



Aquatic Resources Delineation Report for the Thousand Palms Channel Improvement Project from Sun City Shadow Hills to the SVSC

MAY 2023 (REVISED JUNE 2024)

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SWCA Project No. 71080

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EXECUTIVE SUMMARY

This Aquatic Resources Delineation Report has been prepared in accordance with the U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual (USACE 1987) and regional supplements, including *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a), and *Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0)* (USACE 2008b). Jurisdiction was assessed under Section 401 and 404 of the Clean Water Act under the 2023 Clean Water Act post-Sackett *Conforming Rule* (USACE 2023), the Porter Cologne Water Quality Control Act, and Section 1600 of the California Fish and Game Code.

The project is located at approximate coordinates 33.740115°N, 116.249893°W within Sections 9, 10, 15, and 16 of Township 5 South, Range 7 East of the U.S. Geological Survey *La Quinta* and *Indio, CA* 7.5-minute quadrangle maps. The project includes constructing a new flood control facility, which will consist of the last conveyance facility intended to receive floodwaters from the upstream planned Thousand Palms and North Indio Flood Control Projects. The Thousand Palms Channel will provide for a new confluence with the Coachella Valley Stormwater Channel which conveys flow from the Whitewater River to the Salton Sea.

An approximately 80-acre Review Area located within the city of Indio in Riverside County, California was assessed for potential regulated aquatic resources. The Review Area is centered along the Thousand Palms Channel (TPC), which is south of a golf course and south and perpendicular to the Coachella Canal, a 122-mile aqueduct system that delivers water from the Colorado River. The Thousand Palms Channel feature is upslope of and connected to the Whitewater River which is synonymous with Coachella Valley Stormwater Channel (CVSC) along the project segment.

The aquatic resource findings of this report are summarized below:

Total acreage of the Review Area: 80 acres.

Number and total area of aquatic resources within the Review Area: One distinct aquatic resource, the Whitewater River (2.53 acres) occurs outside but adjacent to the Project Area.

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1 INTRODUCTION

1.1 Contact Information

Applicant: Coachella Valley Water District, 75-515 Hovley Lane East, Palm Desert, CA 92211, cvwd@cvwd.org, (760) 398-2651.

Property Owner(s):

Parcels 691190007, 610020007, 610030020, and 610020015 – Coachella Valley Water District, 51501 Tyler St, Coachella, CA 92236, cvwd@cvwd.org, (760) 398-2651.

Parcels 691510010, 610020016, 610020006, and 610030014 – United States Government

Agent(s): Bonnie Rogers, PWS, Senior Wetland Scientist, SWCA Environmental Consultants, 320 N. Halstead Street, Ste. 120, Pasadena, California 91107, Bonnie.Rogers@swca.com, (626) 240-0587.

1.2 Regulatory Background

The purpose of this report is to identify and describe aquatic resources in the Review Area and facilitate efforts to:

1. Provide background information about the site and conditions.
2. Document aquatic resource boundary data for review by regulatory authorities.
3. Provide early information about potential regulated aquatic resources.
4. Avoid or minimize impacts to aquatic resources during the planning and design process.

The purpose of the delineation is to record the extent of aquatic resources and make a preliminary determination of state and federal jurisdiction potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), State or Regional Water Quality Control Board (Water Boards) under Section 401 of the CWA and Porter Cologne Water Quality Control Act ('Porter Cologne'), and California Department of Fish and Wildlife (CDFW) under Section 1600 of the California Fish and Game Code.

Under the CWA, state and federal non-wetland waters of the United States (WOUS) are delineated by the ordinary high water mark (OHWM) and depending on connectivity to downstream regulated aquatic resources, may be considered jurisdictional by the USACE and the Water Boards. Features lacking connectivity to downstream regulated aquatic resources may not be jurisdictional by the USACE. Features lacking connectivity to downstream resources, however, may still be considered jurisdictional by the Water Boards under Porter Cologne. Under Section 1602 of the California Fish and Game Code, watercourses include streambeds that have a bed and bank supporting fish, other aquatic life, and riparian vegetation by either surface or subsurface flows, are considered regulated aquatic resources by CDFW. The watercourse is generally defined as the outermost bounds of the streambed or floodplain including any riparian vegetation.

Waters of the United States include traditional navigable waters, the territorial seas, and interstate waters; impoundments of "waters of the United States"; tributaries to traditional navigable waters, the territorial seas, interstate waters, or impoundments when the tributaries are relatively permanent, standing, or continuously flowing bodies of water; wetlands adjacent to and with a continuous surface connection to

relatively permanent impoundments or jurisdictional tributaries; and intrastate lakes and ponds, streams, or wetlands that are relatively permanent. These Waters of the United States can be further divided into wetland waters of the United States and non-wetland waters of the United States whereby wetlands are characterized as meeting indicators of dominant hydrophytic vegetation, hydric soils, and wetland hydrology, and non-wetland waters of the United States delineated by the OHWM. An area must meet the following three parameters to be considered a federal wetland WOUS: 1) the presence of wetland hydrology (inundation or saturation near the ground surface during the growing season); 2) a dominance of hydrophytic vegetation (adapted to aquatic environments); and 3) hydric soils (displaying indicators of biological activity as a result of prolonged inundation).

The California State Water Resources Control Board's (SWRCB) regulate waters of State which include all waters of the United States as well as isolated waters such as streams or lakes. Waters of the State can also be divided into wetland waters of the State and non-wetland waters of the State. Wetland waters of the State include all wetland waters of the United States, as well as waters supporting wetland hydrology and hydric soils even if vegetation cover is less than 5% in the growing season. All other waters of the State are non-wetland waters of the State. Under the SWRCB Further, the Implementation Guidance for the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* ('Procedures') (SWRCB 2020), an area must include the following parameters to be considered a wetland: 1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; 2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and 3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation (more than 5% areal coverage of plants at the peak of the growing season).

1.3 Project Setting and Review Area

The project includes constructing a new flood control facility within the Thousand Palms Channel (TPC) which will consist of the last conveyance facility intended to receive floodwaters from the planned Thousand Palms and North Indio Flood Control Projects. The TPC will provide for a downstream connection supporting a 100-year flood discharge to the Coachella Valley Stormwater Channel (CVSC). In its current condition, the unlined TPC does not have capacity to convey a 100-year flow rate (estimated at 16,836 cubic feet per second). The total length of the TPC is approximately 5,700 feet. Existing berms located between the TPC and adjacent agricultural fields are not certified by the Federal Emergency Management Agency (FEMA), and there is no scour protection along the reach. To receive new future flows the TPC will be enhanced with constructed armor to accommodate flows and reduce scour or deterioration of the earthen berms and banks.

The Review Area is the area surveyed for indicators and presence of aquatic resources (Figures 1 and 2) and is within the 'City of Indio-Whitewater River Watershed' (Hydrologic Unit Code 12; 181002010802). The City of Indio-Whitewater River Watershed partially includes the cities of Indio, Coachella, and La Quinta, as well as unincorporated sections of Riverside County. Flow within the watershed is conveyed to the CVSC, which ultimately conveys flow southward to its terminus, the Salton Sea, a USACE determined (January 2001) Navigable Water. Soils within the Review Area are within the Riverside County, Coachella Valley Area, California (CA680) and are mapped as Coachella fine sand, 0 to 2 percent slopes (CpA), Fluvents (Fe), Gilman fine sandy loam, 0 to 2 percent slopes (GbA), Indio very fine sand, 0 to 5 percent slopes (Is), and Mayoma fine sand, 0 to 5 percent slopes (MaB) (Natural Resources Conservation Service [NRCS] 2023) (see Appendix A, A-1 Soils Map).

The Review Area is centered along the TPC, which is directly southeast of the Coachella Canal, a 122-mile aqueduct system that delivers water from the Colorado River and connects downslope to the CVSC. The TPC does not appear to convey natural or artificial flows and is heavily disturbed by mechanized equipment likely for sediment movement and vegetation removal. Changes in vegetation and vehicle and

equipment tracks can be observed within the TPC on aerial imagery (Google Earth 2023). Madison Street traverses the northwestern portion of the TPC in a north-south direction. General surrounding land uses include agriculture, vacant space, and developed spaces (residential golf courses and roads). The project is not located within or near designated Critical Habitat under the Endangered Species Act (USFWS 2023a).

