APPENDIX J. AQUATIC RESOURCES DELINEATION REPORT

Aquatic Resources Delineation Report for the Starlight Solar Project, San Diego County, California

AUGUST 2024

PREPARED FOR

Starlight Solar LLC

PREPARED BY

SWCA Environmental Consultants

AQUATIC RESOURCES DELINEATION REPORT FOR THE STARLIGHT SOLAR PROJECT, SAN DIEGO COUNTY, CALIFORNIA

Prepared for

Starlight Solar LLC
12302 Exposition Boulevard
Los Angeles, California 90064

Prepared by

SWCA Environmental Consultants
3838 Camino Del Rio North, Suite 200
San Diego, California 92108
www.swca.com

SWCA Project No. 53792

August 2024

EXECUTIVE SUMMARY

This aquatic resource delineation report has been conducted in accordance with the 1987 U.S. Army Corps of Engineers (USACE) Wetland Delineation Manual and regional supplements, including the 2008 *A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States*, and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Jurisdiction of aquatic resources was assessed under Section 401 and 404 of the Clean Water Act using the USACE 2023 Waters of the United States (WOTUS) rule, as amended, and Section 1602, as amended, of the California Department of Fish and Wildlife (CDFW) California Fish and Game Code. Section 404 includes potentially jurisdictional waters of the United States regulated by the USACE. In general, the 2023 WOTUS amended rule removes the significant nexus test from consideration when identifying tributaries and other waters. It also requires that federally jurisdictional wetlands be adjacent through a continuous surface connection and clarifies the types of features that are considered under the "additional waters" category. Section 401 includes potentially jurisdictional waters of the State by the California State Waters Resources Control Board (Water Board). Section 1602 identifies potentially jurisdictional streambed waters of the State by CDFW. County wetlands, which are those protected under the San Diego County Resource Protection Ordinance (RPO wetlands), were assessed pursuant to Chapter 6, Section 86.601 of the San Diego County Code of Regulatory Ordinances. RPO wetlands include lands that support a predominance of hydrophytes at least periodically, lands where the substratum is predominantly undrained hydric soil, or ephemeral or perennial streams where the substratum is predominately non-soil, and the lands contribute substantially to the biological functions or values of wetlands in the drainage system.

All agency jurisdictions expressed in this report represent the professional judgement of SWCA Environmental Consultants. They are preliminary and at the final discretion of the applicable agencies.

This report includes the review of an approximate 588-acre Project Area and an associated 100-foot buffer, cumulatively comprising a 784-acre Survey Area, for the Starlight Solar Project (project). Starlight Solar LLC is proposing to develop, finance, construct, and operate a renewable energy solar and battery storage project in southeastern San Diego County.

Sixty-nine potentially jurisdictional drainage features, eight freshwater ponds (three of which are potentially jurisdictional), and one potentially jurisdictional freshwater seep were found within the Survey Area. Of these potentially jurisdictional resources, 13 drainages, five freshwater ponds, and the freshwater seep are entirely outside of the Project Area. Impacts to the remaining jurisdictional features would result from project-related activities.

All features exhibiting an ordinary high-water mark (OHWM) were determined to convey waters of the State along with all observed wetlands. As described in this report, it is possible that delineated non-wetland and wetland features will not meet the 2023 WOTUS amended rule's relatively permanent standard and may not qualify as an "additional waters" category. However, a conclusive assessment of a lack of WOTUS can only be determined by the USACE though the issuance of an Approved Jurisdictional Determination (AJD). Most features reach a discernable terminus with no connection to other downstream WOTUS within the Survey Area, although a few features convey flow outside of the Survey Area, but aerial imagery shows that these features also terminate before reaching a downstream WOTUS. All wetlands were determined to be isolated within the Survey Area and therefore not federally jurisdictional but are wetland waters of the State. CDFW jurisdiction was assessed to include all previously mentioned features, as well as streambed occurring beyond the OHWM and associated riparian habitat. RPO wetlands do not occur within the Project Area, but one RPO wetland was observed within 50 feet of the Project Area.

The proposed project may result in permanent and temporary impacts of 0.81 acre (16,320 linear feet) of waters of the State, 0.01 acre (25 linear feet) of wetland waters of the State, and 2.35 acres (16,505 linear feet) of CDFW Jurisdictional Resources. If confirmed by a USACE AJD, no impacts to USACE jurisdictional resources will result from project-related activities. No direct impacts to RPO wetlands or their wetland protection buffers will occur. One RPO wetland buffer, a 50-foot protection buffer around an observed RPO wetland located outside of the project footprint but within the Survey Area buffer was observed within the Project Area but will be flagged for avoidance. Impacts to aquatic resources may result from grading, excavation, and other ground-disturbing activities necessary to facilitate the installation of solar arrays as well as their supporting infrastructure.

CONTENTS

Appendices

Tables

1 INTRODUCTION

SWCA Environmental Consultants (SWCA) was retained by Starlight Solar LLC to provide aquatic resources services in support of the Starlight Solar Project located in the community of Boulevard, San Diego County, California, at approximate coordinates 32.647562°N, 116.286963°W. SWCA was tasked with providing a study of the aquatic resources present at the project's proposed development site (Project Area) and a 100-foot buffer around it (survey area), based on desktop analysis and field surveys. The Survey Area consists of approximately 784 acres. SWCA assessed aquatic conditions throughout the Survey Area and reviewed relevant technical documents and agency-maintained databases to characterize the aquatic resources that may be present within the Project Area. SWCA also reviewed relevant federal, State, and County regulations; characterized the existing conditions; and assessed the potential environmental impacts from project activities.

1.1 Regulatory Background

The purpose of this report is to identify and describe aquatic resources in the Survey Area. This report facilitates efforts to:

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

This aquatic resources delineation report provides the framework, methods, and results of jurisdictional delineation. The purpose of the delineation is to record the extent of aquatic resources and make a preliminary determination of State and federal jurisdiction potentially subject to regulation by the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), California Water Resources Control Board and its Regional Water Quality Control Board (Water Boards) under Section 401 of the CWA and Porter-Cologne Water Quality Control Act, and California Department of Fish and Wildlife (CDFW) under Section 1602 of the California Fish and Game Code (2017).

This aquatic resource delineation report has been prepared in accordance with the USACE Wetland Delineation Manual (USACE 1987) and regional supplements, including the 2008 *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0). Jurisdiction of aquatic resources was assessed under Section 401 and 404 of the CWA using the USACE 2023 Final Revised Definition of Waters of the United States Amendment (2023 WOTUS amended rule) (USACE 2023), which went into effect September 8, 2023. The State of California is currently implementing the 2023 WOTUS amended rule. Therefore, features were delineated and assessed in context of the 2023 WOTUS amended rule. In general, the 2023 WOTUS amended rule removes the significant nexus test from consideration when identifying tributaries and other waters. It also requires that federally jurisdictional wetlands be adjacent through a continuous surface connection and clarifies the types of features that are considered under the "additional waters" category. The 2023 WOTUS amended rule regulations do not categorically exclude non-relatively permanent waters of the United States, such as ephemeral and intermittent streams, so additional guidance from the U.S. Environmental Protection Agency and USACE may still be needed to evaluate certain potentially regulated aquatic resources.

Under the CWA, State and federal non-wetland waters of the United States (WOTUS) are delineated by the ordinary high-water mark (OHWM) and may be considered jurisdictional by USACE and the Water Boards. Features lacking connectivity to downstream resources may also be considered jurisdictional by

the Water Boards under the State Porter-Cologne Water Quality Control Act. Under Section 1602 of the California Fish and Game Code, the watercourse includes the streambed, which has a bed and bank and supporting riparian vegetation. The streambed is generally delineated as the outermost bounds of the bank or extending to the drip line of associated riparian vegetation.

An area must meet the following three parameters to be considered a federal wetland WOTUS: 1) the presence of wetland hydrology (evidence of inundation or saturation near the ground surface); 2) a predominance of hydrophytic vegetation (adapted to aquatic environments); and 3) hydric soils displaying indicators of biological activity as a result of prolonged inundation (USACE 2008a, 2008b).

Under the recent Water Boards' *Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (California Water Boards 2020), an area must meet the following parameters to be considered a wetland: An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation. The definition is similar to the federal wetland definition except the area may still meet the parameters if devoid of vegetation (less than 5% cover).

