4.5 Biological Resources

This section describes the effects on biological resources that may result from the implementation of the proposed Project. The following discussion addresses the existing environmental conditions in the affected area, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid adverse impacts anticipated from Project construction and operation. Section 4.5.1, *Environmental Setting*, includes a detailed description of the baseline conditions for the Project area. Existing laws and regulations relevant to biological resources are described in Section 4.5.3, *Regulatory Setting*. Section 4.5.4, *Environmental Impacts and Mitigation Measures,* presents the impact analysis for biological resources.

4.5.1 Environmental Setting

The Project site is located in the hills just over two miles inland from the Gaviota Coast, a 76-mile stretch of undeveloped coastline that encompasses the transition between northern and southern marine and terrestrial ecological zones. The site is adjacent to the eastern boundary of Vandenberg Air Force Base, which is home to a variety of sensitive species including 18 federally threatened or endangered species. The newly created Jack and Laura Dangermond Preserve, acquired by The Nature Conservancy in December 2017, is located immediately southeast of the SWEP site. The Dangermond Preserve's location surrounding Point Conception supports a uniquely diverse assemblage of marine and terrestrial species. The Preserve will protect 24,000 acres of habitats in perpetuity.

There are three main portions of the Project: (1) the 2,971.41-acre "wind site" which includes the WTGs, the substation, the O&M building, on-site communication system and collection power lines, meteorological towers and associated access roads; (2) the 17.8-acre transmission line route corridor which consists of the transmission line, poles and pull locations, switchyard and associated access roads; and (3) PG&E upgrades, which ~~consist of recontouring~~ include reconductoring an existing PG&E power line from the Project's switchyard location to PG&E's Cabrillo substation in Lompoc. The Project would interconnect with PG&E's distribution grid. Throughout this section of the SEIR, "Project site" refers to the wind site. The "Project area" includes the wind site plus the external features (transmission line and access roads) outside of the site. "Project footprint" refers to the portion of the Project area that would be directly affected by SWEP construction and operations.

Section 4.5.1.1 describes the data and information sources used to update the description of existing conditions at the Project site, transmission line and access road corridors, and surrounding vicinity. Section 4.5.1.2 presents a summary of the vegetation and habitats in the Project area as presented in the LWEP EIR and updated to reflect current conditions in the Project area. Section 4.5.1.3 addresses the common wildlife and plant species present (or likely to be present) in the Project area, and Section 4.5.1.4 addresses special-status wildlife and plant species. Wetlands and other sensitive aquatic features are described in Section 4.5.1.5. A detailed discussion of the regional and local setting is presented in Section 3.5 of the LWEP EIR.

4.5.1.1 Methods

Biological resources in the Project area were described in Sections 3.5.1 through 3.5.5 of the LWEP EIR. The description of biological resources has been updated for the SWEP to reflect the new project configuration and design, and to include additional survey results, literature review, and database

searches conducted since the publication of the LWEP EIR. The following sections describe the updated data sources and methodology.

Literature and Database Review

Information used to update the description of existing biological conditions was derived from the LWEP EIR, post-LWEP EIR survey reports, SWEP survey reports and analyses, data provided by the Applicant, review of relevant local literature, database searches, and coordination with local biological resources experts and biologists from the U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW; formerly the California Department of Fish and Game [CDFG]).

SWEP survey reports and analyses are compiled in Appendix C and include the following:

- *Strauss Wind Energy Project Biological Resources Technical Report [BRTR]* (Sapphos, 2018),
- *Biological Resources Technical Report Addendum No. 1 for the Strauss Wind Energy Project* (Dudek, 2018a),
- *Biological Resources Technical Report Addendum No. 2 for the Strauss Wind Energy Project* (Dudek, 2018b),
- *Wetland Delineation and Jurisdictional Determination for the Strauss Wind Energy Project* [Appendix C of the BRTR Addendum No. 2] (Dudek, 2018c), and
- *Strauss Wind Energy Project – Gap Area Survey Results* (Dudek, 2019a).
- *Strauss Wind Energy Project - Avian and Bat Survey Results and Wind Turbine Siting Process Description.* (Dudek, 2019b).
- *Pre-Construction Botanical Surveys for the Strauss Wind Energy Project.* (Dudek, 2019c)

Appendix A of the BRTR (Sapphos, 2018) contains the following LWEP and SWEP survey reports:

- Lompoc Wind Energy Project Biological Resources Technical Report (February 2006)
- Lompoc Wind Energy Project Results of Winter Bird Surveys (February 2007)
- Memorandum for the Record No. 6 Habitat Suitability for the Federally Endangered El Segundo Blue Butterfly at the Lompoc Wind Energy Project Site (February 2008)
- Memorandum for the Record No. 7 Habitat Suitability for Sensitive Terrestrial Species at the Lompoc Wind Energy Project Site (February 2008)
- Memorandum for the Record No. 8 Habitat Suitability for Three Listed Aquatic Species at the Lompoc Wind Energy Project Site (February 2007)
- Memorandum for the Record No. 9 Plant Communities at the Lompoc Wind Energy Project Site (January 2008)
- Memorandum for the Record No. 10 Areas Subject to the Jurisdiction of the USACE and CDFG at the Lompoc Wind Energy Project Site (February 2008)
- Analysis of WSR-88d Data to Assess Nocturnal Bird Migration Over the Lompoc Wind Energy Project Final Report (June 2008)

- Lompoc Wind Energy Project Final Winter Season Avian Pre-Construction Survey Technical Report (June 2008)
- Lompoc Wind Energy Project Final Avian Spring Migration Pre-Construction Survey Technical Report (July 2008)
- Memorandum for the Record No. 16 Areas Subject to the Jurisdiction of the USACE, CDFG, and the County of Santa Barbara, Lompoc Wind Energy Project Site (July 2008)
- Lompoc Wind Energy Project Final Avian Breeding Season Pre-Construction Survey Technical Report (August 2008)
- Memorandum for the Record No. 1 Results of Directed Surveys for the Federally Endangered El Segundo Blue Butterfly in Support of the Lompoc Wind Energy Project (November 2008)
- Lompoc Wind Energy Project Final Avian Autumn Migration Pre-Construction Survey Technical Report (December 2008)
- Lompoc Wind Energy Project Final Spring and Autumn Bat Migration Pre-Construction Survey Technical Report (December 2008)
- Memorandum for the Record No. 1 Fall 2016 Bat Surveys (December 2016)
- Memorandum for the Record No. 2 Autumn 2016 Avian Migration Survey (December 2016)
- Memorandum for the Record No. 3 Autumn 2016 Aerial Raptor Survey (December 2016)
- Memorandum for the Record No. 6 Spring 2017 Botanical Surveys (October 2017)
- Memorandum for the Record No. 7 Spring 2017 Avian Migration Survey (October 2017)
- Memorandum for the Record No. 8 Spring 2017 Bat Surveys (October 2017)

Databases and other information sources used in updating the environmental setting for biological resources:

- CDFW's CNDDB special-status species ~~records for the Moss Landing, Soquel, Watsonville West, Watsonville East, Prunedale, Salinas, and Marina United States Geological Survey (USGS) 7.5-minute topographic quadrangles~~ (CDFW, 2018a);
- CDFW's Special Animals List (CDFW, 2018b);
- CDFW's California Sensitive Natural Communities List (CDFW, 2018c);
- CDFW's Special Vascular Plants, Bryophytes, and Lichens List (CDFW, 2018d);
- CNPS On-Line Electronic Inventory (CNPS, 2018);
- Calflora (2018);
- California Moss e-Flora (Wilson et al, 2018);
- eBird on-line inventory (eBird, 2018), and
- iNaturalist on-line inventory (iNaturalist, 2018).

Field Surveys

A variety of field surveys, including vegetation and habitat assessments, focused surveys for special-status plants and wildlife, general reconnaissance surveys, and avian and bat migration surveys have been conducted in the Project area for both the LWEP and the SWEP since certification of the LWEP EIR; these surveys are summarized in Table 4.5-1. The BRTR and addenda in Appendix C detail the survey areas and methodologies for SWEP surveys, and the LWEP EIR details surveys conducted for the LWEP.

Table 4.5-1. Summary of Surveys Conducted at the Project Site

Dates	Survey Type	Survey Area/Project Configuration
Nov. 2018	Tree Inventory and Impact Summary	SWEP site, transmission line, and access road corridors
Jul.–Aug. 2018	Summer rare plants surveys	SWEP site, transmission line, and access road corridors
Jul.–Aug. 2018	Gaviota tarplant surveys	SWEP site, transmission line, and access road corridors
Aug. 2018	*Horkelia cuneata* assessment	SWEP site, transmission line, and access road corridors
Apr.–Jun., Dec. 2018	Wetland delineation and jurisdictional determination	The wetland delineation field surveys were conducted within the proposed grading area, laydown yard, substation, and a 100-foot buffer of these areas. The wetland delineation surveys were also conducted along the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
May–Jun. 2018	Spring rare plants (i.e., floristic) surveys	The survey area for spring floristic surveys for special-status plant species included the proposed grading area, laydown yard, substation and a 100-foot buffer of these areas. The survey area also included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
May–Jun., Aug., Dec. 2018	Vegetation mapping	The survey area for vegetation and habitat mapping included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor. Vegetation and habitat mapping on the site was conducted previously by consultants (Sapphos 2017) and revised by Dudek in 2018.
May–Jun., Dec. 2018	El Segundo blue butterfly habitat mapping	The survey area for El Segundo blue butterfly host plant, ~~seacliff~~ coast buckwheat (*Eriogonum parvifolium*), included the proposed grading area, laydown yard, substation and a 100-foot buffer of these areas. The survey area also included the proposed 100-foot-wide transmission line corridor and approx. 60-foot-wide associated vehicle access corridor.
June 2018	Native grassland mapping	SWEP site and transmission line
March 25 and May 30, 2018; Feb, 18 and August 2019	Aerial eagle nest surveys	10-mile radius surrounding the SWEP site
September 25-28, October 9-12, 2018	Fall Avian Point Count Surveys	SWEP site
April 20, 25, 26; May 23, 24, 30, 31; June 1, 2018	Spring Avian Point Count Surveys	SWEP site

Table 4.5-1. Summary of Surveys Conducted at the Project Site

Dates	Survey Type	Survey Area/Project Configuration
April 6, 2018 – August 28, 2019	Weekly raptor point count surveys (conducted biweekly from May to August 2019)	SWEP site
Aug, 10 – Oct. 31, 2018	Passive acoustical bat survey	SWEP site
June 21, 22, and 25-29; July 2, 5, 6; Sept. 4-7, 10, 13, 17-20, 2018	Active acoustical bat survey	SWEP site
June 3-13, 2019	Spring floristic surveys	SWEP site (1,219-acre survey area including all disturbance areas; see Dudek, 2019c)
July 1-31, 2019	Summer floristic surveys and Gaviota tarplant surveys	SWEP site (2,573-acre survey area including all suitable habitat, expanded from previous surveys to the west and north to project site boundaries; see Dudek 2019c)
April 2017	Spring 2017 botanical survey	SWEP site
March–April 2017	Spring acoustic bat surveys	SWEP site
March–April 2017	Spring 2017 Avian Migration Survey	SWEP site
Nov.–Dec. 2016	Autumn 2016 Avian Migration Survey	SWEP site
Nov. 13-15, 2016	Fall acoustic bat surveys	SWEP site
Nov. 7, 2016	Aerial raptor surveys conducted by helicopter	10-mile radius surrounding the SWEP site
March 18-19, 2013	Aerial raptor surveys conducted by helicopter	10-mile radius surrounding the SWEP site
May–June and Aug.– Sept. 2008	Bat roosting surveys in May–June 2008; acoustical monitoring in May–June and August–September 2008; active monitoring in August–September 2008	LWEP site
Aug.– Nov. 2008	Early morning flight counts; line transect surveys of riparian areas; diurnal raptor surveys; single-point count raptor surveys; dusk surveys; and general reconnaissance surveys of entire Project site	LWEP site
Aug. 14, 2008	Directed surveys for El Segundo blue butterfly within areas determined to contain suitable habitat	LWEP site

4.5.1.2 Vegetation and Habitats

Vegetation and habitats mapped for the LWEP were updated in 2017 and 2018 to reflect current conditions on the Project site and at proposed impact areas along the transmission line. Vegetation types are mapped on Figure 4.5-1.

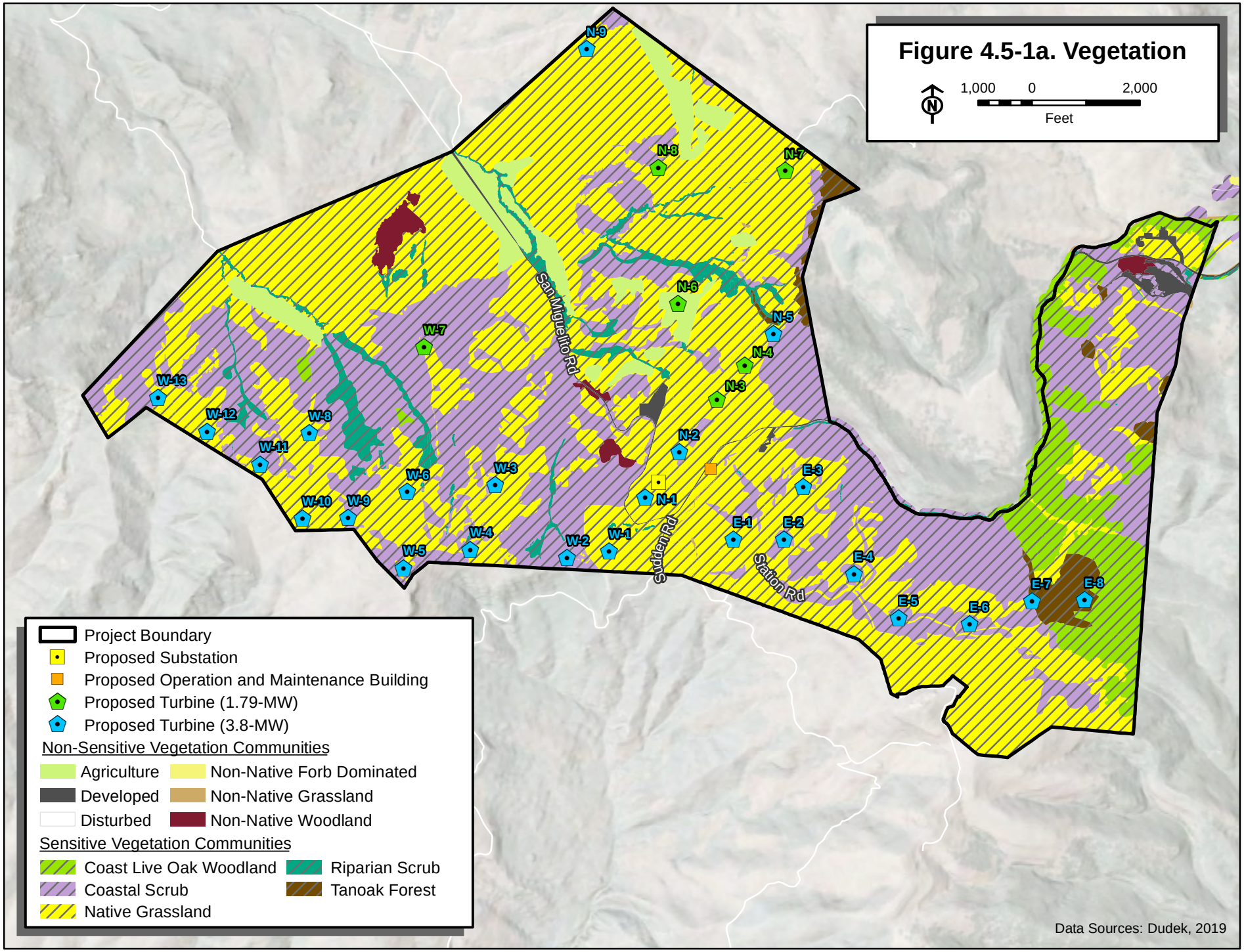
Figure 4.5-1a. Vegetation
1,000
0
2,000
Feet
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-13
W-12
W-11
W-10
W-9
W-8
W-7
W-6
W-5
W-4
W-3
W-2
W-1
E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Non-Sensitive Vegetation Communities
Agriculture
Developed
Disturbed
Non-Native Forb Dominated
Non-Native Grassland
Non-Native Woodland
Sensitive Vegetation Communities
Coast Live Oak Woodland
Coastal Scrub
Native Grassland
Riparian Scrub
Tanoak Forest
Data Sources: Dudek, 2019

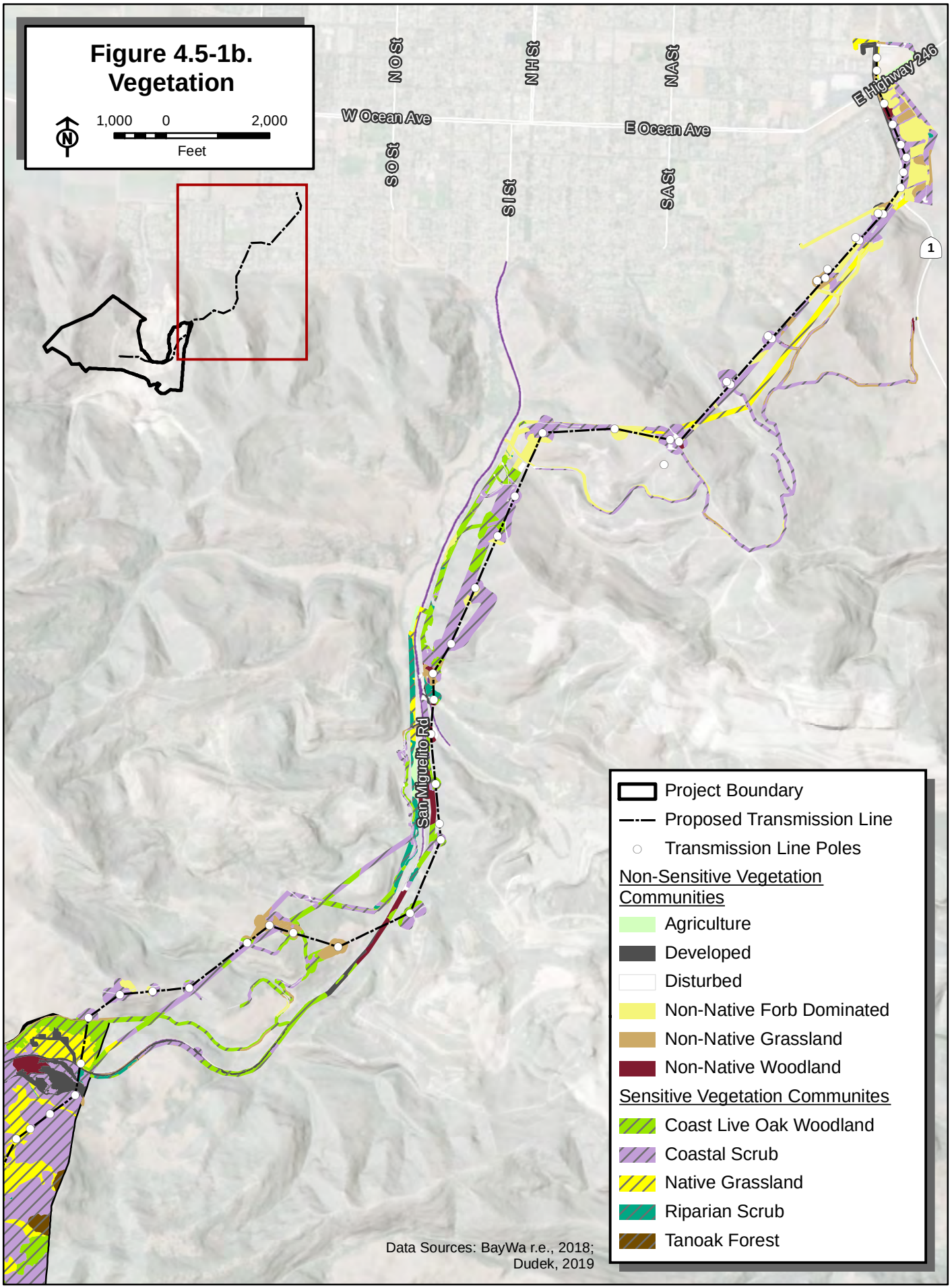
Figure 4.5-1b.
Vegetation
1,000 0 2,000
Feet
N
W Ocean Ave
E Ocean Ave
E Highway 246
N O St
N H St
N A St
S O St
S I St
S A St
San Miguelito Rd
1
Project Boundary
Proposed Transmission Line
Transmission Line Poles
Non-Sensitive Vegetation Communities
Agriculture
Developed
Disturbed
Non-Native Forb Dominated
Non-Native Grassland
Non-Native Woodland
Sensitive Vegetation Communites
Coast Live Oak Woodland
Coastal Scrub
Native Grassland
Riparian Scrub
Tanoak Forest
Data Sources: BayWa r.e., 2018; Dudek, 2019

Eight general plant communities were mapped on the wind site. Three other land cover types were mapped: agricultural fields, disturbed, and developed areas. Six of the plant communities are identified as sensitive by CDFW or the County of Santa Barbara (discussed below). Plant communities in the proposed transmission line ~~corridor~~ footprint have ~~not~~ been mapped (Figure 4.5-1b). All plant communities are briefly described in the paragraphs that follow, and detailed descriptions can be found in Appendices C-1, C-2, C-3, and C-5 (Dudek, 2018a, 2018b, and 2019; Sapphos, 2018).

Common Vegetation

Non-Native Grassland and Forb Dominated Habitats. Non-native upland grassland and forb-dominated habitats at the Project Area are composed of five individual vegetation communities. They include two grasslands (annual brome grassland herbaceous semi-natural alliance and wild oats grassland herbaceous semi-natural alliance) and three forb-dominated vegetation communities (ice plant mats herbaceous semi-natural alliance, poison hemlock patches herbaceous semi-natural alliance and upland mustards herbaceous seminatural alliance). See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Non-Native Woodland. Two woodland alliances dominated by non-native species were identified in the Project site: eucalyptus grove woodland semi-natural alliance and myoporum groves woodland semi-natural alliance. See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Sensitive Vegetation

Native Grassland. A total of four native grassland types identified in MCV2 (Sawyer et al., 2009) were mapped on site: creeping rye grass turfs, foothill needle grass grasslands, meadow barley patches, and purple needle grass grasslands. All four alliances are ranked S3 (sensitive) and native grasslands are identified as ecological communities of greatest interest by Santa Barbara County. The County of Santa Barbara defines a native grassland as an area where native grasses comprise 10 percent or more of the relative cover, and CDFW uses the same threshold, even where non-native species make up the bulk of the total cover (Sawyer et al., 2009). See Dudek, 2018b in Appendix C-3 for detailed descriptions of each alliance.

Coastal Scrub. Ten coastal scrub alliances were mapped within the Project site: California brittle bush scrub, California coffee berry scrub, California sagebrush scrub, coyote brush scrub, deer weed scrub, Menzies's golden bush scrub, sawtooth golden bush scrub, purple sage scrub, silver bush lupine scrub, and toyon chaparral. California brittle bush scrub, Menzies's golden bush scrub, sawtooth golden bush scrub, and toyon chaparral are considered sensitive by CDFW. Although the remaining alliances are ranked S4 or S5, they are generally considered sensitive in the County due to their habitat value and ongoing loss within the State. See Dudek, 2018a, 2018b, and 2019 in Appendices C-2, C-3, and C-5 for detailed descriptions of each alliance.

Riparian Scrub. Three riparian scrub alliances were mapped within the Project site: arroyo willow thickets shrubland alliance, blue elderberry stands shrubland alliance, and poison oak scrub shrubland alliance. Blue elderberry stands are ranked S3 (sensitive). While arroyo scrub and poison oak scrub are ranked S4, they are riparian communities, generally subject to special consideration due to high wildlife habitat value and close association with surface waters. See Dudek, 2018a in Appendix C-2 for detailed descriptions of each alliance.

Fremont Cottonwood Forest. This alliance is ranked S3.2 (sensitive). It is a riparian woodland with high habitat value. See Dudek, 2018a in Appendix C-2 for a detailed description of this alliance.

Tanoak Forest. Tanoak forest is ranked as S3.2 by CDFW and is identified as an ecological community of greatest interest by Santa Barbara County as a mixed evergreen forest. Tanoak forest is uncommon in Santa Barbara County, but more common to the north, along the coastal ranges and Sierra Nevada foothills. Lichens and bryophytes are more common in this forest type than elsewhere on the site. Tanoak woodlands and tanoak trees are not subject to the California Oak Woodlands Conservation Act (SB 1334, enacted 2004; see California Public Resources Code Section 21083.4; Section 4.5.3) or Santa Barbara County oak protection policies because they apply only to true oaks (genus *Quercus*). See Dudek, 2018a and Sapphos, 2018 in Appendices C-1 and C-2 for a detailed description of this alliance.

Coast Live Oak Woodland. Coast live oak is dominated by coast live oak trees, with native shrubs in the understory. It is identified as an ecological community of greatest interest by Santa Barbara County. It is common at the lower elevations in Miguelito Canyon and towards the east end of the site. In some areas, it covers much of the hillsides downslope from the tanoak forest, and the two trees are codominant where the mapped communities converge. Coast live oak woodlands and coast live oak trees are subject to the California Oak Woodlands Conservation Act (California Public Resources Code Section 21083.4) and Santa Barbara County oak protection policies. See Dudek, 2018a in Appendix C-2 for a detailed description of this alliance.

Other Land Cover Types

Agricultural Fields. There are four large areas on the western portion of the site under cultivation for forage crops such as red fescue. These areas are void of almost all native and non-native vegetation and are dominated by agricultural species and bare ground.

Disturbed. These areas are characterized by limited native vegetation resulting in low function ecological processes. Many have been altered from their natural states for human uses and provide little habitat or foraging potential for wildlife due to the lack of significant cover by native vegetation. Vegetation in these areas, if present at all, is usually sparse, dominated by weedy herbaceous species, or part of the landscaping associated with development. Disturbed habitats often have frequent disturbance from vehicle traffic or manual manipulation and are mostly absent of vegetation. Areas mapped as disturbed include dirt roads. Parks and ornamental plantings are also included in this category.

Developed. Developed areas consist of the areas around residential and business structures, parking lots, roads, staging areas, and other paved, gravel or mechanically compacted earth.

4.5.1.3 Wildlife

The LWEP EIR describes common wildlife species observed or expected to be in the Project area in Sections 3.5.2 and 3.5.3.

Important Bird Areas

The VAFB and Santa Ynez Estuary Important Bird Areas (IBA) designated by the Audubon Society borders the Project site to the west and south (see Figure 4.5-2). This IBA is over 94,000 acres and supports a high concentration of migratory birds and wide range of habitats ranging from coastal Bishop pine forest to cottonwood-willow riparian woodland to tidal marsh. An endemic plant community, Burton Mesa chaparral, is found only within this IBA and nowhere else. Barka Slough, along San Antonio Creek, is an extensive natural freshwater marsh (Audubon, 2013).

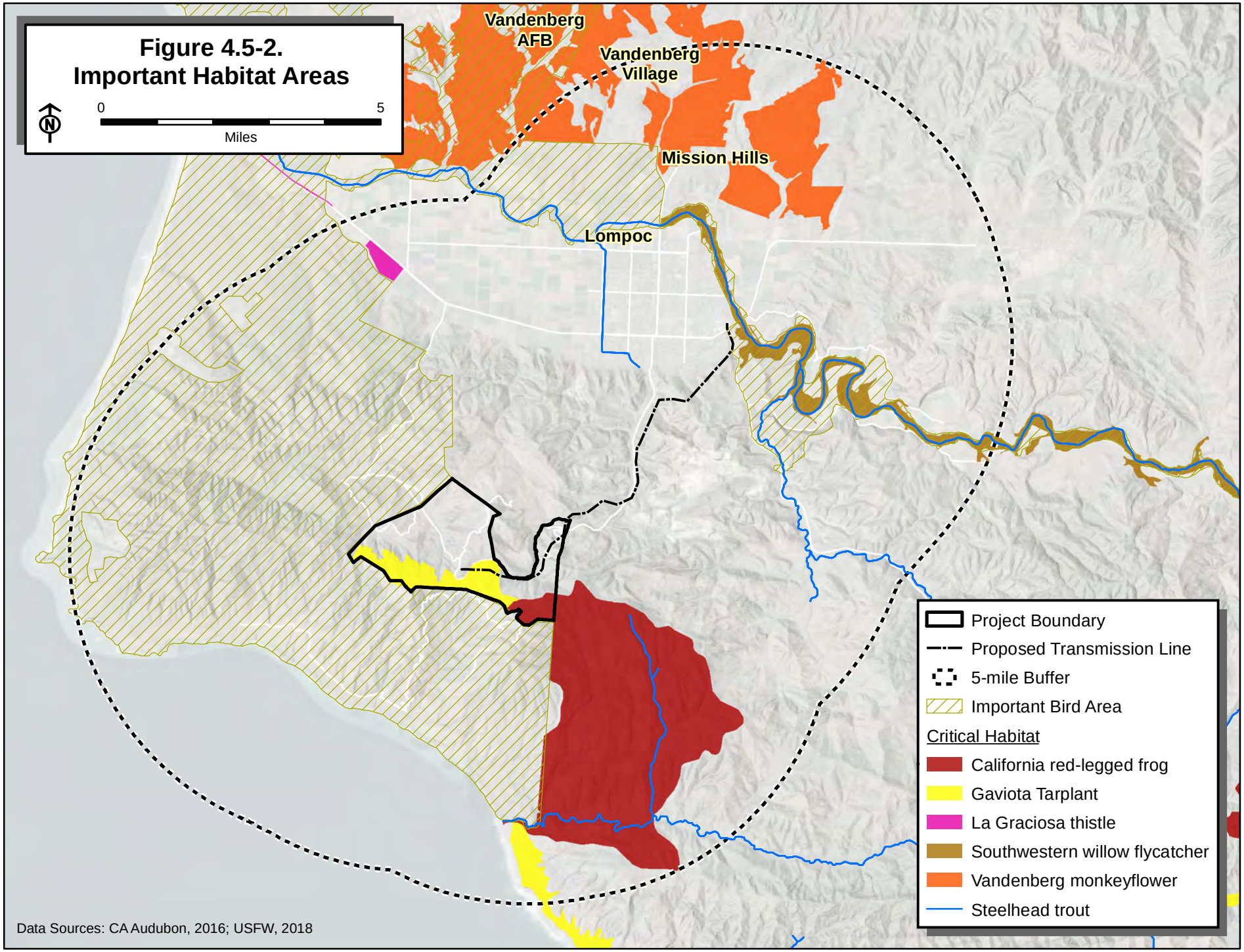
Figure 4.5-2.
Important Habitat Areas
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
Important Bird Area
Critical Habitat
California red-legged frog
Gaviota Tarplant
La Graciosa thistle
Southwestern willow flycatcher
Vandenberg monkeyflower
Steelhead trout
Data Sources: CA Audubon, 2016; USFW, 2018

~~The Project site has the potential to serve as habitat for a similarly high concentration of migratory birds but to a lesser extent than the adjacent IBA, given the difference in land use and habitats available.~~ Nonetheless, a wide variety of migratory and resident birds have been recorded on site (see eBird, 2018; Appendix C-1; and the LWEP EIR).

Avian Migration

Regional avian migration patterns are described in Section 3.5.3 of the LWEP EIR.

The following discussion of avian migration at the Project site reflects the current knowledge, as informed by studies conducted for the LWEP and additional studies performed on site since the certification of the LWEP EIR and updates the information as presented in that document. The Applicant has implemented avian surveys consistent with the *U.S. Fish and Wildlife Service Land-Based Wind Energy Guidelines* (USFWS, 2012), *Eagle Conservation Plan Guidance: Module 1 – Land-based Wind Energy Version 2* (USFWS, 2013) (see Appendix C-8); and surveys were conducted with the concurrence of the USFWS Migratory Bird Division staff. See the Biological Resources Technical Report (Sapphos, 2018; see Appendix C-1) and the *Strauss Wind Energy Project - Avian and Bat Survey Results and Wind Turbine Siting Process Description* (Dudek, 2019b; see Appendix C-8) for a detailed discussion of avian migration and use at the Project site.

Waterfowl and Shorebird Migration. Waterfowl and shorebirds generally migrate along the Pacific coastline and were not typically abundant on the Project site during surveys. During the 2017 spring survey, 2 (6 percent) of 36 species of spring migrants on site were migratory water birds: greater yellowlegs (*Tringa melanoleuca*) and solitary sandpiper (*Tringa solitaria*). During the 2008 spring survey, of the 52 species of spring migrants recorded, only one migratory water bird (greater yellowlegs) was observed.

During the 2016 autumn survey, 3 of 28 species (11 percent) of passage autumn migrants were migratory water birds: great egret (*Ardea alba*), common loon (*Gavia immer;* also recorded in 2018), and California brown pelican (*Pelecanus occidentalis*). California brown pelican was a state and federally listed species, but it has been delisted at the state and federal level. It remains a CDFW Fully Protected species. The 2008 autumn survey recorded common loon, greater yellowlegs, and Wilson's snipe (*Gallinago delicata*). Birds were recorded flying up to 150 feet under light winds (>7 mph), less than 100 feet for moderate winds (8–15 mph), and less than 30 feet above ground level during strong winds. In 2018, all four common loons were observed within the rotor-swept zone.

Local Migration. The abundance of diurnal avian migrants (waterbirds, raptors, and songbirds) recorded during the autumn migration studies averaged 30–40 passage migrants per day (Appendix C-1). The number of avian migrants recorded at the Project area in autumn is approximately three times greater than recorded in spring, when weather conditions were poor for avian migration.

Spring and Fall Avian Migration at the Project Site. Daytime avian migratory surveys were conducted at the Project site in the spring and autumn of 2008, autumn of 2016, ~~and~~ spring of 2017, and spring and fall of 2018. A total of 61 species of migratory birds were observed, indicating that the Project site probably serves as a migratory corridor.

A total of 87 avian species were observed during the 2018 surveys (see Table 5 in Appendix C-8). Western meadowlark and spotted towhee were the most commonly detected species, and 75 percent of species observed were passerines. Approximately 33 percent of individual passerines were observed within the rotor-swept zone compared with 60 percent of raptor observations. Special-status birds

recorded during 2018 point-count surveys include Lawrence's goldfinch (*Spinus lawrencei*, BCC), yellow-headed blackbird (*Xanthocephalus xanthocephalus*; CSSC), loggerhead shrike (*Lanius ludovicianus;* BCC and CSSC), oak titmouse (*Baeolophus inornatus;* BCC), yellow warbler (*Setophaga petechia;* BCC and CSSC), grasshopper sparrow (*Ammodramus savannarum*; CSSC), Costa's hummingbird (*Calypte costae;* BCC) and common loon (*Gavia immer;* CSSC). Special-status raptors observed during 2018 point-count surveys include Cooper's hawk (*Accipiter cooperii;* WL), golden eagle (*Aquila chrysaetos;* BCC, Fully Protected, WL), northern harrier (*Circus hudsonius;* CSSC), sharp-shinned hawk (*Accipiter striatus;* WL), American peregrine falcon (*Falco peregrinus anatum;* BCC, Fully Protected, delisted [state and federal]), and prairie falcon (*Falco mexicanus;* BCC, WL).

Of individual visual detections in flight (Table 6 of Appendix C-8), the most numerous species occurring within the rotor swept zone included red-winged blackbirds (56 individuals, 18 percent), horned lark (47 individuals, 15 percent), western meadowlark (44 individuals, 14 percent), turkey vulture (17 individuals, 5 percent), and red-tailed hawk (15 individuals, 5 percent). As shown in Table 7 of Appendix C-8, overall a total of 2,436 birds were recorded which averaged to 11.73 birds/survey. Fall surveys documented more birds (average 17.06 birds/survey) than spring surveys (7.30 birds/survey). The rotor swept zone is defined as the area between 13-150 meters above the ground. (Dudek 2019b; Appendix C-8)

During the 2017 spring survey, 83 different species were observed, of which 36 were migratory. The most numerous migrants were black-headed grosbeak (21 individuals), barn swallow (21 individuals), white-crowned sparrow (20 individuals), and orange-crowned warbler (16 individuals). Three special-status migratory bird species were observed: northern harrier (*Circus cyaneus*), ferruginous hawk (*Buteo regalis*), and grasshopper sparrow (*Ammodramus savannarum*). Two locally important migratory species were observed: blue grosbeak (*Passerina caerulea*) and Swainson's thrush (*Catharus ustulatus*).

