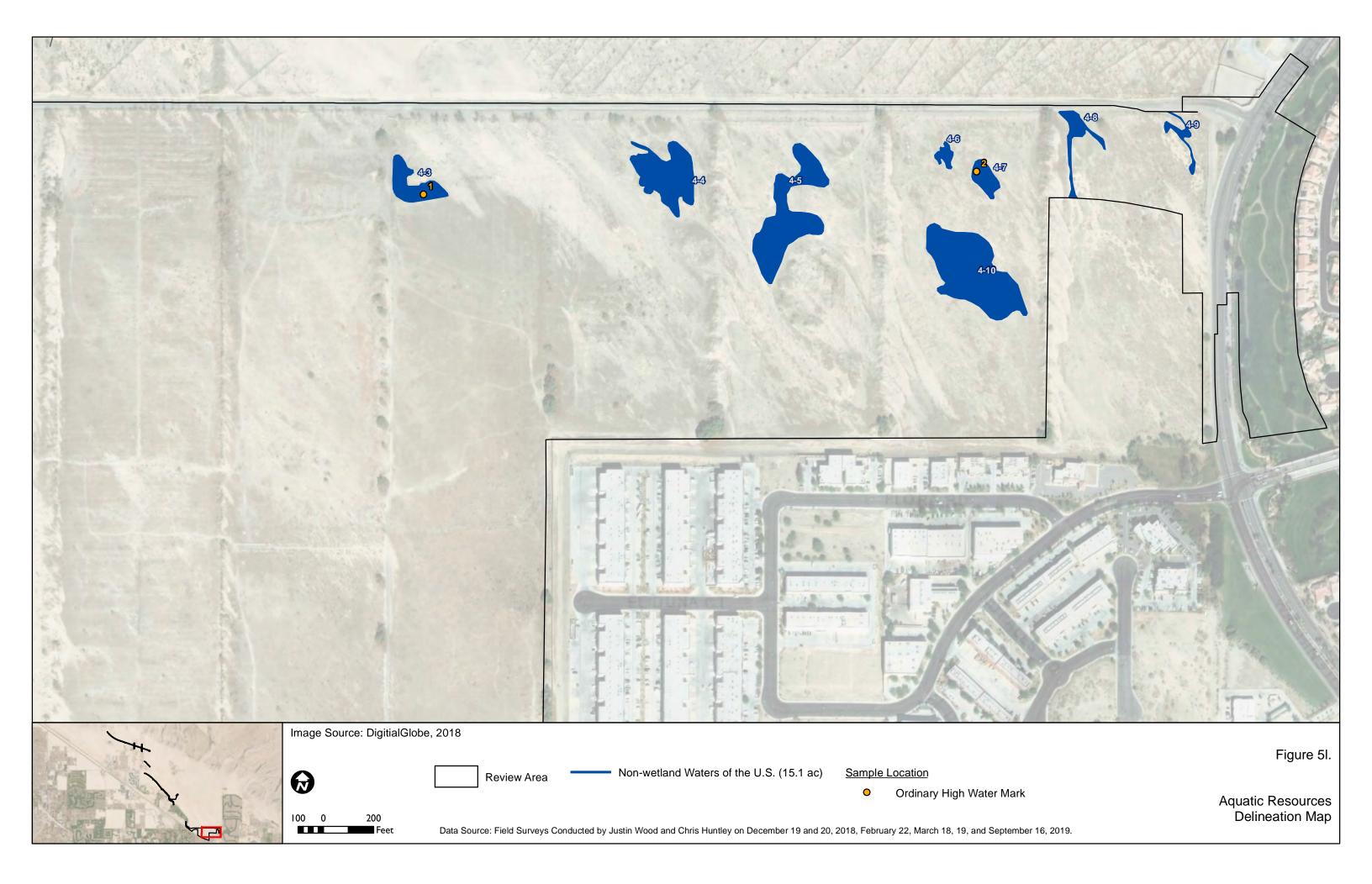




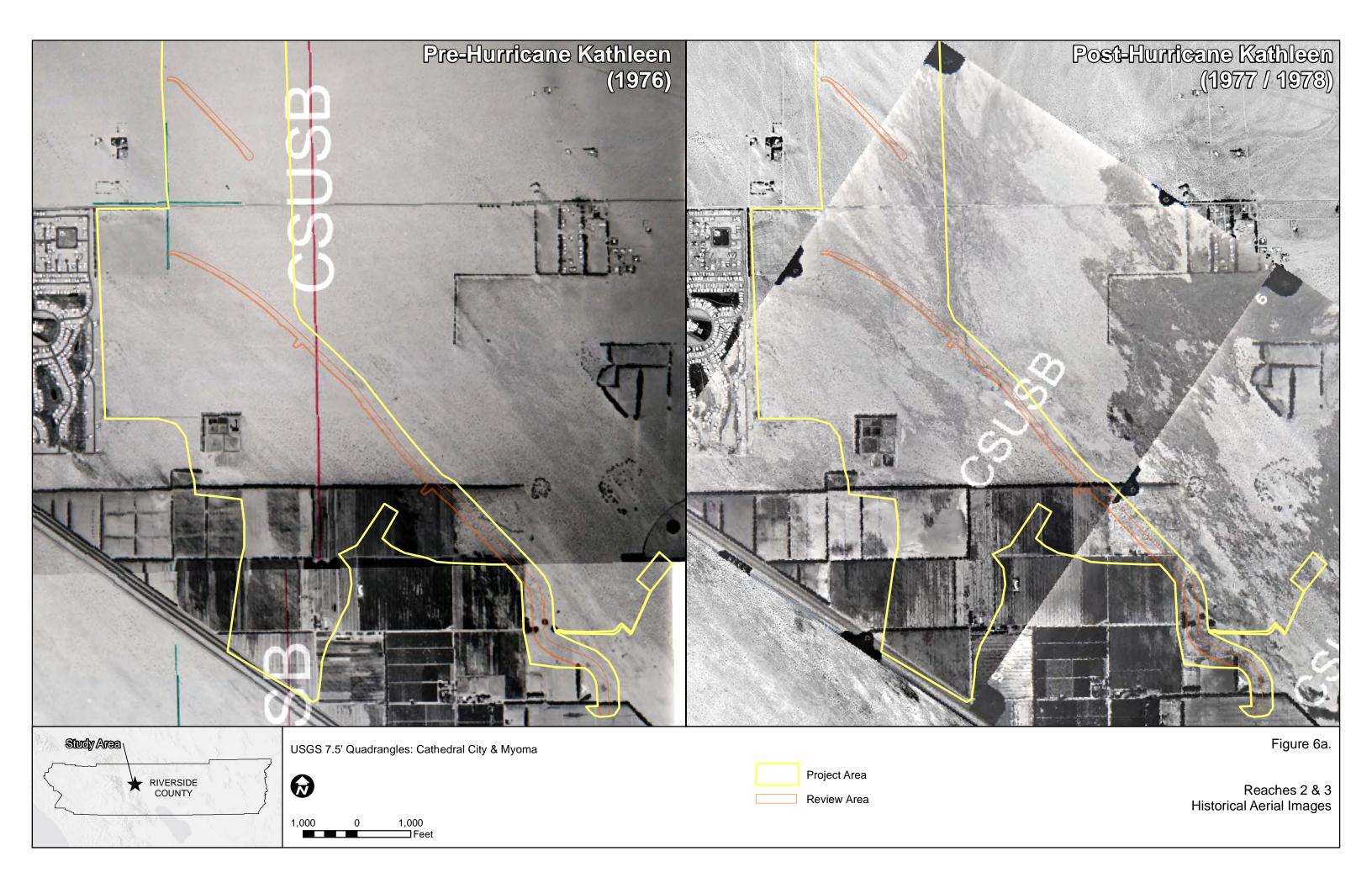
















### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 1000 Palms	City/Cour	ity: Thousand	1 Palms/	RIV San	mpling Date:	3.69
Applicant/Owner: CIWD	•	- 1000	State:		npling Point:	1.1
Investigator(s): J. Wood	Section.	Township, Ran				
Landform (hillslope, terrace, etc.): Bajada		ief (concave, co		<u> </u>		(0(). <b>h</b> (1
	•		Long: 3746	none		pe (%): <u>ナー</u>
Soil Map Unit Name: Carsi to Cobby	<del> </del>					m:
Are climatic / hydrologic conditions on the site typical for this time of ye	ear? Yes	B N∘ (	***************************************	/I classification plain in Remar	110.4.0	
Are Vegetation Soil or Hydrology significantly		-		stances" prese	•	
Are Vegetation Soil or Hydrology naturally pro						No C
				ny answers in I		
SUMMARY OF FINDINGS - Attach site map showing	Sampin	ng point loc	ations, tra	nsects, imp	ortant fea	itures, etc.
Hydrophytic Vegetation Present? Yes No						
Hydric Soil Present?  Wetland Hydrology Present?  Yes No No No C	1	the Sampled A				
Wetland Hydrology Present? Yes No	wit	thin a Wetland	<u>'?</u> Y	es (	No 🚳	
		<del></del>				
VEGETATION						
Tree Stratum (Use scientific names.)  Absolute % Cover	Dominant Species?		Dominance To	est worksheet	t:	
1. Psorotusmus spinosus S	Species!			minant Species FACW, or FAC	_	(4)
2.					C: 0	(A)
3.			Total Number o Species Acros		4	(B)
4					O	(B)
Sapling/Shrub Stratum  Total Cover: 5 %			Percent of Don That Are OBL,	ninant Species FACW, or FAC	c: <b>a</b>	% (A/B)
				dex workshee	_	70 (700)
Ambiosa saisoin	<u> </u>		Total % Co		Multiply	bye
3.	Α	W/A	OBL species	7401 01.	x 1 =	<u> </u>
4.		1	- FACW species		x 2 =	
5.		F	FAC species		x 3 =	
Herb Stratum Total Cover: 7 %		I I	FACU species		x 4 =	
1.		- 1	JPL species		x 5 =	
2.	·		Column Totals:		(A)	(B)
3.			Prevalend	ce Index = B/A	<b>( =</b>	
4.		—— T	lydrophytic V	egetation Indi	icators:	
5.	**		Dominance	e Test is >50%		
6.	·		Prevalence	e Index is ≤3.0¹	1	
7.			Morphologi	ical Adaptation Remarks or on	s¹ (Provide s	upporting
8.				c Hydrophytic \	-	· .
Woody Vine Stratum				, a op , a.o	regetation (I	Explain,
1.		1	Indicators of h	ydric soil and	wetland hydr	ology must
2			be present.		-	
Total Cover: %			lydrophytic			
% Bare Ground in Herb Stratum 100 % % Cover of Biotic Cri	ust O		egetation resent?	Yes (	No 🖷	
Remarks:						
JS Army Corps of Engineers		· · · · · · · · · · · · · · · · · · ·				

Sam	nlina	Point:	
Jaili	PHHY	r Uli It.	

50IL								Sampling Po	oint: 1
	iption: (Describe t	o the depth			ndicator o	or confirm	n the absence of	indicators.)	
Depth (inches)	Matrix Color (moist)	<del></del>	Redo Color (moist)	x Features %	Type1	1002	T43	_	
·			Color (moist)		Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Re	emarks
-14	7.57R 5/2	100			. *****		Saud	some gra	vet up to
									·
				-					
		<del></del>			<del></del> -				7174
	ncentration, D=Deple			<sup>2</sup> Location:	PL=Pore	Lining, RO	C=Root Channel, I	M=Matrix,	
Soil Textures:	Clay, Silty Clay, Sa	andy Clay, Lo	am, Sandy Clay	Loam, San	dy Loam,	Clay Loar	m, Silty Clay Loam	n, Silt Loam, Silt, Lo	oamy Sand, San
	lioators: (Applicable	to all LRRs,					Indicators for F	Problematio Hydrio	Soils:
Histosol (A	· ·		Sandy Redo					(A9) (LRR C)	
Black Hist	pedon (A2)		Stripped Ma	. ,	/E4\			(A10) (LRR B)	
	Sulfide (A4)		Loamy Muc	-				/ertic (F18)	
	Layers (A5) ( <b>LRR C</b> )	ı	Depleted M		r2)		hammed .	it Material (TF2) plain in Remarks)	
	k (A9) ( <b>LRR D</b> )		Redox Dark		6)		Culei (Ext	Maill III (Cellialks)	
Depleted t	Below Dark Surface	(A11)	Depleted Da		,				
	k Surface (A12)		Redox Depi	ressions (F	3)				
	cky Mineral (S1)		Vernal Pool	s (F9)				ydrophytic vegetati	
	eyed Matrix (S4)	· · · · · · · · · · · · · · · · · · ·					wetland hyd	rology must be pre	sent.
	yer (if present):								
Туре:	<del></del>		_						
Depth (inch	es):						Hydric Soil Pre	sent? Yes 🦳	No 🌀
YDROLOG	Y				···	•			
	ology indicators:						Socondon	· Indicators /2 or	
	tors (any one indicat	or is sufficien	t\					/ Indicators (2 or m	
Surface W		or is sufficient		(D44)				Marks (B1) (Rive	•
<u></u>	r Table (A2)		Salt Crust				<u></u>	nent Deposits (B2)	, ,
Saturation	• •			rertebrates	(D13)			Deposits (B3) ( <b>Rive</b>	•
⊒'	ks (B1) (Nonriverin	a)		Sulfide Odo			ابنا	age Patterns (B10) eason Water Table	
렆	Deposits (B2) (Nonr	•		hizosphere	, ,	vina Root	-	Muck Surface (C7)	: (02)
_	sits (B3) (Nonriverin	,		of Reduced	_	Ting I tool	· ' <u></u>	sh Burrows (C8)	
=	oil Cracks (B6)	,	Recent Iron		٠,	d Soils (C		ation Visible on Aer	rial Imagen, (CO)
<u>2</u>	Visible on Aerial Im	agery (B7)	=	lain in Rem		u 00110 (0	´ 📙	w Aquitard (D3)	iai iiiiageiy (C5)
_	ned Leaves (B9)	-87 (7			aino,			Neutral Test (D5)	
ield Observa						<del></del>		Teatral Teat (D3)	
urface Water		C No	Depth (inc	hes):					
/ater Table Pr		•		·		-			
aturation Pres		· _ ·		·		-			
ncludes capilla	ary fringe)						nd Hydrology Pre	esent? Yes 🖷	No C
escribe Recor	rded Data (stream g	auge, monito	ring well, aerial p	hotos, prev	ious inspe	ections), if	available:		*** *** ···· · · · · · · · · · · · · ·
emarks:									
Army Corns of			<del></del>						

#### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 1600 Palms			City/Co	unty: Thousa	ud Palme	/RIV.	Sampling I	Date:	3/19
Applicant/Owner: CVWD					Stat	/	— Sampling F		2/11 Z
Investigator(s): J. Wood			Section	n, Township, R	ange: S\i		RE		
Landform (hillslope, terrace, etc.): Low	ner bajada			elief (concave				Slope	(%): < 1
Subregion (LRR): West Renge		Lat: \\	-	3668 mE		742308		Datum:	(70).
Soil Map Unit Name: Carsitas	gravelly		<u> </u>	2000 M.C		NWI classi		Datum.	·
Are climatic / hydrologic conditions on th		time of ve	ear? Yes	s 🚯 No (	C (If n	o, explain in	-		
Ann Mannatation III and III		nificantly		•			present? Ye		No.C
		iturally pro					•	_	No C
SUMMARY OF FINDINGS - At		• •					ers in Remari	•	uras eta
Hydrophytic Vegetation Present?		_	T			11411300		III IVALI	1105, GLC.
Hydric Soil Present?	Yes ( No Yes ( No	_	١,	c the Campia	d Assa				
Wetland Hydrology Present?	Yes No	_		s the Sample within a Wetla		Yes (	No.		
Remarks:		·		TIGHT A TYOUA	iriu :	165 (	No 🖝		
VEGETATION									
Tree Stratum (Use scientific names.)		bsolute % Cover	Domina Species	ant Indicator s? Status		ce Test wor		*****	
1.	<u></u>		<u> </u>	0.000		f Dominant : OBL, FACW		0	(A)
2.				<del></del>	<b>-</b>				(~)
3.						nber of Domi across All Str		0	(B)
4.					_	f Dominant S		U	(-)
Sapling/Shrub Stratum	Total Cover:	0 %			That Are 0	DBL, FACW	or FAC:	0	% (A/B)
1. Larrow + identita		S	Ą	N/A	Prevalenc	e Index wo	rksheet:		<del></del>
2. Atopiex Concerns		5	y	N/A	Total	% Cover of:	<u>N</u>	lultiply by	<u>r:</u>
3.					OBL spec		x 1 =		
<b>4</b> . <b>5</b> .	<del></del>	· · · · · · · · · · · · · · · · · · ·			FACW spe		x 2 =		
3	Total Cover:	10.00			FAC speci		x 3 =		
Herb Stratum	Total Cover.	10 %			UPL speci		x4= x5=		
1. Schismus barbatus (?)		10	Y	N/A	Column To		(A)		(B)
2. Abronia xillosa		5	Y	N/A	]				(0)
3. Gruen ranelena		ح	Y	N/A		alence Index			
4. Brassica town hat 1		٤	Y	~/x	1	-	on Indicators	s:	
6.					ı	nance Test is lence Index			
7.					1		ıs ≤3.∪ aptations¹ (Pro	vide sun	norting
8.				<del></del>	dat	a in Remark	s or on a sep	arate she	eet)
	Total Cover:	25%			Proble	ematic Hydro	phytic Vegeta	ation¹ (Ex	plain)
Woody Vine Stratum		レノ%							
1					<sup>1</sup> Indicators be presen		oil and wetlan	d hydrol	ogy must
2			·		<u> </u>		····		<del></del>
	Total Cover:	%			Hydrophy Vegetation				
% Bare Ground in Herb Stratum 75	% Cover of	Biotic Cr	rust	<b>)</b> %	Present?		s ( N	io 🌑	
Remarks:					1		· · · · · · · · · · · · · · · · · · ·		
S Army Corps of Engineers									

Profile Des	cription: (Describe to	the depth n	eeded to docui	nent the in	dicator (	or confirm	the absence of in	dicators.)	
Depth	Matrix			x Features			_ 2		
(inches)	Color (moist)	<u> </u>	Color (moist)	· <u> </u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture <sup>3</sup>	Remarks	
0-18	7.54R 6/3	100			104.95	mar.co.	Sand		
Type: C=C	Concentration, D=Deple	etion, RM=Re	duced Matrix.	<sup>2</sup> Location:	PL=Pore	Lining, RO	C=Root Channel, M	=Matrix.	
	es: Clay, Silty Clay, Sa Indicators: (Applicable				dy Loam	, Clay Loar		Silt Loam, Silt, Loamy S  oblematic Hydric Soils:	and, San
Black H Hydrog Stratifie 1 cm M	ol (A1) Epipedon (A2) Histic (A3) Hen Sulfide (A4) Ed Layers (A5) ( <b>LRR C</b> ) Huck (A9) ( <b>LRR D</b> ) Ed Below Dark Surface		Sandy Redo Stripped Ma Loamy Muc Loamy Gley Depleted M Redox Dark Depleted D	atrix (S6) ky Mineral ( yed Matrix (l atrix (F3) c Surface (F	=2) 6)		2 cm Muck Reduced Vo Red Parent	(A9) (LRR C) (A10) (LRR B) ertic (F18) Material (TF2) ain in Remarks)	
Sandy	0ark Surface (A12) Mucky Mineral (S1) Gleyed Matrix (S4)		Redox Dep Vernal Poo	•	3)			drophytic vegetation and ology must be present.	i
	Layer (if present):			· · · · · · · · · · · · · · · · · · ·			Trouble Try Cr	ology muot bo procent.	
Type:							Hydric Soil Pres	sent? Yes ( N	10 F
YDROLO	OGY								
Vetland Hy	drology indicators:	······································					Secondary	Indicators (2 or more re-	quired)
rimary Ind	icators (any one indica	tor is sufficier	t)				Water	Marks (B1) (Riverine)	
High W Saturat Water I Sedime Drift De Surface	e Water (A1) /ater Table (A2) tion (A3) Marks (B1) (Nonriverinent Deposits (B2) (Nonriverine) eposits (B3) (Nonriverine) e Soil Cracks (B6) tion Visible on Aerial Instance (B9)	riverine) ne)	Hydrogen Oxidized F Presence Recent Iro	• •	or (C1) s along l Iron (C4 n in Plow	+)	Drift D Draina Dry-Se ts (C3) Thin M Crayfis Satura Shallo	ent Deposits (B2) (River eposits (B3) (Riverine) ge Patterns (B10) eason Water Table (C2) luck Surface (C7) sh Burrows (C8) tion Visible on Aerial Ima w Aquitard (D3) leutral Test (D5)	·
ield Obse	rvations:				*				
	iter Present? Ye	s No	Depth (in	ches):					
Surface Wa	a Dresent? Va	s No	Depth (in	ches):					
Water Table Saturation F	_	s No	Depth (in	ches):			and Hydrology Pre	sent? Yes 🏳 N	4o (

### WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: 1000 Palms			City/C	ounty: Themsa	nd Palms /	LIV, Sa	mpling Da	ate:	3-19
Applicant/Owner:_CVWD			_			<del></del>	mpling Po		3
Investigator(s): J. Ward			Section	on, Township, R		45, R6E			3
Landform (hillslope, terrace, etc.): Sand	d field				, convex, none):			Slone	2 (06):
Subregion (LRR): West Renge		Lat: 1)		1408 ME	Long: 37408				e (%): < \^
Soil Map Unit Name: Myoma Fine	· · · · · · · · · · · · · · · · · · ·			7 - D - M- F				Datum	
Are climatic / hydrologic conditions on the		his time of v	ear? Y	es 🖀 No	_	classificatio		<u> </u>	
Are Vegetation Soil or Hyd		significantl				lain in Rema	,	_	
Are Vegetation Soil or Hyd	ب ب	naturally p	•		"Normal Circumsta				No (
SUMMARY OF FINDINGS - Atta				•	leeded, explain any				urec ete
Hydrophytic Vegetation Present?		No 🖀						- Toat	u103, 0tc.
Hydric Soil Present?	`_ `	No 🌀		Is the Sample	d Area				
Wetland Hydrology Present? Remarks:	Yes 🌀 📗	No C		within a Wetla		s C	No 🎓		
VEGETATION						·			
TEGETATION	***	X 1 1							
Tree Stratum (Use scientific names.)		Absolute % Cover	Domin Specie	nant Indicator es? Status	Dominance Tes				
1. Tanaisk apylla (?)			Y	FAC	Number of Dom That Are OBL, F			i	(A)
2			<u>-</u>		Total Number of			i	( )
3.					Species Across			2	(B)
4	***				Percent of Domi	nant Specie	·s		. ,
Sapling/Shrub Stratum	Total Cove	er: <b>5</b> %			That Are OBL, F	ACW, or FA	NC:	50	% (A/B)
1.					Prevalence Inde	x workshe	et:		
2.				<del></del>	Total % Cov			itiply b	<b>v</b> :
3.					OBL species		x 1 =		<del></del>
4.					FACW species		x 2 =		
5	7.1.5	-			FAC species	5	x 3 =	15	5
Herb Stratum	Total Cove	r: %			FACU species	5	x 4 =	Z	<b>O</b>
1. Changedi even ?		5	7	FACU	UPL species		x 5 =	_	
2. Breezen tomofatili,	,	- <u>-</u> -		N/A	Column Totals:	10	(A)	3	(B) ک
3. Sisyulain isis		10	7	N/A	l .	Index = B/		·5	
4. Schism-s barbatus		S	7	11 M	Hydrophytic Ve				
5.					Dominance		•		
6. 7.					Prevalence I  Morphologic			<b></b>	
8.	·				data in Re	emarks or o	n a separa	ue sup ate she	eet)
	Total Cover	r: 70%			Problematic				
Woody Vine Stratum		12 %							
1.		· · · · · · · · · · · · · · · · · · ·			<sup>1</sup> Indicators of hyd be present.	tric soil and	wetland	hydrol	ogy must
2									
% Bare Ground in Herb Stratum %	Total Cover	∵ % r of Biotic Ci	ruet	04	Hydrophytic Vegetation Present?	Yes C	Na	_	
Remarks:		3. 2.000 0		%	r resent!	Yes (	No	<b>'</b>	
									İ
									ļ
IS Army Corps of Engineers									ĺ

Sampling	Point:	3

Profile Desc	eription: (Describe	to the depth	needed to documen		onfirm the abse	ence of indicator	rs.)
Depth	Matrix		Redox Fe	atures	oc² Textur		Remarks
(inches)	Color (moist)		Color (moist)	/v Type LC		<del></del>	
0-4	7.57R 3/2		- And American		<u> </u>	g soud	
4-10	5 yr 3/4	100	~		5-4		
	•						
¹Type: C=C	oncentration, D=Dep	letion, RM≖I	Reduced Matrix. <sup>2</sup> Lo	ocation: PL=Pore Lin	ing, RC=Root C	inannel, M=Matri Ilav Loam, Silt Lo	x. am_Silt_Loamv.Sand_Sand_
<sup>3</sup> Soil Texture	es: Clay, Silty Clay,	Sandy Clay,	Loam, Sandy Clay Loa	ım, Sandy Loam, Cia	ay Loam, Silly C	tors for Problem	am, Silt, Loamy Sand, Sand.
		le to all LRR	s, unless otherwise no			cm Muck (A9) (L	
Histoso	l (A1) pipedon (A2)		Stripped Matrix	•	+ 1 '	cm Muck (A10) (	•
	listic (A3)		Loamy Mucky	Mineral (F1)	1	Reduced Vertic (F	*
	en Sulfide (A4)		Loamy Gleyed			Red Parent Mater	
	d Layers (A5) (LRR	C)	Depleted Matri		c	Other (Explain in F	Remarks)
	uck (A9) ( <b>LRR D</b> )		Redox Dark Su				
1 1	d Below Dark Surface	же (А11)	Depleted Dark				
1	lark Surface (A12)		Redox Depress Vernal Pools (I		⁴Indic	ators of hydrophy	ytic vegetation and
	Mucky Mineral (S1) Gleyed Matrix (S4)		L Verriai Foois (I	~,		etland hydrology	
	Layer (if present):					-	
Type:	major (ii process).						
Depth (ir	nches):		<del></del> .		Hydrid	Soil Present?	Yes ( No 🍎
Remarks:					L		
, williallie.							
						-	
HYDROLO	\ \					Secondary Indica	ators (2 or more required)
	ydrology Indicators						s (B1) (Riverine)
Primary Ind	licators (any one indi	cator is suffic		44)			eposits (B2) ( <b>Riverine</b> )
Surface	e Water (A1)		Salt Crust (B	•			
	/ater Table (A2)		Biotic Crust (			Drainage Pa	ts (B3) ( <b>Riverine</b> )
	tion (A3)			tebrates (B13)			Water Table (C2)
	Marks (B1) (Nonrive			Iffide Odor (C1)	ing Poots (C3)	Thin Muck S	
	ent Deposits (B2) (N			zospheres along Liv	ing Roots (Ca)	Crayfish Bur	
	eposits (B3) (Nonriv	erine) `		Reduced Iron (C4) Reduction in Plowed	Soils (C6)		isible on Aerial Imagery (C9)
	e Soil Cracks (B6)	Limener /D'		reduction in Plowed in in Remarks)	CONG (OC)	Shallow Aqu	
L.—	tion Visible on Aeria		) Utilei (Expia	iii iii Neillaiks)		FAC-Neutra	· ·
	Stained Leaves (B9)	! 					
Field Obse		Y C	No Denth (inch	es).			
1		•	No Depth (inch		1		
			No Depth (inch		-		
Saturation	anillany fringe		No 🌀 Depth (inch	4		irology Present	? Yesy (S No C
Describe F	apillary fringe) Recorded Data (strea	m gauge, mo	onitoring well, aerial ph	otos, previous inspe	ctions), if availa	ble:	
	·						
Remarks:							
				_			
	rps of Engineers						

Attachment C – Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: 1000 Palms	Date: 3/19/2019 Time: 7:20
Project Number: 3219	Town: Thousand Palms State: CA
Stream:	Photo begin file#:   Photo end file#: Z
Investigator(s): Justin Wood	-
Y / N Do normal circumstances exist on the site?	Location Details:  Reach 1 - North of Thousand Palms
Y 🔀 / N 🗌 Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	em·
28th Avenue cuts off drawings at most Verin	
28th Avenue cuts off drawings at north. Various Concrete and altering flows downstream.	desires piles in vicinity
Brief site description:	
NW and of Reach 1. Near old develop	d tots and 5 of week downer.
Checklist of resources (if available):	
Aerial photography Stream gag	e data
Dates: 6/1996 through 8/2018 Gage numb	
Topographic maps  Period of re	
	of recent effective discharges
	of flood frequency analysis
	ecent shift-adjusted rating
	eights for 2-, 5-, 10-, and 25-year events and the
	ecent event exceeding a 5-year event
Global positioning system (GPS)	cent event exceeding a 3-year event
Other studies	
Lively and a supplied [1]	
Hydrogeomorphic Fl	oddpiain Units
Active Floodplain	Low Terrace
Low-Flow Channels	
	OHWM Paleo Channel
Procedure for identifying and characterizing the floodp	
1. Walk the channel and floodplain within the study area to vegetation present at the site.	get an impression of the geomorphology and
2. Select a representative cross section across the channel. D	raw the cross section and label the floodplain units
3. Determine a point on the cross section that is characteris	tic of one of the hydrogeomorphic floodplain units
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth c floodplain unit.	lass size) and the vegetation characteristics of the
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic flo	odplain units across the cross section.
5. Identify the OHWM and record the indicators. Record th	e OHWM position via:
Mapping on aerial photograph	GPS
Digitized on computer	Other:

Project ID: 3219 Cross section ID: 1-	Date: 3/19	Time: 7.20
Cross section drawing:	•	
Paleo Channels	1 18 Has	
<u>OHWM</u>		
GPS point: 11 5 555162. 02 ME 3745	5090.82 mN	
Indicators:	<ul><li>☑ Break in bank slope</li><li>☐ Other:</li><li>☐ Other:</li></ul>	
Comments:  Poorly defined offware. Measured to	buses in sleft at old	terrace.
Floodplain unit:	The state of the s	Low Terrace
Characteristics of the floodplain unit:  Average sediment texture: Fints and	hb:% Herb: _20 %  Mid (herbaceous, shrubs, sa) Late (herbaceous, shrubs, ma	•
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:	<u></u>
Comments:		
Poorly defined low- flow channel. Two pales channels to the w.		

Project ID: 3219 Cross section I	ID: 1-1 Date: 3/19 Time: 7:20
Floodplain unit:	el Active Floodplain A Low Terrace
GPS point: IIS SSS 148. SZ mE 3745	
Community successional stage:  NA Early (herbaceous & seedlings)	Shrub: 20 % Herb: 20 %  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches  Comments:	Soil development Surface relief Other: Other: Other:
Floodplain unit:	Active Floodplain
GPS point:	
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:	Shrub:% Herb:%
☐ NA ☐ Early (herbaceous & seedlings)	Mid (herbaceous, shrubs, saplings)
Larry (neroaccous & seedings)	Late (herbaceous, shrubs, mature trees)
Indicators:	Soil development Surface relief Other: Other: Other:

7:35 Time: 7:35					
Town: Thousand Palms State: CA					
Photo begin file#: 3 Photo end file#: 4					
3					
etails: - North of Thousand Palms					
Datum:					
coco-flw in the part					
, S of 78 th and					
ective discharges uency analysis usted rating 5-, 10-, and 25-year events and the ceeding a 5-year event					
Paleo Channel					
assist in identifying the OHWM: ssion of the geomorphology and section and label the floodplain units. he hydrogeomorphic floodplain units. the vegetation characteristics of the across the cross section. sition via:					
1					

Project ID: 3219 Cross section ID	1-2	Date: 3/19	Time: 7:33
Cross section drawing:			
10-	- Carrotta		
	± 4		
	+++		
	low from		
<u>OHWM</u>			
GPS point: 115 555216.00 m E 3745	027.00 mN		
Indicators:			
Change in average sediment texture	∏ Brea	ık in bank slope	
Change in vegetation species		er:	
Change in vegetation cover	Othe	er:	
E Shange in regulation as a	_		
Commonto			
Comments:			
Pooly defind OHWM. Reliet bar	nks purent,	No eter existence	e of recout flow.
,			
Floodplain unit: 🗵 Low-Flow Channel	☐ Acti	ve Floodplain	Low Terrace
GPS point: <u>11 5 SSS 216 89 m E , 3</u>	745027.97 v	m N.	
•			
Characteristics of the floodplain unit:			
Average sediment texture: Fine sand  Total veg cover:% Tree:%	Shrub: 0	% Herh: 35 %	
Community successional stage:	Sili ub/	11cro	
□ NA	☐ Mid	(herbaceous, shrubs,	saplings)
Early (herbaceous & seedlings)		(herbaceous, shrubs,	
<u> </u>			
Indicators:			
		development	
☐ Ripples		face relief	
☐ Drift and/or debris	U Othe	er:	
Presence of bed and bank	□ Otne	er:	<del></del>
Benches	☐ Othe	er:	
Comments:			

Project ID: 3219	Cross section ID:	: \-Z	Date: 3/19	Time: 7:33
Floodplain unit:	Low-Flow Channel	☐ Acti	ve Floodplain	≥ Low Terrace
GPS point: 11 5 55	5215.07 m E, 37450	029.05 m N	·	
Characteristics of the				
Average sediment tox	sture: <u>Medium</u> sand			
Total year covers		<u> </u>		
Community succession	% Tree:%	Shrub: <u>15</u> 9	% Herb: \s_%	
□ NA	mai stage:			
	ceous & seedlings)	Mid	(herbaceous, shrubs	s, saplings)
Larry (nerva-	cous & seedings)	Late	(herbaceous, shrubs	s, mature trees)
Indicators:				
Mudcracks		☐ Soil	development	
Ripples			ace relief	
Drift and/or o			r:	
Presence of b	ed and bank	Othe	r:	
Benches		Othe	r:	
Comments:				<del> </del>
	•			
Floodplain unit:	☐ Low-Flow Channel	☐ Activ	e Floodplain	☐ Low Terrace
TPS noint.		u.		
GPS point:				
Characteristics of the f	loodplain unit:			
Average sediment text	ure:			
Total veg cover:	% Tree: % S	hrub:%	Herb: %	
Community succession			70	
☐ NA	C	☐ Mid (	herbaceous, shrubs,	sanlinge)
Early (herbace	eous & seedlings)	Late (	herbaceous, shrubs,	mature trees)
			,,,	matare trees,
ndicators:		_		
Muderacks		Soil de     Soil de	evelopment	
Ripples			e relief	
Drift and/or de		Other:		
Presence of be	d and bank			
□ Benches		Other:		
comments:				<del></del>

Project: 1000 Palms	Date: 3/19 Time: 7:38	
Project Number: 3214	Town: + nowand Palms State: CA	
Stream: 1-3	Photo begin file#: _ Photo end file#.	
Investigator(s): J. Ward	5 I note that men.	
Y 🗷 / N 🔲 Do normal circumstances exist on the site?	Location Details:  Reach 1 - North of Thousand Palms	
Y ☐ / N ☑ Is the site significantly disturbed?	Projection: Datum: Coordinates:	
Potential anthropogenic influences on the channel syst		
28th Ave and stockylles when y wyshins		
Brief site description:		
NW and of Reach 1, SE of developed	Is A.	
Checklist of resources (if available):		
Aerial photography Stream gage	e data	
Dates: 6/1996 - 8/2018 Gage numb		
Topographic maps  Period of re		
	of recent effective discharges	
	s of flood frequency analysis	
X Soils maps	ecent shift-adjusted rating	
Rainfall/precipitation maps Gage h	eights for 2-, 5-, 10-, and 25-year events and the	
Existing delineation(s) for site most re	ecent event exceeding a 5-year event	
Global positioning system (GPS)		
Other studies		
Hydrogeomorphic Fl	loodplain Units	
Active Floodplain	, Low Terrace .	
, and the second	Low lenace	
Low-Flow Channels	OHWM Paleo Channel	
Procedure for identifying and characterizing the floodp  1. Walk the channel and floodplain within the study area to vegetation present at the site.  2. Select a representative present in the study area to the site.	get an impression of the geomorphology and	
<ol> <li>Select a representative cross section across the channel. D</li> <li>Determine a point on the cross section that is characteris         <ul> <li>Record the floodplain unit and GPS position.</li> </ul> </li> </ol>	itic of one of the hydrogeomorphic floodplain units.	
b) Describe the sediment texture (using the Wentworth c floodplain unit.	lass size) and the vegetation characteristics of the	
c) Identify any indicators present at the location.	and the vegetation characteristics of the	
1 Dancet for other natives 1100		
4. Repeat for other points in different hydrogeomorphic floor	odplain units across the cross section	
<ol> <li>Repeat for other points in different hydrogeomorphic flo</li> <li>Identify the OHWM and record the indicators. Record th</li> </ol>	odplain units across the cross section. the OHWM position via:	
Repeat for other points in different hydrogeomorphic flow. Identify the OHWM and record the indicators. Record the	odplain units across the cross section	

Project ID: 3219	Cross section ID:	- 3	<b>Date:</b> 3/19	Time: 1438
Cross section drawing	g:			
	<del>-</del>			
	low sevence	. Options 4A	~``}	
		٤'		
		-		
		171		
		ا بدرا	1 com	
OHWM				
<u>OHWM</u>				
GPS point: 11 5 55524	7.0 mE 3744995	. 0 m	11	
di 5 ponit. 11 2 2 2 2 1		•		
Indicators:				
	ige sediment texture		Break in bank slope	
Change in vege	tation species		Other:	
	tation cover		Other:	·
Comments:				
<u> </u>				
Poorly defined	OHUM. Flows	May	ke diverted risconfirm	e.,
Floodplain unit:	Low-Flow Channel		Active Floodplain	Low Terrace
GPS point:				
CI	adolain unite			
Characteristics of the flo Average sediment texture				
Total veg cover:		rub:	% Herb: <u>/0</u> %	
Community successiona				
NA	i stage.		Mid (herbaceous, shrubs,	saplings)
	ous & seedlings)	一	Late (herbaceous, shrubs	
Z Daily (norozoot	, 45 00 00 00 00 00 00 00 00 00 00 00 00 00			
Indicators:				
Mudcracks			Soil development	
Ripples			Surface relief	
Drift and/or de	bris		Other:	·
Presence of bed			Other:	
■ Benches			Other:	
Comments:				
Comments.				

Project ID: 3219 Cross section		Date: 3/19	Time: 7:38
Floodplain unit:	el 🗌 A	Active Floodplain	Low Terrace
GPS point: 11 5 555 2 51.66 m E, 37	44993 SU L	1	
		• •	
Characteristics of the floodplain unit:			
Average sediment texture: Medium Sai	ed Class	0/ 11 1	
Total veg cover: % Tree: % Community successional stage:	Shrub: 20	% Herb: <u>30</u> %	
NA	√ N	Aid (hanhaaana ah-ah	1' N
Early (herbaceous & seedlings)		Iid (herbaceous, shrubs	s, saplings)
		are (nerodecous, singo	s, mature nees)
ndicators:			
☐ Mudcracks		oil development	
☐ Ripples ☐ Drift and/or debris		urface relief	
Presence of bed and bank		ther:	
Benches	$\sqcup$ $\cup$	ulter.	
omments:		ther:	
omnents.			
loodplain unit: Low-Flow Channe	1	ctive Floodplain	Low Terrace
		we rioodplain	☐ Low Terrace
PS point:			
paracteristics of the floodplain unit:			
verage sediment texture:  Otal veg cover: % Tree: %	OI 1	0/ 37 1	
ommunity successional stage:	Shrub:	_% Herb:%	
NA	□м	id (herbaceous, shrubs,	gowlin ag)
Early (herbaceous & seedlings)		te (herbaceous, shrubs, te (herbaceous, shrubs,	saplings)
		te (neroaceous, sinuos,	mature nees)
licators:			
Mudcracks	☐ So	il development	
Ripples		rface relief	
Drift and/or debris	Otl	her:	
Presence of bed and bank		iei	
Benches	∐ Oti	ner:	
mments:			

Project: 1000 Palms	Date: 3/19 Time: 7:50					
Project Number: 3219	Town: Thousand D State:					
Stream: 1-4	Photo begin file#: 7 Photo end file#: 8					
Investigator(s): J. Wood	7					
Y ∡ / N ☐ Do normal circumstances exist on the site?	Location Details:   Rough 1 - W of Thousand Polins					
Y / N X Is the site significantly disturbed?	Projection: Datum: Coordinates:					
Potential anthropogenic influences on the channel syst						
78 in Are to Niving	com.					
TO NIVIL						
This dvainage seems to be carrying we Brief site description:	rust flows from 28+4 Ave,					
-						
NW and of Reach 1, just E of dev	veloped area.					
Checklist of resources (if available):						
Aerial photography Stream gag	e data					
Dates: 6/96 - 8/18 Gage numb						
Topographic maps Period of re						
·	y of recent effective discharges					
	s of flood frequency analysis					
	ecent shift-adjusted rating					
<del></del>	eights for 2-, 5-, 10-, and 25-year events and the					
Existing delineation(s) for site most re	ecent event exceeding a 5-year event					
Global positioning system (GPS)	, y					
Other studies						
Hydrogeomorphic F	loodplain Units					
Active Floodplain	, Low Terrace ,					
	Low Israce					
	a a					
	/ /					
Low-Flow Channels	OHWM Paleo Channel					
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:					
1. Walk the channel and floodplain within the study area to						
vegetation present at the site.	2 22 mi unbression of the ScottorbilotoRy and					
	)raw the cross section and label the floodalain units					
<ol> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> </ol>						
a) Record the floodplain unit and GPS position.						
b) Describe the sediment texture (using the Wentworth of	place size) and the vegetation characteristics of the					
floodplain unit.	size, and the vegetation characteristics of the					
c) Identify any indicators present at the location.						
4. Repeat for other points in different hydrogeomorphic flo	4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.					
5. Identify the OHWM and record the indicators. Record the OHWM position via:						
5. Identify the OHWM and record the indicators Record the	podplain units across the cross section.					
<ol><li>Identify the OHWM and record the indicators. Record th</li></ol>	ne OHWM position via:					
5. Identify the OHWM and record the indicators. Record the Mapping on aerial photograph  Digitized on computer	odplain units across the cross section. ne OHWM position via: GPS Other:					

Project ID: 3219 Cross section ID:	1-4	Date: 3/19	Time: 7:50
Cross section drawing:			
Ini	Fine		
· · · · · · · · · · · · · · · · · · ·			
<u>OHWM</u>			
GPS point: 11 5 555423.13 mE 3744	1629, 59 m N	ı	
Indicators:  Change in average sediment texture Change in vegetation species Change in vegetation cover	Other: _	bank slope	
Comments:			
		e de la compansión de l	
Clearly defined sedwent size	transcential management	<b>C</b>	
Floodplain unit: 🗵 Low-Flow Channel	Active F	loodplain	Low Terrace
GPS point: 11 5 555422.9 m E 3744629.7	m N		
Characteristics of the floodplain unit:			
Average sediment texture: Fine sand			
Total veg cover: % Tree: % Sh	nrub:%	Herb: <u>30</u> %	
Community successional stage:			
□ NA		rbaceous, shrubs, rbaceous, shrubs,	
Early (herbaceous & seedlings)	Late (ne	rbaceous, silruos,	, mature trees)
Indicators:			
Mudcracks	☐ Soil dev	elopment	
Ripples	Surface		
Drift and/or debris	Other:		
Presence of bed and bank	U Other: _		
y Benches	U Other:		
Comments:			
	+ 2'	1 .	
Evidence of recent flows,	2 c w.c	rust ,	

