APPENDIX 2

Biological Resources Report
Preliminary Jurisdictional Wetlands Report

Biological Resources Technical Report

Vallecito SCE Moorpark LCR - BESS Project
Santa Barbara County

April 17, 2019

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Sign-off Sheet

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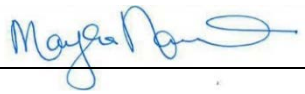
Prepared by 

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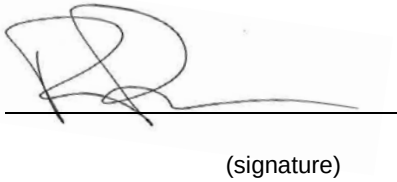
Reviewed by 

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Abbreviations

BESS	Battery Energy Storage System
BSA	Biological Study Area
CCC	California Coastal Commission
CCH	Consortium of California Herbaria
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CLUP	Coastal Land Use Plan
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
ESHA	Environmentally Sensitive Habitat Area
LCP	Local Coastal Plan
MBTA	Migratory Bird Treaty Act
NPPA	Native Plant Protection Act
RWQCB	Regional Water Quality Control Board
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

This report is intended to document the biological resources that occur at the approximately 13.03-acre property (APN 004-004-037) located at 5134 Foothill Road (State Highway 192) in unincorporated Santa Barbara County, California (Project Site) (refer to Appendix A, Figure 1), immediately adjacent to the City of Carpinteria. The surveys and discussions presented in this report were conducted/prepared to support regulatory agency permitting and associated documentation. Surveys were conducted within and immediately adjacent to the Project Site within an area defined as the Biological Study Area (BSA) (refer to Appendix A, Figure 2).

1.1 PROJECT DESCRIPTION

The Project Site is proposed to be developed as a 10-megawatt Battery Energy Storage System (BESS), which would be connected to the electrical grid via an underground power line to the existing overhead Southern California Edison powerlines along the south side of the property in the Foothill Road right-of-way. The BESS would be installed on a 15,120 square foot concrete pad and consist of 15 “powerpacks,” four transformers, and controls and switchgear. The concrete pad would be enclosed by an 8-foot tall chain link fence. This report is being prepared as part of a constraints analysis to determine what environmental impacts, if any, would occur should the project move forward.

2.0 METHODOLOGIES

Stantec Associate Biologist Rocky Brown conducted a habitat assessment and biological resource survey within the BSA on September 28, 2018, prior to which a preliminary literature review was performed. This field investigation included a reconnaissance-level survey, non-protocol surveys to detect the presence of special-status plant and wildlife species, and non-protocol avian surveys to detect the presence of listed song birds. The survey was conducted on foot within the BSA where accessible based on terrain and vegetative cover. Based on the results of the initial reconnaissance, Stantec biologists Rocky Brown and Laura Butler conducted a jurisdictional delineation on December 18, 2018, and Mr. Brown performed a focused botanical survey on April 15, 2019.

2.1 LITERATURE REVIEW

A literature search focused on the BSA was conducted prior to the field survey. The BSA is located within the U.S. Geological Survey’s (USGS) Carpinteria, California, 7.5-minute topographic quadrangle. A search of the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) was conducted for this quadrangle to determine special-status plants, wildlife, and vegetation communities that have been documented within the vicinity of the BSA (CDFW, 2018a). The following three adjacent quadrangles were also included in the database search due to their proximity to the BSA (note: due to the Project’s proximity to the coastline, no quadrangles occur to the south and southwest):

- Little Pine Mountain
- Hildreth Peak
- Old Man Mountain
- Santa Barbara
- White Ledge Peak
- Pitas Point

Additional data regarding the potential occurrence of special-status species and policies relating to these special-status natural resources were gathered from the following sources:

- State and federally listed endangered and threatened animals of California (CDFW, 2018b);
- Special Animals List (CDFW, 2018c);
- Inventory of Rare and Endangered Vascular Plants of California (CNPS, 2018); and
- Consortium of California Herbaria (CCH, 2018).

2.2 RECONNAISSANCE-LEVEL HABITAT ASSESSMENT AND BIOLOGICAL SURVEY

In order to document the biological resources that are present within and adjacent to the BSA, on September 28, 2018, Stantec conducted a habitat assessment and reconnaissance-level survey, focused non-protocol surveys for special-status plant and wildlife species, and a non-protocol avian survey to detect the presence of listed song birds. The primary goal of the wildlife surveys was to identify and assess habitat capable of supporting special-status wildlife species and/or to document the presence/absence of special-status wildlife species. To the extent possible the survey was conducted when wildlife would be active and detectable visually or by sign or scat and above-ground amphibian and reptile movement would generally be detectable. However, it is acknowledged that some wildlife species and/or individuals may have been difficult to detect due to their elusive nature, cryptic morphology, or nocturnal behavior. While all plants observed during this survey were recorded, it this assessment was not performed during the time of year when most plant species would be in bloom or when summer annual species would be emergent.

The BSA was investigated on foot by an experienced field biologist. Species present were identified and recorded through direct visual observation, sound, or their sign (e.g., scat, tracks, etc.). Where necessary, samples of selected plant species were taken to the laboratory and identified microscopically or in consultation with a local herbarium. Species identifications conform to the most up-to-date field guides and technical literature.

2.2.1 Wildlife

The reconnaissance-level survey was performed by walking meandering transects through the entirety of the BSA at an average pace of approximately 1.5 km/hr. while visually searching for and listening to wildlife songs and calls and observing for animal signs. The walking survey was halted approximately every 50 meters to listen for wildlife or as necessary to identify, record, or enumerate any other detected species.

Terrestrial insects and other invertebrates were searched for on flowers and leaves, under loose bark, and under stones and logs on the ground throughout the BSA. Randomly selected areas within appropriate micro habitats (e.g., leaf litter, underneath felled logs, etc.) were hand raked or visually inspected to determine the presence/absence of gastropods.

Surveys were conducted during daylight hours when temperatures were such that reptiles would be active (i.e., between 75°-95° Fahrenheit). Visual observations were made to locate basking reptiles, and potential refuge areas, such as debris piles (e.g., woody debris, trash, etc.), were searched. All refugia sites search were returned to their original state upon survey completion. Wildlife observed during the surveys within the BSA is listed in Table 2 in Section .4.4.3 and a list of special-status wildlife species that are known to occur in the region and their potential to be present within the BSA is presented in Table 4 in Section 5.4.

2.2.2 Vegetation Mapping

Vegetation descriptions and names are generally based on Sawyer et al. (2009); however, no native vegetation communities described in that resource were observed on the site. Land cover and vegetation types have therefore been defined based on conditions observed in the field. Vegetation maps were prepared by drawing tentative vegetation type boundaries onto high-resolution aerial images while in the field, then digitizing these polygons into GIS. Mapping was done electronically using ArcGIS (version 10.4) with aerial photos with an accuracy of one foot. Most boundaries shown on the maps are accurate within approximately three feet; however, boundaries between some vegetation types are less precise due to difficulties interpreting aerial imagery and accessing stands of vegetation.

Vegetation communities can overlap in many characteristics and over time may shift from one community type to another. Note also that all vegetation maps and descriptions are subject to variability for the following reasons:

- In some cases, vegetation boundaries result from distinct events, such as wildfire or flooding, but vegetation types usually tend to intergrade on the landscape, without precise boundaries between them. Even distinct boundaries caused by fire or flood can be disguised after years of post-disturbance succession. Mapped boundaries represent best professional judgment, but usually should not be interpreted as literal delineations between sharply defined vegetation types.

- Natural vegetation tends to exist in generally recognizable types, but also may vary over time and geographic region. Written descriptions cannot reflect all local or regional variation. Many (perhaps most) stands of natural vegetation do not strictly fit into any named type. Therefore, a mapped unit is given the best name available in the classification system being used, but this name does not imply that the vegetation unambiguously matches written descriptions.

- Vegetation tends to be patchy. Small patches of one named type are often included within larger stands mapped as units of another type. For the BSA, the minimum mapping unit was approximately three feet, and smaller inclusions are described in the text but are not visible on the maps.

2.3 BOTANICAL SURVEY

A focused botanical survey was conducted by a qualified biologist on April 15, 2019, during a period when most special-status plant species known to occur in the region would be in bloom or identifiable, particularly based on the level of precipitation that occurred during the previous rainy season. The entire BSA was assessed by walking “meandering transects” (Nelson, 1987) throughout all accessible portions, with particular attention given to areas of suitable habitat for special-status plant species. All plant species observed were identified in the field or collected for later identification. Plants were identified using keys, descriptions, and illustrations in Baldwin et al. (2012), applicable volumes of the Flora of North America (1993+), and other regional references. In conformance with CDFW protocols (2009), surveys were (a) floristic in nature, (b) consistent with conservation ethics, (c) systematically covered all habitat types on the site, and (d) well documented by this report and by voucher specimens to be deposited at Rancho Santa Ana Botanic Garden.

All plant species observed during the surveys are listed in Table 1 in Section 4.4.2 and a list of special-status plant species that are known to occur in the region and their potential to be present within the BSA is presented in Table 3 in Section 5.3.

2.4 JURISDICTIONAL DELINEATION

A formal jurisdictional waters delineation per US Army Corps of Engineers (USACE) guidelines was conducted by Stantec biologists on December 18, 2018. The BSA was evaluated for potential wetlands and/or waters subject to federal and/or state jurisdiction pursuant to Section 404 and 401 of the Clean Water Act (CWA). This jurisdictional assessment also included an investigation of areas that could be jurisdictional pursuant to Section 1600 et seq. of the California Fish and Game Code. Prior to conducting the field assessment, Stantec reviewed current and historic aerial imagery, topographic maps, soil maps (USDA, 2018), local and state hydric soils lists, and the National Wetlands Inventory (USFWS, 2018a) to evaluate the potential active channels and wetland features that occur within the BSA. During the field assessment, hydrologic features were mapped using the Esri® Collector for ArcGIS app on an Apple® iPad® coupled with a Bad Elf® GNSS Surveyor sub-meter external global positioning system (GPS) unit. Field data were further manipulated in the office using GIS and total jurisdictional area for each regulatory jurisdiction was calculated. The results of the delineation are summarized below in Section 4.4.3 and are presented in a stand-alone Preliminary Jurisdictional Wetlands/Waters Delineation Report prepared by Stantec.

3.0 REGULATORY BACKGROUND

3.1 FEDERAL REGULATIONS

3.1.1 Federal Endangered Species Act

Federal Endangered Species Act provisions protect federally listed threatened and endangered species and their habitats from unlawful take and ensure that federal actions do not jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Under the ESA, “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any of the specifically enumerated conduct.” The U.S. Fish & Wildlife Service’s (USFWS) regulations define harm to mean “an act which actually kills or injures wild-life.” Such an act “may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering” (50 CFR § 17.3). Critical habitat is defined in Section 3(5)(A) of the ESA as “(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features (I) essential to the conservation of the species, and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species.” The effects analyses for designated critical habitat must consider the role of the critical habitat in both the continued survival and the eventual recovery (i.e., the conservation) of the species in question, consistent with the recent Ninth Circuit judicial opinion, Gifford Pinchot Task Force v. USFWS. Activities that may result in “take” of individuals are regulated by the USFWS. The USFWS produced an updated list of candidate species December 6, 2007 (72 FR 69034). Candidate species are not afforded any legal protection under ESA; however, candidate species typically receive special attention from Federal and State agencies during the environmental review process.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S.C. 703-711) makes it unlawful to possess, buy, sell, purchase, barter or "take" any migratory bird listed in Title 50 of the Code of Federal Regulations Part 10. "Take" is defined as possession or destruction of migratory birds, their nests or eggs. Disturbances that cause nest abandonment and/or loss of reproductive effort or the loss of habitats upon which these birds depend may be a violation of the MBTA. The MBTA prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary. This act encompasses whole birds, parts of birds, and bird nests and eggs.

3.1.3 Bald and Golden Eagle Protection Act of 1940 (16 USC 668)

The Bald Eagle Protection Act of 1940 (16 U.S.C. 668, enacted by 54 Stat. 250) protects bald and golden eagles by prohibiting the taking, possession, and commerce of such birds and establishes civil penalties for violation of this Act. Take of bald and golden eagles is defined as follows: "disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior'' (72 FR 31132; 50 CFR 22.3).

The USFWS is the primary federal authority charged with the management of golden eagles in the United States. A permit for take of golden eagles, including take from disturbance such as loss of foraging habitat, may be required for this project. USFWS guidance on the applicability of current Eagle Act statutes and mitigation is currently under review. On November 10, 2009, the USFWS implemented new rules (74 FR 46835) governing the "take" of golden and bald eagles. The new rules were released under the existing Bald and Golden Eagle Act which has been the primary regulation protection unlisted eagle populations since 1940. All activities that may disturb or incidentally take an eagle or its nest as a result of an otherwise legal activity must be permitted by the USFWS under this act. The definition of disturb (72 FR 31132) includes interfering with normal breeding, feeding, or sheltering behavior to the degree that it causes or is likely to cause decreased productivity or nest abandonment. If a permit is required, due to the current uncertainty on the status of golden eagle populations in western United States, it is expected permits would only be issued for safety emergencies or if conservation measures implemented in accordance with a permit would result in a reduction of ongoing take or a net take of zero.

3.1.4 Federally Regulated Habitats

Areas meeting the regulatory definition of "Waters of the U.S." (Jurisdictional Waters) are subject to the jurisdiction of the United States Army Corps of Engineers (USACE) under provisions of Section 404 of the Clean Water Act (CWA) (1972) and Section 10 of the Rivers and Harbors Act (1899). These waters may include all waters used, or potentially used, for interstate commerce, including all waters subject to the ebb and flow of the tide, all interstate waters, all other waters (intrastate lakes, rivers, streams, mudflats, sandflats, playa lakes, natural ponds, etc.), all impoundments of waters otherwise defined as "Waters of the U.S.," tributaries of waters otherwise defined as "Waters of the U.S.," the territorial seas, and wetlands (termed Special Aquatic Sites) adjacent to "Waters of the U.S." (33 CFR, Part 328, Section 328.3). Wetlands on non-agricultural lands are identified using the Corps of Engineers Wetlands Delineation Manual (Environmental Laboratory, 1987). The Project Area falls within the South Pacific Division of the USACE and is under the jurisdiction of the Los Angeles District.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit would be effective in the absence of State water quality certification pursuant to Section 401 of the CWA. As a part of the permit process the USACE works directly with the USFWS to assess potential project impacts on biological resources.

3.2 STATE REGULATIONS

3.2.1 California Environmental Quality Act

CEQA establishes State policy to prevent significant, avoidable damage to the environment by requiring changes in projects through the use of alternatives or mitigation measures. CEQA applies to actions directly undertaken, financed, or permitted by State lead agencies. Regulations for implementation are found in the State CEQA Guidelines published by the Resources Agency. These guidelines establish an overall process for the environmental evaluation of projects. For projects in Santa Barbara County undertaken by private applicants, the County of Santa Barbara is typically the Lead Agency for the implementation of CEQA.

3.2.2 California Endangered Species Act

Provisions of California Endangered Species Act protect State-listed Threatened and Endangered species. The CDFW regulates activities that may result in "take" of individuals ("take" means "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of "take" under the California Fish and Game Code. Additionally, the California Fish and Game Code contains lists of vertebrate species designated as "fully protected" (California Fish & Game Code §§ 3511 [birds], 4700 [mammals], 5050 [reptiles and amphibians], 5515 [fish]). Such species may not be taken or possessed.

In addition to Federal and State-listed species, the CDFW also has produced a list of Species of Special Concern to serve as a "watch list." Species on this list are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Species of Special Concern may receive special attention during environmental review, but they do not have statutory protection.

Birds of prey are protected in California under the State Fish and Game Code. Section 3503.5 states it is "unlawful to take, possess, or destroy any birds of prey (in the order Falconiformes or Strigiformes) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW. Under Sections 3503 and 3503.5 of the State Fish and Game Code, activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory nongame bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800 are prohibited.

3.2.3 Native Plant Protection Act (Fish & Game Code 1900-1913)

California's Native Plant Protection Act (NPPA) requires all State agencies to utilize their authority to carry out programs to conserve endangered and rare native plants. Provisions of NPPA prohibit the taking of listed plants from the wild

and require notification of the CDFW at least 10 days in advance of any change in land use. This allows CDFW to salvage listed plant species that would otherwise be destroyed. The Applicant is required to conduct botanical inventories and consult with CDFW during project planning to comply with the provisions of this act and sections of CEQA that apply to rare or endangered plants.

3.2.4 Section 3503 & 3503.5 of the Fish and Game Code

Under these sections of the Fish and Game Code, the Applicant is not allowed to conduct activities that would result in the taking, possessing, or destroying of any birds-of-prey, taking or possessing of any migratory non-game bird as designated in the MBTA, or the taking, possessing, or needlessly destroying of the nest or eggs of any raptors or non-game birds protected by the MBTA, or the taking of any non-game bird pursuant to Fish and Game Code Section 3800.