The San Diego County Resource Protection Ordinance (RPO) was adopted in 1989 and amended in 1991 and 2007 (San Diego County Code of Regulatory Ordinances 2007). The RPO restricts to varying degrees impacts to various natural resources including wetlands, wetland buffers, floodplains, steep slopes, sensitive habitat lands and historical sites. The RPO defines wetlands (RPO wetlands) as lands that support a predominance of hydrophytic vegetation, support the development of hydric soils, and streams of any flow duration whose substratum is predominantly non-soil and contributes substantially to the biological functions or values of wetlands in the drainage system. Generally, RPO wetlands exclude wetlands that are formed as a result of human made structures like culverts, ditches, road crossings, or agricultural ponds as well as lands that have previously been degraded by past legal land disturbance activities.

Certain permit types are subject to the requirement to prepare Resource Protection Studies under the RPO. The RPO restricts uses in wetlands as defined by the ordinance. Aquaculture, scientific research, wetland restoration projects, limited removal of diseased or invasive plant species, and limited road-, driveway-, or trail-crossings may be allowed when specific findings are made for these uses. In addition, the ordinance requires that a wetland buffer be provided to further protect the wetland resources. Improvements necessary to protect the adjacent wetlands and those uses allowed within the actual wetland are the only allowed uses within the buffer.

2 PROJECT LOCATION

The Starlight Solar Project (project) encompasses approximately 588 acres in unincorporated San Diego County, south of the community of Boulevard and approximately 0.93 mile north of the United States border at approximate coordinates 32.647562°N, 116.286963°W (Figure A1). The project site is located south of Interstate 8 and Old Highway 80, and east of Tierra Del Sol Road. Regional access to the project site would be provided by State Route 94 and Interstate 8. Access to the project site is provided by Jewel Valley Road, which connects to Old Highway 80 in the town of Boulevard. Additional emergency fire access is available from Tule Jim Lane which connects to Old Highway 80 in the town of Boulevard.

The Project Area includes the following parcels: Assessor Parcel Numbers: 612-082-12, 612-110-02, 612-110-04, 612-110-17, 612-110-18, 612-110-19, 612-120-01, 659-020-01, 659-020-02, 659-020-05, 659-020-08, 659-080-02, 659-080-09, 612-090-59, and 612-090-68.

3 PROJECT DESCRIPTION

Starlight Solar LLC is proposing to develop and operate a renewable energy solar and battery storage project in southeastern San Diego County. The project would use photovoltaic (PV) electric generation system technology to produce up to 100 megawatts (MW) of alternating current (AC) solar energy at the utility scale (Figure A2). The project would also include an 868-MWh (megawatt hour) (110 megawatt 4-hour batteries) battery energy storage system (BESS) and a collector substation.

The project would be constructed in two separate phases. Phase I encompasses approximately 125 acres and includes the development of a PV system capable of generating up to 20 MW of solar energy and providing 17.4 MW of battery storage. Phase II encompasses approximately 456 acres and includes the development of a PV system capable of generating up to 80 MW of solar energy and providing 200 MW of battery storage. Phase I and Phase II would occur across approximately 588 acres.

An underground generation tie (gen-tie) line would be located on the east side of Tule Jim Lane and connect into the southeast corner of the SDG&E Boulevard Substation. Although the majority would be underground, the gen-tie line would have one overhead portion in order to cross Tule Jim Road and would occupy 7 acres. An off-site vehicle turnaround area on Jewel Valley Road would be approximately 0.06 acre in size. In addition, temporary roads, access, and work areas would be established to support project construction.

The project would include the following primary components:

- Approximately 235,516 PV modules (individual sets of PV cell circuits which produce panels which are combined into arrays) would be mounted on support structures (typically single axis). The final number of modules and support structures will depend on the final design.
- A 1,500-volt direct current underground collection system would link the modules to the inverters and eight solar array systems based on current design standards.
- Inverter/transformer platforms, located throughout the solar facility, would convert the direct current power generated by the modules into AC power, a compatible form for use with the transmission network.
- A 34.5-kilovolt (kV) underground AC collection system would link the inverters to the on-site collector substation.
- A 6,500-square-foot on-site collector substation, a 400-square-foot storage building, and a 450-square-foot control enclosure building would be located on the northeastern tip of the project site within an approximately 3-acre substation site.
- The gen-tie line would run from the on-site project substation to the Boulevard East Substation. It will consist of two lines—a 69-kV line and a 138-kV line—that will be strung overhead to cross Tule Jim Lane and located underground for the remaining extent.
- A 217.4-MW BESS would be located on approximately 5.14 acres in two locations.
- The project would include a Supervisory Control and Data Acquisition (SCADA) system, a control system architecture comprised of computers, network data communications, and graphic user interfaces.

- A 24-foot-wide perimeter access and array-connecting roads and 20-foot-wide internal access roads would be used to provide operational vehicles access to the site.
- Project equipment would be surrounded by 30- to 100-foot fuel modification zones.
- Biological resource mitigation land would be conserved and managed south and west of the Project Area within Assessor Parcel Numbers 659-130-03, 659-140-01, and 659-140-02.

4 METHODS

4.1 Existing Data Review

The USACE *Corps of Engineers Wetlands Delineation Manual* (USACE 1987) was used to conduct preliminary data gathering of existing information and select sources of information helpful in assessing site conditions, extracting pertinent data, and synthesizing the data in advance of conducting fieldwork. The following data sources were selected and reviewed:

- U.S. Geological Survey (USGS) quadrangle maps to review streams, topographic details, wet areas, drainage patterns, and general land uses.
- U.S. Fish and Wildlife (USFWS) National Wetlands Inventory (NWI) maps to review the potential location and classification of resources that designate the regime modifier and flooding or soil saturation characteristics (USFWS 2023a).
- Natural Resources Conservation Service (NRCS) Web Soil Survey to review general climate information, wetness characteristics of soils, soil properties (frequency, duration, and timing of inundation), and soil classification (soil series and phases) (NRCS 2023).
- Google Earth historic and current aerial imagery to review potential wet areas, streams, stream connectivity, and other physical features potentially affecting flow (Google Earth 2023).
- Calflora plant database to review recorded plants found within or near the Survey Area (Calflora 2023).

4.2 Field Survey

An aquatic resources delineation field survey was conducted by SWCA delineators from January 10 to 14 and from January 24 to 26, 2022, within the Survey Area (Figure A3). To accommodate updates to the project design, a subsequent aquatic resources delineation field survey focused on these areas subject to change was conducted by SWCA delineators implementing the same procedures and guidance that were implemented in the 2022 survey including the USACE Wetland Delineation Manual (USACE 1987), the 2008 *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States*, and the 2008 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (Version 2.0) from August 30 to September 1, 2023. Aquatic resource features were mapped and OHWM indicators were evaluated and recorded. USACE Wetland Determination Data Forms (Arid West Region) and USACE Arid West Ephemeral and Intermittent Streams OHWM Datasheets were completed to document findings. Six wetland determination sampling plots (SP01–SP06) were examined at locations exhibiting potential hydrophytic vegetation and hydrology indicators. Four representative OHWM datasheets were completed to represent the range of drainage characteristics observed on-site. The sample plots and drainages were documented in photographs (Appendix B Photographs B1–B69). All data were recorded using the Esri ArcGIS Field

Maps collector application paired to a Juniper Systems Geode receiver with submeter location accuracy. Following the collection of field data, data were reviewed and processed for mapping.

5 RESULTS

5.1 Existing Environment

The project is in the Carrizo Creek watershed (hydrologic unit code 8: 18100202) (USGS 2023), which is within San Diego and Imperial Counties, California, with a small segment in Mexico. Flow within this watershed is generally conveyed in a northeasterly direction. The Survey Area supports 17 natural communities and land cover types. Natural communities include granitic northern mixed chaparral, redshank chaparral, granitic chamise chaparral, montane buckwheat scrub, field/pasture, big sagebrush scrub, open coast live oak woodland, nonnative grassland, southern riparian scrub, coast live oak woodland, tamarisk scrub, freshwater seep, and alkali marsh (SWCA 2023). Landcover types include bare ground, disturbed, urban/developed, and freshwater (Figure A4). Additional information about the vegetation communities within the Survey Area can be found in the SWCA biological resources assessment report for the Starlight Solar Energy Storage Project (SWCA 2023). NRCS-mapped soils in the Survey Area are largely xeric (NRCS 2023). The Survey Area is crossed by Jewel Valley Road and the San Diego and Arizona Eastern Railway, which is in disrepair (see Figure A3). The Survey Area is relatively undisturbed; however, a network of dirt access roads is present throughout. Two disturbed or developed areas are present: the segment immediately south of Jewel Valley Road, which is developed and maintained in association with Empire Ranch, and a field/pasture that largely consists of nonnative annual grasses in the southern portion of the Survey Area (see Figure A4). No USFWS-designated critical habitat exists within the Survey Area (USFWS 2023b).