Project ID: 3219	Cross section ID:	1-4	Date: 3/19	Time: 7:50
Floodplain unit:	Low-Flow Channel	☐ Act	tive Floodplain	Low Terrace
GPS point: 115 SS	5428, 27 ME, 37448	828,62 m1	<b>~</b>	
Characteristics of the				
Average sediment to	sture: <u>Medium</u> Saud			
Total year cover:	Of Thomas of Cl			
Community succession	% Tree:% Sh	nrub:	% Herb: <u>70</u> %	
	mai stage:		171	
_ =	ceous & seedlings)	Late	d (herbaceous, shrubs, e (herbaceous, shrubs,	saplings) mature trees)
Indicators:				
☐ Mudcracks		☐ Soil	l development	
☐ Ripples			face relief	
☐ Drift and/or o	debris		er:	
Presence of b	ed and bank	Oth	er:	
■ Benches		Oth	er:	
Comments:				n de la companyante del companyante de la compan
out of one	ν <sub>M</sub> ,		•	
Floodplain unit:	☐ Low-Flow Channel	Acti	ve Floodplain	Low Terrace
			F	
GPS point:				
Characteristics of the	floodaloin mit.			
Average sediment text				
Total veg cover:		rub: %	/ I I amb. 0/	
Community succession		ub	% Herb:%	
□NA		☐ Mid	(herbaceous, shrubs, s	eanlings)
Early (herbace	eous & seedlings)		(herbaceous, shrubs, i	
		Late	(iici baccous, siii ubs, i	mature trees)
Indicators:				
Mudcracks		☐ Soil o	development	
Ripples			ace relief	
☐ Drift and/or de				
Presence of be	d and bank	Other	r: r:	
Benches		Other	r:	
Comments:				
		•	•	

Project: 1000 Palvos	Date: 3/19 Time: 8:03
Project Number: 3219	Town: Thursand Palms State: CA
Stream: 1-5	Photo begin file#: Photo end file#:
Investigator(s): J wad	9 10
Y / N Do normal circumstances exist on the site?	Location Details:  Reach 1 W of Thursand Palms
Y ☐ / N ☑ Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	em:
78 in Aug. to W may be writings.	Stoom France in channel
Brief site description:	
NN End of Recich 1, just w of	Pipeline.
X       Vegetation maps       ☐ Results         Soils maps       ☐ Most regard         Rainfall/precipitation maps       ☐ Gage h	per:
Hydrogeomorphic F	loodplain Units
Active Floodplain	, Low Terrace ,
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the flood	olain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study area to vegetation present at the site.</li> <li>Select a representative cross section across the channel. It is characteristically a point on the cross section that is characteristically a point on the cross section that is characteristically a point on the cross section that is characteristically a position.</li> <li>Describe the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth of floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic floofs. Identify the OHWM and record the indicators. Record the mapping on aerial photograph Digitized on computer</li> </ol>	Draw the cross section and label the floodplain units. stic of one of the hydrogeomorphic floodplain units. class size) and the vegetation characteristics of the bodplain units across the cross section.

Project ID: 3219	<b>Cross section ID:</b>	1-5	Date: 3/19	Time: 9:03
Cross section drawing	ng:	-		
		110'	1	
	1, w broke	* ***		
	· k	/مبــــ		
		1		
		Pizza Pizza		
OHWM				
OHWIN				
GPS point: 115 555	613.92 ME 3744	690.36	m N	
Indicators:	rage sediment texture	[√] n	reak in bank slope	
Change in veg			ther:	
✓ Change in veg	etation cover	☐ c	ther:	
Comments:				
crown defined	man block and			
Clearly desine	Ohima M.			
Floodplain unit:	Low-Flow Channel		ctive Floodplain	Low Terrace
CDS mainter to a CCC//	1 02 E 374ULS	9.0	1	
GPS point: 11 5 >>>61	4. 02 m E 374468	7.81 m	•	
Characteristics of the f	loodplain unit:			
Average sediment text			% Herb: /0_%	
Total veg cover: Community succession		hrub:	% Herb:%	
NA	ai stage.	□ N	Mid (herbaceous, shrubs,	saplings)
Early (herbace	ous & seedlings)		ate (herbaceous, shrubs	
Indicators:			oil development	
☐ Mudcracks☐ Ripples			burface relief	
Drift and/or de	ebris	===	Other:	
▼ Presence of be			Other:	
Benches			Other:	
Comments:				
low flow	chancel has prid	ince of	recent flows, I	6 wich.
	•			
1				

Project ID: 3219	Cross section II	D: 1-5	Date: 3/	/19	Time: 8:03
Floodplain unit:	Low-Flow Channel		Active Floodplain		Low Terrace
GPS point:    S SSS	619, 69 mE 3744689.	91 m N	•		
Total veg cover:  Community successi  NA	xture: <u>Coayse</u> sand % Tree:%	<b>X</b>	Mid (herbaceous, sh Late (herbaceous, sl	nrubs, sapli	
Indicators:  Mudcracks Ripples Drift and/or Presence of Benches  Comments:	debris bed and bank		Soil development Surface relief Other: Other: Other:		
comments.					
Floodalain unite					
Floodplain unit:	Low-Flow Channel		Active Floodplain	L I	Low Terrace
GPS point:					
Characteristics of the Average sediment tex					
Total veg cover:		Shrub:	% Herb:	_%	
Community succession NA	onal stage:		Mid (herbaceous, shi	miha gomlin	aa)
	ceous & seedlings)		Late (herbaceous, sh		
	<i>3</i> /		(	,	
Indicators:  Mudcracks Ripples Drift and/or of Presence of b			Soil development Surface relief Other: Other:		
Comments:					

Project: 1000 Palms Project Number: 3219 Stream: 1-6 Investigator(s): J. Wood	Date: 3/19 Time: 8015 Town: Thous and Palvas State: CA Photo begin file#: Photo end file#:
Y 🗷 / N 🖸 Do normal circumstances exist on the site?	Location Details:  Reach 1- N of Thunced Palms
Y / N X Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	
24 th Are and proble segurion range to	x and flows.
Brief site description:	
Reach 1- just E of pipeline	
Checklist of resources (if available):	
Aerial photography  Dates: 6/96 - 8/18  Topographic maps  Geologic maps  Vegetation maps  Stream gag  Gage numb  Period of re  History  Results  Soils maps  Rainfall/precipitation maps  Gage h	per:
Hydrogeomorphic F	loodplain Units
Active Floodplain	, Low Terrace ,
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study area to vegetation present at the site.</li> <li>Select a representative cross section across the channel. It is characteristically a point on the cross section that is characteristally across the floodplain unit and GPS position.</li> <li>Describe the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth of floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic floodplain.</li> </ol>	Oraw the cross section and label the floodplain units. stic of one of the hydrogeomorphic floodplain units. class size) and the vegetation characteristics of the bodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the Mapping on aerial photograph  Digitized on computer	ne OHWM position via: GPS Other:

Project ID: 3219 Cross section ID:	1-6 Date: 3/19	Time: 6.19
Cross section drawing:	^	
Cross section drawing:	1	
* W	1_1	
1		
فسوا		
1.	3 '	
OHWM		, , , , , , , , , , , , , , , , , , , ,
<u>OHWM</u>		
GPS point: 115 555843, 17 mE 37445	<7/// N	
GPS point: 43 323045, 17 Mb. 37.43	-1.66 m N	
Indicators:		
Change in average sediment texture	✓ Break in bank slope	
Change in vegetation species	Other:	
Change in vegetation cover	Other:	
Comments:		
Comments:		
Floodplain unit: 🔀 Low-Flow Channel	Active Floodplain	Low Terrace
Floodplain unit: 🔀 Low-Flow Channel	Active Ploodplain	_ Low remace
GPS point: <u>   5 555843.91 m E, 37445</u> 58.		
Grs point: 1 3 355043.11 M - , 2144550.0	, w v	
Characteristics of the floodplain unit:		
Average sediment texture: Fine Sound		
Total veg cover: % Tree: % Sl	nrub:% Herb:/0%	
Community successional stage:		
□ NA	☐ Mid (herbaceous, shrubs, sa	aplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, n	nature trees)
Indicators:		
Mudcracks	Soil development	
Ripples	Surface relief	
Drift and/or debris	Other:	
□ Presence of bed and bank	Other:	····
⊠ Benches	Other:	
Comments:		

Project ID: 3219 Cross section II	100
Floodplain unit:	☐ Active Floodplain ☑ Low Terrace
GPS point: 11 5 555847.6 m E 3744559	3.48 mN
Characteristics of the floodplain unit:  Average sediment texture:	Shrub: 20 % Herb: 15 %  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:
Comments:	
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)	Shrub:% Herb:%  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches  Comments:	Soil development Surface relief Other: Other: Other:

Project: 1000 Palms	Date: 3/19 Time: 8:27
Project Number: 3219	Town: Thousand Palms State: CA
Stream: \-7	Photo begin file#: Photo end file#:
Investigator(s): J. Ward	13 14
Y / N Do normal circumstances exist on the site?	Location Details:  Roach 1 - 0.2 mi E of pipeline
Y / N / Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel sys	tem:
28 th save may be influencing flows	
Brief site description:	
Reach 1 - about 0.2 miles E of	pipeline, 0.2 miles W of Sierra Dol Sol
Checklist of resources (if available):	
Aerial photography	
Dates: 6/16 - 8/16 Gage num	
Topographic maps  Period of  History	ry of recent effective discharges
Geologie maps	ts of flood frequency analysis
The second of th	recent shift-adjusted rating
[X] Solis imps	heights for 2-, 5-, 10-, and 25-year events and the
Z Kuman proof	recent event exceeding a 5-year event
Global positioning system (GPS)  Other studies	
Hydrogeomorphic	Floodplain Units
Active Floodplain	
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floo	odplain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study are vegetation present at the site.</li> <li>Select a representative cross section across the channe</li> <li>Determine a point on the cross section that is characted a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentwor floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphics.</li> <li>Identify the OHWM and record the indicators. Record</li> </ol>	a to get an impression of the geomorphology and  l. Draw the cross section and label the floodplain units.  eristic of one of the hydrogeomorphic floodplain units.  th class size) and the vegetation characteristics of the  effloodplain units across the cross section.  ed the OHWM position via:
Mapping on aerial photograph	△ GPS
Digitized on computer	Other:

Project ID: 3219	Cross section ID: \-	7 <b>Date:</b> 3/19	Time: 8:27
Cross section drawing	<u>ıg</u> :		
1604	5. A A A		
and the same of th	S. W.		
	tow		
	from		
	± 2 '		
<u>OHWM</u>			
CDC mainter 11 C CCC	151 6 mg @ 27.1111.mg		
Gr8 point: 1/ 2 556	151.6 m E, 3744429.	os mn.	
Indicators:			
	age sediment texture	Break in bank slope	
Change in vege		Other:	
☐ Change in vege	tation cover	Other:	
Comments:			
_			
Broader to +	he north and sceren	ar to the south	
Floodplain unit:	Low-Flow Channel	Active Floodplain	Low Terrace
	- Low Trow Chamion		El Bow Tollado
GPS point: 11 5 556153	1.95 m E, 3744429.51 m	N	
-			
Characteristics of the flo			
Average sediment texture Total veg cover:	re: <u>Mediam sitt</u> % Tree: % Shru	b: % Herb: 5 %	
Community successiona		b	
NA	i stage.	☐ Mid (herbaceous, shrubs	s. saplings)
<u> </u>	ous & seedlings)	Late (herbaceous, shrubs	
_ ,	•		
Indicators:			
Mudcracks		Soil development	
		Surface relief	
Drift and/or del		Other:	
Presence of bed	l and bank	Other:	
Benches	•	Other:	ANALY SALENCE OF STREET, STREE
Comments:			
		+ 6"	
low-flav	is deeply includ.		

Project ID: 3219	Cross section ID:	1-7	Date: 3		Time: 8:27
Floodplain unit:	Low-Flow Channel		Active Floodplain	×	Low Terrace
ana	- A E 2-, m 1 11 21 E1				
GPS point: NS 55616	2.7 m F, 5 144451.81	MIG			
Characteristics of the flo	odplain unit:				
Average sediment textur	e: Fine sampl	_			
Total veg cover:		Shrub: _\	<u>.s_</u> % Herb: <u>3</u> 5	_%	
Community successional	stage:	<b>5</b> 7	Mid (herbaceous, s	hrube ca	nlings)
☐ NA☐ Early (herbaceo	uc & seedlings)		Late (herbaceous, s		
Earry (neroaceo	us & securings)		Eute (ner success, s	3 <del>2.</del> 2,	,
Indicators:					
☐ Mudcracks			Soil development		
Ripples	•		Surface relief		
Drift and/or det			Other:		
Presence of bed Benches	and bank	-	Other:		····
					· <del></del>
Comments:					
Floodplain unit:	Low-Flow Channel		Active Floodplain		Low Terrace
Tioodpiam unic.	Low 110W Chamber				
GPS point:					
<del>-</del> "					
Characteristics of the flo	_				
Average sediment texture Total veg cover:		 Shrub:	% Herb:	%	
Community successiona	, 6 1100	_	·	<u></u>	
□ NA			Mid (herbaceous,		
Early (herbaced	ous & seedlings)	L	Late (herbaceous,	shrubs, n	nature trees)
Y N A					
Indicators:  Mudcracks		[-	Soil development		
			Surface relief		
Drift and/or de	bris		Other:		
Presence of beauty			Other:		
☐ Benches			Other:		
Comments:					
. :					
1					

Project: 1000 Palms	<b>Date:</b> 3/19 <b>Time:</b> 8:55			
Project Number: 3219	Town: Thousand Polm, State: CA			
Stream: 1-8	Photo begin file#: Photo end file#:			
Investigator(s): J. word	15 16			
Y 🗷 / N 🔲 Do normal circumstances exist on the site?	Location Details:  Roach 1 - E of Sievra Dol Sol			
	Projection: Datum:			
$Y \square / N \bowtie$ Is the site significantly disturbed?	Coordinates:			
Potential anthropogenic influences on the channel syst				
Sievra Del Sol upsman my les altings	i			
Sievra Del 301 mystaares				
Brief site description:				
Just E of Cierra Del Sul, Washing in	elf of Board			
Checklist of resources (if available):				
Aerial photography				
Dates: 6/96 - 8/18 Gage numb				
Topographic maps Period of re	1			
	y of recent effective discharges			
▼ Vegetation maps	s of flood frequency analysis			
➤ Soils maps	ecent shift-adjusted rating			
<u> </u>	eights for 2-, 5-, 10-, and 25-year events and the			
	ecent event exceeding a 5-year event			
☑ Global positioning system (GPS)	, , , , , , , , , , , , , , , , , , , ,			
Other studies				
Hydrogeomorphic F	loodplain Units			
Active Floodplain	Low Terrace			
	_ / /			
Low-Flow Channels	OHWM Paleo Channel			
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:			
1. Walk the channel and floodplain within the study area	to get an impression of the geomorphology and			
vegetation present at the site.				
	Draw the cross section and label the floodplain units.			
<ol> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> </ol>				
a) Record the floodplain unit and GPS position.				
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the			
floodplain unit.	embo vizo, min nie i egemeion enminerentibute or vite			
c) Identify any indicators present at the location.	loodulain units garage the grass section			
4. Repeat for other points in different hydrogeomorphic f	tooqpiam units across the cross section.			
5. Identify the OHWM and record the indicators. Record				
Mapping on aerial photograph	i			
Digitized on computer	Other:			

Project ID: 3219	Cross section ID:	1-8	Date:	3/19	Time: 8:55
Cross section draw	ing:				
	<del></del> -				
	manual of the second				
*	M K 6'-1	NA LA			
	*				
	الميد				
	fan ± 1'				
	<b>~</b>				
<u>OHWM</u>	-				
GPS point: <u>\\ \$</u> \$\$	6694.6 ME 3744256	6.78 m N			
Indicators:					
	rerage sediment texture		k in bank sl		
	egetation species	U Other			
	getation cover		··		<u></u>
_				,	
Comments:					
Paul d.	fined limits because	of sand	ben immo	cics.	
looking as					
Floodplain units	✓ Low-Flow Channel		o Elondelo	: F	Low Terrace
Floodplain unit:	Low-Flow Channel	∟ Activ	e Floodpla	1111 _	_ Low Terrace
GPS point: 11.5 CS4	699.38 m E, 3744256.83				
31 5 point. 11 3 3 3 5	<u> </u>				
Characteristics of the	floodplain unit:				
Average sediment tex	ture: Fine send			_	
Total veg cover:	% Tree: % Shi	rub:%	Herb: _	<u> </u>	
Community successio	nal stage:				
□ NA				s, shrubs, sa	
∠ Early (herbac	ceous & seedlings)	L Late	(herbaceou	s, shrubs, n	nature trees)
Indicators:					
Mudcracks		☐ Soil o	developmen	nt	
Ripples			ce relief		
☐ Nipples ☐ Drift and/or o	debris				
Presence of b		Other	••		
Benches		Other	••		
Comments:					
Defined upst	recon but diagrees	der . ex			
. r	and the same	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			

Project ID: 3219	Cross section II	): 1-8	Date:	3/19	Time: 8:55
Floodplain unit:	Low-Flow Channel		Active Floodplai	n \lambda	Low Terrace
GPS point: 115 556	695.76 m E, 374425	s. 76 m	N		
Characteristics of th	e floodplain unit:				
	exture: conce sand				
Total veg cover:	% Tree: %	Shrub: 1	<u>5</u> % Herb: <u> </u>	<u>25</u> %	
Community successi	ional stage:				
	0 111	K	Mid (herbaceous		
Early (herba	aceous & seedlings)		Late (herbaceous	s, shrubs, ma	iture trees)
Indicators:					
☐ Mudcracks			Soil developmen	t	
Ripples			Surface relief		
Drift and/or			Other:		
Presence of Benches	bed and bank		Other:		
_		L	Other:		
Comments:					
	•				
Floodplain unit:	Low-Flow Channel		Active Floodplai	n $\Box$	Low Terrace
			•		
GPS point:					
Characteristics of th	a floodplain unit				
Average sediment te					
Total veg cover:		Shrub: _	% Herb:	%	
Community successi	ional stage:				1)
□ NA	0 415		Mid (herbaceous Late (herbaceous		
Early (nerb	aceous & seedlings)	L	Late (herbaceous	s, siirubs, ma	iture trees)
Indicators:					
☐ Mudcracks			Soil developmen	t	
Ripples			Surface relief		
Drift and/or		<u>                                     </u>	Other:		
Benches	bed and bank		Other:Other:		
_		L			
Comments:					
1		,			

Project: 1800 Paims	Date: 3/m Time: 9:06
Project Number: 3219	Town: Thousand Phins State: CA
Stream: 1-9	Photo begin file#: Photo end file#:
Investigator(s): J. Ward	17 18
Y ⋈ / N □ Do normal circumstances exist on the site?	Location Details:  Reach 1 - 0.13 mi E of Sieven DelS
Y ☐ / N 🗷 Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	em:
Brief site description:	
E of spella Del Sol, West end it Qu	perh (
Checklist of resources (if available):	
Aerial photography Stream gag	
Dates: 6/96 - 8/18 Gage numb	
Topographic maps Period of r	İ
	y of recent effective discharges
	s of flood frequency analysis
· <del></del>	ecent shift-adjusted rating
	neights for 2-, 5-, 10-, and 25-year events and the
Existing delineation(s) for site most reference mos	ecent event exceeding a 5-year event
Global positioning system (GPS)	
Other studies	
Hydrogeomorphic F	loodplain Units
, Active Floodplain	, Low Terrace ,
	**************************************
	l et
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area	
vegetation present at the site.	or Ber in truly control of the Ber in I
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is character	
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the
floodplain unit.	The state of the s
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic fl	loodulain units across the cross section
5. Identify the OHWM and record the indicators. Record	
	1 I
Digitized on computer	Other:

Project ID: 3219 Cross section ID:	1-9	Date: 3/15	Time: 9:06
Cross section drawing:			
Low flav	<b>*</b>	K.X	
OHWM		A STATE OF THE STA	
GPS point: 1\S 5566 10. 22 m E 3744	219.27	m N	
Indicators:		Break in bank slope Other: Other:	
Comments:  Poorly defined, Sodinered deposit  GPS point recorded on & b		burk.	
	***************************************		
Floodplain unit:		Active Floodplain	Low Terrace
GPS point: 11 556802.68 m = 3744	221.3	Um	
Characteristics of the floodplain unit:  Average sediment texture: Fine Send  Total veg cover: % Tree: _5 % SI  Community successional stage:  NA Early (herbaceous & seedlings)	X i	% Herb:%  Mid (herbaceous, shrubs, state (herbaceous, shrubs,	
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches		Soil development Surface relief Other: Other:	
Comments:			
Broad with smoke fact a four fluir splits downstrain	rd (	therst buil	
tow flow splits downstran			

