Appendix G
(Available on City website)

State Aquatic Resources Delineation Report
Phase 1
August 2021

State Jurisdictional Waters Delineation Report
Phase 2
December 2020

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Patti Murphy
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Subject: State Jurisdictional Waters Delineation Report for the Desert Peak Energy Center Project, City of Palm Springs, Riverside County, California

Dear Ms. Murphy:

This report documents the results of a delineation of waters of the state under the jurisdiction of the Regional Water Quality Control Board ("RWQCB") and streambeds under the jurisdiction of the California Department of Fish and Wildlife ("CDFW") for the proposed Desert Peak Energy Center Project ("Project"). The Project Site is located in the City of Palm Springs in Riverside County (Figure 1, Project Location; figures are provided in Attachment A). The proposed Project includes a battery energy storage system facility and four potential routes for an overhead generation tie line (gen-tie line). The review area totals approximately 257.18 acres and includes parcels within which the battery energy storage system will be situated and the four potential gen-tie line routes.

This letter report is intended to describe the existing conditions of state jurisdictional waters and wetlands within the review area.

1 Project Location and Description

The Project is located in the City of Palm Springs at the southeastern intersection of Diablo Road and Dillon Road. In addition to the proposed battery energy storage system facility, four potential gen-tie line routes were surveyed and analyzed along both Diablo Road or Melissa Lane (Figure 1, Project Location). The Project Site is located approximately 0.5 miles north of Interstate ("I") 10, 1.15 miles east of State Route 62, and 1.6 miles west of North Indian Canyon Drive. The Project Site is located in Section 9, Township 3 South, and Range 4 East of the San Bernardino Baseline and Meridian, and is shown on the U.S. Geological Survey Desert Hot Springs 7.5-minute quadrangle (Figure 2, USGS Topographical Map). The approximate center of the site corresponds to 33°55′16.73″ north latitude and 116°34′30.92″ west longitude.

The Project includes construction and operation of a battery energy storage system facility and overhead gen-tie line. The battery energy storage system facility is a 400-megawatt by 4-hour facility on an approximately 35-acre footprint of the larger 170-acre Project Site, along with associated on-site switchyard, inverters, fencing, roads, and supervisory control and data acquisition ("SCADA") system, and would store 1,600 megawatt-hours of energy. The Project also includes a 230-kilovolt overhead gen-tie line, which would extend approximately 1 mile north to the Southern California Edison ("SCE") Devers Substation. Although only one gen-tie route will be chosen, four potential gen-tie line routes have been analyzed herein: one along Diablo Road and three potential routes along Melissa Lane.

2 Regulatory Background

2.1 State Statutes and Regulations – Regional Water Quality Control Board

The State of California has concurrent jurisdiction with the federal government over Section 401 Water Quality Certification for jurisdictional waters and wetlands of the United States. Where isolated waters and wetlands (not subject to federal jurisdiction) are involved, the state will exert independent jurisdiction via the Porter-Cologne Water Quality Control Act.

Section 401 of the Clean Water Act

Section 401 of the Clean Water Act requires that any applicant for a federal permit for activities that involve a discharge to waters of the United States provide the federal permitting agency a certification from the state in which the discharge is proposed that states that the discharge will comply with the applicable provisions under the federal Clean Water Act. Therefore, in California, before the U.S. Army Corps of Engineers ("ACOE") will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification or waiver from the RWQCB.

Under Section 401 of the Clean Water Act, the RWQCB regulates at the state level all activities that are regulated at the federal level by ACOE.

Porter-Cologne Water Quality Control Act

The RWQCB regulates actions that would involve "discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state" (California Water Code Section 13260[a]), pursuant to provisions of the state Porter-Cologne Water Quality Control Act. "Waters of the state" are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code Section 13050[e]).

Under the Porter-Cologne Water Quality Control Act, the RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into waters of the state, that are not regulated by the ACOE due to a lack of connectivity with a navigable water body.

2.2 State Statutes and Regulations – California Department of Fish and Wildlife

California Fish and Game Code Sections 1600–1616 mandate that "it is unlawful for any person to substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds, without first notifying the department of such activity."

CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses (including dry washes) and lakes characterized by the presence of (1) definable bed and banks and (2) existing fish or wildlife resources. Furthermore, CDFW jurisdiction extends to riparian habitat and may include oak woodlands in canyon bottoms. Historical court cases have further extended CDFW jurisdiction to include watercourses that seemingly disappear, but reemerge elsewhere. Under the CDFW definition, a watercourse need not exhibit evidence of an ordinary high water mark ("OHWM") to be claimed as jurisdictional. CDFW does not have jurisdiction over ocean or shoreline resources.

Under California Fish and Game Code Sections 1600–1616, CDFW has the authority to regulate work that will substantially divert or obstruct the natural flow of, or substantially change or use any material from, the bed, channel, or bank of any river, stream, or lake. CDFW also has the authority to regulate work that will deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. This regulation takes the form of a requirement for a Lake or Streambed Alteration Agreement and is applicable to all projects.

3 Methods

3.1 Literature Review

The following available resources were reviewed to assess the potential for jurisdictional waters: aerial photographs (Google Earth 2020; Historic Aerials 2020); the U.S. Geological Survey 7.5-minute topographic quadrangle (USGS 2020); a Natural Resources Conservation Service soil map (USDA 2020); U.S. Environmental Protection Agency Watershed Assessment, Tracking, and Environmental Results System (EPA 2020), which includes the National Hydrography Dataset; and the National Wetland Inventory (USFWS 2020).

3.2 Jurisdictional Delineation

Dudek conducted a formal jurisdictional waters delineation within the approximate 257.18-acre review area on May 7, June 19, and November 6, 2020. The review area was surveyed on foot where potential aquatic resources were observed, where accessible. The segments of the potential gen-tie line routes along Melissa Lane that are located on private property were not accessible by foot; therefore, potential jurisdictional waters were noted from the public right-of-way ("ROW"). The following types of features were surveyed:

- Waters of the state under the jurisdiction of the State Water Resources Control Board, pursuant to Section 401 of the federal Clean Water Act and the Porter-Cologne Water Quality Control Act, as wetlands or drainages
- Streambeds under the jurisdiction of the CDFW, pursuant to Section 1602 of the California Fish and Game Code

Waters of the state were mapped in accordance with the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State adopted April 2, 2019. As described in these procedures, wetland waters of the state were mapped based on the procedures in the ACOE's *1987 Wetlands Delineation Manual* and the *2008 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ACOE 1987, 2008a). Non-wetland waters were mapped at the OHWM based on the procedures defined in *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (ACOE 2008b).

CDFW jurisdictional areas were mapped to include the bank of the stream/channel and outer dripline of adjacent riparian vegetation, as set forth under Section 1602 of the California Fish and Game Code.

To aid in the delineation and in conformance with the ACOE 2008 Field Guide, 21 OHWM datasheets (ODP-1 through ODP-25) were recorded at potential non-wetland waters within the review area to determine the OHWM indicators within those features. OHWM datasheets are included as Attachment B. The review area did not contain any

features that met the State Water Resources Control Board wetland criteria, and due to the lack of hydrophytic vegetation and hydric soils within the review area, wetland determination data forms were not completed.

Streambeds are typically delineated at the width of the channel or lake measured at the top of bank or the extent of associated riparian vegetation beyond the top of bank. For shallow drainages and washes that do not support riparian vegetation, the top-of-bank measurement may be the same as the OHWM measurement. To aid in the delineation, streambeds were delineated based on watercourse characteristics present in the field, which include surface flow, sediment transportation and sorting, physical indicators of channel forms, channel morphology, and riparian habitat associated with a streambed. These characteristics are based on the CDFW guidance document, *A Review of Stream Processes and Forms in Dryland Watersheds* (Vyverberg 2010) and the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (CEC 2014).

To assist in the determination of isolated waters of the state and CDFW streambeds (collectively "aquatic resources"), and in conformance with the *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (CEC 2014), data were collected using the Episodic Stream Indicator Data Sheet (Appendix G of CEC 2014) at seven features. These data collection points are referred to as Mesa Data Stations (MSD-1 through MSD-11). Episodic Stream Indicator Data Sheets are included as Attachment C. The review area was evaluated for evidence of fluvial indicators such as drainage swales, mud cracks, drift, wracking, vegetation-channel alignments, and hydrologic connectivity. The extent of any identified aquatic resources was determined by mapping the areas with fluvial characteristics and topography to the sampled locations. Photos of the aquatic resources were taken and are provided in Attachment D.

The limits of aquatic resources were collected in the field using a Trimble GeoXT GPS unit with sub-meter accuracy. The geographic extents were digitized in geographic information system based on the GPS data and data collected directly onto field maps into a Project-specific geographic information system using ArcGIS software.

4 Environmental Setting

4.1 Land Uses

The portion of the review area not including the gen-tie line is characterized as an active wind turbine farm with associated development (i.e., concrete pads, wind turbines, storage yard, and associated dirt roads), with the remaining portions containing native desert vegetation. This portion of the review area is bound by the SCE Devers Substation to the north, Indian Canyon Drive to the east, I-10 to the south, and State Route 62 to the west. Historic aerials depict vegetation clearing for development associated with the wind turbine farm sometime between 1972 and 1996 (Historic Aerials 2020). However, flows returned to the site and are evident in historic aerials from 2002 (Historic Aerials 2020), with large storm events occurring in 2004 as evident in Google Earth imagery (Google Earth 2020).

The portion of the review area including the potential gen-tie line routes are characterized by native desert vegetation, dirt roads (i.e., Diablo Road and associated SCE transmission alignment roads), Melissa Lane, and SCE's Devers Substation. This portion of the review area is bound by Diablo Road to the west, the Devers Substation to the north, and active wind turbine farms associated with development to the east and south. A portion of the SCE Devers Substation, located within the northwest portion of the review area, was already constructed in 1972 based on a review of historic

aerials (Historic Aerials 2020). This development redirected flows and thereby cut off flows to the east. The CPV Sentinel Palm Springs Solar Energy development located to the east was constructed sometime between June 2011 and September 2011 (Google Earth 2020).

Existing adjacent land uses include a mix of associated wind turbine farms and vacant lands to the north, east, south, and west. Representative photographs of the Project Site are included in Attachment D.

4.2 Climate

The Coachella Valley, within which the review area is located, has an arid climate characterized by hot, dry summers with mild winters (RWQCB 2019). Average temperatures near Palm Springs range from approximately 57°F to 89°F; precipitation occurs primarily in the winter, with additional thunderstorms in the summer, and typically averages less than 5 inches per year (WRCC 2020; RWQCB 2019).

4.3 Soils

Two soil series are mapped within the review area: Carsitas fine sand, 0%–5% slopes, and Carsitas gravelly sand, 0%-9% slopes. Approximately 143.54 acres of Carsitas fine sand, 0%–5% slopes, and approximately 113.63 acres of Carsitas gravelly sand, 0%–9% slopes, are mapped within the review area. These soils are described in more detail below (USDA 2020) and the spatial distribution of these soils is depicted in Figure 3, Soils.

- **Carsitas Family Series** consists of very deep, somewhat excessively drained soils that formed in alluvium derived from granitic and/or gneissic rocks. Carsitas soils are on alluvial fans, fan aprons, valley fills, and remnants of alluvial fans and in drainage ways at elevations of 220 feet below mean sea level to 2,625 feet above mean sea level. These soils have low runoff and high saturated hydraulic connectivity. Carsitas soils are distributed in southeastern California and support irrigated agricultural areas that include citrus and grapes, as well as watershed, wildlife habitat, and recreation. Vegetation in uncultivated areas includes creosote bush, burrobush (*Ambrosia dumosa*), barrel cactus (*Ferocactus* sp.), mesquite (*Prosopis* sp.), and blue palo verde (*Parkinsonia* sp.).

4.4 Vegetation

A total of four vegetation communities and land cover types occur within the review area based on general physiognomy and species composition. Two vegetation communities were mapped and include Sonoran creosote bush scrub and disturbed Sonoran creosote bush scrub, and two land covers (disturbed habitat and urban/developed) occur on site. Figure 4, Biological Resources, illustrates the distribution of vegetation communities land covers within the review area.

4.4.1 Sonoran Creosote Bush Scrub

Sonoran creosote bush scrub community includes creosote bush as the dominant shrub, forming an open community approximately 0.5 to 3 meters (2 to 10 feet) in height and occurring on well-drained soils (CVAG 2016). Burrobush is a common co-dominant shrub in the canopy, with various ephemeral herbs flowering late winter/early spring within the herbaceous layer (CVAG 2016).

Within the review area, Sonoran creosote bush scrub is dominated by an open cover of creosote bush. Associated species present within this community include burrobush, cheesebush (*Ambrosia salsola*), sweetbush (*Bebbia*

juncea), brittlebush (*Encelia farinosa*), and jojoba (*Simmondsia chinensis*). The herbaceous layer is composed of common Mediterranean grass (*Schismus barbatus*) and redstem stork's bill (*Erodium cicutarium*). Disturbed Sonoran creosote bush scrub is dominated by a lower cover of creosote bush and associated species as a result of past disking and disturbance. Sonoran creosote bush scrub was mapped within much of the review area, with disturbed Sonoran creosote bush mapped within portions of the site south of Dillon Road. These areas included evidence of past disturbance/grading with a lower cover of shrubs present.

4.4.2 Disturbed Habitat

The Coachella Valley Multiple Species Habitat Conservation Plan does not describe disturbed habitat; however, this land cover type refers to areas that have been permanently altered by previous human activity that has eliminated all future biological value of the land for most species. The native or naturalized vegetation is no longer present, and the land lacks habitat value for sensitive wildlife, including potential raptor foraging.

Disturbed land on site consists of dirt roads within the Project Site and potential gen-tie line routes and vacant areas (i.e., storage yards southeast of Dillon Road and Diablo intersection and north of Dillon Road) that have been previously graded and are primarily devoid of vegetation.

4.4.3 Urban/Developed Land

Urban/developed areas include areas that have been constructed upon or otherwise physically altered to an extent that native vegetation is no longer supported. Developed land is characterized by permanent or semi-permanent structures, pavement or hardscape, and landscaped areas that often require irrigation (Oberbauer et al. 2008).

Within the review area, developed areas include paved roads (e.g., Dillon Road and Melissa Road). SCE's Devers Substation within the northern portion of the study area.

4.5 Topography

The review area is located within the Colorado Desert, in the northwestern end of the Coachella Valley, which is generally bounded by the San Bernardino Mountains and Little San Bernardino Mountains to the north, the San Jacinto and Santa Rosa Mountains to the south, and the Salton Sea and Imperial Valley to the east. The review area is relatively flat; however, elevations gradually slope from northwest to southeast. Elevation within the review area ranges from approximately 1,100 feet above mean sea level in the northwest and gradually sloping to approximately 837 feet above mean sea level in the southeast corner of the review area.

4.6 Hydrology

The review area is located within the Whitewater Hydrologic Unit and Garnet Wash Subwatershed, in which the Whitewater River is the major surface water body (Figure 5, Hydrologic Units). According to the Water Quality Control Plan for the Colorado River Basin (RWQCB 2019), the runoff resulting from rains and snowmelt within the higher elevations are the major sources of groundwater replenishment and result in several perennial streams in the Coachella Valley Planning Area, with the Whitewater River being the major drainage course. The Whitewater River contains perennial flows in the mountains; however, because of diversions and percolation into the basin this river becomes dry further downstream. Further downstream to the east, the Whitewater River flows through an engineered extension known as the Coachella Valley Storm Water Channel that ultimately flows east until it terminates into the Salton Sea.

The nearest major waterbodies are Garnet Wash approximately 2,000 feet south of the review area and the Whitewater River approximately 1.1 miles south of the review area. The U.S. Geological Survey topographic quadrangle and National Hydrography Dataset (USGS 2020) depict two streams within the review area, one stream bisecting the southwestern corner and one bisecting the northwestern and southeastern portions of the review area (Figure 2 and Figure 5). The National Wetland Inventory (USFWS 2020) depicts the same riverine features and an additional riverine feature bisecting the review area north to south (Figure 2 and Figure 6, Hydrology).

The southwestern feature is an unnamed braided ephemeral feature (i.e., alluvial fan) that flows from the San Bernardino Mountains in the northwest, through the review area, and continues 3.3 miles southeast until its confluence with Garnet Wash, which flows 0.3 miles south under the I-10 through a series of box culverts, continuing 0.5 miles southeast until its confluence with the Whitewater River. The Whitewater River continues approximately 39 miles southeast, ultimately terminating into the Salton Sea.

The second stream that bisects the northwestern and southeastern portions of the review area is an unnamed, braided, ephemeral feature that flows northwest to southeast and originates outside of the review area to the northwest from Painted Hills. Flows continue southeast, flowing under State Route 62, and then continuing southeast approximately 1.73 miles where flows enter the northern portion of the review area, where flows are directed south due to development of SCE's Devers Substation. Flows continue south outside of the review area approximately 0.6 miles before crossing Dillon Road, continuing approximately 0.5 miles southeast through the review area before dissipating as sheetflow. Flows have been altered due to the development of Dillon Road, roads associated with the utility line easement that bisect the northeastern portion of the review area, and associated development with the active wind turbine farm. Historically, these flows continued 0.7 miles southeast until their confluence with Garnet Wash.

As depicted in Figure 6, the third unnamed feature historically flowed north to south through the review area; however, flows have been altered due to the development of SCE's Devers Substation in the north, development of Dillon Road to the south, and associated development with the active wind turbine farm; this appears to have altered and redirected these flows to the east.

Beneficial uses for unnamed washes (ephemeral streams) within the West Colorado River Basin, in which the review area is located, include freshwater replenishment, groundwater recharge, non-contact recreation, warm freshwater habitat, and wildlife habitat (RWQCB 2019).

5 Results of Survey

5.1 Jurisdictional Delineation

As further described below, the survey identified 15 jurisdictional features (NWW-1, NWW-2, NWW-3, NWW-3a, NWW-3b, NWW-4, NWW-5, NWW-6, NWW-6a, NWW-7, NWW-8, NWW-9, NWW-9a, NWW-10, and NWW-11) within the review area as waters of the state under the jurisdiction of RWQCB and jurisdictional streambeds under the jurisdiction of CDFW. In addition, the survey identified non-regulated features (erosional or roadside ditches) within the review area. The limits of jurisdictional waters are provided in Figures 7-1 through 7-3, Jurisdictional Delineation Results. OHWM datasheets are included as Attachment B and Episodic Stream Indicator Data Sheets are included as Attachment C. Photos of the jurisdictional features were taken and are provided in Attachment D.

5.1.1 Waters of the State/CDFW Streambeds

NWW-1

NWW-1 is an ephemeral wash that bisects the southwestern portion of the review area. This feature originates from rains and snowmelt within the higher elevation peaks to the northwest. This feature flows northwest to southeast through the southwestern portion of the review area. As discussed in Section 4.6, Hydrology, flows continue southeast until their confluence with Garnet Wash. The active floodplain, as defined by the ACOE 2008 Field Guide for determining the OHWM, was delineated based on OHWM indicators, which included a distinct change in average sediment texture as compared to adjacent uplands, change in vegetation cover, and sediment deposition (ODP-5 and ODP-6). The average width of the OHWM within the review area was approximately 360 feet in width at the upstream portion, 90 feet in width at the central portion, and 72 feet in width at the downstream portion.

This feature also contained defined banks with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of bank is the same as the OHWM measurement.

Based on the presence of an OHWM and a bed and bank, NWW-1 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-2

NWW-2 is an unvegetated ephemeral drainage occurring within the central portion of the review area. This feature originates within the review area, immediately south of the dirt road that runs from east to west along the northern edge of the non-gen-tie line portion of the review area. This feature is consistently present within Google Earth imagery between 2004 and 2019, and was likely historically connected to NWW-3 to the north (Google Earth 2020). This feature flows south approximately 200 feet before flowing outside of the review area, continues south outside of the review area approximately 750 feet, and then re-enters the review area, continuing approximately 130 feet before dissipating as sheetflow. There was no downstream connectivity observed during the 2020 site visit; however, in 2004, based on Google Earth imagery, this feature continued off site ultimately flowing to Garnet Wash to the south, which continues to flow southeast until its confluence with the Whitewater River (Google Earth 2020). Based on Google Earth imagery, sometime between June and September 2011, a north–south trending dirt road was constructed within the eastern portion of the review area. In June 2012, additional grading occurred along the road associated with installation of turbines and these events disrupted the hydrology within the southeastern

portion of the review area. An OHWM is evident and characterized by change in average sediment size, absence of vegetation, change in vegetation cover, and sediment deposition (ODP-12 and ODP-13). The OHWM averages 5 feet to 8 feet in width.