3.2.5 Porter-Cologne Water Quality Control Act

Regional water quality control boards regulate the “discharge of waste” to “waters of the State.” All projects proposing to discharge waste that could affect waters of the State must file a waste discharge report with the appropriate regional board. The board responds to the report by issuing waste discharge requirements (WDR) or by waiving WDRs for that project discharge. Both of the terms “discharge of waste” and “waters of the State” are broadly defined such that discharges of waste include fill, any material resulting from human activity, or any other “discharge.” Isolated wetlands within California, which are no longer considered “waters of the United States” as defined by Section 404 of the CWA, are addressed under the Porter-Cologne Act.

3.2.6 State-Regulated Habitats

The State Water Resources Control Board is the State agency (together with the Regional Water Quality Control Boards [RWQCB]) charged with implementing water quality certification in California. The Project Area falls under the jurisdiction of the Central Coast RWQCB.

The CDFW extends the definition of stream to include “intermittent and ephemeral streams, rivers, creeks, dry washes, sloughs, blue-line streams (USGS-defined), and watercourses with subsurface flows. Canals, aqueducts, irrigation ditches, and other means of water conveyance can also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife”.

Activities that result in the diversion or obstruction of the natural flow of a stream; or which substantially change its bed, channel, or bank; or which utilize any materials (including vegetation) from the streambed, may require that the project applicant enter into a Streambed Alteration Agreement with the CDFW.

3.2.7 California Coastal Act

The California Coastal Act of 1976 was borne out of the Coastal Conservation Initiative, passed in 1972 by California voters concerned about coastal development and its impact on public access and coastal resources. This initiative resulted in the creation of the California Coastal Commission (CCC) and, four years after the initiative was passed, the State Legislature enacted the Coastal Act. The act is designed to balance the right to develop with strict policies to protect resources.

The Coastal Zone encompasses 1.5 million acres of land along the length of the 1,100-mile California coastline and stretches from three miles at sea to an inland boundary that varies from several blocks in urban areas to as much as five miles inland in less developed areas. It also includes 287 miles of shoreline surrounding nine offshore islands.

The Coastal Act is umbrella legislation designed to encourage local governments to create Local Coastal Programs (LCPs) to govern decisions that determine the short- and long-term conservation and use of coastal resources. These LCPs can be thought of as the equivalent of General Plans for areas within the Coastal Zone. LCPs must be consistent with the policies of Coastal Act and protect public access and coastal resources. Until the Coastal Commission certifies an LCP, the Commission makes the final decisions on all development within a jurisdiction (city or county) within the Coastal Zone. However, since the County of Santa Barbara has an adopted and certified LCP, the County is the decision maker for land use decisions in its Coastal Zone.

3.3 OTHER APPLICABLE REGULATIONS, PLANS, AND STANDARDS

3.3.1 California Native Plant Society Rare Plant Program

The mission of the CNPS Rare Plant Program is to develop current, accurate information on the distribution, ecology, and conservation status of California's rare and endangered plants, and to use this information to promote science-based plant conservation in California. Once a species has been identified as being of potential conservation concern, it is put through an extensive review process. Once a species has gone through the review process, information on all aspects of the species (e.g., listing status, habitat, distribution, threats, etc.) are entered into the online CNPS Inventory and given a California Rare Plant Rank (CRPR). In 2011, the CNPS officially changed the name "CNPS List" to "CRPR." The Program currently recognizes more than 1,600 plant taxa (species, subspecies and varieties) as rare or endangered in California.

Vascular plants listed as rare or endangered by the CNPS, but which might not have a designated status under State endangered species legislation, are defined by the following CRPR:

- CRPR 1A - Plants considered by the CNPS to be extinct in California
- CRPR 1B - Plants rare, threatened, or endangered in California and elsewhere
- CRPR 2 - Plants rare, threatened, or endangered in California, but more numerous elsewhere
- CRPR 3 - Plants about which we need more information – a review list
- CRPR 4 - Plants of limited distribution – a watch list

In addition to the CRPR designations above, the CNPS adds a Threat Rank as an extension added onto the CRPR and designates the level of endangerment by a 1 to 3 ranking, with 1 being the most endangered and 3 being the least endangered and are described as follows:

- 0.1 – Seriously threatened in California (high degree/immediacy of threat)
- 0.2 – Fairly threatened in California (moderate degree/immediacy of threat)
- 0.3 – Not very threatened in California (low degree/immediacy of threats or no current threats known.

3.3.2 Santa Barbara County Comprehensive Plan

3.3.2.1 Conservation Element

The Conservation Element of the Santa Barbara County Comprehensive Plan includes policies that address the conservation, development, and use of natural resources including water, forests, soils, rivers, and mineral deposits in Santa Barbara County. It also includes the Groundwater Resources Section, which was updated in 1994 and presents goals, policies, actions, and development standards intended to improve groundwater supply. [County of Santa Barbara, 2010]

3.3.2.2 Coastal Land Use Plan

Existing as a separate element to the Santa Barbara County Comprehensive Plan, the Coastal Land Use Plan (CLUP) serves together with the coastal implementation program and zoning to comprise the County's LCP. The CLUP lays out the general patterns of development throughout the coastal areas of the County. Its purpose is to protect coastal resources while accommodating land use development within the coastal zone. The other elements of the Comprehensive Plan are applicable within the coastal zone; however, when there is a conflict, the CLUP takes precedence.

Although most undeveloped areas of the coastal zone, as well as many isolated pockets of open space within urban areas, provide a "habitat" for many species of animals and plants, the intent of the Coastal Act is preservation of significant habitat resources. Environmentally sensitive habitat areas (ESHAs) are defined as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." (Coastal Act, Section 30107.5) [County of Santa Barbara, 2014]

3.3.2.3 Article II, The Coastal Zoning Ordinance

The project site is within the Coastal Zone of the County of Santa Barbara and therefore subject to the requirements of Article II, the county's Coastal Zoning Ordinance. The County will require a Coastal Development Permit for this project. Their decision is subject to appeal by an aggrieved party for no fee, for a period of 10 business days. The project site is not within the Original Permit Jurisdiction or the Appeals Jurisdiction of the CCC; therefore, the county's decision will not be appealable to the CCC.

4.0 EXISTING CONDITIONS

4.1 TOPOGRAPHY AND SURROUNDING LAND USES

The BSA is located in an unincorporated area of southeastern Santa Barbara County, California, immediately adjacent to the boundary of the City of Carpinteria. It is situated in Township 4 North, Range 25 West of the USGS Carpinteria 7.5-minute topographic quadrangle. The BSA is relatively flat at approximately 40 feet above mean sea level. Land uses surrounding the BSA are limited to agricultural and residential development, being bound to the north, northwest, and east by greenhouses and to the west and south by residences. Foothill Road (State Highway 192) runs along the BSA's southern boundary.

4.2 CLIMATE

The City of Carpinteria is characterized by a Mediterranean climate, consisting of dry summers and moist winters. Onshore winds produced by the westerly transoceanic air currents predominate the Carpinteria valley and are common in the afternoons of the winter, spring, and summer months. Offshore air flow produced by continental cooling, generally occurs at night during the fall and winter months. The City of Carpinteria is also characterized by fog, an important feature of the southern California coastline. Cool moist air is trapped at low elevations which produce fog and low-lying clouds. Fog is common during the early morning and night and often occurs during late spring and early summer (Carpinteria Salt Marsh Reserve, 2016).

Precipitation data from the City of Santa Barbara, located northwest of the City of Carpinteria was used to characterize the precipitation levels for Carpinteria. These coastal cities are approximately 11 miles apart and experience significantly similar climatic events. The warmest month in the City of Santa Barbara is August and the coolest month is December. Ninety percent of the annual rainfall occurs from November to April. The mean annual precipitation is approximately 17.8 inches, based on data from 1967 to 1979 (Carpinteria Salt Marsh Reserve, 2016).

4.3 SOILS

Historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine potential soil types, including where hydric soils may have historically occurred (refer to Appendix A, Figure 3). A single soil type has been mapped within the BSA: Camarillo, variant, fine sandy loam. This poorly drained soil is characteristic of floodplains and consists of alluvium derived from calcareous sedimentary rock.

4.4 JURISDICTIONAL WATERS/WETLANDS

There are three key agencies that regulate activities within inland streams, wetlands, and riparian areas in California: the USACE Regulatory Program regulates activities pursuant to Section 404 of the federal CWA; the CDFW regulates activities under the Fish and Game Code Section 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

An unnamed tributary to Franklin Creek, which collects runoff from agricultural operations in the area, runs parallel to the southern boundary of the site but is outside of the BSA. This section of the unnamed tributary adjacent to the BSA consists of an open, concrete-lined channel, approximately 20 feet wide, with a soft bottom of accumulated sediments. There was no riparian vegetation observed within this channel adjacent to the BSA. Franklin Creek flows into the Carpinteria Salt Marsh, which is tidally influenced from the Pacific Ocean, approximately one mile southwest of the site and, as such, would be considered a jurisdictional resource.

Along the eastern and western borders of the BSA, shallow ditches, trending southward, have been excavated to facilitate drainage from the site. The eastern ditch is well preserved and appears to have been recently maintained; however, it does not have a direct connection to the unnamed tributary to Franklin Creek. The western ditch does have a direct connection to the unnamed tributary via a 36-inch culvert through the concrete “bank,” but it is not as well maintained as it is overwhelmed by an oleander hedgerow and is inaccessible to equipment. The southern end of the ditch is shallowly incised, but the channel appears to diminish further north. Both the eastern and western ditches appear to have been excavated in uplands to facilitate site drainage and do not support any riparian vegetation.

Stantec conducted a formal jurisdictional delineation on December 18, 2018. Based on the data collected in the field, three types of jurisdictional features occur within the BSA: USACE/RWQCB non-wetland waters of the U.S. (0.30 acre), CDFW jurisdictional waters (0.34 acre), and CCC wetlands (0.26 acre). Jurisdictional features include the two shallow ditches along the eastern and western boundaries of the BSA (Ditch 1 and Ditch 2, respectively) and the concrete-lined drainage canal along its southern boundary (Drain 1), which is mapped by the National Wetlands Inventory as Riverine (R4SBCx) (data dated October 2018). Additional details regarding jurisdictional features within the BSA are provided in Stantec's stand-alone Preliminary Jurisdictional Wetland/Waters Delineation Report.

4.5 VEGETATION COMMUNITIES AND LAND COVER TYPES

The entire BSA has historically been developed appears to have been used in the past for agricultural purposes. The project site is currently fallow and appears to be disked regularly for weed control purposes. Vegetation observed during the field survey was comprised of common plant species characteristic of disturbed areas in the coastal ranges and valleys of southern California. Based on the lack of vegetation and absence of native plant communities, habitat conditions within the BSA were noted to be of generally poor quality. A well-established monoculture of non-native tree species dominates the existing tree canopy, where present, and lower strata are generally comprised of non-native grasses and non-native herbaceous plants. Within the BSA, Stantec biologists mapped one vegetation community and one additional land cover type. These are described further in Section 4.2.1 below. Figure 2 (Appendix A) illustrates the land cover types occurring in the BSA.

4.5.1 Vegetation Communities

Oleander Stands

This plant community occurs along the western, southern, and eastern borders of the BSA. It consists hedgerows comprised of a near monoculture of oleander trees (*Nerium oleander*). Other species sparsely interspersed include trumpet vine (*Camsis radicans*) in the southeast corner, Peruvian pepper tree (*Schinus mole*) and Mexican fan palm (*Washingtonia filifera*) along the western border, and several coast live oak trees (*Quercus agrifolia*) in the southwestern portion of the site. This group of oaks is interrupted by oleanders and occurs at too small of a mapping unite to be considered a separate vegetation community (i.e., oak woodland).

4.5.2 Other Land Cover Types

Disturbed/Developed

This classification was used primarily to map areas of fallow agriculture (which the majority of the BSA is comprised of) and unpaved access roads. The fallow field appears to be regularly disked for the purposes of weed control. Vegetation in these areas is sparse and comprised primarily of non-native annual forbs and grasses such as Bermuda grass (*Cynodon dactylon*), cheeseweed (*Malva parviflora*), and wild radish (*Raphanus sativus*). At the edges of the fallow field, other non-native species observed included spiny cocklebur (*Xanthium spinosum*) and a patch of iceplant (*Carpobrotus edulis*) along the western border of the BSA. The unpaved access road also includes other non-native grasses such as ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), foxtail barley (*Hordeum murinum*), and wild oats (*Avena fatua*).

4.6 COMMON PLANTS

The BSA was assessed for common and rare vascular plants during the September 2018 reconnaissance survey and a focused botanical survey was performed in April 2019. The surveys resulted in the documentation of 57 species of native and non-native plants within the BSA. Table 1, below, presents a list of all plants observed within the BSA.

Table 1 – Plant Species Observed in the BSA*

Scientific Name	Common Name
Amaranthus albus	pigweed amaranth
Ambrosia psilostachya	western ragweed
*Asparagus asparagoides***	African asparagus fern
*Avena fatua***	wild oats
*Bromus diandrus***	ripgut brome
*Bromus hordeaceus***	soft chess
*Campsis radicans***	trumpet creeper
*Capsella bursa-pastoris***	shepherd's purse
*Cardamine flexuosa***	woodland bittercress
*Carpobrotus edulis***	iceplant
*Chenopodium album***	lambs quarters
*Chenopodium murale***	nettle leaf goosefoot
*Conium maculatum***	poison hemlock
*Convolvulus arvensis***	field bindweed
*Cynodon dactylon***	Bermuda grass
Delairea odorata	cape ivy
Erigeron canadensis	Canada horseweed
*Erodium cicutarium***	redstem filaree
Euphorbia albomarginata	rattlesnake sandmat
*Foeniculum vulgare***	fennel
*Hirschfeldia incana***	mustard
*Hedera helix***	English ivy
*Hordeum murinum***	foxtail barley
*Lactuca serriola***	prickly lettuce
*Lamium amplexicaule***	henbit
*Laurus nobilis***	sweet bay
*Ligustrum lucidum***	glossy privet
*Lysimachia arvensis***	scarlet pimpernel
*Malva parviflora***	cheeseweed
*Medicago polymorpha***	California burclover
*Melilotus indica***	annual yellow sweetclover
*Nerium oleander***	oleander

Scientific Name	Common Name
*Nicotiana glauca***	tree tabacco
*Olea europaea***	olive
*Oxalis pes-caprae***	sourgrass
*Phleum pratense***	common timothy
*Phoenix canariensis***	Canary Island date palm
*Piptatherum miliaceum***	smilo grass
Platanus racemosa	western sycamore
*Polygonum aviculare***	prostrate knotweed
*Polypogon monspeliensis***	annual beard grass
Quercus agrifolia	coast live oak
*Raphanus sativus***	wild radish
*Rumex obtusifolius***	bitter dock
*Salsola tragus***	Russian thistle
*Schinus mole***	Peruvian pepper tree
*Sisymbrium irio***	London rocket
*Solanum mauritianum***	woolly nightshade
*Sonchus oleraceus***	sow thistle
*Sonchus asper***	spiny sow thistle
*Syngonium podophyllum***	syngonium
*Triticum aestivum***	common wheat
*Viburnum tinus***	laurustinus
*Vinca major***	vinca
*Washingtonia filifera***	California fan palm
*Xanthium spinosum***	spiny cocklebur
	unknown stone fruit tree

* No special-status species were observed in the BSA
** Non-native species

4.7 COMMON WILDLIFE

Invertebrates and Gastropods

Focused insect surveys within the boundaries of the BSA were not performed during the July 2018 survey event; however, a variety of common insects are known to occur in the area. Habitat conditions in the BSA provide a suite of microhabitat conditions for a wide variety of terrestrial insects and other invertebrates. As in all ecological systems, invertebrates in the BSA play a crucial role in a number of biological processes. They serve as the primary or secondary food source for a variety of bird, reptile, and mammal predators; they provide important pollination vectors for numerous plant species; they act as efficient components in controlling pest populations; and they support the naturally occurring maintenance of an area by consuming detritus and contributing to necessary soil nutrients. General surveys of the BSA detected a wide variety of common and non-native invertebrates. Some of the orders identified in the BSA included *Odonata* (dragonflies, damselflies), *Hemiptera* (true bugs), *Coleoptera* (beetles), *Diptera* (flies), *Pleocoptera* (stone flies), *Lepidoptera* (moths and butterflies), *Hymenoptera* (wasps, bees and ants), and *Orthoptera* (grasshoppers).

Amphibians

Amphibians generally require a source of standing or flowing water to complete their life cycle. However, some terrestrial species can survive in drier areas by remaining in moist environments found beneath leaf litter and fallen logs, or by burrowing into the soil. Amphibian species were not observed during surveys within the BSA and would not be expected as permanent residents based on site conditions. It is possible that species such as Pacific treefrog (chorus frog) (*Pseudacris regilla*) and western toad (*Anaxyrus boreas*) may be present in the tributary to Franklin Creek during periods of higher flow during the rainy season, generally from November through March, and therefore may occur as transients within the BSA.

Reptiles

The number and type of reptile species that may occur at a given site is related to a number of biotic and abiotic features. These include the diversity of plant communities, substrate, soil type, and presence of refugia such as rock piles, boulders, and native debris. Weather conditions during the survey were favorable for reptile activity.