2 LOCATION

The Project is located in Riverside County within the city of Indio, within Sections 9, 10, 15, and 16 of Township 5 South, Range 7 East as shown on the U.S. Geological Survey (USGS) 7.5-minute *La Quinta* and *Indio* quadrangle maps (**Figure 1**). The project is centered at approximately 33.740115° N latitude, 116.249893° W longitude (**Figure 2**).

The Project may be reached from Indio, California, by traveling northwest toward Indio Boulevard for approximately 259 feet, turning right onto Indio Boulevard and continuing for 1.1 miles, turning left onto Fred Waring Drive and traveling 443 feet, turning right onto Monroe Street and continuing 1.1 miles, turning left onto Avenue 42 and traveling 1.0 mile, and turning left onto Madison Street before reaching the Review Area.

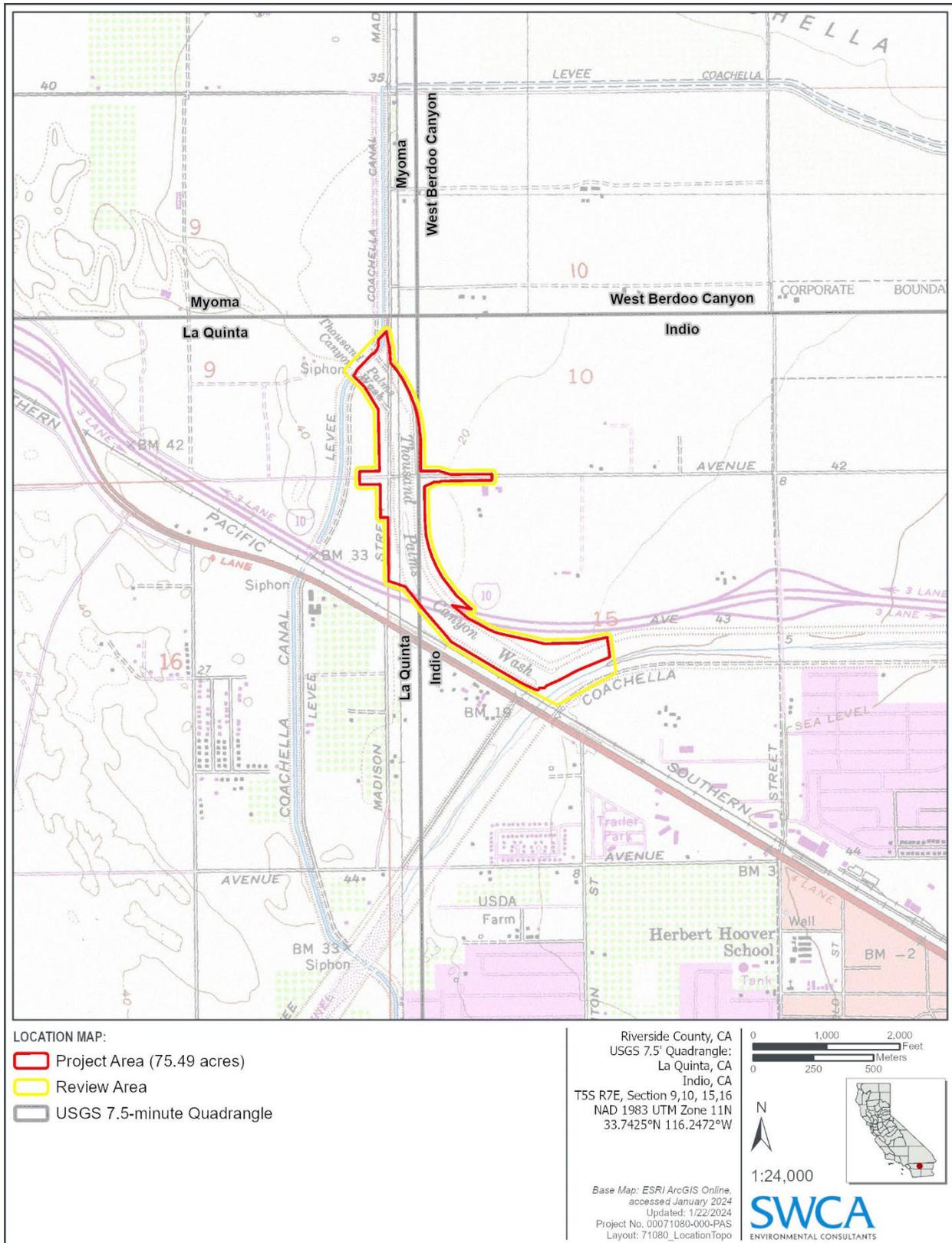


Figure 1. Project Boundary on USGS 7.5-minute quadrangle base map.

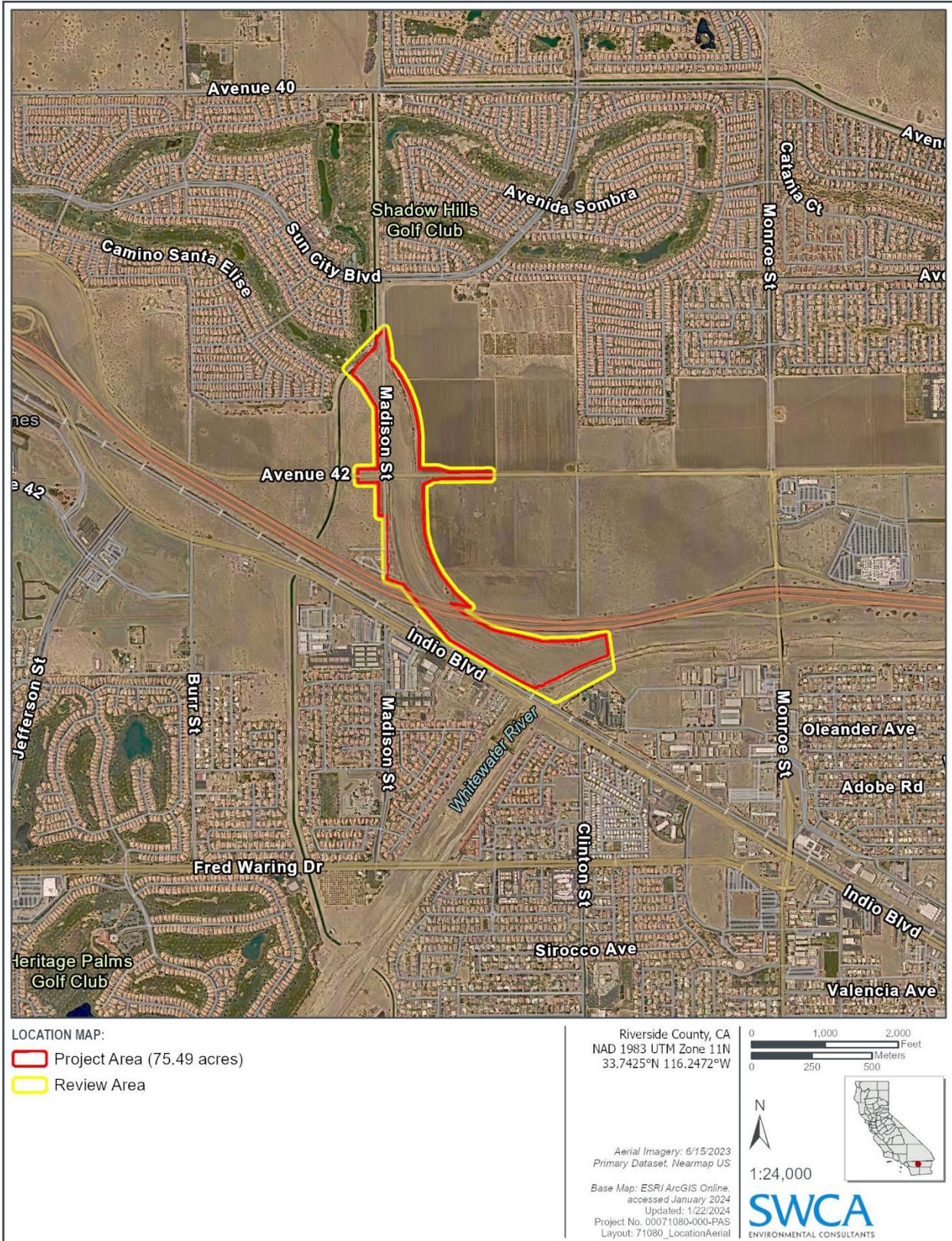


Figure 2. Vicinity map. Project Area (red polygon) on aerial base map.