This feature also contained defined banks with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and a defined bed and bank, NWW-2 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-3

NWW-3 is an ephemeral wash bisecting the northwestern and southeastern portions of the review area. This feature originates outside of the review area to the northwest. This feature flows southeast through the northern portion of the review area for approximately 600 feet before continuing to flow southeast outside of the review area through an existing wind turbine farm for approximately 0.5 miles. Flows continue across Dillon Road and enter the review area, continuing to flow for approximately 946 feet, then exit the review area and continue approximately 790 feet south before dissipating as sheetflow. While there was no downstream connectivity observed during the 2020 site visit, this feature continued off site in 2004, based on Google Earth imagery, ultimately flowing to Garnet Wash to the south, which continues to flow southeast until its confluence with the Whitewater River. Based on Google Earth imagery, sometime between June and September 2011, a north–south trending dirt road was constructed within the southeastern portion of the review area. In June 2012, additional grading occurred along the road associated with installation of turbines and these events disrupted the hydrology within the southeastern portion of the review area. The upstream portion of NWW-3 within the northwestern portion of the review area historically contained compound flows as part of an alluvial floodplain; however, the development of SCE's Devers Substation sometime before 1972 altered hydrology, and flows are now directed through a culvert and are confined to a single-thread channel within this portion of the review area. The OHWM indicators within the upstream reach of NWW-3 included break in bank slope, change in vegetation cover and species, change in average sediment size, and sediment deposition. The active floodplain within the downstream portions of NWW-3 were delineated based on OHWM indicators, which included a distinct change in average sediment texture as compared to adjacent uplands, change in vegetation cover, and sediment deposition (ODP-14 and ODP-22). Within the northern portion of the review area, averages for the OHWM ranged from 21 feet to 140 feet. Within the southern portion of the review area, averages for the OHWM ranged from approximately 22 feet to 107 feet in width.

This feature also contained defined banks with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and defined bed and bank, NWW-3 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-3a (Tributary to NWW-3)

NWW-3a is an unvegetated ephemeral tributary to NWW-3 occurring within the northeastern portion of the review area. The feature originates within the review area immediately south of the dirt road. This feature flows south approximately 333 feet before its confluence with NWW-3. An OHWM is evident and characterized by change in average sediment size, absence of vegetation, change in vegetation cover, and sediment deposition (ODP-15). The OHWM averages 1 foot to 5 feet in width.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the banks was the same as the OHWM measurement.

Based on the presence of an OHWM, NWW-3a was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-3b (Tributary to NWW-3)

NWW-3b is an unvegetated ephemeral tributary to NWW-3 occurring within the northeastern portion of the review area. The feature originates within the review area immediately south of the dirt road. This feature flows south approximately 356 feet before its confluence with NWW-3. An OHWM is evident and characterized by change in average sediment size, absence of vegetation, change in vegetation cover, and sediment deposition (ODP-16). The OHWM averages 1 foot to 4 feet in width.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and a defined bed and bank, NWW-3b was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-4

NWW-4 is an unvegetated ephemeral channel within the northeastern portion of the review area. This feature originates within the review area immediately south of a dirt road. This feature flows south approximately 466 feet, then exits the review area and continues approximately 1,169 feet south before dissipating as sheetflow. While there was no downstream connectivity observed during the 2020 site visit, based on 2004 Google Earth imagery this feature continued off site ultimately flowing to Garnet Wash to the south, which continues to flow southeast until its confluence with the Whitewater River (Google Earth 2020). Based on Google Earth imagery, sometime between June and September 2011, a north–south trending dirt road was constructed within the eastern portion of the review area. In June 2012, additional grading occurred along the road associated with installation of turbines and these events disrupted the hydrology within the southeastern portion of the review area. An OHWM is evident and characterized by break in bank and slope, change in average sediment size, absence of vegetation, change in vegetation cover, and sediment deposition (ODP-17). Average widths for the OHWM ranged from approximately 1 foot to 3 feet.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM, NWW-4 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-5

NWW-5 is an unvegetated ephemeral channel within the northeastern portion of the review area. This feature originates within the review area immediately south of a dirt road. This feature flows south approximately 900 feet before dissipating as sheetflow. Flows appear to disperse along a previous graded area (i.e., old road). An OHWM is evident and

characterized by break in bank and slope, change in average sediment size, absence of vegetation, change in vegetation cover, and sediment deposition (ODP-17). Average widths for the OHWM ranged from approximately 1 foot to 3 feet.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and a defined bed and bank, NWW-5 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-6

NWW-6 is an unvegetated ephemeral braided channel within the northern portion of the review area. This feature historically originated outside of the review to the northwest; however, development of SCE's Devers Substation that occurred sometime before 1972 (Historic Aerials 2020) has cut off flows. Currently flows originate just outside of the review area immediately east of the Devers Substation and continue to flow south approximately 1,083 feet before entering the northern portion of the review area. Flows continue south approximately 555 feet before exiting the review area and dispersing as sheetflow within the existing wind turbine farm to the south. An OHWM is evident and characterized by break in bank and slope, change in average sediment size, change in vegetation, change in vegetation cover, and sediment deposition (ODP-23). Average widths for the OHWM ranged from approximately 31 feet to 42 feet.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and a defined bed and bank, NWW-6 was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under CDFW jurisdiction.

NWW-6a (Tributary to NWW-6)

NWW-6a is an unvegetated ephemeral tributary to NWW-6 occurring within the northern portion of the review area. The feature originates outside of the review area to the north immediately east of SCE's Devers Substation. Historically, this feature was part of the alluvial fan system to the northwest; however, development of SCE's Devers Substation cut off flows and altered the hydrology in this area. This feature flows south approximately 415 feet before entering the review area and continues to flow through the review area approximately 548 feet before its confluence with NWW-6 outside of the review area to the south. An OHWM is evident and characterized by change in average sediment size. The OHWM averages 13 feet to 72 feet in width.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the banks was the same as the OHWM measurement.

Based on the presence of an OHWM and defined bed and banks, NWW-6a was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under CDFW jurisdiction.

NWW-7

NWW-7 is an unvegetated ephemeral channel within the northeastern portion of the review area. This feature originates outside of the review area immediately south of the CPV Sentinel palm Springs Solar Energy Development. This feature flows southeast approximately 315 feet through the review area. Flows appear to continue along a dirt road, crossing Melissa Lane before continuing southeast, east of Melissa Lane. An OHWM is evident and characterized by break in bank and slope, change in average sediment size, absence of vegetation, change in vegetation cover, shelving, and sediment deposition (ODP-24). Average widths for the OHWM ranged from approximately 6 feet to 13 feet.

This feature also contained defined banks, with the limits of the streambed mapped at the top of bank. Due to the shallow nature of this feature, the width of the channel as measured at the top of banks is the same as the OHWM measurement.

Based on the presence of an OHWM and a defined bed and bank, NWW-7 was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under CDFW jurisdiction.

NWW-8

NWW-8 is an unvegetated ephemeral channel within the northeastern portion of the review area. Due to private properties east of Melissa Lane where this feature occurs, waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction were mapped from the public ROW and based on aerial imagery. This feature originates outside of the review area to the northwest from Painted Hills. This feature flows south through the review area for approximately 223 feet, then continues to flow outside of the review area approximately 1.47 miles before its confluence with Garnet Wash. An OHWM is evident and characterized by break in bank and slope and absence of vegetation. Average widths for the OHWM were not collected as access was not granted to this area.

Based on observation from the existing ROW, this feature also contained defined banks.

Based on the presence of an OHWM and a defined bed and bank, NWW-8 was delineated as non-wetland waters of the state under RWQCB jurisdiction of RWQCB and a streambed under CDFW jurisdiction.

NWW-9

NWW-9 is an unvegetated ephemeral channel within the northeastern portion of the review area. Due to private properties east of Melissa Lane where this feature occurs, waters of the State under RWQCB jurisdiction or streambed under CDFW jurisdiction were mapped from the public ROW and based on aerial imagery. This feature originates within the review area immediately south of a dirt road. This feature historically was connected and originated to the Norwest from Painted Hills; however, developments to the northwest (i.e., SCE Devers Substation and CPV Sentinel Solar Energy) have altered the hydrology in this area. This feature flows south through the review area for approximately 441 feet, then continues to flow outside of the review area approximately 1.25 miles before its confluence with Garnet Wash. An OHWM is evident and characterized by break in bank and slope and absence of vegetation. Average widths for the OHWM were not collected as access was not granted to this area.

Based on observation from the existing ROW, this feature also contained defined banks.

Based on the presence of an OHWM and a defined bed and bank, NWW-9 was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under CDFW jurisdiction.

NWW-9a (Tributary to NWW-9)

NWW-9a is an unvegetated ephemeral tributary to NWW-9 occurring within the northeastern portion of the review area. Due to private properties east of Melissa Lane where this feature occurs, waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction were mapped from the public ROW and based on aerial imagery. The feature originates within the review area immediately south of the dirt road. This feature flows south approximately 269 feet before its confluence with NWW-9. An OHWM is evident and characterized by change in average break in bank and slope and absence of vegetation. Average widths for the OHWM were not collected as access was not granted to this area.

Based on observation from the existing ROW, this feature also contained defined banks.

Based on the presence of an OHWM and a defined bed and bank, NWW-9a was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under the CDFW jurisdiction.

NWW-10

NWW-10 is an unvegetated ephemeral channel within the northeastern portion of the review area. Due to private properties east of Melissa Lane where this feature occurs, waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction were mapped from the public ROW and based on aerial imagery. This feature originates within the review area immediately east of Melissa Lane. An inlet along the west side of Melissa Lane and outlet along the east side of Melissa Lane direct flows and runoff from the storage yard west of Melissa Lane. This feature historically was connected and originated to the Norwest from Painted Hills; however, developments to the northwest (i.e., SCE's Devers Substation and CPV Sentinel Solar Energy) have altered the hydrology in this area. This feature flows southeast through the review area for approximately 199 feet, then continues to flow outside of the review area approximately 1.22 miles before its confluence with Garnet Wash. An OHWM is evident and characterized by break in bank and slope and absence of vegetation. Average widths for the OHWM were not collected as access was not granted to this area.

Based on observation from the existing right-of-way, this feature also contained defined banks.

Based on the presence of an OHWM and a defined bed and bank, NWW-10 was delineated as non-wetland waters of the state under the jurisdiction of RWQCB and a streambed under the jurisdiction of CDFW.

NWW-11

NWW-11 is an unvegetated ephemeral channel within the eastern portion of the review area. Due to private properties west of Melissa Lane where this feature occurs, waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction were mapped from the public ROW and based on aerial imagery. This feature originates within the review area immediately east of a dirt road. This feature historically was connected and originated to the northwest from Painted Hills; however, developments to the northwest (i.e., SCE's Devers Substation and CPV Sentinel Solar Energy) have altered the hydrology in this area. This feature flows southeast through the review area for approximately 247 feet,

then continues to flow south along Melissa Lane where it dissipates into erosional features associated with Dillon Road. An OHWM is evident and characterized by break in bank and slope and absence of vegetation. Average widths for the OHWM were not collected as access was not granted to this area.

Based on observation from the existing ROW, this feature also contained defined banks.

Based on the presence of an OHWM and a defined bed and bank, NWW-11 was delineated as non-wetland waters of the state under RWQCB jurisdiction and a streambed under CDFW jurisdiction.

5.1.2 Non-Regulated Features

Erosional Features

The review area contains numerous unvegetated erosional features associated with Dillon Road and Diablo Road (ODP-1 through ODP-4), one erosional feature immediately south of the storage yard southeast of the intersection of Dillon Road and Diablo Road (ODP-9), and a second erosional feature along a north–south trending gravel road within the southern portion of the review area south of Dillon Road. Additional erosional features associated with runoff from SCE's Devers Substation and CPV Palm Springs Sentinel Energy development within the northern portion of the review were also observed. Erosional features are a result of road runoff flowing across the natural topography of the site. These features range from approximately 1 foot wide to 4 feet wide and are incised with vertical shelves averaging 1 to 3 feet high. These features do not support beneficial uses or riparian resources; therefore, they were not considered waters of the state under RWQCB jurisdiction or streambeds under CDFW jurisdiction.

Sheetflow Features

Based on aerial imagery, the review area contains several locations where the aerial imagery has characteristics that appear to be consistent with potential aquatic features. These areas were inspected and no OHWM indicators were observed; however, these areas appear to be receiving some sheetflow associated with the natural topography of the site (ODP-7, ODP-8, ODP-10, ODP-11. ODP-18, OPD-19, ODP-20, and ODP-25). Due to lack of OHWM and lack of a defined bed and back, these areas were not considered waters of the state under RWQCB jurisdiction or streambed under CDFW jurisdiction.

5.2 Jurisdictional Delineation Conclusion

The results of the jurisdictional delineation concluded there are approximately 7.42 acres of non-wetland waters of the state under the jurisdiction of RWQCB and streambed under CDFW jurisdiction within the review area. However, access was not granted to private property parcels located east and west of the Melissa Lane public ROW; therefore, the jurisdictional extent of these features is not accounted for in the 7.42-acre total and if the selected gen-tie route was to traverse these areas, a formal jurisdictional delineation would need to be conducted in order to map jurisdiction on these currently inaccessible areas. Table 1 summarizes the total acreage of these features within the review area. The features are depicted on Figures 7-1 through 7-3.

Table 1. Non-Wetland Waters of the State (RWQCB) and Jurisdictional Streambed (CDFW) within the Review Area

Feature	Total Acres/ Linear Feet	OHWM Indicators	Dominant Vegetation	Latitude/Longitude
NWW-1	3.44/1,750	Change in sediment, change in vegetation species, change in vegetation cover, and sediment deposition	Creosote Bush within AFP and Non-Vegetated LFC	33.918348, −116.579412
NWW-2	0.48/1,137	Change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.921045, −116.574632
NWW-3	2.20/2,568	Change in sediment, change in vegetation cover, and sediment deposition	Creosote Bush within AFP and Non-Vegetated LFC	33.923746, −116.575546
NWW-3a	0.03/351	Change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.924285, −116.575601
NWW-3b	0.02/372	Change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.924250, −116.575072
NWW-4	0.09/1,141	Defined bed and bank, change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.924103, −116.574636
NWW-5	0.19/984	Defined bed and bank, change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.923164, -116.572343
NWW-6	0.38/879	Defined bed and bank, change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.932336, -116.574926
NWW-6a	0.53/485	Change in sediment size	Non-Vegetated Channel	33.932405, -116.575507
NWW-7	0.06/280	Defined bed and bank, change in sediment, absence of vegetation, and sediment deposition	Non-Vegetated Channel	33.933219, -116.571421
NWW-8	NA[1]/229	Defined bed and bank, absence of vegetation	Non-Vegetated Channel	33.931637, -116.568494
NWW-9	NA[1]/563	Defined bed and bank, absence of vegetation	Non-Vegetated Channel	33.931699, -116.570124
NWW-9a	NA[1]/251	Defined bed and bank, absence of vegetation	Non-Vegetated Channel	33.930988, -116.570188
NWW-10	NA[1]/206	Defined bed and bank, absence of vegetation	Non-Vegetated Channel	33.929107, -116.570093

Table 1. Non-Wetland Waters of the State (RWQCB) and Jurisdictional Streambed (CDFW) within the Review Area

Feature	Total Acres/ Linear Feet	OHWM Indicators	Dominant Vegetation	Latitude/Longitude
NWW-11	NA[1]/201	Defined bed and bank, absence of vegetation	Non-Vegetated Channel	33.925374, -116.570891
Total[2]	**7.42[1]/ 11,400**			

Notes: RWQCB = Regional Water Quality Control Board; CDFW = California Department of Fish and Wildlife; OHWM = ordinary high water mark; AFP = active floodplain; LFC = low flow channel.

1 Access was not granted to parcels east and west of Melissa Lane; therefore, the jurisdictional limits of these features were not mapped and the total acreage cannot be provided until access is granted.

2 Acreage may not total due to rounding.

6 Impacts and Recommendations

Should impacts, modifications, or improvements to jurisdictional waters be required as part of Project construction, consultation should be undertaken with the applicable resource agencies to determine if permits and/or mitigation would be required. A Waste Discharge Requirement from the RWQCB would be required if waters of the state are impacted, as there is no federal action (such as a 404 permit) for the Project. A notification of a Streambed Alteration Agreement to CDFW would also be required prior to modification of jurisdictional streambeds. Applications for any of these permits would require demonstration of avoidance and minimization of aquatic resources to the maximum extent practicable and compensatory mitigation would be required for permanent loss of waters or functions and values of waters.

Should you have any questions regarding this report or require additional information, please do not hesitate to contact me at bstrittmater@dudek.com or 760.685.1231.

Sincerely,

Britney Strittmater

Britney Strittmater
Biologist

Att.: Attachment A, Figures
Attachment B, Ordinary High Water Mark Forms
Attachment C, Episodic Stream Indicator Data Sheets
Attachment D, Photo Documentation

7 References

ACOE (U.S. Army Corps of Engineers). 1987. *Corps of Engineers Wetland Delineation Manual.* Online ed. Environmental Laboratory, Wetlands Research Program Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Engineer Waterways Experiment Station. January 1987. Accessed December 2018. http://www.fedcenter.gov/Bookmarks/index.cfm?id=6403&pge_id=1606.

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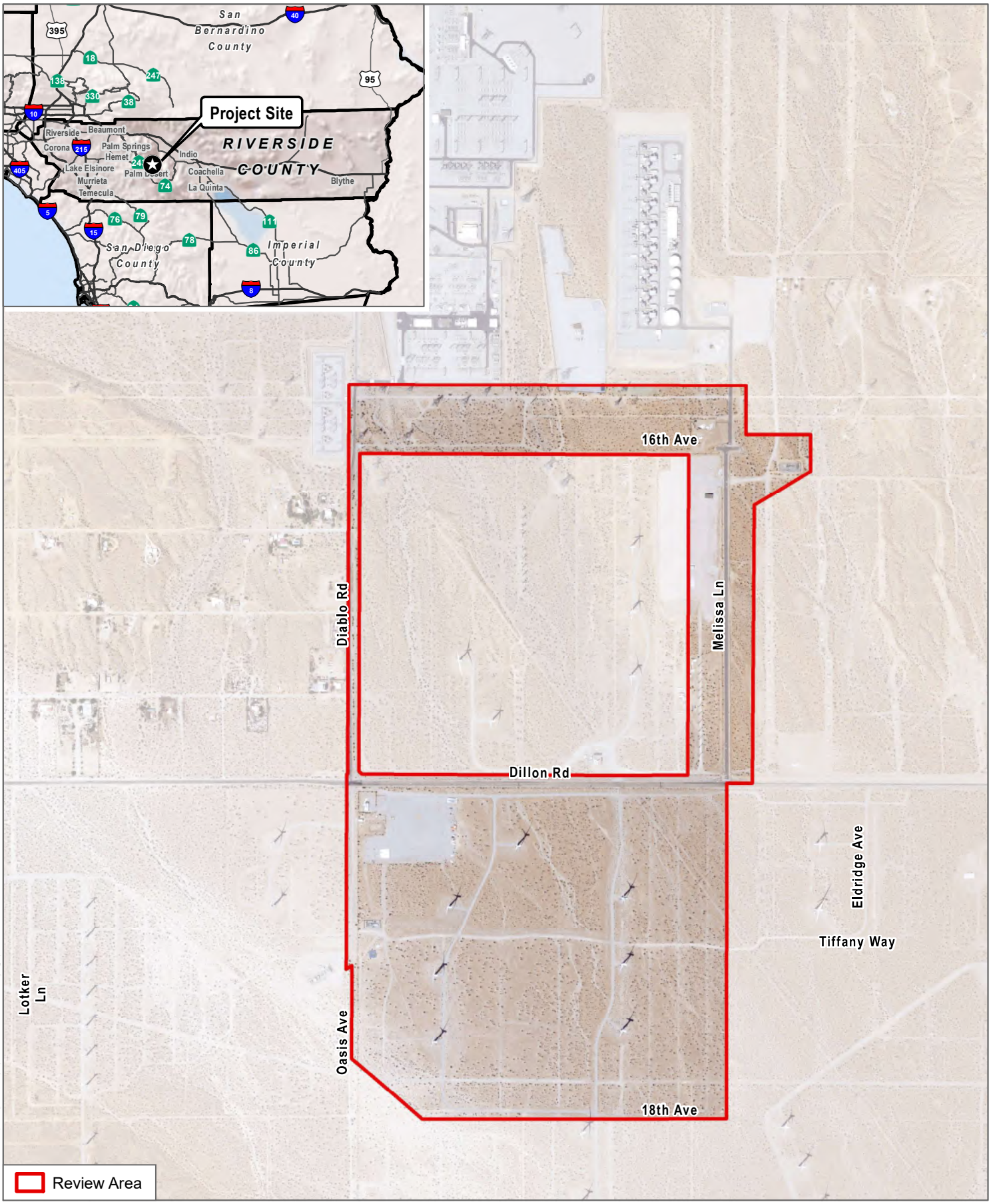
Attachment A