No reptiles were observed during the field survey; however, several reptiles common to southern California may be expected to occur within the BSA. Many reptile species are difficult to detect even when present because they are cryptic and their life history characteristics (e.g., foraging, thermoregulatory behavior, fossorial nature, camouflage etc.) limit their ability to be observed during most surveys. Further, many species are only active within relatively narrow thermal limits, avoiding both cold and hot conditions, and most take refuge in microhabitats that are not directly visible to the casual observer, such as rodent burrows, in crevices, under rocks and boards, and in dense vegetation where they are protected from unsuitable environmental conditions and predators (USACE and CDFG, 2010). In some cases, they are only observed when flushed from their refugia. Although these species were not detected in the BSA during the biological survey, suitable habitat conditions for a number of common reptiles occurs within the BSA and they may be expected to inhabit the site: western fence lizard (*Sceloporus occidentalis*), western skink (*Plestiodon skiltonianus*), California whipsnake (*Masticophis lateralis*), and western rattlesnake (*Crotalus oreganus*).

Birds

Birds were identified by sight and sound and were observed along the edges of the BSA, particularly in the oleander hedgerows and oak trees. Bird species observed included black phoebe (*Sayornis nigricans*), Amerian crow (*Corvus brachyrynchos*), common raven (*Corvus corax*), Anna's hummingbird (*Calypte anna*), and house finch (*Haemorhous mexicanus*). All avian species identified in the BSA during the September 2018 survey are listed in Table 2 and special-status species are further discussed in Section 5.4. Based on habitat conditions, it is possible that many other birds use the BSA, either as wintering habitat, seasonal breeding, or as occasional migrants. Although not detected in the BSA, suitable habitat conditions for a number of common birds including mourning dove (*Zenaida macroura*), bushtit (*Psaltriparus minimus*), lesser goldfinch (*Spinus psaltria*), and Bewick's wren (*Thryomanes bewickii*) were observed within the BSA at the time of the survey.

Mammals

Generally, the distribution of mammals on a given site is associated with the presence of factors such as access to perennial water, topographical and structural components (e.g., rock piles, vegetation) that provide cover and support prey base, and the presence of suitable soils for fossorial mammals (e.g., sandy areas). Sign of a single mammal species was observed just outside the BSA during the September 2018 survey: a striped skunk (*Mephitis mephitis*)

carcass (roadkill) was observed along Foothill Road. While only one mammal species was detected, a number of common mammals would be expected to occur within the BSA given the habitat conditions and species that are known to occur in the region. These may include: California ground squirrel (*Spermophilus beecheyi*), Audubon's cottontail rabbit (*Sylvilagus audubonii*), Virginia opossum (*Didelphis virginiana*), coyote (*Canis latrans*), and raccoon (*Procyon lotor*). No special-status mammal species were observed in the BSA. Special-status species with the potential to occur are further discussed in Section 5.4.

Table 2 – Wildlife Species Observed in the BSA*

Scientific Name	Common Name
*Streptopelia decaocto***	Eurasian collared dove
Melozone crissalis	California towhee
Calypte anna	Anna's hummingbird
Tyrannus verticalis	western kingbird
Sayornis nigricans	black phoebe
Corvus brachyrynchos	American crow
Corvus corax	common raven
Mephitis	striped skunk (road kill)
Haemorhous mexicanus	house finch
Aphelocoma californica	scrub jay

* No special-status species were observed in the BSA
** Non-native species

5.0 SPECIAL-STATUS BIOLOGICAL RESOURCES

The background information presented above, combined with field observations taken during the survey, was used to generate a list of special-status natural communities and special-status plant and animal taxa that either occur or may have the potential to occur within the BSA and/or adjacent habitats. For the purposes of this report, special-status taxa are defined as plants or animals that:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under either the California or Federal ESAs;
- Are candidate species being considered or proposed for listing under these same acts;
- Are recognized as Species of Special Concern by the CDFW;
- Are ranked as CRPR 1, 2, 3 or 4 plant species;
- Are fully protected by the California Fish and Game Code, Sections 3511, 4700, 5050, or 5515; or
- Are of expressed concern to resource/regulatory agencies, or local jurisdictions.

5.1 SPECIAL-STATUS NATURAL COMMUNITIES/ENVIRONMENTALLY SENSITIVE HABITAT AREAS

Special-status natural communities are defined by CDFW (2009) as, "...communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects." All vegetation within the state is ranked with an "S" rank, however only those that are of special concern (S1-S3 rank) are generally evaluated under the California Environmental Quality Act (CEQA). Based on the vegetation mapping, no special-status natural communities occur within the BSA.

ESHAs are defined in the County CLUP (and Coastal Act) as ""any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments." "Streams" are also included in the County ESHA overlay designation. It is acknowledged in the CLUP that the intent of the Coastal Act is the preservation of significant habitat resources.

The BSA does not occur within an ESHA overlay zone, but based on the County's inclusion of streams and wetlands within the definition of ESHA, the jurisdictional features that occur within the BSA would be classified as ESHAs. However, given the disturbed nature within and surrounding these features, they are not likely to be considered significant habitat resources.

5.2 DESIGNATED CRITICAL HABITAT

No critical habitat occurs on or immediately adjacent to the BSA. The nearest designated critical habitat is for southern California coast steelhead (*Oncorhynchus mykiss*) and Ventura marsh milkvetch (*Astragalus pycnostachyus* var. *lanosissimus*), approximately 0.9 mile to the southeast and southwest, respectively, of the site. Habitat for either of these species does not occur within the BSA.

5.3 SPECIAL-STATUS PLANTS

Table 3, presents a list of special-status plants, including federally and state listed species and CRPR 1-4 species that are known to occur in the vicinity of the BSA. No special-status plants were observed within the BSA during surveys conducted in July 2018.

A records search of the CNDDB, the CNPS Online Inventory, and the Consortium of California Herbaria (CCH) was performed for special-status plant taxa and non-protocol plant surveys were conducted within the BSA (refer to Appendix A, Figures 4a and 4b). Each of the taxa identified in the record searches was assessed for their potential to occur within the BSA based on the following criteria:

- Present: Taxa were observed within the BSA during recent botanical surveys or population has been acknowledged by CDFW, USFWS, or local experts.
- High: Both a documented recent record (within 10 years) exists of the taxa within the BSA or immediate vicinity (approximately 5 miles) and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.

- Moderate: Both a documented recent record (within 10 years) exists of the taxa within the BSA or the immediate vicinity (approximately 5 miles) and the environmental conditions associated with taxa presence are marginal and/or limited within the BSA is located within the known current distribution of the taxa and the environmental conditions (including soil type) associated with taxa presence occur within the BSA.
- Low: A historical record (over 10 years) exists of the taxa within the BSA or general vicinity (approximately 10 miles) and the environmental conditions (including soil type) associated with taxa presence are marginal and/or limited within the BSA.

Table 3. Known and Potential Occurrence of Special-Status Plant Taxa within the BSA

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Amsinckia douglasiana Douglas' fiddleneck	4.2	Monterey shale, dry. Cismontane woodland, valley and foothill grassland. 0-1950 m.	Mar-May	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Arctostaphylos refugioensis Refugio manzanita	1B.2	Chaparral (sandstone) 274 - 820 meters	Dec-Mar (May)	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Astragalus didymocarpus var. *milesianus* Miles' milk-vetch	1B.2	Coastal scrub. Clay soils. 50-385 m.	Mar-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Astragalus pycnostachyus var. *lanosissimus* Ventura Marsh milk-vetch	Fed. END, Calif. END, 1B.1	Marshes and swamps, coastal dunes, coastal scrub. Within reach of high tide or protected by barrier beaches; more rarely near seeps on sandy bluffs. 1-35 m.	Jun-Oct	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Atriplex coulteri Coulter's saltbush	1B.2	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland. Ocean bluffs, ridgetops, as well as alkaline low places. Alkaline or clay soils. 2-460 m.	Mar-Oct	**Low:** Suitable habitat not present in the BSA; however, this species has been observed in the immediate vicinity.
Atriplex serenana var. *davidsonii* Davidson's saltscale	1B.2	Coastal bluff scrub, coastal scrub. Alkaline soil. 0-480 m.	Apr-Oct	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Calochortus catalinae Catalina mariposa lily	4.2	Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. 15-700 m.	(Feb) Mar-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Calochortus fimbriatus late-flowered mariposa-lily	1B.3	Chaparral, cismontane woodland, riparian woodland. Dry, open coastal woodland, chaparral; on serpentine substrates. 270-1645 m.	Jun-Aug	**Low:** Suitable habitat not present in the BSA; however, this species has been observed approximately 1 mile north.
Calochortus palmeri var. *palmeri* Palmer's mariposa-lily	1B.2	Meadows and seeps, chaparral, lower montane coniferous forest; vernally moist places in yellow-pine forest. 195-2530 m.	Apr-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Calystegia sepium ssp. *binghamiae* Santa Barbara morning-glory	1A	Marshes and swamps (coastal). 0-30 m.	Aug	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Centromadia parryi ssp. *australis* southern tarplant	1B.1	Marshes and swamps (margins), valley and foothill grassland, vernal pools. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-975 m.	May-Nov	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Cercocarpus betuloides var. *blancheae* island mountain-mahogany	4.3	Closed-cone coniferous forest, chaparral. 30-600 m.	Feb-May	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Chloropyron maritimum ssp. *maritimum* salt marsh bird's-beak	Fed.END, Calif. END, 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0-10 m.	May-Oct (Nov)	**Low:** Suitable habitat not present in the BSA; however, this species has been observed approximately 1 mile west.
Chorizanthe palmeri Palmer's spineflower	4.2	Rocky, serpentinite. Chaparral, cismontane woodland, valley and foothill grassland. 55-945 m.	Apr-Aug	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Chorizanthe polygonoides var. *longispina* long-spined spineflower	1B.2	Often clay. Chaparral, coastal scrub, meadows and seeps, valley and foothill grassland, vernal pools. 30-1530 m.	Apr-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Clinopodium mimuloides monkey-flower savory	4.2	Streambanks, mesic. Chaparral, North Coast coniferous forest. 305-1800 m.	Jun-Oct	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Convolvulus simulans small-flowered morning-glory	1B.2	Clay, serpentinite seeps. Chaparral (openings), coastal scrub, valley and foothill grassland. 30-740 m.	Mar-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Cryptantha rattanii Rattan's cryptantha	4.3	Cismontane woodland, riparian woodland, valley and foothill grassland. 245-915 m.	Apr-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Deinandra paniculata paniculate tarplant	4.2	Usually vernally mesic, sometimes sandy. Coastal scrub, valley and foothill grassland, vernal pools 25-940 m.	(Mar) Apr-Nov	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Delphinium parryi ssp. *purpureum* Mt. Pinos larkspur	4.3	Chaparral, Mojavean desert scrub, pinyon and juniper woodland. 1000-2600 m.	May-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Delphinium umbraculorum umbrella larkspur	1B.3	Chaparral, cismontane woodland. Dry slopes. 50-1280 m.	Apr-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Fritillaria ojaiensis Ojai fritillary	1B.2	Broadleafed upland forest (mesic), chaparral, lower montane coniferous forest, cismontane woodland. Rocky sites. Sometimes on serpentine; sometimes along roadsides. 95-1140 m.	Feb-May	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Hordeum intercedens varnal barley	3.2	Coastal dunes, coastal scrub, valley and foothill grassland (saline flats and depressions), vernal pools 5-1000 m.	Mar-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Horkelia cuneata var. *puberula* mesa horkelia	1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy or gravelly sites. 15-1645 m.	Feb-Jul (Sep)	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Juglans californica Southern California black walnut	4.2	Alluvial. Chaparral, cismontane woodland, coastal scrub, riparian woodland. 50-900 m.	Mar-Aug	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Lasthenia conjugens Contra Costa goldfields	1B.1	Mesic. Cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. 0 - 470 meters	Mar-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Lasthenia glabrata ssp. *coulteri* Coulter's goldfields	1B.1	Coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands. 1-1375 m.	Feb-Jun	**Low:** Suitable habitat not present in the BSA; however, this species has been observed approximately 1 mile southwest.
Lilium humboldtii ssp. *ocellatum* ocellated Humboldt lily	4.2	Openings. Chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, riparian woodland. 30-1800 m.	Mar-Jul (Aug)	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Lonicera subspicata var. *subspicata* Santa Barbara honeysuckle	1B.2	Marshes and swamps (coastal). 0-30 m.	May-Aug (Dec-Feb)	**Low:** Suitable habitat not present in the BSA; however, this species has been observed approximately 3.5 miles northwest.
Malacothrix saxatilis var. *arachnoidea* Carmel Valley malacothrix	1B.2	Chaparral, coastal scrub. Rock outcrops or steep rocky roadcuts. 30-1040 m.	(Mar) Jun-Dec	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Monardella hypoleuca ssp. *hypoleuca* white-veined monardella	1B.3	Chaparral, cismontane woodland. Dry slopes. 50-1280 m.	(Apr) May-Aug (Sep-Dec)	**Low:** Suitable habitat not present in the BSA, however, this species has been observed approximately 1.5 miles east.
Monolopia congdonii San Joaquin woollythreads	1B.2	Chenopod scrub, valley and foothill grassland (sandy). 60-800 m.	Feb-May	**Not Likely to Occur:** Suitable habitat not present in the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Navarretia ojaiensis Ojai navarretia	1B.1	Chaparral (openings), coastal scrub (openings), valley and foothill grassland. 275-620 m.	May-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Nolina cismontana chaparral nolina	1B.2	Chaparral, coastal scrub. Primarily on sandstone and shale substrates; also known from gabbro. 140-1100 m.	(Mar) May-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Phacelia hubbyi Hubby's phacelia	4.2	Gravelly, rocky, talus. Chaparral, coastal scrub, valley and foothill grassland. 0-1000 m.	Apr-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Phacelia ramosissima var. *austrolitoralis* south coast branching phacelia	3.2	Sandy, sometimes rocky. Chaparral, coastal dunes, coastal scrub, marshes and swamps (coastal salt) 5-300 m.	Mar-Aug	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Piperia michaelii Michael's rein orchid	4.2	Coastal bluff scrub, closed-cone coniferous forest, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest. 3-915 m.	Apr-Aug	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Quercus dumosa Nuttall's scrub oak	1B.1	Closed-cone coniferous forest, chaparral, coastal scrub. Generally on sandy soils near the coast; sometimes on clay loam. 15-640 m.	Feb-Apr (May-Aug)	**Low:** Suitable habitat not present in the BSA; however, this species has been observed in the immediate vicinity. Perennial species was not observed during field survey.
Ribes amarum var. *hoffmannii* Hoffmann's bitter gooseberry	3	Chaparral, riparian woodland. 5-1190 m.	Mar-Apr	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Sanicula hoffmannii Hoffmann's sanicle	4.3	Often serpentinite or clay. Broadleafed upland forest, coastal bluff scrub, chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest. 30-300 m.	Mar-May	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Scrophularia atrata black-flowered figwort	1B.2	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub. Sand, diatomaceous shales, and soils derived from other parent material; around swales and in sand dunes. 10-445 m.	Mar-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Streptanthus campestris southern jewelflower	1B.3	Chaparral, lower montane coniferous forest, pinyon and juniper woodland. Open, rocky areas. 605-2590 m.	(Apr) May-Jul	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Suaeda taxifolia wooly seablite	4.2	Coastal bluff scrub, coastal dunes, marshes and swamps (margins of coastal salt). 0-50 m.	Jan-Dec	**Not Likely to Occur:** Suitable habitat not present in the BSA.

Species	Status	Habitat and Distribution	Blooming Period	Potential to Occur
Thelypteris puberula var. *sonorensis* Sonoran maiden fern	2B.2	Meadows and seeps. Along streams, seepage areas. 60-930 m.	Jan-Sep	**Not Likely to Occur:** Suitable habitat not present in the BSA.
Thermopsis macrophylla Santa Ynez false lupine	Calif. RARE, 1B.3	Chaparral. In open areas such as fuel breaks, after burns; on sandstone. 365-1100 m.	Apr-Jun	**Not Likely to Occur:** Suitable habitat not present in the BSA.

Source: Baldwin et al. 2012; CDFW, 2018a; CNPS, 2018.

Status Codes
US Fish and Wildlife Service (Fed.) Designations:
FE: Federally listed, endangered.
FT: Federally listed, threatened.
FPT: Federally proposed, threatened.
California Department of Fish and Wildlife (Calif.) Designations:
SE: State listed, endangered.
ST: State listed, threatened.
California Rare Plant Rank (CRPR) designation
1A Plants presumed extinct in California.
1B Plants rare, threatened, or endangered in California and elsewhere.
2A Plants rare, threatened, or endangered in California, but more common elsewhere.
2B Plants presumed extinct in California but more common elsewhere.
3 Plants about which we need more information – a review list.
4 Plants of limited distribution – a watch list.
.1 Seriously threatened in California (high degree/immediacy of threat).
.2 Fairly threatened in California (moderate degree/immediacy of threat).
.3 Not very threatened in California (low degree/immediacy of threats or no current threats known).