During the 2008 spring survey, 93 total species were observed, in which 52 were migratory. The most numerous migrants were: cedar waxwing (38 individuals), barn swallow (23 individuals), cliff swallow (20 individuals), and western gull (16 individuals). Four special-status migratory birds were observed: sharp-shinned hawk (*Accipiter striatus*), Vaux's swift (*Chaetura vauxi*), olive-sided flycatcher (*Contopus cooperi*), and yellow-breasted chat (*Icteria virens*). Swainson's thrush, a locally important migratory species, was also observed.

During the 2016 autumn survey, 82 different species were observed, in which 28 were migratory. The most numerous migrants were yellow-rumped warbler (420 individuals), white-crowned sparrow (182 individuals), American pipit (179 individuals), and golden-crowned sparrow (115 individuals). Eight special-status migratory species were observed: sharp-shinned hawk, great egret, ferruginous hawk, northern harrier, common loon, red-breasted sapsucker (*Sphyrapicus ruber*), California brown pelican, and merlin (*Falco columbarius*).

During the 2008 autumn survey, 133 total species were observed, in which 56 were migratory. The most numerous migrants were: yellow-rumped warbler (513 individuals), American pipit (103 individuals), western gull (129 individuals), and white-crowned sparrow (96 individuals). Eleven special-status migratory species were observed: northern harrier, Vaux's swift, yellow warbler (*Setophaga petechia*), yellow-breasted chat, grasshopper sparrow, common loon, double-crested cormorant (*Phalacrocorax auritus*), sharp-shinned hawk, ferruginous hawk, merlin, and prairie falcon (*Falco mexicanus*). Blue grosbeak, a locally important migratory bird, was also observed.

Bat Migration

The following discussion of bat migration at the Project site summarizes studies conducted for the LWEP as well as additional surveys conducted in fall of 2016 and spring 2017 and from August 10 to October 31, 2018. The discussion is excerpted from the Biological Resources Technical Report (Sapphos, 2018; see Appendix C-1) and the *Strauss Wind Energy Project - Avian and Bat Survey Results and Wind Turbine Siting Process Description* (Dudek, 2019b; see Appendix C-8).

Passive acoustical surveys, where bat calls were recorded over a period of time from pole-mounted recorders) were conducted at one central location from August 10 to October 31, 2018. Passive surveys recorded seven bat species: pallid bat (*Antrozous pallidus*), big brown bat (*Eptesicus fuscus*), western red bat (*Lasiurus blossevillii*), hoary bat (*Lasiurus cinereus*), Yuma myotis (*Myotis yumanensis*), big-free-tailed bat (*Nyctinomops macrotis*), and Brazilian free-tailed bat (*Tadarida brasiliensis*). Pallid bat, western red bat, and big free-tailed bat are California Species of Special Concern. The relative abundance of pallid bats compared to other species detected may be due to the abundance of suitable roosting habitats in the area, such as rock outcrops, crevices, and human-made structures. Western red bat, a tree roosting species, was detected in very low abundance. The range for big free-tailed bat in California is generally considered to be limited to disjunct areas well north and south of the Project area, but the species occasionally is detected well out of range during migration. The one detection of this species during passive surveys occurred in October (Appendix C-8).

Active acoustical surveys (where biologists recorded bat activity using handheld recorders) were conducted at 20 monitoring stations throughout the Project area (see Figure 4 of Appendix C-8). Active surveys occurred in two passes, one in the summer (June 21-July 6, 2018) and one in fall (September 4-20, 2018). Overall, six bat species were detected during the active surveys: pallid bat, big brown bat, western red bat, hoary bat, Yuma myotis, and Brazilian free-tailed bat. Two of these species, pallid bat and western red bat, are California Species of Special Concern. As shown in Table 12 and Figures 6 and 7 of Appendix C-8, Brazilian free-tailed bats occurred over the widest variety of habitats, having been detected at 13 of 20 stations. Pallid bat was detected at 11 stations, while Yuma myotis was detected at 10. Big brown bat, hoary bat, and western red bat were all detected at 3 to 4 stations.

During the spring and autumn bat surveys conducted at the Project site in 2008, 2016, and 2017, a total of nine bat species were recorded. In 2017, six species were recorded. Three were special-status resident species, including pallid bat (*Antrozous pallidus*), Yuma myotis (*Myotis yumanensis*), and long-eared bat (*Myotis evotis*), and three were common residents, including the big brown bat (*Eptesicus fuscus*), California myotis (*Myotis californicus*), and Mexican free-tailed bat (*Tadarida brasiliensis*). In 2016, only one bat call was recorded before surveys were cancelled due to low temperatures, high winds, and dense fog. The species was identified as belonging to the genus *Myotis*, either California myotis or Yuma myotis.

In 2008, eight species were identified during the spring and autumn migration period (from 85 total recordings during 672 hours recorded hours). Six were special-status residents: pallid bat, long-eared bat, Yuma myotis, and western mastiff bat (*Eumops perotis*). Two were special-status migratory species: western red bat (*Lasiurus blossevillii*) and hoary bat (*Lasiurus cinereus*).

Although bat activity was relatively low at most sampling sites, resident and common bats have been recorded using the Project site for foraging. Migrating bats may find suitable foraging habitat as well, given the variety of vegetation communities available and may use the site as a layover during migration. Bats may day-roost nearby for a period of time to forage in an area before moving on to migratory destinations. There is suitable habitat for the migratory bat species silver-haired bat (*Lasionycteris noctivagans*; not recorded in the Project area), western red bat (recorded in 2008), and hoary bat

(recorded in 2008); however, no migratory species were recorded in 2016 and 2017. Western red bat and silver-haired bat would be expected to fly primarily at elevations no higher than 20 feet above the ground surface or water, and hoary bat would be expected to occur up to 40 feet above the ground surface.

Raptor Use and Nesting

Raptor Point Count Surveys. Dudek conducted weekly ground point count surveys for golden eagle (*Aquila chrysaetos*) and other raptor species of concern from April 6, 2018 to April 25, 2019 and then biweekly surveys from May 9, 2019 through August 28, 2019 at five locations across the site (Figure 1 in Appendix C-8). In accordance with the Eagle Conservation Plan Guidance (USFWS 2013), the number of point count stations was determined by applying a 1- km buffer around the Project Area (8,539 acres), then determining how many 800-meter radius point count stations would provide a minimum 30% coverage of the primary wind site (2,562 acres). This method also met the plot density of 1 to 1.5 points/square mile recommended by the California Energy Commission and CDFW (CEC and CDFG 2007) which is 4.67 square miles. Each of the 5 locations were surveyed for a period of 2 hours weekly. Survey hours occurred between dawn and dusk with the starting location rotated on a weekly basis. Typically, all five locations were surveyed over two days and occasionally over three days due to weather conditions. Surveys were conducted under suitable weather conditions that provided visibility for detecting raptors within 800-m of the survey location. On very few occasions, two locations were surveyed concurrently, and in these instances, biologists surveyed areas with opposing viewsheds, to avoid duplicate observations. (Dudek, 2019b; Appendix C-8)

Raptor point count surveys resulted in observations of 12 raptor species: American peregrine falcon, bald eagle, Cooper's hawk, ferruginous hawk, golden eagle, northern harrier, prairie falcon, red-shouldered hawk, red-tailed hawk, sharp-shinned hawk, Swainson's hawk, and white-tailed kite. Swainson's hawk, state-listed threatened, has not been previously documented on site.

A total of 1,841 raptor detections were documented (see Table 3 of Appendix C-8). Raptor use was higher for fall-winter than spring-summer (6.39 and 5.24 birds/800-m plot/2-hour survey, respectively). Between individual seasons raptor use was higher during the summer and fall (6.16 and 8.55 birds/800-m plot/2-hour survey, respectively) than spring and winter (4.27 and 4.19 birds/800-m plot/2-hour survey, respectively). Table 4 in Appendix C-8 summarizes this information across all seasons.

Across the 646 hours of surveys, raptors were detected in flight within the rotor swept zone for approximately 94 hours (15 percent), with red-tailed hawks (57 hours, 61 percent) and golden eagles (28 hours, 30 percent) contributing the majority to these observations (see Appendix C-8). Golden eagles were one of the most commonly observed raptors (18 percent of all observations during the spring-summer and fall-winter surveys), second only to red-tailed hawks (73 percent of all observations in spring-summer and 68 percent of all observations in fall-winter).

Raptor flight paths occurred throughout the site with concentrations in the northern, southwestern, southern, and southeastern portions of the site. Flight paths were less frequently recorded in the northeastern portion of the site, within the existing mine property, which may be due to topography, land uses, and an absence of a point count station in this area, as wind turbines are not planned to occur within the northeastern portion of the site. Flight paths did not appear to coincide with topography or vegetation community, but were generally evenly distributed within the 800-m survey areas and observer's visibility (due to terrain) likely contributed to flight path detection concentrations. Raptor perching locations were also recorded throughout the site with raptors utilizing a variety of

perches, including, but not limited to, trees, telephone and distribution poles, rock outcrops, and the ground. (Appendix C-8)

A juvenile bald eagle was observed soaring and circling on September 28 and October 4, 2018 in the southern central portion of the site. Golden eagle flight paths were recorded throughout the site during the 2018-2019 raptor point count surveys, and flight paths do not appear to coincide with topography or vegetation community or observer 800-m survey area. Golden eagle perching locations were scattered throughout the site with concentrated activity in the northern boundary of the site and to a lesser extent along the southern boundary of the site. The surveyors concluded that this primarily represents a single family group and occasional other golden eagles moving through the site. (Appendix C-8)

Aerial Eagle Nest Surveys. As described in Appendix C-8, experienced biologists performed aerial surveys on March 25 and May 30, 2018, and February 18, 2019. Surveys followed guidelines outlined in the USFWS monitoring protocol and Eagle Conservation Plan Guidance (Pagel et al. 2010, Discroll 2010). Surveys were performed from a helicopter within a 10-mile radius of the Project Area (excluding non-flight zones and the Pacific Ocean) (Figure 3 of Appendix C-8). Approximately 630 acres in the western half of the survey area was excluded from the survey due to VAFB flight restrictions. VAFB designates this area as prohibited airspace (R-2517).

Four potential raptor nesting locations were identified during 2018-2019 surveys within 10 miles of the site. In 2018, one golden eagle was observed in flight approximately 7.9 miles southeast of the Project area. In addition, an active golden eagle nest was observed approximately 4.0 miles northeast of the Project area, located on a cliff along the Santa Ynez River. This nest was determined to have successfully fledged one young based on the presence of two eggs on March 25, 2018, and subsequent adult behavior observed on May 30 suggesting adults were feeding a recent fledgling near the nest. In addition, on May 30 the nest conditions indicated young had recently fledged. This same nest was in disrepair and contained new vegetation growth within on February 18, 2019.

In 2019 aerial surveys identified a potential golden eagle nest location approximately 500 feet north of the Project Area within oak woodlands. Although surveyors detected a golden eagle flying in the immediate area they were unable to confirm a nest. However, ground observations documented an active nest in this location in 2019. (Appendix C-8)

The USFWS tracks golden eagle nesting and provided the SEIR authors with information that indicates two additional nests are known from within 10 miles of the Project site. These nests are east and southeast of the site, and these data provided by USFWS were current as of 2016. At least one other nest is known from VAFB, more than 10 miles from the Project site (T. Dietsch, pers. comm.).

In 2018, a pair of prairie falcon adults were detected at a nest approximately 7.3 miles northeast of the Project area. At this location a pair was observed on March 25 and a nest was suspected to occur within a cave with contents out of view of the surveyors. A follow-up visit on May 30 suggested the nest had young, as suggested by nest phenology in the region for this species and the adult pair displaying defensive behavior at the nest. On February 18, 2019 this same nest was considered active with a pair of adults in attendance, suggesting egg laying had not yet occurred. (Appendix C-8)

In 2018 an American peregrine falcon nest was observed on a cliff along the Santa Ynez River approximately 5.3 miles northeast of the Project Area. This nesting location was previously known to the surveyors and has been used by peregrine falcons since at least the 1950s (BRC 2018, as cited in Appendix C-8). On March 25 an adult pair was observed at the nest. On May 30 the nest was vacant without

evidence of use or individuals in the area. Based on these observations the nest was considered to have failed to fledge any young. Two additional known peregrine falcon nests were active in 2018, but not accessible due to flight restrictions (Figure 3 of Appendix C-8). In most years there are typically four active peregrine falcon nests within a 10-mile radius of the Project Area (C. Thelander, pers. comm., as cited in Appendix C-8). On February 18, 2019 the same nest along the Santa Ynez River was also inactive, as no individuals were observed at this location after two survey passes by this location. (Appendix C-8)

4.5.1.4 Endangered, Threatened, Rare, and Other Sensitive Species

As defined in the LWEP EIR, wildlife and plant species that have special conservation status may be protected under policies of federal, state, and local agencies. These include species formally proposed or listed for protection under the Federal or California Endangered Species acts (ESA and CESA, respectively) as well as species that are not protected by Endangered Species legislation but are recognized by various authorities including the California Native Plant Society (CNPS), the California Department of Fish and Wildlife (CDFW; formerly known as California Department of Fish and Game), and other authorities as rare, declining, or species of local concern. These are collectively termed "other sensitive species."

In this SEIR, the term "special-status species" refers to plants or animals that meet one or more of the following criteria:

- Have been designated as either rare, threatened, or endangered by CDFW or the USFWS, and are protected under the California or federal Endangered Species Act (ESA);
- Are candidate species being considered or proposed for listing under these same acts;
- Are considered Species of Special Concern by CDFW;
- Are fully protected by the California State Fish and Game Code, Sections 3511, 4700, 5050, or 5515;
- Are classified as California Rare Plant Rank (CRPR) 1, 2, 3, or 4 by CDFW and CNPS; or are of express concern to resource/regulatory agencies, or local jurisdictions;
- Considered locally rare and important by the County; or
- Are listed on watch lists or provided with special conservation designations by professional working groups/societies (e.g., the Santa Barbara Botanical Garden, the La Purisima Audubon Society, Environmental Defense Center, or other local agencies and organizations).

Figures 4.5-3 and 4.5-5 identify the locations of special-status species reported in the CNDDB. It is important to note that the CNDDB does not represent all of the special-status species that occur in a given area and is limited to only those occurrences that have been reported by users. Therefore, it is not an exhaustive list of potentially occurring species. Figure 4.5-4 also identifies special-status plants detected during Project surveys.

Critical Habitat. Several federally listed species occur in the region, and the Project site contains designated critical habitat for both Gaviota tarplant and California red-legged frog. There is critical habitat for six species designated at locations within 5 miles of the Project area. These include steelhead, California red-legged frog, southwestern willow flycatcher, Gaviota tarplant, La Graciosa thistle, and Vandenberg monkeyflower. Figure 4.5-2 identifies the locations of designated critical habitat for federally listed species in the region.

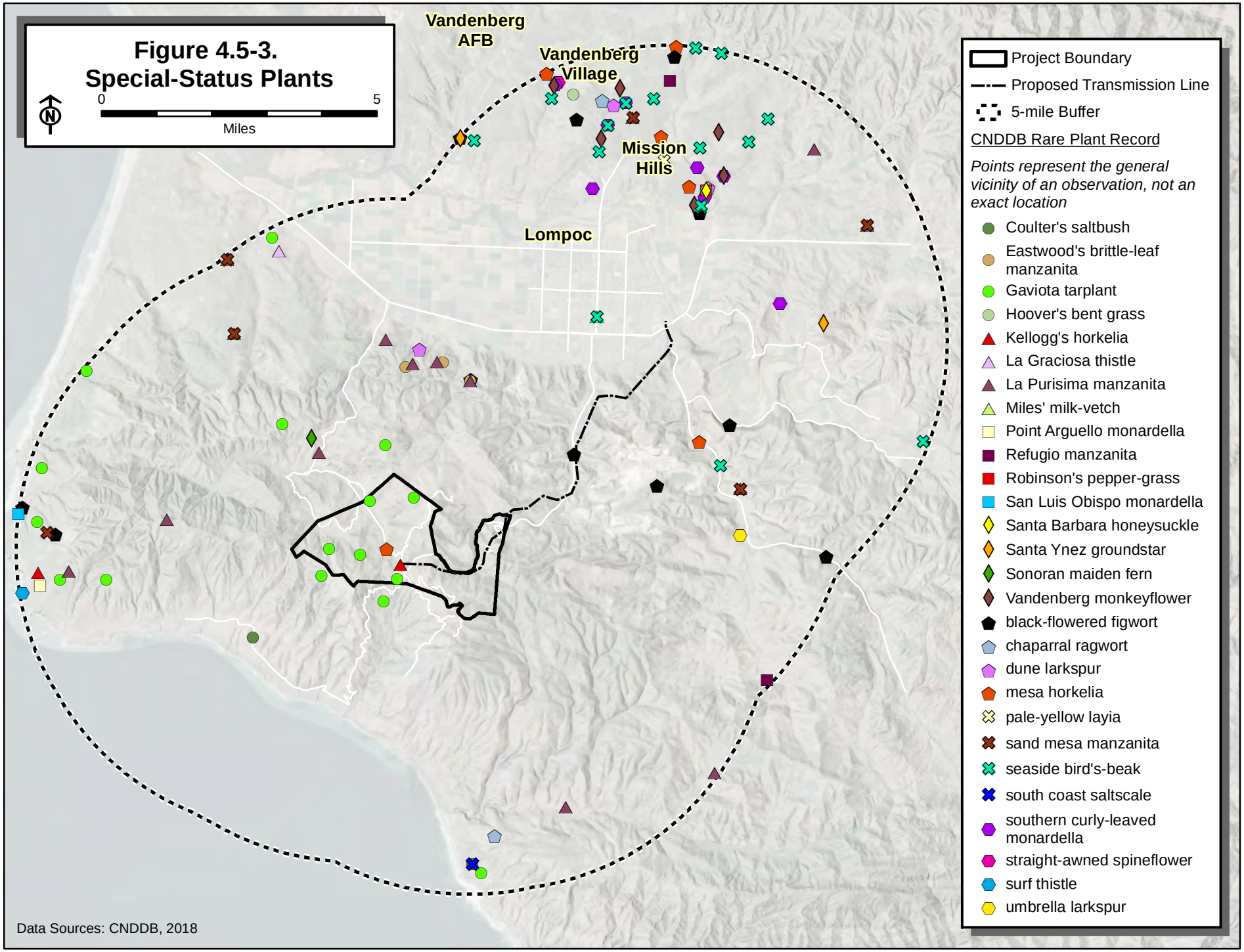
Figure 4.5-3.
Special-Status Plants
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
CNDDB Rare Plant Record
Points represent the general vicinity of an observation, not an exact location
Coulter's saltbush
Eastwood's brittle-leaf manzanita
Gaviota tarplant
Hoover's bent grass
Kellogg's horkelia
La Graciosa thistle
La Purisima manzanita
Miles' milk-vetch
Point Arguello monardella
Refugio manzanita
Robinson's pepper-grass
San Luis Obispo monardella
Santa Barbara honeysuckle
Santa Ynez groundstar
Sonoran maiden fern
Vandenberg monkeyflower
black-flowered figwort
chaparral ragwort
dune larkspur
mesa horkelia
pale-yellow layia
sand mesa manzanita
seaside bird's-beak
south coast saltscale
southern curly-leaved monardella
straight-awned spineflower
surf thistle
umbrella larkspur
Data Sources: CNDDB, 2018

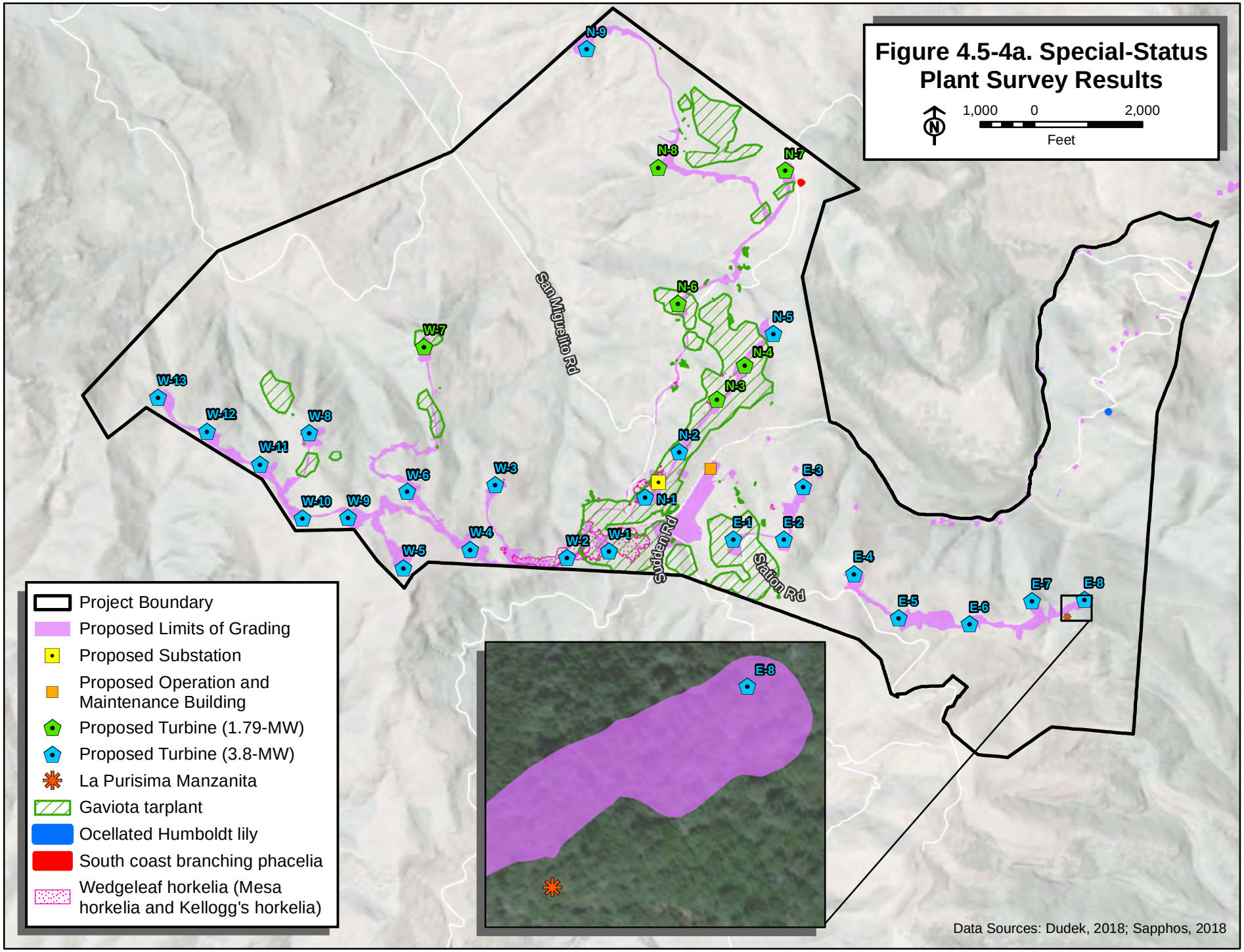
Figure 4.5-4a. Special-Status Plant Survey Results
1,000 0 2,000
Feet
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-13
W-12
W-11
W-10
W-9
W-8
W-7
W-6
W-5
W-4
W-3
W-2
W-1
E-1
E-2
E-3
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
La Purisima Manzanita
Gaviota tarplant
Ocellated Humboldt lily
South coast branching phacelia
Wedgeleaf horkelia (Mesa horkelia and Kellogg's horkelia)
Data Sources: Dudek, 2018; Sapphos, 2018

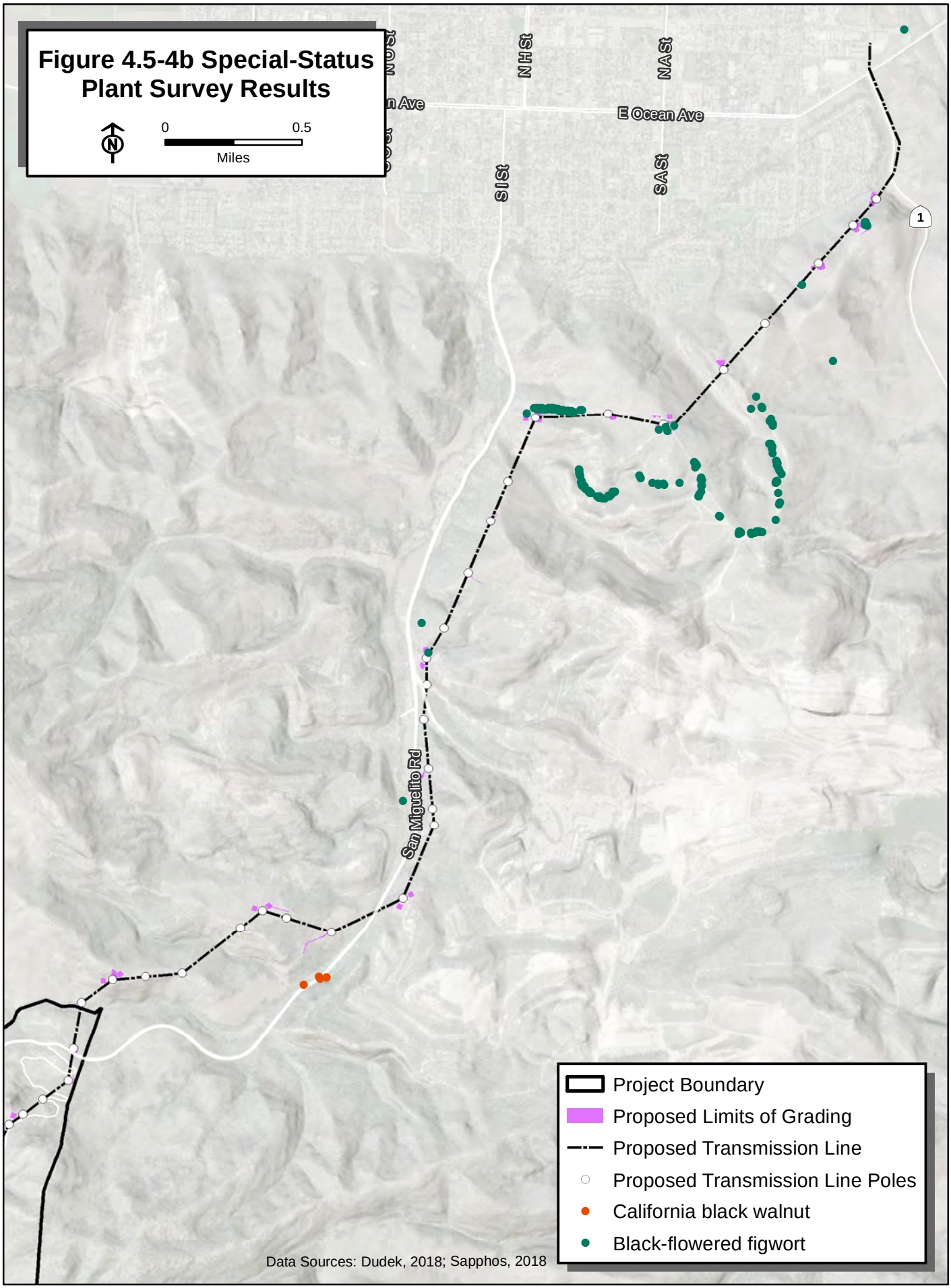
Figure 4.5-4b Special-Status Plant Survey Results
0
0.5
Miles
N H St
N A St
E Ocean Ave
S I St
S A St
1
San Miguelito Rd
Project Boundary
Proposed Limits of Grading
Proposed Transmission Line
Proposed Transmission Line Poles
California black walnut
Black-flowered figwort
Data Sources: Dudek, 2018; Sapphos, 2018

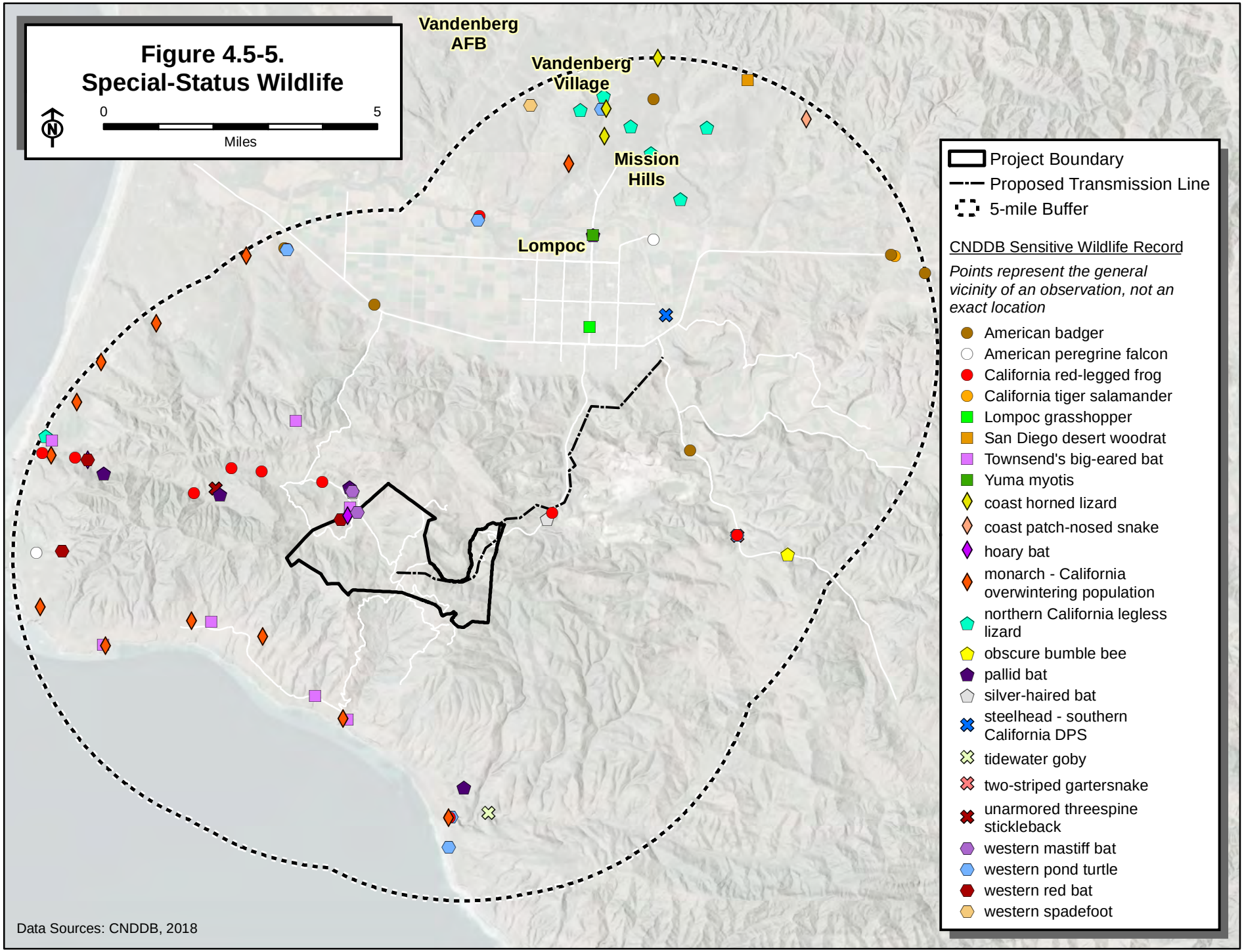
Figure 4.5-5.
Special-Status Wildlife
0
5
Miles
Vandenberg AFB
Vandenberg Village
Mission Hills
Lompoc
Project Boundary
Proposed Transmission Line
5-mile Buffer
CNDDB Sensitive Wildlife Record
Points represent the general vicinity of an observation, not an exact location
American badger
American peregrine falcon
California red-legged frog
California tiger salamander
Lompoc grasshopper
San Diego desert woodrat
Townsend's big-eared bat
Yuma myotis
coast horned lizard
coast patch-nosed snake
hoary bat
monarch - California overwintering population
northern California legless lizard
obscure bumble bee
pallid bat
silver-haired bat
steelhead - southern California DPS
tidewater goby
two-striped gartersnake
unarmored threespine stickleback
western mastiff bat
western pond turtle
western red bat
western spadefoot
Data Sources: CNDDB, 2018

Special-Status Plants

Eighty-two (82) special-status plants were considered for their potential to occur in the vicinity of the Project area, based on known ranges, habitat associations, and regional records. Fourteen special-status plants have been identified in the Project area identified during surveys for the LWEP and SWEP. Five of the 14 rare plants were discovered during surveys for the SWEP and were not known from the site at the time the LWEP EIR was published; these include La Purisima manzanita (*Arctostaphylos purissima*; CRPR 1B.1), southern California black walnut (*Juglans californica*; CRPR 4.2), ocellated Humboldt lily (*Lilium humboldtii* ssp. *ocellatum*; CRPR 4.2), south coast branching phacelia (*Phacelia ramosissima* var. *austrolitoralis*; CRPR 3.2), and black-flowered figwort (*Scrophularia atrata*; CRPR 1B.2). One federally and state-listed endangered plant, Gaviota tarplant (*Deinandra increscens* ssp*. villosa*) occurs on site. No special-status non-vascular plants or lichens were identified as having a potential to be present on site, based on the habitat present and a review of numerous literature sources and database searches.

Special-status plants that are present or have the potential to occur in the Project area are listed in Appendix C-6 and shown on Figures 4.5-3 and 4.5-4. Refer to LWEP EIR Section 3.5.4, *Endangered, Threatened, Rare, and Other Sensitive Species*, for a description of the following rare plants that were known from the Project area at the time that document was published: seaside agoseris (locally rare), western dichondra (CRPR 4.2), seaside heuchera (locally rare), sickle-leaved rush (locally rare), and California globemallow (locally rare).

The following species accounts describe plants that have been discovered on site since the LWEP EIR was published, and those for which occurrence data has been updated (i.e., Gaviota tarplant, mesa horkelia, and Kellogg's horkelia).

Gaviota Tarplant (*Deinandra increscens* ssp. *villosa*). Gaviota tarplant is federally and state-listed endangered and is a CRPR 1B.1 plant. Gaviota tarplant occurs in coastal California in Santa Barbara County. It is an annual herb that is native to California and is endemic (limited) to California. Gaviota tarplant occurs in coastal bluff scrub, coastal scrub, and valley and foothill grasslands habitats at elevations of 66 feet (20 meters) to 1,411 feet (430 meters) amsl. The blooming period of Gaviota tarplant is between May and October.

This plant was documented on-site during surveys for the LWEP, and additional Gaviota tarplant field surveys and assessments were ~~was~~ conducted for the proposed SWEP configuration in summer 2018 and summer 2019 to better understand the distribution of this listed plant within and near the current Project footprint (Dudek, 2018b, 2019c). Gaviota tarplant occurrences were called a "population" if the ~~occurrence~~ location was separated from another occurrence by a distance greater than 10 feet (Dudek, 2018b). The remainder of this analysis uses "patches" to describe Gaviota tarplant groupings or locations due to potential confusion in terminology, particularly with the California Natural Diversity Data Base definition of "occurrence" (i.e., a occupied location separated from another location by a distance of 0.25 mile) and the USFWS definition of "population" or "biological population" used in the Gaviota tarplant 5-year Review (USFWS 2011) which applies to the entire Tranquillion Mountain / Sudden Peak population. The number of individual plants was estimated for each patch ~~population~~. In 2018 ~~A~~a total of 103 ~~populations~~ patches ~~of~~ Gaviota tarplant were documented totaling 4,542,342 individual plants covering 8,366,608 square feet (192 acres) (Dudek, 2018b). In 2019 the field survey estimated 6,039,777 individual Gaviota tarplants. The 2019 field survey methods were much finer-scaled and identified many smaller patches within the previously mapped patches, as well as many

additional patches or occurrences not previously identified because of the expanded survey area (Dudek 2019c). In some cases, previously identified occupied habitat was not found to support Gaviota tarplant in 2019 (Figure 4.5-4c). Cumulatively, the 2019 surveys increased the total amount of occupied acreage from 192 to 207 acres relative to results reported in the DSEIR. See Figure 4.5-4a and 4.5-4c for the locations of the Gaviota tarplant patches ~~populations~~. Annual plant populations are not stable during any one year or from one year to the next. Within a single year, their numbers range from zero (before germination) to sometimes very large numbers of seedlings, and then decline as some of the plants die while others grow, flower and set seed as the season progresses, eventually to zero following late-season die-off. Their numbers may vary by orders of magnitude from year to year, reflecting rainfall, temperatures, soil disturbance, grazing (by livestock, insects, or other animals), or other (often unknown) ecological factors. Nonetheless, the large number of Gaviota tarplants inventoried in 2017 and 2018 indicates a large and well-established population occupying approximately ~~192~~ 207 acres of the Project site.