Figures



SOURCE: USDA 2018, ESRI 2020

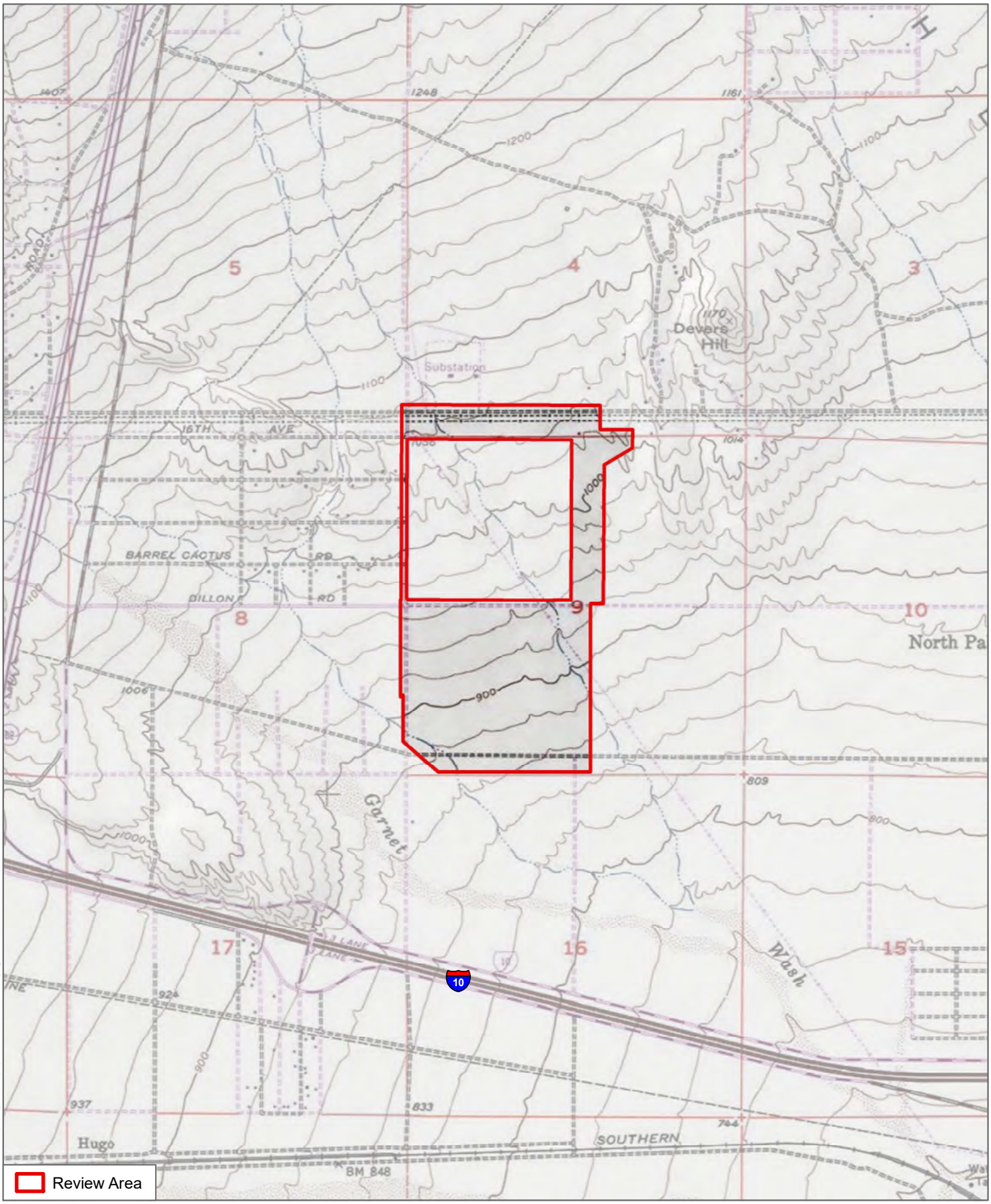
DUDEK

0 500 1,000 Feet

FIGURE 1

Project Location

Desert Peak Energy Center Project



SOURCE: USGS 7.5-Minute Series Desert Hot Springs Quadrangle

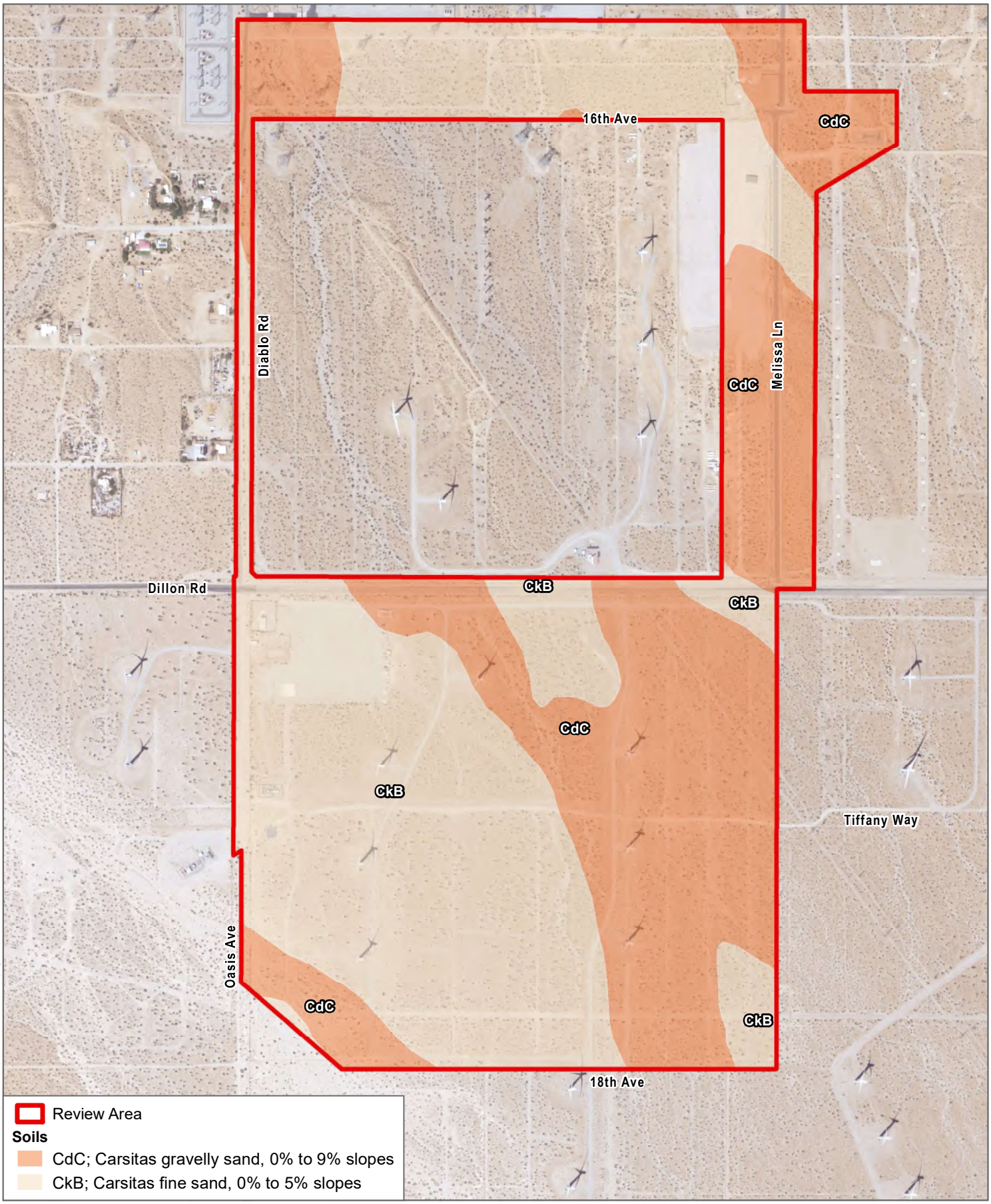
DUDEK

0 1,000 2,000 Feet

FIGURE 2

USGS Topographic Map

Desert Peak Energy Center Project



SOURCE: USDA 2008/2018

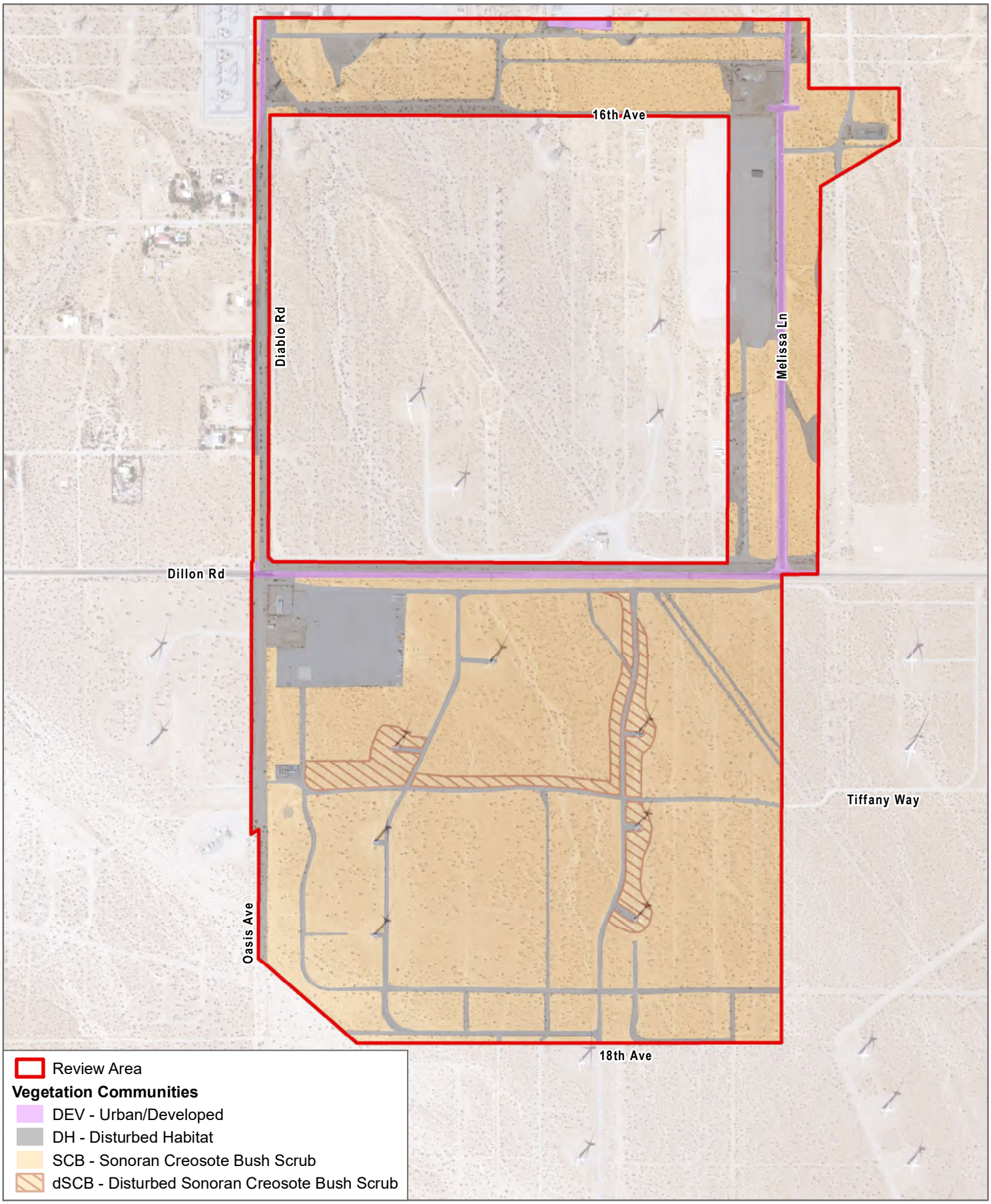
DUDEK

0 355 710 Feet

FIGURE 3

Soils

Desert Peak Energy Center Project



SOURCE: USDA 2008/2018

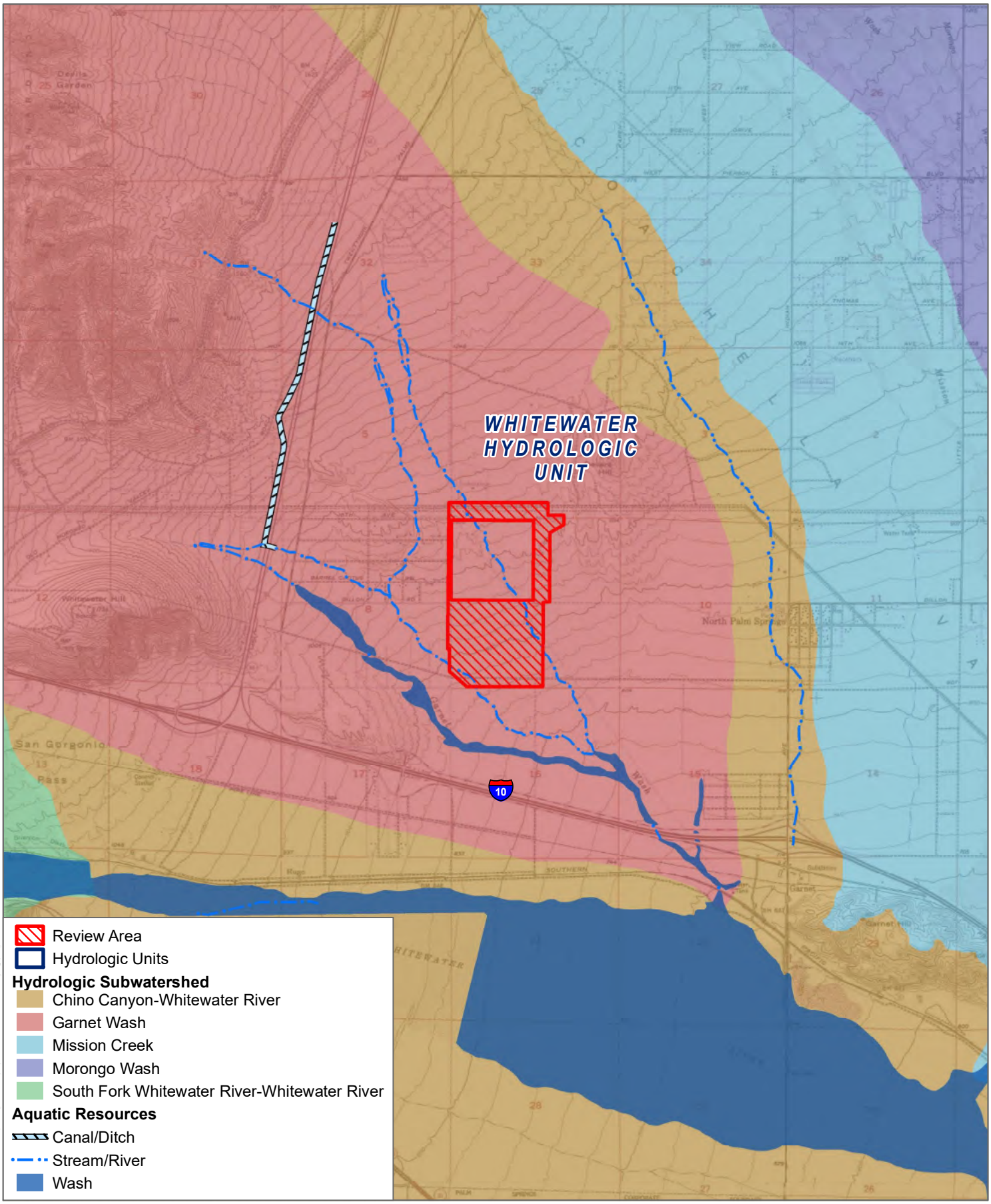
DUDEK

0 350 700 Feet

FIGURE 4

Biological Resources

Desert Peak Energy Center Project



SOURCE: USGS 2018, USDA 2018

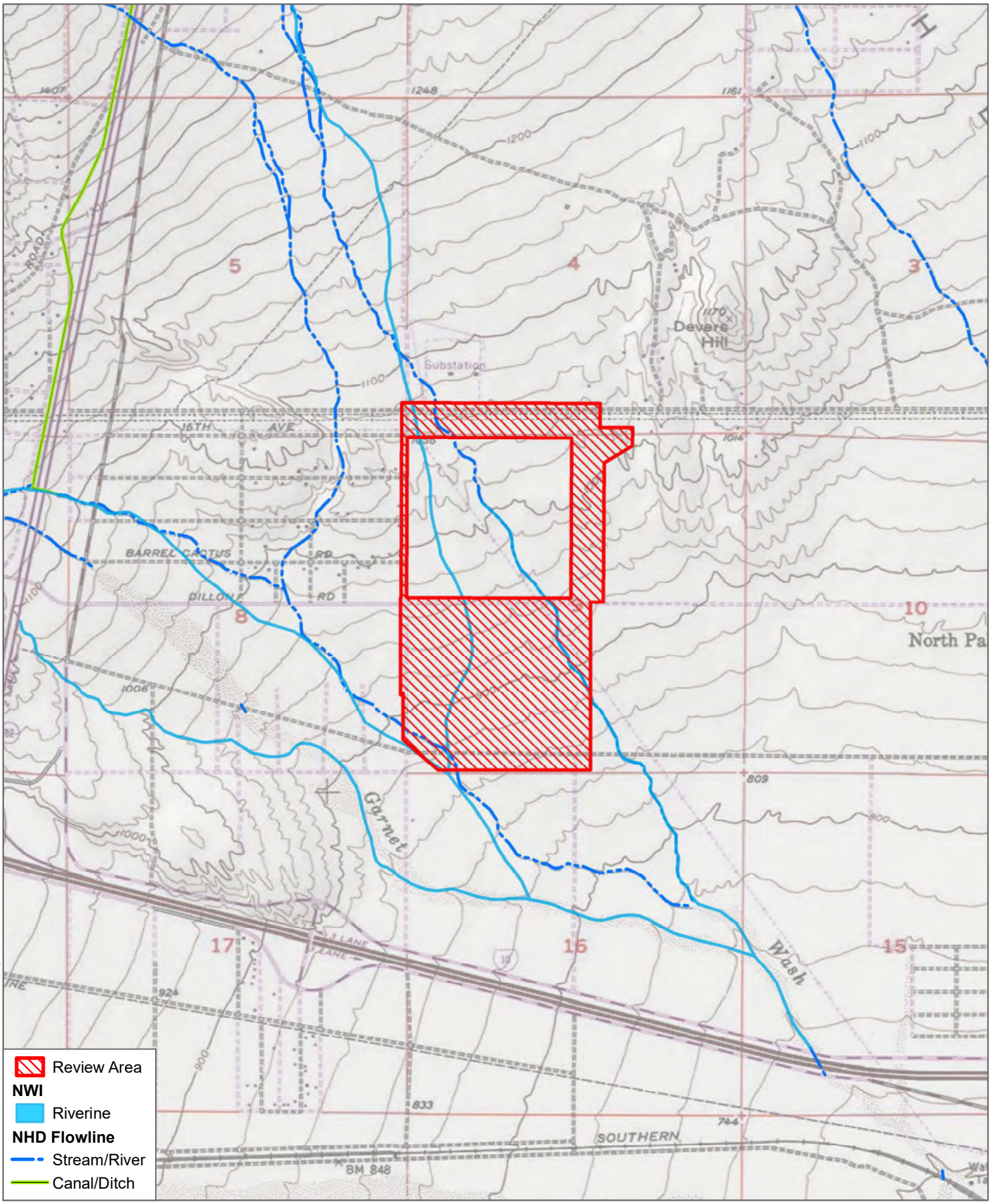
DUDEK

0 2,000 4,000 Feet

FIGURE 5

Hydrologic Units

Desert Peak Energy Center Project



SOURCE: USFWS 2020, USDA 2018

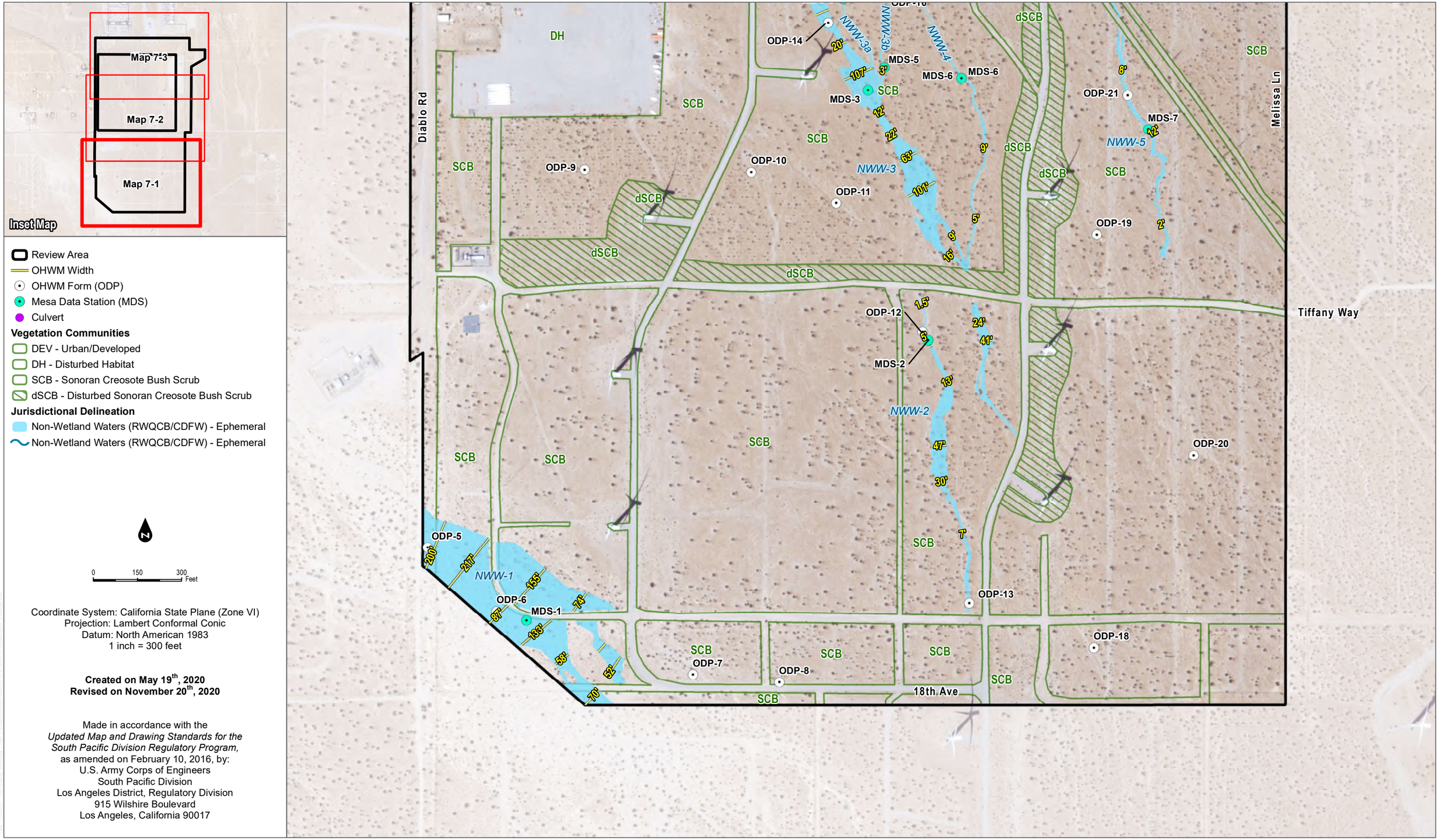
DUDEK

0 1,000 2,000 Feet

FIGURE 6

Hydrology

Desert Peak Energy Center Project



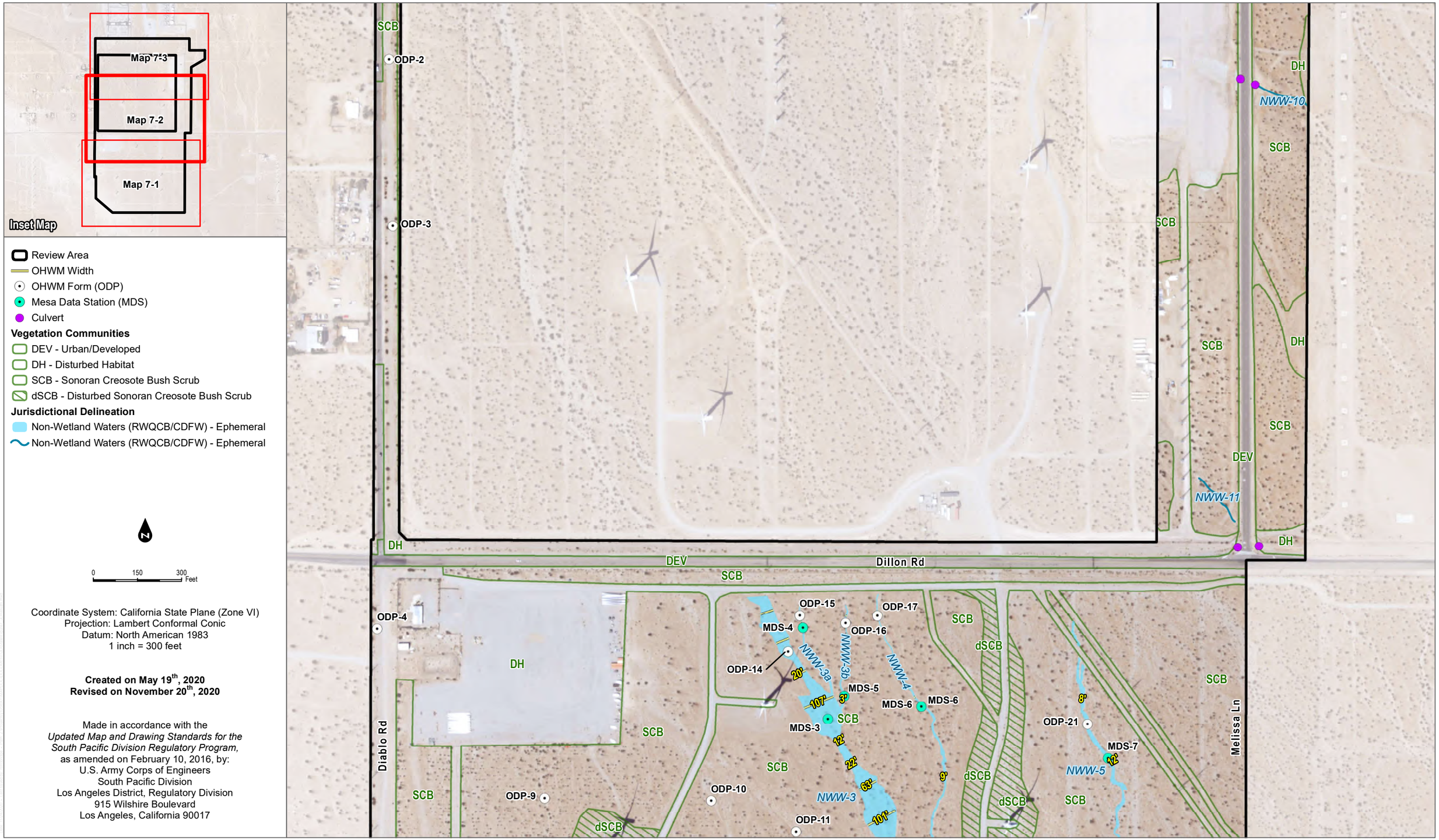
SOURCE: USDA 2018, ESRI 2020

DUDEK

FIGURE 7-1

Jurisdictional Delineation Results

Desert Peak Energy Center Project



SOURCE: USDA 2018, ESRI 2020

DUDEK

FIGURE 7-2

Jurisdictional Delineation Results

Desert Peak Energy Center Project

SOURCE: USDA 2018, ESRI 2020

DUDEK

FIGURE 7-3

Jurisdictional Delineation Results

Desert Peak Energy Center Project

Attachment B

Ordinary High Water Mark Forms

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ■ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ■ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

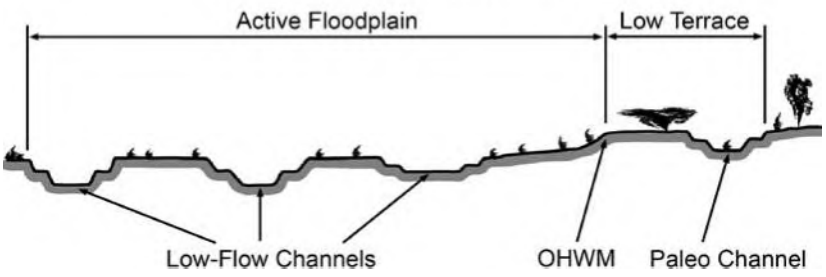
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ■ Aerial photography
  Dates: 2018
- ■ Topographic maps
- ☐ Geologic maps
- ■ Vegetation maps
- ■ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ■ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ■ GPS
   - ■ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

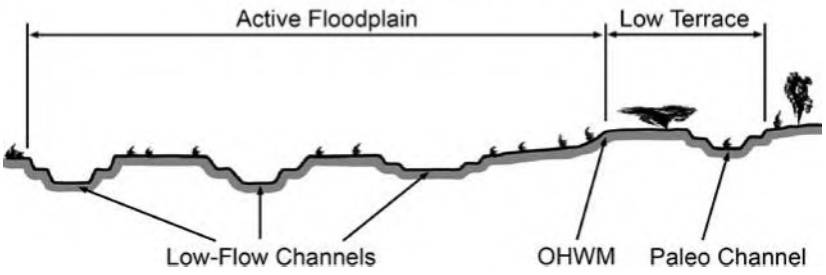
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

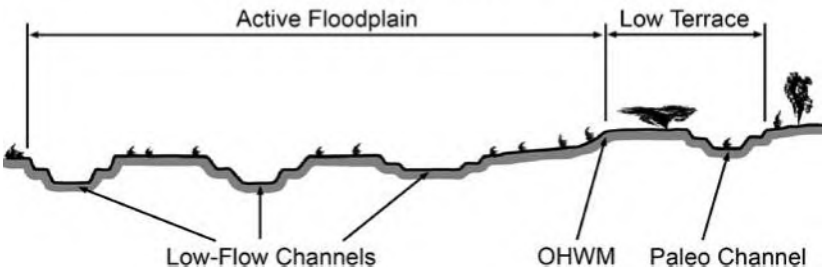
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

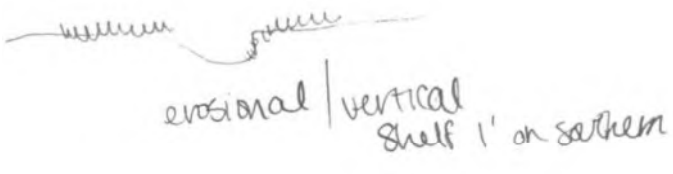


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

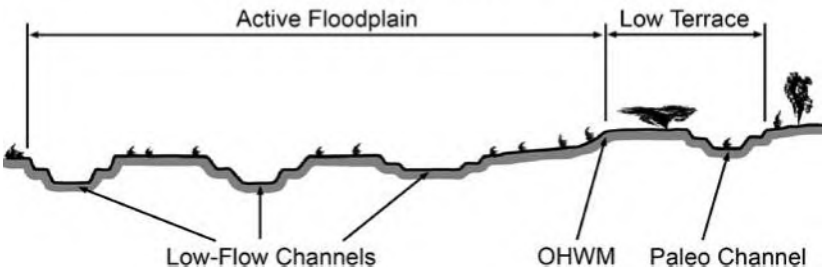
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