5.4 SPECIAL-STATUS WILDLIFE

Special-status taxa include those listed as threatened or endangered under the federal or California Endangered Species Acts, taxa proposed for such listing, Species of Special Concern, and other taxa that have been identified by the USFWS, CDFW, or local jurisdictions as unique or rare and which have the potential to occur within the BSA. No special-status wildlife species were either observed within or immediately adjacent to the BSA during the survey conducted in September 2018.

The CNDDB was queried for occurrences of special-status wildlife taxa within the USGS topographical quadrangles in which the BSA occurs and the six surrounding quadrangles, as discussed above in Section 2.0 (refer to Appendix A, Figures 4a and 4b). The specific habitat requirements and the locations of known occurrences of each special-status wildlife taxa were the principal criteria used for inclusion in the list of taxa potentially occurring within the BSA. Table 4 summarizes the special-status wildlife taxa known to regionally occur and their potential for occurrence in the BSA; refer to Appendix A, Figures 4a and 4b for a graphical depiction of species locations. Each of the taxa identified in the database reviews/searches were assessed for its potential to occur within the BSA based on the following criteria:

- Present: Taxa (or sign) were observed in the BSA or in the same watershed (aquatic taxa only) during the most recent surveys, or a population has been acknowledged by CDFW, USFWS, or local experts.

- High: Habitat (including soils) for the taxa occurs on site and a known occurrence occurs within the BSA or adjacent areas (within 5 miles of the BSA) within the past 20 years; however, these taxa were not detected during the most recent surveys.
- Moderate: Habitat (including soils) for the taxa occurs on site and a known regional record occurs within the database search, but not within 5 miles of the BSA or within the past 20 years; or a known occurrence occurs within 5 miles of the BSA and within the past 20 years and marginal or limited amounts of habitat occurs on site; or the taxa's range includes the geographic area and suitable habitat exists.
- Low: Limited habitat for the taxa occurs on site and no known occurrences were found within the database search and the taxa's range includes the geographic area

Table 3. Known and Potential Occurrence of Special-Status Wildlife Taxa within the BSA

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
INVERTEBRATES					
Anaxyrus californicus	arroyo toad	**FE, SSC**	Semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 7 miles to the north.	**Not Likely to Occur**
Bombus caliginosus	obscure bumble bee	**SA**	Coastal areas from Santa Barabara County to north to Washington state. Food plant genera include *Baccharis*, *Cirsium*, *Lupinus*, *Lotus*, *Grindelia* and *Phacelia*.	None of this species required food plants were observed in the BSA. May occur as a transient. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Low**
Cicindela hirticollis gravida	sandy beach tiger beetle	**SA**	Inhabits areas adjacent to non-brackish water along the coast of California from San Francisco bay to northern Mexico. Clean, dry, light-colored sand in the upper zone. Subterranean larvae prefer moist sand Not affected by wave action.	No suitable habitat occurs in the BSA. May occur as a transient. The nearest recorded occurrence to the BSA is approximately 1 mile to the south.	**Low**
Coelus globosus	globose dune beetle	**SA**	Inhabitant of coastal sand dune habitat; erratically distributed from Ten Mile Creek in Mendocino County south to Ensenada, Mexico. Inhabits foredunes and sand hummocks; it burrows beneath the sand surface and is most common beneath dune vegetation.	No suitable habitat occurs in the BSA. May occur as a transient. The nearest recorded occurrence to the BSA is approximately 1 mile to the south.	**Low**
Danaus plexippus pop. 1	monarch - California overwintering population	**SA**	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby.	No suitable habitat occurs in the BSA. May occur as a transient. The nearest recorded occurrence to the BSA is approximately 1 mile southeast.	**Low**
Panoquina errans	wandering (=saltmarsh) skipper	**SA**	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	No suitable habitat occurs in the BSA. May occur as a transient. The nearest recorded occurrence to the BSA is approximately 1 mile southwest.	**Not Likely to Occur**
AMPHIBIANS					
Taricha torosa	Coast Range newt	**SSC**	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 1 km to breed in ponds, reservoirs and slow-moving streams.	Marginally suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles northwest.	**Low**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Rana boylii	foothill yellow-legged frog	**SC**	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	No suitable habitat occurs in the BSA, though marginally suitable habitat occurs in the region. The nearest recorded occurrence to the BSA is approximately 5 miles to the north.	**Low**
Rana draytonii	California red-legged frog	**FT, SSC**	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks of permanent water for larval development. must have access to estivation habitat.	No suitable habitat occurs in the BSA, though marginally suitable habitat occurs in the vicinity. May occur as a transient. The nearest recorded occurrence to the BSA is approximately 1.5 miles west.	**Moderate**
FISH					
Eucyclogobius newberryi	tidewater goby	**FE, SSC**	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 1 mile to the south.	**Not Likely to Occur**
Oncorhynchus mykiss irideus pop. 10	steelhead - southern California DPS	**FE**	Federal listing refers to populations from Santa Maria river south to southern extent of range (San Mateo Creek in San Diego County). Southern steelhead likely have greater physiological tolerance to warmer water and more variable conditions.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 7 miles northwest.	**Not Likely to Occur**
REPTILES					
Anniella pulchra	northern California legless lizard	**SSC**	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Marginally suitable habitat occurs under the oaks in the southwestern portion of the BSA. The nearest recorded occurrence to the BSA is approximately 2 miles west.	**Moderate**
Anniella sp.	California legless lizard	**SSC**	Contra Costa County south to San Diego, within a variety of open habitats. This element Represents California records of A*nniella* not yet assigned to new species within the anniella pulchra complex. Variety of habitats; generally in moist, loose soil. They prefer soils with a high moisture content.	Marginally suitable habitat occurs under the oaks in the southwestern portion of the BSA. The nearest recorded occurrence to the BSA is approximately 6.5 miles east.	**Moderate**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Aspidoscelis tigris stejnegeri	coastal whiptail	**SSC**	Found in deserts and semi-arid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	Marginally suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Low**
Emys marmorata	western pond turtle	**SSC**	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8.5 miles west.	**Not Likely to Occur**
Phrynosoma blainvillii	coast horned lizard	**SSC**	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	Marginally suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 10 miles west.	**Not Likely to Occur**
Salvadora hexalepis virgultea	coast patch-nosed snake	**SSC**	Brushy or shrubby vegetation in coastal southern California. Require small mammal burrows for refuge and overwintering sites.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles to the northwest.	**Not Likely to Occur**
Thamnophis hammondii	two-striped gartersnake	**SSC**	Coast California form vicinity of Salinas to northwest Baja California. From sea to about 7000 ft. elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northwest.	**Not Likely to Occur**
BIRDS					
Accipiter cooperii	Cooper's hawk	**WL**	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.	No suitable habitat occurs in BSA. The nearest recorded occurrence to the BSA is approximately 0.5 mile southwest.	**Moderate – may occur as a transient when foraging.**
Baeolophus inornatus	oak titmouse	**BCC**	Open woodland; warm, open, dry oak or oak-pine woodlands. Habitat is restricted to a range, from southwest Oregon to northwest Baja California.	Marginally suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northwest.	**Low**
Charadrius alexandrinus nivosus	western snowy plover	**FT, SSC, BCC**	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 1 mile to the south.	**Low – may occur as a transient when migrating.**
Coturnicops noveboracensis	yellow rail	**SSC**	Summer resident in eastern Sierra Nevada in Mono County. Freshwater marshlands.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles west.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Egretta thula	snowy egret	**SA**	Colonial nester, with nest sites situated in protected beds of dense tules. Rookery sites situated close to foraging areas: marshes, tidal-flats, streams, wet meadows, and borders of lakes.	No suitable habitat occurs in the BSA; however, marginally suitable habitat occurs nearby. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Low – may occur as a transient when migrating.**
Elanus leucurus	white-tailed kite	**FP**	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Marginally suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Low – may occur as a transient when foraging.**
Empidonax traillii extimus	southwestern willow flycatcher	**FE, SE**	Riparian woodlands in southern California	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 10 miles northwest.	**Not Likely to Occur**
Falco columbarius	merlin	**WL**	Forests. Open and semi-open areas across northern North America. Nests near forested openings, in fragmented woodlots, near rivers, lakes, or bogs, and on lake islands.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northwest.	**Low – may occur as a transient when foraging.**
Gymnogyps californianus	California condor	**FE, SE, FP**	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain Ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles to the north.	**Not Likely to Occur**
Laterallus jamaicensis coturniculus	California black rail	**ST, FP**	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about 1 inch that do not fluctuate during the year and dense vegetation for nesting habitat.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles west.	**Not Likely to Occur**
Nycticorax nycticorax	black-crowned night heron	**SA**	Colonial nester, usually in trees, occasionally in tule patches. Rookery sites located adjacent to foraging areas: lake margins, mud-bordered bays, marshy spots.	No suitable habitat occurs in the BSA; however, marginally suitable habitat occurs near the site. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Low – may occur as a transient when migrating.**
Oreothlypis luciae	Lucy's warbler	**SSC, BCC**	Scrub. Breeds in riparian mesquite woodlands.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northwest.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Passerculus sandwichensis beldingi	Belding's savannah sparrow	**SE**	Inhabits coastal salt marshes, from Santa Barbara south through San Diego County. Nests in *Salicornia* on and about margins of tidal flats.	No suitable habitat occurs in the BSA; however, suitable habitat occurs near the site. The nearest recorded occurrence to the BSA is approximately 1 mile southwest.	**Moderate – may occur as a transient when migrating.**
Pelecanus occidentalis californicus	California brown pelican	**Delisted, delisted, FP**	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators. Roosts communally.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 10 miles west.	**Not Likely to Occur**
Rallus obsoletus levipes	light-footed Ridgway's rail	**FE, SE, FP**	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either pickleweed or cordgrass for nesting or escape cover; Feeds on molluscs and crustaceans.	No suitable habitat occurs in the BSA; however, suitable habitat occurs near the site. The nearest recorded occurrence to the BSA is approximately 1 mile southwest.	**Moderate – may occur as a transient when migrating.**
Riparia riparia	bank swallow	**ST**	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 9 miles west.	**Not Likely to Occur**
Selasphorus rufus	rufous hummingbird	**BCC**	Open woodlands. Shrubby areas, forest openings, thickets, swamps, and meadows from sea level to about 6,000 feet.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 8 miles northwest.	**Not Likely to Occur**
Setophaga petechia	yellow warbler	**SSC, BCC**	Riparian plant associations in close proximity to water. Also nests in montane shrubbery in Open conifer forests in cascades and sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 4 miles southeast.	**Not Likely to Occur**
Sternula antillarum browni	California least tern	**FE, SE, FP**	Nests along the coast from San Francisco Bay south to northern Baja California, Mexico. Colonial breeder on bare or sparsely vegetated, flat substrates: sand beaches, alkali flats, landfills, or paved areas.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 10 miles west.	**Not Likely to Occur**

Taxa		Status	Habitat Type	Comments	Occurrence Potential
Scientific Name	**Common Name**				
Vireo bellii pusillus	least Bell's vireo	**FE, SE**	Summer resident of southern California in low riparian vegetation in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along marshes of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, mesquite.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 6 miles to the north.	**Not Likely to Occur**
MAMMALS					
Corynorhinus townsendii	Townsend's big-eared bat	**SSC**	Throughout California in a wide variety of habitats. most common in mesic sites. Roosts in the open, hanging from walls and ceilings. roosting sites limiting. Extremely sensitive to human disturbance.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 0.5 mile west.	**High –as a transient when foraging.**
Neotoma lepida intermedia	San Diego desert woodrat	**SSC**	Coastal scrub of southern California from San Diego County to San Luis Obispo County. Moderate to dense canopies preferred. They are particularly abundant in rock outcrops, rocky cliffs, and slopes.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is approximately 5 miles southeast.	**Not Likely to Occur**
Nyctinomops macrotis	big free-tailed bat	**SSC**	Low-lying arid areas in southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	No suitable habitat occurs in the BSA. The nearest recorded occurrence to the BSA is greater than 10 miles.	**Not Likely to Occur**

Federal Rankings:
FE = Federally Endangered
FT = Federally Threatened
FP = Federally Protected
FC = Federal Candidate for Listing
BCC = USFWS Bird of Conservation Concern

State Rankings:
SE= State Endangered
ST = State Threatened
SC = State Candidate for Listing
CFP = California Fully Protected
CPF = California Protected Fur-bearer
SA = CDFW Special Animal
WL = CDFW Watch List
SSC = Species of Special Concern

5.5 WILDLIFE CORRIDORS AND SPECIAL LINKAGES

Linkages and corridors facilitate regional animal movement and are generally centered in or around waterways, riparian corridors, flood control channels, contiguous habitat, and upland habitat. Drainages generally serve as movement corridors because wildlife can move easily through these areas, and fresh water is available. Corridors also offer wildlife unobstructed terrain for foraging and for dispersal of young individuals.

As the movements of wildlife species are more intensively studied using radio-tracking devices, there is mounting evidence that some wildlife species do not necessarily restrict their movements to some obvious landscape element, such as a riparian corridor. For example, recent radio-tracking and tagging studies of Coast Range newts, California red-legged frogs, southwestern pond turtles, and two-striped garter snakes found that long-distance dispersal involved radial or perpendicular movements away from a water source with little regard to the orientation of the assumed riparian "movement corridor" (Hunt, 1993; Rathbun et al., 1992; Bulger et al., 2002; Trentham, 2002; Ramirez, 2002, 2003a, 2003b). Likewise, carnivores do not necessarily use riparian corridors as movement corridors, frequently moving overland in a straight line between two points when traversing large distances (Newmark, 1995; Beier, 1993, 1995; Noss, et al., 1996; Noss et al., no date). In general, the following corridor functions can be utilized when evaluating impacts to wildlife movement corridors:

- Movement corridors are physical connections that allow wildlife to move between patches of suitable habitat. Simberloff et al. (1992) and Beier and Loe (1992) correctly state that, for most species, we do not know what corridor traits (length, width, adjacent land use, etc.) are required for a corridor to be useful. But, as Beier and Loe (1992) also note, the critical features of a movement corridor may not be its physical traits but rather how well a particular piece of land fulfills several functions, including allowing dispersal, plant propagation, genetic interchange, and recolonization following local extirpation.

- Dispersal corridors are relatively narrow, linear landscape features embedded in a dissimilar matrix that links two or more areas of suitable habitat that would otherwise be fragmented and isolated from one another by rugged terrain, changes in vegetation, or human-altered environments. Corridors of habitat are essential to the local and regional population dynamics of a species because they provide physical links for genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities.

- Habitat linkages are broader connections between two or more habitat areas. This term is commonly used as a synonym for a wildlife corridor (Meffe and Carroll, 1997). Habitat linkages may themselves serve as source areas for food, water, and cover, particularly for small- and medium-size animals.

- Travel routes are usually landscape features, such as ridgelines, drainages, canyons, or riparian corridors within larger natural habitat areas that are used frequently by animals to facilitate movement and provide access to water, food, cover, den sites, or other necessary resources. A travel route is generally preferred by a species because it provides the least amount of topographic resistance in moving from one area to another yet still provides adequate food, water, or cover (Meffe and Carroll, 1997).

- Wildlife crossings are small, narrow areas of limited extent that allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access past roads, highways, pipelines, or other physical obstacles. Wildlife crossings often represent

"choke points" along a movement corridor because useable habitat is physically constricted at the crossing by human-induced changes to the surrounding areas (Meffe and Carroll, 1997).

5.5.1 Wildlife Movement in the BSA

Avian and terrestrial wildlife are able to move unimpeded throughout the BSA and are not restricted to specific corridors or linkages. Based on the abundance of open land in surrounding areas and the quality of the habitat within the BSA, it would not be expected to function as an important corridor for wildlife movement.

6.0 SUMMARY AND CONCLUSION

Based on the results of the biological surveys performed by Stantec, the BSA does not support sensitive biological resources, nor does it contain habitats that would be expected to used by special-status plant or wildlife species in a permanent capacity. No native vegetation communities and few native plant species were observed within the BSA. Lands within the BSA are heavily impacted by their historical and ongoing use in agricultural activities. As such, it is not anticipated that development of the site will result in significant impacts to biological resources.

It should be noted that because streams and wetlands are included in the County's definition of ESHA, the jurisdictional features present within the BSA may be classified as such. However, these features occur within a heavily disturbed urban and/or rural environment and are frequently disturbed themselves through activities such as maintenance of flood control capabilities and weed abatement. Therefore, they do not support characteristics that generally distinguish ESHAs and are not likely to be considered a significant biological resource.

The BSA supports USACE/RWQCB non-wetland waters of the U.S., CDFW jurisdictional waters, and CCC wetlands. Surface water was present within Drain 1 during the survey event, but no surface water was present within Ditches 1 or 2. Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there are approximately 0.30 acre of non-wetland waters of the U.S., 0.34 acre of CDFW jurisdictional waters, and 0.26 acre of CCC wetlands present within the BSA. No portion of the BSA meets at the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils).

Project-related impacts to jurisdictional areas will require the Project proponent to procure regulatory authorizations/permits from the USACE, CDFW, RWQCB, and CCC. These include Clean Water Act Section 401 and 404 permits, CDFW Lake and Streambed Alteration Agreement, and CCC Coastal Development Permit. Even though the Project is not anticipated to impact CCC jurisdictional wetlands the CCC may still require a buffer/setback from all such areas (i.e., 100-ft wetland buffer; 100-ft stream buffer in rural areas; 50-foot stream buffer in urban areas).