Project ID: 3219 Cross section ID	1.9	Date:	3/19	Time: 9'.06
Floodplain unit:		Active Floodplai	n [	Low Terrace
GPS point: 11 5 556811.95 m E , 3740	1220.30	m W		
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover:  Community successional stage:  NA  Early (herbaceous & seedlings)	Shrub:	Mid (herbaceous, Late (herbaceous	, shrubs, sa	
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches		Soil development Surface relief Other: Other: Other:		
Comments:				
Floodplain unit:		Active Floodplain	n [	Low Terrace
Characteristics of the floodplain unit:				
Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)	Shrub:	% Herb: Mid (herbaceous, Late (herbaceous	, shrubs, sa	
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches  Comments:		Soil development Surface relief Other: Other: Other:		
			,	

Project: 1600 Palma	Date: 3/19 Time: 9:20
Project Number: 3219	Town: Thousand Palms State: CA
Stream: 1-10	Photo begin file#: 19 Photo end file#: 26
Investigator(s): J. Wood	
Y X / N Do normal circumstances exist on the site?	Location Details:
Y ☐ / N 🗷 Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	tem:
Brief site description:	
Reach 1. 0.18 miles E of Sierra	Del Sol.
Checklist of resources (if available):	no data
Aerial photography Stream gag	
Dates: 6/16 + hough 8/16 Gage num  Tonographic maps Period of r	
Topograpmo maps	y of recent effective discharges
<del>                                    </del>	s of flood frequency analysis
	recent shift-adjusted rating
	heights for 2-, 5-, 10-, and 25-year events and the
1 1	recent event exceeding a 5-year event
	recent event exceeding a 3-year event
Global positioning system (GPS)	
Other studies	
Hydrogeomorphic I	Floodplain Units
Active Floodplain	Low Terrace
	/ / OHWM Paleo Channel
Low-Flow Channels	
Procedure for identifying and characterizing the floor	dplain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area vegetation present at the site.	to get an impression of the geomorphology and
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is character	ristic of one of the hydrogeomorphic floodplain units.
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth	n class size) and the vegetation characteristics of the
floodplain unit.	, <del>-</del>
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic	floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record	the OHWM position via:
Mapping on aerial photograph	
Digitized on computer	Other:
La Digitized on comparer	

Cross section drawing:
books without
CHUM -
W W W
low-flow (A) low flow (B) (C) (D)
3' 3' 12'
<u>OHWM</u>
GPS point: 115 556863, 11 m E, 3744260.07 m N
Gr. 5 point. 11.5 338083/11 M = 1 2/1/10-1
Indicators:
Change in average sediment texture    \overline{\chi} \text{ Break in bank slope} \rightarrow
Change in vegetation species  Other:
☐ Change in vegetation species ☐ Other:
Change in vegetation cover
Comments:
OHUM extends roughly 90 feet and includes four low. Slaw Channels.
OHUM extends roughly 90 text and included the
Floodplain unit:  \( \) Low-Flow Channel  \( \) Active Floodplain  \( \) Low Terrace
Floodplain unit: \( \sum \) Low-Flow Channel \( \subseteq \) Active Floodplain \( \subseteq \) Low Terrace
and 11 11 5 5518111 52 45 3744199 7/ 4.61
GPS point: 11 5 556864. 31 mE. 3744199.76 mN
Cl. (1) Cl. (1) Cl. dulain units
Characteristics of the floodplain unit:
Average sediment texture: Cobble 9/ Chrish: 9/ Horb: 5 %
Total veg cover:% Tree:% Shrub:% Herb:%
Community successional stage:
NA Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)
Indicators:
Mudcracks Soil development
Ripples Surface relief
Drift and/or debris Uther:
Presence of bed and bank Uther:
Benches Other:
Comments:  This data represents one law flow channel but conditions are Similar for all four,
This data represents one low flow channel but conditions are
Into contact the second
Similar for all four.

Project ID: 3219 Cross section ID: 1-10 Date: 3/19 Time: 9:20

Project ID: 3219	Cross section ID:	1-10	Date: 3	19 1	ime: 9:20
Floodplain unit:	☐ Low-Flow Channel		Active Floodplain	<b>⋉</b> L	ow Terrace
GPS point: 115 5569	62.3 m E, 3744/99.91 .	nN			
Characteristics of the	e floodplain unit:				
Average sediment te	xture: Coarse Sand				
Total veg cover:	% Tree:% S	hrub: 20	% Herb: <b>S</b>	_%	
Community successi	onal stage:		N.C. d. (bombooogus, sh	mika canlini	<b>70</b> )
∐ NA	aceous & seedlings)		Mid (herbaceous, sh Late (herbaceous, sh		
Early (neroz	iceous & seedings)		Late (neroaccous, si	nuos, matar	
Indicators:			Cail dayalanmant		
☐ Mudcracks			Soil development Surface relief		
☐ Ripples ☐ Drift and/or	dehris	_	Other:		
<del></del>	bed and bank		Other:		
Benches			Other:		
Comments:					
,					
		<u> </u>			
Floodplain unit:	☐ Low-Flow Channel		Active Floodplain		ow Terrace
GPS point:	- 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 - 181 -				
Characteristics of th	e floodplain unit:				
	exture:	_			. 1
Total veg cover:		hrub:	% Herb:	_%	
Community success				1 1.	<b>,</b>
□ NA			Mid (herbaceous, sh		
Early (herb	aceous & seedlings)		Late (herbaceous, sl	iiruos, matui	e dees)
Indicators:					
☐ Mudcracks			Soil development		
Ripples		닠	Surface relief		
Drift and/or		片	Other:		
	f bed and bank	H	Other:		
☐ Benches			Outer.		-
Comments:					

Project: 1000 Palmi	Date: 3/19 Time: 9:25
Project Number: 3214	Town: Thousand Palins State: CA
Stream: 1-11	Photo begin file#: Photo end file#:
Investigator(s): J. ward	27 28
Y 🗷 / N 🔲 Do normal circumstances exist on the site?	Location Details:
Y ☐ / N ☑ Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	tem:
Brief site description:	
Rench 1. 0.19 miles E of Sieu	rin Dal Sol
X       Vegetation maps       ☐ Result         X       Soils maps       ☐ Most in the soil of the soil o	ber:
Hydrogeomorphic	Floodplain Units
Active Floodplain	, Low Terrace ,
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floor	dplain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is characte a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic.</li> <li>Identify the OHWM and record the indicators. Record Mapping on aerial photograph Digitized on computer</li> </ol>	Draw the cross section and label the floodplain units. ristic of one of the hydrogeomorphic floodplain units. h class size) and the vegetation characteristics of the floodplain units across the cross section.

Project ID: 3219	Cross section ID:	1-11	<b>Date:</b> 3/19	Time: 5125
Cross section drawi	ng:			
	low flaw ± 141	Je.		
<u>OHWM</u>		-		
	56903. 39 ME 3744	1187.45 n	<sub>n</sub> N	
	erage sediment texture getation species getation cover	Other	in bank slope	
Comments:				
Elandalain unite	フィー・Flow Channel		- Elecatricia	☐ Low Terrace
<u>Floodplain unit</u> :	Low-Flow Channel	L Activ	e Floodplain	LI LOW I CHACE
GPS point:				
Characteristics of the factorial veg cover:  Community succession  NA  Early (herbace	ure: <u>Fine send</u> _% Tree:% Shri	—— Mid (	Herb:% herbaceous, shrubs herbaceous, shrubs	
Indicators:  Mudcracks  Ripples  Drift and/or d  Presence of be Benches		Surface Other Other	levelopment ce relief : :	
Comments:				

Project ID: 3219	<ul> <li>Cross section ID</li> </ul>	: 1-11	Date: 3/19	Time: 4:25
Floodplain unit:	Low-Flow Channel		Active Floodplain	✓ Low Terrace
GDG 1 1 11 6 55/	GALIG . F 27/11/67			
GPS point: 1/5 376	1901.16 ME, 3744187	.74 mr	,	
Total veg cover:Community successi	xture: <u>Coarce Sand</u> % Tree:%		Mid (herbaceous, shru Late (herbaceous, shru	bs, saplings)
Indicators:  Mudcracks Ripples Drift and/or Presence of Benches	debris bed and bank		Soil development Surface relief Other: Other:	
Comments:				
			A stive Floodploin	Low Terrace
Floodplain unit:	Low-Flow Channel	L	Active Floodplain	Low remace
GPS point:				
Total veg cover: Community success \ NA	exture:% Tree:%	Shrub:	Mid (herbaceous, shrull Late (herbaceous, shrull Late (herbaceous, shrull Late (herbaceous)	% ubs, saplings) ubs, mature trees)
☐ Benches			Soil development Surface relief Other: Other: Other:	
Comments:				

Project: 1000 Palm; Project Number: 3219 Stream: 1-172 Investigator(s): J. Ward	Date: 3/19 Time: 9:30 Town: Thousand Palm, State: CA Photo begin file#: 29 Photo end file#: 30  Location Details:
Y ✓ / N ☐ Do normal circumstances exist on the site?	Projection: Datum:
Y / N / Is the site significantly disturbed?	Coordinates:
Potential anthropogenic influences on the channel syst	tem:
Brief site description:  Reach   - approx. 0.2 mi E. 44	Sieven Del Sol
▼ Vegetation maps       Result         ▼ Soils maps       Most r         ▼ Rainfall/precipitation maps       Gage	ber:
Hydrogeomorphic	Floodplain Units
Low-Flow Channels	OHWM Paleo Channel
<ol> <li>Procedure for identifying and characterizing the flood</li> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is characte a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic</li> <li>Identify the OHWM and record the indicators. Record Mapping on aerial photograph Digitized on computer</li> </ol>	to get an impression of the geomorphology and  Draw the cross section and label the floodplain units. ristic of one of the hydrogeomorphic floodplain units.  h class size) and the vegetation characteristics of the floodplain units across the cross section.

Project ID: 3219 Cross section ID: 1-	12 Date: 3/19 Time: 9:30
Cross section drawing:	
de de la comercia del comercia de la comercia del comercia de la comercia del la comercia del la comercia de la comercia de la comercia de la comercia de la comercia de la comercia de la	
- 7	
OHWM_	
GPS point: 115 556925. 31 m.E. 3744	160. 16 mN
Indicators:	Break in bank slope Other: Other:
Comments:	
Floodplain unit:	Active Floodplain Low Terrace
GPS point: 11 S SS6930.63 ME, 3744183.1	
Characteristics of the floodplain unit:  Average sediment texture: Mediam silf  Total veg cover: % Tree: % Shru  Community successional stage:  NA  Early (herbaceous & seedlings)	ub: _≤ _% Herb: _≤ _%  ☐ Mid (herbaceous, shrubs, saplings) ☐ Late (herbaceous, shrubs, mature trees)
Indicators:  ✓ Mudcracks ✓ Ripples ✓ Drift and/or debris ✓ Presence of bed and bank ✓ Benches	□ Soil development         □ Surface relief         □ Other:         □ Other:         □ Other:
Comments:	
Over Elaw from 1-11 to W.	

Project ID: 3219 Cross section ID:	1-12	Date: 3/19_	Time: 9:30
Floodplain unit:		tive Floodplain	Low Terrace
GPS point: 11 5 556930.18 m E. 3744174	1.16 m N		
Characteristics of the floodplain unit:			
Average sediment texture Medium Sand			
Total veg cover: % Tree: % S	Shrub: <u>20</u>	% Herb: <b>20</b> %	
Community successional stage:	<b>5</b> M	d (herbaceous, shrubs	sanlings)
☐ NA☐ Early (herbaceous & seedlings)		te (herbaceous, shrubs	
Larry (nerodecous & securings)			
Indicators:		11 .11	
Mudcracks		il development rface relief	
☐ Ripples ☐ Drift and/or debris		her:	_
Presence of bed and bank	Ot	her:	
Benches	☐ Ot	her:	
Comments:			
Floodplain unit: Low-Flow Channel	□ A	ctive Floodplain	Low Terrace
Prodeptant diff.		•	
GPS point:			
Characteristics of the floodplain unit:			
Average sediment texture:			
Total veg cover.	Shrub:	_% Herb:%	
Community successional stage:	Πм	id (herbaceous, shrub	s. saplings)
☐ NA ☐ Early (herbaceous & seedlings)		ate (herbaceous, shrub	s, mature trees)
Land (Mercandona de 201			
Indicators:		oil development	
Mudcracks		on development urface relief	
☐ Ripples ☐ Drift and/or debris		ther:	
Presence of bed and bank	□ 0	ther:	
Benches	∐ C	ther:	
Comments:			

Project: 1000 Palms	Date: 3/19 Time: 5.45	
Project Number: 3219	Town: Thousand Palms State: CA	
Stream:  -  \$	Photo begin file#: 31 Photo end file#: 32	
Investigator(s): J. Wood		
Y A / N Do normal circumstances exist on the site?	Location Details:	
Y ⋈ / N ☐ Is the site significantly disturbed?	Projection: Datum: Coordinates:	
Potential anthropogenic influences on the channel syst	tem:	
Diet coad enus parrellel to and evosco	s through the overings.	
•	Ť	
Brief site description:	Dal Cal	
Reach 1 0.24 miles E of Sievra	1201 201	
Checklist of resources (if available):		
Aerial photography  Stream gag	ge data	
Dates: 6/16 - 8/18 Gage num		
Topographic maps Period of s	record:	
Geologic maps Histor	y of recent effective discharges	
Vegetation maps Result	s of flood frequency analysis	
Soils maps Most	recent shift-adjusted rating	
Rainfall/precipitation maps	heights for 2-, 5-, 10-, and 25-year events and the	
Existing delineation(s) for site most recent event exceeding a 5-year event		
Global positioning system (GPS)		
Other studies		
Hydrogeomorphic	Floodplain Units	
Active Floodplain	Low Terrace	
Low-Flow Channels	OHWM Paleo Channel	
Procedure for identifying and characterizing the floor	dplain units to assist in identifying the OHWM:	
1. Walk the channel and floodplain within the study area	to get an impression of the geomorphology and	
vegetation present at the site.		
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.		
3. Determine a point on the cross section that is characte	ristic of one of the hydrogeomorphic floodplain units.	
a) Record the floodplain unit and GPS position.		
b) Describe the sediment texture (using the Wentworth	h class size) and the vegetation characteristics of the	
floodplain unit.		
c) Identify any indicators present at the location.		
4. Repeat for other points in different hydrogeomorphic	floodplain units across the cross section.	
5. Identify the OHWM and record the indicators. Record	I the OHWM position via:	
☐ Mapping on aerial photograph	₫ GPS	
Digitized on computer	Other:	

Project ID: 3219 Cross section ID:	1-13 Date: 3/19 Time: 9:46
Cross section drawing:	
10a- Chum 2 14'	+ Level
OTHER WA	
<u>OHWM</u>	
GPS point: 115 5569BO. 85 m = 374415	58. 91 m H
Indicators:  ∠ Change in average sediment texture  Change in vegetation species  Change in vegetation cover	☐ Break in bank slope ☐ Other: ☐ Other:
Comments:	
Road enters from SW or altering flow geths.	ed leaves to NE and is
otherine flat matter	
2,100-3	
Floodplain unit: 🗵 Low-Flow Channel	☐ Active Floodplain ☐ Low Terrace
GPS point: 11 5 5569 77.56 mE 374415	59.77 mN
Grs point. 11 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
Characteristics of the floodplain unit:  Average sediment texture: Fine seed	
Total veg cover: % Tree: % Shi	rub: <u>\$</u> % Herb: <u>\$</u> %
Community successional stage:  NA	Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature trees)
Indicators:	
✓ Mudcracks	Soil development
<ul><li>✓ Ripples</li><li>✓ Drift and/or debris</li></ul>	Surface relief Other:
Presence of bed and bank	Utiler:
Benches	Other:
Comments:	

Project ID: 3219	Cross section ID:	1-13	Date: 3/19	Time: 7:40
Floodplain unit:	Low-Flow Channel		Active Floodplain	∠ Low Terrace
GPS point: 115 5569	165.27 m E, 3744164.40	UWI		
Chamadanistics of the	. floodploin unit:			
Characteristics of the Average sediment tex	xture: Cosee sound			
Total veg cover:	% Tree:% S	hrub:	20 % Herb: 20 %	
Community succession				1' )
☐ NA	% andlings)	씀	Mid (herbaceous, shrub Late (herbaceous, shrub	
Early (neroa	aceous & seedlings)		Late (nervaceous, sinue	s, mataro troosy
Indicators:				
☐ Mudcracks			Soil development	
Ripples			Surface relief	
☐ Drift and/or			Other:	
Benches	bed and bank	님	Other:	<del> </del>
Comments:		_		
Comments:	•			
Floodplain unit:	Low-Flow Channel		Active Floodplain	Low Terrace
GPS point:				
Characteristics of the	e floodplain unit:			
Average sediment te	exture:	_		
Total veg cover:		Shrub:	% Herb:%	
Community successi	ional stage:		Mid (herbaceous, shrub	os, saplings)
NA Farly (herb	aceous & seedlings)		Late (herbaceous, shrul	
Larry (nero			`	
Indicators:		<del></del>		
Mudcracks			Soil development Surface relief	
Ripples Drift and/or	r debris		Other:	
	bed and bank		Other:	
Benches			Other:	
Comments:				
:				

Project: 1000 Palms	Date: 3/19 Time: 10:10
Project Number: 3219	Town: Thousand Palms State: CA
Stream: 1-14	Photo begin file#: 33 Photo end file#: 38
Investigator(s): J. wぬめ	
Y ★ / N Do normal circumstances exist on the site?	Location Details:
Y ☐ / N ☑ Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel systems from upstween devi	tem:
Brief site description:	
	teon D.
▶ Vegetation maps       □ Result         ▶ Soils maps       □ Most in the second	ber:
Hydrogeomorphic	Floodplain Units
Active Floodplain  Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floo	dplain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel</li> <li>Determine a point on the cross section that is characte a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentwort floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic</li> <li>Identify the OHWM and record the indicators. Record</li> </ol>	to get an impression of the geomorphology and  Draw the cross section and label the floodplain units.  ristic of one of the hydrogeomorphic floodplain units.  h class size) and the vegetation characteristics of the  floodplain units across the cross section.

Project ID: 3219 Cross section ID:	1-14	Date: 3/19	Time: 10, 10
Cross section drawing:			
. N.			
X X X		Ŵ	
	y the 1		
7	1		
low flow (A)	(B) (C)		
	10' 6'		
<u>OHWM</u>	· .		
GPS point: 115 557624.19 mE 374395	15.48 mN		
Indicators:	<b>—</b> -		
Change in average sediment texture		in bank slope	
	U Other:		
Change in vegetation cover	☐ Other:		·
Comments:			
Board worth will sexuen	high awa	K 5	
	•		
Floodplain unit:	Active	e Floodplain	Low Terrace
		•	
GPS point: 115 557604.31 ME 3743960	Um IS.C		
Characteristics of the floodplain unit:			
Average sediment texture: Fine sand			
Total veg cover: % Tree: % Sh	irub:%	Herb: <u>// // //</u> %	
Community successional stage:			
□ NA		herbaceous, shrubs,	
Early (herbaceous & seedlings)	Late (	herbaceous, shrubs,	mature trees)
Indicators:			
	_	levelopment	
		ce relief	
Drift and/or debris	U Other	•	
Presence of bed and bank	U Other	•	
☐ Benches	∐ Other	•	i de la compania de l
Comments:			
Comments.			
	,		
three downt braids of Interpret all three low	n Ilw	chantly conditi	ear none
collect	4		
leflet all three land	flux ch	amuels.	

Project ID: 3219	<b>Cross section ID:</b>	1-14	Date: 3/19	Time: to:to
Floodplain unit:	Low-Flow Channel		Active Floodplain	✓ Low Terrace
	<b>.</b>			
SPS point: ا	7600.1 mE 3743962.0	m N		
Characteristics of th	e floodplain unit:			
A verage sediment te	exture: Mediam Savet			
Total veg cover:	% Tree: % S	Shrub: _	20 % Herb: <u>70 </u> %	
Community success	ional stage:	1Z	Mid (herbaceous, shrubs	saplings)
	aceous & seedlings)		Late (herbaceous, shrubs	, mature trees)
	<b>-</b> ,			
Indicators:		_	Call dayalanmant	
☐ Mudcracks☐ Ripples		F	Soil development Surface relief	
Drift and/or	r debris		Other:	· · · · · ·
Presence of	f bed and bank		Other:	
Benches		<u> </u>	Other:	
Comments:				
Floodplain unit:	Low-Flow Channel		Active Floodplain	Low Terrace
GPS point:				
Characteristics of the	ne floodplain unit:			
Average sediment to	exture:	<u> </u>	0/ II 9/	
Total veg cover:		Shrub: _	% Herb:%	
Community success	sional stage.		Mid (herbaceous, shrubs	s, saplings)
	baceous & seedlings)		Late (herbaceous, shrub	s, mature trees)
Indicators:		Г	Soil development	
Ripples	•		Surface relief	
Drift and/o			Other:	
	f bed and bank		Other: Other:	
Benches		L_		
Comments:				

Project: 1000 Palms	Date: 3/19 Time: 10:15
Project Number: 3219	Town: Thousand Palms State: CA
Stream: 1-15	Photo begin file#: 39 Photo end file#: 40
Investigator(s): J. Wood	
Y 🗵 / N 🗌 Do normal circumstances exist on the site?	Location Details:
Y ☐ / N ☐ Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	tem:
Upstream densetrymed many he	channelized Elms
Brief site description:	
Reach 1, 0.16 mils E of Di	ose-t Moon Dr.
Checklist of resources (if available):	
Aerial photography Stream gag	re data
Dates: 6/96 - 8/19 Gage num	i i
Topographic maps Period of r	
	y of recent effective discharges
	s of flood frequency analysis
	ecent shift-adjusted rating
	neights for 2-, 5-, 10-, and 25-year events and the
	ecent event exceeding a 5-year event
Global positioning system (GPS)	
Other studies	
Hydrogeomorphic F	Floodplain Units
Active Floodplain	Low Terrace
4	
	<u> </u>
Low-Flow Channels	/ / OHWM Paleo Channel
	<u></u>
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OH WM:
1. Walk the channel and floodplain within the study area	to get an impression of the geomorphology and
vegetation present at the site.	
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is character	istic of one of the hydrogeomorphic floodplain units.
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the
floodplain unit.	
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic f	loodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record	
Mapping on aerial photograph	GPS
Digitized on computer	Other:

Project ID: 3219 Cross section ID:	i-15 ]	Date: 3/9	Time: 10:15
Cross section drawing:			
N. I	251		
+	25		
	1		
	low flow ±5'	-	
<u>OHWM</u>			
GPS point: 11 5 557634 m E 3743948 mN			
522 point (5 ) 1 (1 ) 1 (1 )			
Indicators:			
<ul><li>✓ Change in average sediment texture</li><li>✓ Change in vegetation species</li></ul>		bank slope	
Change in vegetation species  Change in vegetation cover	Other:		
Comments:			
Floodulain waits		111	
Floodplain unit: Low-Flow Channel	Active Fl	loodplain	Low Terrace
GPS point: 11 S 557638.37 m E, 37439417	. 75 m N		
Characteristics of the floodplain unit:  Average sediment texture:			
Total veg cover: % Tree: % Shr	ub: 5 % I	Herb: /0 %	
Community successional stage:			
NA NA		baceous, shrubs,	
☐ Early (herbaceous & seedlings)	Late (her	baceous, shrubs	, mature trees)
Indicators:			
Mudcracks	Soil deve		
Ripples	Surface r		
Drift and/or debris	Other:		
Presence of bed and bank Benches	Other:		
Comments:			* .
Comments.			