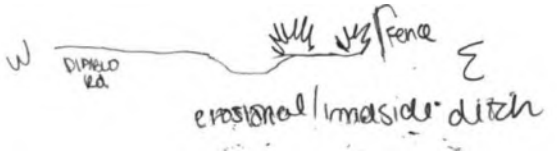


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

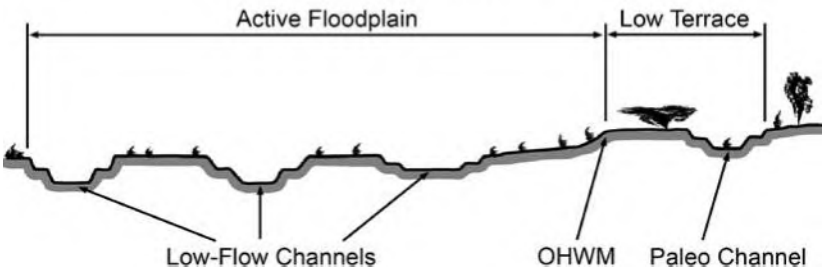
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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
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- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
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- ☒ Topographic maps
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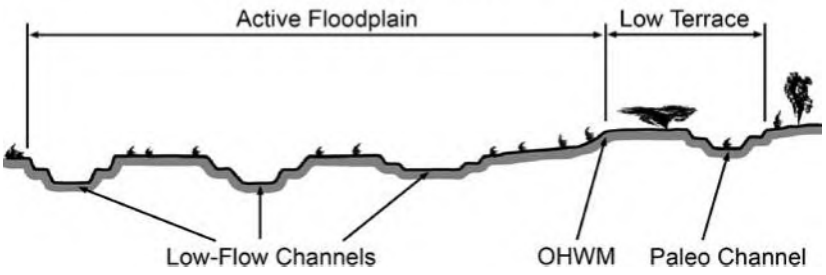
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

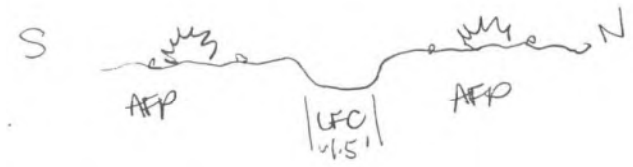


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

Brief site description:
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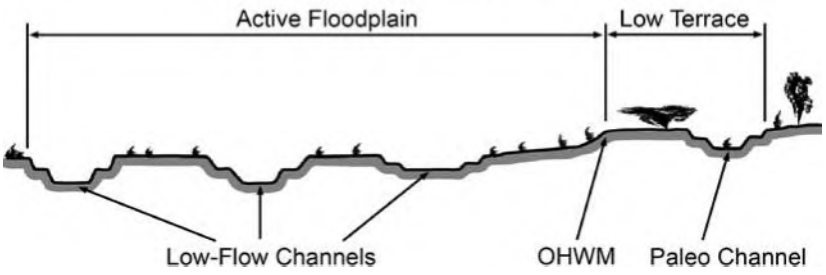
Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

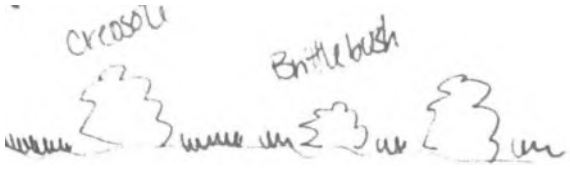


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

Brief site description:
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- ☒ Aerial photography
  Dates: 2018
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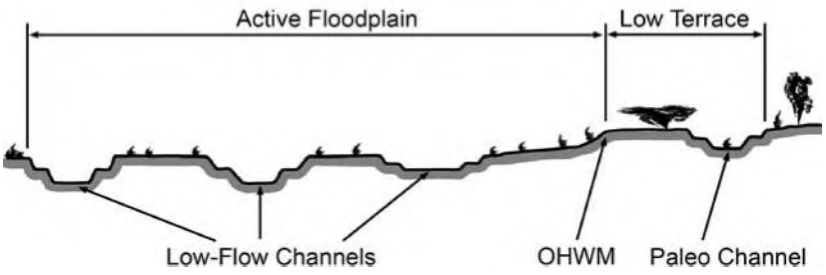
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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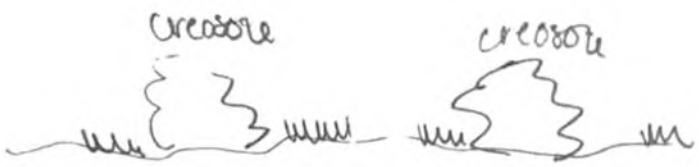
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

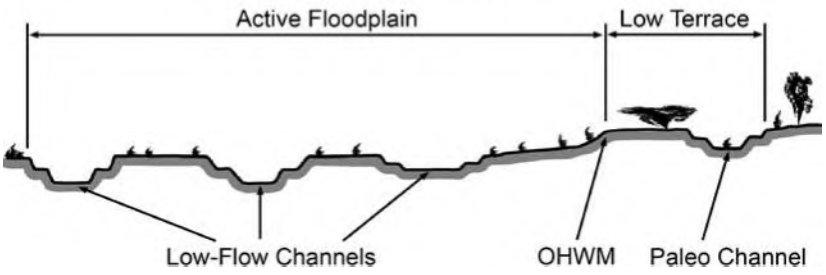
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

Brief site description:
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  Dates: 2018
- ☒ Topographic maps
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- ☒ Vegetation maps
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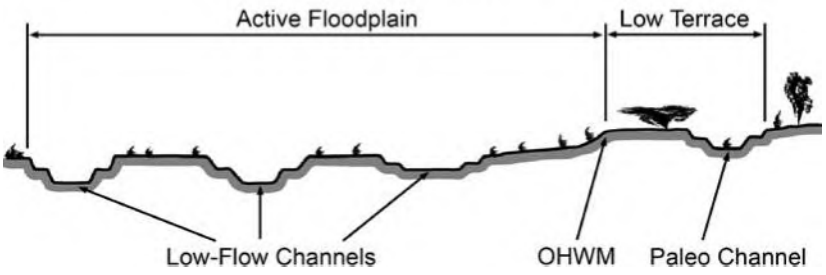
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

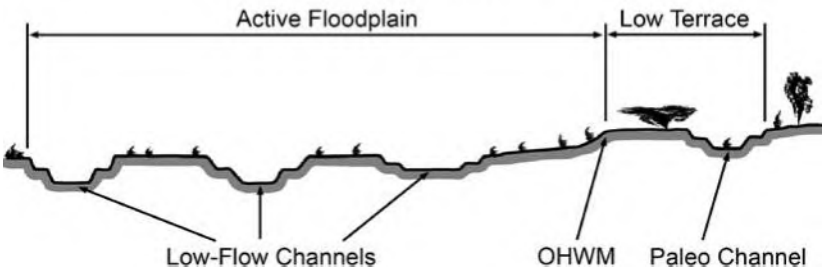
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
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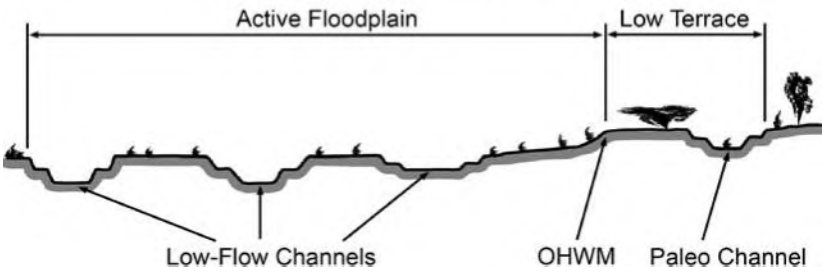
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
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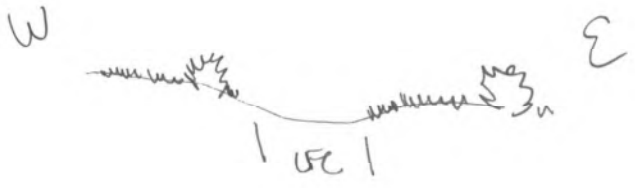
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

Brief site description:
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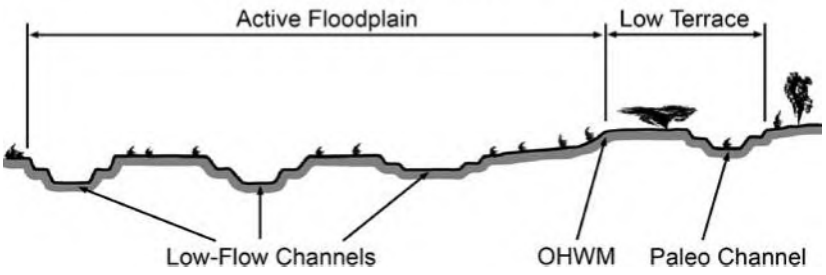
- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