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Appendix A FIGURES

Biological Survey Area

N

0 1,000 2,000 Feet

1:24,000 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Stantec

Project Location
Carpinteria, CA

Prepared by JV on 2018-10-05
Technical Review by RB on 2018-10-5
Independent Review by GA on 2018-10-8

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Biological Resources Technical Report

Figure No.
1

Title
Project Location

Biological Survey Area

Disturbed/Developed

Oleander Stands

N

0 30 60 Feet

1:850 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2018-10-5
Technical Review by RB on 2018-10-5
Independent Review by GA on 2018-10-8

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Biological Resources Technical Report

Figure No.

2

Title

Vegetation Communities and Land Cover Types

Biological Survey Area

Cb (Camarillo, variant, fine sandy loam)

N

0 30 60 Feet

1:875 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Refer to Section 4.6 of the Biological Resources Technical Report for additional information on historic soils within the Biological Survey Area.

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2018-10-5
Technical Review by RB on 2018-10-5
Independent Review by GA on 2018-10-8

Client/Project

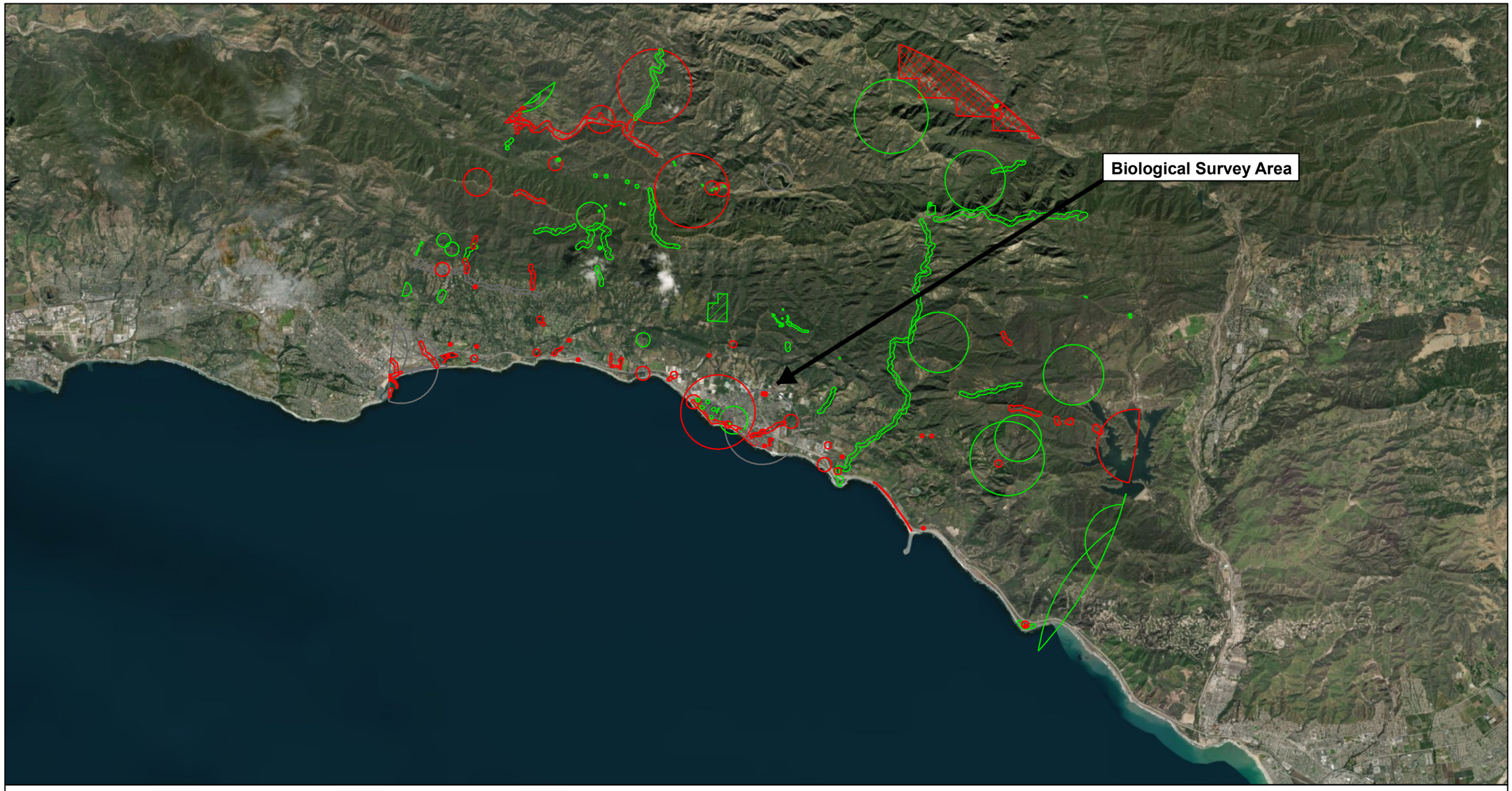
Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Biological Resources Technical Report

Figure No.

3

Title

Historic Soil Types



Plant (80m)
Plant (specific)
Plant (non-specific)
Plant (circular)
Animal (80m)
Animal (specific)
Animal (non-specific)
Animal (circular)
Terrestrial Comm. (80m)
Terrestrial Comm. (specific)
Terrestrial Comm. (non-specific)
Terrestrial Comm. (circular)
Aquatic Comm. (80m)
Aquatic Comm. (specific)
Aquatic Comm. (non-specific)
Aquatic Comm. (circular)
Multiple (80m)
Multiple (specific)
Multiple (non-specific)
Multiple (circular)
Sensitive EO's (Commercial only)

N

0 7,200 14,400 Feet

1:170,000 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location
Carpinteria, CA

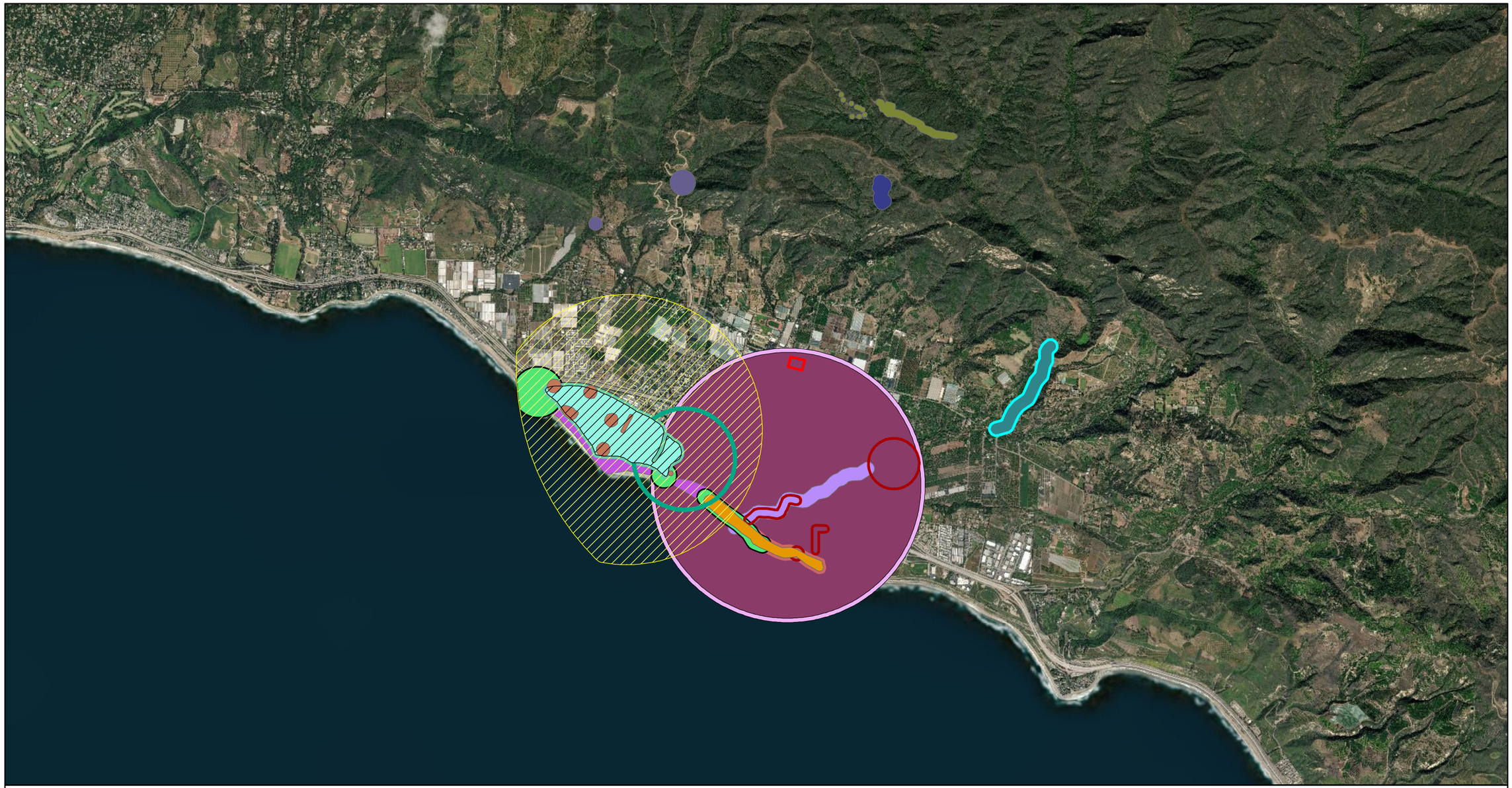
Prepared by JV on 2018-10-5
Technical Review by MW on 2018-10-5
Independent Review by GA on 2018-10-8

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Biological Resources Technical Report

Figure No.
4a

Title
CNDDB - 10 Mile Search Radius



- Biological Survey Area
- Belding's savannah sparrow
- California red-legged frog
- Coulter's goldfields
- Coulter's saltbush
- Nuttall's scrub oak
- Santa Barbara honeysuckle
- Southern Coastal Salt Marsh
- Townsend's big-eared bat
- globose dune beetle
- late-flowered mariposa-lily
- light-footed Ridgway's rail
- monarch - California overwintering population
- northern California legless lizard
- salt marsh bird's-beak
- sandy beach tiger beetle
- tidewater goby
- wandering (=saltmarsh) skipper
- western snowy plover
- white-veined monardella

N

0 1,900 3,800 Feet

1:46,693 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Occurrences of tidewater goby and salmarsh skipper occur at the same location Belding's savanah sparrow and light-footed clapper rail. Due to the large number of species occurrences at this location

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2018-10-5
Technical Review by MW on 2018-10-5
Independent Review by GA on 2018-10-8

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Biological Resources Technical Report

Figure No.

4b

Title

CNDDB - 2 Mile Search Radius

Appendix B PHOTOGRAPHIC LOG

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Technologies, Inc.	**Job Number:** 2064173800
Site Name: Vallecito SCE Moorpark LCR – BESS Project Santa Barbara County	**Photographer:** Rocky Brown

Photo 1: September 28, 2018

Representative site photo, looking northwest from the southeast corner of the BSA.

Photo 2: September 28, 2018

Representative site photo, looking southeast from the northwest corner of the BSA.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Technologies, Inc.	**Job Number:** 2064173800
Site Name: Vallecito SCE Moorpark LCR – BESS Project Santa Barbara County	**Photographer:** Rocky Brown

Photo 3: September 28, 2018

Photo taken from the northeast corner of the site illustrating oleander hedgerows and drainage channel cut into the field along the eastern edge of the property. Note: drainage does not have a direct connection to Franklin Creek.

Photo 4: September 28, 2018

Photo taken at outlet of western site drain, at the southwest corner of the BSA, looking south. Culvert passes through concrete "bank" and enters Franklin Creek.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Technologies, Inc.	**Job Number:** 2064173800
Site Name: Vallecito SCE Moorpark LCR – BESS Project Santa Barbara County	**Photographer:** Rocky Brown

Photo 5: September 28, 2018

Photo taken near southwest corner of the site, looking north-northwest at "upstream" portion of western site drain. Note: lack of defined bed and bank, more so further upstream, and patch of iceplant.

Photo 6: September 28, 2018

Franklin Creek, which travels east to west along the southern boundary of the BSA. Photo taken from near the southeast corner of the BSA, looking west. Note: lack of significant riparian vegetation.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Technologies, Inc.	**Job Number:** 2064173800
Site Name: Vallecito SCE Moorpark LCR – BESS Project Santa Barbara County	**Photographer:** Rocky Brown

Photo 7: September 28, 2018

Photo depicts the assemblage of coast live oak trees along the edges of the southwest portion of the BSA. Photo taken looking southwest.

Photo 8: September 28, 2018

Patch of thicker herbaceous vegetation growth resulting from a leaking irrigation line; a small amount of standing water was present in the center. Photo taken along the northern BSA boundary, adjacent to the unpaved access road, looking southeast.

Ormat Battery Storage Project

Preliminary Jurisdictional Wetlands/Waters Delineation Report

June 11, 2019

Prepared for:

Ormat Technologies, Inc
6225 Neil Road
Reno, Nevada 89511

Prepared by:

Stantec Consulting Services Inc.
290 Conejo Ridge Avenue
Thousand Oaks, CA 91361

Sign-off Sheet

This document entitled Preliminary Jurisdictional Wetland/Waters Delineation Report was prepared by Stantec Consulting Services Inc. (“Stantec”) for the account of Ormat Technologies, Inc (the “Client”). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec’s professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 

(signature)

Laura Butler, Staff Biologist

Reviewed by 

(signature)

Rocky Brown, Associate Biologist

Approved by 

(signature)

Jared Varonin, Principal Biologist

Table of Contents

Abbreviations

amsl	above mean sea level
BSA	Biological Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CWA	Clean Water Act
GPS	Global Positioning System
LCP	Local Coastal Program
MSL	mean sea level
NRCS	Natural Resources Conservation Service
OHWM	Ordinary High Water Mark
RWQCB	Regional Water Quality Control Board
TNW	Traditionally Navigable Water
USACE	United States Army Corps of Engineers
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

1.1 PURPOSE OF THE REPORT

This report presents the findings of an investigation of potential jurisdictional features conducted by Stantec Consulting Services Inc. (Stantec) for the Ormat Battery Storage Project (Project) in Santa Barbara County, California (refer to Appendix A, Figure 1). The assessment of jurisdictional wetlands, other "waters of the U.S.," waters of the State, and California Department of Fish and Wildlife (CDFW) jurisdictional waters was conducted on December 18, 2018, by Stantec Associate Biologist Rocky Brown and Staff Biologist Laura Butler. This assessment was conducted to determine the extent of resources under the jurisdiction of the U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and CDFW that occur within the Biological Study Area (BSA) (refer to Appendix A, Figure 2).

1.2 PROJECT LOCATION

As shown in Figure 1, the BSA is located at 5156 Foothill Road (State Highway 192) in an unincorporated area of southeastern Santa Barbara County, California (Project Site) (refer to Appendix A, Figure 1), immediately adjacent to the northern boundary of the City of Carpinteria. The Project Site is situated in Township 4 North, Range 25 West of the USGS Carpinteria 7.5-minute topographic quadrangle.

1.3 PROJECT DESCRIPTION

The Project Site is proposed to be developed as a battery storage facility, which would be connected to the electrical grid via the Carpinteria Substation to the west.

2.0 EXISTING SITE CONDITIONS

2.1 TOPOGRAPHY AND SURROUNDING LAND USES

The BSA is relatively flat at approximately 40 feet above mean sea level (MSL). Land uses surrounding the BSA include agricultural and residential development, with nurseries and/or greenhouses occurring to the north, northwest, and east, single family residences to the south, and a church property to the west. Foothill Road (State Highway 192) runs along the BSA's southern boundary.

2.2 VEGETATION

Generally, mapping and description of plant communities follows the classification system described in the second edition of A Manual of California Vegetation (Sawyer et al., 2009). Species scientific and common names correspond to those described in the second edition of The Jepson Manual (Baldwin et al., 2012).

The BSA has been previously developed for agricultural purposes ,but was fallow at the time the survey was conducted, and appears to be disked on a regular basis for weed control purposes. Vegetation observed during the field survey

was comprised primarily of common weedy plant species characteristic of disturbed areas in the coastal ranges and valleys of southern California. Within the BSA, Stantec biologists mapped one vegetation community and one additional land cover type which are,described further below. Figure 2 (Appendix A) depicts the land cover types occurring in the BSA.

Oleander Stands

This plant community occurs along the western, southern, and eastern borders of the BSA. It consists of hedgerows comprised of a near monoculture of oleander shrubs (*Nerium oleander*). Other species sparsely interspersed include trumpet vine (*Camsis radicans*) in the southeast corner, Peruvian pepper tree (*Schinus mole*) and Mexican fan palm (*Washingtonia filifera*) along the western border, and several coast live oak trees (*Quercus agrifolia*) in the southwestern portion of the site. This group of oaks is interrupted by oleanders and occurs at too small of a mapping unite to be considered a separate vegetation community (i.e., oak woodland).