3 METHODS

3.1 Existing Desktop Data Review and Synthesis

The USACE Wetland Delineation Manual (USACE 1987) and Arid West supplemental guidance was used to conduct preliminary data gathering of existing information and select sources of information helpful in assessing site conditions, extracting pertinent data, and synthesizing the data in advance to conducting field work. The following data sources were selected and reviewed:

- USGS quadrangle maps review streams, topographic details, wet areas, drainage patterns, and general land uses.
- National Wetlands Inventory (NWI) maps to review the potential location and classification of resources that design the regime modifier and flooding or soil saturation characteristics.
- U.S. Department of Agriculture (USDA) NRCS Web Soil Survey to review general climate information, wetness characteristics of soils, soil properties (frequency, duration, and timing of inundation), and soil classification (soil series and phases).
- Google Earth historic and current aerial imagery to review potential wet areas, streams, stream connectivity, and other physical features potentially affecting flow.
- CalFlora plant database to review recorded plants found within or near the Review Area.

After synthesis of the preliminary data, the routine delineation and on-site inspection method was selected. An assessment of whether an atypical/difficult situation exists was estimated based on the presence and proximity of human-induced alteration or natural events that could significantly alter the site's vegetation, soils, and/or hydrology. An assessment of whether a problematic wetland situation exists was based on normal seasonal or annual variability and nature of the site. Based on the preliminary desktop data gathering and synthesis, a field approach was selected including the estimated location of aquatic features for field evaluation.

3.2 Field Survey

An aquatic resources delineation field survey was conducted by SWCA Environmental Consultants (SWCA) delineators on March 28, 2023, using the methods presented in this report. USACE 'Wetland Determination Data Form – Arid West Region' datasheets were completed to document the findings at selected wetland and upland sampling plots. Photographs were documented, including their location and heading (**Figure 3**). All data was recorded using the ESRI ArcGIS Field Maps collector application paired to a Juniper Systems Geode set for sub-meter accuracy. Following the collection of field data, data was reviewed and processed for mapping.

4 RESULTS

4.1 Desktop Data Review

Existing datasets and desktop information were reviewed in advance to field delineation. The desktop review included a search of the NWI (USFWS 2023b) and National Hydrography Dataset (USGS 2023) to identify mapped aquatic resources within the Review Area. In addition, current and historic aerial imagery (Google Earth 2020) was reviewed to identify vegetation types, topographic changes, and visible

drainage patterns that may exhibit an OHWM or the presence of wetlands within the Review Area. In addition, SoilWeb data (USDA 2023) and U.S. Fish and Wildlife Service (2023a) designated critical habitat maps were reviewed.

The TPC is within a Federal Emergency Management Agency (FEMA) Zone A, an area with a 1% annual chance of flooding (FEMA 2020) (see Appendix A, A-2 FEMA map). The TPC is not mapped in the NWI, but the Coachella Canal and the CVSC are mapped by NWI as riverine. The Coachella Canal is estimated by NWI as having a perennial hydrologic regime while the CVSC is mapped as intermittent (see Appendix A, A-3 NWI map). The TPC is partially mapped as a wash by NHD (starting approximately 1,000 feet south of Avenue 42 to the CVSC) (see Appendix A, A-4 NHD map). The Coachella Canal and the CVSC are both mapped as Canal/Ditches by NHD (USGS 2020).

Disturbance and vegetation management within the Review Area can be observed on aerial imagery dating back to September 1996, which is the earliest Google Earth aerial imagery with sufficient resolution to distinguish potential hydrological and vegetation patterns. Different sections of the Review Area appear to be subjected to differing levels and types of disturbance over time.

The northwestern most portion of the Review Area between the Sun City Shadow Hills Community golf course and Madison Street exhibits consistent dense vegetation visible from September 1996 through April 2014. Whereas between April 2014 and the survey date (March 2023), the area is consistently unvegetated. Visible signs of surface hydrology in the TPC, such as soil saturation and drainage patterns, are absent on the aerial images through this period.

Historic Google Earth aerial imagery shows a linear stand of what appears to be Athel tamarisk (*Tamarix aphylla*) lines the berm along the eastern side of the TPC from Madison Street south to the TPC's intersection with Interstate 10. Resprouting Athel tamarisk was observed in this location during the survey, suggesting that the mature stand consisted of Athel tamarisk prior to removal. As evidenced by the substantial vegetative debris on the berm and within the TPC, the Athel tamarisk was chipped and spread in the immediate vicinity on-site. The Athel tamarisk may have originally been intentionally planted as a windbreak in support of the adjacent agricultural parcels. Tamarisk is documented as being available for sale for ornamental or windbreak use since the 1850s (Horton 1964). While Athel tamarisk is designated as a facultative (FAC¹) species in the 2020 USACE National Wetland Plant List (USACE 2020), the linear and uniform pattern, along with its spatial context adjacent to agricultural land, suggests the stand was planted as a windbreak and is not indicative of or occurring as a result of wetland conditions. The stand of tamarisk was removed sometime between December 2019 to June 2021 as illustrated in Google Earth imagery.

Google Earth imagery shows the TPC segment east of Madison Street and north of Avenue 42 does not support vegetation, likely due to vegetation management. Aerial imagery illustrates a consistent stand of shrubs with a similar spatial signature including density and composition as the stand of *Atriplex* sp. (saltbush) west of Madison Street. This vegetation was cleared sometime between March 2013 and April 2014 as depicted in Google Earth aerial imagery. No surface hydrology indicators were observed during the field survey in the TPC, and no drainage patterns or saturation are evident in this area in aerial imagery.

¹ Wetland Hydrology Indicators are values assigned to individual species by the USACE to determine whether a species is a hydrophyte (OBL, FACW, FAC) or a non-hydrophyte (FACU, UPL). Obligate Wetland Plants (OBL) are species that have a greater than a 99% probability of occurring in a wetland. Facultative Wetland Plants (FACW) are species that have a 67 – 99% probability of occurring in a wetland. Facultative Plants (FAC) are species that have a 34 – 66% probability of occurring in a wetland. Facultative Upland Plants (FACU) are species that have a 1 – 33% probability of occurring in a wetland. Upland Plants (UPL) are species that have a less than 1% probability of occurring in a wetland.

The segment of the TPC south of Avenue 42 has been consistently unvegetated since at least September 1996. A well-established access road is present within the TPC. The road can be accessed via a gate from the intersection of Madison Street and Avenue 42 and provides access to CVSC. No vegetation or signs of drainage patterns or saturation were observed on-site during the field survey or on aerial images.

As shown on aerial imagery, the CVSC remains largely uniform in its extent and condition from September 1996 through March 2023; however, signs of vegetation management and mechanized sediment movement are evident. Drainage patterns and saturation are visible in aerial imagery. Vegetation patterns visible in aerial imagery are consistent with the vegetation observed during the field survey. Vegetation along the CVSC is largely disturbed and consists of saltcedar (*Tamarix ramosissima*), Bermuda grass (*Cynodon dactylon*), and London rocket (*Sisymbrium irio*).

4.2 Field Data Collected

The Review Area was evaluated in the field, data and photographs were collected, data was processed, and resource position and areas were calculated to estimate the extent of aquatic resources. Data are summarized below, and photographs and USACE Wetland Determination Data Forms are provided in Appendix B and Appendix C, respectively.