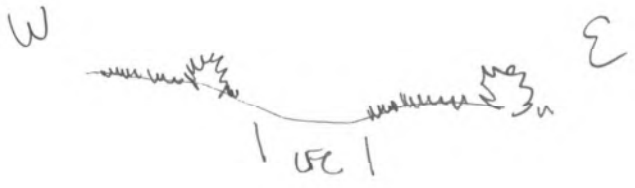


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

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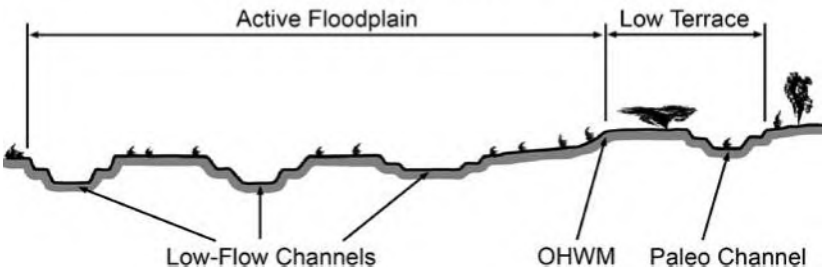
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units



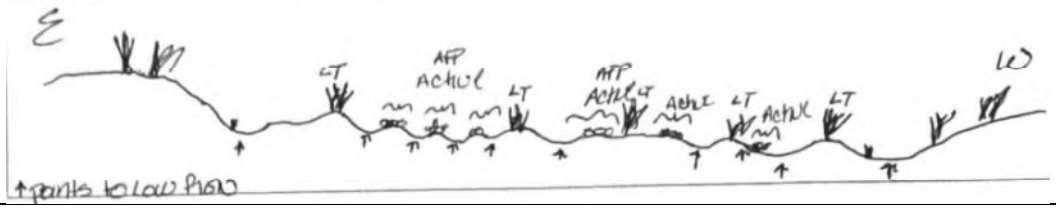
Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

Cross section drawing: Down stream portion



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Project ID: Desert Peak ZC4 Cross section ID: DPZCM 4 Date: 5/4/20 Time:

Floodplain unit: ☑ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Fine sand

Total veg cover: ____ % Tree: ____ % Shrub: ____ % Herb: 7 %

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:

Some areas w/ low flow, but generally sheet flow

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☑ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: Cobbles, pebbles

Total veg cover: ____ % Tree: ____ % Shrub: 10-15 % Herb: 60 %

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

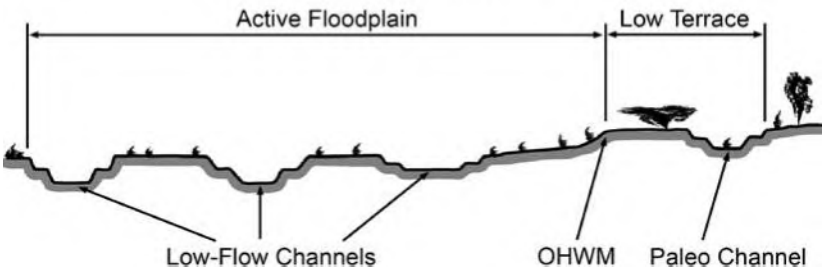
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

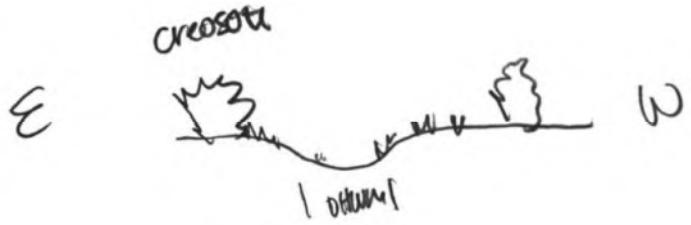


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

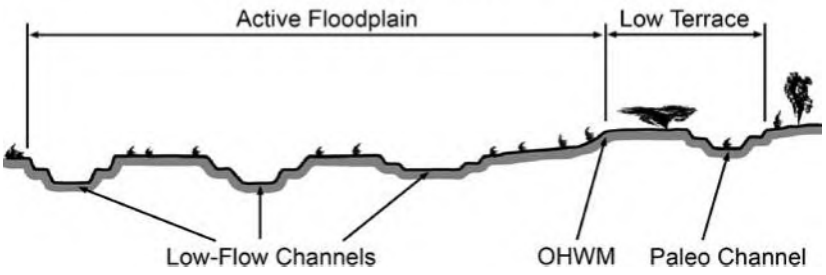
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

Brief site description:
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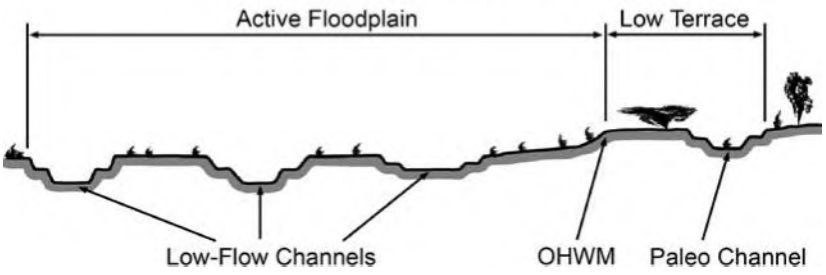
Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

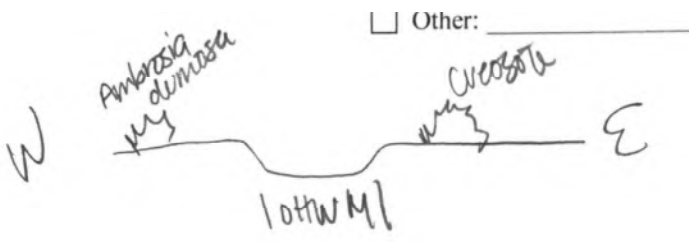


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

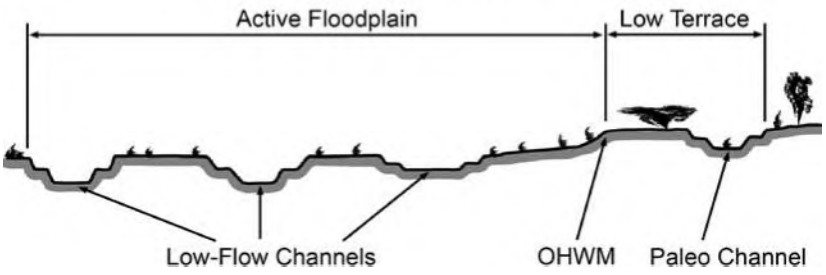
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

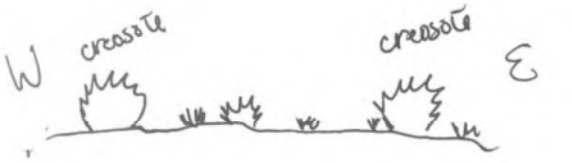


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

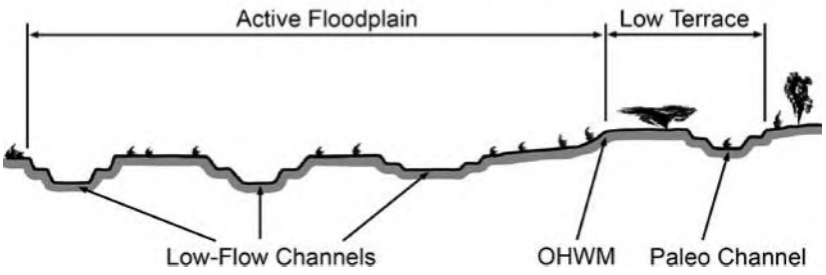
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain 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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:

OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

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- ☒ Aerial photography
  Dates: 2018
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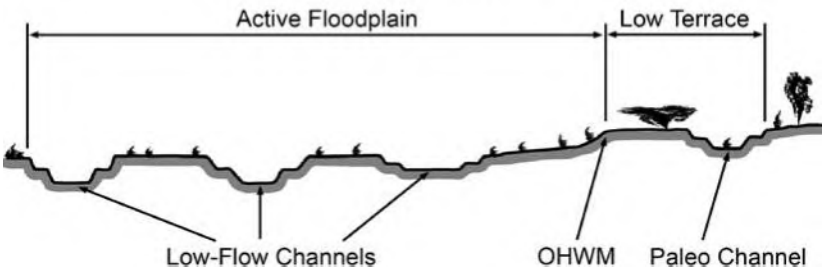
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units



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1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
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   a) Record the floodplain unit and GPS position.
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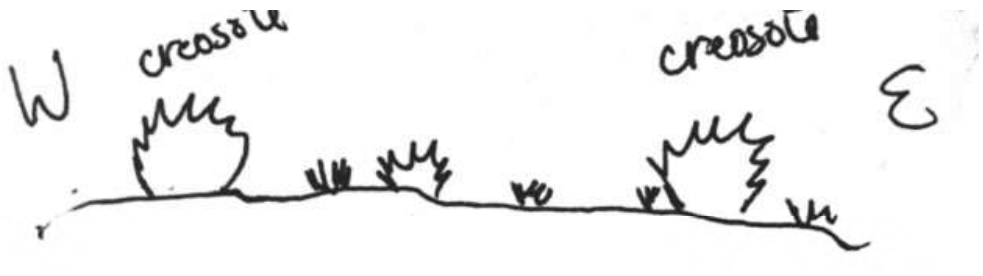
   - ☐ Mapping on aerial photograph
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy Project
Project Number: 10589
Stream: ODP-1
Investigator(s): B.Strittmater; E. McKinney

Date: 2019-05-04 **Time:** n/a
Town: Palm Springs **State:** CA
Photo begin file#: PP-3 **Photo end file#:** PP-3

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
Northeast and Southeast of Diablo Road, within proposed Gen-tie alignment

Projection: **Datum:**
Coordinates: 33.931319°, -116.580083°

Potential anthropogenic influences on the channel system:
Diablo Road; Development and v-ditch to northwest; Fencing to southeast

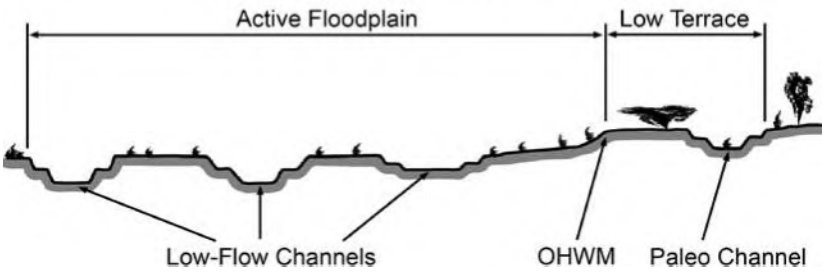
Brief site description:
Erosional feature originating as runoff from constructed v-ditch to the northwest, west of Diablo Road. Erosional feature bisects a dirt road (SCE easement). Vegetation comprised of upland species (e.g., creosote bush and non-native grasses).

Checklist of resources (if available):

- ☒ Aerial photography
  Dates: 2018
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☒ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

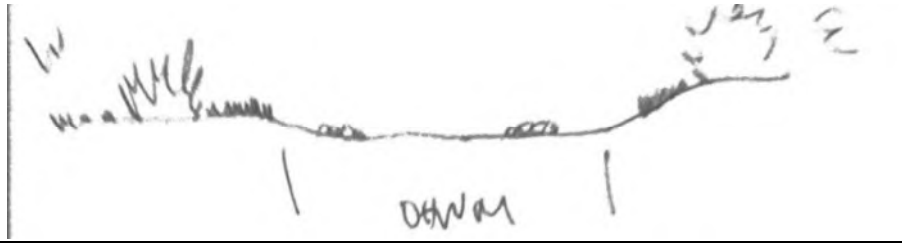


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☒ Digitized on computer
   - ☐ Other:

Project ID: 10589 **Cross section ID:** ODP-1 **Date:** 2020-05-04 **Time:** -

Cross section drawing:



OHWM

GPS point: ODP-1

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

Erosional feature capturing flows from Diable Road with vertical shelf average 1-foot high

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak
Project Number: 10589
Stream: ODP-22
Investigator(s): B. Smithmaker; A. Cassady

Date: 11/06/20 **Time:**
Town: Palm Springs **State:** CA
Photo begin file#: **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Northern portion of review area, South of Devers Substation

Projection: **Datum:**
Coordinates: 33.932479, -116.579652

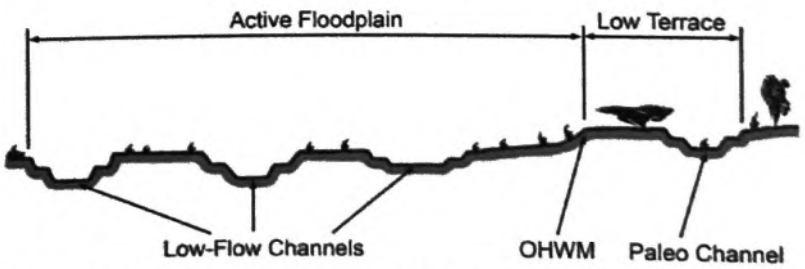
Potential anthropogenic influences on the channel system:
SCE Devers Substation to North, Diablo Road to west, Melissa Ln to East, Barb-wire fencing to South

Brief site description:
Ephemeral channel, single-thread upstream w/ flows dispersing across active floodplain to South

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ 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

Hydrogeomorphic Floodplain Units

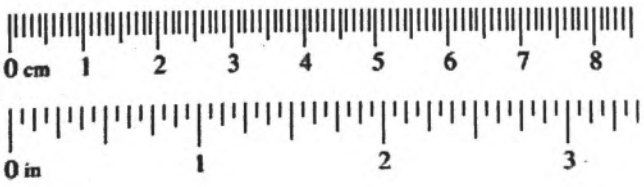


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☐ Other:

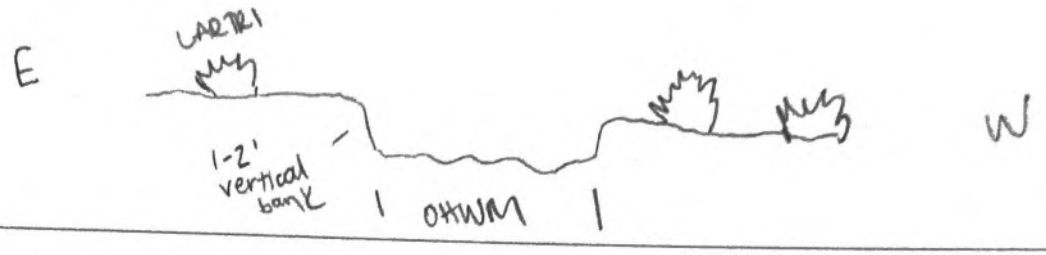
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: 10589 **Cross section ID:** ODP-22 **Date:** 11/6/20 **Time:**

Cross section drawing:



OHWM

GPS point: ODP-22

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

unvegetated ephemeral channel

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: ODP-22

Characteristics of the floodplain unit:

Average sediment texture: Coarse

Total veg cover: <1 % Tree: 0 % Shrub: <1 % Herb: <1 %

Community successional stage:

- [x] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [x] Other: sed deposition
- [ ] Other: _____
- [ ] Other: _____

Comments:

<1% shrub = AMB SAL, PSE ARB

<1% Herb = SCH BAR

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak Energy
Project Number:
Stream: OPP-23
Investigator(s): B. Smithmaster, A. Cassady

Date: 11/12/20
Town: Palm Springs
Photo begin file#:
Time:
State: CA
Photo end file#:

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Northern portion of review area, south of substation

Projection:
Datum:
Coordinates: 33.932336, -116.574926

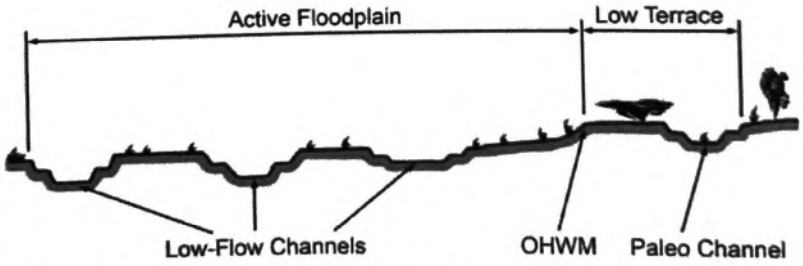
Potential anthropogenic influences on the channel system:
Devers substation, dirt roads associated w/ SCE transmission line

Brief site description:
ephemeral channel that is braided, one braid occurs w/in dirt road

Checklist of resources (if available):

- ☐ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☐ Vegetation maps
- ☐ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ 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

Hydrogeomorphic Floodplain Units



Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

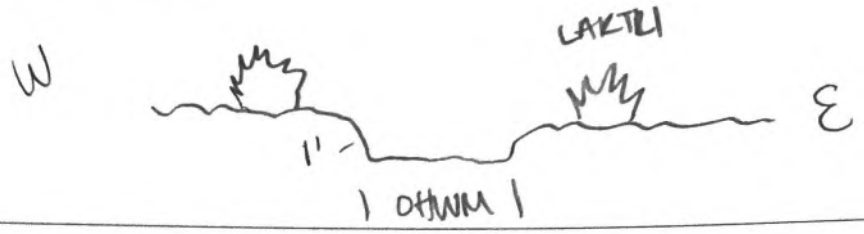
1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is 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.
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
   - ☐ GPS
   - ☐ Other:

Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
0.079	2.00	Granule	Gravel
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud

Project ID: **Cross section ID:** ODP-23 **Date:** 11/06/20 **Time:**

Cross section drawing:



OHWM

GPS point: ODP-2

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

unvegetated ephemeral channel

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: ODP-2

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: <1 % Tree: 0 % Shrub: 0 % Herb: <1 %

Community successional stage:

- [x] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [x] Surface relief
- [ ] Other: sediment dep.
- [ ] Other: shelving
- [ ] Other: _____

Comments:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak
Project Number: 10589
Stream: ODP-24
Investigator(s): B. Stittmatter, A. Cassady

Date: 11/06/20 **Time:**
Town: Palm Springs **State:** CA
Photo begin file#: **Photo end file#:**

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Northern portion of review Southeast of Devers Substation

Projection: **Datum:**
Coordinates: 33933819, -116.571421

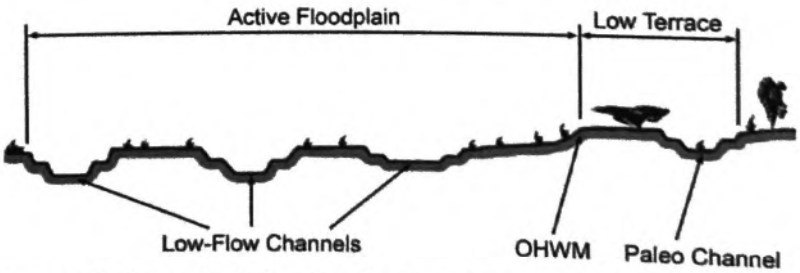
Potential anthropogenic influences on the channel system:
CPV Sentinel Palm Springs solar energy development to north
Dirt roads

Brief site description:
Ephemeral unvegetated channel

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☐ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ 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

Hydrogeomorphic Floodplain Units

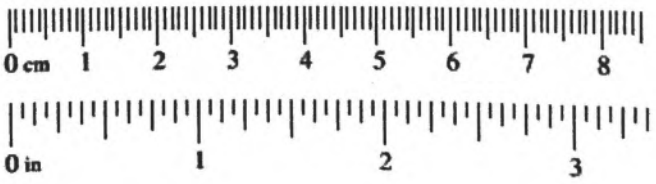


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - ☒ GPS
   - ☐ Other:

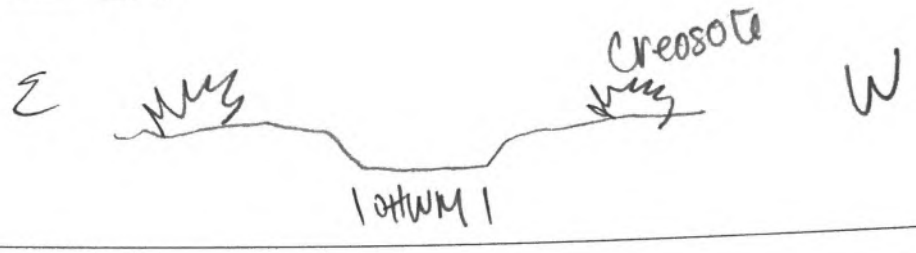
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	Gravel
0.157	4	Pebble	Gravel
		Granule	Gravel
0.079	2.00		
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	Sand
1/2 0.0098	0.25	Medium sand	Sand
1/4 0.005	0.125	Fine sand	Sand
1/8 0.0025	0.0625	Very fine sand	Sand
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	Silt
1/64 0.00031	0.0078	Fine silt	Silt
1/128 0.00015	0.0039	Very fine silt	Silt
		Clay	Mud