5.1.1 Soils

Five soil series are mapped within the Survey Area (NRCS 2023), consisting of Mottsville loamy coarse sand, 2 to 9 percent slopes (MvC); La Posta loamy coarse sand, 5 to 30 percent slopes, eroded (LaE2); Tollhouse rocky coarse sandy loam, 5 to 30 percent slopes, eroded (ToE2); La Posta loamy coarse sand, 5 to 30 percent slopes, severely eroded (LaE3); and La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded (LcE2) (Figure A5, Table 1). None of the soils mapped within the Survey Area are considered hydric. LaE2, LaE3, and MvC are the most common soils in the Survey Area.

Table 1. Detailed Soil Map Units

Soil Map Symbol	Map Unit Name	Hydric
MvC*	Mottsville loamy coarse sand, 2 to 9 percent slopes	No
LaE2*	La Posta loamy coarse sand, 5 to 30 percent slopes, eroded	No
ToE2	Tollhouse rocky coarse sandy loam, 5 to 30 percent slopes, eroded	No
LaE3*	La Posta loamy coarse sand, 5 to 30 percent slopes, severely eroded	No
LcE2	La Posta rocky loamy coarse sand, 5 to 30 percent slopes, eroded	No

Source: NRCS (2022)

* Most common soils in the Survey Area.

MvC soils consist of 85% Mottsville and similar soils, and 15% minor components. Minor components consist of 5% Bull Trail, 5% La Posta, and 5% Calpine. Parent material for Mottsville soils is alluvium derived from granite. The top horizon (0–6 inches below the soil surface) consists of loamy coarse sand

with deeper soils consisting of a stratified sand to loamy sand texture. These soils are considered well drained and are associated with 2% to 9% slopes. MvC soils and their minor components are not considered hydric. All five wetland determination sampling pits were examined within MvC mapped soils. Soils observed within SP01 to SP05 are generally consistent with the mapped soils series. SP01 to SP05 consisted mostly of silty clay loam on the top few inches of their respective pedons, and silty clay to sandy clay loam deeper in the soil horizon.

LaE2 soils consist of 85% of La Posta and similar soils and 15% minor components. Minor components consist of 5% Tollhouse, 5% Kitchen Creek, and 5% Rock Outcrops. Parent material for La Posta and similar soils is residuum weathered from granodiorite. The top horizon (0–10 inches below the soil surface) consists of a loamy coarse sand texture. Deeper soils consist of a gravelly loamy coarse sand texture. LaE2 soils are considered somewhat excessively drained and are associated with 5% to 30% slopes. LaE2 soils and their minor components are not considered hydric.

ToE2 soils consist of 65% Tollhouse and similar soils, 25% rock outcrops, and 10% minor components. Rock outcrops are characterized as unweathered bedrock. Minor components consist of 4% Kitchen Creek, 3% Mottsville, and 3% La Posta. Parent material for Tollhouse and similar soils is residuum weathered from granodiorite. The topsoil horizon (0–16 inches below the soil surface) consists of a gravelly coarse sandy loam texture. These soils are considered somewhat excessively drained and are associated with 5% to 20% slopes. ToE2 soils in their entirety are not considered hydric.

LaE3 soils consist of 85% La Posta and similar soils and 15% minor components. Minor components consist of 5% Tollhouse, 5% Kitchen Creek, and 5% Rock Outcrops. Parent material for La Posta and similar soils is residuum weathered from granodiorite. The top horizon (0–8 inches below the soil surface) consists of a loamy coarse sand texture. Deeper soils consist of a gravelly loamy coarse sand texture. LaE3 soils are considered somewhat excessively drained and are associated with 5% to 30% slopes. LaE3 soils and their minor components are not considered hydric.

LcE2 soils consist of 85% La Posta and similar soils and 15% minor components. Minor components consist of 5% Tollhouse, 5% Kitchen Creek, and 5% Rock Outcrops. Parent material for La Posta and similar soils is residuum weathered from granodiorite. The top horizon (0–8 inches below the soil surface) consists of a loamy coarse sand texture. Deeper soils consist of a gravelly loamy coarse sand texture. LcE2 soils are considered somewhat excessively drained and are associated with 5% to 30% slopes. LcE2 soils and their minor components are not considered hydric.

Soils observed in the field are consistent with those mapped in the NRCS web soil survey. All soils range from sandy to loamy. None of the mapped soils are considered hydric.

5.1.2 Vegetation

The project is within the Peninsular Range (excluding San Jacinto Mountains) floristic region (Jepson Flora Project 2023). The dominant vegetation types found within the Survey Area include granitic northern mixed chaparral, red shank chaparral, and chamise chaparral, which are relatively xeric vegetation communities that do not typically support hydrophytic vegetation (see Figure A4). The southernmost portion of the Survey Area supports the widest diversity of habitat types, which include habitat associated with hydrophytic vegetation, including tamarisk (*Tamarix* spp.) scrub and southern riparian scrub.

Aquatic resources identified in the Survey Area largely support upland vegetation. Problematic vegetation in the form of upland annual grasses and mustards (*Hirschfeldia* sp. and *Brassica* sp.; nonnative invasive) was associated with some freshwater ponds. A dominance of hydrophytic vegetation occurs within the Survey Area but outside the Project Area and is limited to a freshwater seep and a freshwater pond.

Hydrophytic vegetation indicator status was referenced by the latest USACE 2020 National Wetland Plant List (USACE 2021).

Of the six examined wetland determination sampling plots, one was unvegetated (SP04), three were dominated by upland nonnative mustards (SP01–SP03), one was dominated by upland herbaceous vegetation (SP05), and one consisted of codominant upland and hydrophytic species (SP06). SP01–SP05 were examined within the field/pasture land cover type, and SP06 was examined within the granitic northern mixed chaparral vegetation community. SP01 and SP02 were dominated by nonnative annual grasses and mustards. Cover at each location was approximately 15%. Although diagnostic plant parts were not present, the more prevalent mustard (*Hirschfeldia* sp. and *Brassica* sp.) and annual grasses (*Bromus* sp.) do not have a hydric indicator status and are typically assumed to have an upland status; however, in the context of disturbance and monocultures, these species may be considered problematic due to disturbance and discounted from the wetland determination assessment. No species within the tree, sapling/shrub, or woody vine stratum were present at SP01 or SP02. SP03 consisted of approximately 15% cover of nonnative annual grasses and mustards, plus approximately 3% cover of *Artemisia tridentata* (No Indicator/Not Listed; assumed upland). SP05 was largely dominated (approximately 50% absolute cover) by *Erodium cicutarium* (No Indicator/Not Listed; assumed upland). Unknown germinates comprised an additional 10% cover. No plants within the tree, sapling/shrub, or woody vine stratums were present. SP06 did not support any plants in the tree stratum. Shrubs consisted of approximately 5% absolute cover of *Salix lasiolepis* (facultative wetland [FACW]). The herbaceous stratum consisted of approximately 13% absolute cover. Species present in the herbaceous stratum included *Erigeron canadensis* (No Indicator/Not Listed; assumed upland), *Mimetanthe pilosa* (FACW), *Heliotropium curassavicum* (facultative upland [FACU]), and annual grasses.

Observed hydrophytic vegetation was associated with SP06 and a freshwater pond (FP02) located within the Survey Area but outside of the Project Area in the southwestern portion of the project. The dominant species around FP02 was *Baccharis salicifolia* (facultative [FAC]). Other hydrophytic species were also observed at a freshwater seep located within the Survey Area but outside the Project Area. Hydrophytic species at this location included *Typha* spp. (obligate [OBL]), *Anemopsis californica* (OBL), and *Carex* cf. *spissa* (facultative [FAC]). *Tamarix* cf. *chinensis* (FAC) was observed at the southeastern edge of the Survey Area. The most common species throughout the Survey Area, red shank (*Adenostoma sparsifolium*), chamise (*Adenostoma fasciculatum*), and buckwheat (*Eriogonum fasciculatum*), lack hydric indicators and are assumed to have an upland status.