The entire 791-acre Sudden Peak Unit of critical habitat for Gaviota tarplant is located within the Project site.

Mesa Horkelia (*Horkelia cuneata* var. *puberula*) and Kellogg's Horkelia (*Horkelia cuneata* var. *sericea*). Mesa horkelia and Kellogg's horkelia are both perennial herbs with woody bases, ranked as CRPR 1B.1 plants. These two special-status varieties of wedgeleaf horkelia (*Horkelia cuneata*), along with a third common variety (*H. cuneata* var. *cuneata*) have been documented intergrading across the Project site. An assessment was conducted in August 2018 to determine the composition of the three different varieties on site, which are described below (Dudek, 2018b). Both mesa horkelia and Kellogg's horkelia were documented on site during surveys for the LWEP and are addressed in the LWEP EIR; however, the *Horkelia cuneata* assessment conducted for the proposed Project refines the identification of known populations and documents newly identified populations within and near the ~~current~~ Project site ~~configuration~~.

Wedgeleaf horkelia (*Horkelia cuneata* var. *cuneata*) is a common plant not ranked as special-status at the federal, state, or local level or by CNPS. It is a perennial herb that is native and endemic (limited) to California. It occurs in coastal California from San Francisco County south through San Diego County and blooms from February through July.

Mesa horkelia (CRPR 1B.1) occurs in coastal California counties from San Luis Obispo County south through northern San Diego County. It occupies sandy or gravelly, chaparral (maritime), cismontane woodland, and coastal scrub habitats at elevations of 230 feet (70 meters) to 2,657 feet (810 meters) amsl. The blooming period is February through July and sometimes through September.

Kellogg's horkelia (CRPR 1B.1) occurs in coastal California counties from Marin County south through Santa Barbara County. It occupies sandy or gravelly openings, closed-cone coniferous forest, chaparral (maritime), coastal dune, and coastal scrub habitats at elevations of 33 feet (10 meters) to 656 feet (200 meters) amsl. The blooming period is April through September.

In 2018 ~~A~~a total of 37 populations of these three wedgeleaf horkelia varieties were documented totaling 120,537 individual plants covering 829,462 square feet (19.0 acres). Of these, twelve populations totaling 1,107 individual plants were determined to be mesa horkelia and fifteen populations totaling 16,763 individual plants were determined to be Kellogg's horkelia. The remaining wedeleaf horkelia populations were considered to be the common variety. See the *Biological*

Resources Technical Report Addendum No. 2 (Dudek, 2018b) in Appendix C-3 for more details, including the data sheets from the *Horkelia cuneata* assessment.

Additional surveys in 2019 (Dudek 2019c, see Table 5 and Figure 6) covered a larger area and documented many more plants on the site, as follows: 225,198 individual plants (all three varieties combined) covering 29.9 acres; 27,859 mesa horkelia covering 4.1 acres; and 78,123 Kellogg's horkelia covering 11.1 acres.

La Purisima Manzanita (*Arctostaphylos purissima*). La Purisima manzanita is a CRPR 1B.1 plant that is known only from western Santa Barbara County. It is native and endemic (limited) to California. It is a shrub that occurs in sandy soils in chaparral and coastal scrub, and blooms between November and May. La Purisima manzanita was not observed during surveys for the LWEP. However, a manzanita specimen identified as the globose La Purisima manzanita (*Arctostaphylos purissima ssp. globosa*), a subspecies of the La Purisima manzanita, was observed during the SWEP tree survey in winter 2018. The specimen had characteristics that resemble both the globose La Purisima manzanita as well as the Refugio manzanita (*A. refugioensis*; a CRPR 1B.2 plant). The individual plant was observed in isolated chaparral, forest/woodland canopy opening, on a hilltop where the tanoak forest and coast live oak woodland transition, northeast of Sudden Peak, within the formerly planned WTG 28 location, near the proposed WTG E-84 location but outside the impact area (Figure 4.5-4a). It was observed early in the flowering stage. Ultimately it was determined to be La Purisima manzanita. Manzanitas are well known for hybridization among related species in their zones of overlap, and individual specimens often cannot be clearly assigned to any single species. A fruit sample may further support the identification, as there is a considerable difference in fruit size and features between the globose La Purisima manzanita (5–8 mm wide) and the Refugio manzanita (12–15 mm wide). The Project area is located in the overlapping ranges of both the La Purisima and Refugio manzanitas. (Sapphos, 2018).

Black-Flowered Figwort (*Scrophularia atrata*). Black-flowered figwort is a CRPR 1B.2 plant that occurs in coastal California in Santa Barbara County and San Luis Obispo County. It is a perennial herb that is native to California and is endemic (limited) to California. Black-flowered figwort occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub habitats at elevations of 33 feet (10 meters) to 1,640 feet (500 meters) amsl. The blooming period of black-flowered figwort is between March and July. Not observed during surveys for the LWEP, it was considered likely to occur in the LWEP EIR. Surveys in the summer of 2018 for the SWEP documented a total of 173 populations totaling 1,152 individual plants covering 8,669 square feet in the Project area (Dudek, 2018a and 2018b). Surveys in 2019 identified an additional 0.2 acres of occupied habitat and additional 400 plants (Dudek 2019c).

South Coast Branching Phacelia (*Phacelia ramosissima* var. *austrolitoralis*). South coast branching phacelia is a CRPR 3.2 plant that occurs in coastal California from southern San Luis Obispo County south through middle San Diego County. It occupies sandy, sometimes rocky, chaparral, coastal dunes, coastal scrub, and marsh and swamp (coastal salt) habitats at elevations of 16 feet (5 meters) to 984 feet (300 meters) amsl. The blooming period is between March and August. It was not documented during surveys for the LWEP. Two populations of south coast branching phacelia were documented during summer 2018 surveys for the SWEP. The populations contained an estimated total of 64 individual plants covering 583 square feet (Dudek, 2018b). Surveys in 2019 identified 0.2 acres of occupied habitat and censused 258 plants (Dudek 2019c).

Southern California Black Walnut (*Juglans californica*). Southern California black walnut is a CRPR 4.2 plant that occurs throughout much of southern California (higher mountains and deserts excluded). It is

a winter-deciduous tree that is native and endemic (limited) to California. It occurs in alluvial, chaparral, cismontane woodland, coastal scrub, and riparian woodland habitats at elevations of 164 feet (50 meters) to 2,953 feet (900 meters) amsl. The blooming period is between March and August, but it can be dependably identified whenever leaves are present. The LWEP EIR noted a population of southern California black walnut on VAFB near the Project site, but none were identified during surveys for the LWEP. A total of four populations were documented in the Project area during summer 2018 surveys for the SWEP; these populations total five individual plants covering 2,714 square feet (Dudek, 2018b).

Ocellated Humboldt Lily (*Lilium humboldtii* ssp. *ocellatum*). Ocellated Humboldt lily is a CRPR 4.2 plant that occurs in mostly coastal California counties from Santa Barbara County south through San Diego County. It is a perennial herb (bulb) that is native and endemic (limited) to California. Ocellated Humboldt lily occurs in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland habitats at elevations of 98 feet (30 meters) to 5,906 feet (1,800 meters) amsl. The blooming period is between March and July. It was not observed during surveys for the LWEP, but the LWEP EIR noted that potential habitat was present. Surveys in the summer of 2018 for SWEP found one population consisting of 6 plants and covering 37 square feet (Dudek, 2018b). Surveys in 2019 identified 0.8 acres of occupied habitat and 75 plants (Dudek 2019c).

Special-Status Wildlife

Seventy-nine (79) special-status wildlife species were considered for their potential to occur in the vicinity of the Project area, based on known ranges, habitat associations, and regional records. Forty-three (43) special-status wildlife species have been identified in the Project area identified during surveys for the LWEP and SWEP. Most of these are birds recorded during avian migration surveys. Nine special-status bird species and three special-status bat species that were not known from the Project area at the time of the LWEP EIR publication have been observed or detected during SWEP surveys. Newly recorded birds include yellow-headed blackbird, merlin (*Falco columbarius*), great egret (*Ardea alba*), common loon (*Gavia immer*), California gull (*Larus californicus*), California brown pelican (*Pelecanus occidentalis*), double-crested cormorant (*Phalacrocorax auritus*), yellow-billed magpie (*Pica nuttalli*), red-breasted sapsucker (*Sphyrapicus ruber*), and Lawrence's goldfinch (*Spinus lawrencei*). Newly recorded bats include western mastiff bat (*Eumops perotis californicus*), western red bat (*Lasiurus blossevillii*), and long-eared myotis (*Myotis evotis*). One federally endangered invertebrate, El Segundo blue butterfly (*Euphilotes battoides allyni*) occurs on site. Three California fully protected birds, golden eagle (*Aquila chrysaetos*), American peregrine falcon (*Falco peregrinus anatum*), and white-tailed kite (*Elanus leucurus*), are routinely observed on site and the California brown pelican, also fully protected in California, has been recorded migrating through the site. No special-status terrestrial snails were identified as having a potential to be present on site, based on the habitat present and a review of numerous literature sources and database searches.

Special--status wildlife species that are present or have the potential to occur in the Project area are listed in Appendix C-7. Potential for occurrence is defined the same as identified for special-status plants in Appendix C-6.

Refer to LWEP EIR Section 3.5.4, *Endangered, Threatened, Rare, and Other Sensitive Species*, for a description of the special-status wildlife that were known from the Project area at the time that document was published. The following species accounts describe special-status wildlife that have been discovered on site since the LWEP EIR was published, and those for which occurrence information

or regulatory status has been updated (i.e., Crotch bumble bee, El Segundo blue butterfly, California condor, tricolored blackbird, southwestern willow flycatcher, and California red-legged frog).

Newly Documented in the Project Area

Swainson's Hawk (*Buteo swainsoni*). Swainson's hawk is State-listed as Threatened and is a USFWS Bird of Conservation Concern. Two individuals were observed during spring-summer raptor point count surveys in 2018 (Appendix C-8). It is not known to nest in the region, but could occasionally pass through the Project site during migration. It had not previously been recorded on site.

Bald Eagle (*Haliaeetus leucocephalus*). The bald eagle is State-listed endangered, fully protected in California, and a USFWS Bird of Conservation Concern. Bald eagles are likely rare transients rather than residents at or near Project site. A juvenile bald eagle was observed soaring and circling on September 28 and October 4, 2018 in the southern central portion of the site.

Yellow-Headed Blackbird (*Xanthocephalus xanthocephalus*). Yellow-headed blackbird is a CDFW Species of Special Concern. Two individuals were observed during 2018 point count surveys (Appendix C-8).

Merlin (*Falco columbarius*). Merlin is a CDFW Watch List bird and a locally important species. It was determined to have a low potential to occur on site in the LWEP EIR; however, suitable foraging habitat is present in grasslands and coastal sage scrub mosaic within the Project area. Several individuals were observed in such habitat during avian surveys conducted at the site in autumn 2016 (Appendix C-1). It is expected to be present from September to May in California sagebrush scrub and grasslands on site (Sapphos, 2018).

Great Egret (*Ardea alba*). The great egret is a CDFW California Special Animal. One individual was observed flying over the Project area during avian surveys conducted in 2016 (Appendix C-1). However, great egrets have not been documented foraging or roosting on site. The Project site is located within the winter range for the species, but it is more likely that this species is a passage migrant through the site only. Its primary foraging activity would be expected to occur at the ground surface in grasslands (Sapphos, 2018).

Common Loon (*Gavia immer*). The common loon is a CDFW Species of Special Concern. Several flocks were observed flying over the Project area during avian surveys conducted in autumn 2008 and 2016 (Appendix C-1). The Project site is located within the winter range for the species; however, suitable roosting and foraging habitat is not present due to the lack of wetland habitats. Therefore, it is more likely that this species is a passage migrant through the site only. Its primary foraging activity would be expected to occur at and below the water surface (Sapphos, 2018).

California Gull (*Larus californicus*). The California gull is a CDFW Watch List species. An individual was observed flying over the Project area during avian surveys conducted in autumn 2008 (Appendix C-1). The Project site is located within the winter and migratory range for the species. They feed opportunistically along the coast and inland grasslands and shrublands. Suitable foraging habitat is present in open areas on the site, although California gull is probably primarily a passage migrant through the site. Its primary foraging activity would be expected to occur at the ground surface (Sapphos, 2018).

California Brown Pelican (*Pelecanus occidentalis*). The California brown pelican is a Fully Protected species in California, a locally important species, and has been delisted at both the federal and state levels. An individual was observed flying over the Project area during avian surveys conducted in autumn 2016 (Appendix C-1). The Project site is located within the winter range for the species;

however, suitable roosting and foraging habitat is not present due to the distance of the site to the shoreline. Therefore, it is more likely a passage migrant through the site only. Its primary flying activity would be expected to occur up to 66 feet above the water surface (Sapphos, 2018).

Double-Crested Cormorant (*Phalacrocorax auritus*). The double-crested cormorant is a CDFW Watch List species. It was observed flying over the Project area during avian surveys conducted in fall 2008 and fall 2016 (Appendix C-1). The Project site is located within the year-round range for the species; however, suitable roosting and foraging habitat is not present due to the distance of the site to the shoreline. Therefore, it is more likely to be a passage migrant through the site only. Its foraging activity would be expected to occur at and below the water surface (Sapphos, 2018).

Yellow-Billed Magpie (*Pica nuttalli*). The yellow-billed magpie is a USFWS Bird of Conservation Concern. Suitable habitat is present in oak woodlands, grasslands, and agricultural fields within the Project area. One individual was observed during avian surveys conducted in fall 2008 (Appendix C-1). The Project site may be just outside the typical geographic range for this species, and it is not expected to occur frequently on site. Its primary flight activity is expected to occur up to 80 feet above the ground surface (Sapphos, 2018).

Red-Breasted Sapsucker (*Sphyrapicus ruber*). The red-breasted sapsucker is a CDFW California Special Animal. Suitable habitat is present in woodlands within the Project site. An individual was observed flying over the site on Sudden Road at the border of VAFB during avian surveys conducted in fall 2017 (Appendix C-1). It would generally be present in winter using coast live oak woodland and tanoak forest. Its primary flight activity would be expected to occur up to 115 feet above the ground surface (Sapphos, 2018).

Lawrence's Goldfinch (*Spinus lawrencei*). Lawrence's goldfinch is a USFWS Bird of Conservation Concern and a locally important species. Suitable habitat is present in oak woodland and chaparral within the Project area. This species was observed on Sudden Road at the border of VAFB during avian surveys conducted during spring 2017 (Appendix C-1) (Sapphos, 2018).

Costa's Hummingbird (*Calypte costae*). Costa's hummingbird is a USFWS Bird of Conservation Concern. It is a resident in chaparral, scrub, and woodland habitats such as those found on site. Two individuals were observed during 2018 avian point count surveys.

Western Mastiff Bat (*Eumops perotis*). The western mastiff bat is a CDFW Species of Special Concern. Suitable habitat is present in grasslands, woodlands, and coastal sage scrub throughout the Project area. Calls identified as this species were recorded during bat surveys conducted in fall 2008 (Appendix C-1). It would generally be present year-round using a variety of habitats: arroyo willow thickets, tanoak forest, coast live oak woodland, California sagebrush scrub, grasslands, eucalyptus groves, and agricultural fields. Its primary flying activity would be expected to occur up to 195 feet from the ground surface (Sapphos, 2018).

Western Red Bat (*Lasiurus blossevillii*). The western red bat is a CDFW Species of Special Concern. Suitable habitat is present in woodlands within the Project area. Calls identified as possibly this species were recorded during bat surveys conducted in fall 2008 (Appendix C-1). However, these calls could not be distinguished from the common canyon bat (*Parastrellus hesperus*) calls due to their acoustic similarity. These calls could have been from either species or a combination of both. The nearest occurrence in the CNDDB was recorded 0.3 mile east of the Project area. Its primary flying activity would be expected to occur no higher than 20 feet above ground surface or water (Sapphos, 2018).

Long-Eared Myotis (*Myotis evotis*). The long-eared myotis is a CDFW California Special Animal. Suitable habitat is present in woodlands within the Project area. Calls identified as this species were

recorded in oak woodlands in the eastern portion of the Project site during bat surveys conducted in 2008 and 2017 (Appendix C-1). It would generally be present year-round using coast live oak woodland and tanoak forest, and its primary flying activity would be expected to occur up to 40 feet from the ground surface (Sapphos, 2018).

Big Free-Tailed Bat (*Nyctinomops macrotis*). The big-free-tailed bat is a CDFW Species of Special Concern. It is rare in California and likely does not breed in the state. Calls identified as this species were recorded during acoustical surveys in late summer/fall of 2018 (rare; total of 3 minutes recorded). It is likely only present on site as an occasional vagrant during migration.

Occurrence Potential or Regulatory Status Revised Since the LWEP EIR

Crotch Bumble Bee (*Bombus crotchii*). Crotch bumble bee was designated a candidate species for State listing on June 18, 2019, after the Draft SEIR was circulated for public review (CDFW, 2019a). It is a widespread secretive species that is known from more than two hundred locations over a broad geographic range (CDFW, 2019b). More than 100 recent observations have been made throughout much of California (iNaturalist.org, 2019). It is typically found in openings in grassland and scrub habitats where it burrows into the ground and lives in colonies. It feeds on native plants including milkweed, pincushion, lupine, phacelia, sage, snapdragon, clarkia, bush poppy, and buckwheat (Hatfield et al., 2015). Many of these food plants are present on or in the vicinity of the Project site and suitable burrowing and foraging is also present. The nearest record is along the Gaviota coast approximately 17 miles southeast of the SWEP (iNaturalist.org, 2019). Crotch bumblebee has a moderate potential to be present on the site.

El Segundo Blue Butterfly (*Euphilotes battoides allyni*). The El Segundo blue butterfly is federally listed endangered. Critical habitat has not been designated for this species. Known occurrences are closely associated with its host plant, coast buckwheat (*Eriogonum parvifolium*, also called seacliff buckwheat). The larvae feed and develop in the developing seed heads, pupate under the bush, and the adults feed on nectar produced by the flowers. El Segundo blue butterflies typically stay within 200 feet of this food plant over their entire lifetime.

Until 2005, the El Segundo blue butterfly was known from only three extant populations in coastal dune habitat in Los Angeles County, including El Segundo, near the Los Angeles International Airport, and at Malaga Cove on the Palos Verdes Peninsula. The Los Angeles County populations are over 120 miles southeast of the Project site. In 2005, butterflies tentatively identified as El Segundo blue butterflies were identified on VAFB and were also associated with coast buckwheat. During directed presence/absence surveys for this species at the Project site in August 2008, 26 adult butterflies and 3 larvae were identified, along with approximately 51.1 acres of suitable coast buckwheat habitats concentrated in the southern portion of the Project area, adjacent to VAFB (Sapphos, 2018; see Table 4.5-1 for a description of the survey area). Surveys to assess population density and extent on site have not been conducted. For the purposes of this report, and consistent with current USFWS guidance, the butterflies on the Project site are considered to be the federally listed El Segundo blue butterfly.

During the spring 2018 rare plant surveys for the SWEP, biologists mapped the locations and extent of coast buckwheat within the proposed Project footprint and a 100-foot buffer as well as the proposed 100-foot-wide transmission line corridor and approximate 60-foot-wide access corridor to better quantify the distribution of El Segundo blue butterfly habitat within the current Project configuration (see Figure 4.5-6). A total of 681 locations ~~populations~~ of coast buckwheat were documented, totaling 28,912 individual plants covering 781,882 square feet (17.9 acres) (Dudek, 2018a).

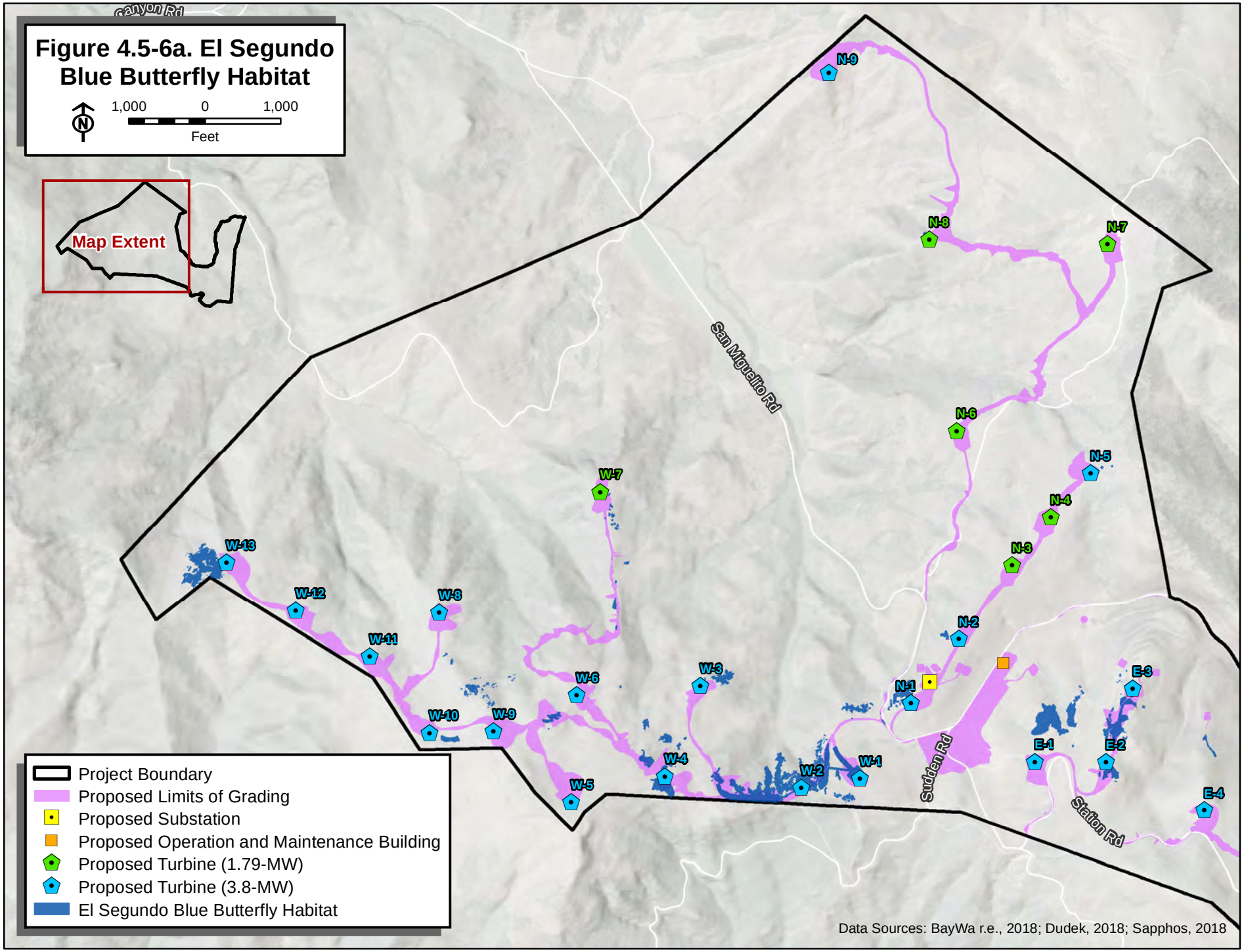
Figure 4.5-6a. El Segundo Blue Butterfly Habitat
1,000 0 1,000
Feet
Map Extent
Canyon Rd
San Miguelito Rd
Sudden Rd
Station Rd
N-9
N-8
N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
W-13
W-12
W-8
W-11
W-6
W-3
W-10
W-9
W-4
W-5
W-2
W-1
E-3
E-1
E-2
E-4
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
El Segundo Blue Butterfly Habitat
Data Sources: BayWa r.e., 2018; Dudek, 2018; Sapphos, 2018

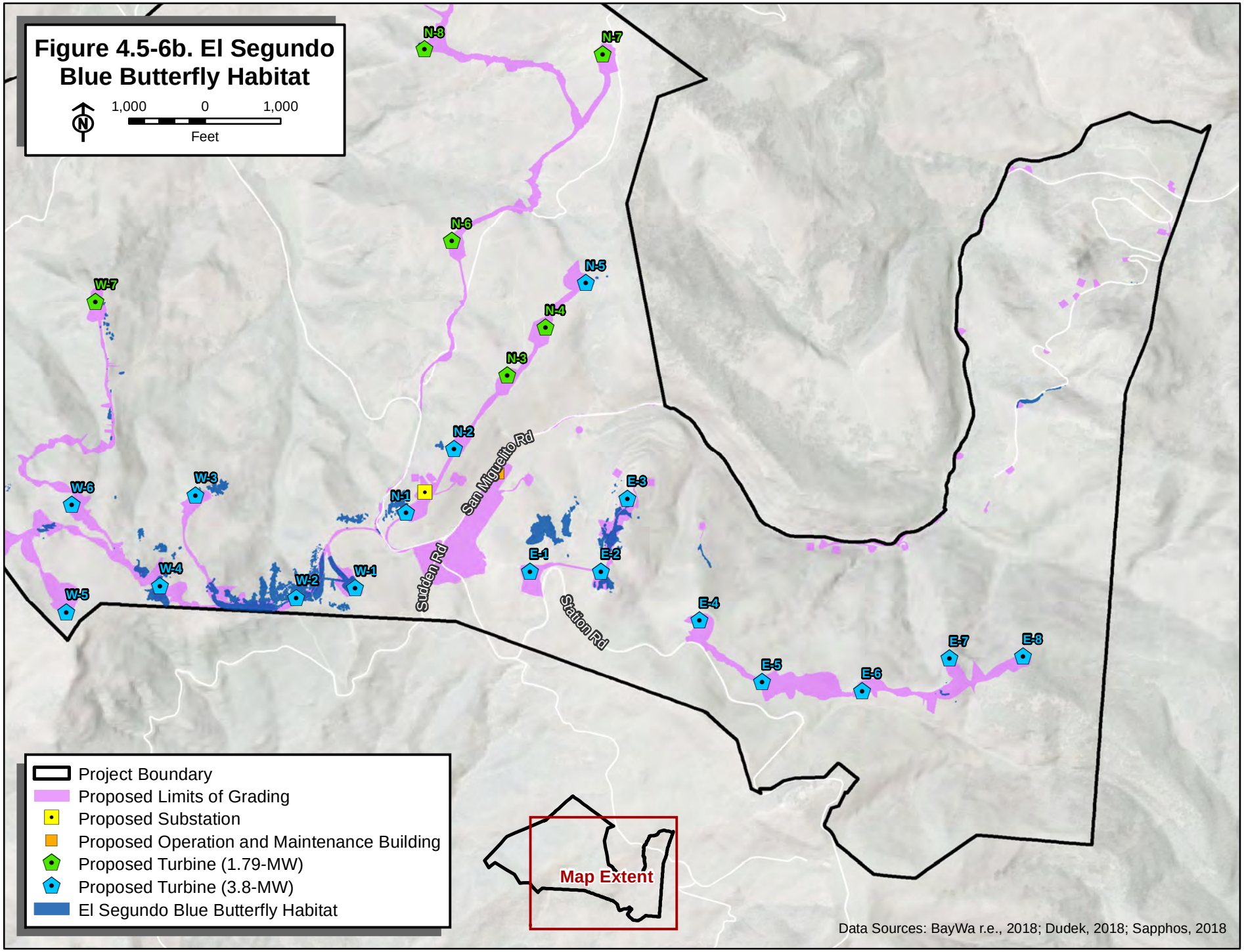
Figure 4.5-6b. El Segundo Blue Butterfly Habitat
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Feet
N-8
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N-6
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N-4
N-3
N-2
N-1
W-7
W-6
W-3
W-4
W-5
W-2
W-1
E-3
E-1
E-2
E-4
E-5
E-6
E-7
E-8
San Miguelito Rd
Sudden Rd
Station Rd
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
El Segundo Blue Butterfly Habitat
Map Extent
Data Sources: BayWa r.e., 2018; Dudek, 2018; Sapphos, 2018

California Condor (*Gymnogyps californianus*). The California condor is federally and state-listed endangered and is Fully Protected in California. At the time that the LWEP EIR was published, extant populations of the condor had not been recorded in western Santa Barbara County and the nearest extant individual record was over 43 miles from the site. However, the California condor's range has been expanding over the last decade. The USFWS tracks individual condors in the wild, and the most current data (from 2017) shows four points recorded within 20 miles of the Project site (USFWS, 2017). The closest record was approximately 8 miles south of the Project site over the ocean, but all other records are north and east of the Project. It is unknown whether these points represent the movements of a single condor or multiple individuals. Nonetheless, the site and surrounding area supports suitable foraging habitat, and given the current population trends and the proximity to the Project site (condors are known to travel over 50 miles during foraging events), condors are expected to visit the Project area at least on occasion over the course of the Project lifespan.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*). *E. traillii extimus* is federally listed endangered, and all three subspecies of *E. traillii* are state-listed endangered. The LWEP EIR considered this species unlikely to occur on site due to a lack of willow vegetation, although it is known from nearby VAFB. However, riparian willow thickets in the Project area provide suitable migratory stopover habitat and possibly (but highly unlikely) breeding habitat, particularly along San Miguelito Creek and along portions of the transmission line and an eBird record of willow flycatcher (subspecies unknown) was reported from Miguelito County Park adjacent to transmission line corridor (eBird, 2018). Although willow flycatchers have not been observed during Project surveys, the nearby records and presence of suitable habitat suggest that this species has a high potential to occur in the Project area as a seasonal migrant.

Tricolored Blackbird (*Agelaius tricolor*). As described in the LWEP EIR, flocks of tricolored blackbirds were documented on site during surveys in 2002 and 2008. At the time of LWEP EIR publication, this species was a California Species of Special Concern. However, in December 2015 it was designated a Candidate for Listing under the CESA by the CDFW. The Fish and Game Commission voted to list the tricolored blackbird as threatened under the CESA on April 19, 2018. The official Notice of Findings is pending.

California Red-Legged Frog (*Rana draytonii*). The California red-legged frog is federally listed threatened and a California Species of Special Concern. The LWEP EIR reported that it occurs in Honda Creek west of Tranquillion Peak, and tadpoles have been observed in a trough near a northern tributary to Miguelito Canyon near the boundary between VAFB and the Project site. The LWEP EIR concluded that marginal habitat for this species is present on the Project site in Honda Creek and stockponds. The LWEP EIR determined that California red-legged frog may be present on the Project site during infrequent migration events and may persist in stockponds located throughout the LWEF site.

Approximately 204 acres of critical habitat for California red-legged frog has been designated within the southeast portion of the Project area. No suitable riparian habitat is present for this species within the critical habitat area; however, upland dispersal habitats are present. The nearest occurrence in the CNDDB was recorded 0.23 mile north of the Project area in San Miguelito Creek in 2008, near the proposed transmission line corridor. There are five other occurrences within 1 mile east of the Project site, along Cañada Honda Creek in VAFB, that were recorded in 2008. Due to the Project's proximity to known records, potential aquatic breeding habitats, and the presence of suitable upland dispersal habitat on site, including portions of the Project footprint, this species is considered to have a high likelihood to occur on site during dispersal events.

4.5.1.5 Wetlands and Other Sensitive Aquatic Features

Wetlands and other sensitive aquatic features are defined and described in Section 3.5.5 of the LWEP EIR. The Applicant's consultant Sapphos Environmental, Inc. (Sapphos) prepared a wetland delineation at the Project site in 2008 for the LWEP, and the Applicant's consultant Dudek revised and expanded the wetland delineation and jurisdictional determination with emphasis on those features that would be impacted by the SWEP, including along the transmission line corridor. See Appendix C-4 for the *Wetland Delineation and Jurisdictional Determination Report* (Dudek, 2018c). Jurisdictional features in the Project area are shown on Figure 4.5-7 and described in detail below.

Major Hydrologic Features

Most of the Project development would be located along ridgelines and steep terrain, and the majority of the hydrologic features identified during the wetland delineation consisted of upper watershed features that begin as minor concavities at the upper elevations and develop into defined channels in the lower elevations. The proposed transmission line would be constructed largely in the lower elevations of the Project area. The transmission line alignment crosses over one named stream, San Miguelito Creek, at several points along the alignment. Ultimately, nearly all of the hydrologic features identified within the Project area flow into named streams including Canada Honda, which discharges into the Pacific Ocean and San Miguelito Creek and Salispuedes Creek, which discharge into the Santa Ynez River. (Dudek, 2018c)

Jurisdictional Delineation Results

The wetland delineation completed by Sapphos in 2008 concluded that three features were under the jurisdiction of the USACE, RWQCB, CDFW, as well as the County of Santa Barbara in association with the previously proposed substation, laydown, and staging areas for the LWEP. The wetland delineation field assessment completed by Dudek for the SWEP re-assessed the previously mapped wetland features and, in addition, identified a total of 23 ephemeral channels, 4 intermittent streams, 2 adjacent wetlands, 2 isolated wetlands, as well as associated riparian habitats within the overall survey area. In addition, a total of 40 swale features were identified throughout the survey area. (Dudek, 2018c)

The Project area is located within two major watersheds; the South Coast watershed in the western and far southeastern portions of the Project area and Santa Ynez watershed in the eastern and far north-central portions of the Project area, which includes the entire transmission line corridor. Results of the wetland delineation presented below are excerpted from the *Wetland Delineation and Jurisdictional Determination Report* and are separated by major watershed due to characteristic differences in the hydrologic features between each watershed. (Dudek, 2018c)

South Coast Watershed

The portion of the Project area within the South Coast watershed falls into two separate sub-watersheds; Canada Honda Creek-Frontal Santa Barbara Channel and Jalama Creek.

The Canada Honda Creek-Frontal Santa Barbara Channel sub-watershed drains the majority of the western portion of the Project area. The north-, west-, and south-facing slopes within the Project area support a hydrologic connection to Canada Honda Creek through a series of swales, ephemeral channels, and intermittent streams across the hillslopes. Canada Honda Creek, which is located entirely outside of the Project area, ultimately flows into the Pacific Ocean approximately 6.7 miles west of the Project area on Vandenberg Air Force Base.