Disturbed/Developed

This classification was used primarily to map areas of fallow agriculture (which the majority of the BSA is comprised of) and unpaved access roads. The fallow field appears to be regularly disced for the purposes of weed control. Vegetation in these areas is sparse and comprised primarily of non-native annual forbs and grasses such as Bermuda grass (*Cynodon dactylon*), cheeseweed (*Malva parviflora*), and wild radish (*Raphanus sativus*). At the edges of the fallow field, other non-native species observed included spiny cocklebur (*Xanthium spinosum*) and a patch of iceplant (*Carpobrotus edulis*) along the western border of the BSA. The unpaved access road also includes other non-native grasses such as ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), foxtail barley (*Hordeum murinum*), and wild oats (*Avena fatua*).

2.3 CLIMATE

This area of southern California characterized by a Mediterranean climate, consisting of dry summers and moist winters. Onshore winds produced by the westerly transoceanic air currents predominate the Carpinteria valley and are common in the afternoons of the winter, spring, and summer months. Offshore air flow produced by continental cooling, generally occurs at night during the fall and winter months. The City of Carpinteria is also characterized by fog, an important feature of the southern California coastline. Cool moist air is trapped at low elevations which produce fog and low-lying clouds. Fog is common during the early morning and night and often occurs during the late spring and early summer (Carpinteria Salt Marsh Reserve, 2016).

Precipitation data from the City of Santa Barbara, located northwest of the City of Carpinteria was used to characterize the precipitation levels for Carpinteria. These coastal cities are approximately 11 miles apart and experience significantly similar climate events. The warmest month in the City of Santa Barbara is August and the coolest month is December. Ninety percent of the annual rainfall occurs from November to April. The mean annual precipitation is approximately 17.8 inches, based on data from 1967 to 1979 (Carpinteria Salt Marsh Reserve, 2016).

2.4 HYDROLOGY AND GEOMORPHOLOGY

Storm flows from the agricultural portion of the BSA enter into the concrete-lined drainage channel that runs along its southern boundary, parallel to Foothill Road, which feeds into Franklin Creek approximately 0.2 mile west of the BSA.

Franklin Creek flows into the Carpinteria Salt Marsh, located approximately 0.9 mile southwest of the BSA, which ultimately enters into the Pacific Ocean. The Carpinteria Salt Marsh is one of the largest and most critical estuaries in California, supporting a number of sensitive plant and animal species. The estuary is characterized by natural and artificial channels and estuarine wetlands that emerge from the drainages of Franklin and Santa Monica creeks. A smaller, unnamed drainage, just to the west of the Santa Monica Creek, also drains into the marsh. These drainages generally collect runoff from the southern slopes of the Santa Ynez Mountains (Carpinteria Salt Marsh Reserve, 2016).

2.5 GEOLOGY

2.5.1 Regional Geology

The Carpinteria Valley Basin is an east-trending, northward verging, syncline contains Pleistocene sediments from several hundred to several thousand feet thick deposited on older folded rocks. The basin is located along the northeastern coast of the Santa Barbara Channel, the Santa Ynez Mountains to the north and the Ventura basin to the south. The Carpinteria basin became shallow over the years due to the sedimentation from the emergency landscape to the north, and portions of it were covered by a large alluvial fan complex. The basin continually filled with sediment and formed the Carpinteria Valley. The Carpinteria basin has been structurally isolated from movement along the red Mountain Fault. The Carpinteria Salt Marsh is what remains of a larger historic bay that formed in the basin (Carpinteria Salt Marsh Reserve 2016).

Several small drainages cross the Carpinteria Valley draining the adjacent highlands to the north. These drainages (listed from west to east) include the Toro Canyon Creek, Arroyo Paredon, Santa Monica Creek, Franklin Creek and Carpinteria Creek. The Carpinteria Valley is within an area termed the Santa Barbara Fold Belt, which is located along the coastal piedmont from east of Carpinteria to west of Goleta. It is a region of active folding that is generally comprised of west to northwest trending folds and blind reverse faults deforming late Pleistocene (11,000 to 1.6 million years before present) to Holocene (11,000 years to present) marine terraces, terrace deposits, and alluvial fans. This deformation is thought to have caused localized topographic highs within the Carpinteria Valley, such as the Shepard Mesa and Summerland Hills (Gurrola et al., 1998).

2.5.2 Local Geology

The BSA is located in in the Carpinteria Valley of southeastern Santa Barbara County. The Carpinteria Valley is bounded to the east, north and northwest by the foothills of the Santa Ynez Mountains and to the south and west by the Pacific Ocean. The peaks and ridges of the adjacent foothills range from approximately 600 to 2,000 feet above MSL. Elevations of the valley floor range from sea level to approximately 130 feet above MSL. In general, topography of the Carpinteria Valley area slopes towards the south to southwest (Gurrola et al., 1998).

2.6 SOILS

Prior to conducting the delineation, historic soils data from the Natural Resources Conservation Service (NRCS) was used to determine soil types that have been historically mapped within the BSA, including hydric soils that may occur (refer to Appendix A, Figure 3). A single soil type has been mapped within the BSA: Camarillo, variant, fine sandy loam. This poorly drained soil is characteristic of floodplains and consists of alluvium derived from calcareous sedimentary rock.

Table 1 Historic Soil Units Occurring within the BSA

Map Unit Symbol	Map Unit Name	Description	Acres Within BSA
Cb	Camarillo, variant, fine sandy loam	A poorly drained soil that that is associated with floodplains from 10-50 feet in elevation; parent material is alluvium derived from calcareous sedimentary rock; medium runoff; depth to water table is about 12 inches; fine sandy loam (0-7 inches), stratified loamy sand to clay loam (7-35 inches), and clay (35-72 inches).	4.3

3.0 REGULATORY BACKGROUND

The USACE Regulatory Program regulates activities pursuant to Section 404 of the federal Clean Water Act (CWA); the California Coastal Commission (CCC) regulates wetland habitats under the California Coastal Act; the CDFW regulates activities under California Fish and Game Code Sections 1600-1607; and the RWQCB regulates activities under Section 401 of the CWA and the California Porter-Cologne Water Quality Control Act.

As the Project occurs within the Coastal Zone, development may not proceed until Santa Barbara County issues a Coastal Development Permit for the Project, which will require that the Project adhere to the policies of the Coastal Act. The County has a Local Coastal Program (LCP) certified by the CCC, which would be the governing regulatory document through which the Coastal Development Permit application would be reviewed and acted upon. Refer to Appendix E for additional details on regulatory authorities and background.

4.0 WATERS/WETLANDS DELINEATION

4.1 DELINEATION METHODOLOGY

This section describes the methods employed by Stantec during the survey conducted on December 18, 2018, to determine the extent of potentially jurisdictional wetlands and/or waters that occur within the BSA. Prior to conducting the field assessment, Stantec reviewed current and historic aerial photographs, detailed topographic maps, and soil maps of the BSA (USDA, 2018), the National Wetlands Inventory (USFWS, 2018), and local and state hydric soil lists (NRCS, 2018a and 2018b) to evaluate the potential jurisdictional features that may occur in the BSA. During the field assessment, hydrophytic vegetation and hydrologic features were mapped over recent aerial photograph base maps using the Esri® Collector for ArcGIS app on an Apple® iPad® coupled with a Bad Elf® GNSS Surveyor sub-meter external global positioning system (GPS) unit (refer to Appendix A, Figure 4). Mapping was further refined in the office using ArcGIS (version 10.4) with aerial photograph base maps with an accuracy of one foot, and the total jurisdictional area for each regulatory jurisdiction was calculated.

Federal Wetlands/Waters

Jurisdictional non-wetland “waters of the U.S.” were delineated based on the limits of the ordinary high water mark (OHWM) as determined by changes in physical and biological features, such as bank erosion, deposited vegetation or

debris, and vegetative characteristics. Where present, jurisdictional wetlands are delineated using a routine determination in accordance with the methods outlined in the USACE Wetland Delineation Manual (Environmental Laboratory, 1987) and the Arid West Supplement (Environmental Laboratory, 2011). The determination of whether an area may be considered a federally-jurisdictional wetland is based on the presence of three parameters: dominant hydrophytic vegetation, wetland hydrology, and hydric soils. See Tables 1 and 2 in Appendix D (Potential Geomorphic and Vegetative Indicators of Ordinary High Water Marks for the Arid West) for a list of key physical features used to determine the OHWM identified by the Arid West Manual.

CDFW Jurisdictional Waters

CDFW jurisdiction was delineated to the top of the banks of the channel and/or to the edge of contiguous riparian canopy/riparian habitat. Within portions of the BSA, the CDFW jurisdictional boundary mirrors the OHWM; however, for the most part the tops of the banks extend beyond the OHWM. Therefore, the total acreage of CDFW jurisdictional waters within each BSA is greater than the acreage of federal jurisdictional waters.

CCC Wetlands/Waters

Whereas the USACE uses a three-parameter definition of wetlands, CCC regulations (California Code of Regulation Title 14) establish a “one parameter definition” that only requires evidence of a single parameter to establish wetland conditions. Therefore, if an area exhibits either a dominance of hydrophytic vegetation, wetland hydrology, or hydric soils, it was characterized as a CCC wetland. Per the County’s LCP, the County jurisdiction in regards to wetalnds/waters mirrors that the CCC.

4.1.1 Wetland Vegetation

Vegetation percent cover was visually estimated for plant species in each of the four strata (tree, sapling/shrub, herb, and woody vine), and species in each stratum were ranked based on canopy dominance (USACE, 2016). Species with a total percent cover of at least 50 percent and species with 20 percent coverage within each stratum were recorded on the Field Data Sheets (50/20 Rule). Wetland indicator status was assigned to each dominant species using the USACE Arid West Regional Wetland Plant List (2016); the California subregion of the National List of Vascular Plant Species that Occur in Wetlands: 1996 National Summary (USFWS, 1997); and Wetland Plants of Specialized Habitats in the Arid West (USACE 2007). If greater than 50 percent of the dominant species from all strata were Obligate, Facultative-Wetland, or Facultative species, the criteria for wetland vegetation was considered to be met (refer to Appendix D, Table 3). Plants observed within the BSA are listed below in Table 3, along with their wetland indicator status.

Table 2 Plant Species Observed within the BSA and their Wetland Indicator Status

Scientific Name	Common Name	Wetland Indicator Status*
Amaranthus albus	pigweed amaranth	FACU
Ambrosia psilostachya	western ragweed	FACU
*Asparagus asparagoides***	African asparagus fern	--
*Avena fatua***	wild oats	UPL
*Bromus diandrus***	ripgut brome	UPL

Scientific Name	Common Name	Wetland Indicator Status*
*Bromus hordeaceus***	soft chess	FACU
*Campsis radicans***	trumpet creeper	UPL
*Capsella bursa-pastoris***	shepherd's purse	FACU
*Cardamine flexuosa***	woodland bittercress	FACU
*Carpobrotus edulis***	iceplant	UPL
*Chenopodium album***	lambs quarters	FACU
*Chenopodium murale***	nettle leaf goosefoot	FACU
*Conium maculatum***	poison hemlock	FACW
*Convolvulus arvensis***	field bindweed	--
*Cynodon dactylon***	Bermuda grass	UPL
*Delairea odorata***	cape ivy	--
Erigeron canadensis	Canada horseweed	FACU
*Erodium cicutarium***	redstem filaree	UPL
Euphorbia albomarginata	rattlesnake sandmat	UPL
*Foeniculum vulgare***	fennel	UPL
*Hedera helix***	English ivy	FACU
*Hordeum murinum***	foxtail barley	FACU
*Hirschfeldia incana***	mustard	UPL
*Lactuca serriola***	prickly lettuce	FACU
*Lamium amplexicaule***	henbit	--
*Laurus nobilis***	sweet bay	--
*Ligustrum lucidum***	glossy privet	--
*Lysimachia arvensis***	scarlet pimpernel	FAC
*Malva parviflora***	cheeseweed	UPL
*Medicago polymorpha***	California burclover	FACU
*Melilotus indica***	annual yellow sweetclover	UPL
*Nerium oleander***	oleander	UPL
*Nicotiana glauca***	tree tabacco	FAC
*Olea europaea***	olive	UPL
*Oxalis pes-caprae***	sourgrass	--
*Phleum pratense***	common timothy	FACU
*Phoenix canariensis***	Canary Island date palm	UPL
*Piptatherum miliaceum***	smilo grass	UPL
Platanus racemosa	western sycamore	FAC
*Polygonum aviculare***	prostrate knotweed	FAC
*Polypogon monspeliensis***	annual beard grass	FACW
Quercus agrifolia	coast live oak	UPL

Scientific Name	Common Name	Wetland Indicator Status*
*Raphanus sativus***	wild radish	UPL
*Rumex obtusifolius***	bitter dock	FAC
*Salsola tragus***	Russian thistle	FACU
*Schinus mole***	Peruvian pepper tree	UPL
*Sisymbrium irio***	London rocket	--
Solanum mauritianum	woolly nightshade	--
*Sonchus oleraceus***	sow thistle	UPL
*Sonchus asper***	spiny sow thistle	FAC
*Syngonium podophyllum***	syngonium	--
*Triticum aestivum***	common wheat	--
*Viburnum tinus***	laurustinus	--
*Vinca major***	vinca	UPL
*Washingtonia filifera***	California fan palm	UPL
*Xanthium spinosum***	spiny cocklebur	FACU
Unknown sp.	unknown stone fruit tree	--

* Wetland Indicator Status codes are defined in Appendix D
** Non-native/invasive species

4.1.2 Wetland Hydrology

The presence of wetland hydrology was evaluated by recording the extent of observed primary and secondary indicators, as listed in Tables 4 and 5 of Attachment 4 (Environmental Laboratory, 2011). Wetland hydrology indicators are divided into two categories (primary and secondary indicators) and the presence of one primary indicator from any of the groups is considered evidence of wetland hydrology. If only secondary indicators are present, two or more must be observed to conclude the presence of wetland hydrology. Indicators are intended to be one-time observations of site conditions representing evidence of wetland hydrology when hydrophytic vegetation and hydric soils are present (Environmental Laboratory, 2011).

4.1.3 Wetland Soils

Soils data from the NRCS was referenced to determine if hydric soils have been previously documented and/or historically occurred in or near either BSA. Based on this review hydric soils were not expected to occur within the BSA. Appendix D, Tables 6 and 7, includes a complete list of hydric soils indicators. A total of two soil test pits were attempted to be excavated within distinct locations in the BSA. The locations of each soil test pit are depicted on Figure 4 (Appendix A). A routine small area delineation, the type of delineation chosen for this site based on USACE guidance, requires that a soil test pit be assessed within each distinct habitat type in the area to be surveyed.

4.2 RESULTS

Based on the data collected in the field, three types of jurisdictional features occur within the BSA: USACE/RWQCB non-wetland waters of the U.S., CDFW jurisdictional waters, and CCC wetlands as summarized in Table 3 and Figure 4 (refer to Appendix A). Jurisdictional features include two shallow ditches along the eastern and western boundaries

of the BSA (Ditch 1 and Ditch 2, respectively) and the concrete-lined drainage canal along its southern boundary (Drain 1), which is mapped by the NWI as Riverine (R4SBCx) (data dated October 2018).

Ditches 1 and 2 appear to have been excavated in upland areas at either edge of the site to facilitate the drainage of agricultural irrigation and stormwater, but do not directly connect to natural drainages upstream of the BSA. Ditch 1 occurs immediately adjacent to the fallow field and appears to be periodically obliterated during disking/weed abatement of the field and re-excavated as necessary. This ditch does not directly connect to the concrete-lined Drain 1 to the south. Surface water collects at the southern terminus of Ditch 1 and, given high enough flow, would eventually overtop the concrete side wall and enter Drain 1. No surface water was present in Ditch 1 at the time of the survey.

Ditch 2 was similarly excavated along the western boundary of the site but has since been overgrown by the oleander stands and other vegetation along the edge of the BSA and does not appear to be regularly maintained. The shallow channel daylights towards the site's southern boundary before entering Drain 1 through an approximately 36-inch culvert in its concrete sidewall. No surface water was present in Ditch 2 at the time of the survey.

Drain 1 is a concrete-lined drainage canal that feeds into Franklin Creek. The canal is approximately 20 feet wide and 10 feet deep. At the time of the survey, sediments had accumulated along the bottom of the drainage, which supported the growth of some herbaceous vegetation, and a small amount of surface water was present, likely runoff from agricultural land uses in the area.

According to the NRCS Hydric Soils List, no hydric soil associations have been historically mapped in the BSA (refer to Section 2.6, above), and soil pits dug within Ditches 1 and 2 confirmed the absence of hydric soils. Vegetation occurring at the soil pit locations in Ditches 1 and 2 and throughout Drain 1 did not satisfy the 50/20 Rule required to meet the hydrophytic vegetation threshold; therefore, the wetland vegetation criteria was not met. Sufficient indicators were not present within Ditches 1 and 2 to meet the Wetland Hydrology criterion; however, at the time of the survey, Drain 1 did support Surface Water (A1), which is a primary indicator of hydrology indicating that the hydrology criterion would be satisfied for this feature.