5.1.3 Hydrology

Two historic drainages, Boundary Creek just south of Jewel Valley Road and an unnamed tributary of Boundary Creek in the southernmost portion of the project, cross the Survey Area; however, these features have been altered and are now discontinuous or disconnected within the Survey Area. Lack of hydrology indicators correlate with historic phases of development that occurred between 1953 and 1989 (University of California, Santa Barbara [UCSB] 2023). Additionally, an earthen airstrip was constructed along the approximate course of Boundary Creek. The airstrip underwent various phases of expansion, reaching its current extent by November 2004 (Google Earth 2023). It appears the freshwater ponds were created to control the flow of both Boundary Creek and its tributary and may have also been used as sediment borrow sites based on aerial evidence. Although the exact purpose of these features, e.g., as freshwater ponds, stock ponds, catchment basins, or other functions is unknown, these features are collectively referred to as "freshwater ponds," an adopted nomenclature from the corresponding NWI-mapped nomenclature.

Flow direction varies within the Survey Area, however, flow within the broader watershed is generally conveyed in a northeasterly direction toward the Salton Sea. Pursuant to 33 Code of Federal Regulations Section 328.3, the USACE has determined the Salton Sea meets the requirement for navigability (33

Code of Federal Regulations 328.3(a)(1)). Accordingly, the Salton Sea was declared a Traditional Navigable Water (TNW) in the year 2000.

Jewel Valley Road parallels what was likely once a well-defined Boundary Creek as evidenced by imagery from 1953 (UCSB 2023). Boundary Creek conveys flow in a southeasterly direction toward the community of Jacumba, California, near the United States–Mexico border. Near Jacumba, mapped Boundary Creek changes its trajectory and conveys flow in a northerly direction toward Carrizo Creek.

Boundary Creek (Figure A6, label "NWI – Boundary Creek") and its tributary (see Figure A6, label "NWI – Unnamed Tributary to Boundary Creek") are mapped in the NWI database as riverine (R4SBC) features along with their associated freshwater ponds (PUBFh) within the Survey Area. No NWI-mapped features are mapped within the Survey Area north of Jewel Valley Road. Only discontinuous segments of flow potentially associated with these mapped features were observed within the Survey Area. Two freshwater ponds associated with Boundary Creek and its tributary are mapped within the Survey Area. Both freshwater pond features lack hydrology indicators and are dominated by upland shrub species. The freshwater ponds appear to no longer provide hydrologic connectivity for Boundary Creek. The freshwater ponds lack outlets that would facilitate the conveyance of typical flow beyond their boundaries. An additional unnamed NWI riverine feature (see Figure A6, label "Unnamed NWI Feature") conveys flow in a southeasterly direction in the southern portion of the Survey Area. Although most of this feature is classified as riverine (R4SBC), a small segment within the southeasternmost corner of the Survey Area is mapped as freshwater forested/shrub wetland (PSAA). As mapped in the NWI, this unnamed riverine feature conveys flow to Lake Domingo, which then conveys flow in an easterly direction toward Boundary Creek. Like Boundary Creek, this unnamed riverine feature is discontinuous as a result of anthropogenic impacts. Historic aerial imagery indicates that a freshwater pond was created sometime between 1953 and 1989 (UCSB 2023) in the southwest corner of the Survey Area. Historic aerial imagery is not available for the project between 1954 and 1988. A well-defined drainage can be observed conveying uninterrupted flow through the Survey Area in 1953, prior to the construction of the freshwater pond. By 1989, signs of flow are fading downstream of the freshwater pond as compared to 1953. Furthermore, a berm (likely human-made) crosses what may have been the natural path for this feature.

The aquatic features observed within the Survey Area can be characterized as freshwater ponds (basins of undetermined use), ephemeral/intermittent (non-relatively permanent) drainages, and freshwater seeps. Most freshwater ponds lack hydrology indicators. They may have been created to control the flow of Boundary Creek and its tributaries, but hydrology indicators are present but sparse and poorly defined within the freshwater ponds and absent or discontinuous where drainage features would be expected to occur connecting flow from one freshwater pond to the next along historic Boundary Creek. A freshwater pond, created sometime between 1953 and 1989, was observed at the southwestern end of the Survey Area but outside of the Project Area. A freshwater seep was observed within the southern portion of the Survey Area but outside of the Project Area. Drainages are apparently non-relatively permanent waters with flow durations ranging from less than ephemeral to intermittent, but agency confirmation and USACE determination is recommended for assessing federal jurisdictional status.

5.1.4 Aquatic Resources Inventory

Three distinct aquatic resource feature types were identified within the Survey Area, consisting of 67 non-wetland drainages, eight freshwater ponds, and one freshwater seep. Based on surface hydrology indicators and vegetation composition, additional wetland resources associated with the freshwater pond and the freshwater seep may be present within the Survey Area but not within the Project Area; wetland determination sampling plots were not examined at locations outside of the Project Area.

5.1.4.1 NON-WETLAND DRAINAGES

Sixty-seven non-wetland drainages (S01 through S50, S52 through S54, and S56 through S69) were identified within the Survey Area (Figures A7a–A7e). No wetlands were associated with these features. All these drainages support upland vegetation and lack hydrophytic vegetation (wetland indicator status rating of FAC, FACW, or OBL), including a dominance of hydrophytic vegetation. All drainage features were mapped in the field.

Twenty-five of the non-wetland drainage features (S01–S24 and S68) are located north of Jewel Valley Road. Of these, 13 (S01–S13) convey flow in a northeasterly direction. Twelve features (S14–S24 and S28) convey flow in a southeasterly direction toward the NWI-mapped Boundary Creek.

Forty-two features (S25–S67 and S69) are located south of Jewel Valley Road. Of these features, those associated with the NWI-mapped Boundary Creek (S25, S26, and S69) convey flow in a southeasterly direction, and its tributaries (S27 and S28) convey flow in a northeasterly direction. Features S29–S33, S37–S41, S52, S57, and S60 convey flow southeastwardly away from the Survey Area. Their terminus could not be ascertained in the field, but these appear to dissipate as sheet flow and loose aerial indicators of flow (Google Earth 2023) by the time they reach the adjacent residential developments approximately 500 meters east of the Survey Area. Based on the above information, these features do not appear to convey surface flow to the NWI-mapped Boundary Creek. Feature S36 conveys flow in a northeasterly direction to a freshwater pond (FP03). Feature S67 conveys flow northward toward a freshwater pond (FP02). S67 appears to have been constructed as a flood control/water diversion measure potentially to preserve the paralleling dirt access road east of the feature, however, flow to S67 is limited to overflow events, and therefore, S67 exhibits poor hydrology indicators in the form of sediment sorting. S67 appears to channelize flow away from the access road. The remainder of the features (S34–S36, S42–S50, and S53–S66) convey flow in a southeasterly direction. Flow for features S34 to S36, S42 to S50, and S53 to S56 is conveyed in a southerly direction toward the defunct railroad, which crosses the southern portion of the Project Area. A culvert under the railroad is intended to convey flow across it; however, the culvert is elevated on the berm and would only facilitate flow during significant flood events. Features S61 to S67 are south of the railroad. Additional anthropogenic disturbance such as impoundments and berms encumber the natural flow of several features within the Survey Area.

With the exception of S65 and S66, drainages are relatively homogenous in terms of physical characteristics. This homogeneity largely results from the underlying soil substrate and similar topography throughout the Survey Area. Mapped drainages exhibit surface hydrology indicators like sediment sorting, stream morphology, and racking. Soils consist largely of sandy clay loam within these features. Vegetation is generally sparse within their OHWM boundaries. Several drainages are discontinuous, as they temporarily lose surface hydrology indicators and lack a defined OHWM. These drainages occasionally exhibit a transition to sheet flow followed by a lack of any other hydrology indicators, only to resume development of an OHWM farther downslope. Some are short-lived features losing all signs of active hydrology without additional OHWM development downslope. Although hydrologic indicators are sparse or altogether absent at these discontinuous features, the general conveyance of flow to the downslope portions, which resume stream morphology, can be determined by the natural undulations in topography (i.e., swales between developed drainage sections).

Feature S65 starts on the southeastern edge of an unnamed dirt access road. This feature is generally associated with an unnamed NWI-mapped feature (see Figure A6, Label “Unnamed NWI Feature”), however, no drainage indicators were observed upslope of the access road. Feature S65 is heavily incised within the first 200 feet downslope of the road but broadens from approximately 3 feet to 20 feet approximately 600 feet farther downslope. Coarse sediment deposition and weak morphology define the limits of this feature. Within an additional 260 feet, S65 reaches a dirt access road. The following 170-foot segment of the drainage functions as an access road. Sediment sorting within this stretch may be

erosion driven due to vehicular use. No hydrology indicators are present downslope of this point. At 150 feet downslope of this feature is an approximately 8-foot berm, which would restrict any flow from being conveyed south of the berm. An NWI freshwater pond is mapped at the base of the berm (see Figure A6), however, no signs of active hydrology were observed at this location. Nonnative *Tamarix chinensis* (FAC) was observed, however, the species is invasive, which makes the wetland determination plot problematic. Furthermore, the shrub and herb understories are entirely composed of upland species. Although S65 currently exhibits stream morphology, the lack of or reduced hydrologic input resulting from the creation of FP02 and human-made berm substantially restricts or could terminate potential flow.

S66 is also associated with the same unnamed NWI feature and starts approximately 125 feet south of S65. S65 and S66 are hydrologically disconnected due to a berm obstruction. The feature starts on a terrace at the same elevation as the berm associated with the approximate terminus of S65. S66 conveys flow in a southeasterly direction out of the Survey Area toward Lake Domingo. Aerial imagery shows that Lake Domingo was intermittently flooded with dry periods in March and September 2004, and July and October 2016 (Google Earth 2023). Additionally, it appears that any flows are only conveyed downslope of Lake Domingo when the lake overflows facilitating flow downslope on the northeast corner of the lake.

5.1.4.2 FRESHWATER PONDS

Eight freshwater pond features were observed within the Survey Area (FP01–FP08). Six freshwater pond features were mapped within the Survey Area in the NWI database, but of these, only four were confirmed present (FP01–FP04), and four additional freshwater ponds not mapped in the NWI were identified (FP05–FP08). Of these features, one isolated freshwater pond (FP01) was determined to capture enough flow to develop wetland indicators; one was determined to be active (FP02), supporting potential wetlands along the vegetated margins; and one (FP03) was observed to function as an isolated sedimentation basin capturing sediment from S27 without providing an outlet for the drainage feature beyond FP03. One freshwater pond (FP04) was determined to be inactive, as the feature lacked a hydrologic input or output, lacked hydrophytic vegetation, and did not exhibit surface hydrology indicators. FP04 appears to be inactive and was once likely used to control the flow of the NWI-mapped Boundary Creek. Two of the NWI freshwater pond features were determined to be altogether absent.

Feature FP05 lacks any hydrology indicators or presence of hydrophytic vegetation. FP05 would only receive flow in instances of overflow or intentional release of flow from an adjacent actively maintained freshwater pond on the Empire Ranch facility. This active freshwater pond on the Empire Ranch facility is outside the Survey Area and not part of this assessment; however, the freshwater pond was assessed for hydrologic connection of Boundary Creek through aerial imagery. FP05 has an outlet culvert at its northeast corner, but the culvert is located approximately 8 feet above the base of the feature. Flow would only be conveyed through the culvert to S25 during periods of significant inundation.

FP01 receives flow from surface runoff as well as overflow from FP02, which conveys flow to FP01 via S64 (see Figure A7e). FP01 lacks any hydrologic outlet, as it abuts a berm supporting a dirt access road. Two wetland determination sampling plots (SP01 and SP02) were examined within FP01 (see Figure A7e). SP01 was examined at the lowest topographic point within FP01. Hydric soils and subsurface hydrology indicators in the form of an oxidized rhizosphere were observed within SP01. Vegetation was considered problematic, as it was disturbed and dominated by nonnative invasive species. Although diagnostic parts were not available during the survey, nonnative annual grasses and nonnative mustards were determined to be the predominant vegetation cover. SP02 was examined approximately 20 feet west of SP01. Wetland hydrology and hydric soils were not observed at SP02. The wetland limits were determined by changes in topography, as well as changes in vegetation patterns.

FP02 receives flow from an off-site non-wetland drainage. Historical aerial imagery suggests that the construction of FP02 occurred sometime between 1953 and 1989 (UCSB 2023), and that FP02 is the primary driver for the lack of continued hydrologic connectivity of the unnamed NWI-mapped riverine feature. FP02 is completely outside of the Project Area. Wetland determination sampling plots were not examined within this feature. During overflow periods, the northeast corner of the pond is breached, and flow is conveyed to S64, which conveys flow into FP01. The breach that would facilitate flow from FP02 to S67 is at a slightly higher elevation than the breach that would facilitate flow from FP02 to S64. The poorly developed and discontinuous hydrology indicators from S67 suggest that this feature receives less flow from FP02 than S64.

FP03, FP04, and FP06–FP08 are located near Jewel Valley Road and were likely created to control the flow from Boundary Creek and one of its tributaries; however, Boundary Creek is now discontinuous, as evidenced by areas void of surface hydrology indicators. FP03, FP04, and FP06 lack an outlet that would facilitate uninterrupted flow downslope of their respective locations. FP03 has a hydrologic input in S27, but FP04 lacks hydrologic input altogether. The freshwater ponds would have to overflow to facilitate flow downslope. FP07 and FP08 share a potential hydrologic connection between the two in the form of a ditch which has a sandy substrate like FP07 and FP08 but lacks any other indicators of active hydrology. FP08 lacks a hydrologic outlet. Aerial imagery shows sediment deposition at what would be the expected outlet of FP08; however, FP08 is approximately 5 feet below the adjacent topography. This sediment deposition lacks a defined bed and bank and is likely relictual, illustrating the uninterrupted course of Boundary Creek prior to the various interruptions to hydrology in the form of the freshwater ponds in the immediate vicinity. FP03, FP04, and FP06–FP08 are vegetated with upland shrubs. FP03 functions as a terminus for the feature providing hydrologic input, and FP04 and FP05–FP08 were determined to be relictual, no longer receiving or conveying flow.

5.1.4.3 FRESHWATER SEEP

A single freshwater seep (FS01) was observed within the southern portion of the Survey Area but outside of the Project Area. Given the time of survey (January) and the plant species observed, it was determined the seep provides perennial flow. Groundwater rises into a shallow depression which supports *Typha* sp. (OBL) and other hydrophytic vegetation. When the depression overflows, flow is conveyed away from the depression in a southeasterly direction via a non-wetland drainage. The seep likely supports wetland waters, but a wetland determination sampling plot was not examined at this location outside the property. FS01 is the primary hydrologic input source of S48 and S49.

6 POTENTIAL JURISDICTIONAL AQUATIC RESOURCES

Aquatic resources and the data collected in the field were evaluated to determine the extent of potentially regulated aquatic resources within the Survey Area (Figures A8a–A8q, Table 2). Potential jurisdiction was attributed to drainage features exhibiting an OHWM, freshwater seeps and their associated riparian vegetation, and freshwater ponds with hydrology indicators along with the riparian habitat they support. Aquatic resources within the Survey Area may include non-wetland waters of the State (WOS), wetland waters of the United States (WWOTUS)/wetland waters of the State (WWOS), and CDFW streambed/riparian habitat (CDFW Jurisdictional Resources). Given the discontinuous nature and lack of a continuous surface connection to downstream WOTUS and a TNW, the Salton Sea, it is anticipated features within the Survey Area may not be considered relatively permanent waters with a continuous surface connection to another WOTUS. Consequently, the Survey Area does not appear to support non-wetland WOTUS or wetland waters of the United States (WWOTUS); however additional analysis and an Approved Jurisdictional Determination (AJD) from USACE is recommended to verify lack of federal jurisdiction. County wetlands (RPO wetlands), which are protected under the San Diego County Resource Protection Ordinance (RPO), were assessed pursuant to Chapter 6, Section 86.601 of the San Diego

County Code of Regulatory Ordinances. RPO wetlands include lands that support a predominance of hydrophytes at least periodically, lands where the substratum is predominantly undrained hydric soil, or ephemeral or perennial streams where the substratum is predominately non-soil and the lands contribute substantially to the biological functions or values of wetlands in the drainage system. Each feature was reviewed to estimate if it could be considered an RPO or not.