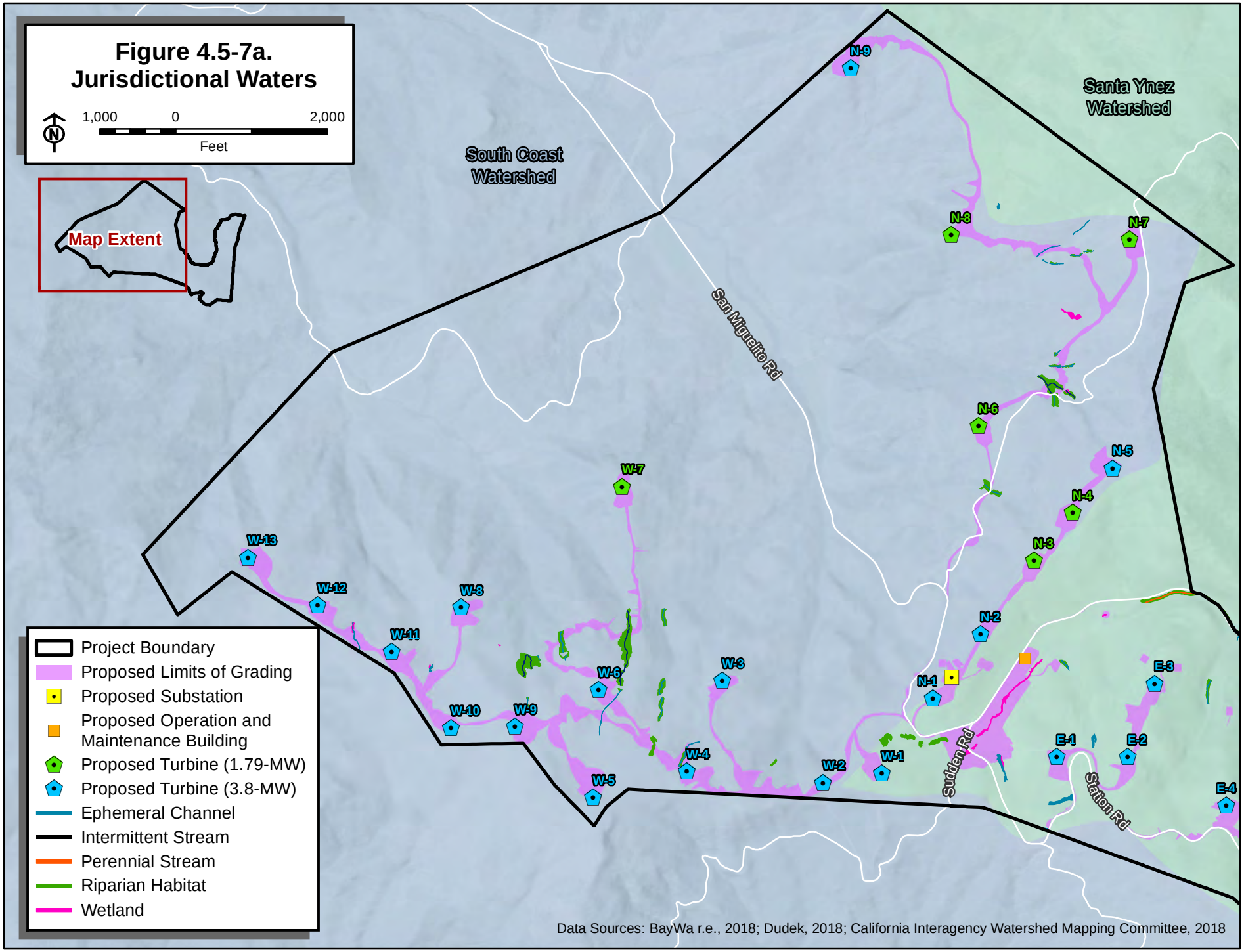
Figure 4.5-7a.
Jurisdictional Waters
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Feet
Map Extent
South Coast Watershed
Santa Ynez Watershed
San Miguelito Rd
Sudden Rd
Station Rd
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N-5
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W-12
W-8
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W-6
W-3
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E-3
E-1
E-2
E-4
Project Boundary
Proposed Limits of Grading
Proposed Substation
Proposed Operation and Maintenance Building
Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Ephemeral Channel
Intermittent Stream
Perennial Stream
Riparian Habitat
Wetland
Data Sources: BayWa r.e., 2018; Dudek, 2018; California Interagency Watershed Mapping Committee, 2018

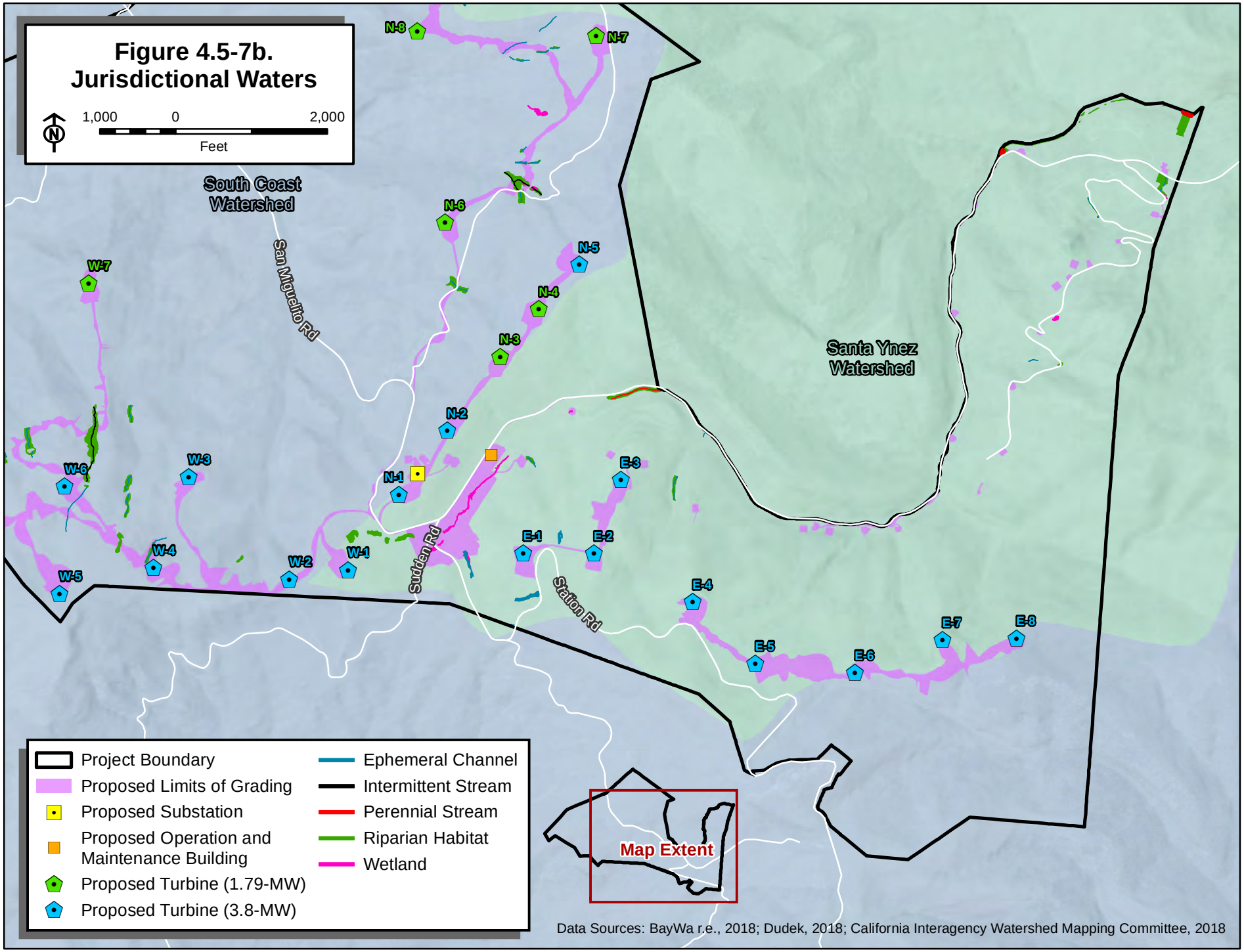
Figure 4.5-7b.
Jurisdictional Waters
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2,000
Feet
South Coast Watershed
Santa Ynez Watershed
San Miguelito Rd
Sudden Rd
Station Rd
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N-7
N-6
N-5
N-4
N-3
N-2
N-1
W-7
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Project Boundary
Proposed Limits of Grading
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Proposed Turbine (1.79-MW)
Proposed Turbine (3.8-MW)
Ephemeral Channel
Intermittent Stream
Perennial Stream
Riparian Habitat
Wetland
Map Extent
Data Sources: BayWa r.e., 2018; Dudek, 2018; California Interagency Watershed Mapping Committee, 2018

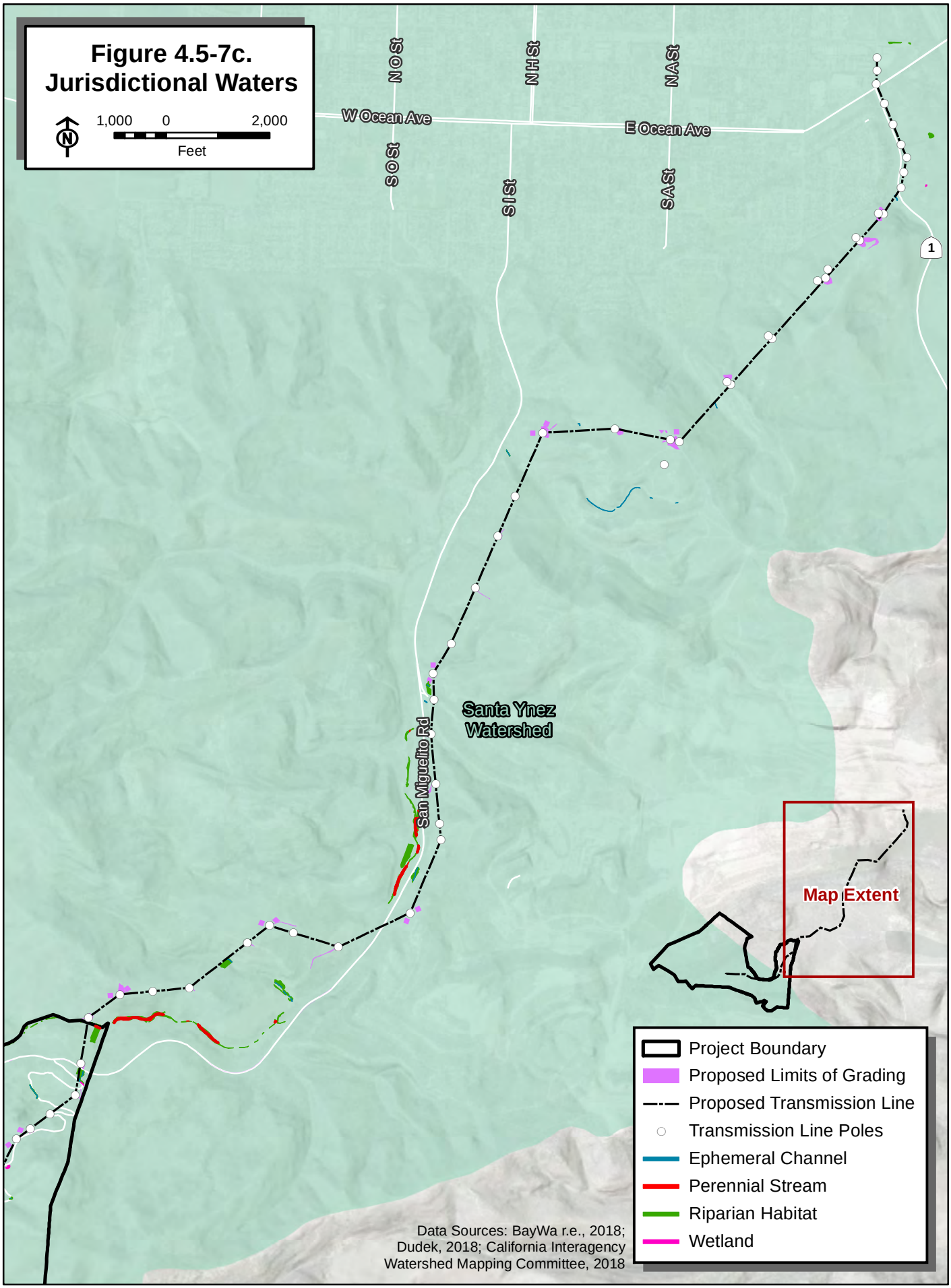
Figure 4.5-7c.
Jurisdictional Waters
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N O St
N H St
N A St
W Ocean Ave
E Ocean Ave
S O St
S I St
S A St
1
Santa Ynez
Watershed
San Miguelito Rd
Map Extent
Project Boundary
Proposed Limits of Grading
Proposed Transmission Line
Transmission Line Poles
Ephemeral Channel
Perennial Stream
Riparian Habitat
Wetland
Data Sources: BayWa r.e., 2018;
Dudek, 2018; California Interagency
Watershed Mapping Committee, 2018

The Jalama Creek sub-watershed drains a relatively small area in the southeastern portion of the Project area. Within this sub-watershed, the south- and east-facing slopes in the Project area support one swale, which continues downslope and out of the Project area further to the southeast, eventually connecting to Jalama Creek. Jalama Creek ultimately flows into the Pacific Ocean 5.6 miles south of the Project area at Jalama Beach County Park.

A portion of the Project area falls into the Coastal Zone within the South Coast watershed, and coastal wetlands, non-wetland waters, and riparian habitat were included in the delineation.

Ephemeral channels and intermittent streams supporting clear ordinary high-water mark (OHWM) indicators as well as features supporting evidence of wetland hydrology were identified at various locations throughout the Project area. Evidence of an OHWM and defined bed and bank was identified in a total of 14 mapped ephemeral channels and four intermittent streams within the South Coast watershed. These features were designated as ephemeral or intermittent based on the presence or absence of surface flow during the field assessment. Each of the intermittent streams supported surface flow during the field assessment and individual seeps were found to be associated with these features. It is not known whether these seeps provide a year-round water supply to the intermittent streams.

A total of 18 swale features were also identified and mapped within the South Coast watershed portion of the Project area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project area, were defined based on the lack of an OHWM or defined bed and bank and were typically dominated by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to Canada Honda based on an evaluation of the local topography and on a visual assessment.

Santa Ynez Watershed

Within the Santa Ynez watershed, the Project area falls into two separate sub-watersheds; Santa Lucia Canyon-Santa Ynez River and San Miguelito Creek-Santa Ynez River.

The Santa Lucia Canyon-Santa Ynez River sub-watershed drains a very small area in the northwestern portion of the survey area. Within this sub-watershed, the north-facing slopes in the Project area support one swale, which continues downslope and out of the Project area further to the north, eventually connecting to ~~Santa Lucia~~ San Miguelito Creek ~~Canyon~~, which discharges into the Santa Ynez River approximately 6.5 miles north of the Project area through a series of natural channels and man-made drainage features. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 6.7 miles west of the confluence with Santa Lucia Canyon.

The San Miguelito Creek-Santa Ynez River sub-watershed drains the majority of the eastern portion of the Project area as well as the entirety of the transmission line corridor. Within this sub-watershed, the north-, south-, east-, and west-facing slopes in the Project area support a hydrologic connection to San Miguelito Creek through a network of swales and ephemeral channels across the hillslopes. Within the Project area, San Miguelito Creek begins in the southern limit as a wide swale, narrowing as the canyon steepens to the north to a densely forested intermittent stream. San Miguelito Creek eventually connects to the Santa Ynez River approximately 3.5 miles north of the Project area via man-made drainage features. Salispuedes Creek traverses the Project area in the northeastern portion of

the transmission line corridor and connects to the Santa Ynez River just outside of the Project limits. The Santa Ynez River ultimately flows into the Pacific Ocean at Surf Beach, approximately 8.7 miles west of the confluence with San Miguelito Creek.

As the majority of the Project is to occur in the upper elevations of the overall site, on or just below ridgelines, the hydrologic features encountered within the Project area during the field assessment are largely contained within the upper watershed and consist of first and second order tributaries. San Miguelito Creek is the main exception as this feature is a third order stream that contained surface water during the field assessment. Salispuedes Creek is also present within the survey area; however, this hydrologic feature is limited to the far northeastern portion of the survey area and is not anticipated to be impacted by the Project. These upper watershed features vary greatly in size and formation, from discontinuous swales to ephemeral channels, which directly influences the presence of hydrologic indicators including, but not limited to, an OHWM. However, each feature mapped during the field assessment and presented herein retains a hydrologic connection to downslope waters within the overall watershed as described above.

Evidence of an OHWM and defined bed and bank was identified in a total of three mapped ephemeral channels and one perennial stream (San Miguelito Creek). Those areas supporting wetland hydrology, both associated with ephemeral channel and perennial stream features as well as those isolated from these features, were identified and mapped following completion of USACE wetland delineation data forms. One wetland feature was identified and mapped in the uppermost portion of the San Miguelito Creek watershed, which was separated into three-parameter and two-parameter (County) wetlands based on the indicators observed. In contrast to the features identified in the South Coast watershed, no springs were identified within the Santa Ynez watershed and the only surface flow/ ponding was observed in San Miguelito Creek.

A total of 12 swale features were also identified and mapped within the Santa Ynez watershed portion of the Project area during the field assessment. These features were generally located in the uppermost portion of the watershed and lacked clear indicators of hydrology. Swales, in the context of the Project area, were defined based on the lack of an OHWM or defined bed and bank and, within the Santa Ynez watershed, were dominated entirely by upland species within their confines. These features were, however, located in topographical concavities on hillsides and primarily convey rainfall runoff downslope. Swales were the most commonly encountered feature within the survey area during the field assessment, the majority of which continue downslope into ephemeral channels either inside or outside of the survey area and are presumed to be hydrologically connected to San Miguelito Creek or Salispuedes Creek based on an evaluation of the local topography and on a visual assessment.

4.5.2 Regulatory Setting

4.5.2.1 Regulatory Framework Identified in LWEP EIR

The majority of regulations related to biological resources that were disclosed in the LWEP EIR are relevant to the currently proposed Project and are summarized below. See Section 3.5.6, *Regulatory Framework*, of the LWEP EIR for a detailed description of each.

Federal Regulations that pertain to the proposed Project include:

- Endangered Species Act
- Migratory Bird Treaty Act

- Bald and Golden Eagle Protection Act

State Regulations that pertain to the proposed Project include:

- California Endangered Species Act
- California Species Preservation Act
- California Fully Protected Wildlife Species (California Fish and Game Code §§ 3511, 4700, 5050, and 5515)
- California Fish and Game Code §§ 3503, 3503.5 and 3513

4.5.2.2 New, Updated, and Revised Regulations

Additional regulations related to biological resources that were not addressed in the LWEP EIR and that apply to the proposed Project include the following.

Federal Regulations that pertain to the proposed Project include:

- **National Environmental Policy Act (NEPA).** NEPA was signed into law on January 1, 1970 and requires federal agencies to assess the environmental effects of their proposed actions prior to making decisions. The range of actions covered by NEPA includes:
    - Making decisions on permit applications,
    - Adopting federal land management actions, and
    - Constructing highways and other publicly-owned facilities.

  Using the NEPA process, agencies evaluate the environmental and related social and economic effects of their proposed actions. Agencies also provide opportunities for public review and comment on those evaluations.

- **Clean Water Act.** The Clean Water Act (33 USC 1251 et seq.) establishes legal requirements for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters.

  Section 401. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States must obtain a State certification that the discharge complies with other provisions of the Clean Water Act. The Regional Water Quality Control Boards (RWQCBs) administer the certification program in California.

  Section 404. Section 404 establishes a permit program administered by the U.S. Army Corps of Engineers (USACE) regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Implementing regulations by the USACE are found at 33 CFR Parts 320-330. Guidelines for implementation are referred to as the Section 404(b)(1) Guidelines and were developed by the EPA in conjunction with the USACE (40 CFR Parts 230). The Guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

- **Wetlands – Executive Order 11990.** Issued in May 1977, mandates that all new construction should be designed to the greatest extent possible to avoid long- and short-term adverse impacts that would lead to the destruction or the modification of wetlands, in order to preserve and enhance the natural and beneficial values of wetlands. Federal agencies cannot undertake

or provide assistance for new construction located in wetlands unless the head of the agency finds that: (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

- **Plant Protection Act of 2000.** Prevents importation, exportation, and spread of pests that are injurious to plants, and provides for the certification of plants and the control and eradication of plant pests. The Act consolidates requirements previously contained within multiple federal regulations including the Federal Noxious Weed Act, the Plant Quarantine Act, and the Federal Plant Pest Act.

State Regulations that pertain to the proposed Project include:

- **Streambed Alteration Agreements – California Fish and Game Code Sections 1600-1616.** Under these sections of the Fish and Game Code, an applicant is required to notify CDFW prior to constructing a project that would divert, obstruct, or change the natural flow, bed, channel, or bank of a river, stream, or lake. Preliminary notification and project review generally occur during the environmental review process. When a fish or wildlife resource may be substantially adversely affected, CDFW is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement that becomes part of the plans, specifications, and bid documents for the project. CDFW jurisdiction is determined to occur within the water body of any natural river, stream, or lake. The term "stream," which includes creeks and rivers, is defined in Title 14, CCR, Section 1.72.

- **California Porter-Cologne Water Quality Control Act.** Pursuant to the California Porter-Cologne Water Quality Control Act, the State Water Resources Control Board (SWRCB) and the nine RWQCB may require permits ("waste discharge requirements") for the fill or alteration of "Waters of the State." The term "Waters of the State" is defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050[e]). Although "waste" is partially defined as any waste substance associated with human habitation, the SWRCB interprets this to include fill discharge into water bodies. The SWRCB and the RWQCB have interpreted their authority to require waste discharge requirements to extend to any proposal to fill or alter "Waters of the State," even if those same waters are not under the jurisdiction of the USACE.

  Pursuant to this authority, the SWRCB and the RWQCB may require the submission of a "report of waste discharge" under Water Code Section 13260, which is treated as an application for a waste discharge requirement.

- **Oak Woodlands Conservation.** California Public Resources Code Section 21083.4 requires each county in California to consider a project's impacts to oak woodlands during the CEQA environmental review process. If a county determines that there would be significant impacts to oak woodlands, it must require one or more specified mitigation alternatives to mitigate the significant effect of the conversion of oak woodlands.

- **California Coastal Act (Section 30001**). Section 30001 of the California Coastal Act of 1976 lists the California Coastal Zone as a distinct and valuable natural resource and includes measures to protect the state's coastal natural and scenic resources. Pursuant to the act, all development should be located, designed, and constructed as to minimize any potential adverse effects on Coastal Zone resources. Additionally, habitats that are determined to be environmentally sensitive should be protected against any significant disruption of habitat value.

- **Furbearing Mammals (Fish and Game Code Section 4000).** According to the State Fish and Game Code, Division 4, Part 3, Chapter 2, Article 1, Section 4000, the list of furbearing mammals includes, but is not limited to, kit fox (*Vulpes macrotis*) and badger (*Taxidea taxus*). The regulations on take of fur-bearing mammals are established within the California Code of Regulations (CCR), Title 14, Division 1 (Subdivision 2), Chapter 5, Sections 460-464. Under these provisions, take of kit fox is prohibited, and take of badger is regulated. Title 14, Sections 460–464 of the CCR are supported by Sections 200, 203, and 4009.5 of the Fish and Game Code.

Santa Barbara County Plans, Policies, and Regulations. Santa Barbara County land use policies recognizes several habitat types as being worthy of protection. These are communities that support high plant and animal diversity, are limited in extent, or tend to be vulnerable to human impacts. These habitats include native grasslands, oak woodlands, coastal sage scrub, rivers and streams, and wetlands. The County's Land Use and Development Code (SBC, 2018a) and Environmental Thresholds and Guidelines Manual (SBC, 2018b) contain specific recommendations for protection of these resources. Santa Barbara County's Comprehensive Plan Land Use Element contains resource protection policies for biological resources.

- **Santa Barbara County Comprehensive Plan.** Projects within the County are subject to plans and policies intended to protect biological resources contained in elements of the Santa Barbara County Comprehensive Plan, including the Conservation Element, Land Use Element, and Coastal Land Use Plan. These documents identify sensitive habitats and species and provide measures to direct Project design and policies to protect biological resources.
  - ***Conservation Element.*** Santa Barbara County's natural and cultural resources are the subject of the Conservation Element. It identifies "species and ecological communities of particular value." Ecological communities of greatest interest listed in the Conservation Element include: high montane coniferous forest (mixed coniferous forest), mixed evergreen forest, closed cone pine forest, Douglas fir forest, southern oak woodland, coastal dune and strand, coastal salt marsh, coastal bluff, native grassland, interior cypress forest, canyon oak – big cone spruce, Coulter pine forest, rare freshwater habitats, and rare freshwater habitats.
  - ***Oak Tree Protection in the Inland Rural Areas of Santa Barbara County: Supplement to the Mapped Areas and Communities Section of the Conservation Element.*** Provides for the protection of native oak trees in the inland rural areas of Santa Barbara County. Oak species discussed in this section include coast live oak (*Quercus agrifolia*), valley oak (*Q. lobata*), blue oak (*Q. douglasii*), canyon live oak (*Q. chrysolepis*), black oak (*Q. kelloggii*), and interior live oak (*Q. wislizenii*).

  Development Standard 1 for protection of all species of mature oak trees (other than valley oaks) states:

  > *All development shall avoid removal of or damage to mature oak trees, to the maximum extent feasible. Mature oak trees are considered to be live oak trees six inches or greater diameter at breast height and blue oak trees four inches or greater diameter at breast height, or live and blue oaks six feet or greater in height. Native oak trees that cannot be avoided shall be replanted on site. When replanting oak trees on site is not feasible, replanting shall occur on receiver sites known to be capable of supporting the particular oak tree species, and in areas contiguous with existing woodlands or savannas where the removed species occurs. Replanting shall conform to the County's Standard Conditions and Mitigation Measures.*

- **Coastal Land Use Plan.** This is the Santa Barbara County Local Coastal Program, a local implementation of the California Coastal Act. The Coastal Land Use Plan establishes land uses within the Coastal Zone and includes numerous policies applicable to development projects. Pursuant to the Coastal Land Use Plan, the State Coastal Commission exercises permit jurisdiction over development projects within the California Coastal Zone. Other elements of the County's Comprehensive Plan are applicable within the Coastal Zone, however, where conflicts exist, the Coastal Land Use Plan takes precedence. A portion of the Proposed Project is located within the Coastal Zone.

  The Coastal Land Use Plan designates Environmentally Sensitive Habitat Areas (ESHAs) within the County's Coastal Zone, which are defined by Section 30107.5 of the 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." The proposed Project does not fall within any mapped ESHA. However, according to Section 3.9.4 of the Coastal Land Use Plan, native plant communities are considered a county-wide ESHA that "are not designated on the land use maps because they occur in so many areas," and as such, "the policies will have to be applied on a case-by-case basis as projects are reviewed." Native plant communities include coastal sage scrub, chaparral, California native oak woodland and individual oak trees, and endangered, rare, or endemic plant species.

  Regarding oak trees in particular, Policy 9-35 of the Coastal Land Use Plan states:

  > *Oak trees, because they are particularly sensitive to environmental conditions, shall be protected. All land use activities, including cultivated agriculture and grazing, should be carried out in such a manner as to avoid damage to native oak trees. Regeneration of oak trees on grazing lands should be encouraged.*

  In addition, Policy 9-36 states:

  > *When sites are graded or developed, areas with significant amounts of native vegetation shall be preserved. All development shall be sited, designed, and constructed to minimize impacts of grading, paving, construction of roads or structures, runoff, and erosion on native vegetation. In particular, grading and paving shall not adversely affect root zone aeration and stability of native trees.*

4.5.3 Significance Thresholds

Santa Barbara County's Environmental Thresholds and Guidelines Manual (County, 2018) includes guidelines for assessing impacts to biological resources. Impacts would be significant if the proposed Project would:

- Substantially reduce or eliminate species diversity or abundance.
- Substantially reduce or eliminate quantity or quality of nesting areas.
- Substantially limit reproductive capacity through losses of individuals or habitat.
- Substantially fragment, eliminate, or otherwise disrupt foraging areas and/or access to food sources.
- Substantially limit or fragment range and movement (geographic distribution or animals and/or seed dispersal routes).

- Substantially interfere with natural processes, such as fire or flooding, upon which the habitat depends.

In addition, Appendix G of the CEQA Statute and Guidelines states that a project would have a significant effect on biological resources if it would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by CDFW or USFWS;
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404, of the Clean Water Act (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites; or
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Criteria used in determining impact significance for the proposed Project were based on those identified above. An impact to biological resources would be considered significant (before considering offsetting mitigation measures) if the lead agency determines that Project implementation would result in one or more of the following:

- The potential for reduction, loss, or degradation of habitat for threatened, endangered, or special-status species;
- The potential for loss or "take" of any federal- or state-listed plant or animal species; fully protected species; special-status species, or species protected by the MBTA or other regulations;
- A net loss or permanent change in the extent or functional value of any habitat or biotic community considered biologically, scientifically, recreationally, or economically significant by federal, state, or local policies, statutes, and regulations;
- Adverse effect on federally protected wetlands as defined in Section 404 of the Clean Water Act;
- Alteration or destruction of habitat that precludes reestablishment of native populations of plants and animals;
- Impairment of movement, migration, or dispersal of resident and migratory fish and wildlife species; or
- Substantial loss of habitat or population decline of any native fish, wildlife or plant species, or overall reduction in biological diversity.

4.5.4 Environmental Impacts and Mitigation Measures

4.5.4.1 Impact Assessment Methodology

Direct impacts are defined under CEQA as those effects that result from a project and occur at the same time and place. For biological resources, direct impacts can include the removal of vegetation, disturbance to wildlife from project-related activities, and the crushing of burrows. Indirect impacts are caused by a project, but can occur later in time or are farther removed in distance but are reasonably foreseeable and related to the project. Indirect impacts can include the disruption of native seed banks, spread of invasive plant species, changes to soil or hydrology that adversely affects native species over time, disruption of prey base, or increased predation through alterations of the physical landscape from project features. Indirect impacts may also include increased traffic and human disturbance.

Permanent or long-term Project-related impacts include the conversion of land to a new use, such as the construction of new roads, substation, and WTG pads. It also includes removal of woodland even with post-construction restoration due to the length of time required to re-establish mature trees and the original functional value. Temporary or short-term impacts result from activities that are of short duration (i.e., six to 12 months) and that do not result in a permanent land use conversion. Temporary impacts of the proposed Project include ground disturbance, noise, human activity, and vehicle traffic associated with the construction phase.

Impacts from the proposed Project are assessed for the construction and operation phases. Construction activities include grading, WTG installation, transmission line installation, appurtenant structure construction, and associated activities. Operations include WTG operation, transmission line operation, emergency repairs, and routine maintenance.

Mitigation measures (MMs) have been revised from the LWEP EIR where needed to ensure impacts to biological resources from the SWEP are minimized or avoided to the extent feasible. Where appropriate, the Applicant's recommended mitigation (see the *Biological Resources Technical Report* [Sapphos, 2018] in Appendix C-1) has been incorporated into the MMs presented below.

4.5.4.2 Proposed Project Impacts and Mitigation Measures

Table 4.5-2 lists the impacts and MMs identified for biological resources in the LWEP EIR. These same impacts are addressed in this section for the SWEP. The right-hand column of the table below indicates whether the LWEP impacts or MMs have been modified for the SWEP.

Table 4.5-2. LWEP Impacts and Mitigation Measures – Biological Resources

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
BIO-1	Vegetation and Wildlife Habitat. Approximately 127 acres of vegetation and wildlife habitat will be temporarily impacted by construction, with an additional 43 acres being permanently disturbed (e.g., by construction of roads, pads, facilities sites). The temporarily disturbed areas would be available to be revegetated upon completion of construction. Although most of the habitat is	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Perennial Bunchgrass BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Divided impact into BIO-1a (construction) and BIO-1b (operation). Updated impact discussion. Revised/updated mitigation. Significance conclusion change (operation).

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
	relatively common in the region, the affected habitat includes areas that qualify for special regulatory protection, including Central Coast riparian scrub and may include areas with a prevalence of native perennial grasses and other native grassland species. Only minor disturbances to common vegetation are expected during O&M.		
BIO-2	Woodland and Forest. Tree trimming or removal may be required during transport of WTGs or power line installation. A small portion of the proposed roadway network would affect tree-dominated vegetation; power line construction would occur close to wooded areas. Only minor disturbances to common vegetation are expected from ongoing vegetation clearances for fire management and safety.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-4: Tree Protection and Replacement Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Divided impact into BIO-2a (construction) and BIO-2b (operation). Updated impact discussion. Revised/updated mitigation. New mitigation. Significance conclusion change (construction).
BIO-3	Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFG. Direct loss of wetlands and seeps would occur at creek crossings and the proposed O&M facility. Direct loss of wetlands and seeps within the WTG corridor are not expected; however, there is potential for loss should the project configuration change. Additionally, soil erosion or spills could reduce water quality during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Protection of Creeks, Springs, and Wetlands BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation.
BIO-4	Riparian Vegetation. A minor amount of riparian vegetation (several square feet) would be removed during bridge construction at Honda Creek; soil erosion would result in minor impacts on water quality.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-4: Tree Protection and Replacement Plan BIO-9: Protection of Creeks, Springs, and Wetlands BIO-10: Riparian Habitat Restoration BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Deleted impact.
BIO-5	Gaviota Tarplant. Construction would result in 10.3 acres (8.1% of site total) of permanent and 22.3	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance	Divided impact into BIO-5a (construction) and BIO-5b (operation).

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
	acres (17.4% of site total) of temporary loss or disturbance to Gaviota tarplant and its habitat. Occasional disturbance to small areas of Gaviota tarplant habitat may occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.	BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Plant Surveys BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation.
BIO-6	Other Special-status Plant Species. A number of other special-status plant species may be present on site or in the power line corridor and could be lost during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Plant Surveys BIO-7: Kellogg's and Mesa Horkelia Habitats BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation. New mitigation.
BIO-7	Common Wildlife. Individual animals could be injured or killed by vehicles, equipment, explosives, or large holes during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. Revised/updated mitigation. Significance conclusion change.
BIO-8	Nesting Birds. Nesting birds could potentially lose nests through destruction or abandonment.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-12a. Schedule ground disturbance to avoid nesting season BIO-12b. Buffer Zones BIO-14e: Sensitive Avian Species	Updated impact discussion. Revised/updated mitigation.
BIO-9	Construction and Maintenance Impacts to Special-status Wildlife Species. Direct and indirect impacts may occur to special-status wildlife species. Those with higher potential for injury or fatalities by vehicles or equipment, loss of habitat, or disturbance of burrows and nests include reptiles, raptors, and passerines and mammals.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-13: Pre-construction Surveys and Conservation of El Segundo Blue Butterfly BIO-14a: California Horned Lizard BIO-14b: Silvery Legless Lizard	Updated impact discussion. Revised/updated mitigation. New mitigation. Significance conclusion change.

Impact No.	LWEP Impact Statements	LWEP Mitigation Measures	SWEP Changes
		BIO-14c: San Diego Desert Woodrat BIO-14d: American Badger BIO-14e: Sensitive Avian Species	
BIO-10	Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats are at risk of dying through collisions with the WTGs over the duration of the Project.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	Updated impact discussion Revised/updated mitigation.
BIO-11	Avian and Bat Collisions with Power Lines and Meteorological Towers. Birds and bats may collide with power poles and meteorological towers.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	Updated impact discussion.
BIO-12	Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers may be displaced.	BIO-16: Monitoring and Adaptive Management Plan BIO-16a: Before-After/Control-impact Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Reduce Prey Base Near Turbines BIO-16d: Adaptive Management Plan	Updated impact discussion.
BIO-13	Indirect Impacts (Wildlife). Indirect impacts to wildlife during construction would result from a variety of sources, which could result in temporary displacement. During operations, increases to impacts compared to pre-Project levels would be minor.	BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing	Divided impact into BIO-13a (construction) and BIO-13b (operation). Updated impact discussion.
BIO-14	Indirect Impacts (Vegetation). Invasive species carried from other work sites may establish on site and displace native plant species or interfere with revegetation; and topsoil removal and equipment operation may reduce the ability of soils to support vegetation.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-6: Gaviota Tarplant Disturbance BIO-10: Riparian Habitat Restoration BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Updated impact discussion. New mitigation.

Overview of Construction Impacts

Section 3.5.7.3, *Project Impacts*, of the LWEP EIR provides a summary of the impacts expected during construction of the LWEP. While the same general types of impacts would occur from construction of

the SWEP, the acreage of disturbance would be different due to the revised project configuration. These differences are detailed in the impact analysis that follows.

Overview of Operation and Maintenance Impacts

The summary of O&M impacts provided in Section 3.5.7.3, *Project Impacts*, of the LWEP EIR remains applicable to the SWEP.

BIO-1a Vegetation and Wildlife Habitat Impacts during Construction. Vegetation and wildlife habitat could be temporarily and permanently lost during construction.

The LWEP EIR assessed impacts to vegetation and wildlife habitat under Impact BIO-1. Under the LWEP, approximately 127 acres of vegetation and wildlife habitat would be temporarily impacted by construction, with an additional 43 acres being permanently disturbed (e.g., by construction of roads, pads, facilities sites). The temporarily disturbed areas could be revegetated upon completion of construction. Although most of the impacted habitat is relatively common in the region, the affected habitat includes areas that qualify for special regulatory protection, including Central Coast riparian scrub, oak woodland, and native grassland.

The SWEP would result in similar types of impacts to vegetation and wildlife habitat as described in the LWEP EIR, but the reconfigured project would result in additional acres of impacts and impacts to additional vegetation types. Table 4.5-3 summarizes the impacts to vegetation and wildlife habitat from the SWEP. It should be noted that the Applicant is considering most of the Project impacts to be permanent. The SWEP would also be subject to fuel management zones around structures, where vegetation would be managed in accordance with the County Fire Department's Defensible Space Standards (see footnote to Table 4.5-3). Temporary impacts identified in Table 4.5-3 are limited to pull sites for the transmission line installation.

In addition to the impacts identified above, the LWEP EIR reported that approximately 33.2 acres would be disturbed by transmission pole installation (184 poles assumed), which includes 1.33 acres of permanent disturbance. The SWEP would disturb approximately 11.96 acres for the transmission pole installation (approximately 44 poles), including 7.87 acres of permanent impacts.

The SWEP would result in the same types of vegetation and habitat impacts as reported in the LWEP EIR, but would be of higher magnitude. The SWEP would impact additional sensitive vegetation types, including tanoak forest and sensitive coastal scrub. It would also have greater impacts to coast live oak woodland, see Impact BIO-2a.