SWCA conducted an aquatic delineation survey on March 28, 2023. One named non-wetland feature was observed within the Review Area, totaling 1.1 acres (1,000 linear feet)

Two wetland determination sampling plots were examined within the Review Area. Of the two wetland determination sampling plots placed in the field to determine the boundaries of wetlands and uplands, both plots (SP01 and SP02) did not exhibit all three wetland parameters needed to determine presence of a three-parameter wetland (see Table 1 and Figure 4). See Table 2 below for a description of each aquatic feature observed within the Review Area.

Table 1. Sampling Points

Plot point	Result	Relative location
SP01	Non-wetland	Southeastern-most corner of the Review Area within the CVSC's OHWM.
SP02	Non-wetland	Southwestern-most corner of the Review Area within the CSCV's OHWM.

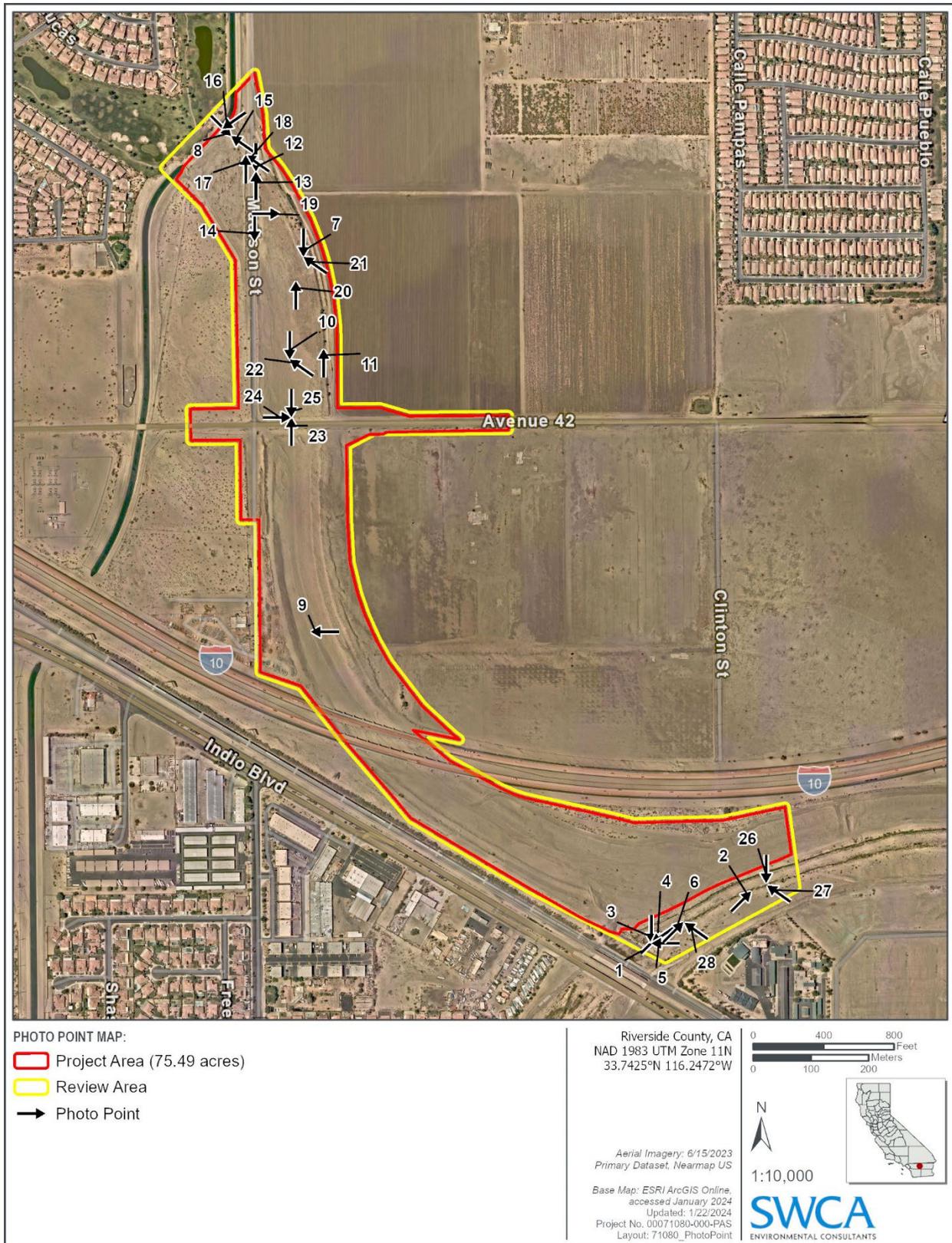


Figure 3. Photo-point map showing the location and direction of photographs (1 – 28).

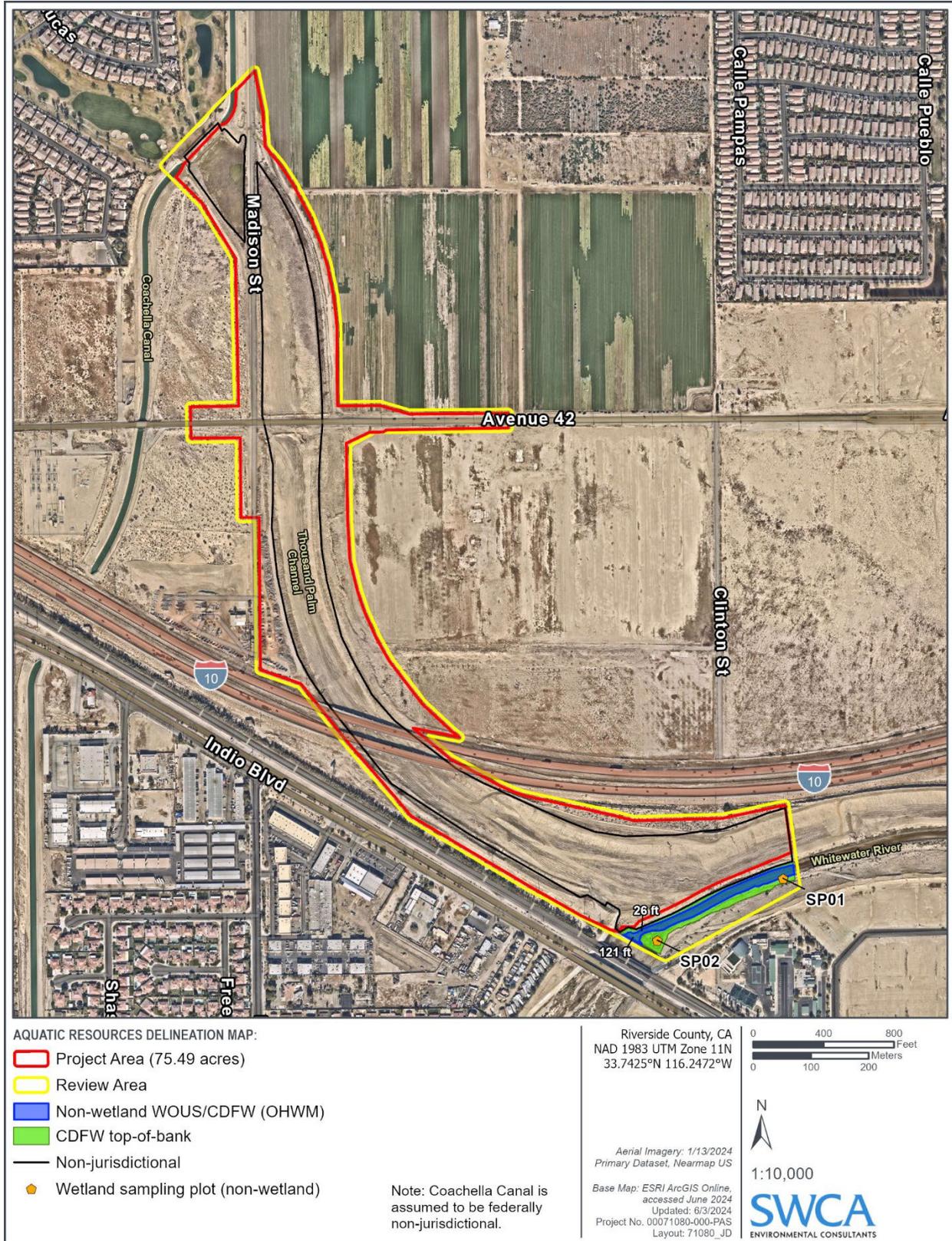


Figure 4. Aquatic resources inventory within Review Area and Project Area, and wetland sampling plots.