6.1 Non-Wetland Waters of the United States

Although OHWMs are present within the Survey Area, there are no WOTUS within the Survey Area based on the analysis of connectivity above. The watershed in which the project is located generally conveys flow to the Salton Sea, which is a USACE jurisdictional resource; however, with the exception of S66, all other assessed features were determined to be discontinuous, sheet flow, or terminated features at the impoundment within the Survey Area's general vicinity. S66 conveys flow to Lake Domingo, an intermittently flooded lake, which likely only conveys flow downslope during extreme storm events.

6.2 Non-Wetland Waters of the State

The Survey Area contains approximately 1.40 acres (27,342 linear feet) of non-wetland WOS.

6.3 Wetland Waters of the United States

No potential WWOTUS were identified within the Survey Area.

6.4 Wetland Waters of the State

The Survey Area contains approximately 0.26 acre (124 linear feet) of WWOS. WWOS include two freshwater ponds, FP01 and FP02, and the freshwater seep FS01.

6.5 CDFW Jurisdictional Resources

The Survey Area contains 3.74 acres (27,709 linear feet) of CDFW Jurisdictional Resources. CDFW Jurisdictional Resources include all jurisdictional resources listed above. Several drainage features exhibited shared OHWM/top of bank characteristics. Riparian vegetation as a limit of CDFW Jurisdictional Resources was only associated with FP01, FP02, and FS02.

6.6 San Diego County RPO Wetlands

The Survey Area contains approximately 0.07 acre of RPO wetlands and 0.32 acre of RPO wetland buffer. RPO wetland resources are associated with FS01. Flow is conveyed away from the RPO wetland in a southerly direction via S44 and S49 before dissipating as sheet flow outside of the Survey Area. The RPO wetland and its wetland buffer are isolated and do not provide connectivity with other wetland resources. The soils where the RPO wetland occurs are not highly erosive, and the slopes do not exceed 25 percent. However, the hillside seep does support a predominance of hydrophytic vegetation. A 50-foot wetland buffer is recommended to avoid impacts to the functions and values of this wetland.

Drainage features within the Survey Area support a predominantly soil-based substratum but do not support hydrophytic vegetation. Therefore, drainage features would not be considered RPO wetlands. Two additional features exhibiting RPO wetland parameters were observed within the Survey Area (FP01

and FP02); however, they correspond with human-made basins which would not meet the description of an RPO.

Table 2. Potentially Jurisdictional Aquatic Resources within the Survey Area

Aquatic Resource Feature ID	Feature Type	Water Board Non-Wetland WOS/ USACE Non-Wetland WOTUS*		Water Board WWOS/USACE Wetland WOTUS*		CDFW Jurisdictional Resources	
		Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S01	Non-wetland drainage	0.001	32	0	0	0.001	32
S02	Non-wetland drainage	0.007	353	0	0	0.007	353
S03	Non-wetland drainage	0.009	386	0	0	0.009	386
S04	Non-wetland drainage	0.069	346	0	0	0.069	346
S05	Non-wetland drainage	0.012	531	0	0	0.022	531
S06	Non-wetland drainage	0.065	1,786	0	0	0.117	1,786
S07	Non-wetland drainage	0.024	1,027	0	0	0.024	1,027
S08	Non-wetland drainage	0.053	1,649	0	0	0.077	1,649
S09	Non-wetland drainage	0.057	792	0	0	0.075	792
S10	Non-wetland drainage	0.023	561	0	0	0.038	561
S11	Non-wetland drainage	0.013	474	0	0	0.021	474
S12	Non-wetland drainage	0.003	114	0	0	0.003	114
S13	Non-wetland drainage	0.001	44	0	0	0.001	44
S14	Non-wetland drainage	0.013	558	0	0	0.013	558
S15	Non-wetland drainage	0.015	657	0	0	0.044	657
S16	Non-wetland drainage	0.008	181	0	0	0.013	181
S17	Non-wetland drainage	0.002	83	0	0	0.002	83
S18	Non-wetland drainage	0.010	322	0	0	0.018	322
S19	Non-wetland drainage	0.027	1,132	0	0	0.078	1,132
S20	Non-wetland drainage	0.015	713	0	0	0.015	713
S21	Non-wetland drainage	0.016	616	0	0	0.019	616
S22	Non-wetland drainage	0.007	114	0	0	0.012	114
S23	Non-wetland drainage	0.008	374	0	0	0.008	371
S24	Non-wetland drainage	0.011	240	0	0	0.017	240
S25	Non-wetland drainage	0.009	73	0	0	0.022	73

Aquatic Resource Feature ID	Feature Type	Water Board Non-Wetland WOS/ USACE Non-Wetland WOTUS*		Water Board WWOS/USACE Wetland WOTUS*		CDFW Jurisdictional Resources	
		Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S26	Non-wetland drainage	0.025	528	0	0	0.060	528
S27	Non-wetland drainage	0.014	253	0	0	0.038	253
S28	Non-wetland drainage	0.039	311	0	0	0.039	311
S29	Non-wetland drainage	0.005	111	0	0	0.018	111
S30	Non-wetland drainage	0.008	68	0	0	0.008	68
S31	Non-wetland drainage	0.023	102	0	0	0.023	102
S32	Non-wetland drainage	0.004	126	0	0	0.004	126
S33	Non-wetland drainage	0.043	1,109	0	0	0.071	1,109
S34	Non-wetland drainage	0.002	82	0	0	0.002	82
S35	Non-wetland drainage	0.007	122	0	0	0.007	122
S36	Non-wetland drainage	0	0	0	0	0	0
S37	Non-wetland drainage	0.007	88	0	0	0.007	88
S38	Non-wetland drainage	0.024	489	0	0	0.029	489
S39	Non-wetland drainage	0.012	298	0	0	0.027	298
S40	Non-wetland drainage	0.005	97	0	0	0.006	97
S41	Non-wetland drainage	0	0	0	0	0	0
S42	Non-wetland drainage	0.011	290	0	0	0.016	290
S43	Non-wetland drainage	0.008	123	0	0	0.008	123
S44	Non-wetland drainage	0.003	70	0	0	0.003	70
S45	Non-wetland drainage	0.009	232	0	0	0.009	232
S46	Non-wetland drainage	0.008	160	0	0	0.011	160
S47	Non-wetland drainage	0.012	266	0	0	0.016	266
S48	Non-wetland drainage	0.010	284	0	0	0.017	284
S49	Non-wetland drainage	0.004	83	0	0	0.006	83
S50	Non-wetland drainage	0.003	150	0	0	0.003	150
S52	Non-wetland drainage	0.044	357	0	0	0.047	357
S53	Non-wetland drainage	0.031	636	0	0	0.081	636

Aquatic Resource Feature ID	Feature Type	Water Board Non-Wetland WOS/ USACE Non-Wetland WOTUS*		Water Board WWOS/USACE Wetland WOTUS*		CDFW Jurisdictional Resources	
		Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S54	Non-wetland drainage	0.002	71	0	0	0.002	71
S56	Non-wetland drainage	0.007	280	0	0	0.007	280
S57	Non-wetland drainage	0.028	1,190	0	0	0.047	1,190
S58	Non-wetland drainage	0.003	129	0	0	0.003	129
S59	Non-wetland drainage	0.001	28	0	0	0.001	28
S60	Non-wetland drainage	0.020	610	0	0	0.029	610
S61	Non-wetland drainage	0.012	293	0	0	0.037	293
S62	Non-wetland drainage	0.043	875	0	0	0.122	875
S63	Non-wetland drainage	0.018	547	0	0	0.026	547
S64	Non-wetland drainage	0.045	734	0	0	0.119	734
S65	Non-wetland drainage	0.211	1,060	0	0	0.407	1,060
S66	Non-wetland drainage	0.013	243	0	0	0.026	243
S67	Non-wetland drainage	0.055	1,054	0	0	0.055	1,054
S68	Non-wetland drainage	0.010	246	0	0	0.020	246
S69	Non-wetland drainage	0.024	336	0	0	0.059	336
FP01	Freshwater pond	0	0	0.023	24	0.919	246
FP02	Freshwater pond	0.075	53	0.169	20	0.499	82
FP03	Freshwater pond	0	0	0	0	0.013	15
FS01	Freshwater seep	0	0	0.072	80	0.072	80
Total		**1.40**	**27,342**	**0.26**	**124**	**3.74**	**27,709**

*An AJD of no jurisdiction could result in zero wetland or non-wetland WOTUS within the Survey Area.