The LWEP avoided impacts in the Coastal Zone. However, under the proposed SWEP approximately 6.5 acres of road grading and widening would occur within the Coastal Zone. The remaining Project components, including all WTGs and appurtenant structures, would be located within the inland area. See Section 4.13, *Land Use*, for a full discussion of Project impacts within the Coastal Zone.

Table 4.5-3. Impacts to Vegetation and Landforms

Vegetation/ Landform	Project Component Permanent Impacts (acres) / Temporary Impacts (acres)											TOTAL Perm. / Temp.	GRAND TOTAL
	Cut/Fill	WTG Pads	WTG Access	Laydown Yard	O&M Facility	Sub-station	Switching Station	Road Modifi-cations	Trans-mission Line	Water Well	Fuel Manage-ment Zones[1]		
Common Vegetation													
Non-Native Grassland	0.64 / -	-	-	0.58 / -	-	-	-	-	0.87 / 0.53	0.01 / -	0.48 / -	2.59 / 0.53	3.12
Non-Native Forb-Dominated	0.56 / -	-	-	-	-	-	0.13 / -	-	0.39 / 0.28	-	0.50 / -	1.58 / 0.28	1.86
Non-Native Woodland	0.23 / -	-	-	-	-	-	-	-	0.32 / 0.02	-	0.04 / -	0.59 / 0.02	0.61
Subtotal	*1.43 / -*	-	-	*0.58 / -*	-	-	*0.13 / -*	-	*1.58 / 0.83*	*0.01 / -*	*1.02 / -*	*4.76 / 0.83*	*5.59*
Sensitive Vegetation													
Native Grassland	6.44 / -	6.67 / -	2.09 / -	0.11 / -	-	0.01 / -	-	-	0.04 / -	-	0.95 / -	16.31 / -	16.31
Coastal Scrub	61.65 / -	26.10 / -	22.67 / -	12.60 / -	0.71 / -	0.71 / -	0.27 / -	0.46 / -	5.53 / 2.97	0.01 / -	10.25 / -	140.96 / 2.97	143.93
Riparian Scrub	1.98 / -	0.02 / -	0.58 / -	0.08 / -	-	-	-	0.30 / -	-	-	0.06 / -	3.02 / -	3.02
Fremont Cotton-wood Forest	-	-	-	-	-	-	-	-	-	-	-	-	-
Tanoak Forest	2.12 / -	1.31 / -	0.85 / -	-	-	-	-	-	-	-	0.64 / -	4.92 / -	4.92
Coast Live Oak Woodland	0.73 / -	-	-	-	-	-	-	1.24 / -	0.26 / 0.10	-	0.16 / -	2.39 / 0.10	2.49
Subtotal	*72.92 / -*	*34.10 / -*	*26.19 / -*	*12.79 / -*	*0.71 / -*	*0.72 / -*	*0.27 / -*	*2.00 / -*	*5.83 / 3.07*	*0.01 / -*	*12.06 / -*	*167.60/ 3.07*	*170.67*
Other Landforms													
Agricultural Fields	0.82 / -	1.43 / -	2.75 / -	-	-	-	-	-	-	-	1.19 / -	6.19 / -	6.19
Disturbed	0.24 / -	-	-	-	-	-	0.05 / -	-	0.43 / 0.14	-	0.09 / -	0.81 / 0.14	0.95
Developed	0.17 / -	-	0.53 / -	0.13 / -	-	-	-	0.16 / -	0.03 / -	0.09 / -	0.42 / -	1.53 / -	1.53
Subtotal	*1.23 / -*	*1.43 / -*	*3.28 / -*	*0.13 / -*	-	-	*0.05 / -*	*0.16 / -*	*0.46 / 0.14*	*0.09 / -*	*1.70 / -*	*8.53 / 0.14*	*8.67*
Total Impacts	75.58 / -	35.53 / -	29.47 / -	13.50 / -	0.71 / -	0.72 / -	0.45 / -	2.16 / -	7.87 / 4.09	0.11 / -	14.78 / -	180.88 / 4.04	184.92

1 – Fuel management zones estimated consistent with Development Standard 6 of the County Fire Department's Defensible Space Standards, which requires 100-foot reduced fuel zone around structures. This requirement is expected to apply to the Project's main structures (WTGs, O&M building, substation, and switchyard). The reduced fuel zone would consist of a 30-foot zone clear of flammable vegetation adjacent to each structure and a managed vegetation zone from 30 to 100 feet from each structure. In addition, private roads on the Project site will need to maintain 10 feet of mowed area on each site of the roadways and a 15-foot reduced fuel area would be maintained around each transmission structure. These distances may be reduced upon Fire Department review of the Project. For this SEIR, the entire reduced fuel zone is considered permanent impacts.

As similarly concluded in the LWEP EIR, SWEP construction impacts on vegetation and wildlife habitat are classified as significant because of: (1) the magnitude of the disturbances to native vegetation and wildlife habitat; (2) the propensity to erosion related to the steepness of the terrain in many parts of the site; and (3) the role of the habitat in supporting wildlife, including declining native wildlife species dependent on open grassland habitats. MMs BIO-1 through BIO-3, BIO-8, and BIO-11b through BIO-11d, are recommended to avoid or minimize impacts to vegetation and habitat, including sensitive vegetation types. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, development and implementation of a Site Restoration and Revegetation Plan, native grassland restoration, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** The Applicant shall fund a County-approved biologist to develop and implement a worker education and awareness program (WEAP) specific to the Project. The program shall be presented to all individuals involved in the construction and O&M phases of the Project. The program shall include information focused on sensitive habitats and species and shall include, but not be limited to, the following:

- The natural history, including sensitive species and habitats, shall be described as well as the current status, reasons for decline, and protection measures relevant to the species and habitats.
- Contact points shall be provided for workers to report sightings of sensitive biological resources such as El Segundo blue butterfly, California red-legged frog, active bird nests, badger dens, and roosting bats and raptors in the vicinity of Project facilities.
- Workers shall be provided with photographs of sensitive biological resources including sensitive wildlife and plant species, den and burrow entrances, and nest structures. Qualified biologists, familiar with El Segundo blue butterfly (ESBB) and Gaviota tarplant, will provide a brief educational program for all personnel prior to initiation of any construction activities within the Project site. The program will include identification of ESBB, its host plant, coast buckwheat, and Gaviota tarplant; the general provisions and protections afforded to ESBB and Gaviota tarplant by the Endangered Species Act; and measures to be implemented during the Project to avoid and minimize adverse effects to ESBB and Gaviota tarplant.
- Workers shall be informed verbally and in writing of the various Project tasks that require biological surveys and monitoring for resource protection.
- Workers shall be provided with a photograph or description of the markers for active bird nests, trees, salvaged topsoil piles and windrows, or other mitigation areas, so that they shall know these are not to be disturbed without a biological monitor present.
- Workers shall be provided with photographs of invasive weeds and instructed to report to the biologist any new populations observed near Project facilities.

- Workers shall be informed not to litter. All trash and litter shall be picked up and removed from the construction sites at the end of each day.
- Workers shall be informed to obey a speed limit of 15 miles per hour while traveling on the Project site to avoid collisions with wildlife.
- Workers shall avoid driving over or otherwise disturbing areas outside the designated construction areas.

Plan Requirements. The Applicant shall submit the WEAP to the County for review and approval 30 days prior to implementation. All workers, contractors, and visitors shall attend the WEAP prior to entering the Project site and performing any work. The Applicant shall provide copies of the training attendance sheets to County staff as a record of compliance with this measure on a monthly basis. Trained crew members shall receive a sticker for their hardhat from the County Environmental Quality Assurance Program (EQAP) Inspector demonstrating WEAP training.

Timing. The WEAP shall be reviewed and approved by the County prior to Zoning Clearance. Implementation of WEAP training shall occur prior to the start of construction and as new crew members are added to the Project.

Monitoring. The County will ensure compliance with the WEAP throughout ~~all phases of~~ construction and operation by review of attendance sheets and hardhats, inspection of the site, and interviewing workers, as appropriate.

MM BIO-2 **Ground Disturbance.** The Applicant shall minimize the amount of disturbance to meet or exceed the commitments made in the CUP application, including areas devoted to WTGs; power line poles; temporary and permanent access roads; stockpiles; staging, parking and lay down areas; areas where spoil shall be used to control erosion, build new roads, and improve road shoulders; and areas for associated facilities. Construction activities shall avoid sensitive areas, such as riparian zones, forests, etc., where feasible. Construction shall avoid all wetlands regulated by Santa Barbara County, CDFW, and USACE (see MM BIO-9) where feasible. Parking, lay down, storage areas, and other sites of surface disturbance shall be located in previously disturbed areas or in annual grassland (except in Gaviota tarplant habitat) and will be mowed, versus graded, where feasible to keep root structures in place; thereby, facilitating future revegetation. Any disturbed area that is not covered with base or paving within 14 days of its disturbance shall be stabilized through use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods.

A biologist shall conduct a sweep of the site before mowing or removing vegetation and monitor for special-status species during work activities. Permanent access roads shall follow routes used for construction access to reduce the amount of new road construction. Vehicles and equipment access shall follow marked routes. Indiscriminate cross-country vehicle travel shall not be allowed.

Plan Requirements. The detailed plans, showing the limits of the grading, ground disturbance, access routes, and installation of facilities will be reviewed and approved by County staff.

Timing: The plans shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff will inspect the Project plans and site, as well as review the restoration plan to ensure compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-3 **Site Restoration and Revegetation Plan.** The Applicant shall retain a County-approved botanist to prepare and implement a site restoration and revegetation plan for all ~~native~~ vegetation communities subject to temporary impacts during construction and ground-disturbing O&M activities. Impacts to sensitive vegetation or habitat types (Section 4.5.1) will be restored to replace prior habitat values; impacts to other vegetation or habitat will be revegetated to prevent future erosion or weed invasion. The plan shall also require compensatory mitigation for permanent impacts to vegetation. The plan shall include, but not be limited to, the following requirements and other provisions:

- A map identifying all areas for revegetation or restoration, based on the affected vegetation or habitat type as described above.
- The site restoration and revegetation plan will identify quantitative success criteria for all habitat restoration that is based on both native vegetation percent cover and native species richness. Long-term ~~performance standards~~ success criteria shall include, but not be limited to, criteria such as requiring that restoration areas support at least 80 percent of the prior native species abundance and percent cover and is relatively weed free or demonstrates similar weed cover to surrounding, good quality habitat. All restoration activities and monitoring will be designed and implemented with the objective of achieving the success criteria.
- Native grassland communities shall be avoided to the greatest extent feasible.
- Top soil, and the seed bank it contains, shall be conserved on areas where soil is excavated such as WTG sites, access roads, and transmission pole locations.
- Woody material shall be removed from the soil surface and piled in an area that will be out of the way during construction. The upper 6 to 8 inches of soil shall be scraped from the disturbance footprint and piled into a stockpile in an area that will not be disturbed during construction.
- Topsoil stockpiles shall be clearly marked for avoidance.
- Stockpiles shall be immediately protected from wind erosion by covering them or hydromulching them to protect the pile from wind erosion. Wind erosion protection shall be renewed as needed.
- Any disturbed area that is not covered with base or paving within 14 days of its disturbance shall be stabilized through use of soil coating mulch, dust palliatives, compaction, reseeding, or other approved methods.
- Salvaged topsoil shall be redistributed on areas that will be revegetated following construction.
- Hydroseed with soil stabilization seed mixture shall be applied to temporarily disturbed areas, as appropriate, to facilitate revegetation and avoid erosion of bare soils. The hydroseed mix shall contain a mulch and binder to retard wind erosion by providing a crust over the soil surface. Native plant seeds shall be added to the hydroseed mixture or hand broadcasted onto the site just prior to hydroseeding. Care

shall be taken to avoid premature germination of native species caused by prolonged immersion in the hydroseeder. On slopes, the Applicant shall augment the erosion control seed mixture with seed of native grassland and coastal scrub species native to the site and collected from the Project region. Appropriate seed mixtures including native needlegrass species for use on grassland and coastal scrub areas shall be developed in consultation with and approved by CDFW and County staff using seed of native species originating from the area between the Santa Ynez River and Hollister Ranch, and inland as far as California State Highway 1. Recommendations from USDA Natural Resources Conservation Service for reseeding of agricultural grazing areas will be sought and incorporated as approved by the above agencies. The use of non-native species considered detrimental to agricultural grazing will be avoided.

- Where central coast scrub or central coast scrub/grassland mosaic has been removed by construction, revegetation will include coast buckwheat (*Eriogonum parvifolium*) in the seed mix. *E. latifolium* is not allowed in the plant palette due to its potential adverse effects on the El Segundo blue butterfly.
- The new plantings shall be irrigated with drip irrigation on a timer, and shall be weaned off of irrigation over a period of two to three years prior to P&D acceptance of the restoration habitat. The site restoration and revegetation plan shall include the irrigation requirements and schedule.
- Permanent impacts to vegetation will be mitigated by replacement (preferably onsite) of all habitats except disturbed and developed areas at a 3:1 ratio per impacted vegetation type for sensitive vegetation (see Table 4.5-3) and a 1:1 ratio for non-sensitive vegetation. Replacement will occur via permanent protection of existing habitat (provided the habitat meets the same functional value as impacted habitat), onsite restoration, or both. Impacted vegetation types must be proportionally represented within proposed habitat compensation area(s) to ensure in-kind mitigation.
- Prior to Zoning Clearance, the Owner/Applicant shall identify suitable compensation lands for permanent vegetation impacts and record a conservation easement in a form approved by the County that protects the proposed conservation area in perpetuity. The easement shall apply to a contiguous portion of land to, at a minimum, meet the required mitigation ratio of 3:1 for permanent impacts to sensitive vegetation (i.e., 3 acres protected for each impacted acre) and 1:1 for non-sensitive vegetation. The easement shall be controlled by a qualified conservation organization approved by the County.
- The restoration areas shall be monitored for a minimum of 5 years by a qualified botanist, and the botanist shall submit annual progress reports to P&D. Weed control shall be started within 3 months of planting, or earlier if weeds have begun to flower. Weeding shall proceed as frequently as necessary to prevent weeds from spreading off the Project site into the adjacent area and to prevent seed set. An effort shall be made to cut weeds before they develop seeds to minimize the spread of invasive weeds. Cut mustard shall be hauled off the site and disposed of where the toxins in the stems shall not affect other plants. Any new weed species not present in the Project area prior to construction shall be eradicated.
- At the end of the five-year monitoring period the qualified biologist shall prepare a monitoring report detailing the success of the restoration efforts. The report will identify whether or not new habitat is established, self-sustaining, and capable of surviving drought, and if it meets or does not meet the quantitative success criteria

by objective evaluation. The report shall provide recommendations for further restoration treatment, if success criteria have not been met. This monitoring report shall be submitted to the County for review and approval.

Plan Requirements. The Applicant shall prepare a restoration and revegetation plan and submit it to County staff for approval. The plan shall ~~be designed to address restoration during all phases of development of the site and shall~~ include success criteria to determine whether restoration is proceeding as expected. Annual monitoring reports shall be submitted to the County for the duration of the site restoration and revegetation efforts (minimum 5 years). A final report shall be submitted at the end of the initial 5-year monitoring period. If additional restoration is required because success criteria have not been met at the end of 5 years, additional annual reports will be submitted until the restoration is demonstrated to be successful and complete. If restoration cannot be achieved according to success criteria after 5 years, the affected area will then be mitigated as a permanent impact subject to the compensatory mitigation requirements in the plan.

Timing. The detailed grading plan, showing the limits of the grading, and the Restoration and Revegetation Plan shall be approved by the County prior to Zoning Clearance. The Applicant shall file a performance security with the County to obtain the conservation easement(s) and complete restoration prior to Zoning Clearance. The form and amount of the performance security shall be based on similar securities required for mine reclamation as follows, or alternate forms or methods as deemed acceptable by the County. The form of the security shall be as specified by California Code of Regulations § 3803 et seq. (Financial Assurance Mechanism). The amount of the security shall be calculated as specified in California Code of Regulations § 3805.1 (Financial Assurance Cost Estimate Form). The County may adopt an alternate security form or calculation method in coordination with the applicant by providing agreement in writing.

Prior to Zoning Clearance, the Owner/Applicant shall: (1) submit the open space/ conservation easement for review and approval and (2) implement the requirements of the easement as specified in the approved easement.

Monitoring. County staff will inspect the Project plans and site as well as review the restoration plan, annual reports, and final monitoring report for compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-8 **Native Grassland Restoration.** The Applicant shall retain a County-approved botanist to determine the total area of native grassland to be removed (temporary and permanent) during Project construction, following final engineering.

Impacts to native grassland shall be mitigated through a combination of seeding with salvaged topsoil (seedbank salvage), seed collected on site, and purchased seed from locally-grown stock. Seed shall be collected from the populations of native grasses and native grassland species on the Project sites prior to the start of construction. The seed shall be stored dry and included in the seed mixture applied to the restored areas. Drill seeding shall be performed for mixtures that include native grass seed. Native grassland

revegetation techniques, locations, and success criteria shall be incorporated into the Restoration and Revegetation Plan (MM BIO-3).

Plan Requirements. The detailed grading plan, showing the limits of the grading will be reviewed and approved by County staff. The Applicant shall file a performance security with the County to complete restoration.

Timing. The mitigation plan shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff will inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11b **Fencing.** To minimize the amount of disturbance to wildlife habitat and sensitive biological resources, the Applicant shall clearly mark environmentally sensitive areas for avoidance in the field. These areas include, but are not limited to, occurrences of special-status plants, trees to be avoided, sensitive vegetation communities adjacent to work areas, and jurisdictional resources. Project boundaries shall be clearly marked with fencing or staking that shall be replaced as needed.

Plan Requirements. The detailed fencing plan, showing the location of required fencing shall be reviewed and approved by County staff prior to approval of the tentative Project map. This condition shall be printed on all Project plans.

Timing. The detailed fencing plan, showing the location of required fencing shall be reviewed and approved by County staff prior to Zoning Clearance.

Monitoring. County will inspect the Project plans and site, to ensure compliance with this measure as appropriate. County staff will review construction monitoring reports to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** The Applicant shall fund a County-approved, Environmental Monitor during Project construction to monitor construction activities and to ensure compliance with all mitigation measures. The Environmental Monitor shall be present on site during all vegetation removal and during all of the initial ground disturbance activities for all aspects of the Project and shall regularly inspect the Project site as needed after the initial ground disturbances to ensure that all mitigation measures are being implemented. The Environmental Monitor shall ensure that wildlife do not become entrapped in the excavations during installation of the WTGs and associated underground collection system from the WTGs to the substation (i.e., open trenches). Safeguards shall be implemented during daytime periods of non-activity and overnight, such as a placing a platform over the entire excavation site, flush with the ground surface, installing escape ramps in trenches, or exclusionary fencing. The Environmental Monitor shall be responsible for ensuring these safeguards are in place on a daily basis. Should relocation be required, construction shall be halted until the Designated Biologist arrives on site and clears the work area (in compliance with all applicable permits and authorizations).

Plan Requirements. The Environmental Monitor shall work closely and cooperatively with County staff and County's consultants on a daily basis or as needed.

Timing. The Environmental Monitor shall be designated prior to the start of construction.

Monitoring. County staff will work with the Environmental Monitor throughout construction.

MM BIO-11d **Monitoring Report.** On a bi-weekly basis, the County-approved, Environmental Monitor shall provide the County a Construction Monitoring and Biological Resources Mitigation Report. This report shall include a description of the activities that have occurred on site, wildlife species encountered, relocation efforts, wildlife mortalities and injuries, violations or issues with construction activities, and any Project-related resolutions.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. The format of the Construction Monitoring and Biological Resources Mitigation Report shall be submitted by the Applicant and approved by the County prior to start of construction.

Monitoring. The Environmental Monitor shall submit the Construction Monitoring Report on the first and third week of each month to detail the previous two week's activities. This report may be submitted electronically. County staff will review the Construction Monitoring Report throughout construction.

BIO-1b Vegetation and Wildlife Habitat Impacts during O&M. Vegetation and wildlife habitat could be impacted during O&M.

Impacts from routine O&M would be the same as described in the LWEP EIR. In the event that O&M activities, such as emergency repairs, would result in new ground disturbance, the Applicant shall implement the same mitigation as required for construction-phase activities as described under Impact BIO-1a. These include MMs BIO-1 through BIO-3, BIO-8, and BIO-11b through BIO-11d. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, development and implementation of a Site Restoration and Revegetation Plan, native grassland restoration, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts from ground-disturbing O&M activities would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-8 **Native Grassland Restoration.** See full text under Impact BIO-1a.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d Monitoring Report. See full text under Impact BIO-1a.

BIO-2a Construction Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during construction.

Oak trees and the woodland habitats they constitute provide important habitat values for many wildlife species, including listed species and other special-status species. In addition, oak woodlands and forests are identified as ecological community of greatest interest by Santa Barbara County, and coast live oak woodlands and the trees themselves are subject to the California Oak Woodlands Conservation Act (California Public Resources Code Section 21083.4) and Santa Barbara County oak protection policies.

The LWEP EIR's Impact BIO-2 assessed permanent impacts to 0.1 acre of oak woodland, and temporary impacts to less than 0.1 acre. Those impacts would consist mainly of tree trimming and some potential for tree removal along the transmission line route. The LWEP EIR concluded that MM BIO-4 (Tree Protection and Replacement Plan) would reduce potential impacts to woodland and forest to a less-than-significant level.

The proposed SWEP would have substantially greater impacts to oak woodland and forest than assessed in the LWEP EIR. The SWEP would directly affect 2.49 acres of coast live oak woodland and 4.92 acres of tanoak forest. The Applicant's consultant Dudek estimated that 607 coast live oak and tanoak trees would be removed for construction of SWEP turbines and access roads, using a combination of on-site tree inventories and desktop estimates of tree numbers for inaccessible parts of the Project site (see Table 4.5-4). Trees that do not need to be removed for construction may still be directly impacted by trenching or grading that could cut through root zones or compact soils around trees. In addition, trees with limbs overhanging access roads and turbine pads could need to be pruned back to allow access. Additional trees may be impacted for transmission line construction and access.

The Santa Barbara County Environmental Thresholds and Guidelines Manual (2018), Section 6.D.4.b provides impact assessment guidelines for oak woodlands and forest habitat areas and states, "Project-created impacts may be considered significant due to changes in habitat value and species composition such as the following: (1) habitat fragmentation, (2) removal of understory, (3) alteration to drainage patterns, (4) disruption of the canopy, and (5) removal of significant number of trees that would cause a break in the canopy or disruption in animal movement in and through the woodland."

Table 4.5-4. Impacts to Trees

Project Component	Number of Trees		Total Trees Impacted
	Coast Live Oak	Tanoak	
Transmission Line			
1-1 Access	2	-	2
1-1	7	-	7
1-3 Access	10	-	10
1-3	9	-	9
1-6	7	-	7
2-4	-	-	-
3-2 Access	2	-	2
3-2	3	-	3
3-3 Access	8	-	8
3-3	2	-	2

Project Component	Number of Trees		Total Trees Impacted
	Coast Live Oak	Tanoak	
4-3	3	-	3
4-4	5	-	5
5-3	4	-	4
WTGs			
E-3	-	-	1[1]
E-7 Access	9	1	10
E-7	13	6	20[2]
E-8 Access	13	189	202
E-8	-	150	150
N-5	3	1	4
Access Roads			
San Miguelito Road	150	8	158
Total	250	355	607

1 – One Monterey cypress would be removed at WTG E-3

2 – One toyon would be removed at WTG E-7 in addition to oaks

Section 6.D.5. provides impact assessment guidelines for individual native trees and states:

a. Description. Native specimen trees, regardless of size, are potentially significant […].

b. Definition. Specimen trees are defined, for biological assessment purposes, as mature trees that are healthy and structurally sound and have grown into the natural stature particular to the species.

c. Native Tree Impact Assessment. In general, the loss of 10 percent or more of the trees of biological value on a project site is considered potentially significant.

The trees on the site meet the above criteria as "specimen trees" subject to the County guidelines. It is uncertain whether the SWEP would remove 10 percent of trees on the overall site (as identified in the guidelines). Nonetheless the SWEP's effects would be substantial, due to the large number of trees removed or damaged, as well as the widespread landscape-level pattern of direct and indirect effects to woodlands and forests throughout the extensive proposed Project site. There would be habitat fragmentation, disruption of the canopy, and disruption of animal movement in and through the woodland.

There would also be indirect impacts to woodland and forest habitat within and adjacent to Project facilities during construction and operation including noise and vibration, night lighting, dust, potential spread of nonnative and invasive weeds, erosion, and oil spills and seeps. These indirect impacts are described under Impacts BIO-13a and BIO-14.

An additional indirect impact that could affect oaks is Sudden Oak Death (SOD). SOD is caused by a plant pathogen affects several oak species including coast live oak and tanoak, that causes SOD and causes twig and foliar diseases in many other plant species. *Phytophthora ramorum* is a type of water mold that produces spores in moist environments and can be spread by water, wind-driven rain, plant material, soils, or human activity (COMTF, 2018). SOD has been documented throughout much of the coastal and Sierra Nevada regions of northern and central California but is not currently known from Santa Barbara County. Nonetheless, construction equipment and activities have the potential to introduce and spread SOD. Contaminated soils on equipment and vehicles that are not cleaned properly could introduce the pathogen to the SWEP site. Also, imported soil and soil from nursery plants that is contaminated with the pathogen could infect the SWEP site.

The LWEP EIR identified MM BIO-4 (Tree Protection and Replacement Plan) as mitigation for that project's relatively minor woodland and forest impacts. The LWEP EIR concluded that woodland and forest impacts would not be significant with mitigation (Class II). More recently, the SWEP Applicant has provided a Tree Protection measure based partially on LWEP BIO-4 (Sapphos, 2018 in Appendix C-1). Additionally, the Applicant's consultant has identified potential restoration sites for tanoak forest and coast live oak woodland within the Project area (Figure 5.3.2-1 [Potential Forest Restoration Sites] of Sapphos, 2018; see Appendix C-1).

Because of the magnitude of the disturbances to woodland and forest, and the wildlife habitat they provide, the impacts of construction on woodland and forest are classified as significant, even with implementation of the Applicant's proposed Tree Protection Plan. MMs BIO-1, BIO-2 BIO-8, and BIO-11b through BIO-11d, are recommended to avoid or minimize impacts to woodland and forest. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. In addition, the original LWEP MM BIO-4 has been expand into three components, below, addressing protection of trees adjacent to Project activities (MM BIO-4a, Tree Protection), replacement of trees that are removed (MM BIO-4b, Tree Replacement), and prevention of the SOD pathogen (MM BIO-4c). These revised measures incorporate components of the Applicant's proposed Tree Protection measure, as well as additional performance standards.

Oak trees are very slow to regenerate, especially in areas of low annual rainfall. Oak restoration efforts have been challenging across the state and it is not an easy or guaranteed endeavor. Even with tree protection and replacement, there is a temporal habitat loss that would take several decades, and possibly longer, to replace the habitat value and ecological functions that would be lost to SWEP development. Some habitat components of mature woodlands, such as large tree cavities suitable for mammal dens or owl nests, may take even longer to replace. Therefore, impacts to woodland and forest would be significant and unavoidable (Class I).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-4a **Tree Protection Plan.** The Applicant shall retain a County-approved botanist or arborist to design and implement a tree protection plan in order to protect existing native trees and minimize adverse effects of grading and construction. The approved botanist or arborist will be on site throughout all grading and construction activities which may impact native trees. The botanist or arborist's duties shall include the responsibility to ensure all aspects of the approved Tree Protection Plan are carried out, and participation in the pre-construction meeting. The name and contact information for the approved arborist/biologist shall be submitted to the County prior to the initial on-site pre-construction meeting. All development and potential ground disturbances shall be designed to avoid the maximum number of native trees feasible. No ground disturbance, including grading for buildings, access ways, easements, and subsurface grading, shall occur within the critical root zone of any native tree unless

specifically authorized by the approved tree protection and replacement plan. The Tree Protection Plan shall include the following measures:

a. The plan shall show the location, diameter at breast height (DBH), and critical root zone of all native and specimen trees that are potentially subject to disturbance due to Project construction and operational activities, including transport of large loads on San Miguelito Road or on-site access roads.

b. The Tree Protection Plan shall clearly identify any areas where grading, trenching, or other construction related activities (including but not limited to grading, soil compaction, or irrigation) would encroach within the critical root zone of any native or specimen tree. The critical (or sensitive) root zone for each tree shall be defined as the area extending from the base of the tree to a distance 1.5 times the radius of the tree's canopy. All encroachment is subject to review and approval by the County.

c. Fencing or other clearly visible marking of all native and specimen trees not designated for removal shall be installed to protect the critical root zone. Fencing shall be at least 3 feet in height of chain link, vinyl construction fence, or other material acceptable to the County and shall be staked every 6 feet. The Applicant shall place signs stating "tree protection area" at 15-foot intervals on the fence. Fencing and signs shall be shown on the tree protection exhibit, shall be installed prior to Zoning Clearance, and shall remain in place throughout all grading and construction activities.

d. The following are not permitted unless specifically authorized by the County in advance. If authorized, the following will only be conducted by hand and under the direction of a County-approved arborist/biologist. If the use of hand tools is deemed infeasible by the County, the County may authorize work with rubber-tired construction equipment weighing five tons or less. If significant large rocks are present, or if spoil placement will impact surrounding trees, then a small tracked excavator (e.g., 215 or smaller track hoe) may be used as determined by County staff and under the direction of a County-approved biologist.

   - Any trenching required within the dripline or sensitive root zone of any specimen.
   - Cutting any roots of one inch in diameter or greater, encountered during grading or construction. If authorized, roots must be cut cleanly and treated as specified in the Oak Tree Protection Plan.
   - Tree removal and trimming.

e. Construction equipment staging and storage areas shall be located in designated staging and lay-down areas depicted on Project plans submitted for Zoning Clearance. No construction equipment shall be parked, stored, or operated within the protected areas. No fill soil, rocks, or construction materials shall be stored or placed within the protected area.

f. All utility corridors and irrigation lines shall be shown on the tree protection exhibit. New utilities shall be located within roadways, driveways or a designated utility corridor such that impacts to trees are minimized.

g. Any tree wells or retaining walls shall be shown on the tree protection plan exhibit as well as grading and construction plans and shall be located outside of the critical root zone of all native trees unless specifically authorized by the County. Grading shall be designed and constructed to avoid ponding and ensure proper drainage within critical root zones.

h. Access routes for equipment shall be checked for clearance prior to bringing any equipment onto the site. All trees and shrubs that require limbing or pruning shall be prepared at least 2 days prior to the arrival of the equipment and adhere to the following standards:

   i. All limbing shall be done under the supervision of a licensed arborist or qualified biologist.

   ii. Any inadvertently broken limbs shall be cleanly cut under the direction of a licensed arborist or qualified biologist.

   iii. In the event that damage to a native tree is so severe that its survival is compromised, the tree shall be replaced in kind as specified in MM BIO-4b.

i. Only trees designated for removal on the approved Tree Protection Plan shall be removed. Any native trees which are removed, relocated, or damaged (more than 20 percent encroachment into the critical root zone) shall be replaced as specified in MM BIO-4b.

j. All trees located within 25 feet of buildings shall be protected from stucco and/or paint during construction. No irrigation is permitted within 6 feet of the dripline of any protected tree unless specifically authorized.

k. Any unanticipated damage (including removal) that occurs to trees resulting from construction activities shall be mitigated in a manner approved by the County. This mitigation shall include, but is not limited to, posting of a performance security, replacing native trees on a 10:1 (15:1 for blue oak and valley oak trees) ratio, and hiring a County-qualified arborist/biologist to evaluate all proposed native tree and shrub removals within 25 feet of potential ground disturbances. The arborist/ biologist report shall present biologically favorable options for access roads, utilities, drainages, and structure placement, taking into account native tree and shrub species, age, and health with an emphasis on preservation. The required mitigation shall be undertaken immediately under the direction of the County.

l. If the County-approved arborist/biologist certifies that any tree is damaged to such an extent that it will not survive, it shall be replaced as described in MM BIO-4b, below. If the approved arborist/biologist determines that 20 percent or more of the canopy or root area of a tree is removed or damaged, the tree will be presumed removed.

m. Monitoring plan to track health and survival of all impacted trees for 7 years.

Plan Requirements. This requirement shall be recorded with the final Project plans. The Applicant shall submit grading plans, building plans, and the Tree Protection Plan to the County for review and approval. All aspects of the plan shall be implemented as

approved. The Applicant shall post a performance security that is acceptable to the County to guarantee tree replacement.

Timing. The Tree Protection Plan shall be approved by the County, and evidence of having obtained the performance security shall be provided to the County prior to Zoning Clearance. Timing on each measure shall be stated where applicable; where not otherwise stated, all measures must be in place throughout all grading, construction, and operational activities.

Monitoring. The County will inspect the plans and site throughout ~~all phases of~~ development to ensure compliance with and evaluation of all tree protection and replacement measures.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

The following are new MMs recommended to reduce the impacts from the SWEP.

MM BIO-4b **Tree Replacement Plan (TRP) – Planned Removal and Unexpected Damage**. The Owner/Applicant will prepare and implement a Tree Replacement Plan (TRP). The TRP shall be prepared by a County-approved arborist or biologist to mitigate for authorized or unexpected losses of native trees. All components of MM BIO-4a (Tree Protection Plan) will apply to oak tree and tanoak replacement and related activities. The TRP shall, at a minimum, include the following components as well as any other County revisions and recommendations:

a. **Conservation Easement**. Prior to Zoning Clearance, the Owner/Applicant shall identify a suitable woodland forest replacement area and record a conservation easement in a form approved by the County that protects the proposed conservation area in perpetuity. The easement shall apply to a contiguous portion of land to, at a minimum, meet the required mitigation ratio of 3:1 and for all impacts (temporary and permanent) to woodlands and forests (i.e., 3 acres protected for each impacted acre). The easement shall be controlled by a qualified conservation organization approved by the County.

b. **Performance security.** The owner/applicant shall determine the full cost of implementing and monitoring tree replacement and shall post a performance security with the County. The performance security may be upon inspection and approval of successful restoration, as specified in the final approved TRP.

c. Specific woodland and forest performance standards (i.e., quantitative success criteria) addressing both short- and long-term objectives for consistency with standards of (1) six self-sufficient coast live oak trees for each mature oak tree removed due to proposed Project activities, and (2) three acres of restored woodland or forest for each acre impacted. The numbers of planted acorns or nursery stock trees shall clearly correspond to the 6:1 performance standard regarding self-sufficient trees at the end of the monitoring period, anticipating that not all acorns or plantings will be successful. Similarly, the planting patterns and other restoration techniques will clearly correspond to the 3:1 performance standard regarding woodland or forest acreage.

d. Detailed schedule (e.g., a Gantt chart) of all restoration activities, including obtaining plant propagules, issuing contracts, and performing all phases of planting and restoration work during the appropriate season[1]. The schedule shall identify the responsible party for each task and identify each "critical path" for successful restoration. The schedule will specify completion dates for each requirement, relative to application or issuance of grading permits.

e. Description of existing woodlands and forests, in terms of aerial extant, habitat diversity (structure, shrub/herb associates, wildlife use), sustainability (documentation of mortality, oak tree and associated shrub/herb health assessment), tree and associated shrub inventories/counts, densities (i.e., trees per acre) of trees and any co-dominant species, analysis of habitat functions and values as a basis for quantitative woodland and forest performance standards.

f. Explanation and applicability of the oak tree and oak woodland quantitative success criteria in terms of their conformity to applicable county and state oak mitigation requirements.

g. Replacement of damaged oak trees or those planned for removal shall occur at 10:1 ratio (acorns/saplings) or greater, to be planted and maintained in a manner that will yield the required final 6:1 replacement rate[2]. Alternate ratios may be applicable for saplings (identified below), also planted and maintained in a manner that will yield the required 6:1 replacement rate. Replanting and mitigation tree locations will be shown on plans. The TRP shall include a detailed planting methodology (including spacing among planted acorns or saplings) so that replacement acorns or saplings will result in the required 6:1 ratios.

h. **Nurture trees.** As an alternative to tree replacement, for no more than five percent of mature trees removed, naturally occurring tree saplings between six inches and six feet tall may be protected and nurtured in areas of the SWEP site unaffected by proposed Project disturbance, at a 10:1 ratio (i.e., 10 established sapling/nurture trees for one removed tree). Nurturing will only be applicable for seedling or sapling size trees that would otherwise be vulnerable to damage or loss, not yet meeting criteria as "established," and in suitable locations for establishment (e.g., not located beneath an existing closed canopy). Saplings selected for nurturing will be subject to County approval.

i. If using replacement trees rather than acorns, the nursery stock must be 15-gallon or larger size containers, with saplings grown from locally obtained seed at minimum 6:1 ratio to yield six established self-sufficient trees for each mature tree removed (assuming 100 percent success). All replacement trees will be obtained from a nursery source certified free of SOD pathogen and free of gold-spotted oak borer and polyphagous shot-hole borer damage.

j. Selected trees shall be boxed and transplanted if feasible. If a County-approved arborist certifies that it is not feasible to replant the tree, it shall be replaced

[1] Acorns should be collected in mid- to late summer for maximum viability; planting should occur after the onset of fall/winter rains and no later than late February.