4.3 Aquatic Resources Inventory

Aquatic resources mapped within the Review Area include the Whitewater River (F1) (see Table 2 and Figure 4). An Approved Jurisdictional Determination has not been requested or received for these features.

Table 2. Aquatic Resources within the Review Area

Aquatic resource feature	NWI mapped type	Description of aquatic resource	Approximate location (latitude / longitude)
F1 (Coachella Valley Stormwater Channel)	Riverine	A river with headwaters in the San Bernardino National Forest largely conveying flow via an artificial path in a southeasterly direction with a final terminus at the Salton Sea.	33.736443°, -116.242923°
Total			

Feature 1 (Whitewater River):

The Whitewater River headwaters start in the San Bernardino National Forest. Flow is conveyed in a southerly direction in a natural state for approximately 15 miles, at which point flow is channelized to become the Coachella Valley Stormwater Channel. Flow is then conveyed in a generally southeasterly direction for approximately 30 miles before reaching the Review Area. From the Review Area, the Whitewater River conveys flow southeast for approximately 22 miles before reaching the Salton Sea.

Within the Review Area, the Whitewater River exhibits a tapered OHWM with an approximate width of 26 feet in the southwestern-most portion of the Review Area. Within 120 feet of the taper, the OHWM broadens to approximately 95 feet and remains consistent downstream through the duration of the Whitewater River within the Review Area. The OHWM is unvegetated and the river was observed conveying surface water flow during the field survey. Observed hydrologic indicators included flowing water within the low-flow channel and soil saturation and surface soil cracking along the adjacent terraces. Vegetation along the OHWM is sparse, likely due to vegetation management (removal or treatment). Vegetation along the OHWM consists of desert willow (*Chilopsis linearis* [FAC]), saltcedar (No Indicator, assumed FAC per known ecology and previous listing [USACE 2007]), and Bermuda grass (FACU¹). Soils were determined to vary between a silty clay loam to a silty loam texture. Soils were not determined to be hydric. It was determined that the Whitewater River does not support any federal wetlands within the Review Area.

Other Features excluded from inventory:

Thousand Palms Channel (TPC)

The TPC lacks aquatic resource characteristics such as stream morphology, bed and bank, evidence of flow, OHWM indicators, wetland indicators, or riparian vegetation. Therefore, the TPC is not a potential aquatic resource and is therefore excluded from the inventory. By deduction the TPC also does not carry a relatively permanent flow of water and does not have a continuous surface connection to another WOUS or Traditional Navigable Water.

Coachella Canal

The Coachella Canal is a constructed concrete aqueduct with a width of approximately 40 feet. It consists of a concrete channel conveying flow from the Colorado River to various locations, including the Whitewater River, within the Coachella Valley. The aqueduct conveys flow from the Colorado River to various sources including the Whitewater River, with a terminus at Lake Cahuilla. The Coachella Canal was constructed in the uplands and is considered a ditch that conveys water. Through direct coordination with Los Angeles District (LAD) USACE, Regulatory Division, Orange and Riverside Counties Section, staff were not able to find any past Approved Jurisdictional Determinations for Coachella Canal and agreed with our findings that the feature is likely not a federal WOUS because it was constructed in the uplands; however, only an Approved Jurisdictional Determination can confirm Coachella Canal’s federal jurisdictional status under the Conforming Rule.

4.4 Potentially Jurisdictional Aquatic Resources

Aquatic resources and data collected in the field were evaluated to determine the extent of potentially regulated aquatic resources. See Table 3 below for a list of observed aquatic resources assessed as potentially jurisdictional.

Table 3. Potentially Jurisdictional Aquatic Resources within the Review Area

Aquatic resource feature	Description	WOUS / Water Board (acre(s) / linear feet)	CDFW Streambed* (acre(s)/linear feet)
F1 (Coachella Valley Stormwater Channel)	Non-wetland	1.1 (1,000)	2.53 (1,000)
Total		1.1 (1,000)	2.53 (1,000)

*CDFW Streambed overlaps with WOUS/Water Board features.

The Review Area contains a total of 1.1 acres of non-wetland WOUS/waters of the State (WOS) and 2.53 acres of CDFW streambed and riparian habitat.

4.5 Potential Impacts to Resources

The project has been designed to avoid impacts to the CVSC (F1) which occurs adjacent but outside the project area.

5 SUMMARY AND RECOMMENDATIONS

5.1 Summary

The Review Area includes one jurisdictional aquatic resource: the CVSC (F1), totaling 1.1 acres (1,000 linear feet) non-wetland WOUS/WOS and a total of 2.53 acres (1,000 linear feet) CDFW Streambed, which occurs outside the Project Area. The assessed non-aquatic status of the TPC and non-jurisdictional status of the Coachella Canal may require verification from the resource agencies (USACE, Water Boards, and CDFW) to confirm the area does not contain potential jurisdictional aquatic resources.

5.2 Recommendations

No impacts to regulated aquatic resources would occur. To receive confirmation that areas within the project are not federal waters of the United States, we recommend requesting either a USACE No Permit Required letter and/or an Approved Jurisdictional Determination from the LAD USACE.

If elements of the project were to change, and state or federal aquatic resources would be impacted, permits required may include a USACE Department of the Army permit, a California State Water Board Section 401 water quality certification, and submittal of a CDFW 1600 Lake and Streambed Alteration notification.

6 LITERATURE CITED

- California State Water Resources Control Board . 2020. Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredge_fill/revised_guidance.pdf. Accessed April 2023.
- Federal Emergency Management Agency (FEMA). 2020. National Flood Hazard Layer. Available at: <https://www.fema.gov/national-flood-hazard-layer-nfhl>. Accessed April 2023.
- Google Earth. 2020. Source: Crested Butte, Colorado. Available at: <https://www.google.com/earth/>. Accessed April 2023.
- Horton, Jerome. 1964. Notes on the introduction of deciduous tamarisk. Res. Note RM-16. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Forest and Range Experiment Station. 7 p. [6222]
- Natural Resources Conservation Service (NRCS). 2023. Natural Resources Conservation Service, National Lists of Hydric Soils (December 2015). Available at: <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. Accessed April 2023.
- U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1*. Vicksburg, Mississippi: U.S. Army Engineers Waterways Experiment Station.
- . 2007. *Wetland Plants of Specialized Habitats in the Arid West*. ERDC/CRREL TR-07-8.
- . 2008a. *Regional Supplement to the Corps of Engineers Wetlands Delineation Manual: Arid West (Version 2.0)*, U.S. Army Engineer Research and Development Center. ERDC/EL TR-08-28.
- . 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States. A Delineation Manual*. ERDC/CRREL TR-08-12.
- . 2008c. Clean Water Act Jurisdiction following the U.S. Supreme Court’s decision in *Rapanos v. United States & Carbell v. United States*. Available at: https://www.epa.gov/sites/default/files/2016-02/documents/cwa_jurisdiction_following_rapanos120208.pdf. Accessed April 2023.
- . 2020. National Wetland Plant List, version 3.5. U.S. Army Corps of Engineer Research and Development Center, Cold Regions Research and Engineering Laboratory, Hanover, NH. Available at: <http://wetland-plants.usace.army.mil/>. Accessed: April 2023.
- . 2023. *Revised Definition of “Waters of the United States.” Final Rule*. Available at: <https://www.epa.gov/system/files/documents/2023-01/Revised%20Definition%20of%20Waters%20of%20the%20United%20States%20FRN%20January%202023.pdf>. Accessed: April 2023.
- U.S. Department of Agriculture. Soil Survey Staff, Natural Resources Conservation Service. Web Soil Survey. Available online at the following link: <http://websoilsurvey.sc.egov.usda.gov/>. Accessed April 2023.