7 POTENTIAL IMPACTS TO AQUATIC RESOURCES

Features within the Survey Area which do not intersect the Project Area include S01, S13, S22, S34, S35, S36, S39, S40, S41, S44, S48, S54, S59, S68, S69, FP02, FP03, FP06, FP07, FP08 and FS01. S02, S03, S04, S05, S06, S07, S08, S09, S10, S11, S12, S14, S15, S16, S17, S18, S19, S20, S21, S23, S24, S25, S26, S27, S28, S29, S30, S31, S32, S33, S37, S38, S42, S43, S45, S46, S47, S49, S50, S52, S53, S56, S57, S58, S60, S61, S62, S63, S64, S65, S66, and S67 intersect the work areas. All aquatic resources are jurisdictional by the Water Board and CDFW but are assessed as likely not federally jurisdictional by USACE, if confirmed by an AJD. Temporary impacts, including those resulting in a temporary loss of function but not resulting in a permanent loss of waters, would include removal of vegetation associated with construction preparation and establishment of fuel modification zones. Permanent impacts, those constituting a permanent loss of waters, are expected to result from installation of substation and BESS support platforms, array support footings, concrete footings from the inverters and medium-voltage transformers, installation of access roads, and grading where natural flow patterns cannot be naturally restored following project completion. Temporary impacts would also include vegetation removal and temporary work areas.

Total impacts of a temporary nature, and potential permanent impacts to aquatic resources may result in approximately 0.81 acre (16,320 linear feet) to Water Board non-wetland WOS, 0.01 acre (25 linear feet) to Water Board WWOS, and 2.35 acres (16,505 linear feet) to CDFW Jurisdictional Resources (Figures A9a–A9q, Table 3). An AJD confirming lack of federal jurisdiction would result in zero impacts to USACE regulated resources. Permanent impacts are anticipated to result in approximately 0.17 acre (3,813 linear feet) to WOS, 0.01 acre (25 linear feet) to WWOS, and 0.6 acre (3,965 linear feet) to CDFW Jurisdictional Resources. Project components like the BESS, inverter pads, and the substation do not intersect aquatic resources and will not result in permanent impacts to aquatic resources. Permanent impacts would result from grading and installation of associated service roads. Temporary impacts to aquatic resources may include 0.64 acre (12,507 linear feet) to WOS and 1.75 acres (12,540 linear feet) to CDFW Jurisdictional Resources. No temporary impacts to WWOS are anticipated to result from project-related activities. The project will not result in direct impacts to RPO wetlands or their wetland protection buffers. One wetland protection buffer was observed within the Project Area but will be flagged for avoidance.

Table 3. Temporary and Permanent Impacts to Potentially Jurisdictional Aquatic Resources within the Project Area

Aquatic Resource Feature ID	Project Phase	Project Component	Water Board Non-Wetland WOS/USACE Non-Wetland WOTUS*				Water Board WWOS/USACE Wetland WOTUS*				CDFW Jurisdictional Resources			
			Temporary		Permanent		Temporary		Permanent		Temporary		Permanent	
			Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S01	1	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S02	1	Development Area	0.004	172	0	0	0	0	0	0	0.004	172	0	0
S03	1	Development Area	0.005	221	0	0	0	0	0	0	0.005	221	0	0
S04	1	Development Area	0.024	156	0	0	0	0	0	0	0.024	156	0	0
S05	1	Development Area	0.004	156	0	0	0	0	0	0	0.007	156	0	0
S06	1	Detention Basin, Development Area, Grading, Riprap, Service Road	0.033	527	0.022	575	0	0	0	0	0.06	527	0.041	575
S07	1	Development Area	0.024	1027	0	0	0	0	0	0	0.024	1027	0	0
S08	2	Development Area, Grading, Riprap, Service Road	0.025	314	0.024	1,215	0	0	0	0	0.032	314	0.034	1,215
S09	1	Development Area, Grading, Service Road	0.018	24	0.022	100	0	0	0	0	0.018	24	0.026	100
S10	1	Development Area	0.001	7	0	0	0	0	0	0	0.001	7	0	0
S11	1	Development Area, Grading, Service Road	0.011	391	0.002	68	0	0	0	0	0.017	391	0.003	68
S12	1	Development Area	0.001	61	0	0	0	0	0	0	0.001	61	0	0
S13	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S14	2	Development Area, Grading, Service Road	0.01	452	0.002	96	0	0	0	0	0.01	452	0.002	96
S15	2	Development Area, Grading, Service Road	0.011	467	0.002	79	0	0	0	0	0.031	467	0.005	79
S16	2	Development Area	0.008	181	0	0	0	0	0	0	0.013	181	0	0

Aquatic Resource Feature ID	Project Phase	Project Component	Water Board Non-Wetland WOS/USACE Non-Wetland WOTUS*				Water Board WWOS/USACE Wetland WOTUS*				CDFW Jurisdictional Resources			
			Temporary		Permanent		Temporary		Permanent		Temporary		Permanent	
			Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S17	2	Development Area	0.002	83	0	0	0	0	0	0	0.002	83	0	0
S18	1	Development Area	0	0	0	0	0	0	0	0	0	0	0	0
S18	2	Development Area, Grading, Service Road	0.001	30	0.002	76	0	0	0	0	0.001	30	0.004	76
S19	1	Development Area, Grading, Riprap, Service Road	0.025	1,010	0.002	122	0	0	0	0	0.07	1,010	0.007	122
S20	1	Development Area, Grading, Service Road	0.014	658	0.001	56	0	0	0	0	0.014	658	0.001	56
S21	1	Development Area, Grading, Service Road	0.015	485	0.001	37	0	0	0	0	0.018	485	0.001	37
S22	1	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S23	1	Development Area, Grading, Service Road	0.007	339	0.001	35	0	0	0	0	0.007	339	0.001	35
S24	2	Development Area, Grading, Service Road	0.001	51	0.002	45	0	0	0	0	0.003	51	0.002	45
S25	2	Development Area	0.002	12	0	0	0	0	0	0	0.004	12	0	0
S26	2	Development Area	0	0	0	0	0	0	0	0	0	0	0	0
S27	2	Development Area, Grading, Riprap, Service Road	0.001	19	0.002	35	0	0	0	0	0.004	19	0.004	35
S28	2	Development Area, Grading, Service Road	0.006	21	0.005	10	0	0	0	0	0.006	21	0.005	10
S29	2	Development Area, Grading, Service Road	0.001	13	0.001	15	0	0	0	0	0.002	13	0.003	15

Aquatic Resource Feature ID	Project Phase	Project Component	Water Board Non-Wetland WOS/USACE Non-Wetland WOTUS*				Water Board WWOS/USACE Wetland WOTUS*				CDFW Jurisdictional Resources			
			Temporary		Permanent		Temporary		Permanent		Temporary		Permanent	
			Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S30	2	Development Area, Grading, Service Road	0.005	36	0.002	13	0	0	0	0	0.005	36	0.002	13
S31	2	Development Area, Grading, Service Road	0.006	19	0.01	54	0	0	0	0	0.006	19	0.01	54
S32	2	Development Area, Grading, Service Road	0.001	13	0.001	9	0	0	0	0	0.001	13	0.001	9
S33	2	Development Area, Grading, Service Road	0.002	71	0.003	100	0	0	0	0	0.003	71	0.006	100
S34	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S35	2	Development Area	0	0	0	0	0	0	0	0	0	0	0	0
S36	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S37	2	Development Area	0.001	27	0	0	0	0	0	0	0.001	27	0	0
S38	2	Development Area, Grading, Service Road	0.005	57	0.007	65	0	0	0	0	0.007	57	0.01	65
S39	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S40	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S41	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S42	2	Development Area, Grading, Service Road	0.002	100	0.002	35	0	0	0	0	0.002	100	0.002	35
S43	2	Development Area	0.008	123	0	0	0	0	0	0	0.008	123	0	0
S44	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S45	2	Development Area, Grading	0.009	231	0	0	0	0	0	0	0.009	231	0	0