[2] Note that planting two viable acorns per hole, followed by culling to yield one live seedling per hole yields good establishment rates, but would necessitate at minimum 12 live acorns per removed tree, assuming 100 percent establishment.

according to the TRP specifications. The TRP shall include an estimated survival likelihood for transplanted trees and specify a minimum 7-year monitoring period for health and vigor of transplanted trees, and shall include remedial measures for any transplanted trees that fail to become established.

k. Detailed and quantitative description of viable acorn collection methods and seasonality; storage location, methods and conditions; inventory management methodology; and schedule. The description will specify the number of fertile acorns to be collected in August and September and stored pursuant to best practices (e.g. storage bags with vermiculite, checked weekly[3]), including a 20 percent allowance for anticipated non-viable acorns.

l. Detailed and quantitative description of tree sapling production, nursery management, and the locations and capacity of contract nurseries.

m. Identify suitable locations for woodland and forest restoration, including demonstration that in-kind tree planting would be feasible in terms of habitat suitability, land ownership, and long-term control of the mitigation site.

n. A detailed Maintenance and Monitoring Program and a detailed Adaptive Management Plan shall be components of the TRP. The Maintenance and Monitoring Program shall include weed control techniques and strategies, necessary replacement planting activities, and monitoring (both qualitative horticultural/progress monitoring and quantitative success monitoring). The Maintenance and Monitoring Program shall also include information about how the habitat value and ecological function of the restoration area will be evaluated and will identify specific success criteria. The Adaptive Management Plan shall describe the restoration approach and strategy.

o. Criteria for demonstrating self-sufficiency of planted and nurtured trees, based on a minimum 7-year monitoring period (including tree survival during a minimum of two years without irrigation) with demonstrable continued growth and absence of pests. Trees not meeting success criteria will be monitored for an additional 7 years following replanting or relocation.

p. The trees shall be irrigated with drip irrigation on a timer until established (a period to be established by the County approved arborist). The trees shall be weaned off of irrigation over a period of two to three years.

q. No permanent irrigation shall occur within the dripline of any native tree.

r. All new and replanted trees shall be protected from predation by wild and domestic animals and from human interference by the use of staked, chain link fencing and gopher fencing during the maintenance period.

s. Restoration activities shall be performed by workers familiar with restoration work and supervised by a qualified restoration biologist/ecologist/environmental scientist or certified arborist. Contractors and subcontractors will be subject to County review and approval, to be based on experience with previous oak tree and oak woodland restoration projects.

[3] See http://sactree.com/pages/346, Storing Acorns.

t. Detailed explanation of long-term conservation management of the oak planting and restoration site(s). This section must be consistent with planned conservation management of the site as planned according to Paragraph a. of this measure.

u. For any proposed off-site tree planting or nurturing (i.e., areas outside the proposed Project area and proposed conservation easement), the TRP will identify potentially suitable sites and acreages and specify terms for long-term protection of those sites. Planting or nurturing trees in burned areas will only be acceptable if the burned areas are demonstrably failing to recover naturally from fire (i.e., failing to resprout from above-ground limbs or basal burls).

v. Reporting requirements, including a schedule and content for progress reports. The reports must provide sufficient detail to document progress completed to date and confirm that materials and contractors are available to complete each phase according to the approved restoration schedule.

w. An appendix, containing the full text of applicable county or State oak mitigation requirements.

x. **Guarantee**. As part of the contract price, the Owner/Applicant shall guarantee and maintain all work for a period of not less than seven years and extending beyond seven years of monitoring for any needed replacement plantings and warrant that the Performance Standards specified above will be met. The guarantee shall cover both workmanship and plant materials, replacing any and all plants that die at appropriate intervals, and maintaining such replacements until the minimum survival rate is achieved. In addition, a 100 percent survival rate over the first year is required. All plants dead at the end of each month during the year after planting shall be replaced immediately. The Owner/ Applicant will provide a copy of the guarantee to the County for its review and approval.

Plan Requirements and Timing. Prior to Zoning Clearance, the Owner/Applicant shall: (1) submit the open space/ conservation easement for review and approval; (2) implement the requirements of the easement as specified in the approved easement; (3) submit the Tree Replacement Plan to the County for review and approval; and (4) provide the County a copy of the signed contract with the restoration contractor. The Owner/Applicant shall post a performance security to ensure installation and a minimum 7-year maintenance period for replacement trees prior to initial brushing or grading. The performance security shall be based upon the itemized plants within the aforementioned contract.

Monitoring. The County will inspect the plans and site throughout development to ensure compliance with and evaluation of all tree protection and replacement measures.

MM BIO-4c **Invasive Plant Pathogen Abatement (SOD Prevention).** A County-approved biologist will ensure that the spread or introduction of plant pathogens will be avoided to the maximum extent feasible. To reduce the potential for spread of sudden oak death and other pests, all grubbed woody material shall be chipped, spread out to dry, and disposed of on site or at an appropriate facility. To minimize the unintended movement of host material, soil, and water from areas infested with *Phytophthora spp.* the following Best Management Practices will be implemented:

a. Prior to commencement of construction, the approved biologist shall evaluate the level of currently known *Phytophthora* infestations (e.g., viewable in SODmap) along the entirety of the Project area. In the event that there is a risk of infestation at any Work Area, establish a vehicle and equipment power wash station to remove potentially contaminated accumulations of soil, mud, and organic debris. The station will be located within the potentially infested area, paved or rocked, well-drained so that vehicles exiting the station do not become contaminated by the wash water, and sited where wash water and displaced soil does not have the potential to carry fines to a watercourse.

b. Prior to entry to any proposed Project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed).

c. Compliance with the provision is achieved by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility.

d. The interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed).

e. Footwear and small tools must be thoroughly cleaned and sanitized before moving to a new job site. Shoe soles must be free of debris and soil. Water, a stiff brush, screwdriver or similar tool can be used to remove soil from shoe treads. Once soil or debris have been removed, an appropriate sanitizing agent of ethyl or isopropyl alcohol (at least 70 percent concentration) must be used to kill pathogen spores which may be present on boot soles or tools (sanitizing agent may be applied by using spray bottles filled with alcohol to thoroughly wet the surface). Boot soles and hand tools must be sprayed with enough alcohol that surfaces are fully coated and wet. Brushes and other implements used to help remove soil will be cleaned after use with alcohol.

Plan Requirements. The conditions identified above shall be implemented for any soil-disturbing activities throughout the life of the Project. All SOD prevention activities will be included in monthly and final reports.

Timing. The Owner/Applicant shall prepare a reporting format or log sheet for of all related compliance activities, to be submitted to the County for review and approval prior to Zoning Clearance.

Monitoring. County staff will monitor construction and revegetation activities to ensure the measure is fully implemented.

BIO-2b O&M Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during Project operations.

This impact would be the same as described in the LWEP EIR and would not be significant (Class III).

BIO-3 Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFW. Direct loss of wetlands

and seeps could occur at creek crossings, the laydown yard, water well, road improvement and access road locations, pole locations along the transmission line, and WTG pads. Additionally, soil erosion or spills could reduce water quality during construction.

Under the LWEP configuration, impacts to jurisdictional wetlands and waters were anticipated at creek crossings and the O&M facility. As reported in the LWEP EIR, an estimated 0.045 acre of habitat within the footprint of the proposed crossings was determined to be Santa Barbara County defined wetlands and federally jurisdictional (non-wetland) Waters of the U.S. These areas would also be regulated under Section 1600 of the Fish and Game code as State wetlands and be subject to a Streambed Alteration Agreement. Approximately 0.19 acre of Federal wetlands would be lost associated with the siting of the proposed O&M facilities. The LWEP did not anticipate impacts to jurisdictional features within the WTG corridors, but noted approximately 13 acres of rush seep, riparian scrub, and native grassland seeps occur within the LWEP WTG corridors.

Under the SWEP, impacts to jurisdictional features would occur at road crossings over creeks, the laydown yard, water well, road improvement (cut/fill) and new access road locations, WTG pads, and along the transmission line. Table 4.5-5 summarizes the estimated SWEP impacts to jurisdictional resources by feature type and agency jurisdiction. Note that these calculations have been revised from those reported in the *Wetland Delineation and Jurisdictional Determination Report* (Dudek, 2018c) in Appendix C-4 to reflect minor revisions to the Project footprint that occurred subsequent to that report.

Table 4.5-5. Impacts to Jurisdictional Resources

Agency Jurisdiction	Feature Type	Feature Class	Total Impacts (acres)[1]
USACE/ RWQCB/ CDFW/ County	Ephemeral Channel	Non-Wetland Waters of the U.S./ State	0.09
USACE/ RWQCB/ CDFW/ County	Intermittent Stream	Non-Wetland Waters of the U.S./ State	0.03
USACE/ RWQCB/ CDFW/ County	Perennial Stream	Non-Wetland Waters of the U.S./ State	0.01
USACE/ RWQCB/ CDFW/ County	Wetland	Waters of the U.S./ State	0.40
RWQCB/ CDFW/ County	Isolated Wetland	Waters of the State	--
CDFW/ County	Ephemeral Channel - Top of Eroded Bank	Riparian Habitat	0.06
CDFW/ County	Riparian	Riparian Habitat	1.73
County	Two Parameter Wetland	County Wetland	0.19
California Coastal Commission	Wetland and Riparian	Coastal Waters	--
Grand Total			2.51

Total Impact Acreage by Jurisdiction	
Impacts to USACE/ RWQCB/ CDFW/ County Non-Wetland Waters of the U.S./State	0.13
Impacts to USACE/ RWQCB/ CDFW/ County Wetland Waters of the U.S./State	0.40
Impacts to RWQCB/ CDFW/ County Waters of the State	--
Impacts to CDFW/ County Top of Eroded Bank	0.06
Impacts to CDFW/ County Riparian Vegetation	1.73
Impacts to County Two-Parameter Wetlands	0.19
Impacts to California Coastal Commission Wetland and Riparian	--

1 – All impacts are permanent

Source: Dudek, 2018c (revised to reflect current Project layout)

Impacts to jurisdictional resources from erosion, sedimentation, spills of hazardous substances, and impacts to water quality would be the same as described in the LWEP EIR, and impacts would be significant absent mitigation. MM BIO-9 is proposed to minimize or avoid direct and indirect impacts and would require the preparation and implementation of a Wetland Avoidance and Riparian Habitat Restoration Plan. MMs BIO-1 through BIO-3, BIO-11c, and BIO-11d are also required to avoid or minimize impacts to jurisdictional resources. These measures require development and implementation of a Worker Education and Awareness Program, minimizing the amount of ground disturbance, clearly marking disturbance limits and environmentally sensitive habitats in the field, and biological monitoring and reporting. With the implementation of these measures, impacts would be mitigated to a less-than-significant level (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** The Applicant shall make every effort to minimize the area and degree of impact to State and Federal wetlands and other Waters of the U.S. associated with placement of bridges, siting of the O&M facility, and other construction-related tasks through a Wetland Avoidance and Riparian Habitat Restoration Plan.

All final construction design plans and mapped wetland features shall be clearly presented in the Wetland Avoidance and Riparian Habitat Restoration Plan for approval by the County, CDFW, USACE, and RWQCB, as applicable. The plan shall present an approach for the restoration of lost and/or disturbed features including calculations, proposed restoration locations, cattle or other disturbance barriers, plant mixes, quantitative restoration goals (maximum criteria for weedy species and minimum criteria for native hydrophytic plants), and temporal and native plant composition success criteria. At a minimum, any temporarily disturbed wetlands or other jurisdictional feature shall be restored to its former condition at an aerial ratio of 1:1 with a clearly defined temporal goal and success criteria. If any jurisdictional feature is permanently lost, it shall be mitigated by the creation, preservation, and/or enhancement of the same type of feature in the Project area at an aerial ratio of 3:1.

Best Management Practices. All wetland areas within 50 feet of ground disturbance shall be protected from siltation by placement of silt fence, straw bales (composed of certified weed-free straw), or other barriers. Barriers shall be in place prior to ground disturbance.

No fueling of vehicles or equipment shall occur within 100 feet of the top of any creek bank or within 100 feet of any seep or spring. Further, spill containment measures shall be implemented at all refueling sites. In the event that petroleum products escape into a creek, seep, or spring, every effort will be made to immediately remove the material using plastic sheets, absorbent blankets, or other materials, as necessary.

Runoff from fresh concrete shall be directed away from the top of any creek bank and from any seep or spring into a plastic-lined hollow. Any washout from concrete trucks shall be collected within a designated contained and lined area and removed from the site. Dried concrete scraps shall be removed and all trash and litter shall be picked up and removed from the construction sites at the end of each day.

Riparian Habitat Restoration. The riparian habitat restoration component of the plan shall be designed using state-of-the-industry practices and monitored to ensure attainment of performance criteria within five years, or remedial actions shall be undertaken until the performance criteria are achieved. The plan shall include, but not be limited to, specific elements that would normally be required for the successful achievement of the performance standard:

- Restoration shall include native riparian species from locally obtained plants and seed stock.
- The new plantings shall be monitored for a minimum of five years to ensure successful establishment. Dead plants shall be replaced in kind, and monitoring shall continue until performance criteria are met.
- The new plantings shall be irrigated with drip irrigation on a timer and shall be weaned off of irrigation when root zones are established.
- Removal of native species in the creek shall be prohibited.
- Non-native species located in the work area shall be removed from the creek.

Plan Requirements. The detailed Wetland Avoidance and Riparian Habitat Restoration Plan will be reviewed and approved by County staff prior to Zoning Clearance. The Applicant shall also file a performance security with the County to complete restoration. This condition shall be printed on all Project plans. A biological/wetland monitor shall be present for all activities that have the potential to directly or indirectly affect regulated wetland features.

Timing. Any proposed removal or temporary disturbance to jurisdictional features shall be approved by the County, CDFW, and the USACE prior to any construction that may affect wetland features. Site-specific wetland creation/restoration plans shall be developed by the Applicant and approved by the County, in consultation with CDFW, and USACE as appropriate, prior to Zoning Clearance. The Applicant shall independently consult with CDFW and USACE as necessary. The plan shall be implemented within one year of the disturbance and in consultation with CDFW and County staff. County will inspect the Project plans and site, as well as review the mitigation plan to ensure compliance with this measure as appropriate prior to Zoning Clearance.

Monitoring. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

~~This impact~~ Impact BIO-4 (Riparian Vegetation) from the LWEP EIR is not applicable to the proposed SWEP as the previously proposed bridge is not a part of the current Project. The Project would affect riparian habitat and jurisdictional features at multiple locations throughout the site; see Impact BIO-3 for details. Construction impacts to sensitive vegetation, including riparian habitat, are described under Impact BIO-1a.

BIO-5a Construction Impacts to Gaviota Tarplant. Impacts to Gaviota tarplant and designated critical habitat could occur during construction.

Direct and indirect c~~C~~onstruction impacts to Gaviota tarplant and its habitat would be of the same type as described in the LWEP EIR and would include direct removal and habitat fragmentation. As described in SEIR Section 4.5.1.4, a Gaviota tarplant assessment was conducted for the proposed SWEP configuration in summer 2018 to better understand the distribution of this listed plant within and near the current Project footprint (Dudek, 2018b). Of the total 207.15 acres of occupied habitat on the site, ~~A total of 27.1~~ 26.33 acres of permanent impacts to Gaviota tarplant occupied habitat would occur from construction of the SWEP (~~14.2~~12.7 percent of site total), compared with 10.3 acres under the LWEP. The SWEP would result in ~~0.001~~ 0.01 acre of temporary impacts (less than 0.00~~1~~5 percent of site total), compared with 22.3 acres under the LWEP. Indirect impacts (including but not limited to isolation, habitat fragmentation, pollinator impacts; see LWEP EIR) would occur in occupied habitat near the project activities. By their nature, indirect impacts tend to be more substantial immediately adjacent to a work site or facility, and their importance declines with increasing distance. The land uses surrounding occupied Gaviota tarplant habitat will be largely unchanged. Other than the SWEP itself, there will be no new urbanization, or related disturbances. These indirect impacts cannot be quantified in terms of acreage but are far less important than direct impacts even immediately adjacent to the Project footprint, and decline in importance over relatively short distances. The majority of Gaviota tarplant habitat on the site would be subject to little or no indirect disturbance. While the LWEP EIR did not report any impacts to Gaviota tarplant designated critical habitat, the SWEP would permanently impact 94.51 acres and temporarily impact 0.46 acres of critical habitat (12.3 percent and 0.06 percent of the total mapped on site, respectively). Note that, at the scale occupied habitat was mapped in the field surveys, much of the designated critical habitat is not occupied.

As similarly concluded in the LWEP EIR, SWEP impacts to Gaviota tarplant and its habitat, including occupied, suitable, and designated critical habitat, would be significant absent mitigation. MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-11c, and BIO-11d are necessary to reduce or avoid impacts to Gaviota tarplant and its habitat. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, the site is restored following construction, Gaviota tarplant mitigation is implemented, and monitoring and reporting occur. These measures would ensure construction impacts to Gaviota tarplant remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** The Applicant shall retain a County-approved botanist to conduct appropriately timed pre-construction surveys for sensitive native plant species, bryophytes, and lichens in all areas to be disturbed, including power line pole locations and access roads, and within a 100-foot buffer. Surveys will be valid for a period of one year. In the unlikely event that a federally listed plant species is found on or near an area to be disturbed by the Project, other than Gaviota tarplant impacts evaluated in this SEIR, which are addressed in MM BIO-6, the USFWS will be consulted and the Project will be adjusted to avoid impacts to the extent feasible. Other species protection measures recommended by the USFWS will be implemented, as needed. In impact areas where avoidance of CRPR 1, 2, 3, or 4 plants or locally rare species is not feasible, for herbaceous species, for every one (1) acre of occupied habitat loss, three (3) acres of occupied habitat shall be re-established and protected by collection of seeds or other propagules from the plants during the appropriate time of year. For shrubs and trees, for every plant lost, three (3) plants will be re-established and protected. The seed or propagules shall be used for restoration in the immediate area (if suitable habitat continues to be present) or on a nearby, suitable location. In the case of lichens with regional significance, a qualified lichenologist shall recommend feasible methods to relocate and re-establish the lichens at a suitable nearby site, if avoidance is not feasible. Methods may include collecting, moving, and emplacing a sample of substrate supporting the lichen at a suitable site nearby.

The topsoil and seedbank shall be salvaged in all areas where the terrain allows it. Topsoil shall be windrowed or stockpiled and marked to keep it separated from subsoil. Topsoil piles shall be stabilized by covering the windrows or by spraying with hydromulch and binder to protect the soil from wind erosion. Salvaged topsoil shall be spread over all restored areas.

Plan Requirements. The detailed grading plan, showing the limits of the grading, shall be reviewed and approved by County staff prior to approval of the tentative Project map. If surveys indicate that replacement of sensitive native plants is necessary, the Applicant shall prepare a detailed mitigation plan as a component of the Site Restoration and Revegetation Plan (MM BIO-3) and submit it to the County for approval. The Applicant shall file a performance security with the County to complete restoration.

Timing. County staff will inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. The mitigation plan shall be approved by the County prior to Zoning Clearance ~~for the first and all subsequent construction phases~~. The County will review the 2019 botanical surveys (Dudek, 2019c) to determine if the field survey component of this mitigation measure is complete.

Monitoring. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented

MM BIO-6 **Gaviota Tarplant Disturbance.** The Project owner/operator shall retain a qualified botanist approved by the County, USFWS, and CDFW to prepare a Gaviota Tarplant Mitigation Plan and shall obtain an Incidental Take Permit (CDFW) and Biological Opinion (USFWS) for impacts to Gaviota Tarplant. The Project owner/operator will implement

the Gaviota Tarplant Mitigation Plan in coordination with the County, CDFW, and USFWS. Gaviota tarplant habitat will include all areas of previously identified occupied habitat plus any additional areas that are discovered during preconstruction surveys prior to ground disturbance (to date the cumulative total acreage of impacts is identified as 26.34 acres). Gaviota tarplant will be assumed to be present within all areas where it had been previously mapped even if it is not evident during preconstruction surveys (because seedbank may be present that could germinate and establish under different environmental conditions). A determination shall be made of the total areas of (1) permanent habitat loss, (2) temporary excavations, and (3) surface disturbance for the construction phase of the Project. To the extent feasible, turbine micrositing (see Mitigation Measure BIO-15(a) will avoid Gaviota tarplant habitat. Soil seed bank material and/or whole post-flowering Gaviota tarplant material (containing seed) will be salvaged from occupied habitat before construction-related disturbance. The seed bank or plant material will be managed to maintain seed viability and will be used to supplement on-site revegetation (per Mitigation Measure BIO-3, Site Restoration and Revegetation Plan) where appropriate (to be specified in the Gaviota Tarplant Mitigation Plan). CDFW and USFWS will be consulted regarding ~~an appropriate~~ implementing the mitigation strategy, which could also include offsite preservation of existing ~~populations~~ occurrences. Compensatory mitigation for Gaviota tarplant shall be implemented to offset take; compensation lands will be managed according to the Gaviota Tarplant Mitigation Plan ~~prepared in support of the Incidental Take Permit and Biological Opinion~~. Permanent disturbance to Gaviota tarplant shall be mitigated at a minimum 3:1 ratio. Areas of temporary disturbance shall be restored to pre-disturbance conditions and compensated at a 3:1 ratio. Temporary impacts to Gaviota tarplant habitat will be mitigated as permanent impacts unless monitoring over at least a 15-year period demonstrates full recovery of self-sustaining Gaviota tarplant occurrences (plant density and extent of occupied area) in the temporarily impacted areas. To account for annual variability, the final density and extent of the Gaviota tarplant occurrence in the restored area can be adjusted to compare to pre-disturbance levels using metrics obtained from a nearby reference ~~population~~ location, to demonstrate full recovery has occurred.

Plan Requirements. The Project owner/operator shall submit the Gaviota Tarplant Mitigation Plan, CDFW ITP, and USFWS Biological Opinion to the County along with the detailed grading plan. The detailed grading plan, showing the limits of the grading shall be reviewed and approved by County staff prior to approval of the final plans. The Applicant shall file a performance security with the County to complete restoration. The mitigation plan ~~should~~ shall also address ongoing impacts during the operations phase of the Project as well as the more extensive impacts that will result from Project construction.

Timing. The CDFW ITP and USFWS Biological Opinion shall be submitted by the Project owner/operator prior to approval of the Land Use Permit for the ~~first and all subsequent~~ construction phase.

Monitoring. P&D staff shall verify that the perimeter of all approved work areas in Gaviota tarplant habitat are properly flagged prior to any ground disturbance in the area and shall monitor construction and revegetation activities to ensure the plan is fully implemented per the CDFW ITP and USFWS Biological Opinion.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-5b **O&M Impacts to Gaviota Tarplant.** Occasional disturbance to small areas of Gaviota tarplant habitat could occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.

Impacts to Gaviota tarplant habitat during O&M would be the same as described in the LWEP EIR. Implementation of MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-11c, and BIO-11d would ensure that if ground disturbance is conducted in Gaviota tarplant habitat during O&M, workers undergo environmental awareness training, ground disturbance is minimized, the site is restored, Gaviota tarplant mitigation is implemented, and monitoring and reporting occur. O&M impacts, if any, would be comparable to indirect impacts described above, and cannot be quantified in terms of acreage. These measures would ensure impacts to Gaviota tarplant during O&M remain less than significant (Class II).

Mitigation Measures

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-6 **Gaviota Tarplant Disturbance.** See full text under Impact BIO-5a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-6 **Other Special-Status Plants.** A number of other special-status plant species may be present on site or in the transmission line corridor and could be lost during construction.

As reported in the LWEP EIR, Gaviota tarplant is the only federally and state-listed plant that is known to occur on site. No other listed plants have been found on site since the publication of the LWEP EIR. As shown in Appendix C-6 and described in Section 4.5.1.4, several special-status plants with designations ranging from CRPR 1B, 3, and 4 to locally rare are known from the Project site and transmission line corridor. In addition to the special-status plants known from the site at the time the LWEP EIR was published, the following plants have been found during surveys for the SWEP:

- La Purisima manzanita (CRPT 1B.1): Outside impact area
- Black-flowered figwort (CRPR 1B.2): Transmission line and access road
- South coast branching phacelia (CRPR 3.2): Outside impact area

- Southern California black walnut (CRPR 4.2): Along San Miguelito Road
- Ocellated Humboldt lily (CRPR 4.2): Outside impact area

Impacts to special-status plants could include direct and indirect impacts as described in the LWEP EIR. MMs BIO-1 through BIO-3, BIO-5, BIO-7, BIO-11c, and BIO-11d are recommended to reduce or avoid impacts to special-status plants. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, the site is restored following construction, and monitoring and reporting occur. In addition, MM BIO-7 includes specific measures to minimize disturbance within Kellogg's and mesa horkelia habitat and to facilitate recovery post-construction. These measures would ensure construction impacts to special-status plants remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-7 **Kellogg's and Mesa Horkelia Habitats.** For Kellog's and mesa horkelia occupied habitats identified during pre-construction surveys (see MM BIO-5, above) and the 2018 *Horkelia cuneata* assessment (Dudek, 2018b), the Applicant shall minimize plant removal to the extent feasible and facilitate in situ conservation of extant Kellogg's and mesa horkelia through methods such as adjusting disturbance area boundaries and tracking over Kellogg's and mesa horkelia habitat, where the terrain shall safely allow it, rather than widening roads beyond the permanent road width to minimize plant removal. A qualified native plant horticulturist will salvage Horkelia plants and rootstocks prior to site disturbance and reintroduce them onto restoration sites. The seedbank shall be salvaged and stockpiled separately from other spoil along roads and adjacent to other facilities constructed in Kellogg's and mesa horkelia habitat as described for Gaviota tarplant (MM BIO-6). Salvaged stockpiles shall be covered or sprayed with hydromulch and binder to crust the surface to minimize soil loss to wind erosion and to protect from rain and mold. Salvaged seedbank shall be spread over restored areas as described for Gaviota tarplant except that a normal mixture of mulch and binder shall be used. If the area is within Gaviota tarplant habitat, methods for the latter shall be used.

Plan Requirements. The detailed grading plan, showing the limits of the grading will be reviewed and approved by County staff prior to approval of the tentative Project map. If surveys indicate that replacement of horkelia is necessary, the Applicant shall prepare a detailed mitigation plan as a component of the Site Restoration and Revegetation Plan (MM BIO-3) and submit it to the County for approval. The Applicant shall file a performance security with the County to complete restoration.

Timing. County staff shall inspect the Project plans and site as well as review the mitigation plan to ensure compliance with this measure as appropriate. The mitigation plan shall be approved by the County prior to Zoning Clearance.

Monitoring. County staff shall monitor construction and revegetation activities to ensure the plan is fully implemented.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-7 Common Wildlife. Individual animals could be injured or killed by vehicles, equipment, explosives, or large holes during construction.

Impacts to common wildlife from the construction of the proposed SWEP would be the same as described in the LWEP EIR. MMs BIO-1, BIO-2, and BIO-11a through BIO-11d are recommended to minimize or avoid impacts. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-11a **Pre-construction Wildlife Surveys.** The Applicant shall retain a County-approved biologist to perform a wildlife survey prior to ground disturbance, including grading and the excavation of the WTG sites. The biologist shall survey the surrounding area (where access allows) out to a 300-foot radius from the WTG site, the WTG footings, access roads, and staging, parking, and lay down areas prior to grading. Surveys shall be completed daily before the start of initial vegetation clearance or ground disturbance in any affected area. If any special-status wildlife species are found, they shall be relocated to similar habitat at least 300 feet away from construction activity. Common species shall be relocated as feasible.

Plan Requirements. This condition shall be printed on all Project plans. The Applicant shall report compliance with this measure in the Monitoring Report (MM BIO-11d) to County staff on survey and relocation activities.

Timing. Results of wildlife surveys shall be submitted to County staff prior to ground disturbance. This measure shall be implemented throughout all ground disturbances for the ~~first and all subsequent~~ construction phase.

Monitoring. County staff will inspect the Project plans and site, as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

BIO-8 Nesting Birds. Nesting birds could potentially lose nests through destruction or abandonment.

Impacts to nesting birds from construction and operation of the SWEP during nesting season (generally between February 1 and August 31) would be the same as described in the LWEP EIR. Construction activities, primarily though removal of vegetation, could cause destruction or abandonment of active nests or the mortality of adults, young, or eggs. Vegetation removal could also temporarily or permanently reduce available foraging habitat on site, although the magnitude of this effect is not expected to have significant effects on any species' regional population levels. Several special-status birds are known or suspected to nest on or in close proximity to the proposed SWEP, including Cooper's hawk, California horned lark, oak titmouse, and grasshopper sparrow (Appendices~~x~~ C-1 and C-7). Implementation of MMs BIO-1, BIO-2, BIO-11a through BIO-11d, and BIO-12~~ and BIO-14e~~ are necessary to minimize impacts to nesting birds. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, pre-construction wildlife surveys are conducted, disturbance areas and environmentally sensitive habitats are clearly marked in the field, and biological monitoring and reporting. MM BIO-12 requires that the Applicant schedule ground disturbance to avoid the nesting season to the extent feasible, requires nesting bird surveys and buffers around active nests if activities must occur during the nesting season~~. MM BIO-14e requires focused spring surveys for nesting special-status birds, protective buffers around nests~~, and a 15-mile speed limit during construction and O&M to minimize collisions with birds and adverse impacts to ground-nesting birds. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-11a **Pre-construction Wildlife Surveys.** See full text under Impact BIO-7.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

MM BIO-12 **Avoidance Measures for Nesting Birds.** All trees and brush to be removed as part of Project-related construction activities shall be removed outside of the bird breeding season (February 1 to August 31) to avoid additional impacts to nesting raptors and other native birds. Vegetation clearing shall occur outside the bird breeding season whenever feasible to minimize impacts to nesting birds. If construction must take place in or near areas with potential for breeding birds during the breeding season (February 1 to August 31), the County-approved biological monitor(s) shall oversee pre-construction breeding native bird surveys within 7 days of construction

commencement (i.e., mobilization, staging, vegetation clearing, or excavation). Surveys shall be conducted in all areas within 500 feet of proposed disturbance areas, or a lesser distance if dense vegetation or site access restrictions renders a 500-foot survey radius infeasible. Surveys shall be conducted to include all structural components of the on-site equipment and existing infrastructure, including construction equipment. All native birds observed, breeding behaviors, and bird nests within areas of suitable breeding bird habitat in the construction zone shall be noted. The required survey dates may be modified based on local conditions with the approval of P&D.

If breeding native birds with active nests (i.e., containing eggs or dependent young) are found prior to (or during) Project activities including vegetation clearing and excavations, a biological monitor shall oversee the establishment of a buffer (typically 300 feet for passerines and 500 feet for raptors other than eagles, see below) around the nest; no activities will be allowed within the buffer(s) until the young have fledged from the nest or the nest fails. If appropriate, temporary construction fencing may be installed to mark the buffer area around active nests to prevent construction activities from occurring in the buffer area. The prescribed buffers may be adjusted to reflect existing conditions, including but not limited to ambient noise, topography, and disturbance, with the approval of the County of Santa Barbara in coordination with CDFW. If a nest buffer is reduced below the standard buffer size, then a qualified, County approved ornithologist shall monitor the nest daily to ensure that Project activities are not causing disturbance. If birds show signs of disturbance, the buffer will be increased.

Nest surveys for golden eagles shall be conducted within 1 mile of the Project, and a 1-mile ~~disturbance-free~~ buffer shall be implemented around each active nest where no Project-related construction disturbance is permitted while the nest is active. This buffer may be adjusted with concurrence from the USFWS and CDFW.

If native birds are found to be nesting in existing infrastructure proposed for removal, buffers as described above shall be implemented and removal shall be postponed until the young have fledged or, if no young are present, until after the breeding season has passed. If birds are found to be nesting in construction equipment, that equipment shall not be used until the young have fledged the nest or, if no young are present, until after the breeding season has passed. The biological monitor(s) shall oversee regular monitoring of the nest to determine success/failure and to ensure that Project activities are not conducted within the buffer(s) until the nesting cycle is complete or the nest fails. The biological monitor(s) shall be responsible for the results of the surveys and providing a copy of the monitoring reports for impact areas to the County. Monitoring reports shall be produced weekly, and shall document nest locations, descriptions of nest status, actions taken to avoid impacts, and any necessary corrective actions taken. Active nest locations shall be marked on an aerial map and provided to the construction crew on a weekly basis after each survey is conducted. Active nests shall not be removed without written authorization from USFWS and CDFW.

Surveys for burrowing owls shall be conducted prior to construction within all suitable habitat in the Project area, including areas within ~~300~~ 500 feet of all Project facilities,

WTG sites, and access roads (where access allows), unless a smaller survey area is authorized by CDFW. The survey shall be performed regardless of season of the year due to this species' being present in the winter.

During both the construction and O&M phases, a speed limit of 15 mph shall be established and enforced. The speed limit shall reduce the potential for loss of bird species, including passerines, due to collisions with vehicles.

Plan Requirements. This condition shall be printed on Project plans prior to grading permit issuance.

Timing. Pre-activity clearance surveys shall be conducted by a P&D-qualified biologist each morning and/or within new work areas prior to commencement of work.

Monitoring. All pre-activity survey reports shall be submitted to P&D prior to the initiation of ground-disturbing activities.

MM BIO-14e **Roosting Bats**. ~~If construction is to occur between February 1 and August 31, a~~All sites ~~to be disturbed~~ where trees, buildings, or other suitable bat roosting habitat will be removed shall be surveyed by a County-approved biologist for roosting bats immediately prior to construction in a given area. The survey shall occur at the sites of construction activity, as well as up to 300 feet away (where access allows). If an active roost is found, appropriate construction buffers shall be established based on the species, context of the roost, and activities planned as determined by the County-approved biologist in coordination with the County and CDFW as appropriate. Updated maps showing active roosting locations shall be distributed to the biological monitors, EQAP inspector, and crew foreman on a weekly basis. The roost shall be monitored to record any potential construction-related effects. Construction activities, buffer zones, and timing may be modified as directed by the County and CDFW to avoid impacts to roosting bats.

If any non-maternity bat roost cannot be avoided, the Applicant will coordinate with CDFW to develop a site-specific strategy to minimize impacts to bats and allow them to leave the roost unharmed, and these activities will be conducted under CDFW guidance. Prior to destroying any known roost, the Applicant must demonstrate to the County and CDFW that alternative bat roosting habitat is available nearby for any evicted bats to use.

Plan Requirements. This condition shall be printed on all Project plans. On a bi-weekly basis, the Biological Monitor shall report compliance with this measure in writing to County staff on survey results and buffer area design.

Timing. Surveys shall be conducted and submitted to the County prior to construction. ~~This measure shall be implemented throughout the first nesting season from February 1 through August 31 for roosting bats during the construction phases.~~ The Environmental Monitor shall submit the Monitoring Report on the first and third week of each month to detail the previous two week's activities. This report may be submitted electronically.

Monitoring. County staff will inspect the Project plans and site as well as review the bi-weekly reports to ensure compliance with this measure as appropriate.

BIO-9 Special-Status Wildlife. Direct and indirect impacts could occur to special-status wildlife species.

The LWEP EIR identified over 30 endangered, threatened, and other special-status wildlife species that have potential to occur in the Project area. Surveys for the SWEP identified several additional special-status birds and bats on site that were not previously known to be present; see Section 4.5.1.4 and Appendix C-7.