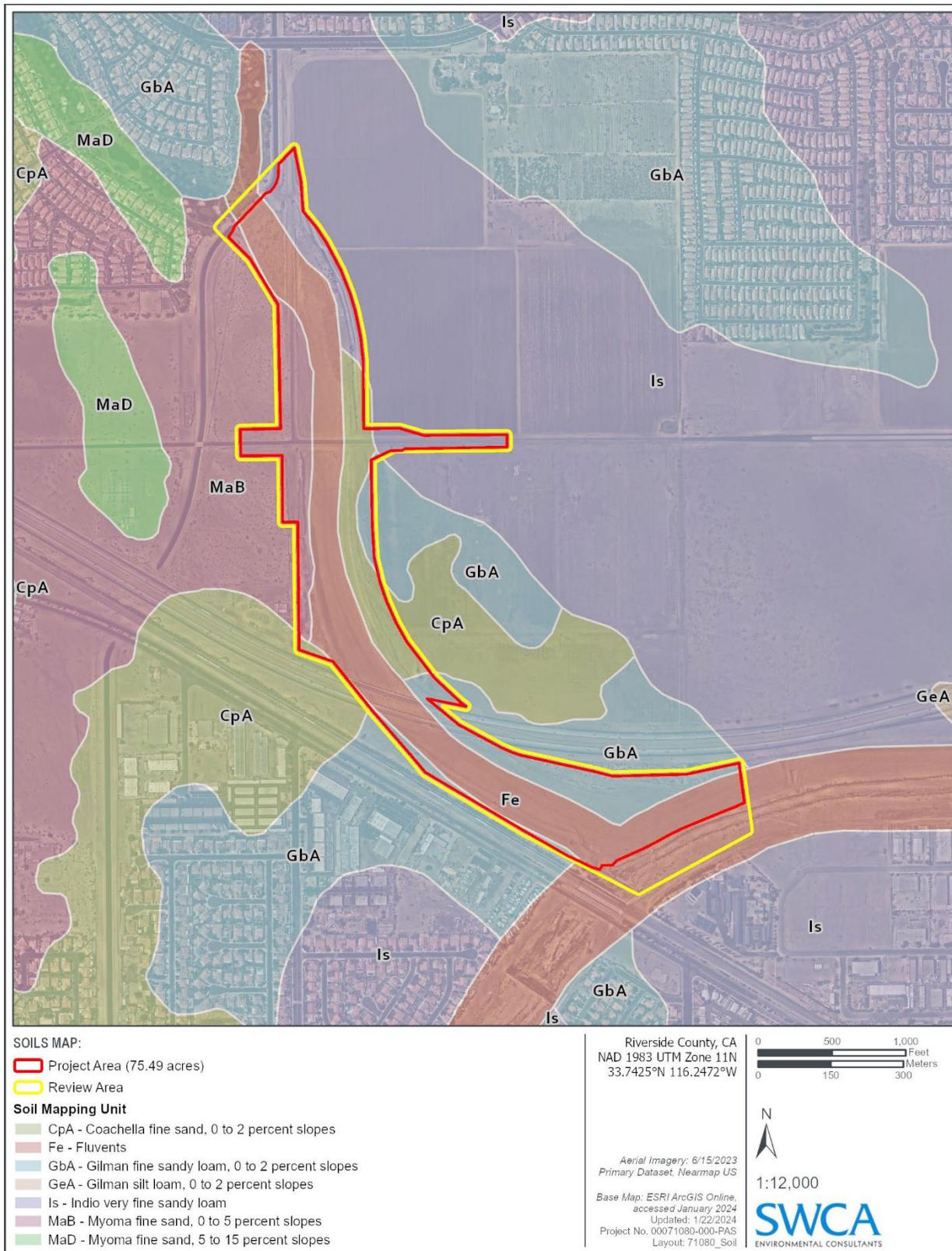
U.S. Fish and Wildlife Service (USFWS). 2023a. Critical Habitat Mapper. U.S. Fish and Wildlife Service Ecological Services. Available at: <https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77>. Accessed April 2023.

———. 2023b. National Wetlands Inventory. U.S. Fish and Wildlife Service Ecological Services. Available at: <http://www.fws.gov/wetlands/Data/State-Downloads.html>. Accessed April 2023.

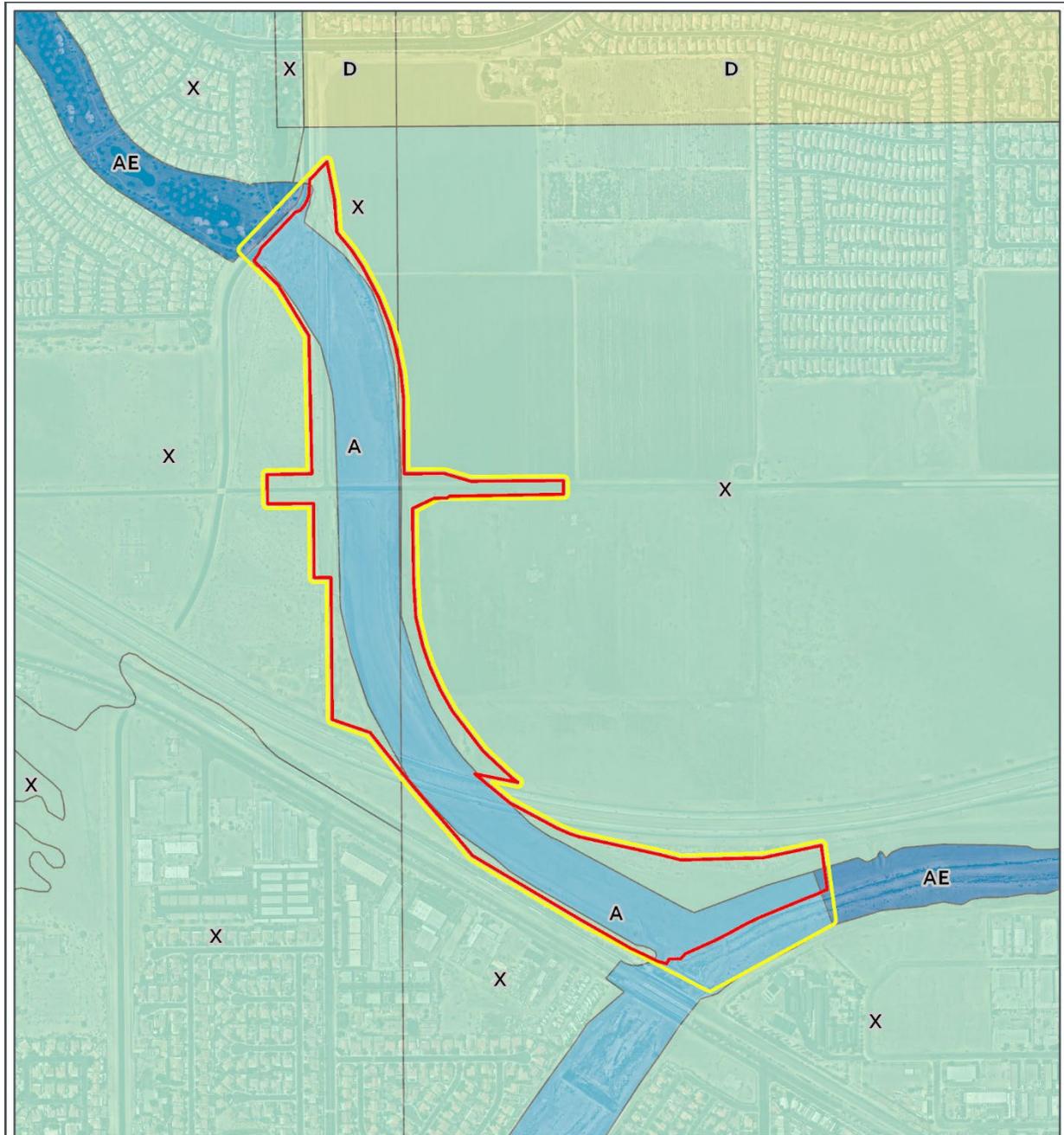
U.S. Geological Survey (USGS). 2020. National Hydrography Dataset. Available at: <http://nhd.usgs.gov/index.html>. Accessed April 2023.

APPENDIX A

Supporting Maps



A-1 Mapped Soils, NRCS, USDA



NATIONAL FLOOD HAZARD MAP:

- Project Area (75.49 acres)
- Review Area

FEMA Flood Zone

- Zone A - 1% Annual Chance Flood Hazard
- Zone AE - 1% Annual Chance Flood Hazard Contained in Channel
- Zone D - Area of Undetermined Flood Hazard
- Zone X - Areas of Minimal Flood Hazard

Riverside County, CA
 NAD 1983 UTM Zone 11N
 33.7425°N 116.2472°W



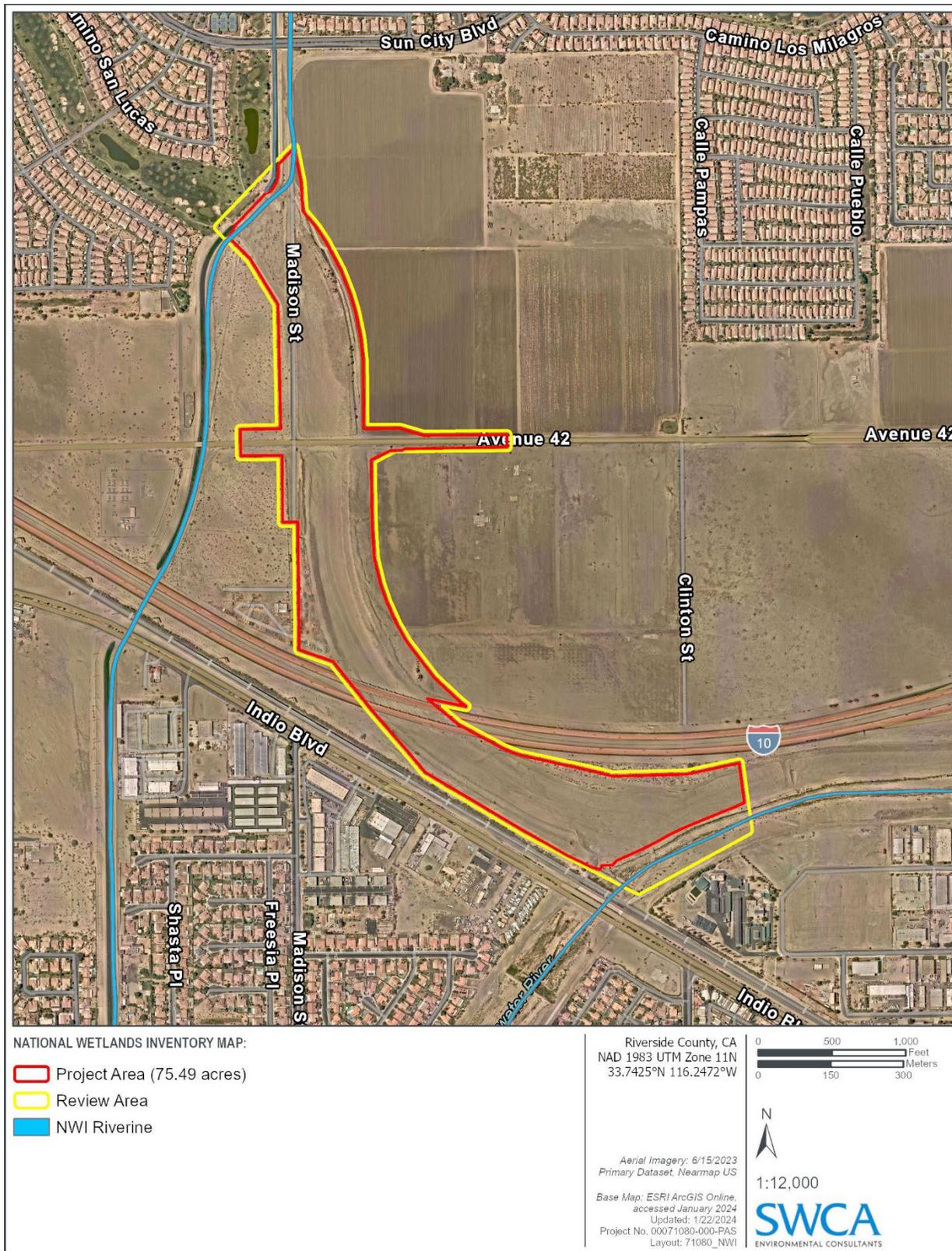
Aerial Imagery: 6/15/2023
Primary Dataset: Nearmap US
Base Map: ESRI ArcGIS Online,
accessed January 2024
 Updated: 1/22/2024
 Project No. 00071080-000-PAS
 Layout: 71080_FEMA



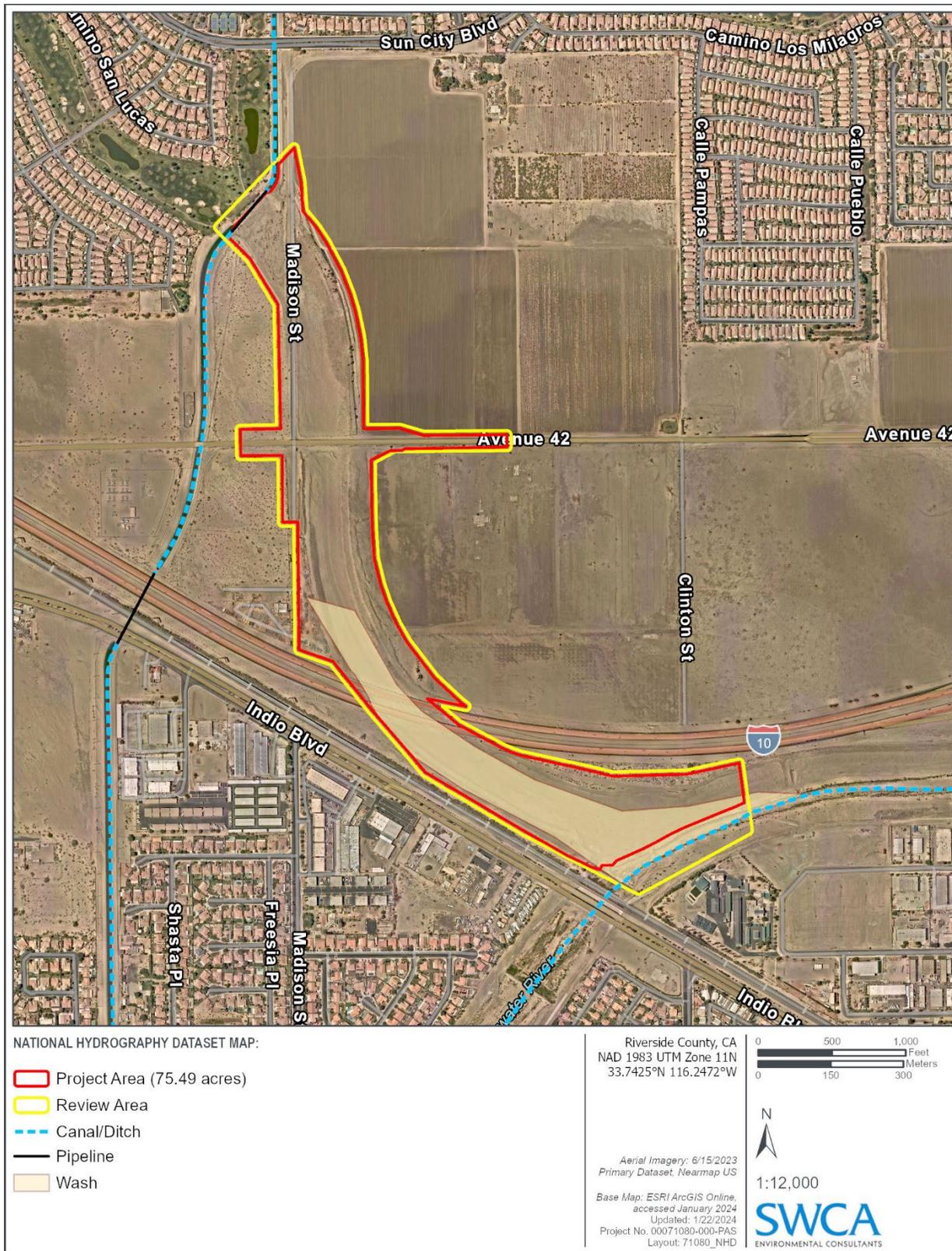
1:12,000



A-2 Web Soils Survey, National Wetlands Inventory, FEMA



A-3 National Wetlands Inventory, USFWS



A-4 National Hydrography Dataset, USGS

APPENDIX B

Photographs



Photo 1. CVSC OHHM, view facing northeast.



Photo 2. CVSC OHWM, view facing northeast.



Photo 3. CVSC disturbed streambed, view facing south.



Photo 4. CVSC disturbed streambed, view facing southwest towards railroad bridge.

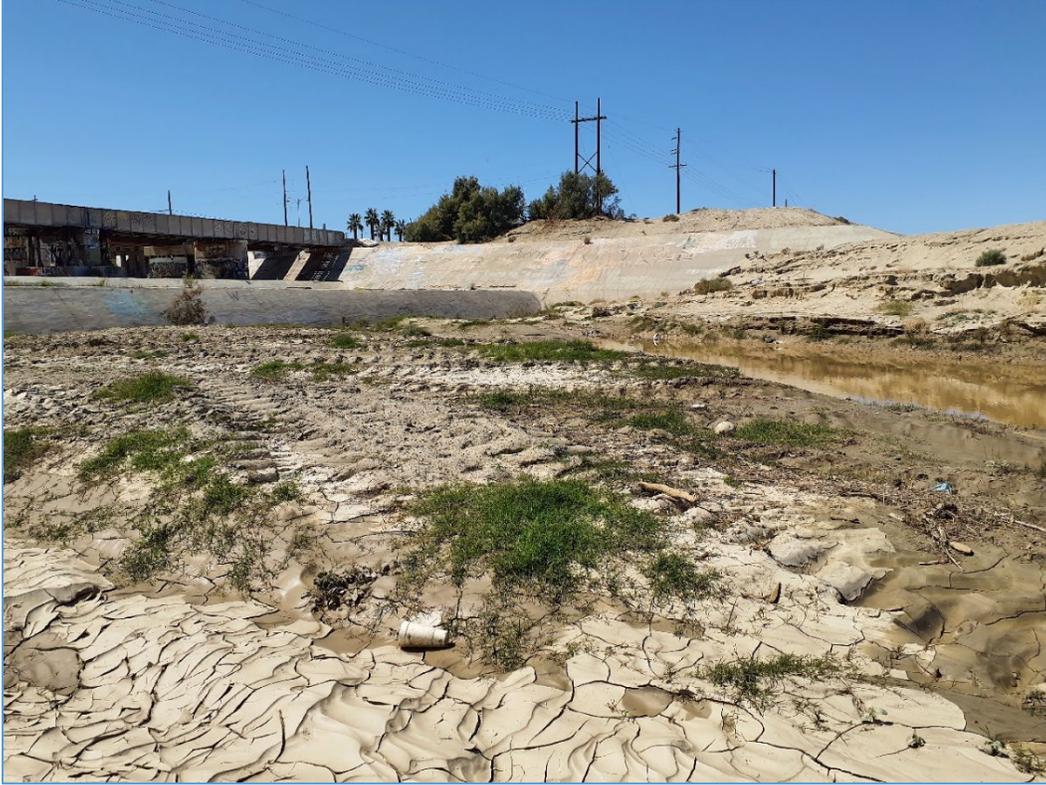


Photo 5. CVSC disturbed streambed, view facing west.



Photo 6. CVSC OHWM, view facing east-northeast.



Photo 7. Berm east of Thousand Palms Channel. Athel tamarisk was chipped and spread and left in place on the berm and the TPC, view facing south.



Photo 8. Coachella Canal overpass, view facing northwest towards adjacent golf course.



Photo 9. Berm west of Thousand Palms Channel, view facing west.



Photo 10. Thousand Palms Channel, view facing south.



Photo 11. Berm east of Thousand Palms Channel with resprouting Athel tamarisk, view facing north.



Photo 12. End of berm, view facing north.



Photo 13. End of berm, view facing south.



Photo 14. Road adjacent to Thousand Palms Channel, view facing south.



Photo 15. Overview of disturbance within the Thousand Palms Channel, view facing southeast.



Photo 16. Overpass above the Coachella Canal, view facing southwest.



Photo 17. Looking towards golf course across the Thousand Palms Channel, view facing northwest.



Photo 18. Berm along Art Road creating a perpendicular barrier to the Thousand Palms Channel, view facing north.



Photo 19. Chipped Athel tamarisk debris on the berm east of Thousand Palms Channel, view facing east.



Photo 20. Chipped Athel tamarisk within the Thousand Palms Channel, view facing north.



Photo 21. Berm east of the Thousand Palms Channel, view facing northwest.



Photo 22. Thousand Palms Channel overview, facing northwest.



Photo 23. Thousand Palms Channel overview, facing north.



Photo 24. Berm perpendicular to the Thousand Palms Channel along Avenue 42, view facing east.



Photo 25. Thousand Palms Channel overview, facing south across Avenue 42.



Photo 26. Salt crust at SP01 plot, view facing southeast.



Photo 27. SP01 soil test pit overview, facing northwest.



Photo 28. SP02 soil test pit overview, facing northwest.

APPENDIX C

Datasheets (Wetland Forms)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Thousand Palms City/County: Riverside Sampling Date: 03/28/2023
 Applicant/Owner: Kimley-Horn State: CA Sampling Point: SP02
 Investigator(s): Bonnie Rogers and Danielle Parsons Section, Township, Range: 15 T5S R7E
 Landform (hillslope, terrace, etc.): Channel Local relief (concave, convex, none): Concave Slope (%): 5
 Subregion (LRR): D Lat: 33.7359 Long: -116.244 Datum: WGS 84
 Soil Map Unit Name: Fe - Fluvents NWI classification: No
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No (If no, explain in Remarks.)
 Are Vegetation , Soil _____, or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes _____ No
 Are Vegetation , Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Area including vegetation and soil is disturbed. In prolonged drought conditions, during wet year.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30-ft</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. _____				Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)
2. _____				Total Number of Dominant Species Across All Strata: <u>1</u> (B)
3. _____				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)
4. _____				
<u>0</u> = Total Cover				Prevalence Index worksheet:
Sapling/Shrub Stratum (Plot size: <u>15-ft</u>)				Total % Cover of: _____ Multiply by: _____
1. _____				OBL species _____ x 1 = _____
2. _____				FACW species _____ x 2 = _____
3. _____				FAC species _____ x 3 = _____
4. _____				FACU species _____ x 4 = _____
5. _____				UPL species _____ x 5 = _____
<u>0</u> = Total Cover				Column Totals: _____ (A) _____ (B)
Herb Stratum (Plot size: <u>5-ft</u>)				Prevalence Index = B/A = _____
1. <u>Cynodon dactylon</u>	<u>10</u>	<u>Y</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators:
2. _____				___ Dominance Test is >50%
3. _____				___ Prevalence Index is ≤3.0 ¹
4. _____				___ Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. _____				___ Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____				
7. _____				
8. _____				
<u>10</u> = Total Cover				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
Woody Vine Stratum (Plot size: <u>15-ft</u>)				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
1. _____				
2. _____				
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>80</u> % Cover of Biotic Crust <u>0</u>				
Remarks: *Not listed in 2020 NWPL. Assumed FAC based on plant's ecology and previous AW FAC listing in 2007 "Wetland Plants of Specialized Habitats in the Arid West."				