Aquatic Resource Feature ID	Project Phase	Project Component	Water Board Non-Wetland WOS/USACE Non-Wetland WOTUS*				Water Board WWOS/USACE Wetland WOTUS*				CDFW Jurisdictional Resources			
			Temporary		Permanent		Temporary		Permanent		Temporary		Permanent	
			Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S46	2	Development Area, Grading, Service Road	0.001	23	0.002	35	0	0	0	0	0.001	23	0.003	35
S47	2	Development Area, Grading, Service Road	0.002	62	0.003	60	0	0	0	0	0.004	62	0.005	60
S48	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S49	2	Development Area	0	0	0	0	0	0	0	0	0	0	0	0
S50	2	Development Area, Grading, Service Road	0.001	16	0.001	40	0	0	0	0	0.001	16	0.001	40
S52	2	Development Area, Grading, Service Road	0.004	36	0.005	70	0	0	0	0	0.005	36	0.005	70
S53	2	Development Area, Grading, Riprap, Service Road	0.02	377	0.004	76	0	0	0	0	0.055	377	0.010	76
S54	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S56	2	Development Area, Grading, Service Road	0.002	116	0.002	51	0	0	0	0	0.002	116	0.002	51
S57	2	Development Area, Grading, Service Road	0.025	1,074	0.003	116	0	0	0	0	0.041	1,074	0.006	116
S58	2	Development Area, Grading, Service Road	0.001	26	0.001	39	0	0	0	0	0.001	26	0.001	39
S59	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S60	2	Development Area, Grading, Service Road	0.015	445	0.001	35	0	0	0	0	0.022	445	0.002	35

Aquatic Resource Feature ID	Project Phase	Project Component	Water Board Non-Wetland WOS/USACE Non-Wetland WOTUS*				Water Board WWOS/USACE Wetland WOTUS*				CDFW Jurisdictional Resources			
			Temporary		Permanent		Temporary		Permanent		Temporary		Permanent	
			Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet	Acres	Linear Feet
S61	2	Development Area, Grading, Riprap, Service Road	0.002	55	0.001	66	0	0	0	0	0.005	55	0.005	66
S62	2	Development Area, Grading, Drainage Improvements, Service Road	0.040	817	0.003	70	0	0	0	0	0.113	817	0.009	70
S63	2	Development Area, Grading, Service Road	0.010	320	0.007	175	0	0	0	0	0.016	320	0.01	175
S64	2	Development Area, Grading, Service Road	0.034	542	0.005	71	0	0	0	0	0.079	542	0.02	71
S65	2	Development Area, Grading, Riprap, Service Road	0.197	1,030	0.014	31	0	0	0	0	0.39	1,030	0.017	31
S66	2	Development Area, Grading	0.001	14	0.003	38	0	0	0	0	0.001	14	0.009	38
S67	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S68	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
S69	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
FP01	2	Development Area, Grading	0	0	0	0	0.00	0	0.013	25	0.601	33	0.317	152
FP02	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
FP03	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
FS01	2	Survey Area	0	0	0	0	0	0	0	0	0	0	0	0
Total	**–**	**–**	**0.64**	**12,507**	**0.17**	**3,813**	**0**	**0**	**0.01**	**25**	**1.75**	**12,540**	**0.60**	**3,965**

*An AJD of no jurisdiction could result in zero impacts to wetland or non-wetland USACE regulated resources

8 SUMMARY AND RECOMMENDATIONS

The findings and conclusions presented in this report, including the location and extent of areas subject to regulatory jurisdiction, represent the professional opinion of SWCA. These findings and conclusions should be considered preliminary and at the final discretion of the applicable resource agency.

The proposed project will result in 0.64 acre (12,507 linear feet) of temporary and 0.17 acre (3,813 linear feet) of permanent impacts to potential RWQCB WOS. The proposed project will result in 0.01 acre (25 linear feet) of permanent impacts to RWQCB WWOS. No temporary impacts to RWQCB WWOS will result from project-related activities. The proposed project will result in 1.75 acres (12,540 linear feet) of temporary impacts and 0.6 acre (3,965 linear feet) of permanent impacts to CDFW jurisdictional resources. Upon verification that potential WOTUS and WWOTUS are not jurisdictional, no impacts would occur to federal jurisdictional resources.

Proposed project activities affecting jurisdictional resources would require permits prior to conducting regulated activities, such as removing or trimming riparian vegetation, grading, or excavating and other 'discharges of fill material'. Due to an assessed potential lack of connectivity of on-site aquatic resources within the Project Area to WOTUS or a TNW, SWCA preliminarily concludes there are no USACE-regulated WOTUS within the Project Area; however, an AJD is recommended to confirm these findings. Should the USACE disagree with these findings, compliance with Section 404 of the CWA may be obtained through a general permit such as Nationwide Permit 51, (Land-Based Renewable Energy Generation Facilities) or an individual permit. Permits required include a Waste Discharge Requirements permit from the Colorado River Regional Water Quality Control Board (Region 7) under the Porter-Cologne Water Quality Control Act and submittal of a CDFW Lake and Streambed Alteration Agreement notification. The California Water Board has the authority to regulate the discharge of dredge or fill material under Section 401 of the CWA to obtain a federal permit or license that authorizes impacts to WOTUS to ensure that the discharge does not violate State water quality standards; however, WOTUS were not identified within the Project Area. Because the 2023 WOTUS amended rule does not categorically exclude all non-relatively permanent waters of the United States, additional guidance from the U.S. Environmental Protection Agency and USACE may still be needed to evaluate certain potentially regulated aquatic resources. Therefore, an AJD from the USACE is recommended to ensure compliance with Sections 404 and 401 of the CWA. An AJD will allow the California Water Board to assess whether a Section 401 water quality certification is required for presence of WOTUS, or if a Waste Discharge Requirements is necessary in the absence of federal WOTUS jurisdiction. For unavoidable impacts to jurisdictional resources, compensatory mitigation would be an expected requirement from the applicable agencies.

9 LITERATURE CITED

Calflora. 2023. Calflora: Information on wild California Plants. Available at: https://www.calflora.org/. Accessed September 2023.

California Water Boards. 2020. *Implementation Guidance for the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*. Available at: https://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredge_fill/revised_guidance.pdf. Accessed September 2023.

Google Earth. 2023. Source: Boulevard, California. Available at: https://www.google.com/earth/. Accessed September 2023.

Jepson Flora Project. 2023. Jepson eFlora. Available at: https://ucjeps.berkeley.edu/eflora/. Accessed September 2023.

Natural Resources Conservation Service. 2023. USDA Web Soil Survey. Available at: https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm/. Accessed June 2023.

———. 2023. National List of Hydric Soils. December 2015. Available at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/. Accessed September 2023.

San Diego County Code of Regulatory Ordinance. 2007. *Title 8 Zoning and Land Use Regulations. Division 6. Miscellaneous Land Use Regulations*. Available at: https://www.sandiegocounty.gov/pds/docs/res_prot_ord.pdf. Accessed September 2023.

SWCA Environmental Consultants. (SWCA). 2023. *Biological Resources Report for the Starlight Solar Project, Boulevard, San Diego County, California, PDS2022-MUP-22-010*. San Diego California.

University of California, Santa Barbara Library (UCSB). 2023. Aerial Photography Frame Finder. Available at: https://mil.library.ucsb.edu/ap_indexes/FrameFinder/. Accessed September 2023.

U.S. Army Corps of Engineers (USACE). 1987. *Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1.* Vicksburg, Mississippi: U.S. Army Engineers Waterways Experiment Station.

———. 2008a. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region*. Version 2.0. Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-08-28. Vicksburg, Mississippi: U.S. Army Engineer Research and Development Center.

———. 2008b. *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United State*s. Edited by R.W. Lichvar and S. M. McColley. ERDC/CRREL TR-08-12. Hanover, New Hampshire: U.S. Army Engineer Research and Development Center.

———. 2021. 2020 National Wetland Plant List. Version 3.4. Hanover, New Hampshire: U.S. Army Corps of Engineers Research and Development Center, Cold Regions Research and Engineering Laboratory. Available at: https://wetland-plants.sec.usace.army.mil/nwpl_static/v34/home/home.html. Accessed September 2023.

U.S. Fish and Wildlife Service (USFWS). 2023a. National Wetlands Inventory, Wetlands Mapper. Available at: https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/. Accessed September 2023.

———. 2023b. Critical Habitat for Threatened & Endangered Species. Available at: https://fws.maps.arcgis.com/home/webmap/viewer.html?webmap=9d8de5e265ad4fe09893cf75b8dbfb77. Accessed September 2023.

U.S. Geological Survey (USGS). 2023. USGS National Watershed Boundary Dataset. Available at: https://apps.nationalmap.gov/viewer/. Accessed September 2023.