Based on survey results obtained since the publication of the LWEP EIR, including pre-construction studies for the LWEP, surveys conducted for the SWEP, and recent eBird reports, the additional following species are also now known or expected to occur at least occasionally in the Project area, and could potentially be impacted by Project activities:

- Crotch bumble bee – Food plants are present on or in the vicinity of the Project site and suitable burrowing and foraging is also present. The nearest record is along the Gaviota coast approximately 17 miles southeast of the SWEP (iNaturalist.org, 2019). Crotch bumblebee has a moderate potential to be present on the site.
- California red-legged frog – Could occur occasionally in the Project area during dispersal, although suitable aquatic breeding habitat is not present in the Project site. Suitable habitat and known records from San Miguelito Creek; could occur in the creek adjacent to portions of the transmission line.
- Western spadefoot toad – Seasonal wetlands identified on site could provide breeding habitat for spadefoot.
- California condor – The condor's range has been expanding, and USFWS tracking data show four condor points within 20 miles of the Project as of 2017. Grasslands and savannah could provide foraging habitat, and grazing operations could attract condors to the Project area. It could potentially occur more regularly in the Project area over the life of the Project.
- Swainson's hawk – Two individuals were observed during 2018 raptor point count surveys. Not known to nest in the region but may occasionally fly over the site and forage during migration.
- Bald eagle – A juvenile bald eagle was observed soaring and circling on September 28 and October 4, 2018 in the southern central portion of the site. Bald eagles are likely rare transients rather than residents at or near Project site.
- Southwestern willow flycatcher – Suitable breeding habitat occurs in riparian willow thickets in the Project area, and an eBird record exists of a willow flycatcher of undetermined subspecies at Miguelito County Park adjacent to the transmission line corridor.
- Sharp-shinned hawk – Observed multiple times in the project area, and suitable habitat is present in the riparian woodlands on and near the site and transmission line corridor.
- Ferruginous hawk – Recorded multiple times in and near Project area. Project is outside breeding range, but it is expected to winter in the area or pass through as a migrant.
- Merlin – Several individuals were observed in grasslands and coastal sage scrub habitat during avian surveys conducted at the site in autumn 2016.
- Vaux's swift – Observed on site during surveys in 2008, but does not breed in the area.

- Yellow-breasted chat – Suitable foraging and breeding habitat is present in riparian thickets within the Project site and transmission corridor, and it was observed in La Honda Creek during avian surveys conducted in spring 2008.
- Yellow-headed blackbird - Two individuals were observed during 2018 avian point count surveys. Nesting habitat is limited but may forage occasionally on site.
- Costa's hummingbird - Two individuals observed during 2018 avian point count surveys, and suitable habitat occurs on site.
- Western mastiff bat – Suitable habitat is present in grasslands, woodlands, and coastal sage scrub throughout the Project area, and calls identified as this species were recorded during bat surveys conducted in autumn 2008.
- Townsend's big-eared bat – Suitable habitat is present throughout the Project area, and the nearest occurrence in the CNDDB was recorded 0.13 mile north of the Project area in La Honda Canyon. It is also known from VAFB.
- Big free-tailed bat – Detected during acoustical surveys in late summer/fall of 2018 (rare; total of 3 minutes recorded). Rare in California and likely only occurs on site occasionally. Not known to breed in California.

Invertebrates. As described in the LWEP EIR, construction of WTGs, related facilities, and new roads as well as the widening of existing roads could result in the loss or disturbance of El Segundo blue butterfly (ESBB) habitat and mortality to individuals. Consistent with the LWEP EIR, all coast buckwheat within the Project area is considered occupied ESBB habitat due to its proximity to occupied habitats on VAFB and the observation of ESBB individuals on site. The SWEP would permanently impact 8.3 acres of the 23 total acres of coast buckwheat habitat mapped within the proposed Project footprint, 100-foot buffer, and the proposed 100-foot-wide transmission line corridor and access corridor ~~on site~~. During operations, occasional disturbance to small areas of El Segundo blue butterfly habitat may occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat. MM BIO-13 is recommended to minimize impacts to ESBB, and would require pre-construction surveys, avoidance of occupied habitat, and restoration of any impacted coast buckwheat.

As described for the LWEP in the LWEP EIR, the SWEP could also impact vernal pool fairy shrimp although no surveys have been conducted and none have been documented on site to date. Vernal pool fairy shrimp could occur in temporary ponded water (e.g., in depressions and slumps). Such seasonal wetland features are absent from the ridgelines where most of the Project facilities would be sited, but access road work could directly affect seasonal wetlands at several locations. Impacts to wetlands and water-related features under federal, state, or County jurisdiction would require appropriate state and federal permits and approval from the County, and documentation of the findings of site-specific surveys conducted during the appropriate season would be required for consideration in the approval process (see MMs BIO-9 and BIO-14f).

Crotch bumble bee, newly designated Candidate species for listing under CESA, has a moderate potential to occur on site. If present, impacts would be similar to those described for ESBB and include loss of habitat and mortality to individuals. However, Crotch bumble bee's food plants are common, widely distributed species that would also be components of the native seed mixes used for restoration of temporary impacts (MM BIO-3). In addition, the species has not been recorded on or within 15 miles

of the SWEP. Habitat loss and potential direct mortality on site is not expected to result in substantial population declines.

Implementation of the measures identified above would reduce impacts to listed invertebrates to a less-than-significant level (Class II).

Amphibians. Special-status amphibians that could occur in the Project area include the federally listed threatened California red-legged frog and the California Species of Special Concern spadefoot. Although these species were considered unlikely to occur in the LWEP EIR due to a lack of suitable habitat, as described above, both could occur in the Project area. In addition, although it has not been reported in the area, suitable habitat exists for the coast range newt (CSSC) and it has a moderate potential to move through drainages or uplands on site during the rainy season.

Special-status amphibians would be most likely to disperse though the site during rain events. In addition, vernal pools on site could support spadefoot breeding if they were to hold water long enough. Impacts to special-status amphibians, if present, would be similar to those described for common wildlife and could include direct mortality on roads, entrapment in excavations, crushing in burrows and other refugia, and destruction of spadefoot breeding pools. The Project would also result in 5.59 acres of permanent impacts to designated critical habitat for the California red-legged frog (2.7 percent of the total on site).

MM BIO-14g is recommended to minimize impacts to California red-legged frog, and requires pre-construction surveys and monitoring, and notification to the resource agencies if any frogs are found. MM BIO-14h would minimize or avoid impacts to breeding spadefoot toads by requiring pre-construction surveys and monitoring as well as replacement habitat and relocation of toads. Best management practices and avoidance measures to prevent impacts to wetland habitats would be implemented as detailed in MM BIO-9. In addition, restoration of upland habitats for special-status amphibians would be implemented as part of MM BIO-3. Implementation of these measures would reduce impacts to listed and other special-status amphibians to a less-than-significant level (Class II).

Reptiles. Potential impacts to coast horned lizards, Northern California legless lizards, and coast patch-nosed snake would be the same as described in the LWEP EIR. Although two-striped garter snake has a moderate potential to occur within or near the Project site, suitable habitat is found only outside the Project footprint and the Project would not impact aquatic habitats that could support this species. Impacts to special-status reptiles would be minimized through implementation of MMs BIO-1 through BIO-3, BIO-11a through BIO-11d, BIO-14a, and BIO-14b. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are mitigated through restoration following construction, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts to special-status reptiles remain less than significant (Class II).

Raptors. As described above, ~~three~~ five raptor species have been identified on site that were not known from or expected to occur on site at the time of the LWEP EIR; these include Swainson's hawk, bald eagle, sharp-shinned hawk, ferruginous hawk, and merlin. In addition, in light of the California condor's ongoing range expansion, it is now considered likely to occur on site during the life of the Project. Adverse effects to condors have been documented elsewhere by the animal's collection of microtrash (i.e., broken glass, paper and plastic waste, small pieces of metal). This waste is often

brought back to nest sites where young birds ingest the material, which can lead to mortality of young birds. Ethylene glycol, a component in antifreeze and petroleum products, can also be ingested by condors, ultimately leading to death. Impacts to other raptors would be the same as described in the LWEP EIR. Ongoing grazing could attract condors, golden eagles, turkey vultures, and other raptors to the site to feed on carrion, resulting in increased risk of collision with WTGs. This impact is addressed under Impact BIO-10. Impact BIO-8 addresses impacts to nesting birds.

Impacts to raptors during construction and general O&M activities would be avoided or minimized through the implementation of MMs BIO-1 through BIO-3, BIO-11c, BIO-11d, and BIO-14i. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are mitigated through restoration following construction, biological monitoring and reporting, and keeping the work areas free of microtrash and ethylene glycol. Implementation of these measures would ensure impacts remain less than significant (Class II).

Passerines and Shorebirds. The LWEP EIR identified several special-status passerines and shorebirds that were either observed or could occur in the Project area, including California horned lark, loggerhead shrike, California rufous-crowned sparrow, grasshopper sparrow, yellow warbler, tricolored blackbird, and long-billed curlew. Subsequent surveys for the SWEP also documented Vaux's swift, yellow-breasted chat, yellow-headed blackbird, Costa's hummingbird, California brown pelican, common loon, and double-crested cormorant. In addition, suitable breeding and foraging habitat for the federally and state-listed southwestern willow flycatcher occurs on site.

Potential impacts to special-status passerines and migrating shorebirds would be the same as described in the LWEP EIR. See Impact BIO-8 for more information regarding nesting birds, and Impact BIO-10 for potential collisions with WTGs.

Impacts to passerines and shorebirds during construction and general O&M activities would be avoided or minimized through the implementation of MMs BIO-1 through BIO-3, BIO-11c, and BIO-11d. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, temporary impacts are revegetated following construction, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mammals. The LWEP EIR noted that three special-status mammal species may be present in the Project area: pallid bat, San Diego desert woodrat, and American badger. Subsequent surveys also documented the presence of western mastiff bat, western red bat, hoary bat, long-eared myotis, and Yuma myotis. Townsend's big-eared bat has a high potential to occur.

The LWEP EIR concluded that bats may be present, but given the occasional use of the area, they were not expected to be affected by construction and maintenance activities. Collisions with vehicles and equipment were not expected, nor the loss of roost sites. Foraging behavior may be altered during construction. However, because the SWEP would impact a much larger number of trees than the LWEP, and given the current understanding that bat use of the Project site is higher than previously believed (at least during seasonal migration), potential impacts from construction and routine O&M activities could occur. All special-status bats that could occur in the Project area are insectivorous, catching their prey either on the wing or on the ground. Some species feed mainly over open water where insect production is especially high, but others forage over open shrublands. Both habitats are found in or adjacent to the Project area (open water associated with agricultural ponds). Direct impacts to special-status bats would primarily be from loss of potential roosting or foraging habitat. Night lighting during

nighttime construction, if it were to occur, could attract insects that would, in turn, attract bats to areas where they would be at risk for collision with Project equipment or crushing if they forage near the ground. Noise, vibration, and human activity could disrupt maternity roosts during the breeding season, if present. To date, no maternity roosts have been documented in or near the proposed Project disturbance area. Nonetheless, MM BIO-14j is required to reduce significant impacts to roosting bats (Class II).

Impacts to wood rats and badgers would ~~be the same as described in the LWEP EIR~~ include loss of habitat, habitat fragmentation, and direct mortality on roads or in construction work areas. MMs BIO-1 through BIO-3, BIO-11a through BIO-11d, BIO-14c, and BIO-14d are required to minimize or avoid impacts to special-status mammals. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, habitats temporarily impacted are revegetated following construction, pre-construction wildlife surveys are conducted and animals relocated out of harm's way, disturbance areas and environmentally sensitive habitats are clearly marked in the field, excavations are covered or otherwise prevented from entrapping wildlife, and biological monitoring and reporting. Implementation of these measures would ensure impacts remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** See full text under Impact BIO-3.

MM BIO-11a **Pre-construction Wildlife Surveys.** See full text under Impact BIO-7.

MM BIO-11b **Fencing.** See full text under Impact BIO-1a.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

MM BIO-13 **Conservation of El Segundo Blue Butterfly (ESBB).** Nothing in this measure authorizes take of the federally listed ESSB, including its eggs, pupae, or larvae. Unless directed otherwise by the USFWS (in a Biological Opinion), initial disturbance of occupied or potentially occupied ESSB habitat may only occur early during the flight season to avoid destroying ESSB eggs, pupae, or larvae and maximize possibility that adult butterflies will move to nearby habitat for egg laying. A qualified ESSB monitor must confirm flight dates on the site and monitor all vegetation clearing or initial site preparation activities.

Surveys. Prior to initiation of construction activities within or adjacent to ESBB habitat, a qualified entomologist approved by the County and USFWS shall conduct directed protocol surveys for ESBB during the flight season (approximately mid-June to August) within all areas of coast buckwheat on the Project site that could be impacted by construction, operation, or maintenance of the Project. If the ESBB is detected,

occupied areas shall be designated ecologically sensitive areas and protected with a 500-foot disturbance-free buffer during construction activities unless otherwise authorized through the context of a Biological Opinion.

Habitat Restoration or Enhancement. A plan to restore and/or enhance ESBB habitat shall be prepared by a County-approved botanist with input from a County-approved entomologist. The goal of the plan shall be to establish mature coast buckwheat plants with other Central coast scrub species on areas having sandy soils and judged suitable for this type of restoration or enhancement by the Project biologist and County-approved entomologist. In order to provide suitable larval food sources for ESSB and minimize any temporal loss of occupied or suitable habitat, the plan will incorporate potted coast buckwheat nursery stock (preferably salvaged from other on-site disturbance areas) and specify irrigation or other management/maintenance measures to establish suitable habitat as rapidly as possible. ESSB habitat restoration will commence at the earliest feasible date, prior to disturbance of existing occupied or suitable habitat. The restoration or enhancement ~~would~~ will preferably occur in or adjacent to ~~an~~ one or more areas of existing habitat supporting coast buckwheat on sandy soils or it could occur in an area disturbed by the Project. If those locations are not feasible, the restoration and enhancement plan will identify alternate locations, to be based on restoration science and ESSB habitat considerations. The plan shall identify sites to be restored or enhanced and the approach to restoration and enhancement, including proposed density of coast buckwheat plants, which shall be generally consistent with the density of coast buckwheat in occupied ESBB habitat in the Project region and performance criteria shall reflect that density. Restoration or enhancement will be conducted at a 3:1 ratio (3 acres of restored suitable habitat for each acre of temporarily or permanently disturbed suitable habitat) on an acre-for-acre basis. ~~If ESSB has been found on the site t~~The plan shall be submitted to USFWS for review and approval, prior to implementation.

Following completion of the restoration or enhancement, the owner/applicant will monitor vegetation performance and ESSB occurrence on both restoration sites and previously mapped habitat (both suitable and occupied) to evaluate success of the mitigation. Additionally, the restoration and enhancement plan will identify remedial measures to be implemented as needed to improve the success of the mitigation.

Suitable and occupied ESBB habitat adjacent to construction areas shall be clearly marked for avoidance (e.g., by orange plastic construction fencing). The delineation shall be directed and approved by a County-approved biologist.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring activities, including avoidance measures and restoration/habitat enhancement.

Protocol surveys shall be documented in a report to be provided to the County, USFWS, and CDFW. The report shall include a description of methodology, description and maps of the survey areas, and identification of locations of any ESBB observed in the Project area (including maps and GPS coordinates). Occupied sites shall be

described in detail in the report (vegetation, soils, exposure, and other factors that may influence species occurrence).

Timing. The habitat restoration/enhancement plan, protocol survey report, and the Biological Opinion shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports for compliance with this measure as appropriate.

MM BIO-14a **Coast Horned Lizard.** The Applicant shall fund a County-approved biologist to conduct daily clearance surveys of active construction areas, including the sites of footings for WTGs and power poles, access roads, and staging, parking, and lay down areas, for coast horned lizards. The survey may be done in conjunction with surveys for ground-nesting birds. However, the survey for horned lizards shall be performed regardless of season of the year. If horned lizards are found, they shall be relocated to similar habitat at least 300 feet away from construction activity.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14b **Northern California Legless Lizard.** The Applicant shall retain a County-approved biologist to survey for legless lizards in suitable habitat within the Project footprint as well as for a distance of 50 feet away (where access allows). Surveys shall consist of raking substrates in suitable habitat and relocating any legless lizards into suitable habitats at least 100 feet from construction activities. The biologist shall work with the equipment operator during initial vegetation clearance to identify those areas that would require legless lizard mitigation, and then to salvage and relocate exposed animals. The following technique shall be employed to ~~avoid~~ minimize impacts to the legless lizard:

- Following initial vegetation clearance in pre-identified areas, grading shall be done in two consecutive 6- inch layers.
- With each lift, the biologist shall check the areas for possible relocation of legless lizards. If any are found, they shall be moved to similar habitat near shrubs at least 100 feet from the construction sites.
- Monitoring for legless lizards shall be discontinued when grading reaches depths greater than 12 inches.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14c **San Diego Desert Woodrat.** The Applicant shall retain a County approved biologist to survey the locations of WTGs and access routes prior to construction, as well as for a distance of 50 feet away (where access allows) for signs of the San Diego desert woodrat. The following technique shall be employed to avoid impacts to the San Diego desert woodrat:

- If signs of this species are found at or near the areas to be disturbed (such as a small stick nest within a rock overhang), it shall be evaluated for potential impact due to construction activities.
- If disturbance to a nest is likely to occur, the animal shall be live-trapped and relocated to a distance of 300 feet from Project activities and within similar habitat. The nest shall be dismantled and the materials placed at the relocation site within rocky habitat.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and relocation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14d **American Badger.** The Applicant shall retain a County-approved biologist to survey, within 3 days prior to construction, for badger dens in the Project area, including areas within 250 feet of all Project facilities, WTG sites, and access roads (where access allows). The survey shall be performed regardless of season of the year. If badger dens are found, each den shall be classified as inactive, potentially active, or definitely active. Active dens include dens having a dirt apron with fresh diggings and tracks.

Inactive dens shall be excavated by hand and backfilled to prevent reuse by badgers.

Potentially and definitely active dens shall be monitored for 3 consecutive nights using a tracking medium (such as diatomaceous earth or fire clay) or game cameras at the entrance. If no tracks are observed in the tracking medium after 3 nights, the den shall be excavated and backfilled by hand. If tracks are observed, the den shall be progressively blocked with natural materials (rocks, dirt, sticks, and vegetation piled in front of the entrance) for the next 3 to 5 nights to discourage the badger from continued use. The den shall then be excavated and backfilled by hand to ensure that no badgers are trapped in the den.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and burrow excavation activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14e ~~**Sensitive Avian and Bat Species**~~ **Roosting Bats**. See full text under Impact BIO-8.

The following are new MMs recommended to reduce impacts from the SWEP.

MM BIO-14f **Vernal Pool Fairy Shrimp.** The Applicant shall retain a qualified, County-approved biologist to conduct protocol surveys for the federally threatened vernal pool fairy shrimp within suitable habitat each year of construction, in areas subject to Project disturbance. Surveys can only be suspended upon written authorization from the USFWS and the County. The biologist shall hold the required 10(a)(1)(A) recovery permit from the USFWS to conduct surveys within all potential fairy shrimp habitat found within the Project footprint or, for habitat outside the footprint itself, that would be hydrologically affected by the Project (e.g., road ditches or berms that could redirect natural surface flows away from vernal pools) including, but not limited to, seasonal/ ephemeral wetlands, swales, large road ruts and known vernal pool habitat. Surveys shall follow the guidelines set forth by the USFWS in the Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act (ESA) for Listed Vernal Pool Branchiopods. Within 90 days of the completion of surveys, a report shall be submitted to the County and USFWS detailing the methods and results of each survey event.

Avoid Seasonal Depressions and Known Waterbodies. All known seasonal/ ephemeral depressions, vernal pools and known water bodies that could be occupied by listed fairy shrimp shall be shown on all applicable construction plans. The Applicant shall avoid all seasonal/ephemeral depressions, vernal pools and known waterbodies that occur within the Project site to minimize impacts to listed fairy shrimp. A 100-foot buffer shall be placed around all seasonal/ephemeral depressions, vernal pools and known waterbodies that have the potential to, but do not presently support listed fairy shrimp, to prevent equipment from entering these areas. If, after conducting surveys, areas identified as potential habitat have been verified to not contain listed fairy shrimp, the 100-foot buffer can be removed. All vernal pools, seasonal depressions and known waterbodies containing documented populations of listed fairy shrimp shall require a 250-foot buffer. These buffers shall be shown on all applicable construction plans (with a highly visible method easily identifiable by construction workers in the field). On-site delineation of this buffer shall be in place prior to the commencement of construction activities. The method used for delineation shall be kept in good working order for the duration of the construction period.

If avoidance of known populations of listed fairy shrimp is not possible, consultation with the USFWS regarding the potential impacts to the species will be necessary.

Compensation for Impacts to Vernal Pool Fairy Shrimp Habitat. If Project impacts will result in impacts to habitat for, or result in the loss of, vernal pool fairy shrimp, then the Applicant will be required to consult with the USFWS. If occupied habitat cannot be avoided, the Applicant shall consult the USFWS and obtain the appropriate take authorizations or permits prior to site mobilization activities. The Applicant shall also implement any conservation measures contained within these permits. To compensate for impacts to occupied habitat, the Applicant shall provide both a preservation and creation component for compensation as follows:

a. **Preservation component –** For every acre of habitat directly or indirectly affected, at least two vernal pool credits will be dedicated within a USFWS approved ecosystem preservation bank, or, based on USFWS evaluation of site-specific

conservation values, three acres of vernal pool habitat may be preserved on the Project site or on another non-bank site as approved by the USFWS.

b. **Creation component –** For every acre of habitat directly affected, at least one vernal pool creation credit will be dedicated within a USFWS approved habitat mitigation bank, or, based on USFWS evaluation of site-specific conservation values, two acres of vernal pool habitat will be created and monitored on the Project site or on another non-bank site as approved by the USFWS.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the ~~monthly~~ reports to ensure compliance with this measure, as appropriate.

MM BIO-14g **California Red-Legged Frog.** The Applicant shall retain a qualified, County-approved herpetologist to conduct pre-construction surveys for the California-red-legged frog within all areas of critical habitat and within all suitable aquatic habitat in the Project site and adjacent to the transmission line corridor and San Miguelito Road modifications, including areas that would be affected by construction, operation, or maintenance of the Project, in accordance with the most current USFWS protocols. The surveys shall be documented including a description of methodology, description and maps of the surveyed areas, and identification of locations of any California red-legged frog observed within the proposed Project area (including maps and GPS coordinates). If the species is identified in the Project area at any time, the USFWS, CDFW, and the County shall be notified within 48 hours and the Applicant shall consult with these agencies to determine the appropriate next steps. Construction monitoring and pre-construction surveys for the species shall be conducted in conjunction with other sensitive species monitoring as detailed in MM BIO-11c. Best management practices and avoidance measures to prevent impacts to wetland habitats shall be implemented as detailed in MM BIO-9. In addition, habitat restoration of upland habitats for the species shall be implemented as part of MM BIO-3.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. Surveys shall be submitted prior to start of construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14h **Western Spadefoot Toad.** Prior to site mobilization, the Applicant shall retain a qualified biologist approved by the County and CDFW to conduct the following:

a. Conduct a pre-construction survey during the appropriate time of year when this species can be detected (i.e., during periods of suitable rainfall that result in

pooling or the formation of other aquatic habitat) to determine the presence of western spadefoot toad and related habitat. Surveys will include sampling seasonal water features that hold water for a minimum of four weeks, to detect eggs, larvae, metamorphs, or adults.

b. Should the toad and habitat be found, and be impacted by temporary and/or permanent Project impacts, a habitat restoration and management plan shall be prepared for review and approval by the County, in coordination with CDFW, that addresses the following:

    1. Impacted occupied breeding habitat to be replaced, on-site, at a 2:1 ratio.

    2. Relocation areas shall be designed as suitable toad habitat, and as far away as feasible from any Project-related structure or foreseeable construction area (minimum 250-foot buffer from construction activities). Relocation areas must be approved in advance by CDFW.

    3. Terrestrial habitat surrounding the proposed relocation site shall be as similar in type, aspect, and density to the location of the existing ponds as feasible.

    4. No site preparation or construction activities shall be permitted in the vicinity of any occupied ponds until the design and construction of the relocation habitat in preserved areas of the site has been completed and all western spadefoot toad adults, tadpoles, and egg masses detected are moved to the created pool habitat under the direction of CDFW. If egg masses or tadpoles are relocated, the newly constructed ponds shall also be inoculated with algae laden plant material/ and or water from the source ponds to provide a viable food source.

    5. Restoration areas shall be included in the Restoration and Revegetation Plan and restoration shall be completed in accordance with MM BIO-3 ~~areas shall be monitored and maintained until they are shown as successful habitat for the toad, or up to five years. Success criteria shall be proposed. Provisions to make adjustments to remediate problems shall also be included~~.

    6. Permanent protection and management of restoration areas (e.g., conservation easement or fee title purchase, etc.).

Annually, for the duration of construction activities and based on appropriate rainfall and temperatures (generally between the months of February and April) the biologist shall conduct a series of surveys in all appropriate water bodies and surrounding 100-foot buffer areas within the Project footprint (where access allows). Surveys will include evaluation of all previously documented occupied areas and a reconnaissance level survey of the remaining natural areas of the site. All western spadefoot adults, tadpoles, and egg masses encountered shall be collected and released in the identified/created restoration ponds described above.

Plan Requirements. This condition shall be printed on all Project plans. On a monthly basis, the Applicant shall report compliance with this measure in writing to County staff on monitoring and relocation activities.

Timing. Surveys shall be submitted prior to the start of construction and annually during the construction phase.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14i **California Condor.** A qualified biologist with demonstrated knowledge of California condor identification shall be on site to monitor impacts to biological resources during all construction activities within the Project area and assist the Applicant in the implementation of the monitoring program. Workers shall be trained on the issue of microtrash or litter during WEAP training, including what constitutes litter, its potential effects to California condors, and how to avoid the deposition of microtrash. In addition, daily sweeps of the work area shall occur to collect and remove trash. All spills of ethylene glycol shall be cleaned up immediately and a report documenting the actions taken to remediate the spill shall be provided to Santa Barbara County within five calendar days. All California condor sightings in the Project area during construction shall be reported directly to the USFWS, CDFW, and Santa Barbara County.

Plan Requirements. The Applicant shall consult and obtain any necessary permits from the appropriate regulatory agencies and provide copies to County staff. On a bi-weekly basis, the Applicant shall report compliance with this measure in writing to County staff on survey and monitoring activities.

Timing. This measure shall be implemented during construction.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-14j **Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Special-status Bats.** Any necessary removal of potential bat roost habitat (i.e., large trees, snags, or rockpiles with interstitial crevices that are outside of existing disturbance areas) shall occur between September 1 and October 31 to the extent feasible to avoid potential impacts to bat maternity or hibernation roosts. If the September 1 to October 31 work window is not feasible, pre-disturbance bat roost surveys shall be conducted by a County-approved qualified biologist <u>experienced with the bats that could occur in the Project area</u>. ~~The qualified biologist must hold appropriate permits from the CDFW to handle bats and conduct roost evictions.~~ No more than 15 days prior to vegetation removal or initial site disturbance in previously undisturbed areas, the qualified biologist shall conduct surveys for special-status bats within 300 feet of proposed disturbance areas (where access allows). If hibernacula (hibernation roosts) or maternity roosts are found, no work shall occur within 100 feet during the hibernation period (November 1 to March 31) or breeding season (March 1 to July 31), as applicable.

If non-breeding bat roosts are found in snags, rock piles, trees or other substrate scheduled to be removed, the bats shall be safely evicted, under the direction of the qualified biologist and in coordination with CDFW, by opening the roosting area to allow airflow through the cavity or other means determined appropriate by the bat biologist (e.g., installation of one-way doors). In situations requiring one-way doors, a minimum of one week shall pass after doors are installed and temperatures are sufficiently warm for bats to exit the roost because bats do not typically leave their roosts daily during winter months in southern coastal California. This action is intended to allow all bats to leave during the course of one week. Roosts that need to be removed in situations where the

use of one-way doors is not necessary in the judgment of the qualified biologist shall first be disturbed at dusk by various means at the direction of the bat biologist to allow bats to escape during the darker hours, and the roost tree shall be removed or the grading shall occur the next day. There shall be no less or more than one night between initial disturbance and the grading or tree removal.

Plan Requirements and Timing. The qualified biologist shall conduct surveys for special-status bats within 300 feet of proposed disturbance areas (where access allows) and shall report results of the surveys to the County. The biologist shall inform the County and CDFW of the need to evict any special-status bats prior to implementing the evictions and shall monitor and report the results of such evictions to the County and CDFW.

Monitoring. County staff will inspect the Project plans and site as well as review the monthly reports to ensure compliance with this measure, as appropriate.

BIO-10 Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats could be at risk of dying through collisions with the WTGs over the duration of the Project.

The LWEP EIR provides a detailed assessment of the impacts from birds and bats colliding with WTGs, and the proposed SWEP would result in similar types of impacts. Although the SWEP would have fewer WTGs than the LWEP (30 compared with 65), the WTGs would be larger and taller (up to 492 feet tall compared with 397 feet tall) and the rotor blades would extend closer to the ground at the low point of each rotation. ~~therefore,~~ While the SWEP would present fewer bird or bat hazards, it may place the rotor-swept area into the flight paths of birds or bats that would have flown over or under the LWEP turbines. Therefore, the overall risk of the Project to birds and bats is considered similar to that presented by the LWEP.

Bird and bat mortality from collisions with WTGs is difficult to predict and depends on a variety of factors including species composition on a site; behavior and flight characteristics of species present; migratory patterns; site characteristics including habitat, weather, proximity to water, features that concentrate migrants, and weather; and wind farm features such as WTG type and configuration and lighting (Marques et al., 2014). Due to the complexity of the multiple factors that contribute to collision risk, pre-construction risk assessments and surveys may not accurately predict actual mortality during operation (Ferrer et al., 2012). Therefore, ongoing operational monitoring and adaptive management are important components to minimize avian and bat fatalities.

The LWEP EIR identified MMs BIO-15a (Siting), BIO-15b (Appropriate WTG and Project-Element Design), and BIO-16 (Monitoring and Adaptive Management Plan; divided into MMs BIO-16a through BIO-16d) as mitigation for that project's impacts to birds and bats. Those measures are retained with minor revision in this SEIR. Additionally, three new mitigation components are incorporated in BIO-16:

- Requirement for the Owner/Applicant to prepare and implement a Bird and Bat Conservation Strategy (BBCS) in consultation with the USFWS and CDFW. The BBCS would include many of the components specified in MMs BIO-16a through 16e, particularly mortality monitoring during project operation and an adaptive management plan to minimize mortality that may occur.

- Require for the Owner/Applicant to obtain authorization from the USFWS for potential take of golden eagles, pursuant to the Bald and Golden Eagle Protection Act (BGEPA) or obtain a written statement from USFWS that take authorization is not needed. Permit application materials would include an assessment of potential risk to golden eagles, and specific means to offset that risk through hazard removals (e.g., retrofitting of hazardous utility poles) on or off the site.
- Requirement for the Owner/Applicant to prepare and implement a program to prevent carrion attractants to vultures, condors, eagles, and other large birds by locating and removing carcasses of grazing animals.

As discussed in Section 4.5.2, a number of federal and state regulations prohibit the nonpermitted take of any migratory birds, golden eagles, white-tailed kites and other fully protected species, or threatened or endangered species. Several bats are considered California species of special concern and are given consideration during the environmental review process by CDFW. As concluded in the LWEP EIR, because unknown but potentially substantial numbers of protected birds and bats are at risk of dying through collisions with the WTGs over the duration of the Project, and currently there is no proven method to prevent such collisions, this impact is considered significant and unavoidable (Class I).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-15a **Siting.** The turbines shall be micro-sited (i.e., moved up to 100 feet from current site plan design) so that each WTG and transmission tower is located at least 500 feet away from ~~critical biological resources identified in preconstruction surveys, specifically:~~ active raptor nest sites, ~~open water which would attract birds or bats (including stock-ponds), thicker riparian habitat in Canada Honda and San Miguelito creeks, eucalyptus tree groves, or vernal pools,~~ if present and to avoid or minimize impacts to other biological resources including Gaviota tarplant, El Segundo blue butterfly habitat, as well as other special-status plant occurrences and wildlife habitat. Preconstruction surveys (described in MM BIO-11a) shall identify existing raptor nest sites and other sensitive resources. The Applicant shall, in consultation with the CDFW, attempt to dissuade raptors from building new nests within 500 feet of any turbine.

Plan Requirements. This measure shall be printed on all Project plans.

Timing. During the preconstruction and construction phases, the Applicant shall provide the County with ~~weekly written survey results and buffer area design~~ monthly summary reports of raptor nest survey results and any activities undertaken to dissuade new nests near turbines, which may be provided electronically. This measure shall be implemented throughout ~~the first and all subsequent~~ construction ~~phases~~.

Monitoring. County staff will inspect the Project plans and site and review the monthly reports to ensure compliance with this measure, as appropriate.

MM BIO-15b **Appropriate WTG and Project-Element Design.** To minimize the likelihood of collisions of birds with WTGs and Project transmission poles, transmission lines, and power collection lines, the design features of all WTGs and Project related facilities shall include the following:

a) All overhead collection lines and transmission lines shall be designed to minimize the potential for raptor electrocution and collision using the latest APLIC (2012) guidelines. Conductors shall be marked for avoidance in accordance with the APLIC guidelines. Line spacing shall accommodate protection of the California condor and shall be a minimum of 83 inches. Further, construction and work procedures shall be consistent with the APLIC guidelines "*Reducing Avian Collisions with Power Lines: The State of the Art in 2012.*"

b) WTGs shall be microsited and designed to minimize collision potential, consistent with *USFWS Land-Based Wind Energy Guidelines (2012)* and *California Guidelines for Reducing Impacts To Birds And Bats From Wind Energy Development* (2007). The Owner/Applicant shall confer with a qualified wildlife biologist experienced in evaluating WTG bird and bat hazards to develop micrositing plans. WTGs with low rotational speed (approximately 10 to 23 revolutions per minute [RPM]) and tubular towers shall be used.

c) All permanent meteorological towers shall be unguyed.

d) Installation of active control technology, such as one or more IdentiFlight units[4] or other proven technology as available, that can identify large birds such as eagles and automatically curtail WTG operation if birds are detected approaching or entering the Project site.

e) Installation of one or more bat deterrents at the Project site, such as the Bat Deterrent System developed by NRG Systems.[5]

f) Aviation warning lights installed on turbines shall be designed to minimize impacts to night-migrating birds by utilizing white lights with the longest permittable duration between flashes or strobes, to the extent feasible to maintain consistency with Project-specific FAA requirements.

~~To reduce impacts from lighting on WTGs and facilities, MM LU-1 requires compliance with FAA regulations but also requires that lighting shall not exceed those requirements and regulations.~~

Plan Requirements. These measures shall be printed on Project plans. The Applicant shall provide the County final plans including design element plans for review and approval.

Timing. This measure shall be implemented throughout ~~the first and all subsequent~~ construction ~~phases~~.

Monitoring. County staff will inspect the Project plans and site to ensure compliance with this measure as appropriate.

MM BIO-16 **Monitoring and Adaptive Management Plan / Bird and Bat Conservation Strategy.** A Monitoring and Adaptive Management Plan is required, due to the uncertainty of the Project's operational impacts on protected and special-status bird and bat species. The

[4] http://www.identiflight.com

[5] http://www.nrgsystems.com/products/bat-deterrent-systems

Plan shall be developed and implemented in an effort to provide maximum feasible mitigation for those impacts. Monitoring studies of bird activity and fatalities at the site shall be required to collect information on bird activity and fatalities caused by wind farm operations. In addition, an Adaptive Management Plan (AMP) shall be implemented if the bird or bat mortalities trigger specified thresholds.

The Owner/Applicant will incorporate the Monitoring and Adaptive Management Plan into a Bird and Bat Conservation Strategy to be submitted to USFWS and CDFW for review and approval. Additionally, prior to beginning operation, the Owner/Applicant will obtain golden eagle take authorization from USFWS under the federal Bald and Golden Eagle Protection Act or will provide the County with a letter from USFWS stating that either such authorization is under review and expected to be issued or is not necessary for the Project. The application for take authorization will incorporate all components of the Monitoring and Adaptive Management Plan that pertain to golden eagles and will specify hazard removal measures such as powerline retrofitting to offset potential take of golden eagles. Note that take of golden eagles is prohibited under California law as this species is fully protected.

The County will enforce the following measures unless CDFW adopts them as part of a Sec. 2081 incidental take permit or Sec. 1602 streambed alteration agreement.[6, 7] In reviewing and approving the final plan and applying the required measures, the County will consult with CDFW and USFWS, as appropriate.