Project ID: 3219 Cross section ID:	1-15	Date:	3/19	Time:	10:15
Floodplain unit:	Activ	ve Floodplair	ı [	Low Terr	race
GPS point: 115 557632 m E , 3743948	m N				
Community successional stage:  NA Early (herbaceous & seedlings)  Indicators: Mudcracks Ripples Drift and/or debris	☐ Late ☐ Soil o	herbaceous, (herbaceous, development ce relief	shrubs, sa shrubs, m	nature trees)	
Presence of bed and bank		•			
▼ Benches	U Other	•		-	
Comments:					
Floodplain unit:		e Floodplain		] I T	
GPS point:	LJ Activ	e Floodplain		」Low Terra	ace
Gr S politi:					
Characteristics of the floodplain unit: Average sediment texture:					
Total veg cover: % Tree: % S	– hrub: %	Herh:	0/0		
Community successional stage:		11010.	/0		
□ NA		herbaceous, s			
Early (herbaceous & seedlings)	∐ Late (	herbaceous,	shrubs, ma	ature trees)	
Indicators:					
Mudcracks		evelopment			
Ripples		ce relief			
☐ Drift and/or debris ☐ Presence of bed and bank	U Other:				
Benches	U Other	:			
Comments:					
Comments.					

Project: 1000 Palms	Date: 3/19 Time: 10:30
Project Number: 3219	Town: Thousand Palms State: CA
Stream: 1-16	Photo begin file#: 41 Photo end file#: 42
Investigator(s): J. Wood	
Y 🗷 / N 🔲 Do normal circumstances exist on the site?	Location Details:
Y N Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	tem:
Diet rough in channel may be over cra	equality the width.
Brief site description:	
Reach 1 - 0.14 miles W of Via	las Palmas
➤ Vegetation maps       □ Result         ➤ Soils maps       □ Most in a soil of the so	ber:
Hydrogeomorphic l	Floodplain Linits
Active Floodplain	Low Terrace
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the flood  1. Walk the channel and floodplain within the study area	dplain units to assist in identifying the OHWM:
vegetation present at the site.  2. Select a representative cross section across the channel.  3. Determine a point on the cross section that is character a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth floodplain unit.  c) Identify any indicators present at the location.  4. Repeat for other points in different hydrogeomorphic is 1. Identify the OHWM and record the indicators. Record	ristic of one of the hydrogeomorphic floodplain units.  In class size) and the vegetation characteristics of the floodplain units across the cross section.
Mapping on aerial photograph	<u>c</u> GPS
Digitized on computer	Other:

Project ID: 3219	<b>Cross section ID:</b>	1-16	<b>Date:</b> 3/19	Time: 10:30
Cross section drawin	g:			
	_			
	Ja s 6'	J. Iran	<u>Y</u>	
		2		
<u>OHWM</u>				
GPS point: 11 s 55776	43.99 m E 3743910.	52 ml	7	
Indicators:  Change in avera Change in vege Change in vege			Break in bank slope Other: Other:	
Comments:				
Floodplain unit:	Low-Flow Channel		Active Floodplain	Low Terrace
GPS point: 115 55774	7 m E , 3743910 m N	)		
Characteristics of the float Average sediment texture Total veg cover:  Community successiona  NA  Early (herbace)	re: <u>Fine Sound</u> % Tree:% Sh		% Herb:/_0% Mid (herbaceous, shrubs, Late (herbaceous, shrubs,	
Indicators:  Mudcracks Ripples Drift and/or del Presence of bed Benches			Soil development Surface relief Other: Other:	
Comments:				
			•	
				X .
1				

Project ID: 3219 Cross section II	): 1-16	Date: 3/19	Time: 10:30
Floodplain unit: Low-Flow Channel	☐ Activ	ve Floodplain	Low Terrace
CDCi-t- No craate			
GPS point: 115 557739 mx 374391	1.9 mN		
Characteristics of the floodplain unit:			
Average sediment texture: Coares Sand			
Total veg cover:% Tree:%	Shrub: <u>20</u> %	% Herb: <u>2\$</u> %	
Community successional stage:	▼ Mid	(herbaceous, shrub	ne eanlinge)
Early (herbaceous & seedlings)		(herbaceous, shrul	- · · · · · · · · · · · · · · · · · · ·
	_	,	,
Indicators:		1 1 .	
Mudcracks		development ace relief	
☐ Ripples ☐ Drift and/or debris	_	er:	
Presence of bed and bank	Othe	r:	
■ Benches	Othe	er:	
Comments:			
	· · · · · · · · · · · · · · · · · · ·		
Floodplain unit:	Activ	ve Floodalain	☐ Low Terrace
Low-Flow Channel	Acu	ve Proouplam	Low Tenace
GPS point:			
Characteristics of the floodplain unit: Average sediment texture:			
Total veg cover: % Tree: %		% Herb:%	
Community successional stage:			
NA		(herbaceous, shrub	
Early (herbaceous & seedlings)	L Late	(herbaceous, shrub	os, mature trees)
Indicators:			
☐ Mudcracks		development	
Ripples		ace relief	
Drift and/or debris	U Othe	er:	
Presence of bed and bank Benches	Othe	er:	
Comments:			

Project: 1600 Palms	Date: 3/19 Time: 10:40				
Project Number: 3219	Town: Thursand Palms State: Ch				
Stream: 1-19	Photo begin file#: 43 Photo end file#: 46				
Investigator(s): J. Word					
Y 🗵 / N 🗌 Do normal circumstances exist on the site?	Location Details:				
Y \( \sum / N \( \subseteq \) Is the site significantly disturbed?	Projection: Datum: Coordinates:				
Potential anthropogenic influences on the channel syst	em:				
Brief site description:					
Rench 1 - 0.1 miles W of Yia	Las Palmas				
Checklist of resources (if available):					
Aerial photography Stream gag Dates: 6/96 - 8/16 Gage num					
t  Topograpine mapo	y of recent effective discharges				
	s of flood frequency analysis				
/ Cotation maps	ecent shift-adjusted rating				
Rainfall/precipitation maps Gage I	heights for 2-, 5-, 10-, and 25-year events and the				
Existing delineation(s) for site most r	ecent event exceeding a 5-year event				
Global positioning system (GPS)	·				
Other studies					
Hydrogeomorphic I	Floodplain Units				
Active Floodplain	Low Terrace				
	) / Channel				
Low-Flow Channels	OHWM Paleo Channel				
Procedure for identifying and characterizing the floor	dplain units to assist in identifying the OHWM:				
1. Walk the channel and floodplain within the study area	to get an impression of the geomorphology and				
vegetation present at the site.  2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.				
2. Select a representative cross section across the character	ristic of one of the hydrogeomorphic floodplain units.				
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.					
b) Describe the sediment texture (using the Wentworth	n class size) and the vegetation characteristics of the				
floodplain unit.					
c) Identify any indicators present at the location.	a deliberation areas the areas section				
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.					
5. Identify the OHWM and record the indicators. Record	GPS				
I mapping on worth processor	Other:				
Digitized on computer	Outer.				

Project ID: 3219 Cross section	n ID: 1-18	Date: 3/19	Time: 18:40
<b>Cross section drawing:</b>	:		
	2 (A) 1012- Star	(3) 2,	
5'	7000 - 1000	2	
<u>OHWM</u>			
GPS point: 115 SS7816 m E 374	13888 m N		
Indicators:	· ☐ Oth	ak in bank slope er: er:	
Comments:			
Poorly defined, bircl.	decidal to	include one	gust-skle
Floodplain unit: Low-Flow Char	nnel	ive Floodplain	Low Terrace
GPS point: 115 557818 E. 37	143888 mN		
Characteristics of the floodplain unit:  Average sediment texture: Medium 5.  Total veg cover: % Tree:  Community successional stage:  NA  Early (herbaceous & seedlings)	% Shrub:9	% Herb: <u>≤</u> %  ! (herbaceous, shrubs, e (herbaceous, shrubs,	
Indicators:  ☐ Mudcracks ☐ Ripples ☑ Drift and/or debris ☐ Presence of bed and bank ☐ Benches  Comments:	Surf Othe	development face relief er: er: er:	

Project ID: 3219	Cross section ID:	1-18	Date: 3/19	11me: 10:40
Floodplain unit:	ow-Flow Channel		Active Floodplain	➤ Low Terrace
GPS point: 11 \$ 55.787	9 ME, 374385	5 m N	•	
Characteristics of the flood Average sediment texture: Total veg cover:% Community successional s NA Early (herbaceous	Tree: % S	Z	Mid (herbaceous, shrubs, Late (herbaceous, shrubs	
Indicators:  Mudcracks Ripples Drift and/or debright Presence of bed and Benches			Soil development Surface relief Other: Other: Other:	
Comments:				
Floodplain unit:	Low-Flow Channel		Active Floodplain	☐ Low Terrace
GPS point:				
Characteristics of the flood Average sediment texture: Total veg cover:%	dplain unit:		0/ Harbi 9/2	
Total veg cover: % Community successional s		nrub:		
NA ☐ Early (herbaceous	& seedlings)		Mid (herbaceous, shrubs Late (herbaceous, shrubs	
Indicators:  Mudcracks Ripples Drift and/or debri Presence of bed a Benches  Comments:			Soil development Surface relief Other: Other: Other:	_

	Date: 3/19 Time: 10:50
Project: 1000 Palms	
Project Number: 3219	Town: Thousand Palm, State: CA Photo begin file#: 17 Photo end file#: 50
Stream: 1-17	Photo begin file#: 47 Photo end file#: 50
Investigator(s): J. wood	
Y ⋈ / N □ Do normal circumstances exist on the site?	Location Details:
Y ☐ / N ☑ Is the site significantly disturbed?	Projection: Datum: Coordinates:
The second the channel ever	
Potential anthropogenic influences on the channel syst	iem.
Brief site description:	
Rench 1 - 0.08 miles w of	Via Las Palmas
Vegetation maps  Soils maps  Result  Result  Result  Gage	ber:
Hydrogeomorphic	Floodplain Units
Active Floodplain  Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floo	odplain units to assist in identifying the OHWM:
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is characterally as the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic.</li> <li>Identify the OHWM and record the indicators. Record</li> </ol>	to get an impression of the geomorphology and  I. Draw the cross section and label the floodplain units.  Peristic of one of the hydrogeomorphic floodplain units.  The class size and the vegetation characteristics of the floodplain units across the cross section.
Mapping on aerial photograph	▼ GPS
Digitized on computer	Other:

Project ID: 3219	<b>Cross section ID:</b>	1-19	Date: 3/19	Time:	10:50
Cross section drawin	<b>g:</b>				
	10w flow (A) low flow	- (E Z'	2)		
<u>OHWM</u>					
GPS point: 11 5 55 78	34, mE 374388Z	mN			,
Indicators:			Break in bank slope Other: Other:		
Comments:					
Pourly	defied, included	enl	berne h		
Floodplain unit: 🗵	Low-Flow Channel		Active Floodplain	Low Terra	ce
GPS point: 11 5 5579	46 m E 3743860	mn	J		
Characteristics of the float Average sediment texture Total veg cover:  Community successiona  NA  Early (herbaceco	re: Fine Sand % Tree:% Shr l stage:		Mid (herbaceous, shrubs, sap Late (herbaceous, shrubs, ma		
Indicators:			Soil development Surface relief Other: Other:		

Project ID: 3219	Cross section ID:	1-19	<b>Date: 31</b>	19 ]	ime: 10'50
Floodplain unit:	Low-Flow Channel		Active Floodplain	∠	ow Terrace
			•		
GPS point: 115 557	850 m E, 3743880 m N	7			
Characteristics of the	e floodplain unit:				
	kture: Coarce sand				!
Total veg cover:	% Tree:% S	hrub: 1	5 % Herb: 15	<b>%</b>	
Community succession	onal stage:			-	
□ NA	, s. <del></del>	7	Mid (herbaceous, shi	ubs, saplin	gs)
	ceous & seedlings)		Late (herbaceous, sh		
		_	•		
Indicators:					
Mudcracks			Soil development		
Ripples			Surface relief		:
Drift and/or	debris		Other:		
Presence of	bed and bank		Other:		
Benches			Other:		
Comments:					
Comments:					
	70				
Floodplain unit:	Low-Flow Channel		Active Floodplain		ow Terrace
1 Toodplain unit.	Low-Flow Chaimer		Active i roodplain		ion reliace
CPS points					
Gr 5 point.					
Characteristics of the	floodplain unit				
Average sediment tex					
Total veg cover:	% Tree:% S	Shrub:	% Herb:	%	
Community succession	onal stage:			_	
			Mid (herbaceous, shi	rubs, saplin	gs)
. —	ceous & seedlings)	一	Late (herbaceous, sh		
	8,	_	•		
Indicators:					
Mudcracks			Soil development		
Ripples			Surface relief		
Drift and/or	debris		Other:		_
Presence of	bed and bank		Other:	ad a tra	-
Benches			Other:		-
Commontos					
Comments:					
1					

Project: 1000 Palms	Date: 3/19 Time: 11/10		
Project Number: 3219	Town: Thousand Paliny State: CA		
Stream: (-7)	Photo begin file#: 51 Photo end file#: 56		
Investigator(s): J. Wad			
Y X / N Do normal circumstances exist on the site?	Location Details:		
Y / N Is the site significantly disturbed?	Projection: Datum: Coordinates:		
Potential anthropogenic influences on the channel syst	tem:		
Dirt road impacts a postion of some	passing low flow chancel		
Brief site description:			
Reach 1 - large drainge + 0.15 mi	bs E of Yia Las Palmas.		
Checklist of resources (if available):			
Aerial photography Stream gag	ge data		
Dates: 6/96 - 8/16 Gage num	Į.		
Topographic maps  Period of r	record:		
│ ☐ Geologic maps	y of recent effective discharges		
Vegetation maps Result	s of flood frequency analysis		
Soils maps Most	recent shift-adjusted rating		
Rainfall/precipitation maps Gage	heights for 2-, 5-, 10-, and 25-year events and the		
Existing delineation(s) for site most	recent event exceeding a 5-year event		
Global positioning system (GPS)			
Other studies			
Hydrogeomorphic	Floodplain Units		
Active Floodplain	, Low Terrace ,		
Active i locapiani			
	i de		
	//		
Low-Flow Channels	OHWM Paleo Channel		
Procedure for identifying and characterizing the floo	dplain units to assist in identifying the OHWM:		
1. Walk the channel and floodplain within the study area	to get an impression of the geomorphology and		
vagetation present at the site			
2. Sologt a representative cross section across the channel	Draw the cross section and label the floodplain units.		
3. Determine a point on the cross section that is characte	ristic of one of the hydrogeomorphic floodplain units.		
a) Record the floodplain unit and GPS position.			
b) Describe the sediment texture (using the Wentworth	h class size) and the vegetation characteristics of the		
floodplain unit.			
c) Identify any indicators present at the location.			
4 Repeat for other points in different hydrogeomorphic	floodplain units across the cross section.		
5. Identify the OHWM and record the indicators. Record	the OHWM position via:		
Mapping on aerial photograph	S GPS		
✓ Digitized on computer	Other:		

Project ID: 3219 Cr	oss section II	<b>J:</b> 1-61	Date: 3	/19 7	ime: 11:10
Cross section drawing:					
	OHOLM		men eta Linux (Albanyor da Millional)		
		1	<b>\</b>		and the second of the second o
A STATE OF THE STA	40	(20)	(c)	(D)	
low fla	(A)	(26)	3'	4'	
OHWM		·			<i>*</i> -
GPS point: 11 5 556221,	37437 <u>54</u>				
Indicators:					
Change in average so			c in bank slope		
<ul><li>✓ Change in vegetation</li><li>✓ Change in vegetation</li></ul>		U Otnei	::		
Change in vegetation					
Comments:					
OHUM is eleanly	defined n	ed channel	" deepty	mind	>2'
/					
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \					T.
Floodplain unit: Lo	w-Flow Channe	l	e Floodplain	i L	ow Terrace
GPS point: 115 556227	3743753				
-					
Characteristics of the floodpl Average sediment texture: F.					
Total veg cover: %		Shrub:5_%	Herb:	_%	
Community successional stag	ge:	- AC4	/11	مالمور ومالي	~~)
☐ NA ☑ Early (herbaceous &	seedlings)		(herbaceous, s (herbaceous, s		
Early (nervaceous &	securings)		(1101 040 0 412, 1		
Indicators:			1. 1		
Mudcracks			development ace relief		
<ul><li>✓ Ripples</li><li>✓ Drift and/or debris</li></ul>			r:		
Presence of bed and	bank	Othe	r:		
Benches			r:		
Comments:					

Project ID: 3219	<b>Cross section ID:</b>	1-21	Date: 3/	119 Time: 11:10
Floodplain unit:	Low-Flow Channel	☐ Activ	e Floodplain	Low Terrace
			•	
GPS point: 1) 5 558	3743756			
Characteristics of the				
Average sediment tex	cture: Coavse Sand			
Total veg cover:	% Tree:% S	Shrub: <u>ZS</u> %	Herb: <i>1\$</i>	%
Community succession	onal stage:			
□ NA			herbaceous, shr	
☐ Early (herba	ceous & seedlings)	∐ Late (	herbaceous, shi	rubs, mature trees)
1		-		
Indicators:		☐ Ca:1 a	larral a more and	
Mudcracks			levelopment ce relief	
Ripples	dahuia	_		
Drift and/or Presence of		Other	•	
Benches	ocu anu bank	Other	•	
Deficites			•	
Comments:				
Floodplain unit:	Low-Flow Channel	Activ	e Floodplain	☐ Low Terrace
			•	
GPS point:				
Characteristics of the				
Average sediment tex	cture:	<del></del>	TT 1	0.7
	% Tree:% \$	Shrub:%	Herb:	_%0
Community succession	onal stage:	□ Mid (	herbaceous, shr	nihe canlings)
NA December (bombo	ceous & seedlings)			rubs, mature trees)
Early (Herba	ceous & seedings)	Late	incroaceous, sin	ruos, matare nees,
Indicators:				
Mudcracks		Soil o	levelopment	
Ripples		Surfa	ce relief	
☐ Drift and/or	debris	Other	:	
_	bed and bank	Other	:	
☐ Benches		Other	•	
Comments:				

Project: 1800 Palms	Date: 3/19 Time: 11:20
Project Number: 3214	Photo begin file#: 59 Photo end file#: 62
Stream: 1-72	Photo begin file#: 57 Photo end file#: 62
Investigator(s): J. Wood  Y ∠ / N ☐ Do normal circumstances exist on the site?	Location Details: Rock 1
Y ☐ / N 🗷 Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	em:
None	
Brief site description:	
Roach 1- 0.2 mile: E of Via L	as Palmas.
▼ Vegetation maps       Result         ▼ Soils maps       Most r         ▼ Rainfall/precipitation maps       Gage l	ber:
Hydrogeomorphic F	Floodplain Units
Active Floodplain	Low Terrace_,
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floor	iplain units to assist in identifying the Oil Wivi.
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is character a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic in the CHWM and record the indicators. Record Mapping on aerial photograph Digitized on computer</li> </ol>	Draw the cross section and label the floodplain units. ristic of one of the hydrogeomorphic floodplain units. In class size) and the vegetation characteristics of the floodplain units across the cross section.  The OHWM position via:

Project ID: 3219 Cross sec	tion ID: 🕕	-77	<b>Date:</b> 3/19	Time: 11:20
<b>Cross section drawing:</b>				
lowflus (A)	OHWH S <sup>1</sup>	grantian from	(8) 6'	
<u>OHWM</u>		· · · · · · · · · · · · · · · · · · ·		
GPS point: 11 5 558299 , 37	13733			
Indicators:  Change in average sediment to Change in vegetation species  Change in vegetation cover	exture	Other	k in bank slope	
Comments:				
Floodplain unit:	Channel	☐ Activ	e Floodplain	Low Terrace
GPS point: 11 5 558302, 37437	32_			
Characteristics of the floodplain unit Average sediment texture: Fire Sent   Total veg cover: % Tree: Community successional stage: NA Early (herbaceous & seedling)	% Shrul	区 Mid	Herb: <u>70</u> % (herbaceous, shrub (herbaceous, shrub	os, saplings)
Indicators:  ☐ Mudcracks ☐ Ripples ☐ Drift and/or debris ☐ Presence of bed and bank ☐ Benches		Surfa Othe	development ace relief r: r:	
Comments:				