Project ID: Desert Peak **Cross section ID:** ODP-24 **Date:** 11/06/20 **Time:**

Cross section drawing:



OHWM

GPS point: ODP-24

Indicators:

- [x] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: ODP-24

Characteristics of the floodplain unit:

Average sediment texture: Coarse sand

Total veg cover: <1 % Tree: 0 % Shrub: 0 % Herb: <1 %

Community successional stage:

- [x] NA
- [x] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [x] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: shelving
- [ ] Other: bed · deposition
- [ ] Other: _____

Comments:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Desert Peak
Project Number: 10589
Stream: ODP-25
Investigator(s): B.Stritmater; A.Cassady

Date: 11/dec/20 **Time:**
Town: Palm Springs **State:** CA
Photo begin file#: **Photo end file#:**

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: South of SCE Devers substation

Projection: **Datum:**
Coordinates: 33932396; -116.578299

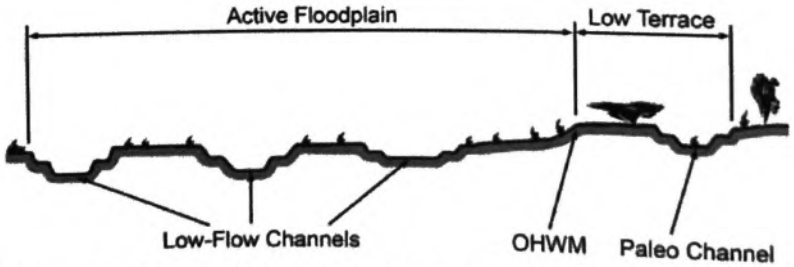
Potential anthropogenic influences on the channel system:
SCE Devers substation to North, dirt roads associated w/ SCE transmission line

Brief site description:
Historically part of active floodplain however, SCE Devers substation, construction prior to 1972, substantially altered flows and low topographic point no longer part of active floodplain (i.e, relic)

Checklist of resources (if available):

- [X] Aerial photography
  Dates:
- [ ] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [ ] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] 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

Hydrogeomorphic Floodplain Units

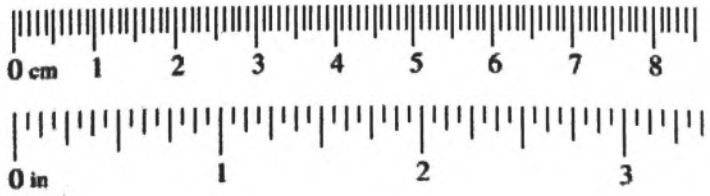


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

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.
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
   - [X] GPS
   - [X] Digitized on computer
   - [ ] Other:

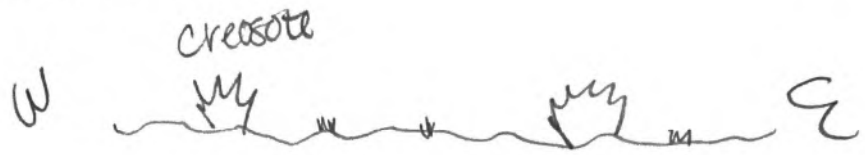
Wentworth Size Classes

Inches (in)	Millimeters (mm)	Wentworth size class	
10.08	256	Boulder	Gravel
2.56	64	Cobble	
0.157	4	Pebble	
0.079	2.00	Granule	
0.039	1.00	Very coarse sand	Sand
0.020	0.50	Coarse sand	
1/2 0.0098	0.25	Medium sand	
1/4 0.005	0.125	Fine sand	
1/8 0.0025	0.0625	Very fine sand	
1/16 0.0012	0.031	Coarse silt	Silt
1/32 0.00061	0.0156	Medium silt	
1/64 0.00031	0.0078	Fine silt	
1/128 0.00015	0.0039	Very fine silt	
		Clay	Mud



Project ID: 10589 **Cross section ID:** ODP-25 **Date:** 11/06/20 **Time:**

Cross section drawing:



OHWM

GPS point: ODP-25

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

No clear OHWM. Area appears to be receiving some sheetflows still associated w/ natural topography of the site.

Floodplain unit:

☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Project ID: **Cross section ID:** **Date:** **Time:**

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Floodplain unit: ☐ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

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:

Attachment C

Episodic Stream Indicator Data Sheets

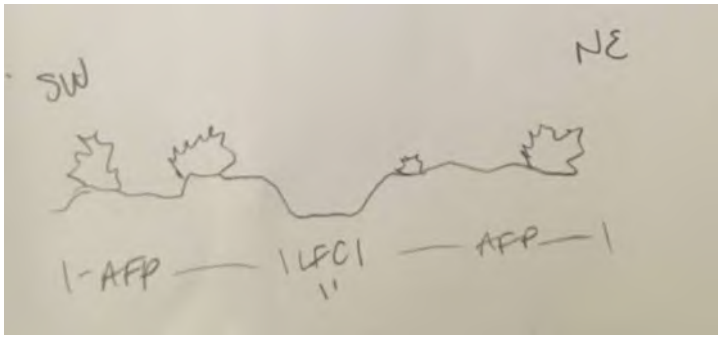
Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: Desert Peak Energy Project			Stream ID: Mesa Data Station 1 (MSD-1)									Date: 05/04/20
Nearest Town: Palm Springs									County: Riverside			
Investigators: Britney Strittmater; Erin McKinney												
Base Map												
Aerial Photo #:		Date:		Topographic Map Name:								Date:
GPS Data												
GPS Name:		Datum:		Transect Elevation:			Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:							GPS co-ords end of transect:					
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:					
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan		Lower fan	X	Alluvial plain		Axial valley		Playa
Channel Form (✓ one)												
	Single thread	X	Braided		Compound		Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries						Document channel elevations & boundaries					
	Document habitat associations						Document a change in watercourse morphology					
	Other:											
Date of most recent runoff event (if known):												

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Alluvial fan and active floodplain with various low flow channels present. Flows originate as runoff in the west from Painted Hills and flow southeast through the southwestern portion of the Review Area.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——————————————————————————— Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
X	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement		Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~8%	Larrea tridentat: ~5% Ambrosia dumosa: ~2% Encelia farinosa ~1%	~1'-6' tall ~1'-5' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Herbs and sandy bottoms in watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs are absent in LFC and there is a higher cover of herbaceous (annual and perennial speices) in AFP as compared to adjacent uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More grasses present in adjacent uplands as compared to watercourse complex. Higher diversity of annuals/perennials in the watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

X	Bar forms: sand / gravel		Secondary channels
X	Bifurcated flow		Sediment plastering
	Drainage swales		Sediment ramps: sand / gravel
X	Flow lineations		Sediment sheets: sand / gravel
	Imbricated gravel	X	Sediment sorting
X	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
	Overturned rocks		Wrinkle marks
	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

	% Bedrock / Cemented substrate	
	% Boulder	≥ 256 mm
X	% Cobble	≥ 64 – 256 mm
X	% Pebble	≥ 4 – 64 mm
X	% Granule	≥ 2 – 4 mm
X	% Sand	≤ 2 mm
X	% Silt/Clay	Fines

Erosion Indicators

X	Cut banks		Rills	X	Water-cut benches
	Exposed roots	X	Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
AFP: ~13% LFC: <1%	Larrea tridentata: ~3% Bebbia juncea: ~5% Ambrosia salsola: ~5%	AFP: ~0.5-2' tall LFC: <0.5'

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shurbs within AFP ~5-8%

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs are absent in LFC. Lower cover of herbaceous (annual and perennial speices) in AFP as compared to adjacent uplands

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

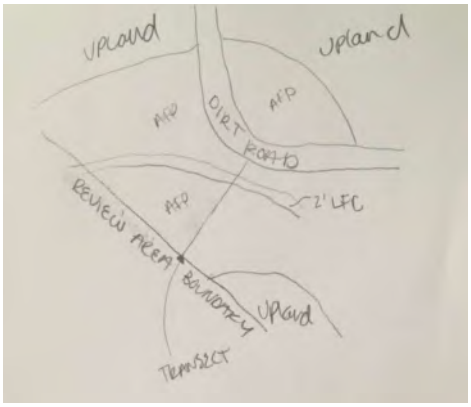
More grasses present in adjacent uplands as compared to AFP. Higer diversity of annuals/perennials in the herbaceous layer in AFP.

Site ID	Stream ID	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-18	Downstream - LFC and AFP	See Attachment D for Photo locations	
PP-19	Downstream - LFC		
PP-20	Upstream - outside of Review Area		
PP-21	Downstream		
PP-22	Downstream - AFP		
PP-23	Downstream - LFC and AFP		
PP-24	Upstream - LFC and AFP		
PP-25	Downstream - AFP		
PP-26	Cross-section view of AFP		
PP-27	Downstream - LFC		
PP-28	Upstream - AFP		
PP-29	Downstream - AFP		
PP-30	Downstream - AFP and Uplands in foreground		
PP-31	Upstream - AFP		
PP-32	Downstream - AFP		
PP-33	Uplands		

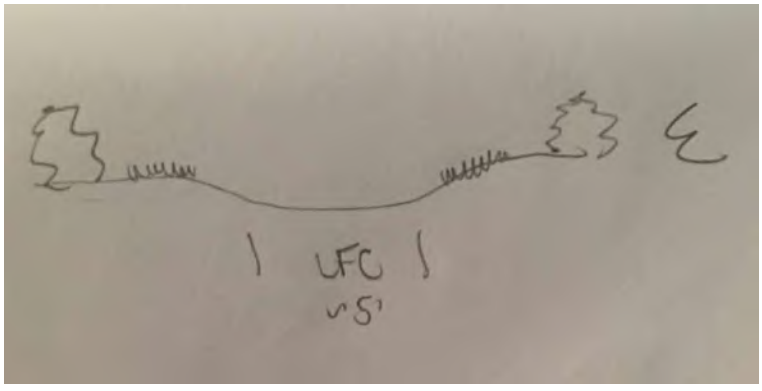
Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: Desert Peak Energy Project			Stream ID: Mesa Data Station 2 (MSD-2)									Date: 05/04/20
Nearest Town: Palm Springs									County: Riverside			
Investigators: Britney Strittmater; Erin McKinney												
Base Map												
Aerial Photo #:		Date:		Topographic Map Name:								Date:
GPS Data												
GPS Name:		Datum:		Transect Elevation:			Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:							GPS co-ords end of transect:					
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:					
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley	Playa
Channel Form (✓ one)												
X	Single thread		Braided		Compound		Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries						Document channel elevations & boundaries					
	Document habitat associations						Document a change in watercourse morphology					
	Other:											
Date of most recent runoff event (if known):												

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral, single-thread channel

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——————————————————————————— Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement	X	Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~8%	Larrea tridentat: ~5% Ambrosia dumosa: ~3%	~1'-6' tall ~1'-5' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Mainly unvegetated watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs and herbs are absent. Higher cover of herbaceous (annual and perennial speices) in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More vegetation cover in uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate	
X	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm
	Organic drift		Wrack	X	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
	Ripples					
	Other:					

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
LFC: <1%	annual grasses <1%	1-6"

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shrubs within uplands ~5% and ~50-75% annual grasses

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs and annuals are absent in LFC.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

More grasses present in adjacent uplands as compared to LFC.

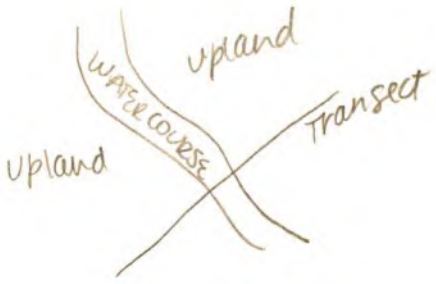
Site ID Desert Peak Energy Project	Stream ID Mesa Data Station 2 (MSD-2)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under “Upland” and “Watercourse Complex”.



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-53	Upstream	See Attachment D for Photo locations	
PP-54	Downstream		
PP-55	Upstream		
PP-56	Downstream		

Episodic Stream Indicator Data Sheet													page 1 of 4
Site ID: Desert Peak Energy Project				Stream ID: Mesa Data Station 1 (MSD-3)									Date: 05/04/20
Nearest Town: Palm Springs								County: Riverside					
Investigators: Britney Strittmater; Erin McKinney													
Base Map													
Aerial Photo #:		Date:		Topographic Map Name:									Date:
GPS Data													
GPS Name:		Datum:		Transect Elevation:				Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:								GPS co-ords end of transect:					
Geomorphic Province (✓one)			Mojave	X	Sonoran/Colorado			Great Basin		Other:			
Landform (✓ all that apply)													
	Headwater		Upper fan		Middle fan		Lower fan	X	Alluvial plain		Axial valley		Playa
Channel Form (✓ one)													
	Single thread	X	Braided		Compound		Distributary		Discontinuous		Other:		
Transect was selected to:													
X	Document fluvial activity & boundaries								Document channel elevations & boundaries				
	Document habitat associations								Document a change in watercourse morphology				
	Other:												
Date of most recent runoff event (if known):													

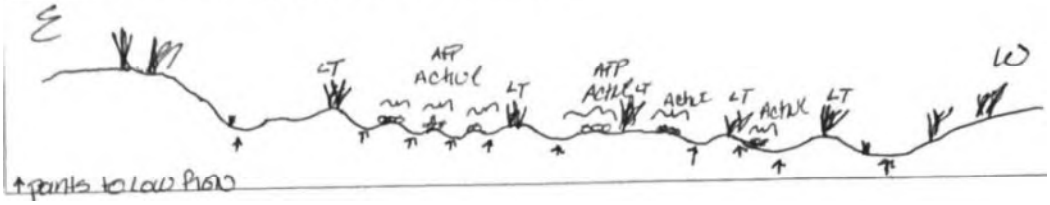
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral Channel with active floodplain and various low flow channels present. Flows originate as runoff in the northwest and flow southeast through the eastern portion of the Review Area.

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——————————————————————— Right

Cross section drawing: Down stream portion



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
X	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement		Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~5-8%	Larrea tridentat: ~5% Ambrosia dumosa: ~2% Encelia farinosa <1%	~2'-6' tall ~2'-5' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Fewer annual grasses within watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs are absent in LFC. Higher cover of herbaceous (annual grass speices) in adjacent uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More grasses present in adjacent uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

X	Bar forms: sand / gravel		Secondary channels	Estimated percentages			
X	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate		
	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm	
X	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm	
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm	
X	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm	
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm	
	Organic drift		Wrack	X	% Silt/Clay	Fines	
	Overturned rocks		Wrinkle marks				
	Out-of-channel flow: Lateral floodplain / Terminal floodplain						
	Ripples						
	Other:						

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
AFP: ~5% LFC: <1%	Encelia farinosa: ~3% Bebbia juncea: ~2% Ambrosia salsola: <1%	AFP: ~0.5-2' tall LFC: ~6" tall

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shurbs within AFP ~5-%

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs are absent in LFC. Lower cover of herbaceous (annual and perennial speices) in AFP as compared to adjacent uplands

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

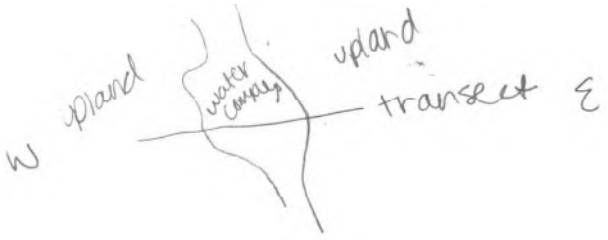
More grasses present in adjacent uplands as compared to AFP.

Site ID	Desert Peak Energy Project	Stream ID	Mesa Data Station 3 (MSD-3)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-65	Cross-section	See Attachment D for Photo locations	
PP-66	Upstream		
PP-67	Upstream		
PP-68	Downstream		
PP-69	Upstream		
PP-70	Upstream		

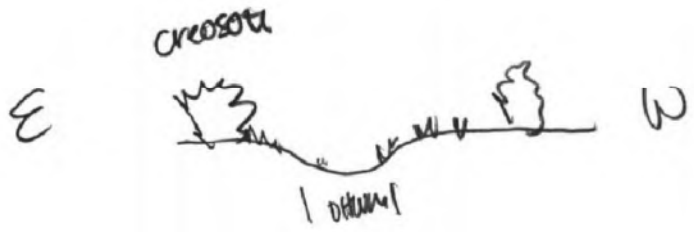
Episodic Stream Indicator Data Sheet													page 1 of 4
Site ID: Desert Peak Energy Project				Stream ID: Mesa Data Station 4 (MSD-4)									Date: 05/04/20
Nearest Town: Palm Springs												County: Riverside	
Investigators: Britney Strittmater; Erin McKinney													
Base Map													
Aerial Photo #:		Date:		Topographic Map Name:									Date:
GPS Data													
GPS Name:		Datum:		Transect Elevation:				Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:								GPS co-ords end of transect:					
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:						
Landform (✓ all that apply)													
	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa
Channel Form (✓ one)													
X	Single thread		Braided		Compound		Distributary		Discontinuous	Other:			
Transect was selected to:													
X	Document fluvial activity & boundaries						Document channel elevations & boundaries						
	Document habitat associations						Document a change in watercourse morphology						
	Other:												
Date of most recent runoff event (if known):													

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral, single-thread channel

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement	X	Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~5%	Larrea tridentat: ~5% Ambrosia dumosa: <1%	~2'-6' tall ~1'-5' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Mainly unvegetated watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs and herbs are absent. Higher cover of herbaceous (annual and shrub speices) in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More vegetation cover in uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate	
X	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm
	Organic drift		Wrack	X	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
	Ripples					
	Other:					

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
LFC: <1%	annual grasses <1%	1-4" tall 1-2" wide

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shrubs within uplands ~5% and ~50-75% annual grasses

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs and annuals are absent in LFC.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

More grasses present in adjacent uplands as compared to LFC.

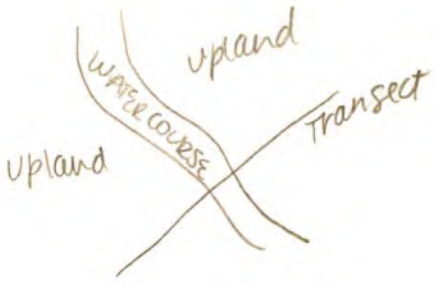
Site ID Desert Peak Energy Project	Stream ID Mesa Data Station 4 (MSD-4)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels			
	Beach ridges		Springs			
	Coppice dunes: active / relict		Substrate staining			
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments			
	Mud: cracks / curls / polygons					
	Other:					

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-74	Upstream	See Attachment D for Photo locations	

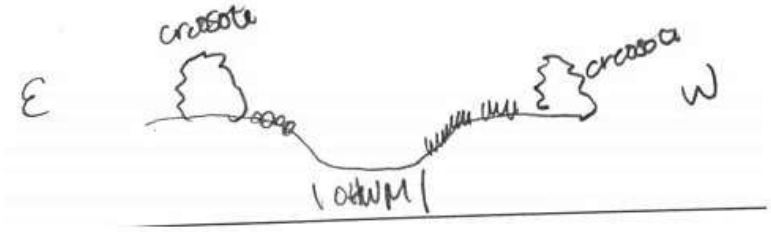
Episodic Stream Indicator Data Sheet												page 1 of 4
Site ID: Desert Peak Energy Project			Stream ID: Mesa Data Station 5 (MSD-5)									Date: 05/04/20
Nearest Town: Palm Springs									County: Riverside			
Investigators: Britney Strittmater; Erin McKinney												
Base Map												
Aerial Photo #:		Date:		Topographic Map Name:								Date:
GPS Data												
GPS Name:		Datum:		Transect Elevation:			Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:						GPS co-ords end of transect:						
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:					
Landform (✓ all that apply)												
	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley	Playa
Channel Form (✓ one)												
X	Single thread		Braided		Compound		Distributary		Discontinuous	Other:		
Transect was selected to:												
X	Document fluvial activity & boundaries						Document channel elevations & boundaries					
	Document habitat associations						Document a change in watercourse morphology					
	Other:											
Date of most recent runoff event (if known):												

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral, single-thread channel

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement	X	Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~5%	Larrea tridentat: ~5% Ambrosia dumosa: <1%	~2'-6' tall ~1'-5' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Mainly unvegetated sandy bottom watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs and herbs are absent. Higher cover of herbaceous (annual and shrub speices) in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More vegetation cover in uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate	
X	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm
	Organic drift		Wrack	X	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
	Ripples					
	Other:					

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
LFC: <1%	annual grasses <1%	1-2" tall 1" wide

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shrubs within uplands ~5% and ~50-75% annual grasses

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs and annuals are absent in LFC.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

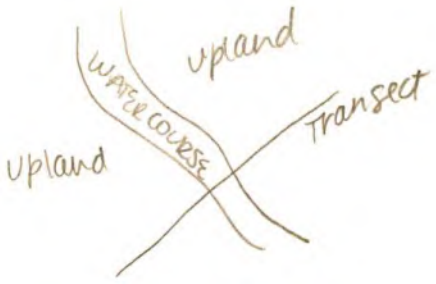
More grasses present in adjacent uplands as compared to LFC.