The Plan shall be prepared by a County-approved biologist and be subject to County approval. The Plan shall include the sections outlined in subsections 16.a to 16.d below, which comprise the following components:

- **Before-after/Control-impact (BACI) Study.** Required study to compare pre- and post-construction bird use on the site.
- **Bird/Bat Mortality Study.** Required study to estimate bird and bat mortality rates during wind farm operations and to identify WTGs causing unanticipated levels of mortalities.
- **Remove Carrion Near Turbines.** Program to promptly remove carrion from livestock grazing areas in the Project site for the purpose of reducing the attraction of raptors, vultures, and condors.
- **Adaptive Management Program.** Additional mitigation measures to be required if specific thresholds of bird or bat mortality are reached.

MM BIO-16a **Before-After/Control-impact (BACI) Study.** Conduct BACI surveys under direction of a County-approved biologist. The purpose of the BACI surveys is to compare pre- and post-construction bird use on the site; to assess the effects of the Project on avian species; to assist in determining whether additional mitigation elements are necessary; and to collect research data to better understand wind power industry impacts and provide regulatory agencies with data for future Projects. Study reports shall include estimates

6 Section references are to sections of the California Fish and Game Code.

7 If CDFW, as a Responsible Agency, enforces MM Bio-16, the County would not be involved in oversight or monitoring. The measure is written assuming it is under County jurisdiction, but if CDFW assumes responsibility references to the County would be replaced with CDFW.

of average bird usage on the site and information on the location of species within the site, flight elevations and patterns of activity, and WTG avoidance behavior. The study data and reports shall be provided to the County for review. The surveys shall be conducted from the time of Project approval through ~~each Project construction phase and for two years following first delivery of power for that phase~~ the life of the Project.

The methodology shall include methods for interpreting and summarizing the data, and the contents, format and schedule for reports. The methodology should follow the recommendations of the CEC Guidelines (CEC and CDFG, 2007)[8] and USFWS Land-Based Wind Energy Guidelines (2012)~~, insofar as feasible without causing delays to the Project construction schedule or start of operations~~. The methodology may incorporate the Applicant's current BACI methods as appropriate and explain any substantive changes between the studies currently being conducted by the Applicant and the methodology proposed for approval. The methodology could be modified during the course of the BACI study, with concurrence of the County and Project operator.

MM BIO-16b **Bird/Bat Mortality Study.** Conduct a bird and bat mortality study under direction of a County-approved biologist. The purpose of mortality surveys is to estimate mortality rates for different species on the site attributable to collisions with WTGs and to identify individual WTGs or groups/strings of WTGs that cause unanticipated levels of mortality. The information will be used to determine whether the mortality thresholds of the Adaptive Management Plan (see AMP, below) have been reached. In addition, the collected data will add to the body of knowledge to provide regulatory agencies with data for future Projects. Brief quarterly reports including tabulated search data and annual reports including analysis of the year's data shall be prepared. The study data and reports shall be provided to the County for review. Monitoring shall be conducted for the ~~first full 2 years after all WTGs are in operation for each Project construction phase. Additional years of monitoring could be required if the mortality of special status bird and bat species exceeded thresholds (see AMP, below)~~ life of the Project.

The general design of the study should follow recommendations of the CEC Guidelines (2007) and USFWS Land-Based Wind Energy Guidelines (2012), or improved methodologies if appropriate, including methods for carcass search surveys, scavenger studies, evaluation of researcher efficiency, data analysis and reporting methodology. Specifically, carcass searches shall occur once every two weeks at 30 percent of the WTGs, or more if needed, as recommended in the CEC Guidelines. Reports shall include mean estimated fatalities and 90 percent confidence intervals for species or appropriate bird and bat groups. The plan shall include training of Project operations staff in handling and reporting avian and bat fatalities encountered in the course of their regular activities. The selection of which WTGs to monitor may be adjusted from year to year (or as appropriate).

Sampling methodology (including but not limited to search methods, areas, and techniques) and sample locations to be approved by the County with outside technical

[8] California Guidelines for Reducing Impacts To Birds And Bats From Wind Energy Development (2007)

support if needed. If the AMP were triggered by excess fatalities, the frequency or design of carcass searches could be modified, as provided in the AMP.

MM BIO-16c **Remove Carrion Near Turbines.** Conduct a program under direction of a County-approved biologist to promptly remove carrion from all areas in ~~livestock grazing areas~~ in the Project site within a 500-foot radius of every WTG. The program will include regular patrols of the Project site to locate and remove livestock carcasses or other carrion, to minimize attractants for avian carrion feeders such as vultures, condors, hawks, and eagles. The plan shall be subject to County approval. Brief quarterly reports documenting patrols and removals shall be provided to the County for review. The reports may be provided electronically. The program shall begin during the construction phase and continue for the duration of Project operation ~~while livestock grazing is occurring on site~~.

At minimum, the program shall include the specific patrol and reporting schedule throughout the Project site to identify carcasses and carrion; carcasses and carrion will be removed from the vicinity within 24 hours of being located.

MM BIO-16d **Adaptive Management Plan (AMP).** Develop an Adaptive Management Plan (AMP) to be activated in the event that bird or bat mortality exceeds specified threshold levels. The AMP provides a structured framework to guide response, in case Project operations result in excessive mortality that was unforeseeable at the time of SEIR certification and Project approval. The AMP defines two impact categories and corresponding response options, as described below. Table 4.5-6 summarizes the thresholds that will trigger Level 1 and Level 2 actions by the County. Level 2 actions may also be triggered by annual mortality statistics, as described below.

Table 4.5-6. Adaptive Management Threshold Criteria (Actions required if number of fatalities caused by WTGs reaches these thresholds in any consecutive 12-month period)

	Level 1	Level 2
	– Notify County - Increase carcass search frequency in specified area(s)	– Notify County - Adaptive measures to reduce fatalities
Federal- or California-listed species or California Fully Protected Species	1 fatality	2 fatalities
Non-listed Sensitive Species (CSC, WL, and Local Species of Concern)	2 fatalities (birds) 2 fatalities (bats)	3 fatalities (birds) 3 fatalities (bats)
Raptors without designated conservation status	3 fatalities	5 fatalities
Non-sensitive bird or bat species	4 fatalities per WTG, per year	12 fatalities per WTG, per year
Any injured birds will be counted as "mortalities."		

Level 1 – First Alert and Enhanced Survey

If recorded bird or bat fatalities reach the threshold criteria for Level 1 (Table 4.5-6), the Project operator shall notify the County within 24 hours and make any required notifications to CDFW and USFWS.

The carcass search frequency shall be increased in the vicinity of the specific WTG(s) suspected of being responsible, to determine whether WTG(s) are at cause and to better

understand the causal factors and circumstances contributing to the fatalities. Carcass search patterns and extent may be modified, survey frequency may be increased up to twice per week, and supplementary field observations may be required for up to six months, if necessary to assess the pattern or frequency of fatalities. The additional information would facilitate a more informed response in the event that mortality levels reach Level 2. The Project operator shall provide wind velocity data for the area of the fatalities if the County determines that the data are important for assessing the cause of fatalities or for designing enhanced search patterns.[9] Details of the enhanced monitoring program will be subject to County approval.

~~Mortality monitoring shall conclude if fatalities remain below Level 2 thresholds for 2 consecutive years. If Level 2 thresholds are reached or exceeded, the County may require additional year(s) of monitoring until fatalities fall below Level 2 thresholds.~~

Level 2 – Response Options

If recorded bird or bat fatalities reach the threshold criteria for Level 2 (Table 4.5-6), the Project operator shall notify the County within 24 hours and make any required notifications to CDFW and USFWS. The Level 2 thresholds might also be reached based on the annual mortality statistics, which would be reported in the annual reports of the mortality study.

The cause of bird and bat fatalities at wind farms is often indeterminate, due to the condition of the carcasses, activity of scavengers, and wide radius of land-fall. The County shall require Level 2 response options only if it determines with reasonable certainty that the fatalities are caused by wind farm operations and which WTGs are at cause. The determination must be based on substantial evidence and made by a qualified biologist approved by the County. Bird or bat carcasses will be frozen and retained by the owner/applicant for at least 90 days, and will be made available to the County, CDFW, or USFWS on request. Changes in bird and bat use of the site observed in the BACI studies should be taken into account in the evaluation of impacts and response options.[10] Measures required must be reasonable, feasible, and specifically targeted to reduce fatalities at the particular problem WTG(s).

The following Level 2 response options ~~should~~ shall be considered by the County, in consultation with CDFW and USFWS, and implemented if determined to be feasible and likely to reduce or compensate for further fatalities similar to those that triggered the Level 2 response. Such measures shall not be undertaken without appropriate environmental review, if applicable. Less extreme, less costly measures shall be

[9] The data may be provided as hourly average wind speed and direction in the project area, or as otherwise agreed with the County. If the data is considered proprietary, it may be provided under a confidentiality agreement with the County.

[10] One of the primary objectives for operations monitoring stated in the CEC Guidelines is to determine whether the avoidance, minimization, and mitigation measures implemented for the project were adequate or whether additional corrective action or compensatory mitigation is warranted.

exhausted before more extreme or costly measures are required.[11] Any cost associated with implementing these measures shall be borne by the operator.

1. Habitat modifications to make the site less attractive to impacted species, including ~~intensified~~ efforts to reduce the prey base (e.g., ground squirrels), weed control, grazing management. However, no anticoagulant rodenticides, such as Warfarin and related compounds (indandiones and hydroxycoumarins), may be used within the project site or in support of any project activities.
2. Project modifications. Modifications must have a sound scientific basis, but need not be proven definitely effective, such as installing "dummy towers" at end of WTG rows; painting of WTG blades on selected WTGs to increase their visibility; audible warnings on towers; or other new or experimental technologies to divert birds/bats or react to the presence of at-risk species. If appropriate, a modification may be implemented as a controlled experiment to test efficacy in reducing mortality.
3. Selective curtailment of turbine operation, dependent on specific locations of mortalities or on daily or seasonal bird or bat activity, to be determined from monitoring results.
4. Restricting turbine operation at low wind speeds; i.e, increasing the "cut-in speed" (the wind speed at which the turbines begin generating electricity) to 5.0 m/s or greater.
5. ~~Implementation of a mitigation research component at the SWEP site at an appropriate department of a local college or university (e.g., Environmental Science or Wildlife Biology department); species-related research to improve knowledge of a species and conservation needs.~~
6. ~~Contribution to a program to enhance recovery of the special status species impacted by the Project; contribution to research program on wind Project impacts to birds and bats.~~

If any of these measures are implemented, the Project operator, in consultation with the County, should implement an effectiveness evaluation program to assess the intended and unintended effects of the measure. The measure should be reversed, discontinued, or modified if little or no reduction in mortality is demonstrated within a reasonable time or if it leads to unintended, adverse consequences, as determined by the County.

Plan Requirements and Timing. Approval of the entire Plan by the County, in consultation with CDFW and USFWS, is required prior to Zoning Clearance ~~for the first and subsequent Project phases~~.

Monitoring. The County will ensure that the BACI, mortality monitoring, and prey base reduction measures are implemented. The County will review all monthly, quarterly, and annual reports provided pursuant to the Avian and Bat Mitigation Plan and ensure that

[11] ~~If excessive fatalities of endangered or protected bird or bat species, as determined by CDFW or USFWS, were to occur, these agencies could require curtailment of operations of the offending WTG(s). In such a case, any negotiations with the Applicant or possible enforcement actions would be the responsibility of CDFW and USFWS, and not the County.~~

appropriate adaptive management measures are undertaken if AMP thresholds are reached.

These Level 1 and Level 2 thresholds apply to the actual numbers of carcasses attributable to Project facilities or operations recovered in the regular weekly carcass searches. However, incidental finds of carcasses attributable to the Project of federally or state listed bird or bat species or California FPS shall also count toward the thresholds. The numbers assume the carcass searches comprise a ~~50~~ 30 percent random sample of the 30 WTG locations, or ~~15~~ 10 WTGs. If the number of WTGs constructed is substantially different or a different number of WTGs is sampled, the thresholds shall be adjusted accordingly.

Alternative Level 2 Threshold Criteria Based on Annual Mortality Statistics

In addition, Level 2 measures shall be triggered if the estimated, Project-wide mortality rates of non-listed sensitive species, for fatalities attributable to the Project, adjusted for searcher efficiency and scavenger removal, exceed 0.08 per WTG per year (at the 90 percent confidence level[12]) in any 12-month period. The equivalent Level 2 trigger for non-sensitive raptors shall be 0.15 fatalities per WTG per year. Level 2 measures shall also be triggered by large-scale mortality of non-sensitive bird or bat species at thresholds of 4 and 12 fatalities per WTG, per year, respectively.

Basis of Thresholds

Given the current state of the science, mortality rates of birds and bats at proposed wind sites cannot reliably be predicted, except in the case of new wind farms nearby existing ones in similar settings. Mortality of passerines due to collisions with WTGs is not strongly correlated with bird usage of a site, and many interrelated and species-dependent factors contribute to raptor mortalities, apart from number of birds at the site. The relationship between bat usage and fatalities is not understood. (CEC Guidelines, 2007)

Listed and Sensitive Species

The Level 1 threshold for federally or state listed species and California FPS was set at one individual fatality, due to the required coordination with CDFW or USFWS in case of a single fatality. A second fatality within a year would trigger Level 2. The necessary additional mitigation would be provided by adaptive management options, which the County would require, as appropriate. Thresholds for non-listed sensitive birds or bats were set higher than for listed species, in keeping with their lower protection status.

[12] The estimates of adjusted mortality involve complex statistics due to the small sample sizes and uncertainty in adjustments for searcher efficiency and scavenger removal bias. The estimated rates are approximate and involve uncertainty that can be estimated as a confidence interval using Monte Carlo methods or other appropriate statistical approach. (For example, see Stateline Wind Project Wildlife Monitoring Final Report, FPL Energy, Stateline Technical Advisory Committee, 12/04. p.4 et seq.) The Level 2 Thresholds shall be triggered by estimates of the annual, site-wide mortality rate only if the stated threshold rate is exceeded with 90 percent confidence, based on a 1-sided statistical hypothesis test.

Raptors without Designated Conservation Status

The estimated average raptor mortality rate for wind farms in the U.S. is 0.006 per WTG per year; the overall average rate in the U.S. is 0.033 per year.[13] Maximum raptor mortality for modern wind farms in the U.S. outside California is estimated to be 0.07 raptors in the Northwest. Raptor mortality at wind farms in California ranges from 0.01 to 0.24 fatalities per WTG per year (average of 0.15 per WTG or 1.37 per MW per year).[14] This data is based on older wind farms, which include large numbers of small-sized WTGs (hence the high mortality rate expressed on a per-MW basis). The high raptor mortality at these facilities is associated with high raptor use. The results of the winter 2006-07 avian survey at the Lompoc Wind Energy Project site indicate raptor use of the site may be slightly higher than that of most wind projects in U.S., but much lower than projects in Solano County and the Altamont Pass Wind Resource Area.[15] However, raptor mortality rates may prove to be lower than expected on the basis of observed raptor use at SWEP, because the most frequently observed raptors at the site are turkey vultures, which are known to have low mortality rates at wind farms.

Based on this information, it is expected that raptor mortality rates at the Project will be less than 0.10 fatalities per WTG per year. This amounts to approximately 3 raptor fatalities per year expected for the entire site (30 WTGs), or 1-2 for a random sample of 15 WTGs. The Level 1 threshold for non-sensitive raptors is set at 3 fatalities per year for the 15 WTGs sampled. The Level 2 threshold is set at 1½ times the Level 1 threshold, which rounds to 5 fatalities per year for the 15 WTGs sampled.

BIO-11 Avian and Bat Collisions with Power Lines and Meteorological Towers.

Birds and bats could collide with transmission and power collection poles, transmission and power collection lines, and meteorological towers.

Impacts to birds and bats from collisions with transmission and power collection poles, transmission and power collection lines, and meteorological towers are described in the LWEP EIR. MM BIO-15b would require design elements to reduce collision risk, including undergrounding collection lines as feasible, unguyed permanent meteorological towers, and designing the collection and transmission lines in accordance with APLIC guidance to reduce collisions with power lines. Implementation of this measure would reduce impacts from collision with power lines and meteorological towers to a less-than-significant level (Class II).

Mitigation Measures

MM BIO-15b Appropriate WTG and Project-Element Design. See full text under Impact BIO-10.

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13 Erickson, W.P., et. al, *Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons of Avian Collision Mortality in the United States*, 10/01, pp. 2 & 39.

14 National Wind Coordinating Committee, Wind Turbine Interactions with Birds and Bats: A summary of research results and remaining questions, 11/04, p.4.

15 CEC Guidelines, 2007, Appendix G, Figures 1 and 4.

BIO-12 Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers could be displaced.

The LWEP EIR described displacement of birds and bats from aerial habitat surrounding WTGs, and similar effects would occur from the proposed SWEP. The impacts would be the same type, but would differ in magnitude due to the fact that the SWEP would install fewer, but larger WTGs compared with the previously proposed LWEP. Table 4.5-7 compares the estimated area of aerial displacement between the LWEP and the SWEP.

The LWEP concluded that the loss of aerial habitat was not significant given the amount of similar habitat in the vicinity (including VAFB). Although the proposed SWEP would result in an estimated 46.1 additional acres of lost aerial habitat, this amount is still not considered significant for the same reasons as concluded for the LWEP (Class III).

Table 4.5-7. Comparison of Aerial Displacement from WTGs between the LWEP and the SWEP

	LWEP	SWEP[1]
Turbine blade length	130 ft.	225 ft. (3.8-MW WTG) 160 ft. (1.79-MW WTG)
Loss of aerial space around WTG – column diameter (includes buffer to account for multiple WTGs in a string)[2]	400 ft.	692 ft. (3.8-MW WTG) 492 (1.79-MW WTG)
Acres lost per WTG[3]	2.88 acres	8.63 (3.8-MW WTG) 4.36 (1.79-MW WTG)
Number of WTGs	65	24 (3.8-MW WTG) 6 (1.79-MW WTG)
Total aerial habitat lost	187.2 acres	233.3 acres

1 – Project currently assumes six GE 1.79-MW WTGs and twenty-four GE 3.8-MW WTGs; see Section 2, *Project Description*.

2 – Adjusted proportionally for SWEP using LWEP assumption.

3 – Calculated using the formula presented on page 3.5-83 of the LWEP EIR; see that document for details.

BIO-13a Indirect Construction Effects (Wildlife). Indirect impacts to wildlife could occur during construction from a variety of sources, resulting in temporary wildlife displacement.

Indirect impacts to wildlife from construction of the SWEP would be the same as described in the LWEP EIR, and include disturbance from noise, vibration, night lighting (if required), and general human activity that cause wildlife to temporarily avoid the area. If explosives were required to construct WTG foundations, rock could be projected several hundred feet and injure or kill wildlife in the immediate area. However, ~~T~~this impact would be adverse, but not ~~be~~ significant (Class III) because Project construction activities would not substantially reduce local populations or substantially disrupt foraging areas and/or access to food sources.

BIO-13b Indirect O&M Effects (Wildlife). Indirect operational impacts could occur to terrestrial wildlife compared to pre-Project levels.

Indirect impacts to wildlife from operation of the SWEP would be the same as described in the LWEP EIR and would include minor and infrequent disturbance from noise and general human activity that cause wildlife to temporarily avoid the area. This impact would not be significant (Class III).

BIO-14 Indirect Impacts (Vegetation). Invasive species carried from other work sites could establish on site and displace native plant species or interfere with revegetation; topsoil removal and equipment operation could reduce the ability of soils to support vegetation.

Impacts from nonnative and invasive weeds would be the same as described in the LWEP EIR. Invasive species carried from other work sites via construction equipment could establish on site and displace native plant species or interfere with restoration efforts. In addition, topsoil removal due to grading and equipment operation could reduce the ability of soils to support vegetation. MMs BIO-1 through BIO-3, BIO-5, BIO-6, BIO-9, BIO-11c, BIO-11d, and BIO-17 are required to reduce or avoid the introduction and spread of nonnative and invasive weeds. These measures require that workers undergo environmental awareness training, ground disturbance is minimized, impacts to Gaviota tarplant habitat are minimized and mitigated, disturbance in riparian habitat and other native habitats is restored and weeds are controlled in restoration areas, biological monitoring and reporting is conducted, and a Weed Control Plan is developed and implemented for all ground disturbance. Implementation of these measures would ensure impacts from nonnative invasive weeds remain less than significant (Class II).

Mitigation Measures

The following MMs from the LWEP EIR have been modified for the SWEP.

MM BIO-1 **Worker Education and Awareness Program.** See full text under Impact BIO-1a.

MM BIO-2 **Ground Disturbance.** See full text under Impact BIO-1a.

MM BIO-3 **Site Restoration and Revegetation Plan.** See full text under Impact BIO-1a.

MM BIO-5 **Pre-construction Rare Plant Surveys and Restoration.** See full text under Impact BIO-5a.

MM BIO-6 **Gaviota Tarplant Disturbance.** See full text under Impact BIO-5a.

MM BIO-9 **Wetland Avoidance and Riparian Habitat Restoration Plan.** See full text under Impact BIO-3.

MM BIO-11c **Biological Monitoring.** See full text under Impact BIO-1a.

MM BIO-11d **Monitoring Report.** See full text under Impact BIO-1a.

The following is a new MM recommended to reduce impacts from the SWEP.

MM BIO-17 **Weed Control Plan.** The Applicant shall have a County-approved, qualified restoration ecologist or biologist prepare a comprehensive adaptive Weed Control Plan (WCP) to be administered during the construction and operation phases of the proposed Project. The WCP shall be submitted to the County for review and approval and shall be updated and implemented for weed eradication and monitoring for the life of the proposed Project. The WCP shall include, but is not limited to, the following:

1. Conduct a pre-disturbance survey for invasive weeds in all presently undisturbed areas that are proposed for ground-disturbing activity in the proposed Project footprint and a 100-foot buffer. Weed populations that are rated high or moderate for negative ecological impact in the California Invasive Plant Inventory Database

(Cal-IPC, 2018) shall be mapped and described according to density and area covered. Identify the invasive species that will be subject to control measures (ubiquitous non-native species such as brome grasses and wild oats should be identified and described, but need not be subject to control measures). Areas with weed infestations shall be treated prior to ground disturbance in presently undisturbed areas according to control methods detailed below and BMPs for invasive weed populations. Success criteria shall be identified for each invasive species and shall consist of control (i.e., existing populations do not expand beyond current extent) or eradication.

2. Weed control treatments shall include legally permitted herbicide, manual, and mechanical methods approved for application. The application of herbicides shall be in compliance with State and federal laws and regulations under the prescription of a Pest Control Advisor, with the County's concurrence, and shall be implemented by a Licensed Qualified Applicator. Herbicides shall not be applied during or within 72 hours of a forecasted measurable rain event or during high wind conditions that could cause spray drift onto native vegetation. Where manual or mechanical methods are used, plant debris shall be disposed of at an appropriate off-site location. The timing of the weed control treatment shall be determined for each plant species with the goal of controlling populations before they start producing seeds. Consultation with a County-approved, qualified wildlife biologist or botanist shall be required prior to weed control treatments to develop strategies to avoid any adverse impacts to plants and wildlife in the area.

3. Herbicides known to have residual toxicity, such as pre-emergents and pellets, shall not be used in natural areas or within channels (engineered or not) where they could run off into downstream areas. Only the following application methods may be used: wick (wiping onto leaves); inner bark injection; cut stump; frill or hack and squirt (into cuts in the trunk); basal bark girdling; foliar spot spraying with backpack sprayers or pump sprayers at low pressure or with a shield attachment to control drift, and only on windless days, or with a squeeze bottle for small infestations.

4. Throughout construction and operation, all sites impacted by the proposed Project (including access roads within the Project site and along the transmission line) and a 100-foot buffer shall be surveyed annually for new invasive weed populations and identified weed populations shall be treated and monitored. Treatment of all identified weed populations shall occur at a minimum of once annually. When no new seedlings or re-sprouts are observed at treated sites for three consecutive, normal rainfall years, the weed population can be considered eradicated and weed control efforts may cease for that impact site.

   Weed control efforts shall be timed annually to reduce invasive weed seed production. This entails conducting weed removal when flowering has just started, but before seeds have been produced. All plant debris shall be disposed of at an approved location. Weed control efforts shall generally commence in early spring (February), or as determined each year by a qualified restoration ecologist or biologist.

5. All seeds and straw materials used during proposed Project construction and operation shall be weed-free rice straw or other weed-free product, and all gravel and fill material shall be weed free. All plant materials used during restoration shall be native, certified weed-free, and approved by the County of Santa Barbara.

6. Prior to entry to any proposed Project area for the first time, equipment must be free of soil and debris on tires, wheel wells, vehicle undercarriages, and other surfaces (a high-pressure washer and/or compressed air may be used to ensure that soil and debris are completely removed). Compliance with the provision is achieved by on-site inspection and verification or by demonstrating that the vehicle or equipment has been cleaned at a commercial vehicle or appropriate truck washing facility. In addition, the interior of equipment (cabs, etc.) must be free of mud, soil, gravel and other debris (interiors may be vacuumed or washed).

Plan Requirements and Timing. The Applicant shall submit a WCP to the County for review and approval prior to issuance of the Zoning Clearance. Requirements of the WCP shall be implemented by the Applicant as specified in the approved WCP. The Applicant shall report results of pre-disturbance survey(s), weed control efforts and annual surveys during the life of the proposed Project to the County. The County-approved biologist shall document implementation of the WCP requirements, including pre-disturbance surveys in a summary report to the County submitted annually during the life of the proposed Project.

Monitoring. County staff will inspect the Project plans and site as well as review the weed control plan and final monitoring report for compliance with this measure as appropriate. County staff will monitor construction and revegetation activities to ensure the plan is fully implemented.

4.5.5 Cumulative Effects

Geographic Extent/Context

Consistent with the LWEP EIR, the geographic scope of cumulative effects for biological resources is the Lompoc Valley. All cumulative projects listed in Table 3-1 (Cumulative Projects Scenario) within the Lompoc Valley County Area and the City of Lompoc could potentially combine with the effects of the proposed Project to result in cumulative impacts to biological resources. However, the types of projects that would be most likely to result in substantial cumulative impacts to biological resources include large-scale projects on currently undeveloped lands, such as the Sepulveda Building Materials Mining Revision and new wineries including the Hilt Winery.

Cumulative Effects

Vegetation and Wildlife Habitat. The proposed Project would temporarily impact 4.04 acres and permanently convert 180.88 acres of vegetation and wildlife habitat, as summarized in Table 4.5-3. Other projects in the cumulative scenario would also result in temporary and permanent impacts to vegetation and wildlife habitat. Although VAFB and the Lompoc Hills support large amounts of undeveloped land, the ongoing development in the region for residential, commercial, agriculture (including wineries), mining, and other land uses has resulted in a large-scale loss of native vegetation and wildlife habitat. The proposed Project's contribution to this cumulative impact would be significant.

Woodland and Forest. An estimated 607 coast live oak and tanoak trees would be removed for construction of SWEP turbines and access roads. Other development projects in the cumulative scenario may also damage or remove oaks and other native trees. The potential effects of increased forest fires or other climate-related impacts to forests, while not cumulative projects subject to CEQA analysis, may also cause loss or degradation of oak trees, woodlands, and forests. Although mitigation, such as replacement tree plantings, would be required for impacts to oaks and other native trees, woodland and forest habitats can take decades or more to regain the lost habitat values. The Project would result in a substantial contribution to the loss of woodland and forest within the Lompoc Valley. The proposed Project's contribution to this cumulative impact would be significant.

Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFW. Table 4.5-5 summarizes the estimated SWEP impacts to jurisdictional resources by feature type and agency jurisdiction. Jurisdictional resources, including streams, wetlands, seeps, and springs, provide valuable habitat for common and special-status species in the Lompoc Valley. Other development projects may also impact jurisdictional resources. The proposed Project's contribution to this cumulative impact would be significant.

Gaviota Tarplant. It is currently unknown whether Gaviota tarplant exists within any other proposed developments in the Lompoc Valley. If present, the proposed Project's direct impacts to Gaviota tarplant could combine with loss of the species from other development sites to result in a cumulative impact to this federally and state-listed endangered plant. Given its already limited distribution and ongoing threats that have resulted in its listing under the ESA and CESA, the Project's contribution to cumulative impacts to Gaviota tarplant would be significant.

Other Special-status Plant Species. Many of the special-status plants present on the Project site (see Appendix C-6) may also occur on other sites proposed for development in the Lompoc Valley. Development projects that may impact special-status plants likely will be required to follow similar mitigation as the proposed SWEP, including avoidance, revegetation of temporary impacts, compensation for impacts to local populations, and measures to avoid indirect impacts from dust and weeds. Nonetheless, given the scale of the proposed Project, its contribution to impacts to special-status plants would be significant.

Construction and Maintenance Impacts to Common and Special-Status Wildlife Species, including Nesting Birds. Many of the special-status wildlife present on the Project site (see Appendix C-7) may also occur on other sites proposed for development in the Lompoc Valley. In addition, many of these projects likely support habitat for nesting birds and could interfere with bird breeding if construction were to occur during the nesting season. Development projects that may impact special-status wildlife and nesting birds likely will be required to follow similar mitigation as the proposed SWEP, including pre-construction surveys, avoidance (including disturbance-free buffers around active nests), revegetation of temporary impacts, construction monitoring and reporting, and measures to avoid indirect impacts from dust and weeds. Nonetheless, given the scale of the proposed Project, its contribution to impacts to special-status wildlife and nesting birds would be significant.

Avian and Bat Collisions with WTGs. No other wind development projects are proposed within the Lompoc Valley. Therefore, the Project would not have the potential to combine with other wind development projects to result in cumulative impacts from bird and bat collisions with WTGs.

Avian and Bat Collisions with Power Lines and Meteorological Towers. No other wind development or power line projects are proposed within the Lompoc Valley. Therefore, the Project would not have

the potential to combine with other projects to result in cumulative impacts from bird and bat collisions with power lines and meteorological towers.

Avian Displacement from WTGs. No other wind development projects are proposed within the Lompoc Valley. Therefore, the Project would not have the potential to combine with other wind development projects to result in cumulative impacts from bird and bat aerial displacement.

Indirect Impacts (Wildlife and Vegetation). Other development projects in the Lompoc Valley could result in the same types of indirect impacts to vegetation and wildlife, including the introduction and spread and nonnative and invasive weeds; impacts from dust; wildlife displacement and disturbance from increased noise, night lighting, and human presence; and hazardous materials spills. However, indirect effects are generally localized and temporary, and the nearest cumulative project is the Hilt Winery, which is over 4 miles from the Project site and is currently under construction. Most indirect effects would occur during construction of the SWEP, which would not overlap that of the Hilt Winery which should be complete before the proposed Project construction begins. Therefore, the Project would not contribute substantially to cumulative indirect impacts on wildlife and vegetation.

4.5.6 Residual Impacts

As summarized in Section 4.5.4, Impacts BIO-2b, BIO-12, BIO-13a, and BIO-13b would be less than significant. With implementation of proposed mitigation measures, residual effects from Impacts BIO-1a, BIO-1b, BIO-3, BIO-5a, BIO-5b, BIO-6, BIO-7, BIO-8, BIO-9, BIO-11, and BIO-14 would be less than significant. The residual effects from Impacts BIO-2a and BIO-10 would remain significant.

4.5.7 Impact and Mitigation Summary

Table 4.5-8 below provides a summary of the SWEP's impacts related to biological resources. The table also indicates the MMs proposed to reduce each significant impact.

Table 4.5-8. SWEP Impact and Mitigation Summary – Biological Resources

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
BIO-1a	Vegetation and Wildlife Habitat Impacts during Construction. Vegetation and wildlife habitat could be temporarily and permanently lost during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Grassland Restoration BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-1b	Vegetation and Wildlife Habitat Impacts during O&M. Vegetation and wildlife habitat could be impacted during O&M.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-8: Native Grassland Restoration BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-2a	Construction Impacts to Woodland and Forest. Oak woodland and tanoak forest could be impacted during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-4a: Tree Protection Plan BIO-4b: Tree Replacement Plan (TRP) – Planned Removal and Unexpected Damage	Class I

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
		BIO-4c: Invasive Plant Pathogen Abatement (SOD Prevention) BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	
BIO-2b	**O&M Impacts to Woodland and Forest.** Oak woodland and tanoak forest could be impacted during Project operations.	None required.	Class III
BIO-3	**Wetlands, Seeps, and Springs, and Features Subject to Regulation by the USACE, Santa Barbara County, or CDFW.** Direct loss of wetlands and seeps could occur at creek crossings, the laydown yard, water well, road improvement and access road locations, pole locations along the transmission line, and WTG pads. Additionally, soil erosion or spills could reduce water quality during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-5a	**Construction Impacts to Gaviota Tarplant.** Impacts to Gaviota tarplant and designated critical habitat could occur during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-5b	**O&M Impacts to Gaviota Tarplant.** Occasional disturbance to small areas of Gaviota tarplant habitat could occur as a result of operations or maintenance activities involving clearing or vehicle operation in occupied habitat.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-6	**Other Special-Status Plants.** A number of other special-status plant species may be present on site or in the transmission line corridor and could be lost during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-7: Kellogg's and Mesa Horkelia Habitats BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-7	**Common Wildlife.** Individual animals could be injured or killed by vehicles, equipment, or large holes during construction.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report	Class II
BIO-8	**Nesting Birds.** Nesting birds could potentially lose nests through destruction or abandonment.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring	Class II

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
		BIO-11d: Monitoring Report BIO-12: Avoidance Measures for Nesting Birds BIO-14e: ~~Sensitive Avian and Bat Species~~ Roosting Bats	
BIO-9	Special-Status Wildlife. Direct and indirect impacts could occur to special-status wildlife species.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11a: Pre-construction Wildlife Surveys BIO-11b: Fencing BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-12: Avoidance Measures for Nesting Birds BIO-13: Pre-construction Surveys and Conservation of El Segundo Blue Butterfly (ESBB) BIO-14a: California Horned Lizard BIO-14b: Northern California Legless Lizard BIO-14c: San Diego Desert Woodrat BIO-14d: American Badger BIO-14e: ~~Sensitive Avian and Bat Species~~ Roosting Bats BIO-14f: Vernal Pool Fairy Shrimp BIO-14g: California Red-Legged Frog BIO-14h: Western Spadefoot Toad BIO-14i: California Condor BIO-14j: Maternity Colony or Hibernaculum Surveys and Avoidance Measures for Sensitive Bats	Class II
BIO-10	Avian and Bat Collisions with WTGs. Unknown numbers of special status and non-sensitive birds and bats could be at risk of dying through collisions with the WTGs over the duration of the Project.	BIO-15a: Siting BIO-15b: Appropriate WTG and Project-Element Design BIO-16: Monitoring and Adaptive Management Plan / Bird and Bat Conservation Strategy BIO-16a: Before-After/Control-impact (BACI) Study BIO-16b: Bird/Bat Mortality Study BIO-16c: Remove Carrion Near Turbines BIO-16d: Adaptive Management Plan (AMP)	Class I
BIO-11	Avian and Bat Collisions with Power Lines and Meteorological Towers. Birds and bats could collide with transmission and power collection poles, transmission and power collection lines, and meteorological towers.	BIO-15b: Appropriate WTG and Project-Element Design	Class II
BIO-12	Avian Displacement from WTGs. Birds with habitat within 200 feet of WTG towers may be displaced.	None required.	Class III
BIO-13a	Indirect Construction Effects (Wildlife). Indirect impacts to wildlife could occur during construction from a variety of sources, resulting in temporary wildlife displacement.	None required.	Class III
BIO-13b	Indirect O&M Effects (Wildlife). Indirect operational impacts could occur to terrestrial wildlife compared to pre-Project levels.	None required.	Class III

Impact No.	Impact Statement	Mitigation Measures	Significance Conclusion
BIO-14	Indirect Impacts (Vegetation). Invasive species carried from other work sites could establish on site and displace native plant species or interfere with revegetation; topsoil removal and equipment operation could reduce the ability of soils to support vegetation.	BIO-1: Worker Education and Awareness Program BIO-2: Ground Disturbance BIO-3: Site Restoration and Revegetation Plan BIO-5: Pre-construction Rare Plant Surveys and Restoration BIO-6: Gaviota Tarplant Disturbance BIO-9: Wetland Avoidance and Riparian Habitat Restoration Plan BIO-11c: Biological Monitoring BIO-11d: Monitoring Report BIO-17: Weed Control Plan	Class II

Class I. Significant unavoidable adverse impact.

Class II. Significant environmental impacts that can be feasibly mitigated or avoided.

Class III. Adverse impacts found not to be significant.

Class IV. Impacts beneficial to the environment.

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