Table 3 Acreage of Potential Jurisdictional Waters and Wetlands within the BSA

Drainage Feature/Type	USACE Non-Wetland Waters of the U.S. (acres)	CDFW Jurisdictional Waters (acres)	CCC Wetlands (acres)*	Cowardin Type
Ditch 1 (ephemeral)	-	0.03	-	n/a
Ditch 2 (ephemeral)	0.04	0.05	-	n/a
Drain 1 (perennial)	0.26	0.26	0.26	R4SBCx
Total	0.30	0.34	0.26	

* County jurisdiction mirrors that of the CCC

4.2.1 Federal Non-Wetlands Waters

Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there is approximately 0.30 acre of federal non-wetland waters within the BSA. Ditch 2 conveys

ephemeral flows into Drain 1, which is drains into Franklin Creek. Franklin Creek flows into the Carpinteria Salt Marsh, which ultimately empties into the Pacific Ocean, a known Traditionally Navigable Water (TNW). Based on this direct connectivity to a TNW, Ditch 2 and Drain 1 would be considered non-wetland waters of the U.S. However, because Ditch 1 does not directly contribute flows into Drain 1, it does not exhibit this same connectivity and therefore would not be considered a non-wetland water of the U.S. The sole hydrologic indicator observed during the delineation within the BSA was Surface Water (A1) within Drain 1. Refer to Appendix D for detailed information on all indicators of wetland hydrology.

4.2.2 Federal Wetlands

Based on Stantec's professional opinion following an assessment of hydrology, vegetation, and soils, no portion of the BSA satisfies the criteria to be considered federal wetlands (Environmental Laboratory, 1987 and 2008).

4.2.3 CDFW Jurisdictional Waters

Based on Stantec's professional opinion following an assessment of hydrology and the presence of bed and bank, a total of approximately 0.34 acre of CDFW jurisdictional waters occurs within the BSA.

4.2.4 CCC Wetlands

The presence of a primary hydrologic indicator (Surface Water – A1) within Drain 1 qualifies this feature as a CCC Wetland based on the CCC's one parameter definition. There is a total of approximately 0.26 acre of CCC wetland within the BSA.

5.0 SUMMARY AND CONCLUSIONS

The BSA supports USACE/RWQCB non-wetland waters of the U.S., CDFW jurisdictional waters, and CCC wetlands. Surface water was present within Drain 1 during the survey event, but no surface water was present within Ditches 1 or 2. Based on Stantec's professional opinion following an assessment of hydrology, soil characteristics, vegetation, and the limits of the OHWM, there are approximately 0.30 acre of non-wetland waters of the U.S., 0.34 acre of CDFW jurisdictional waters, and 0.26 acre of CCC wetlands present within the BSA.

No portion of the BSA meets at the three criteria for federal wetlands (dominance of hydrophytic vegetation, evidence of wetland hydrology, and hydric soils).

Project-related impacts to jurisdictional areas will require the Project proponent to procure regulatory authorizations/permits from the USACE, CDFW, RWQCB, and CCC. These include Clean Water Act Section 401 and 404 permits, CDFW Lake and Streambed Alteration Agreement, and CCC Coastal Development Permit. Even though the Project may not impact CCC jurisdictional wetlands the CCC may still require a buffer/setback from all such areas (i.e., 100-ft wetland buffer).

The conclusions presented above represent Stantec's professional opinion based on our knowledge and experience with the applicable regulatory agencies, including their technical guidance documents and manuals. However, the

USACE, CDFW, RWQCB, and CCC have final authority in determining the status and presence of jurisdictional wetlands/waters and the extent of their boundaries.

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Appendix A FIGURES

Biological Survey Area

N

0 1,000 2,000 Feet

1:24,000 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
Esri, HERE, DeLorme, MapmyIndia, © OpenStreetMap contributors, and the GIS user community

Stantec

Project Location
Carpinteria, CA

Prepared by JV on 2019-01-4
Technical Review by RB on 2019-01-7
Independent Review by LB on 2019-01-7

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Preliminary Jurisdictional Wetlands/Waters Report

Figure No.
1

Title
Project Location

Biological Survey Area

Disturbed/Developed

Oleander Stands

N

0 30 60 Feet

1:850 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2019-01-4
Technical Review by RB on 2019-01-7
Independent Review by LB on 2019-01-7

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Preliminary Jurisdictional Wetlands/Waters Report

Figure No.

2

Title

Vegetation Communities and Land Cover Types

Biological Survey Area

Cb (Camarillo, variant, fine sandy loam)

N

0 30 60 Feet

1:875 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
3. Refer to Section 2.6 of the Biological Resources Technical Report for additional information on historic soils within the Biological Survey Area.

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2019-01-4
Technical Review by RB on 2019-01-7
Independent Review by LB on 2019-01-7

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Preliminary Jurisdictional Wetlands/Waters Report

Figure No.

3

Title

Historic Soil Types

Biological Survey Area

CDFW Waters

Federal "Waters of the U.S."/CCC Waters

Soil Test Pits

N

0 30 60 Feet

1:894 (At original document size of 8.5x11)

Notes
1. NAD 1983 CORS96 StatePlane California V FIPS 0405 Ft US
2. Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Stantec

Project Location

Carpinteria, CA

Prepared by JV on 2019-01-4
Technical Review by RB on 2019-01-7
Independent Review by LB on 2019-01-7

Client/Project

Vallecito SCE Moorpark LCR - BESS Project Santa Barbara County
Preliminary Jurisdictional Wetlands/Waters Report

Figure No.

4

Title

Jurisdictional Features

Appendix B SITE PHOTOGRAPHS

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Nevada	**Job Number:** 2064174900
Site Name: Ormat Battery Storage Project, Santa Barbara County	**Photographer:** L. Butler

Photo 1: December 19, 2018

Ditch 1 – Adjacent to fallow agricultural field on the east side of the BSA, looking downstream (south).

Photo 2: December 19, 2018

Ditch 1 – Looking upstream (north) toward the entrance to the site. Note: culvert under the unpaved entrance road is obscured by vegetation.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Nevada	**Job Number:** 2064174900
Site Name: Ormat Battery Storage Project, Santa Barbara County	**Photographer:** L. Butler

Photo 3: December 19, 2018

Ditch 1 – Close-up of culvert under the unpaved access road to the site.

Photo 4: December 19, 2018

Ditch 1 – Downstream terminus of drainage. Note: lack of connectivity to Drain 1

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Nevada	**Job Number:** 2064174900
Site Name: Ormat Battery Storage Project, Santa Barbara County	**Photographer:** L. Butler

Photo 5: December 19, 2018

Ditch 1 – Soil Test Pit 1. Note: silty sand substrate at this location.

Photo 6: December 19, 2018

Ditch 2 – Looking west from adjacent to the southern terminus of the drainage. Note: this is the only portion of the drainage within the BSA that is not completely overgrown with vegetation.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Nevada	**Job Number:** 2064174900
Site Name: Ormat Battery Storage Project, Santa Barbara County	**Photographer:** L. Butler

Photo 7: December 19, 2018

Ditch 2 – Looking upstream (north) from the southern end of the drainage.

Photo 8: December 19, 2018

Ditch 2 – Looking downstream (south) from the southern end of the drainage toward the culvert through the concrete wall of Drain 1.

STANTEC CONSULTING SERVICES INC. PHOTOGRAPHIC RECORD	
Client: Ormat Nevada	**Job Number:** 2064174900
Site Name: Ormat Battery Storage Project, Santa Barbara County	**Photographer:** L. Butler

Photo 9: December 19, 2018

Ditch 2 – Soil Test Pit 2. Note: silty sand substrate at this location.

Photo 10: December 19, 2018

Drain 1 – Looking downstream (west) from the southeast corner of the BSA. Note: accumulated sediments along the bottom of the drainage and surface water (likely originating from irrigation runoff from nearby agricultural activities).

Appendix C HISTORIC SOILS INFORMATION

Santa Barbara County, California, South Coastal Part

Cb—Camarillo, variant, fine sandy loam

Map Unit Setting

National map unit symbol: hc4f
Elevation: 10 to 50 feet
Mean annual precipitation: 15 to 20 inches
Mean annual air temperature: 60 to 62 degrees F
Frost-free period: 310 to 330 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Camarillo variant and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Camarillo Variant

Setting

Landform: Flood plains
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from calcareous sedimentary rock

Typical profile

H1 - 0 to 7 inches: fine sandy loam
H2 - 7 to 35 inches: stratified loamy sand to clay loam
H3 - 35 to 72 inches: clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Poorly drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 12 inches
Frequency of flooding: Frequent
Frequency of ponding: None
Calcium carbonate, maximum in profile: 5 percent
Salinity, maximum in profile: Very slightly saline to slightly saline (2.0 to 4.0 mmhos/cm)
Available water storage in profile: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: Yes

Minor Components

Unnamed, (ls surface layer)
Percent of map unit: 8 percent
Hydric soil rating: No

Unnamed, (soil >40" deep over clay)
Percent of map unit: 7 percent
Hydric soil rating: No

Appendix D ARID WEST INDICATOR TABLES

Table 1. Potential Geomorphic Indicators of Ordinary High Water Marks for the Arid West

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

Table 2. Potential Vegetation Indicators of Ordinary High Water Marks for the Arid West

	(D) Below OHW	(E) At OHW	(F) Above OHW
Hydroriparian indicators	1. Herbaceous marsh species 2. Pioneer tree seedlings 3. Sparse, low vegetation 4. Annual herbs, hydromesic ruderals 5. Perennial herbs, hydromesic clonals	1. Annual herbs, hydromesic ruderals 2. Perennial herbs, hydromesic clonals 3. Pioneer tree seedlings 4. Pioneer tree saplings	1. Annual herbs, xeric ruderals 2. Perennial herbs, non-clonal 3. Perennial herbs, clonal and non-clonal co-dominant 4. Mature pioneer trees, no young trees 5. Mature pioneer trees w/upland species 6. Late-successional species
Mesoriparian Indicators	6. Pioneer tree seedlings 7. Sparse, low vegetation 8. Pioneer tree saplings 9. Xeroriparian species	5. Sparse, low vegetation annual herbs, hydromesic 6. ruderals 7. Perennial herbs, hydromesic clonals 8. Pioneer tree seedlings 9. Pioneer tree saplings 10. Xeroriparian species 11. Annual herbs, xeric ruderals	7. Xeroriparian species 8. Annual herbs, xeric ruderals 9. Perennial herbs, non-clonal 10. Perennial herbs, clonal and non-clonal codominent 11. Mature pioneer trees, no young trees 12. Mature pioneer trees, xeric understory 13. Mature pioneer trees w/upland species 14. Late-successional species 15. Upland species
Xeroriparian indicators	10. Sparse, low vegetation 11. Xeroriparian species 12. Annual herbs, xeric ruderals	12. Sparse, low vegetation 13. Xeroriparian species 14. Annual herbs, xeric ruderals	16. Annual herbs, xeric ruderals 17. Mature pioneer trees w/upland species 18. Upland species

Table 3. Summary of Wetland Indicator Status

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

Source: Reed, 1988; USFWS, 1997; USACE, 2012.

Table 4. Wetland Hydrology Indicators*

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

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

Table 5. Wetland Hydrology Indicators for the Arid West*

	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)
Group A – Observation of Surface Water or Saturated Soils		
A1 – Surface Water	X	
A2 – High Water Table	X	
A3 – Saturation	X	
Group B – Evidence of Recent Inundation		
B1 – Water Marks	**X** (Non-riverine)	**X** (Riverine)
B2 – Sediment Deposits	**X** (Non-riverine)	**X** (Riverine)
B3 – Drift Deposits	**X** (Non-riverine)	**X** (Riverine)
B6 – Surface Soil Cracks	X	
B7 – Inundation Visible on Aerial Imagery	X	
B9 –Water-Stained Leaves	X	
B10 – Drainage	X	X
B11 – Salt Crust	X	
B12 – Biotic Crust	X	
B13 – Aquatic Invertebrates	X	

Table 5. Wetland Hydrology Indicators for the Arid West*		
	Primary Indicator (any one indicator is sufficient to make a determination that wetland hydrology is present)	**Secondary Indicator (two or more indicators are required to make a determination that wetland hydrology is present)**
Group C – Evidence of Current or Recent Soil Saturation		
C1 – Hydrogen Sulfide Odor	X	
C2 – Dry-Season Water Table		X
C3 – Oxidized Rhizospheres along Living Roots	X	

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

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

*Table adapted from 1987 USACE Manual and Related Guidance Documents.

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

* Table adapted from Regional Supplement to the USACE of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0. ** Indicators of hydrophytic vegetation and wetland hydrology must be present

Appendix E REGULATORY BACKGROUND

Regulatory Background Information

Section 404 of the Clean Water Act (CWA)

Section 404 of the CWA regulates the discharge of dredged material, placement of fill material, or certain types of excavation within "waters of the U.S." (resulting in more than incidental fallback of material) and authorizes the Secretary of the Army, through the Chief of Engineers, to issue permits for such actions. Permits can be issued for individual projects (individual permits) or for general categories of projects (general permits). "Waters of the U.S." are defined by the CWA as "rivers, creeks, streams, and lakes extending to their headwaters and any associated wetlands." Wetlands are defined by the CWA as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil conditions." The USACE has adopted several revisions to their regulations in order to more clearly define "waters of the U.S." Until the beginning of 2001, "waters of the U.S." included, among other things, isolated wetlands and lakes, intermittent streams, prairie potholes, and other waters that are not part of a tributary system to interstate waters or to navigable "waters of the U.S."

The jurisdictional extent of USACE regulation changed with the 2001 SWANCC (Solid Waste Agency of Northern Cook County) ruling. The U.S. Supreme Court held that the USACE could not apply Section 404 of the CWA to extend their jurisdiction over an isolated quarry pit. The Court ruled that the CWA does not extend Federal regulatory jurisdiction over non-navigable, isolated, intra-state waters. However, the Court made it clear that non-navigable wetlands adjacent to navigable waters are still subject to USACE jurisdiction.

Section 401 of the CWA

Section 401 of the CWA requires that any applicant for a Federal permit for activities that involve a discharge to 'waters of the State,' shall 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, before the USACE will issue a Section 404 permit, applicants must apply for and receive a Section 401 Water Quality Certification from the RWQCB. Applications to the RWQCB must include a complete CEQA document (e.g., Initial Study/Mitigated Negative Declaration).

Section 1602 of the California Fish and Game Code

Section 1602 of the California Fish and Game Code requires any person, State or local governmental agency, or public utility which proposes a project that will substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake, or use materials from a streambed, or result in the disposal or deposition of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into any river, stream, or lake, to first notify the CDFW of the proposed project. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation. Based on the notification materials

submitted, the CDFW will determine if the proposed project may impact fish or wildlife resources. If the CDFW determines that a proposed project may substantially adversely affect existing fish or wildlife resources, a Lake or Streambed Alteration Agreement (SAA) will be required. A completed CEQA document must be submitted to CDFW before a SAA will be issued.

California Coastal Commission/Coastal Act of 1976

The CCC has planning, regulatory, and permitting responsibilities, in partnership with local governments, over all "development" taking place within the coastal zone, a 1.5 million-acre area stretching 1,100 miles along the State's coastline from Oregon to Mexico (and around nine offshore islands). The coastal zone extends seaward three miles, while its landward boundary varies from several miles inland in places such as the Eel River and the Elkhorn Slough, to as close as a few hundred feet from the shore in other areas.

The Commission's enabling legislation, the Coastal Act of 1976, created a comprehensive coastal protection program grounded in partnerships between the Commission and local government jurisdictions (15 counties and 60 cities) within the coastal zone. Among the coastal resources specifically protected within the Coastal Act are: public access to the coastline, wetlands and other environmentally sensitive habitat areas (ESHA), agriculture, low-cost visitor-serving recreational uses, visual resources, commercial and recreational fishing, and community character. Coastal streams and wetlands are also protected under the Coastal Act.

The Coastal Act Section 30231 defines a wetland as:

> "…lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens."

The CCC's regulations (California Code of Regulations Title 14) establishes a "one parameter definition," which requires evidence of a single parameter to establish wetland conditions:

> "Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577)."

The "one parameter" definition adopted by the Coastal Commission is based on the general definition used by the U.S. Fish and Wildlife (USFWS) and CDFW from the USFWS wetlands classification system first published in 1979 (Cowardin et al. 1979):

> "Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. For purposes of this classification wetlands must have one or more of the following three attributes: (1)

at least periodically, the land supports predominantly hydrophytes; (2) the substrate is predominantly undrained hydric soil; and (3) the substrate is nonsoil and is saturated with water or covered by shallow water at some time during the growing season of each year."

The Coastal Act definition of a wetland does not distinguish between wetlands based on their quality. Therefore, under the Coastal Act, poorly functioning or degraded areas that meet the definition of wetlands are subject to wetland protection policies.