Site ID Desert Peak Energy Project	Stream ID Mesa Data Station 5 (MSD-5)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under “Upland” and “Watercourse Complex”.



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-75	Downstream	See Attachment D for Photo locations	

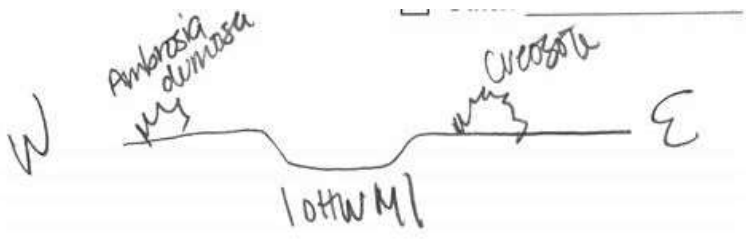
Episodic Stream Indicator Data Sheet													page 1 of 4
Site ID: Desert Peak Energy Project				Stream ID: Mesa Data Station 6 (MSD-6)									Date: 05/04/20
Nearest Town: Palm Springs										County: Riverside			
Investigators: Britney Strittmater; Erin McKinney													
Base Map													
Aerial Photo #:		Date:		Topographic Map Name:									Date:
GPS Data													
GPS Name:		Datum:		Transect Elevation:				Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:								GPS co-ords end of transect:					
Geomorphic Province (✓one)		Mojave	X	Sonoran/Colorado		Great Basin	Other:						
Landform (✓ all that apply)													
	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa
Channel Form (✓ one)													
X	Single thread		Braided		Compound		Distributary		Discontinuous	Other:			
Transect was selected to:													
X	Document fluvial activity & boundaries						Document channel elevations & boundaries						
	Document habitat associations						Document a change in watercourse morphology						
	Other:												
Date of most recent runoff event (if known):													

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral, single-thread channel

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——— Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement	X	Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~5%	Larrea tridentat: ~5% Ambrosia dumosa: <1%	~1'-6' tall ~1'-6' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Mainly unvegetated sandy bottom watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs and herbs are absent. Higher cover of herbaceous (annual and shrub speices) in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More vegetation cover in uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate	
X	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm
	Organic drift		Wrack	X	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
	Ripples					
	Other:					

Erosion Indicators

X	Cut banks		Rills		Water-cut benches
	Exposed roots	X	Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
LFC: <1%	annual grasses <1%	1-2" tall 1" wide

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shrubs within uplands ~5% and ~50-75% annual grasses

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs and annuals are absent in LFC.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

More grasses present in adjacent uplands as compared to LFC.

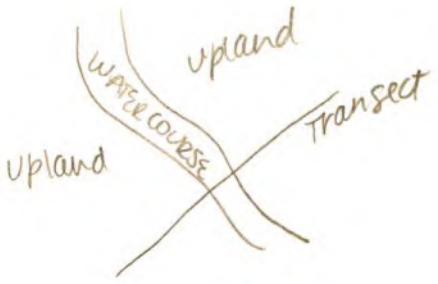
Site ID Desert Peak Energy Project	Stream ID Mesa Data Station 6 (MSD-6)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-76	Upstream	See Attachment D for Photo locations	
PP-77	Downstream		
PP-78	Upstream		
PP-79	Upstream		
PP-80	Downstream		

Episodic Stream Indicator Data Sheet													page 1 of 4
Site ID: Desert Peak Energy Project				Stream ID: Mesa Data Station 7 (MSD-7)									Date: 06/19/20
Nearest Town: Palm Springs								County: Riverside					
Investigators: Britney Strittmater													
Base Map													
Aerial Photo #:		Date:		Topographic Map Name:									Date:
GPS Data													
GPS Name:		Datum:		Transect Elevation:				Zone 10 / 11		GPS Error: ± ft / m			
GPS co-ords start of transect:								GPS co-ords end of transect:					
Geomorphic Province (✓one)			Mojave	X	Sonoran/Colorado			Great Basin		Other:			
Landform (✓ all that apply)													
	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa
Channel Form (✓ one)													
X	Single thread		Braided		Compound		Distributary		Discontinuous		Other:		
Transect was selected to:													
X	Document fluvial activity & boundaries						Document channel elevations & boundaries						
	Document habitat associations						Document a change in watercourse morphology						
	Other:												
Date of most recent runoff event (if known):													

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral, single-thread channel

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	Substrate Particle Size		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
					% Bedrock / Cemented substrate	
X	Bioturbation		Rock varnish		% Boulder	≥ 256 mm
	Caliche: coatings / layers / rubble		Rock weathering	X	% Cobble	≥ 64 – 256mm
	Carbonate etching		Rubified rock undersides	X	% Pebble	≥ 4 – 64 mm
	Coppice dunes: active / relict		Soil development	X	% Granule	≥ 2 – 4 mm
	Deflated surface		Surface rounding of landform	X	% Sand	≤ 2 mm
	Pavement		Woody debris in place		% Silt/Clay	Fines
	Other:					

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
Upland ~5-8%	Larrea tridentat: ~5% Ambrosia salsola 1% Ambrosia dumosa 1%	~1'-5' tall ~1'-4' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Shrubs and annual grasses in uplands. Mainly unvegetated sandy bottom watercourse complex

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

In watercourse complex shrubs and herbs are absent. Higher cover of herbaceous (annual and shrub speices) in uplands

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

More vegetation cover in uplands as compared to watercourse complex.

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels	Estimated percentages		
	Bifurcated flow		Sediment plastering		% Bedrock / Cemented substrate	
X	Drainage swales		Sediment ramps: sand / gravel		% Boulder	≥ 256 mm
	Flow lineations		Sediment sheets: sand / gravel	X	% Cobble	≥ 64 – 256 mm
	Imbricated gravel	X	Sediment sorting	X	% Pebble	≥ 4 – 64 mm
	Levee ridges: sand / gravel		Sediment tails: sand / gravel	X	% Granule	≥ 2 – 4 mm
	Mud: cracks / curls / drapes		Vegetation-channel alignments	X	% Sand	≤ 2 mm
	Organic drift		Wrack	X	% Silt/Clay	Fines
	Overturned rocks		Wrinkle marks			
	Out-of-channel flow: Lateral floodplain / Terminal floodplain					
	Ripples					
	Other:					

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
LFC: <1%	annual grasses <1%	1-2" tall 1" wide

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Annual herbs <1% in LFC and shrubs within uplands ~5-8% and ~50-75% annual grasses

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

Shrubs and annuals are absent in LFC.

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

More grasses present in adjacent uplands as compared to LFC.

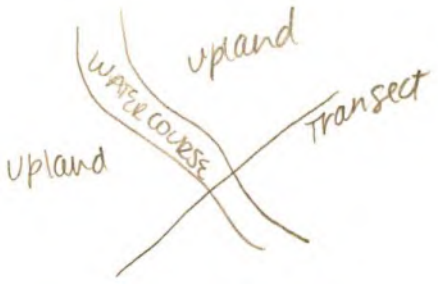
Site ID Desert Peak Energy Project	Stream ID Mesa Data Station 7 (MSD-7)	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under “Upland” and “Watercourse Complex”.



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-93	Downstream	See Attachment D for Photo locations	
PP-94	Upstream		
PP-95	Downstream		
PP-96	Upstream		

Episodic Stream Indicator Data Sheet

Site ID: Desert Peak	Stream ID: MSD-8	Date: 11/6/20
Nearest Town: Palm Springs	County: Riverside	
Investigators: B. Stithmatter; A. Cassady		

Base Map

Aerial Photo #:	Date:	Topographic Map Name:	Date:

GPS Data

GPS Name:	Datum:	Transect Elevation:	Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	✓	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

✓	Single thread		Braided	✓	Compound		Distributary		Discontinuous	Other:

Transect was selected to:

✓	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
	Other:		

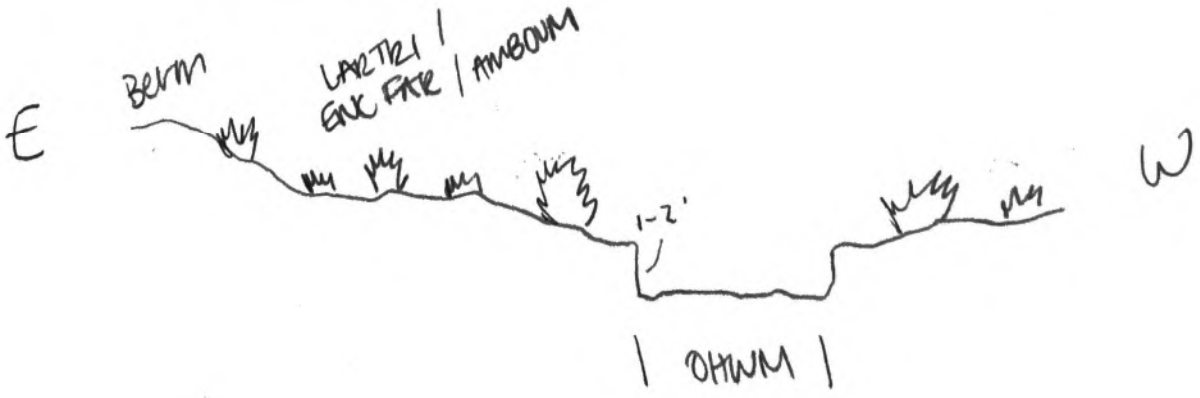
Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral channel (areas of single thread and portions where flows disperse across active floodplain)

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——— Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales
	Biotic soil crusts		Rock fractured in place
✓	Bioturbation		Rock varnish
	Caliche: coatings / layers / rubble		Rock weathering
	Carbonate etching		Rubified rock undersides
	Coppice dunes: active / relict	✓	Soil development
	Deflated surface		Surface rounding of landform
	Pavement	✓	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

–	% Bedrock / Cemented substrate	
–	% Boulder	≥ 256 mm
<1	% Cobble	≥ 64 – 256mm
50	% Pebble	≥ 4 – 64 mm
50	% Granule	≥ 2 – 4 mm
<1	% Sand	≤ 2 mm
–	% Silt/Clay	Fines

middens w/in shrubs, numerous rodent burrows

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
15 %	LAR TRI 10% AMB DUM 3% ENC FAR 2%	5-6' height 2-4' width

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Higher cover of shrubs in uplands

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Creosote present in uplands - absent in fluvially active

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

total veg cover higher in uplands

Site ID: Desert Peak | Stream ID: MSD-8 | page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

✓	Bar forms: sand / gravel		Secondary channels
	Bifurcated flow		Sediment plastering
	Drainage swales		Sediment ramps: sand / gravel
	Flow lineations	✓	Sediment sheets: sand / gravel
	Imbricated gravel	✓	Sediment sorting
	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
	Overturned rocks		Wrinkle marks
	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

—	% Bedrock / Cemented substrate	
—	% Boulder	≥ 256 mm
40	% Cobble	≥ 64 – 256 mm
20	% Pebble	≥ 4 – 64 mm
28	% Granule	≥ 2 – 4 mm
10	% Sand	≤ 2 mm
2	% Silt/Clay	Fines

Historically AFP may have extended further east however due to disturbances

Erosion Indicators

✓	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
<1	AMB SAL	

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Absence of veg in LFC w/ 1-5% cover in ~~AFP~~ downstream

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

—

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

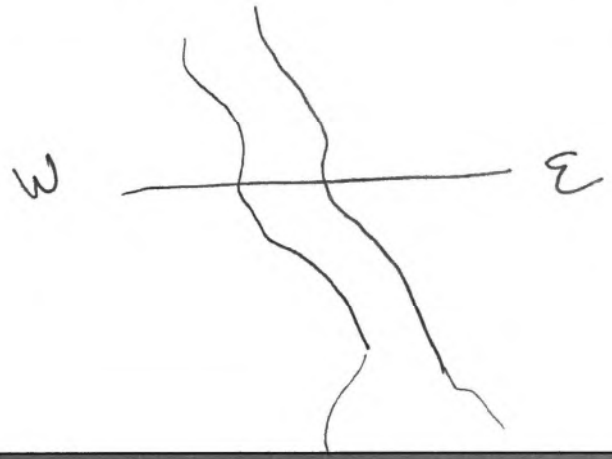
—

Site ID Desert Peak	Stream ID MSD-B	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION					
–	Algal crusts	~	Sand-filled channels		
~	Beach ridges	~	Springs		
–	Coppice dunes: active / relict	~	Substrate staining		
–	Crusts: carbonate / salt / soda	~	Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-97	upstream - facing northwest		

Episodic Stream Indicator Data Sheet

Site ID: Desert Peak | Stream ID: MSD-9 | Date: 11/16/20

Nearest Town: Palm Springs | County: Riverside

Investigators: B. Smithmaier, A. Cassady

Base Map

Aerial Photo #: | Date: | Topographic Map Name: | Date:

GPS Data

GPS Name: | Datum: | Transect Elevation: | Zone 10 / 11 | GPS Error: ± ft / m

GPS co-ords start of transect: | GPS co-ords end of transect:

Geomorphic Province (✓one) | [ ] Mojave | [✓] Sonoran/Colorado | [ ] Great Basin | Other:

Landform (✓ all that apply)

[ ] Headwater | [ ] Upper fan | [ ] Middle fan | [ ] Lower fan | [ ] Alluvial plain | [ ] Axial valley | [ ] Playa

Channel Form (✓ one)

[ ] Single thread | [ ] Braided | [ ] Compound | [ ] Distributary | [ ] Discontinuous | Other:

Transect was selected to:

[ ] Document fluvial activity & boundaries | [ ] Document channel elevations & boundaries

[ ] Document habitat associations | [ ] Document a change in watercourse morphology

[✓] Other: Document Fluvial in-activity

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Abandoned floodplain - Devers Substation / concrete wall and roads has cut off flows and area no longer part of active flood plain

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left ——— Right

Site ID: Desert Peak | Stream ID: MSD - 9 |

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales
	Biotic soil crusts		Rock fractured in place
✓	Bioturbation		Rock varnish
	Caliche: coatings / layers / rubble		Rock weathering
	Carbonate etching		Rubified rock undersides
	Coppice dunes: active / relict		Soil development
	Deflated surface		Surface rounding of landform
	Pavement	✓	Woody debris in place
	Other:		

Substrate Particle Size

Estimated percentages

–	% Bedrock / Cemented substrate	
–	% Boulder	≥ 256 mm
30	% Cobble	≥ 64 – 256mm
30	% Pebble	≥ 4 – 64 mm
30	% Granule	≥ 2 – 4 mm
10	% Sand	≤ 2 mm
–	% Silt/Clay	Fines

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
15-20	LAR TRI AMB DU	

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

No change

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels
	Bifurcated flow		Sediment plastering
	Drainage swales		Sediment ramps: sand / gravel
	Flow lineations		Sediment sheets: sand / gravel
	Imbricated gravel		Sediment sorting
	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
	Overturned rocks		Wrinkle marks
	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

N/A

Substrate Particle Size

Estimated percentages

% Bedrock / Cemented substrate	
% Boulder	≥ 256 mm
% Cobble	≥ 64 – 256 mm
% Pebble	≥ 4 – 64 mm
% Granule	≥ 2 – 4 mm
% Sand	≤ 2 mm
% Silt/Clay	Fines

Erosion Indicators

	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
—	—	—

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

N/A

Site ID Desert Peak	Stream ID MSD-9	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION				
Algal crusts		Sand-filled channels		
Beach ridges		Springs		
Coppice dunes: active / relict		Substrate staining		
Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
Mud: cracks / curls / polygons				
Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

N/A

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	

Episodic Stream Indicator Data Sheet			page 1 of 4
Site ID: Desert Peak	Stream ID: MSD-10		Date: 11/6/20
Nearest Town: Palm Springs		County: Riverside	
Investigators: B. Strittmatter, A. Cassady			

Base Map

Aerial Photo #:	Date:	Topographic Map Name:	Date:

GPS Data

GPS Name:	Datum:	Transect Elevation:	Zone 10 / 11	GPS Error: ± ft / m
GPS co-ords start of transect:		GPS co-ords end of transect:		

Geomorphic Province (✓one)		Mojave	✓	Sonoran/Colorado		Great Basin	Other:

Landform (✓ all that apply)

	Headwater		Upper fan		Middle fan		Lower fan		Alluvial plain		Axial valley		Playa

Channel Form (✓ one)

✓	Single thread		Braided		Compound		Distributary		Discontinuous	Other:

Transect was selected to:

✓	Document fluvial activity & boundaries		Document channel elevations & boundaries
	Document habitat associations		Document a change in watercourse morphology
✓	Other:		

Date of most recent runoff event (if known):

Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

* Ephemeral channel

* Anthropogenic infl: Devers substation to NW / NE and numerous roads / towers

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right

Site ID: Desert Peak | Stream ID: MDS- 10 |

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	**Substrate Particle Size**		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
✓	Bioturbation		Rock varnish		% Bedrock / Cemented substrate	
	Caliche: coatings / layers / rubble		Rock weathering	5	% Boulder	≥ 256 mm
	Carbonate etching		Rubified rock undersides	10	% Cobble	≥ 64 – 256mm
	Coppice dunes: active / relict		Soil development	30	% Pebble	≥ 4 – 64 mm
	Deflated surface		Surface rounding of landform	30	% Granule	≥ 2 – 4 mm
	Pavement	✓	Woody debris in place	10	% Sand	≤ 2 mm
	Other:			—	% Silt/Clay	Fines

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
10 - 15 %.	LAR TRI AMB DUM	3-4' H 2-3' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Absence of veg in watercourse

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

LAR TRI / AMB DUM / SCH BAR2

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

same as above

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels
	Bifurcated flow		Sediment plastering
	Drainage swales		Sediment ramps: sand / gravel
✓	Flow lineations	✓	Sediment sheets: sand / gravel
	Imbricated gravel	✓	Sediment sorting
	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes		Vegetation-channel alignments
	Organic drift	✓	Wrack
	Overturned rocks		Wrinkle marks
	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

–	% Bedrock / Cemented substrate	
–	% Boulder	≥ 256 mm
–	% Cobble	≥ 64 – 256 mm
–	% Pebble	≥ 4 – 64 mm
10	% Granule	≥ 2 – 4 mm
90	% Sand	≤ 2 mm
–	% Silt/Clay	Fines

unvegetated channel - sandy bottom

Erosion Indicators

✓	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
∅	—	—

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

N/A

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

N/A

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

N/A

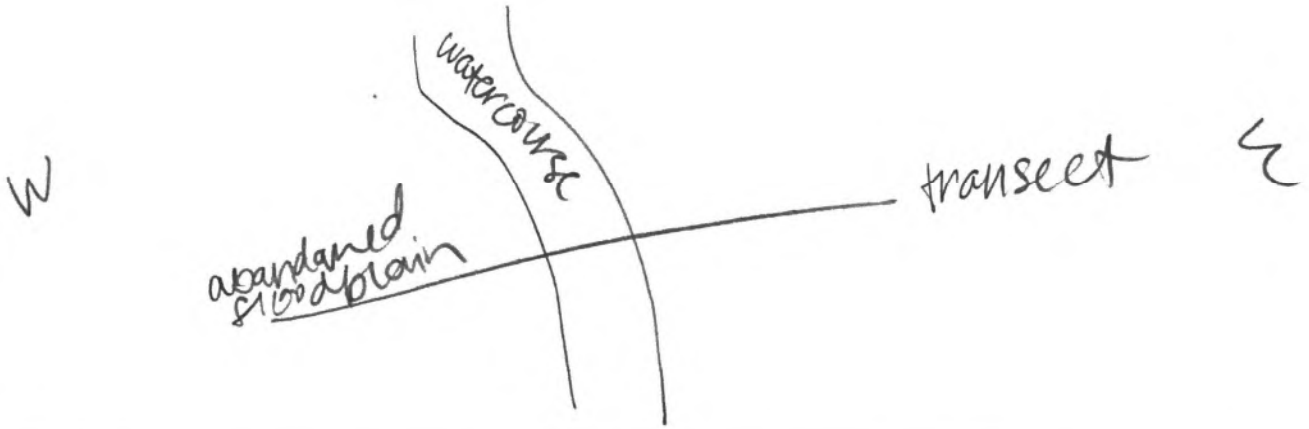
Site ID Desert Peak	Stream ID MDS-10.	page 4 of 4

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION

	Algal crusts		Sand-filled channels		
	Beach ridges		Springs		
	Coppice dunes: active / relict		Substrate staining		
	Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
	Mud: cracks / curls / polygons				
	Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".



Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-98	Upstream - north		

Episodic Stream Indicator Data Sheet

Site ID: Desert Peak | Stream ID: MSD-11 | Date: 11/16/20

Nearest Town: Palm Springs | County: Riverside

Investigators: B Smithmaier, Anna Cassady

Base Map

Aerial Photo #: | Date: | Topographic Map Name: | Date:

GPS Data

GPS Name: | Datum: | Transect Elevation: | Zone 10 / 11 | GPS Error: ± ft / m

GPS co-ords start of transect: | GPS co-ords end of transect:

Geomorphic Province (✓one) ☐ Mojave ☐ Sonoran/Colorado ☐ Great Basin Other:

Landform (✓ all that apply)

☐ Headwater ☐ Upper fan ☐ Middle fan ☐ Lower fan ☐ Alluvial plain ☐ Axial valley ☐ Playa

Channel Form (✓ one)

✓ Single thread ☐ Braided ☐ Compound ☐ Distributary ☐ Discontinuous Other:

Transect was selected to:

✓ Document fluvial activity & boundaries ☐ Document channel elevations & boundaries

☐ Document habitat associations ☐ Document a change in watercourse morphology

☐ Other:

Date of most recent runoff event (if known):

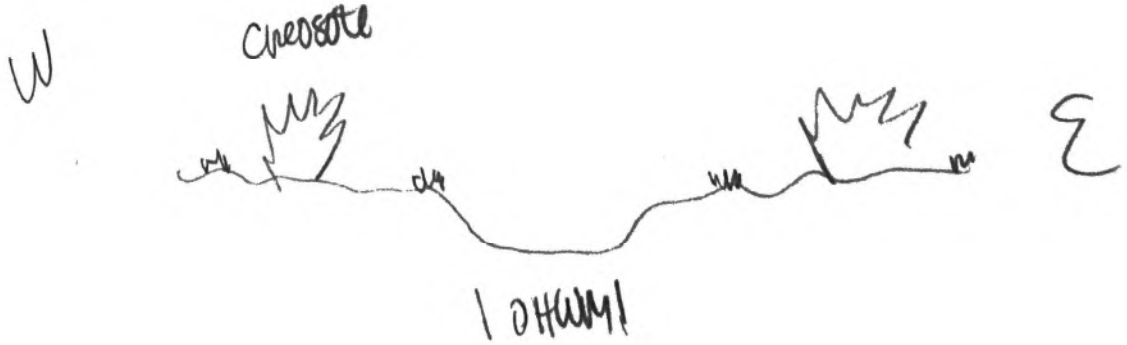
Physical Setting: Briefly describe geomorphic processes and surficial materials and conditions, including the degree of disturbance relative to an intact dryland stream ecosystem, and any anthropogenic influences on the channel form and function:

Ephemeral single thread unvegetated channel

Anthro Influ: energy development to north has cut off flows, dirt roads

Summary Site Description and Cross-section Sketch: View across the channel from watercourse-edge to watercourse-edge. Identify channel(s), banks, islands, interfluves, floodplains, terraces, and uplands where present. Note approximate width and elevation differences between features indicated.

Left _____ Right



Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of the representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for indicators not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

UPLAND

Terrestrial Indicators

	Av soil horizon		Relict bars & swales	**Substrate Particle Size**		
	Biotic soil crusts		Rock fractured in place	Estimated percentages		
✓	Bioturbation		Rock varnish	/	% Bedrock / Cemented substrate	
	Caliche: coatings / layers / rubble		Rock weathering	/	% Boulder	≥ 256 mm
	Carbonate etching		Rubified rock undersides	10	% Cobble	≥ 64 – 256mm
	Coppice dunes: active / relict		Soil development	30	% Pebble	≥ 4 – 64 mm
	Deflated surface	✓	Surface rounding of landform	40	% Granule	≥ 2 – 4 mm
	Pavement	✓	Woody debris in place	20	% Sand	≤ 2 mm
	Other:			—	% Silt/Clay	Fines

Fluvial Indicators

	Bars: sand / gravel		Mud: cracks / curls / drapes		Sediment tails: sand / gravel
	Cut banks		Organic drift		Vegetation-channel alignment
	Drainage swales		Overturned rocks		Water-cut benches
	Exposed roots		Scour		Wrack
	First-order streams		Sediment ramps: sand / gravel		Wrinkle marks
	Flow lineations		Sediment sorting		
	Other:				

N/A

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
8 %	Larrea tridentata 5 % Artemisia dumosa 3 %	4-5' H 3-4' W

Differences in total shrub/perennial density (total #shrubs/perennial plants) between upland & fluvially active units or watercourse complex? (describe and qualify the differences):

Higher cover of LAR TRI in upland

Are there plant species that are present in (or absent from) the uplands when compared to fluvially active units or the watercourse complex? (describe differences):

LAR TRI absent in watercomplex

Are there plant species that are more abundant (or less abundant) in the uplands when compared to the fluvially active units or the watercourse complex? (describe and qualify differences)

LAR TRI higher and SCH BAR grass higher

Site ID: Desert Peak	Stream ID: MSD-11	page 3 of 4

Note presence or absence of each indicator within a minimum distance of 50 feet upstream and 50 feet downstream of a representative channel cross section. Mark each box with a plus (+) for those indicators observed, and a minus (–) for those not observed. For examples see the Photo Atlas in MESA ~ Mapping Episodic Stream Indicators.

WATERCOURSE or WATERCOURSE COMPLEX

Transportation, Deposition & Flow Transition Indicators

	Bar forms: sand / gravel		Secondary channels
	Bifurcated flow		Sediment plastering
	Drainage swales		Sediment ramps: sand / gravel
✓	Flow lineations		Sediment sheets: sand / gravel
	Imbricated gravel	✓	Sediment sorting
	Levee ridges: sand / gravel		Sediment tails: sand / gravel
	Mud: cracks / curls / drapes		Vegetation-channel alignments
	Organic drift		Wrack
	Overturned rocks		Wrinkle marks
	Out-of-channel flow: Lateral floodplain / Terminal floodplain		
	Ripples		
	Other:		

Substrate Particle Size

Estimated percentages

✓	% Bedrock / Cemented substrate	
✓	% Boulder	≥ 256 mm
5	% Cobble	≥ 64 – 256 mm
10	% Pebble	≥ 4 – 64 mm
50	% Granule	≥ 2 – 4 mm
35	% Sand	≤ 2 mm
✓	% Silt/Clay	Fines

shelving

Erosion Indicators

✓	Cut banks		Rills		Water-cut benches
	Exposed roots		Scour		Water level mark
	Headcuts		Secondary channels		
	Other:				

Vegetation

Estimated % total vegetative cover (perennial & shrub species combined):	Dominant and co-dominant species (if known) and % of total vegetative cover of each:	Representative height and width of dominant and co-dominant species:
<1%	SCIT BARR <1%	<5"

Differences in total shrub/perennial density (total #shrubs/perennial plants) between the low-flow channel(s) and the adjacent floodplain? (describe and qualify the differences):

Absence of veg in LFC

Are there plant species that are present in (or absent from) the low-flow channel(s) when compared to the adjacent floodplain? (describe differences):

—

Are there plant species that are more abundant (or less abundant) on the low-flow channel(s) and the adjacent floodplain? (describe and qualify differences)

—

INDICATORS of PONDING & EVAPORATION and EOLIAN TRANSPORT & DEPOSITION				
Algal crusts		Sand-filled channels		
Beach ridges		Springs		
Coppice dunes: active / relict		Substrate staining		
Crusts: carbonate / salt / soda		Vegetation-landscape alignments		
Mud: cracks / curls / polygons				
Other:				

Additional Diagrams and Notes

Vegetation cross-section diagram: Draw a cross-section that identifies the approximate locations along the transect or diagram of geomorphic units (see page 1 of data sheet) where there are changes in vegetation characteristics, as summarized in the vegetation subsections under "Upland" and "Watercourse Complex".

Photographs

Photographs should document the representative landscape units, vegetation, and the presence or absence of representative stream indicators.

Photo ID #	Description	GPS location	
PP-100	Downstream - South		

Attachment D

Photo Documentation

	
PP-1: Upstream, West-Facing View of v-ditch, outside of the Review Area west of the proposed generation tie line alignment. Upstream of Ordinary High Water Mark Data Point (ODP)-1	**PP-2:** Downstream, South-Facing View of Diablo Road and evidence of road-runoff along generation tie line alignment. Upstream of Ordinary High Water Mark Data Point (ODP)-1
	
PP-3: Downstream, Southeast-Facing View of erosional feature at Ordinary High Water Mark Data Point (ODP)-1 along generation tie line alignment.	**PP-4:** Downstream, Southeast-Facing View outside of Review Area, downstream of Ordinary High Water Mark Data Point (ODP)-1 along generation tie line alignment.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>PP-5: Downstream, Southeast-Facing View of roadside ditch collecting runoff from Diablo Road along generation tie line alignment. Near Ordinary High Water Mark Data Point (ODP)-2</td><td>PP-6: Downstream, Southeast-Facing View of roadside ditch collecting runoff from Diablo Road along generation tie line alignment.. Near Ordinary High Water Mark Data Point (ODP)-3</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>PP-7: Upstream, North-Facing View of Diablo Road and no signs of flow along generation tie line alignment.. Upstream of Ordinary High Water Mark Data Point (ODP)-3</td><td>PP-8: Upstream, West-Facing View of roadside ditch outside of Review Area. Upstream of Ordinary High Water Mark Data Point (ODP)-4</td></tr>
</table>

	
PP-9: Upstream, North-Facing View of roadside ditch outside of Review Area. Upstream of Ordinary High Water Mark Data Point (ODP)-4	**PP-10:** Downstream, South-Facing View of roadside ditch that dissipates to runoff/sheetflow along generation tie line alignment. Upstream of Ordinary High Water Mark Data Point (ODP)-4
	
PP-11: Downstream, South-Facing View of roadside ditch near Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.	**PP-12:** Upstream, North-Facing View of roadside ditch south of Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.

PP-13: Downstream, South-Facing View of roadside ditch south of Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.

PP-14: Downstream, South-Facing View of where flows from roadside ditch dissipate to runoff/sheetflow, South of Ordinary High Water Mark Data Point (ODP)-4

PP-15: Downstream, South-Facing View of roadside ditch south of Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.

PP-16: Downstream, South-Facing View of roadside ditch where flows dissipates to runoff/sheetflow south of Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.

PP-17: Downstream, South-Facing View of roadside ditch where flows dissipates to runoff/sheetflow south of Ordinary High Water Mark Data Point (ODP)-4 along generation tie line alignment.

PP-18: Downstream, South-Facing View of NWW-1 (alluvial fan) Near Ordinary High Water Mark Data Point (ODP)-5 along generation tie line alignment.

PP-19: Downstream, Southeast-Facing View of NWW-1 (alluvial fan) Near Ordinary High Water Mark Data Point (ODP)-5 along generation tie line alignment.

PP-20: Upstream, Northwest-Facing View, outside of Review Area, of NWW-1 (alluvial fan) Near Ordinary High Water Mark Data Point (ODP)-5 along generation tie line alignment.

	
PP-21: Downstream, Southeast-Facing View, outside of Review Area. NWW-1 (alluvial fan) south of Ordinary High Water Mark Data Point (ODP)-5 along generation tie line alignment.	**PP-22:** Downstream, Southeast-Facing View, outside of Review Area. NWW-1 (alluvial fan) south of Ordinary High Water Mark Data Point (ODP)-5 along generation tie line alignment.
	
PP-23: Downstream, Southeast-Facing View NWW-1 (low flow channel within alluvial fan) Near Ordinary High Water Mark Data Point (ODP)-6	**PP-24:** Upstream, Northwest-View of NWW-1 (low flow channel within alluvial fan) Near Ordinary High Water Mark Data Point (ODP)-6

	
PP-25: Downstream, Southeast-Facing View of NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6	**PP-26:** West-Facing View of NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6
	
PP-27: Downstream, Southeast-Facing View of NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6	**PP-28:** Upstream, Northwest-Facing View of NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6

	
PP-29: Downstream, South-Facing View of NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6	**PP-30:** Downstream, East-Facing View of dirt road and NWW-1 (alluvial fan) southeast of Ordinary High Water Mark Data Point (ODP)-6
	
PP-31: Upstream, Northwest-Facing View of NWW-1 (alluvial fan) north of Ordinary High Water Mark Data Point (ODP)-6	**PP-32:** Downstream, Southeast-Facing View of NWW-1 (alluvial fan) northwest of Ordinary High Water Mark Data Point (ODP)-6

	
PP-33: Uplands, Northwest-Facing View	**PP-34:** Northwest-Facing View of disturbance area near Ordinary High Water Mark Data Point (ODP)-7
	
PP-35: Northwest-Facing View, east of Ordinary High Water Mark Data Point (ODP)-7	**PP-36:** North-Facing View of dirt road

PP-37: Upstream, North-Facing View of sheeflow area, near Ordinary High Water Mark Data Point (ODP)-8

PP-38: Downstream, South-Facing View shetflow outside of Review Area south of Ordinary High Water Mark Data Point (ODP)-8

PP-39: Northwest-Facing View of disturbance area

PP-40: North-Facing View of dirt road

PP-41: North-Facing View of Storage Yard, north of Ordinary High Water Mark Data Point (ODP)-9

PP-42: Upstream, North-Facing View of erosional feature near Ordinary High Water Mark Data Point (ODP)-9

PP-43: Downstream, South-Facing View of erosional feature near Ordinary High Water Mark Data Point (ODP)-9

PP-44: North-Facing View of uplands where erosional flows dissipate to sheeflow, south of Ordinary High Water Mark Data Point (ODP)-9

	
PP-45: Northwest-Facing View, northwest of Ordinary High Water Mark Data Point (ODP)-10	**PP-46:** Southeast-Facing View, Near Ordinary High Water Mark Data Point (ODP)-10
	
PP-47: South-Facing View, south of Ordinary High Water Mark Data Point (ODP)-10	**PP-48:** Upstream, Northwest-Facing View north of Ordinary High Water Mark Data Point (ODP)-11

PP-49: Downstream, Southeast-Facing View north of Ordinary High Water Mark Data Point (ODP)-11

PP-50: Upstream, Northwest-Facing View near Ordinary High Water Mark Data Point (ODP)-11

PP-51: Downstream, Southeast-Facing View south of Ordinary High Water Mark Data Point (ODP)-11

PP-52: Downstream, South-Facing View south of Ordinary High Water Mark Data Point (ODP)-11

PP-53: Upstream, Northwest-Facing View of NWW-2 near Ordinary High Water Mark Data Point (ODP)-12

PP-54: Downstream, Southeast-Facing View of NWW-2 near Ordinary High Water Mark Data Point (ODP)-12

PP-55: Upstream, Northwest-Facing View of NWW-2 south of Ordinary High Water Mark Data Point (ODP)-12

PP-56: Downstream, South-Facing View outside of Review Area of NWW-2 south of Ordinary High Water Mark Data Point (ODP)-12

	
PP-57: Downstream, South-Facing View of NWW-2 near Ordinary High Water Mark Data Point (ODP)-13	**PP-58:** Upstream, North-Facing View of NWW-2 near Ordinary High Water Mark Data Point (ODP)-13
	
PP-59: Downstream, South-Facing View where flows dissipate as sheetflow, south of Ordinary High Water Mark Data Point (ODP)-13	**PP-60:** Upstream, North-Facing View of NWW-2 south of Ordinary High Water Mark Data Point (ODP)-13

PP-61: South-Facing View, no evidence of hydrology or connectivity of NWW-2. South of Ordinary High Water Mark Data Point (ODP)-13

PP-62: Upstream, North-Facing View, no evidence of hydrology or connectivity of NWW-2, South of Ordinary High Water Mark Data Point (ODP)-13

PP-63: East-Facing View, north of Dillon Road.

PP-64: North-Facing View of dirt road and berm/fencing

	
PP-65: West-Facing View of NWW-3 (alluvial fan), near Ordinary High Water Mark Data Point (ODP)-14	**PP-66:** Upstream, North-Facing View of NWW-3 (alluvial fan) near Ordinary High Water Mark Data Point (ODP)-14
	
PP-67: Upstream, North-Facing View of NWW-3 (alluvial fan) south Ordinary High Water Mark Data Point (ODP)-14	**PP-68:** Downstream, Southeast-Facing View of NWW-3 (alluvial fan) south of Ordinary High Water Mark Data Point (ODP)-14

PP-69: Upstream, North-Facing View of NWW-3 (alluvial fan) south Ordinary High Water Mark Data Point (ODP)-14

PP-70: Upstream, North-Facing View of NWW-3 outside of Review Area, south of Ordinary High Water Mark Data Point (ODP)-14

PP-71: Downstream, Southeast-Facing View of NWW-3 outside of Review Area, south of Ordinary High Water Mark Data Point (ODP)-14

PP-72: Downstream, South-Facing View of NWW-3 outside of Review Area, south of Ordinary High Water Mark Data Point (ODP)-14

	
PP-73: Downstream, South-Facing View of NWW-3 outside of Review Area, south of Ordinary High Water Mark Data Point (ODP)-14	**PP-74:** Downstream, South-Facing View of tributary NWW-3a, near Ordinary High Water Mark Data Point (ODP)-15
	
PP-75: Downstream, South-Facing View of tributary NWW-3b, near Ordinary High Water Mark Data Point (ODP)-16	**PP-76:** Upstream, North-Facing View NWW-4 near Ordinary High Water Mark Data Point (ODP)-17

	
PP-77: Downstream, Southeast-Facing View of NWW-4 near Ordinary High Water Mark Data Point (ODP)-17	**PP-78:** Upstream, Northwest-Facing View of NWW-4 south of Ordinary High Water Mark Data Point (ODP)-17
	
PP-79: Upstream, Northwest-Facing View of NWW-4 outside of the Review Area, south of Ordinary High Water Mark Data Point (ODP)-17	**PP-80:** Downstream, Southwest-Facing View of NWW-4 outside of the Review Area, south of Ordinary High Water Mark Data Point (ODP)-17

PP-81: South-Facing View of disturbance area

PP-82: Downstream, South-Facing View of NWW-2

PP-83: Downstream, South-Facing View of NWW-4

PP-84: Upstream, North-Facing View of NWW-3

	
PP-85: Upstream, Northwest-Facing View. No hydrologic connectivity to NWW-3 to the northwest. No OHWM present. South of Ordinary High Water Mark Data Point (ODP)-18.	**PP-86:** Downstream, South-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site, near Ordinary High Water Mark Data Point (ODP)-18.
	
PP-87: South-Facing View of disturbance area, no feature present.	**PP-88:** Upstream, North-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site. Near Ordinary High Water mark Data Point (ODP)-19.

	
PP-89: Downstream, Southeast-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site. Southeast of Ordinary High Water mark Data Point (ODP)-19.	**PP-90:** Downstream, South-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site. Southeast of Ordinary High Water mark Data Point (ODP)-19.
	
PP-91: Downstream, South-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site. Near of Ordinary High Water mark Data Point (ODP)-20.	**PP-92:** Downstream, South-Facing View. No clear OHWM present; evidence of sheetflows that follow topography of the site. Southeast of Ordinary High Water mark Data Point (ODP)-20.

	
PP-93: Downstream, Southwest-Facing View of NWW-5, north of Ordinary High Water Mark Data Point (ODP)-21.	**PP-94:** Upstream, North-Facing View of NWW-5, north of Ordinary High Water Mark Data Point (ODP)-21.
	
PP-95: Downstream, Southeast-Facing View of NWW-5, near Ordinary High Water Mark Data Point (ODP)-21.	**PP-96:** Upstream, Northwest-Facing View of NWW-5, near Ordinary High Water Mark Data Point (ODP)-21.

PP-97: Upstream, Northwest-Facing View of NWW-3 in northern portion of review area, north of Ordinary High Water Mark Data Point (ODP)-22.

PP-98: Upstream, North-Facing View of NWW-6, south of Ordinary High Water Mark Data Point (ODP)-23.

PP-100: Downstream, South-Facing View of NWW-7, near Ordinary High Water Mark Data Point (ODP)-24.