Project ID: 3219 Cross section	ID: \-22	Date: 3/19	Time: 11:20
Floodplain unit:	nel A	tive Floodplain	Low Terrace
GPS point: 115 558323 ME, 374	13725 UK N		
or bound	12 122 70 MW		
Characteristics of the floodplain unit:			
Average sediment texture: Cinc Sand	ı		
Total veg cover: % Tree:	% Shruh 20	% Herb. 20 %	
Community successional stage:	, o binac		
NA	<b>⊠</b> M	id (herbaceous, shrubs	sanlings)
Early (herbaceous & seedlings)		ite (herbaceous, shrubs	
Larry (nervaceous & seedings)		ite (nerouceous, sinues	, mature trees,
Indicators:			
Mudcracks	$\Box$ Sc	il development	
Ripples		rface relief	
Drift and/or debris		her:	
Presence of bed and bank		her:	
Benches		her: her:	<del></del>
Deficites			-
Comments:			
-		***	
Floodplain unit: Low-Flow Char	inel 📙 A	ctive Floodplain	☐ Low Terrace
GPS point:			
Characteristics of the floodplain unit:			
Average sediment texture: % Tree: %			
Total veg cover: % Tree:	% Shrub:	_% Herb:%	
Community successional stage:			
□ NA		id (herbaceous, shrubs	
☐ Early (herbaceous & seedlings)	∐ La	ate (herbaceous, shrubs	s, mature trees)
·			
Indicators:	_ ~		
Mudcracks		oil development	
Ripples	_	ırface relief	
☐ Drift and/or debris		ther:	
Presence of bed and bank		iner:	· ·
☐ Benches	∐ O	ther:	
Comments:			
·			

Project: /*** Polms Project Number: 3zin Stream: 1-23 Investigator(s): J. W.	Date: 3/19 Time: 11/80 Town: Thousand Palm State: CA Photo begin file#: 63 Photo end file#: 64
Y 📈 / N 🔲 Do normal circumstances exist on the site?	Location Details:
Y ☐ / N 🔊 Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	
Nona	
Brief site description:	
Reach 1 , - 0.32 miles E of Via L	as Palmas.
✓ Vegetation maps       ☐ Result         ✓ Soils maps       ☐ Most r         ✓ Rainfall/precipitation maps       ☐ Gage l	ber:
Hydrogeomorphic F	Floodplain Units
Active Floodplain  Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floor	
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is character a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> <li>Identify any indicators present at the location.</li> <li>Repeat for other points in different hydrogeomorphic for the OHWM and record the indicators. Record Mapping on aerial photograph Digitized on computer</li> </ol>	Draw the cross section and label the floodplain units. ristic of one of the hydrogeomorphic floodplain units.  I class size) and the vegetation characteristics of the floodplain units across the cross section.  The OHWM position via:

Project ID: 3219	<b>Cross section ID:</b>	1-23	Date: 3/19	Time: 11:36
Cross section drawin	g: OFFWIA Z'			
	OFFICE			
	W W			
	7			
	tow-from ?			
<u>OHWM</u>				
GPS point: 11 \$ 55 gc	193 ME, 13743670M	N		
Indicators:				
	age sediment texture		ak in bank slope	
☐ Change in vege ☐ Change in vege			ner:	an an an an an an an an an an an an an a
[Z] Change in vege	Author Cover			
Comments:				
Poorly deve	lopoel OHWM. Add	tion al	quistrable 50	value in auec
Floodplain unit:	Low-Flow Channel	☐ Act	tive Floodplain	Low Terrace
GPS point: 11 5 5586	191 5 27112/71			
Q1 2 hourt. 11 2 2386	111 MC; 3/436/1			
Characteristics of the fl				
Average sediment textu Total veg cover:	re: Sawi % Tree: % Shi	nih. /0	% Herb: <u>/^</u> %	
Community successions	al stage:	40.	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
│ □ NA			d (herbaceous, shrub	
☑ Early (herbace	ous & seedlings)	∐ Lat	e (herbaceous, shrub	os, mature trees)
Indicators:				
Mudcracks			l development	
Ripples			face relief	
Drift and/or de			ner:	
Presence of be	u anu vank		ner:	
Comments:				
Comments:				
1				

Project: 1000 Palms	Date: 3/19 Time: 11:35 Town: Thousand 74/4, State: CA
Project Number: 3219 Stream: 1-24	Photo begin file#: 66 Photo end file#: 68
Investigator(s): J. Wood	
Y / N Do normal circumstances exist on the site?	Location Details:
Y / N Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel sys	tem:
None	
Brief site description:	
Roach 1, approx. 0.3 miles E of	Via Las Palmas.
✓ Vegetation maps       ☐ Result         ✓ Soils maps       ☐ Most of the composition maps         ✓ Rainfall/precipitation maps       ☐ Gage	ber:
Hydrogeomorphic	Floodplain Units
Active Floodplain	Low Terrace
	T
	/ /
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floo	
<ol> <li>Walk the channel and floodplain within the study area vegetation present at the site.</li> <li>Select a representative cross section across the channel.</li> <li>Determine a point on the cross section that is characte a) Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth floodplain unit.</li> </ol>	Draw the cross section and label the floodplain units. ristic of one of the hydrogeomorphic floodplain units.
c) Identify any indicators present at the location.	a 11' '
4. Repeat for other points in different hydrogeomorphic	floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record Mapping on aerial photograph	Time OH wivi position via.  ☐ GPS
Digitized on computer	Other:

Project ID: 3219 Cross section ID:	1-24	Date: 3/19	Time: 1135
Cross section drawing:			
્રમ <b>ા</b>	<b>⊭</b> 4		
V		X	
	<b>W</b>	<b>X</b>	
	**************************************		
<b>↑</b>	Transaction of the	u. / a.\	
1 on fu (a)	}	3,	
<u>OHWM</u>			
GPS point: 115 558519 3743657			
Tu Handaue			
Indicators:  Change in average sediment texture	□ Bro	eak in bank slope	
Change in vegetation species			
Change in vegetation cover	Otl	her:	
Comments:			
Floodplain unit: A Low-Flow Channel	Ac	tive Floodplain	Low Terrace
	_	•	
GPS point: // 5 558522 , 37436 <b>5</b> 6			
Characteristics of the floodplain unit:			
Average sediment texture: Media Sand Total veg cover: % Tree: % Sh	- hrub:	% Herb: 10 %	<b>%</b>
Community successional stage:		_	
□NA		d (herbaceous, shru	
Early (herbaceous & seedlings)	L La	te (herbaceous, shru	ibs, mature trees)
- W			
Indicators:  Mudcracks	□ So	il development	
Ripples	_	rface relief	
Drift and/or debris	_	her:	
Presence of bed and bank		ner:	
☐ Benches	☐ Otl	her:	
Comments:			
Two low Flow change	ele emillia	in OHWM	
, see a see a see a see a see a see a see a see a see a see a see a see a see a see a see a see a see a see a		7 1 -w -	

Project ID: 3219 Cross section II	D: 1-24	Date: 3/19	Time: 11:35
Floodplain unit: Low-Flow Channe	1	Active Floodplain	★ Low Terrace
		•	
GPS point: 115 556529 mE, 3743	653 m h	7	
Characteristics of the floodplain unit:			
Average sediment texture: sand Total veg cover: % Tree: %	Charles	/5 0/ Horb: /5 0/	
Community successional stage:	Sillub: _	70 Helb. 17 70	
NA	<b>&gt;</b>	Mid (herbaceous, shrub	s. saplings)
Early (herbaceous & seedlings)		Late (herbaceous, shrub	
		•	
Indicators:	r <del></del>	1	
Mudcracks	<u>_</u>	Soil development	
☐ Ripples	F	Surface relief	
☐ Drift and/or debris☐ Presence of bed and bank	<u> </u>	Other:	<del></del>
Benches	<u> </u>	Other:	
Comments:			
	. –	1	
Floodplain unit: Low-Flow Channe	l L	Active Floodplain	Low Terrace
GPS point:			
di 5 point.			
Characteristics of the floodplain unit:			
Average sediment texture:			
Total veg cover:% Tree:%	Shrub: _	% Herb:%	
Community successional stage:		Mid (herbaceous, shrub	c conlinge)
☐ NA☐ Early (herbaceous & seedlings)	<u> </u>	Late (herbaceous, shrub	
Larry (nervaceous & securings)	L	Date (nerodecous, sindo	s, matare a cos,
Indicators:			
☐ Mudcracks		Soil development	
Ripples		Surface relief	
Drift and/or debris	Ļ	Other:	
Presence of bed and bank	<u></u>	Other:	
Benches		Other:	
Comments:			
I .			

Project: 1000 Palms	Date: 3/19 Time: 11:40
Project Number: 3714	Town: Thursd Palm, State: cq
Stream:  -25	Photo begin file#: 69 Photo end file#: 76
Investigator(s): J. word	
Y ⊠ / N ☐ Do normal circumstances exist on the site?	Location Details:
Y \( \sum / N \( \nabla \) Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel syst	em:
Nine	
Brief site description:	
leach 1, apporx. 0.36 miles E of	Via Les Palmas
Checklist of resources (if available):	
Aerial photography Stream gag	e data
Dates: 6/96 · 8/18 Gage numl	
Topographic maps Period of r	
· · · · · ·	y of recent effective discharges
	s of flood frequency analysis
	ecent shift-adjusted rating
<del>-</del> -	neights for 2-, 5-, 10-, and 25-year events and the
	ecent event exceeding a 5-year event
Global positioning system (GPS)	• .
Other studies	
Hydrogeomorphic F	Floodplain Units
, Active Floodplain	, Low Terrace
Low-Flow Channels	/ / OHWM Paleo Channel
Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area	·
vegetation present at the site.	
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is character	istic of one of the hydrogeomorphic floodplain units.
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the
floodplain unit.	•
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic fl	oodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record	
Mapping on aerial photograph	GPS
Digitized on computer	Other:

Project ID: 3219 Cross section ID:	1.25	Date: 3/19	Time: 11:40
Cross section drawing:			
Closs section diaming.			
actuand			
	1		
**	<u></u>	And the second section of the second section is a second section of the second section section is a second section sec	
<b>)</b>			
law-flow	+ 31		
•			
OHWM			
<u>Onwm</u>			
GPS point: 11 5 558559 mE, 3743648	m N		
Indicators:			
Change in average sediment texture	Bı	eak in bank slope	
Change in vegetation species	□ O1	her:	
Change in vegetation cover	_	her:	
y change in vegetation cover	□ •.		
Comments:			
,			
Paring defined			
,			
		· · · · · · · · · · · · · · · · · · ·	
Floodplain unit:	□ A	tive Floodplain	Low Terrace
GPS point: 115 558560 m E, 3743647 mN			
Characteristics of the floodplain unit:			
Average sediment texture: Median Sand			
Total veg cover: % Tree: % Shi	mb: /0	% Herb: 10 %	
	<b>.</b>		
Community successional stage:	Πм	id (herbaceous, shrubs	canlings)
∐ NA			
Early (herbaceous & seedlings)	L	te (herbaceous, shrubs	s, mature trees)
Indicators:			
☐ Mudcracks		il development	
⊠ Ripples	□ Si	rface relief	
Drift and/or debris		her:	
Presence of bed and bank	$\Box$	her:	
Benches	H ŏ	her:	
Comments:			
		La Stan	
Several old broads, and	active	tem with	

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Project ID: 3219	Cross section ID:	1-25	Date: 3/19	Time: 11:40
Floodplain unit:	Low-Flow Channel	☐ Act	ive Floodplain	Low Terrace
			•	
GPS point: 11 5 55	8556 ME, 3743648	3 mN		
Characteristics of the				
Average sediment tex	sture: Con-ce 5 md			
Total veg cover:	% Tree:% S	hrub: _ <b>~&gt;</b> _	% Herb: <u>///</u> %	
Community succession	onal stage:	Mi.	l (hambaaaaua ahmuba	(canlings)
│ │ │ NA │ │ □ Farly (harba	ceous & seedlings)		l (herbaceous, shrubs e (herbaceous, shrubs	
Larry (nervan	Leous & securings)		c (nerbaccous, sinubs	s, mature trees)
Indicators:				
Mudcracks		☐ Soi	l development	
☐ Ripples		☐ Sur	face relief	
☐ Drift and/or	debris	Oth	er:	
1 —	bed and bank	∐ Oth	er:	· 
★ Benches		U Oth	er:	
Comments:				
				·
Floodploin unit:	Low-Flow Channel		ive Floodplain	Low Terrace
riodipiam unit.	Low-Plow Chamier	L. Act	ive i loodplaili	Bow Tenace
GPS point:				
		*		
Characteristics of the				
Average sediment tex	ture:	<del>.</del> .	0/ 111 0/	
	% Tree:% S	hrub:	% Herb:%	
Community succession	onal stage:	□мі	d (herbaceous, shrubs	e canlings)
□ NA □ Forty (horbo	ceous & seedlings)		e (herbaceous, shrubs	
Early (lierbar	seous & seedinigs)		c (nerbaccous, sinub	s, mature trees)
Indicators:				
☐ Mudcracks		☐ Soi	l development	
Ripples			face relief	
☐ Drift and/or	debris	Oth	er:	
Presence of	bed and bank	U Oth	ier:	
☐ Benches		☐ Oth	er:	
Comments:				

Project: 1000 Palms	Date: 3/19 Time: 12:20
Project Number: 3219	Town: Thomas Ring State: CA
Stream: 2-1	Photo begin file#: 71 Photo end file#: 72
Investigator(s): J. Wood	
Y N Do normal circumstances exist on the site?	Location Details:
Y / N / Is the site significantly disturbed?	Projection: Datum: Coordinates:
Potential anthropogenic influences on the channel sys	tem:
Some influence from vouds on later	nction character and good functions.
District the second sec	
Brief site description:  Rouch Z. just E of Virta Ral Ora a.	nd 0.45 mils N of Roman
Koach Z. Just E at VITTA RET	, , , , , , , , , , , , , , , , , , , ,
Checklist of resources (if available):	
Aerial photography Stream gag	ge data
Dates: Gage num	•
Topographic maps Period of a	
	ry of recent effective discharges
<del>                                   </del>	ts of flood frequency analysis
	recent shift-adjusted rating
	heights for 2-, 5-, 10-, and 25-year events and the
<u> </u>	recent event exceeding a 5-year event
Global positioning system (GPS)	Ç ,
Other studies	
Hydrogeomorphic	Floodplain Units
Active Floodplain	, Low Terrace ,
- Tours i ioospiani	
Low-Flow Channels	OHWM Paleo Channel
Procedure for identifying and characterizing the floor	dplain units to assist in identifying the OHWM:
1. Walk the channel and floodplain within the study area	
vegetation present at the site.	
2. Select a representative cross section across the channel.	Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is character	ristic of one of the hydrogeomorphic floodplain units.
a) Record the floodplain unit and GPS position.	
b) Describe the sediment texture (using the Wentworth	class size) and the vegetation characteristics of the
floodplain unit.	,
c) Identify any indicators present at the location.	
4. Repeat for other points in different hydrogeomorphic	floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record	the OHWM position via:
Mapping on aerial photograph	
Digitized on computer	Other:
Digitized on computer	

Project ID: 3219	Cross section ID: 7	<u> </u>	Date: 3/19	Time: 12.20
Cross section drawing	<b>;</b> :			
W.	law fur 261			
<u>OHWM</u>				
GPS point: 1) 55%265	mE, 3742712 MN			
Indicators:	ation species	Other:	oank slope	
Comments:				
Floodplain unit: X	Low-Flow Channel	Active Flo	oodplain [	Low Terrace
GPS point: 115 SS826	3 mE, 3742710 mN			
Characteristics of the flo Average sediment texture	odplain unit: e: FieSand % Tree:% Shru stage:	☐ Mid (herb	Herb:70_%  paceous, shrubs, so paceous, shrubs, r	
Indicators:  ☐ Mudcracks ☐ Ripples ☐ Drift and/or deb ☐ Presence of bed ☐ Benches		U Other:		
Comments:				

	):7-1- Date: 3/19 1	ime: 12:20
Floodplain unit:	Active Floodplain 🗷 L	ow Terrace
GPS point: 11 5 \$56269 3742715		
Of 5 points Ry 350201, 374275		
Characteristics of the floodplain unit:		
Average sediment texture: Coarse sand	C11. 7 \$ 0/ II1. ** • 0/	
Total veg cover:% Tree:%	Shrub: 20 % Herb: 70 %	
Community successional stage:	NG 4 (books a consistent by continu	~~)
	Mid (herbaceous, shrubs, sapling	
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature	e trees)
Indicators:		
<u></u> Mudcracks	Soil development	
Ripples	Surface relief	
☐ Drift and/or debris	Other:	
Presence of bed and bank	Other:	
★ Benches	Other:	
Comments:		
Comments.		
·		
Floodplain units	Active Fleedulein I	OM Tarraga
Floodplain unit:	☐ Active Floodplain ☐ L	ow Terrace
	☐ Active Floodplain ☐ L	ow Terrace
Floodplain unit:	☐ Active Floodplain ☐ L	ow Terrace
GPS point:	☐ Active Floodplain ☐ L	ow Terrace
GPS point:  Characteristics of the floodplain unit:	☐ Active Floodplain ☐ L	ow Terrace
GPS point:  Characteristics of the floodplain unit: Average sediment texture:		ow Terrace
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover:% Tree:%		ow Terrace
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:	Shrub:% Herb:%	
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling	gs)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:	Shrub:% Herb:%	gs)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover:% Tree:%  Community successional stage:  NA Early (herbaceous & seedlings)	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling	gs)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)	gs)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development	gs)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature Soil development Surface relief	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: %  Community successional stage:  NA Early (herbaceous & seedlings)  Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Shrub:% Herb:%  Mid (herbaceous, shrubs, sapling Late (herbaceous, shrubs, mature)  Soil development Surface relief Other:Other:	gs) e trees)

Projection:	Project: 1000 Palms	Date: 3/19 Time: 12:31		
Photo begin file#: 74 Photo end file#: 74 Investigator(s): 3. Seed to the site?    Projection:				
Investigator(s): 3.   John	l a	~ **		
V   / N   Do normal circumstances exist on the site?   Coation Details:   Reach   Z   Projection:   Datum:   Coordinates:   Projection:		Thoso begin men. 13 Thoso end men. 14		
Projection: Coordinates:  Potential anthropogenic influences on the channel system:  Some off multiplication in the projection of the description:  Rench Z , just NE of SCE Substation  Checklist of resources (if available):  Acrial photography Dates: 6/04 - 8/18 Topographic maps Geologic maps Wegetation maps Soils maps Soils maps Soils maps Soils maps Soils maps Checklist of flood frequency analysis Checklist of flood float beautifying and the most recent event exceeding a 5-year event and the most recent event exceeding a 5-year event within the study area to get an impression of the geomorphology and vegetation present at the site.  Checklist of resources (if available):  Checklist of resources (if available):  Stream gage data Gage number: Period of record: Gage number: Period of record: Geologic maps History of recent effective discharges History of recent effective discharges Gage number:  Otherwise of flood frequency analysis History of recent effective discharges History of		l		
Brief site description:   Resh 2	Y / N   Is the site significantly disturbed? Projection: Datum:			
Brief site description:   Resh 2	Potential anthropogenic influences on the channel syst	tem:		
Checklist of resources (if available):  Aerial photography		al road in trainge.		
Checklist of resources (if available):  Aerial photography Dates: 6/91 - 9/18 Topographic maps Geologic maps Vegetation maps Soils maps Rainfall/precipitation maps Gage number: Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain  Active Floodplain units to assist in identifying the OHWM:  Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  Select a representative cross section across the channel. Draw the cross section and label the floodplain units. a) Record the floodplain unit and GPS position.  By Checklist of record: History of recent effective discharges History of recent effective discharges History of recent effective discharges History of recent effective discharges Gage number: History of recent effective discharges History of r	•			
Aerial photography Dates: 6/04 - 8/18 Topographic maps Topographic maps Vegetation maps Soils maps Rainfall/precipitation maps Rainfall/precipitation maps Risting delineation(s) for site Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain Hydrogeomorphic Floodplain units to assist in identifying the OHWM:  Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location.	Reach Z, just NE of SCE substant	<b>&gt;</b>		
Aerial photography Dates: 6/04 - 8/18 Topographic maps Topographic maps Vegetation maps Soils maps Rainfall/precipitation maps Rainfall/precipitation maps Risting delineation(s) for site Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain Hydrogeomorphic Floodplain units to assist in identifying the OHWM:  Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location.	Checklist of resources (if available):			
Dates: 6/42 - 8/18 Topographic maps Period of record: Geologic maps Vegetation maps Nost recent effective discharges Nost recent shift-adjusted rating Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year events and the most recent event exceeding a 5-year event Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units Active Floodplain  Nalk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site. Select a representative cross section across the channel. Draw the cross section and label the floodplain units. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location.	`	e data		
Geologic maps Vegetation maps Soils maps Results of flood frequency analysis Most recent shift-adjusted rating Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain  Low Terrace  Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  Select a representative cross section across the channel. Draw the cross section and label the floodplain units. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units. Results of flood frequency analysis Most recent event exceeding a 5-year event  Most recent event exceeding a 5-year event  Hydrogeomorphic Floodplain Units  Active Floodplain units to assist in identifying the OHWM:  Low Terrace  Hydrogeomorphic Floodplain units to assist in identifying the OHWM:  Nalk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  Select a representative cross section across the channel. Draw the cross section and label the floodplain units. Record the floodplain unit and GPS position. Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. Cildentify any indicators present at the location.	Dates: 6/96 - 8/18 Gage numb	per:		
Negetation maps	Topographic maps Period of re	ecord:		
Soils maps		y of recent effective discharges		
Soils maps	✓ Vegetation maps	s of flood frequency analysis		
Existing delineation(s) for site most recent event exceeding a 5-year event Global positioning system (GPS) Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain Low Terrace  Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position. b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit. c) Identify any indicators present at the location.	★ Soils maps Most read	ecent shift-adjusted rating		
Global positioning system (GPS)  Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain  Low Terrace  Low Terrace  Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  c) Identify any indicators present at the location.		eights for 2-, 5-, 10-, and 25-year events and the		
Other studies  Hydrogeomorphic Floodplain Units  Active Floodplain  Low Terrace  Low Terrace  OHWM Paleo Channel  Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  c) Identify any indicators present at the location.	· <del></del>	ecent event exceeding a 5-year event		
Hydrogeomorphic Floodplain Units  Active Floodplain  Low Terrace  Low Terrace  DHWM Paleo Channel  Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  c) Identify any indicators present at the location.				
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Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  c) Identify any indicators present at the location.	Hydrogeomorphic F	loodplain Units		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:  1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.  2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.  3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.  a) Record the floodplain unit and GPS position.  b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.  c) Identify any indicators present at the location.	. Active Floodplain	. Low Terrace .		
<ol> <li>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</li> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>Identify any indicators present at the location.</li> </ol>				
<ol> <li>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</li> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>Identify any indicators present at the location.</li> </ol>	,	i de		
<ol> <li>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</li> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>Identify any indicators present at the location.</li> </ol>				
<ol> <li>Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:</li> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>Record the floodplain unit and GPS position.</li> <li>Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>Identify any indicators present at the location.</li> </ol>				
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<ol> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.         <ul> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul> </li> </ol>	Low-Flow Channels	OHWM Paleo Channel		
<ul> <li>vegetation present at the site.</li> <li>2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul>	Procedure for identifying and characterizing the flood	plain units to assist in identifying the OHWM:		
<ul> <li>3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul>		o get an impression of the geomorphology and		
<ul> <li>3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul>	<u> </u>			
<ul> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul>				
<ul><li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li><li>c) Identify any indicators present at the location.</li></ul>		, , ,		
floodplain unit. c) Identify any indicators present at the location.	· · · · · · · · · · · · · · · · · · ·	class size) and the vegetation characteristics of the		
c) Identify any indicators present at the location.		,		
	·			
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.		oodplain units across the cross section.		
5. Identify the OHWM and record the indicators. Record the OHWM position via:				
Mapping on aerial photograph GPS		·		
Digitized on computer    Other:	Digitized on computer	Other:		

Project ID: 3219 Cross section ID:	2-2	Date: 3/A	Time: 12:31
Cross section drawing:			
	6.7		
¥ 141	-ma		The second secon
	The state of the s	Control of the second control of the second	and Salar and American Salar and
	1.	<b>1</b>	
	ion flu	10w Sim	
	/2 '	€'	
OHWM			
GPS point: 115 \$\$\$455 m E, 374249;	m N.		
For Allen of a con-			
Indicators:  ☑ Change in average sediment texture	□ Rre	ak in bank slope	
Change in vegetation species		er:	
	Oth	er:	
Comments:			
Floodplain unit: 🗷 Low-Flow Channel	Act	ive Floodplain	☐ Low Terrace
		•	
GPS point: <u>   \$ \$\$<b>846</b>  m E 3742</u> 50	1 mN		
Cl			
Characteristics of the floodplain unit:  Average sediment texture: Fine Sent			
	hrub: 🗲 '	% Herb: <u>/0</u> %	
Community successional stage:			
□ NA		(herbaceous, shrubs	
☐ Early (herbaceous & seedlings)	Late	e (herbaceous, shrubs	s, mature trees)
Indicators:			
Muderacks	☐ Soil	development	
∑ Ripples	☐ Suri	face relief	
▶ Drift and/or debris	Oth	er:	
Presence of bed and bank	U Oth	er:	
Benches	U Oth	er:	none — mint it is a second
Comments:			

Project ID: 3219 Cross section	n ID: 7-2	Date: 3/19	Time: 12/3/
Floodplain unit:	nnel 🔲	Active Floodplain	Low Terrace
		•	
GPS point: 115 SSEUS4, 374.	2496 m N		
Characteristics of the floodplain unit:	,		
Average sediment texture:		0/ 11 1 🖷 0/	
Total veg cover: % Tree:	_% Shrub: <u>7</u>	<u>o</u> % Herb: <u>70</u> %	
Community successional stage:	·	MCA (handararana alam la	10
NA  Fouly (howboseous & soudlines)		Mid (herbaceous, shrubs Late (herbaceous, shrub	, <u>,</u> , ,
Early (herbaceous & seedlings)		Late (nerbaceous, sinub	s, mature trees)
Indicators:			
Mudcracks		Soil development	
Ripples		Surface relief	
☐ Drift and/or debris		Other:	
☐ Presence of bed and bank		Other:	
Benches		Other:	
Comments:			
Floodplain unit: Low-Flow Cha	nnel $\square$	Active Floodplain	Low Terrace
GPS point:			
or a point.			
Characteristics of the floodplain unit:			
Average sediment texture:			
Total veg cover: % Tree:	% Shrub:	% Herb: %	,
Community successional stage:			
□ NA		Mid (herbaceous, shrubs	
☐ Early (herbaceous & seedlings)		Late (herbaceous, shrub	s, mature trees)
Indicators:		0.11.1	
Mudcracks		Soil development	
Ripples		Surface relief	
Drift and/or debris		Other:	
Presence of bed and bank Benches		Other:	
		Other:	
Comments:			

Project: 1000 Palme	Date: 3/19 Time: \3:00		
Project Number: 3219	Town: Thousand Palms State: CA		
Stream: 3-1	Photo begin file#: 75 Photo end file#: 76		
Investigator(s): J. Wood			
Y 🗷 / N 🗌 Do normal circumstances exist on the site?	Location Details:		
Y ☐ / N ⋈ Is the site significantly disturbed?	Projection: Datum: Coordinates:		
Potential anthropogenic influences on the channel syst	tem:		
Some valuele use in durings. Flows from Ramon Rd. seems to accumulate and flow into inis durings.			
Reach 3 - 0.5 mils S of Roman & must upstrain froms	ed. Large drawings that emories		
✓ Vegetation maps       ☐ Result         ✓ Soils maps       ☐ Most i         ✓ Rainfall/precipitation maps       ☐ Gage i	ber:		
Hydrogeomorphic	Floodplain Units		
	, Low Terrace ,		
Low-Flow Channels OHWM Paleo Channel			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:			
<ol> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.         <ul> <li>a) Record the floodplain unit and GPS position.</li> <li>b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.</li> <li>c) Identify any indicators present at the location.</li> </ul> </li> <li>Repeat for other points in different hydrogeomorphic floodplain units across the cross section.</li> <li>Identify the OHWM and record the indicators. Record the OHWM position via:         <ul> <li>Mapping on aerial photograph</li> <li>GPS</li> </ul> </li> </ol>			
☐ Mapping on aerial photograph ☐ GPS ☐ Digitized on computer ☐ Other:			
	J Outd.		

Project ID: 3219 Cross section ID	): 3-1 Date: 3/19 Time: 13:00
Floodplain unit:	☐ Active Floodplain ☑ Low Terrace
GPS point: 11 5 SS9046 m F, 374115	7mN
Characteristics of the floodplain unit:	
Average sediment texture: Medium sand	<b>a</b>
Total veg cover: % Tree: %	Shrub: 20 % Herb: 20 %
Community successional stage:	
□ NA	Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)	Late (herbaceous, shrubs, mature trees)
To die ataura	
Indicators:  Mudcracks	Soil development
Ripples	Surface relief
Drift and/or debris	Other:
Presence of bed and bank	Other:
■ Benches	Other:
Comments:	
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
CDG 1.4	
GPS point:	
Characteristics of the floodplain unit:	
Average sediment texture:	
Total veg cover:% Tree:%	Shrub:% Herb:%
Community successional stage:	
☐ NA☐ Early (herbaceous & seedlings)	<ul><li>Mid (herbaceous, shrubs, saplings)</li><li>Late (herbaceous, shrubs, mature trees)</li></ul>
Larry (nervaceous & securings)	Late (nerbaccous, sinuos, mature nees)
Indicators:	
☐ Mudcracks	Soil development
Ripples	Surface relief
Drift and/or debris	Other:
Presence of bed and bank	Other:
Benches	Other:
Comments:	

Project: 1000 Palm,	Date: 12/11/2019 Time: 12:15		
Project Number: 3219	Town: Thousand Palms State: cht		
Stream:	Photo begin file#: Photo end file#:		
Y \( \) Do normal circumstances exist on the site?	Location Details:		
Y / N Is the site significantly disturbed?	Projection: Datum:		
Potential anthropogenic influences on the channel sys	Coordinates: 11 5 559 535 3740 656		
Roads and lexees upstran are directing or ducting flows.			
Brief site description:			
Approx. 0.6 miles NW of Xarrer School.			
☐ Vegetation maps       ☐ Result         ☐ Soils maps       ☐ Most in a simple for the simple f	ber:		
Hydrogeomorphic	Floodplain Units		
Active Floodplain  Low Terrace  Low-Flow Channels  OHWM Paleo Channel			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:			
<ol> <li>Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.</li> <li>Select a representative cross section across the channel. Draw the cross section and label the floodplain units.</li> <li>Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.</li> <li>Record the floodplain unit and GPS position.</li> </ol>			
b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.			
<ul> <li>c) Identify any indicators present at the location.</li> <li>4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.</li> <li>5. Identify the OHWM and record the indicators. Record the OHWM position via:</li> </ul>			
<ul> <li>☐ Mapping on aerial photograph</li> <li>☑ Digitized on computer</li> <li>☐ Other:</li> </ul>			

Project ID: 32 9 Cross section ID:  Floodplain unit:  Low-Flow Channel	3-2 Date: 12/11/2019 Time: 1230  Active Floodplain   Low Terrace
GPS point: 115 SS9564, 3740654	Z Active Floodplain
Characteristics of the floodplain unit:  Average sediment texture: Med. 511+  Total veg cover: Med. 511+  Total ve	hrub:
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:
Comments:	andi Also clear on secural
Recont evidence of the was	ponding. Also clear on secural
5	
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
GPS point: Characteristics of the floodplain unit:	
Average sediment texture:  Total veg cover: % Tree: % Si  Community successional stage:  NA  Early (herbaceous & seedlings)	hrub:% Herb:%  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)
Total veg cover:% Tree:% Si Community successional stage:  NA	☐ Mid (herbaceous, shrubs, saplings)

Project: 1000 Palms	Date: 12/11/2019 Time: 1030	
Project Number: 3219	Town: Thankand Polns State: CA	
Stream:	Photo begin file#: Photo end file#:	
Investigator(s): J. wood / C. Huntley		
Y / N Do normal circumstances exist on the site?	Details: S of Ave. 38th and  O.b. miks w of Weshington St.  Projection:  Datum:	
Y ⋈ / N ☐ Is the site significantly disturbed?	Projection: Datum: Coordinates:    5 563540 3737684	
Potential anthropogenic influences on the channel system:		
Ave. 38th, wind rows, and historic obvelyant may be altery		
flow in the own.		
Brief site description:		
Large sand find south of Ave. 32th, old wind rows running north to south.		
Checklist of resources (if available):		
	ge data	
Dates: 1476, 1977, 1996, 2002, 2005 Gage num  Topographic maps Zong - 2 ong Period of r	ecord:	
	y of recent effective discharges	
☐ Vegetation maps ☐ Result	s of flood frequency analysis	
☐ Soils maps ☐ Most r	ecent shift-adjusted rating	
Rainfall/precipitation maps Gage l	neights for 2-, 5-, 10-, and 25-year events and the	
Existing delineation(s) for site most r	ecent event exceeding a 5-year event	
Global positioning system (GPS)		
Other studies		
Hydrogeomorphic F	Floodplain Units	
, Active Floodplain	Low Terrace	
	<b>*</b>	
	OUNDA Beleg Charact	
Low-Flow Channels OHWM Paleo Channel		
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:		
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and		
vegetation present at the site.		
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.		
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.		
a) Record the floodplain unit and GPS position. b) Describe the sediment toyture (using the Wentworth class size) and the vegetation characteristics of the		
b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the		
floodplain unit.		
c) Identify any indicators present at the location.  A Repeat for other points in different hydrogeomorphic floodplain units across the cross section.		
<ul><li>4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.</li><li>5. Identify the OHWM and record the indicators. Record the OHWM position via:</li></ul>		
S. Identify the OH wM and record the indicators. Record the OH wM position via:    Mapping on aerial photograph		
Digitized on computer		
Digitized on computer	Ould.	

Project ID: 3219 Cross section ID: 4-1 Date: 12/11/2019 Time: 10 30
Cross section drawing:
Active Floodplan
n
dry cricked soil
<u>OHWM</u>
GPS point: 11 5 563540, 3737084
Indicators:       Image: Image: Change in average sediment texture in a very sediment texture in the control of the
Comments:
Floodplain unit:    Low-Flow Channel    Active Floodplain    Low Terrace
GPS point: 115 S63558, 3737083
Characteristics of the floodplain unit:
Average sediment texture: Five 50-4  Total veg cover: 35 % Tree: 0 % Shrub: 0 % Herb: 35 %
Community successional stage:
☐ NA ☐ Mid (herbaceous, shrubs, saplings)
Early (herbaceous & seedlings)  Late (herbaceous, shrubs, mature trees)
Indicators:
<ul><li>☐ Mudcracks</li><li>☐ Ripples</li><li>☐ Soil development</li><li>☐ Surface relief</li></ul>
Drift and/or debris Other:
Presence of bed and bank University Other:
Benches Other:
Comments:

	1 ID: 4-1 Date: 12/11/2019 Time: 1630
Floodplain unit:	nnel 🗷 Active Floodplain 🗌 Low Terrace
GPS point: 11 5 563 513 , 3737 09	<u>₹1</u>
Characteristics of the floodplain unit:  Average sediment texture: Ned Silt  Total veg cover: 20 % Tree: 0 Community successional stage:  NA  Early (herbaceous & seedlings)	% Shrub: 6 % Herb: 20 %  Mid (herbaceous, shrubs, saplings)
Indicators:  Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:
Comments:	in 1976. More necest flows have
model of silt and nosult	in 1976. More necest flows have
wested 311 state	, , , , , , , , , , , , , , , , , , , ,
Floodplain unit:	nnel
GPS point:	
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree:	
GPS point: Characteristics of the floodplain unit: Average sediment texture:	
Characteristics of the floodplain unit:  Average sediment texture:  Total veg cover: % Tree: Community successional stage:  NA	% Shrub:% Herb:%  Mid (herbaceous, shrubs, saplings)

Project: 1000 Palms	Date: 12/11/2019 Time: 0930		
Project Number: 3219	Town: Thousand Palms State: CA		
Stream:	Photo begin file#: Photo end file#:		
Investigator(s): J. Wood / C. Huntley			
Y / N Do normal circumstances exist on the site?	Location Details: South of 38th Ave,  W of Washington St.  Projection: Datum:		
Y [] / N [] Is the site significantly disturbed?	Projection: Datum:  Coordinates: 33.772153 , -116 306830		
Potential anthropogenic influences on the channel syst	tem:		
Ave. 35th may be aftering the flow	patterns from the north.		
Ave. 35th may be aftering the flow patterns from the north.  Development to the south has channelized the features and conveys flows east.			
Brief site description:  Large sand field Just south of Ave. 38th. Old wind rows with  wind-blown sounds running worth to south.			
Checklist of resources (if available):			
Aerial photography			
Dates: 1976,1977,1996, 2002, 2005, Gage num			
Topographic maps 2009 - 2018 Period of r			
	y of recent effective discharges		
	s of flood frequency analysis		
	recent shift-adjusted rating		
	neights for 2-, 5-, 10-, and 25-year events and the		
1	ecent event exceeding a 5-year event		
Global positioning system (GPS)			
Other studies			
Hydrogeomorphic F	Floodplain Units		
Active Floodplain	Low Terrace		
Low-Flow Channels OHWM Paleo Channel			
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:			
Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.			
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.			
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.			
a) Record the floodplain unit and GPS position.			
b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.			
c) Identify any indicators present at the location.			
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.			
5. Identify the OHWM and record the indicators. Record the OHWM position via:			
Mapping on aerial photograph			
Digitized on computer	Other:		
E il Digitized on computer	Our.		

Project ID: 3219	Cross section ID:	4-2	Date:	12/11/2019	Time: 0930
Cross section draw	ng:				
- w	nd - blown				
	Soud Polan of	d			_
	Paleo ch		1 cracked so	si .	
		-	J.		
OTHYM					
<u>OHWM</u>					
GPS point: 115 569	1203, 3737109				
T . 1'	*				
Indicators:	erage sediment texture	Brea	ak in bank sl	ope	
Change in ve	getation species	Oth	er:		
Change in ve	getation cover	☐ Oth	er:		
C					
Comments:	11 11 ha delect	in the	field.	Mapped	at odge
OHWAY IS OF	Strent to detect	lient c	lastres .		10 1
	Market March 2	ing in	in ign	n leget	the and
sed, went.					
Floodplain unit:	Low-Flow Channel	Act	ive Floodpla	in 🔀	Low Terrace
GPS point: 115 5	64203 3737109				
Characteristics of the Average sediment text					
Total veg cover: 30	% Tree: 0 % Sh	rub: _59	% Herb: _	25%	
Community succession	nal stage:	San Arti	1.71 - 1		, !!>
☐ NA☐ Farly (herbac	eous & seedlings)			s, shrubs, sapl s, shrubs, mat	
	cous & securings)		(1101040004	o, om 400, ma	
Indicators:  Mudcracks		□ ca:	davalamma		
Ripples			development face relief	ıı	
Drift and/or of		Oth	er:		
Presence of b	ed and bank		er:		
_			OI.		-
Comments:					
1					

Project ID: 3219 Cross section ID: 4	Date: 12/11/2019 Time: 1000
Floodplain unit:	
GPS point: 11 5 564183 3737109	
Characteristics of the floodplain unit:  Average sediment texture: Silvy soud  Total veg cover: Zo % Tree: O % Shrub  Community successional stage:  NA  Early (herbaceous & seedlings)	Herb: 15 %  Mid (herbaceous, shrubs, saplings)  Late (herbaceous, shrubs, mature trees)
Indicators:  Mudcracks  Ripples  Drift and/or debris  Presence of bed and bank  Benches	Soil development Surface relief Other: Other:
Comments:	and dues not appear to have
Aren recieved storm flows in 197 had any large flows since this with cracked soils and neman	6 and does not appear to have, time. It has isolated player to flow lines.
Floodplain unit:	☐ Active Floodplain ☐ Low Terrace
Characteristics of the floodplain unit:	
Average sediment texture:  Total veg cover:% Tree:% Shrub	:% Herb:%
Community successional stage:  NA Early (herbaceous & seedlings)	☐ Mid (herbaceous, shrubs, saplings) ☐ Late (herbaceous, shrubs, mature trees)
Indicators:	
Mudcracks Ripples Drift and/or debris Presence of bed and bank Benches	Soil development Surface relief Other: Other: Other:
Comments:	
	*





Photo 1: Downstream view of drainage 1-5 within Reach 1.



Photo 2: Upstream view of drainage 1-9 within Reach 1.



Reach 3: Upstream view of small unnamed drainages along the west side of Desert Moon Drive within Reach 1.



Photo 4: Upstream view of drainage 1-21 within Reach 1.



Photo 5: Upstream view of drainage 3-1 within Reach 3.



 $Photo \, 6: \, View \, of \, cracked \, soil \, along \, drainage \, 1\text{-}10, just \, downstream \, of \, the \, Reach \, 1 \, impact \, area.$ 



Photo 7: View of wetland sample location 1 within Reach 1.



Photo 8: View of soil cross-section from within Wetland Sample Location 2 within Reach 2.

# Attachment E - Federal Waters and Wetlands Delineation Methods

## **Federal Non-Wetland Waters Delineation Methods**

Jurisdictional non-wetland "waters of the U.S." were delineated based on the limits of the ordinary highwater marks (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or debris, and vegetation characteristics. Geomorphic and vegetative indicators used are presented in Tables 1 and 2.

Table 1. Potential Geomorphic Indicators of Ordinary High-Water Marks for the Arid West			
(A) Below OHW	(B) At OHW	(C) Above OHW	
(A) Below OHW  1. In-stream dunes 2. Crested ripples 3. Flaser bedding 4. Harrow marks 5. Gravel sheets to rippled sands 6. Meander bars 7. Sand tongues 8. Muddy point bars 9. Long gravel bars 10. Cobble bars behind obstructions 11. Scour holes downstream of obstructions 12. Obstacle marks	(B) At OHW  1. Valley flat 2. Active floodplain 3. Benches: low, mid, most prominent 4. Highest surface of channel bars 5. Top of point bars 6. Break in bank slope 7. Upper limit of sand-sized particles 8. Change in particle size distribution 9. Staining of rocks 10. Exposed root hairs below intact soil layer 11. Silt deposits 12. Litter (organic debris, small twigs and	1. Desert pavement 2. Rock varnish 3. Clast weathering 4. Salt splitting 5. Carbonate etching 6. Depositional topography 7. Caliche rubble 8. Soil development 9. Surface color/tone 10. Drainage development 11. Surface relief 12. Surface rounding	
<ul> <li>13. Stepped-bed morphology in gravel</li> <li>14. Narrow berms and levees</li> <li>15. Streaming lineations</li> <li>16. Desiccation/mud cracks</li> <li>17. Armored mud balls</li> <li>18. Knick Points</li> </ul>	leaves) 13. Drift (organic debris, larger than twigs)		

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	<ol> <li>Herbaceous marsh species</li> <li>Pioneer tree seedlings</li> <li>Sparse, low vegetation</li> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> </ol>	<ol> <li>Annual herbs, hydromesic ruderals</li> <li>Perennial herbs, hydromesic clonals</li> <li>Pioneer tree seedlings</li> <li>Pioneer tree saplings</li> </ol>	<ol> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal co-dominant</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees w/upland species</li> <li>Late-successional species</li> </ol>
Mesoriparian Indicators	<ul><li>6. Pioneer tree seedlings</li><li>7. Sparse, low vegetation</li><li>8. Pioneer tree saplings</li><li>9. Xeroriparian species</li></ul>	<ul> <li>5. Sparse, low vegetation annual herbs, hydromesic</li> <li>6. ruderals</li> <li>7. Perennial herbs, hydromesic clonals</li> <li>8. Pioneer tree seedlings</li> <li>9. Pioneer tree saplings</li> <li>10. Xeroriparian species</li> <li>11. Annual herbs, xeric ruderals</li> </ul>	<ol> <li>Xeroriparian species</li> <li>Annual herbs, xeric ruderals</li> <li>Perennial herbs, non-clonal</li> <li>Perennial herbs, clonal and non-clonal codominant</li> <li>Mature pioneer trees, no young trees</li> <li>Mature pioneer trees, xeric understory</li> <li>Mature pioneer trees w/upland species</li> <li>Late-successional species</li> <li>Upland species</li> </ol>

Table 2. Potential Vegetation Indicators of Ordinary High-Water Marks for the Arid West				
(D) Below OHW (E) At OHW (F) Above OHW				
Xeroriparian indicators	<ul><li>10. Sparse, low vegetation</li><li>11. Xeroriparian species</li><li>12. Annual herbs, xeric</li><li>ruderals</li></ul>	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species	

### **Federal Wetland Delineation Methods**

#### Vegetation

Plant species in each stratum (tree, sapling/shrub, herb, and woody vine) were ranked according to their canopy dominance (USACE, 2008). Beginning with the species with the highest coverage, species that contributed to a cumulative coverage total of at least 50 percent and any species that comprised at least 20 percent of the total coverage for each stratum were recorded on the Field Data Sheets (50/20 Rule). The wetland indicator status was assigned to each dominant species using Region 0 in the *List of Plant Species that Occur in Wetlands* and *Summary of Wetland Indicator Status* (Reed, 1988), the California Region in the *National List of Vascular Plant Species That Occur In Wetlands* (National Wetlands Inventory, 1996), and the Arid West Region of the *National Wetland Plan List* (USACE, 2012). As shown below in Table 1, if greater than 50 percent of the dominant species from all strata were Obligate, Facultative-wetland, or Facultative species, the criteria for wetland vegetation were considered to be met.

Table 3. Summary of Wetland Indicator Status			
Category		Probability	
Obligate Wetland	OBL	Almost always occur in wetlands (estimated probability >99%)	
Facultative Wetland	FACW	Usually occur in wetlands (estimated probability of 67–99%)	
Facultative	FAC	Equally likely to occur in wetlands/non-wetlands (estimated probability of 34–66%)	
Facultative Upland	FACU	Usually occur in non-wetlands (estimated probability 67–99%)	
Obligate Upland	UPL	Almost always occur in non-wetlands (estimated probability >99%)	
Non-Indicator	NI	No indicator status has been assigned	

Source: Reed, 1988

#### **Hydrology**

The presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators (USACE, 2008). Indicators such as but not limited to surface water or saturated soils (both Group A indicators) would be recorded if observed within the Review Area. The Arid West Supplement includes two additional indicator groups that can be utilized during dry conditions or in areas where surface water/saturated soils are not present including Group B (evidence of recent inundation) and Group C (evidence of recent soil saturation) (USACE, 2008). The indicators are divided into two categories (primary and secondary indicators) and the presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. These indicators are intended to be one-time observations of site conditions representing evidence of wetland hydrology when hydrophytic veg etation and hydric soils are present (USACE, 2008).

Table 4. Wetland Hydrology Indicators*	
Primary Indicators	Secondary Indicators
Watermarks	Oxidized Rhizospheres Associated with Living Roots
Water-Borne Sediment Deposits	FAC-Neutral Test
Drift Lines	Water-Stained Leaves
Drainage Patterns Within Wetlands	Local Soil Survey Data

<sup>\*</sup>Table adapted from 1987 USACE Manual and Related Guidance Documents.

	Primary Indicator (any one indicator is sufficient to determine that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to determine that wetland hydrology is present)
Group A – Observation of Surface Water		
A1 – Surface Water	Х	
A2 – High Water Table	Х	
A3 – Saturation	Х	
Group B – Evidence of Recent Inundation	1	
B1 – Water Marks	X (Non-riverine)	<b>X</b> (Riverine)
B2 – Sediment Deposits	X (Non-riverine)	<b>X</b> (Riverine)
B3 – Drift Deposits	X (Non-riverine)	<b>X</b> (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 –Water-Stained Leaves	X	
B10 – Drainage	X	Х
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	
Group C – Evidence of Current or Recent	Soil Saturation	
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	
C4 – Presence of Reduced Iron	X	
C6 – Recent Iron Reduction in Tilled Soils	Х	
C7 – Thin Muck Surface	X	
C8 – Crayfish Burrows		X
C9 – Saturation Visible on Aerial Imagery		Х
Group D – Evidence from other Site Cond	itions or Data	
D3 – Shallow Aquitard		Х
D5 – FAC-Neutral Test		X

<sup>\*</sup>Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

#### Soils

Historic soil data from the National Resource Conservation Society (NRCS) was used to determine if and where hydric soils could be present (NRCS, 2019a; NRCS, 2019b). Refer to Section 2.6 of the delineation report for a detailed description of soils that have historically occurred in the Review Area. Soil pits, if necessary, were excavated in areas containing both wetland vegetation and hydrology in an effort to document the soil structure regardless of whether or not hydric soils were mapped. Soil pits were dug to a depth of 20 inches where possible (USACE, 2008). At each soil pit, the soil texture and color were recorded by comparison with standard plates within a Munsell soil color chart (2000). Any other indicators of hydric soils, such as redoximorphic features, buried organic matter, organic streaking, reduced soil conditions, gleyed or low-chroma soils were also recorded.

Table 6. Field Indicators of Hydric Soil Conditions*			
1. Indicators of Historical Hydric Soil Conditions	2. Indicators of Current Hydric Soil Conditions		
a. Histosols b. Histic epipedons;	<ul> <li>a. Aquic or peraquic moisture regime (inundation and/or soil saturation for *7 continuous days)</li> </ul>		
c. Soil colors (e.g., gleyed or low-chroma colors, soils with bright mottles (Redoximorphic	<ul> <li>b. Reducing soil conditions (inundation and/or soil saturation for *7 continuous days)</li> </ul>		
features) and/or depleted soil matrix	c. Sulfidic material (rotten egg smell)		
d. High organic content in surface of sandy soils			
e. Organic streaking in sandy soils			
f. Iron and manganese concretions			
g. Soil listed on county hydric soils list			

<sup>\*</sup>Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 7. Hydric Soil Indicators for the Arid West*					
	Hydric Soil Indicators				
All Soils	Sandy Soils	Loamy and Clay Soils	for Problem Soils**		
A1 – Histosol	S1 – Sandy Mucky Mineral	F1 – Loamy Mucky Mineral	A9 – 1 cm Muck		
A2 – Histic Epipedon	S4 – Sandy Gleyed Matrix	F2 – Loamy Gleyed Matrix	A10 – 2 cm Muck		
A3 – Black Histic	S5 – Sandy Redox	F3 – Depleted Matrix	F18 – Reduced Verti		
A4 – Hydrogen Sulfide	S6 – Stripped Matrix	F6 – Redox Dark Surface	TF2 – Red Parent Material		
A5 – Stratified Layers	_	F7 – Depleted Dark Surface	Other (See Section 5 of Regiona Supplement, Version 2.0)		
A9 – 1 cm Muck	_	F8 – Redox Depressions	_		
A11 – Depleted Below Dark Surface	_	F9 – Vernal Pools	_		
A12 – Thick Dark Surface	_	_	_		

<sup>\*</sup> Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0.

<sup>\*\*</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present

Attachment F - Wetland Indicator Status of Plant Species Observed in the Review Area

Scientific Name	Common Name	Wetland Indicator Status**
AMARANTHACEAE	AMARANTH FAMILY	
Amaranthus albus	Tumbling pigweed	FACU
ASCLEPIADACEAE	MILKWEED FAMILY	
Asclepias subulata	Rush milkweed	
ASTERACEA	ASTER FAMILY	
Ambrosia dumosa	White bursage, burrobush	
Baileya pauciradiata	Few-rayed desert marigold	
Bebbia juncea	Sweetbush	
Chaenactis carphoclina	Pincushion	
Chaenactis fremontii	Fremont pincushion	
Dicoria canescens	Desert dicoria	
Encelia farinosa	Brittlebush	
Gerea canescens	Desert sunflower	
Ambrosia salsola	Cheesebush	UPL
Lactuca serriola	Prickly lettuce	FAC/FACU
Malacothrix glabrata	Desert dandelion	
Palafoxia arida	Spanish needle	
Perityle emoryi	Emory rock-daisy	
Pluchea sericea	Arrow-weed	FACW
Psathyrotes ramosissima	Velvet rosettes	
Rafinesquia neomexicana	Desert chicory	
Sonchus oleraceus	Annual sow-thistle	NI*/UPL
Stephanomeria exigua	Small wreath-plant	
BORAGINACEAE	BORAGE FAMILY	
Cryptantha angustifolia	Narrowleaf cryptantha	
Cryptantha maritima	White hair cryptantha	
Tiquilia palmeri	Palmer tequilia	
BRASSICACEAE	MUSTARD FAMILY	
Brassica tournefortii	Wild turnip	
Lepidium lasiocarpum	Sand peppergrass	
Sisymbrium irio	London rocket	
CACTÁCEAE	CACTUS FAMILY	
Cylindropuntia echinocarpa	Silver cholla	
Opuntia basilaris var. basilaris	Beavertail cactus	
CARYOPHYLLACEAE	CARNATION FAMILY	
Achyronychia cooperi	Onyx flower	
CHENOPODIACEA	GOOSEFOOT FAMILY	
Atriplex canescens	Four-winged saltbush	FACU
Salsola tragus	Russian thistle	FACU
EUPHORBIACEA	SPURGE FAMILY	
Chamaesyce polycarpa ssp. hirtella	Sand mat	
Croton californicus	California croton	
Stillingia spinulosa	Annual stillingia	
FABACEAE	PEA FAMILY	
Acacia sp.	Unidentified tree	NI*/FACU
Astragalus aridus	Annual desert milk-vetch	
Astragalus didymocarpus var. dispermus	Two-seeded milk-vetch	
Astragalus lentiginosus var. coachellae	Coachella Valley milk-vetch	UPL
Cassia nemophila	Desert cassia	
Lotus strigosus	Desert lotus	
Lupinus arizonicus	Arizona lupine	
Psorothamnus arborescens	Indigo bush	FACU
Psorothamnus emoryi	Emory indigo bush, dye-weed	
Psorothamnus schottii	Indigo bush	
GERANIACEAE	GERANIUM FAMILY	

Scientific Name	Common Name	Wetland Indicator Status**
Erodium cicutarium	Red-stemmed filaree	-
HYDROPHYLLACEAE	WATERLEAF FAMILY	
Phacelia crenulata	Heliotrope phacelia	-
KRAMERIACEAE	KRAMERIA FAMILY	
Krameria grayii	White rhatany	-
LOASACEAE	STICK-LEAF FAMILY	
Mentzelia involucrata	Sand blazing star	
Petalonyx thurberi	Sandpaper plant	
MALVACEAE	MALLOW FAMILY	
Eremalche exilis	Trailing mallow	
Malva parviflora	Cheeseweed	
NYCTAGINACEAE	FOUR O'CLOCK FAMILY	
Abronia villosa var. villosa	Sand verbena	
Abronia villosa var. aurita	Chaparral sand verbena	
ONAGRACEAE	EVENING PRIMROSE FAMILY	
Camissonia californica	California false mustard	
Camissonia claviformis ssp. aurantiaca	Pinnate leaved primrose	==
Camissonia claviformis ssp. claviformis	Clavate evening primrose	
Oenothera deltoides ssp. deltoides	Dune evening primrose	
Oenothera californica	California primrose	==
PLANTAGINACEAE	PLANTAIN FAMILY	
Plantago ovata	Desert plantain	FACU
POACEAE	GRASS FAMILY	
Bromus madritensis var. rubens	Red brome	==
Cynodon dactylon	Bermuda grass	FACU
Hordeum murinum	Hare barley	UPL/FACU
Pleuraphis rigida	Big galleta	
Schismus arabicus	Mediterranean grass	
Stipa capensis	Cape ricegrass	
POLEMONIACEAE	PHLOX FAMILY	
Gilia latifolia	Broad-leaved gilia	
Loeseliastrum schottii	Schott's langloisia	-
POLYGONACEAE	BUCKWHEAT FAMILY	
Chorizanthe brevicornu	Brittle spineflower	
Eriogonum deflexum	Skeleton weed	
Eriogonum inflatum var. inflatum	Desert trumpet	
SÓLANÁCEAE	NIGHTSHADE FAMILY	
Datura wrightii	Jimsonweed, tolguacha	UPL
TAMARICACEAE	TAMARISK FAMILY	
Tamarix ramosissima	Tamarisk	FAC
ZYGOPHYLLACEAE	CALTROP FAMILY	
Larrea tridentata	Creosote bush	
Tribulus terrestris	Puncture vine	

Attachment G – Contact Information for all Property Owners within the Review Area

Assessor's Parcel Number (APN)	Owner	Mailing Address	City and State	Zip Code
648200017	Alejandro and Maria Aguilar	68830 Los Gatos Rd	Cathedral City, CA	92234
748290004	Alma Mays	38129 Grand Oaks Ave	Palm Desert, CA	92211
648230024	Andres, Enrique, and Flora Garcia	P.O. Box 1018	Thousand Palms, CA	92276
748290001	Barbara Crabtree	4725 E Anaheim St	Long Beach, CA	90804
651140034, 651140035	Benito and Justina Meza, Carlos Inzuna	P.O. Box 367	Thousand Palms, CA	92276
694050019	Berger H N & Frances Foundation	P.O. Box 13390	Palm Desert, CA	92255
648230036	Bernard And Michele Lulow	P.O. Box 3	Palm Desert, CA	92261
648220021	Brilliant Corners	1390 Market St Ste 405	San Francisco, CA	94102
695120001	Champion Life Church	72745 Highway 111	Palm Desert, CA	92260
748300004	Charles Devalon	38305 Grand Oaks Ave	Palm Desert, CA	92211
626150037, 626150038, 626150039	City Of Riverside	3403 10th St Ste 400	Riverside, CA	92501
648220014	Clifford and Kathleen Stone	29300 Desert Moon Dr	Thousand Palms, CA	92276
651140030, 651130058, 651140031, 651130061, 648200001, 648220020, 651140032, 648200041, 648220023, 648250003, 651030001, 651140033, 651130060, 651130059, 651230009, 648200027	Coachella Valley Conservation Commission	70711 Tamarisk Ln	Rancho Mirage, CA	92270
648140001, 748390005, 648230026	Coachella Valley Water District	P.O. Box 1058	Coachella, CA	92236
626150040, 748390004	County of Riverside	P.O. Box 1180	Riverside, CA	92502
648230032	Cynthia Pontious	9282 El Mirador Blvd	Desert Hot Springs, CA	92240
648200031	Dagoberto and Jose Padilla	P.O. Box 2061	Indio, CA	92202
648200029	Dagoberto and Maria Padilla	P.O. Box 1001	Thousand Palms, CA	92276
648220016	Daniel Emrich	98 Seton Rd	Irvine, CA	92612
648220042	Danny and Christina Bartlett	78930 La Palma Dr	La Quinta, CA	92253
648230025	Deanne Bird	71600 Jaguar Way	Palm Desert, CA	92260
748390008, 748390009, 748390006, 748390007	Del Webb Calif Corp.	40048 Corte Refugio	Indio, CA	92203
648140010, 651130041, 651130043, 651130066, 648250004, 648250012, 651130042, 651020004	Department of Fish & Game Wildlife Conservation	1807 13th St No 103	Sacramento, CA	95814

626420053, 626420052	Desert Business Park II	1302 Puyallup St	Sumner, WA	98390
626420034	Desert Business Park Prop Owners Assn	1302 Puyallup St	Sumner, WA	98390
748300012	Dickson Francine Rad Revocable Living Trust	78020 Ravencrest Cir	Palm Desert, CA	92211
648120005	Dionisios and Irini Argyros	2813 Monogram Ave	Long Beach, CA	90815
748300006	Douglas and Rebecca Delmonte	4550 Lynden Rd No 1204	Birch Bay, WA	98230
748300003	Elizabeth, Paul, and Claudia Wilderman	1460 Homewood Rd No 95a	Seal Beach, CA	90740
648230029	Felipe Fuentes	1500 E San Rafael No 109	Palm Springs, CA	92262
651140014, 651130057, 651140013, 651140016, 651140015	Frank Faraone, Peter and Nan Tynberg	70711 Tamarisk Ln	Rancho Mirage, CA	92270
648200025	Frieda Mccallum	73495 Burr Oak Rd	Thousand Palms, CA	92276
748290002	G Richards	38173 Grand Oaks Ave	Palm Desert, CA	92211
648210025	Gabriel Zavala	P.O. Box 712	Thousand Palms, CA	92276
626420051	Grinnell Prop	1302 Puyallup St	Sumner, WA	98390
648230018, 648230015	Gwendolyn Pontious	9282 El Mirador	Desert Hot Spring, CA	92240
695100002, 695100001, 695070015, 695070011, 695100015, 695100014	H N & Frances C Berger Foundation	P.O. Box 13390	Palm Desert, CA	92255
651230015	Imperial Irrigation Dist	P.O. Box 248	Coachella, CA	92236
748300001	James and Linda Gaddie	811 Briarstone Ln	Knoxville, TN	37934
648220022	Jerry and Olga Stone	19 Arrowhead Buff	Seguin, TX	78155
748300005	Jose and Norma Figueroa	22253 Hayes St	Woodland Hills, CA	91303
648200015	Loenardo and Maria Valenzuela	72877 Dinah Shore Dr 103	Rancho Mirage, CA	92270
648110013	Loren and Carol Lewis	71847 Sahara Rd	Rancho Mirage, CA	92270
648220017	Luis and Graciela Sanchez	67401 Mission Dr	Cathedral City, CA	92234
648200033	Maribel Cortez	32400 Navajo Tr	Cathedral City, CA	92234
648200043	Mario, Robert, and Magdaleno Munoz	1340 N San Antonio Ave	Upland, CA	91786
648210019	Mary Escamilla	P.O. Box 265	Thousand Palms, CA	92276
648220013	Minas Inv Inc.	31485 Avenida Juarez	Cathedral City, CA	92234
626150008, 626150012, 626150006, 626150014, 626140003, 626150004, 626150025, 626150013, 626150005, 626150011, 626150009, 626150007, 626150010	Mirasera	2580 Wyandotte St Ste G	Mountain View, CA	94043

626130019	Palm Desert 53 Inv	1500 N Raymond Ave	Fullerton, CA	92831
651140028	Pei Lin Hseih	35 Lucile St No B	Arcadia, CA	91006
648110012	Ralph Commber, Mary Latulippe, and Virgil Hartman	1014 Andreas Palms Dr	Palm Springs, CA	92264
648200018	Ramses Martinez	29305 Desert Moon Dr	Thousand Palms, CA	92276
648110001	Reynolds Family Living Trust	35065 Country Green Rd	Steamboat Springs, CO	80487
695070016	Russell and Mirijam Clarke	35450 Pegasus Ct	Palm Desert, CA	92211
748300007	Sharon Kay	38393 Waverly Rd	Palm Desert, CA	92211
650241001, 648230023	Silvestre Montes	31450 Via Las Palmas	Thousand Palms, CA	92276
648230037	Southern Calif Edison Co.	P.O. Box 410	Long Beach, CA	90801
648200026, 648210024, 651130067, 648200032, 648150006, 648150015, 648200040, 648210013, 648200042, 648210020	Southern California Edison Co.	P.O. Box 800	Rosemead, CA	91770
748300002	Steven And Maria Brooten	38261 Grand Oaks Ave	Palm Desert, CA	92211
748390010, 748390011	Sun City Palm Springs Community Association	39755 Berkey Dr	Bermuda Dunes, CA	92201
626130003	Tamara Fields	3018 Corda Dr	Los Angeles, CA	90049
648150031	Tara Alford	79925 Horseshoe Rd	La Quinta, CA	92253
648150032	Thomas Young	79 925 Horseshoe Rd	La Quinta, CA	92253
651130062, 651140017	Thousand Palms 278	P.O. Box 12950	Palm Desert, CA	92255
748290003	Timothy and Linda Nelson	4332 Pine Point Rd	Sartell, MN	56377
695070002, 695030002, 695030005, 695030007, 695030009, 695030012, 695030008, 648030016	USA 653	911 NE 11th	Portland, OR	97233
695030013, 695030014	Xavier College Preparatory High School	34200 Cook St	Palm Desert, CA	92211