County of Santa Barbara Comprehensive Plan/Coastal Land Use Plan

On the mainland, the coastal zone in Santa Barbara County spans 110 miles of coastline and includes approximately 184 square miles. The land use plan and implementation program, including zoning, which comprise the Local Coastal Program (LCP) are designed as a separate coastal element to the County's General Plan under the California Government Code Section 65303(k). As a separate element to the County's General Plan, the LCP exists in addition to the other elements of the General Plan, i.e., seismic safety, housing, circulation, etc. After certification, the land use plan maps and zoning district maps will replace and supersede the existing General Plan (land use) map and zoning map for the County's coastal zone. Where there are conflicts between policies set forth in the certified LCP and those set forth in any element of the Comprehensive Plan, the LCP shall take precedence for those areas located within the coastal zone. [County of Santa Barbara, 2014]

The purpose of the land use plan is to protect coastal resources, provide greater access and recreational opportunities for the public's enjoyment, while allowing for orderly and well-planned urban development and the siting of coastal-dependent and coastal-related industry. The plan incorporates, to the maximum possible extent, local plans and policies which are consistent with the Coastal Act. Where inconsistencies have been identified, modifications and revisions have been made. In general, the land use plan places a stronger emphasis on expanding public access opportunities to the County's beaches, preserving prime agricultural land, and protecting environmentally sensitive habitats than is found in prevailing local policy. [County of Santa Barbara, 2014]

Definitions

Stream: watercourses, including major and minor streams, drainage ways and small lakes, ponds and marshy areas through which streams pass. (Coastal wetlands are not included.)

Riparian Vegetation: vegetation normally found along the banks and beds of streams, creeks, and rivers.

Stream Corridor: a stream and its minimum prescribed buffer strip.

Buffer: a designated width of land adjacent to the stream which is necessary to protect biological productivity, water quality, and hydrological characteristics of the stream. A buffer strip is measured horizontally from the banks or high water mark of the stream landward.

Policies

9-37: The minimum buffer strip for major streams in rural areas, as defined by the land use plan, shall be presumptively 100 feet, and for streams in urban areas, 50 feet. These minimum buffers may be adjusted upward or downward on a case-by-case basis. The buffer shall be established based on an investigation of the following factors and after consultation with the Department of Fish and Game and Regional Water Quality Control Board in order to protect the biological productivity and water quality of streams:

1) soil type and stability of stream corridors;
2) how surface water filters into the ground;
3) slope of the land on either side of the stream; and
4) location of the 100-year flood plain boundary.

Riparian vegetation shall be protected and shall be included in the buffer. Where riparian vegetation has previously been removed, except for channelization, the buffer shall allow for the reestablishment of riparian vegetation to its prior extent to the greatest degree possible.

9-38: No structures shall be located within the stream corridor except: public trails, dams for necessary water supply projects, flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development; and other development where the primary function is for the improvement of fish and wildlife habitat. Culverts, fences, pipelines, and bridges (when support structures are located outside the critical habitat) may be permitted when no alternative route/location is feasible. All development shall incorporate the best mitigation measures feasible.

9-39: Dams or other structures that would prevent upstream migration of anadromous fish shall not be allowed in streams targeted by the California Department of Fish and Game unless other measures are used to allow fish to bypass obstacles. These streams include: San Antonio Creek (Los Alamos area), Santa Ynez River, Jalama Creek, Santa Anita Creek, Gaviota Creek, and Tecolote Creek.

9-40: All development, including dredging, filling, and grading within stream corridors, shall be limited to activities necessary for the construction of uses specified in Policy 9-38. When such activities require removal of riparian plant species, revegetation with local native plants shall be required except where undesirable for flood control purposes. Minor clearing of vegetation for hiking, biking, and equestrian trails shall be permitted.

9-41: All permitted construction and grading within stream corridors shall be carried out in such a manner as to minimize impacts from increased runoff, sedimentation, biochemical degradation, or thermal pollution.

9-42: The following activities shall be prohibited within stream corridors: cultivated agriculture, pesticide applications, except by a mosquito abatement or flood control district, and installation of septic tanks.

9-43: Other than projects that are currently approved and/or funded, no further concrete channelization or other major alterations of streams in the coastal zone shall be permitted unless consistent with the provisions of Section 30236 of the Coastal Act.

Appendix F FIELD DATA SHEETS

Project: Ormat - Tesla Battery Storage, Carpinteria **Date:** 12/18/18 **Time:** 10:00
Project Number: **Town:** Carpinteria **State:** CA
Stream: Ditch 1 **Photo begin file#** **Photo end file#**
Investigator(s): R. Brown, L. Butler

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

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: See GIS info
Projection: **Datum:**
Coordinates:

Notes:
Site is fallow ag field. Weed abatement includes periodic disking. Ditch obliterated frequently during maintenance of site – recreated to facilitate site drainage

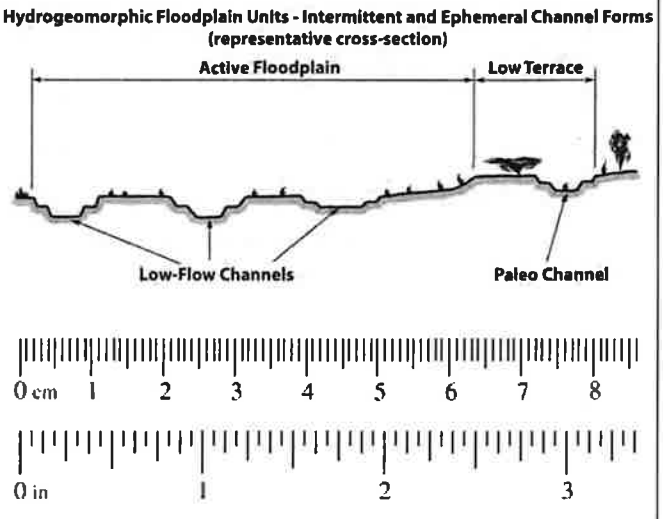
Brief site description:
Fallow ag. field

Checklist of resources (if available):

- ☒ Aerial photography Google Earth
  Dates:
- ☒ Topographic maps
  Scale:
- ☐ 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:
- ☐ Clinometer / level
- ☐ 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

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

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



Ditch 1

☒ **Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**

☒ **Locate the low-flow channel (lowest part of the channel). Record observations.**

Characteristics of the low-flow channel:

Average sediment texture: Silty sand

Total veg cover: 20 % Tree: ____% Shrub: ____% Herb: 20 %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: mallow, grass (non-native)

Other: ☐ ☐ ☐ ☐

☐ **Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.** No active floodplain

Characteristics used to delineate the low-flow/active floodplain boundary:

☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb

☐ Change in overall vegetation maturity

☐ Change in dominant species present

☐ Other ☐ Presence of bed and bank

☐ Drift and/or debris

☐ Other: _____

☐ Other: _____

☐ **Continue walking the channel cross-section. Record observations below.**

Characteristics of the low-flow channel: Single channel - ag ditch

Average sediment texture: _____

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

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

Other: ☐ ☐ ☐ ☐

Ditch 1

☐ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

N/A

Characteristics used to delineate the active floodplain/ low terrace boundary:

☐ Change in average sediment texture
☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
☐ Change in overall vegetation maturity
☐ Change in dominant species present
☒ Other ☒ Presence of bed and bank
☐ Drift and/or debris
☐ Other: _____
☐ Other: _____

☒ **Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

Y ☐ N ☐ Change in average sediment texture
Y ☐ N ☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb
Y ☐ N ☐ Change in overall vegetation maturity
Y ☐ N ☐ Change in dominant species present
Y ☒ N ☐ Other: Y ☒ N ☐ Presence of bed and bank
Y ☐ N ☐ Drift and/or debris
Y ☐ N ☐ Other: _____
Y ☐ N ☐ Other: _____

☐ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☐ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: silty sand

Total veg cover: 20 % Tree: ____ % Shrub: ____ % Herb: 20 %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)
☒ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: mallow, grass

Other: ☐ _____
☐ _____
☐ _____
☐ _____

☒ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

☐ Mapping on aerial photograph ☒ GPS
☒ Digitized on computer ☐ Other: _____

Project: Ormat Tesla Battery Storage, Carpinteria | **Date:** 12/18/18 | **Time:** 11:00
Project Number: | **Town:** | **State:** CA
Stream: Ditch 2 | **Photo begin file#** | **Photo end file#**
Investigator(s): R. Brown, L. Butler

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

Y ☒ / N ☐ Is the site significantly disturbed?

Location Details: See GIS info
Projection: **Datum:**
Coordinates:

Notes:

Shallow ag. drainage ditch

Brief site description:

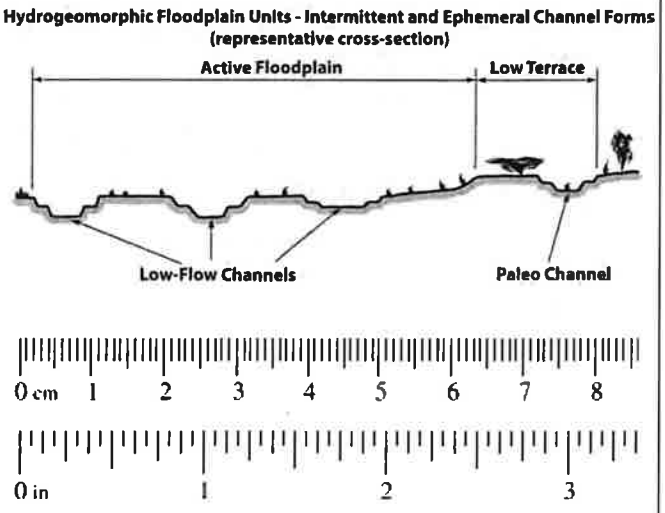
fallow ag. field

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
  Scale:
- ☐ 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:
- ☐ Clinometer / level
- ☐ 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

The dominant Wentworth size class that imparts a characteristic texture to each zone of a channel cross-section is recorded in the average sediment texture field under the characteristics section for the zone of interest.

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



Ditch 2

☒ **Walk the channel and floodplain within the study area to get an impression of the vegetation and geomorphology present at the site. Record any potential anthropogenic influences on the channel system in "Notes" above.**

☐ **Locate the low-flow channel (lowest part of the channel). Record observations.**

Characteristics of the low-flow channel:

Average sediment texture: silty sand w/ some pebbles

Total veg cover: 100 % Tree: 5 % Shrub: 95 % Herb: ____ %

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☒ Late (herbaceous, shrubs, mature trees)

Dominant species present: Oleander,

Other: ☒ Coast live oak, Peruvian pepper tree

☐

☐

☐

☐ NA **Walk away from the low-flow channel along cross-section. Record characteristics of the low-flow/active floodplain boundary.** No active floodplain

Characteristics used to delineate the low-flow/active floodplain boundary:

☐ Change in total veg cover ☐ Tree ☐ Shrub ☐ Herb

☐ Change in overall vegetation maturity

☐ Change in dominant species present

☐ Other ☐ Presence of bed and bank

☐ Drift and/or debris

☐ Other: _____

☐ Other: _____

☐ NA **Continue walking the channel cross-section. Record observations below.**

Characteristics of the low-flow channel: Single channel

Average sediment texture: _____

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

Community successional stage:

☐ NA ☐ Mid (herbaceous, shrubs, saplings)

☐ Early (herbaceous & seedlings) ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: _____

Other: ☐ _____

☐ _____

☐ _____

☐ _____

Ditch 2

☐ **Continue walking the channel cross-section. Record indicators of the active floodplain/low terrace boundary.**

Characteristics used to delineate the active floodplain/ low terrace boundary:

- ☒ Change in average sediment texture
- ☒ Change in total veg cover ☒ Tree ☒ Shrub ☒ Herb
- ☒ Change in overall vegetation maturity
- ☒ Change in dominant species present
- ☒ Other ☒ Presence of bed and bank
  - ☐ Drift and/or debris
  - ☐ Other: _____
  - ☐ Other: _____

☒ **Walk the active floodplain/low terrace boundary both upstream and downstream of the cross-section to verify that the indicators used to identify the transition are consistently associated the transition in both directions.**

Consistency of indicators used to delineate the active floodplain/low terrace boundary:

- Y ☒ N ☐ Change in average sediment texture
- Y ☒ N ☐ Change in total veg cover ☒ Tree ☒ Shrub ☒ Herb
- Y ☒ N ☐ Change in overall vegetation maturity
- Y ☒ N ☐ Change in dominant species present
- Y ☒ N ☐ Other: Y ☒ N ☐ Presence of bed and bank
  - Y ☐ N ☐ Drift and/or debris
  - Y ☐ N ☐ Other: _____
  - Y ☐ N ☐ Other: _____

☒ **If the characteristics used to delineate the active floodplain/low terrace boundary were NOT consistently associated with the transition in both the upstream and downstream directions, repeat all steps above.**

☒ **Continue walking the channel cross-section. Record characteristics of the low terrace.**

Characteristics of the low terrace:

Average sediment texture: silty sand

Total veg cover: 20 % Tree: ____ % Shrub: ____ % Herb: 20 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Dominant species present: mallow, grass

Other:

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

☒ **If characteristics used to delineate the active floodplain/low terrace boundary were deemed reliable, acquire boundary.**

Active floodplain/low terrace boundary acquired via:

- ☐ Mapping on aerial photograph
- ☒ Digitized on computer
- ☒ GPS
- ☐ Other: _____

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Ormat - Tesla City/County: Carpinteria Sampling Date: 12/18/18
Applicant/Owner: Ormat Nevada State: CA Sampling Point: Ditch 1
Investigator(s): L. Butler, R. Brown - Stantec Section, Township, Range: ST4N R27W
Landform (hillslope, terrace, etc.): Drainage Ditch Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: 34°24'28.51"N Long: 119°30'45.78"W Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☒ or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒
Is the Sampled Area within a Wetland? Yes ☐ No ☒

Remarks: Highly disturbed site.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
Total Cover:	0 %		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. Mallow	50%	Y	UPL
2. Non-native grass	50%	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	0 %		

% Bare Ground in Herb Stratum 60 % % Cover of Biotic Crust 0 %

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species	x 3 =	0
FACU species	x 4 =	0
UPL species	x 5 =	0
Column Totals:	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
☒ Dominance Test is >50%
☐ Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: Site is fallow ag. field. Highly disturbed soils.

SOIL

Sampling Point: Pitch 1 Test Pit 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	10YR 3/3	100	N/A				Silty Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[4]:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ☒ Depth (inches):

Water Table Present? Yes ○ No ☒ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ☒ Depth (inches):

Wetland Hydrology Present? Yes ○ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Arid West Region

Project/Site: Ormat-Tesla City/County: Carpinteria Sampling Date: 12/18/18
Applicant/Owner: Ormat Nevada State: CA Sampling Point: Ditch 2
Investigator(s): L. Butler, R. Braun - Stantec Section, Township, Range: S T4N R27W
Landform (hillslope, terrace, etc.): Drainage Ditch Local relief (concave, convex, none): Slope (%):
Subregion (LRR): Lat: 34°24'28.57"N Long: 119°30'49.24"W Datum:
Soil Map Unit Name: NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☒ No ☐ (If no, explain in Remarks.)
Are Vegetation ☒ Soil ☒ or Hydrology ☒ significantly disturbed? Are "Normal Circumstances" present? Yes ☐ No ☒
Are Vegetation ☐ Soil ☐ or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ☐ No ☒
Hydric Soil Present? Yes ☐ No ☒
Wetland Hydrology Present? Yes ☐ No ☒
Is the Sampled Area within a Wetland? Yes ☐ No ☒

Remarks: Highly disturbed site.

VEGETATION

Tree Stratum (Use scientific names.)	Absolute % Cover	Dominant Species?	Indicator Status
1. Coast Live Oak	50%	Y	UPL
2. †			
3.			
4.			
Total Cover:	%		
Sapling/Shrub Stratum			
1.			
2.			
3.			
4.			
5.			
Total Cover:	0 %		
Herb Stratum			
1. Non-native grass	20%	N	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
Total Cover:	%		
Woody Vine Stratum			
1.			
2.			
Total Cover:	%		

% Bare Ground in Herb Stratum 40 % % Cover of Biotic Crust %

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 0 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 % (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	0
FACW species	x 2 =	0
FAC species	x 3 =	0
FACU species	x 4 =	0
UPL species	x 5 =	0
Column Totals:	(A)	0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
N Dominance Test is >50%
Prevalence Index is ≤3.0[1]
☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present.

Hydrophytic Vegetation Present? Yes ☐ No ☒

Remarks: Highly disturbed soils.

SOIL

Sampling Point: Ditch 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture[3]	Remarks
0-12	~~7.5YR 2/2~~ 10YR 2/2	100	N/A				Silty Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix. [2]Location: PL=Pore Lining, RC=Root Channel, M=Matrix.

[3]Soil Textures: Clay, Silty Clay, Sandy Clay, Loam, Sandy Clay Loam, Sandy Loam, Clay Loam, Silty Clay Loam, Silt Loam, Silt, Loamy Sand, Sand.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (**LRR C**)
- ☐ 1 cm Muck (A9) (**LRR D**)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils:[4]

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

[4]Indicators of hydrophytic vegetation and wetland hydrology must be present.

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ○ No ☒

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (any one indicator is sufficient)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Plowed Soils (C6)
- ☐ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Thin Muck Surface (C7)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ○ Depth (inches):

Water Table Present? Yes ○ No ○ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ○ Depth (inches):

Wetland Hydrology Present? Yes ○ No ☒

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: