APPENDIX I

Biological Report for Avila Ranch Development Plan

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Biological Report

for

Avila Ranch

APNs: 053-259-004, 053-259-005, 053-259-006;
Buckley Extension APNs: 076-071-016, 076-081-024, 076-081-026, 076-361-016

City of San Luis Obispo
San Luis Obispo County, California

Prepared for

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Synopsis

- This biological report examines a 156-acre Study Area located in the City of San Luis Obispo, California. The Study Area is located primarily east of Vachell Lane and north of Buckley Road for a proposed residential and commercial development that includes open spaces, parks, Class 1 bicycle path, multi-use trail, creek restoration, and creek enhancements (Project). The Project also includes a proposed extension of Buckley Road west from Vachell Lane to South Higuera Street.
- Habitat types identified and mapped in the Study Area consist of agricultural land, riparian, ephemeral drainage, wetland, ruderal, and developed. Sensitive natural communities listed by the California Natural Diversity Database (CNDDB) are not present in the Study Area. Wetlands and riparian areas regulated under the federal Clean Water Act and state Porter Cologne Act will be mitigated on-site.
- Botanical surveys conducted February through August 2014 identified 88 species, subspecies, and varieties of vascular plants in the Study Area. Suitable habitat and soil conditions are present for six special status plant species. One special status plant was mapped in the Study Area: Congdon's tarplant (*Centromadia parryi* subsp. *congdonii*; CRPR 1B.1). Impacts to Congdon's tarplant may be mitigated on-site.
- Wildlife species detected in the Study Area include 1 amphibian, 2 reptiles, 50 birds, and 3 mammals. Eleven special status animals could occur in the Study Area based on review of preferred habitat types, and three species are not likely to occur but warrant further discussion due to the soil and habitat conditions present in the Study Area. Three species that do not have appropriate soil and habitat conditions present in the Study Area but were observed on-site also warrant further discussion. No State or federally listed animals were detected in the Study Area. U.S. Fish and Wildlife Service protocol surveys for the federally listed threatened California red-legged frog (*Rana draytonii*) are recommended.

1.0 Introduction

This report provides information regarding biological resources associated with an approximately 156-acre site (Study Area) in the City of San Luis Obispo (Figure 1). Results are reported for botanical and wildlife surveys of the Study Area conducted from February through August 2014. A habitat inventory and results of database and literature searches of special status species reports within a seven 7.5-minute quadrangle search area of the Study Area are also included. Special status species that could occur in the Study Area or be affected by the proposed Project are discussed, and lists of plant and animal species that were identified or are expected in the Study Area are provided.

We provide agencies and stakeholders with information regarding biological resources in the Study Area, and assess potential impacts to biological resources that could occur from the proposed Project. An evaluation of the effect of the proposed Project on biological resources is included, and mitigation measures are provided.

1.1 Project Location and Description

The Study Area is located in San Luis Obispo on Buckley Road, at the intersection of Buckley Road and Vachell Lane (Figure 2). The majority (approximately 150 acres) of the Study Area is directly northeast of this intersection with a small strip (approximately 6.5 acres) running directly west and meeting South Higuera Street. The northeast corner of the Study Area borders the decommissioned Chevron Tank Farm to the north. The City of San Luis Obispo is requiring the completion of a specific plan for the Study Area, the Avila Ranch Specific Plan Area (SP-4), as described by the City of San Luis Obispo Draft Program Environmental Impact Report Land Use and Circulation Elements Update (LUCE; June 13, 2014). The entire Study Area is considered the Area of Potential Effect (APE). The Study Area consists of three Assessor's parcels (APN 053-259-004, -005, and -006) and portions of four additional Assessor's parcels (APN 076-071-016, 076-081-024, 076-081-026, and 076-361-016). The Study Area is within portions of Township 31S, Range 12E, Sections 10, 11 and 15. Approximate coordinates for the center of the Study Area are 35.23850° N, -120.66880° W (WGS 84). The Study Area is located within the Pismo Beach United States Geological Survey (USGS) 7.5 minute quadrangle. The elevation varies from approximately 100 to 125 feet above mean sea level.

The proposed Project includes a residential and commercial development consisting of nearly 76 acres of residential housing, 33 acres of open space, 28 acres of roadway, 13.5 acres of developed park, one acre of commercial development, and 4.5 acres of buffer area along the Buckley Road extension site. The lower reach of Tank Farm Creek, an ephemeral drainage on the Project site, would be protected and enhanced natural open space while the upper reach would be restored to the creek's historic alignment. A span bridge would allow vehicle traffic to move from Buckley Road across Tank Farm Creek to Vachell Lane. Buckley Road would be extended from its intersection with Vachell Lane west about 1,500 feet to South Higuera Street. Buckley Road would be widened along the southern border of the Study Area. The Project includes a 300-foot wide Open Space area between Buckley Road and residential/commercial development, and a 150-foot wide buffer area between the Project and the neighboring property to the east. Landscape material will include native and non-invasive ornamental species in areas in or adjacent to Open Space areas.

The project also includes restoration a portion of Tank Farm Creek that includes realignment of the north-south reach within the Study Area to a more historic configuration (Figure 7). This work would be implemented during Phase 1, and is planned in coordination with San Luis Obispo Tank Farm hydrologic modifications shown in Attachment B (Avocet 2015, Cannon 2015). The north-south reach of Tank Farm Creek would be retained until hydrologic modification of Tank Farm Creek is completed at the Tank Farm, north of Avila Ranch. In the interim, sufficient filtered on-site and unfiltered off-site stormwater will be directed to the re-aligned channel reach in order to support riparian and wetland habitat.

1.2 Responsible Parties

TABLE 1. RESPONSIBLE PARTIES. Applicant, biological consultant, and lead agency are provided.

Applicant	Biological Consultant
Avila Ranch LLC **Managing Partner, Andrew D. Mangano** 735 Tank Farm Road, Suite 240 San Luis Obispo, CA 93401 (559) 731-5778 Contact: Stephen Peck, AICP	**Althouse and Meade, Inc.** 1602 Spring Street Paso Robles, CA 93446 (805) 237-9626 Contact: LynneDee Althouse, M.S.
Lead Agency	**Project Engineer**
City of San Luis Obispo 919 Palm Avenue San Luis Obispo, CA 93401 (805) 781-7166 Contact: Brian Leveille, Associate Planner	**Cannon** c/o John Rogers 1050 Southwood Drive San Luis Obispo, CA 93401 (805) 544-7407 Contact: John Rogers, P.E., LEED AP

Statements of qualifications for biologists responsible for the contents of this document are provided in Attachment C.

2.0 Methods

The entire Study Area was surveyed for biological resources during monthly inspections from July to August 2014 (Table 2). Althouse and Meade, Inc. Principal Scientist LynneDee Althouse, Senior Biologists Jason Dart and Mike Hill, Biologist Kyle Weichert, and Environmental Scientist Jacqueline Tilligkeit conducted the surveys. Biological surveys were conducted on foot to compile species lists, search for special status plants and animals, map habitats, and photograph the Study Area.

Each habitat type occurring in the Study Area was inspected, described, and cataloged (Section 5.0). All plant and animal species observed in the Study Area were identified and recorded (Sections 6.0 and 7.0). Reconnaissance transects were meandering with an emphasis on locating habitat appropriate for special status plants. Transects were utilized to map boundaries of different vegetation types, describe general conditions and dominant species, compile species lists, and evaluate potential habitat for special status species. Identification of botanical resources included field observations and laboratory analysis of collected material (Table 7). Botanical surveys were conducted in spring 2014 according to agency guidelines (United States Fish and Wildlife 2000, California Department of Fish and Wildlife 2009, and California Native Plant Society 2001). Botanical surveys were appropriately timed to identify all special status plant species known from the region (refer to Section 4.3 and Table 3) that have potential to occur in the Study Area. Botanical nomenclature used in this document follows the Jepson Manual, Second Edition (Baldwin et al. 2012). We also provide Jepson Manual First Edition names in brackets where nomenclature has recently changed.

TABLE 2. BIOLOGICAL SURVEYS. Biological survey dates, times, weather observations, and biologist(s) are provided.

Survey Date	Start Time Stop Time	Temp.	Wind	Weather Observations	Biologist(s)
01/14/2014	3:00 – 5:00 PM	50-60 °F	0-5 mph	Clear, sunny	LD. Althouse, K. Weichert
02/24/2014	9:55 AM – 3:45 PM	50-70 °F	0-5 mph	Clear, sunny	K. Weichert
03/18/2014	9:15 – 11:45 AM	55-70 °F	0-5 mph	Clear, sunny	K. Weichert, J. Dart
04/11/2014	12:00 – 4:30 PM	60-80 °F	5-10 mph	Clear, sunny, breezy	K. Weichert
04/28/2014	3:00 – 4:30 PM	70-75 °F	0-5 mph	Clear, sunny	LD Althouse, K. Tierney
05/08/2014	9:00 – 11:00 AM	60-70 °F	0-5 mph	Clear, sunny	LD Althouse, J. Tilligkeit
05/28/2014	9:15 AM – 12:30 PM	60-75 °F	5-10 mph	Warm, sunny, breezy	K. Weichert
06/26/2014	11:05 AM – 1:45 PM	65-75 °F	5-15 mph	Cool, clear, windy	K. Weichert
07/10/2014	9:30 AM – 12:00 PM	65-70 °F	0-5 mph	Overcast	LD. Althouse, J. Tilligkeit,
07/25/2014	8:45 – 9:05 AM	65 °F	0-5 mph	Clear, cool	K. Weichert
08/01/2014	11:00 – 12:00 AM	80 °F	0-5 mph	Clear, warm	LD Althouse
08/04/2014	11:00 – 12:00 AM	84 °F	0-5 mph	Clear, warm	LD Althouse

Wildlife documentation included recording observations of animal presence, nests, tracks, and other wildlife sign. Observations of wildlife were recorded during field surveys in all areas of the Study Area (Table 8). Birds were identified by sight, using 10-power binoculars, or by vocalizations. Reptiles and amphibians were identified by sight, often using binoculars, and by hand-captures; traps were not used. Mammals recorded in the Study Area were identified by sight, tracks, and scat.

Mapping efforts utilized hand notation on recent land survey and aerial photos. Maps were created using aerial photo interpretation, field notation, and GPS data imported to ArcGIS 10, a Geographic Information System (GIS) software program. Data were overlaid on a 2012 National Agriculture Imagery Program (NAIP) aerial of San Luis Obispo County (USDA 2012). Biological resource constraints were mapped in the field on-site. Hand notation on field maps was incorporated into point and polygon layers and overlaid on high resolution aerial photographs.

We conducted a search of the California Natural Diversity Database (CNDDB July 17, 2014 data) and the California Native Plant Society (CNPS) On-line Inventory of Rare and Endangered Plants of California for special status species known to occur in seven USGS 7.5-minute quadrangles including and surrounding the Study Area. Additional special status species research consisted of reviewing previous biological reports for the area and searching online museum and herbarium specimen records for locality data within San Luis Obispo County. We reviewed online databases of specimen records maintained by the Museum of Vertebrate Zoology at the University of California, Berkeley, the California Academy of Sciences, and the Consortium of California Herbaria. Additional special status species with potential to occur on or near the Study Area were added to our special status species list (refer to Table 3 and Table 4).

Special status species lists produced by database and literature searches were cross-referenced with the described habitat types in the Study Area to identify all potential special status species that could occur on or near the Study Area. Each special status species that could occur on or near the Study Area is individually discussed (refer to Sections 4.4 and 4.6).

3.0 Existing Conditions

3.1 Environmental Setting

The majority of the Study Area is located northeast of the Buckley Road and Vachell Lane intersection in southern San Luis Obispo. About 137 acres of relatively flat agricultural fields and gently sloping hills are continuously planted and plowed agricultural land. Agricultural lands are surrounded on the south, west, and north side by a narrow strip of ruderal habitat adjacent to public roadways or developed properties.

Tank Farm Creek flows northeast to southwest across the Study Area, leaving the Study Area at the southwest corner connecting with the East Fork of San Luis Obispo Creek about 450 feet downstream. Flood water occasionally backs up in this seasonal drainage near Buckley Road. Surface water in Tank Farm Creek originates primarily from a portion of South Hills, residential and commercial tracts, and a portion of the decommissioned Chevron Tank Farm north of Avila Ranch. Peak discharges from San Luis Obispo Tank Farm to the project site (Tank Farm Creek) are estimated by Cannon (2015) at 60 cubic feet per second (cfs) in a 2-year storm and 81 cfs in a 10-year storm. The drainage receives 469 cfs during a 100-year event that includes a combined discharge of water flowing directly in Tank Farm Creek combined with overflow water that spills over the southernmost berm of San Luis Obispo Tank Farm.

Wetland habitats occur in several actively farmed areas beyond Tank Farm Creek. One wetland habitat occurs below the Lockheed facility (Dioptics) where storm runoff and nuisance water from the facility saturates the routinely cropped soil. Several narrow, farmed wetlands east of Tank Farm Creek convey excess irrigation and runoff water from Avila Ranch crop operations and adjacent farms toward the creek. Only the northeast tributary to Tank Farm Creek contains substantial wetland vegetation (sedges and rushes) within the Study Area. The other wetlands contain limited wetland indicator plants or hydric soil indicators.

The proposed Buckley Road extension will pass through farmland currently planted with safflower, existing residential structures, and a ruderal area dominated by non-native grasses and weedy forbs where the proposed road extension meets South Higuera Street.

3.2 Soils

The United States Department of Agriculture (USDA) Soil Survey Geographic (SSURGO) data (2007) and Soil Survey of San Luis Obispo County, California, Coastal Part (1984) and USDA SSURGO Data (Tabular data version 4, spatial data version 1, 2008) delineate six soil map units that intersect the Study Area boundaries (Figure 3). The majority of the Study Area is mapped as Concepcion loam, Cropley clay, and Marimel sandy clay loam (120, 127, and 169, respectively). There are also some areas of Salinas silty clay loam, Marimel silty clay loam, and Diablo clay (197, 170, and 129, respectively). The soil survey was not meant to be applied at the acre-scale, but does indicate the soil map units in the vicinity of small properties. Below we discuss the details and properties of the soil types found in the Study Area (in order of area delineated in the Study Area).

Soil map units typically encompass one or two dominant soils that cover more than 50 percent of the mapped area, and one to several soils that occur in small patches not differentiated in mapping at the 1 to 24,000 scale used for Natural Resources Conservation Service (NRCS) soil maps. Due to the procedures followed in making a soil survey, users of soil survey data are cautioned that not all areas included within a soil survey are closely sampled using soil pits and site descriptions, and a specific site may not have been sampled at all. Therefore, care must be taken in drawing conclusions regarding site-specific soil resources based solely on NRCS soil survey work. Digitized spatial data from the Coastal Part Soil Survey are shown as an overlay of soil map units on an aerial photo of the region with the following caution from NRCS regarding maps: "Enlargement of these maps…could cause misunderstanding of the detail of mapping. If enlarged, maps do not show the small areas of contrasting soils that could have been shown at a larger scale."

Concepcion loam, 2 to 5 percent slopes (120) is the dominant soil type found in the Study Area and is located in the southeast half, a small amount in the southwest corner, and a small portion of the Buckley Road extension area. It is a very deep, moderately well drained, gently sloping soil often found on marine terraces and toe slopes. It formed in old alluvium weathered from sedimentary rocks. This Concepcion soil has an abrupt increase in clay at approximately 20 to 24 inches depth, which can perch and restrict water movement in overlying layers. Permeability is very slow, and the available water capacity is moderate or high. Surface runoff is slow, and the hazard of water erosion is slight. Because of the dense clay subsoil, this soil is subject to gully erosion.

Concepcion loam soils are Mollisols, grassland soils that typically have thick (19 - 23 inches), dark topsoil layers high in organic matter. Mollisol soils are fertile soils with high base saturation. Dark topsoil color can mask appearance of redox features.

Cropley clay, 0 to 2 percent slopes (127) is a major soil type found in the north quarter and northeastern edge of the Study Area. This soil type is very deep and moderately well-drained. It occurs on alluvial fans and plains, having been formed in alluvium weathered from sedimentary rocks. The permeability is slow, the available water capacity high, and the erosion hazard is low. Included in this map unit are small areas of Concepcion loam, Diablo clay, and Salinas silty clay loam. This soil is in capability units IIs-5 (14), irrigated and IIIs-5 (14), non-irrigated. This soil type encompasses a large portion of the drainage running southwest found in the Study Area.

Marimel sandy clay loam, occasionally flooded (169) is found in the southwestern portion of the Avila Ranch Study Area. It is a very deep, somewhat poorly drained, nearly level soil on alluvial fans, flood plains, and narrow valleys. It formed in alluvium weathered from sedimentary rocks. Included in this map unit are minor areas of Camarillo sandy loam, Tujunga loamy sand- frequently flooded, and Psamments and Fluvents- occasionally flooded. Permeability of this Marimel soil is moderately slow and the available water capacity is high or very high. Surface runoff is slow and the hazard of water erosion is slight.

Salinas silty clay loam, with 0 to 2 percent slopes (197) is found along most of the southern edge of the Study Area and a small portion of the Buckley Road extension near South Higuera Street. It is used for irrigated row crops. This soil is also very deep and well drained, with a moderately slow permeability and high or very high available water capacity. Salinas silty clay loam is well suited to farming and has no limitations or hazards.

Marimel silty clay loam, drained (170) is found in two small sections in the northwestern corner of the Study Area. It is a very deep, well-drained soil on nearly level ground on alluvial fans and in narrow valleys. It was formed in alluvium weathered from sedimentary rocks. Included in this map unit are small areas of Camarillo loam, Cropley clay, and Mocho and Salinas soils. Permeability is moderately slow, available water capacity is high or very high, and erosion hazards are low. This soil type is in capability class I (14), irrigated and capability unit IIIc-1 (14), non-irrigated.

Diablo clay, 5 to 9 percent slopes (129) is the predominant soil type in the Buckley Road extension portion of the Study Area between Buckley Road and South Higuera Street. It is a deep, well-drained soil on low lying foothills. Permeability in the Diablo soil is slow and the available water capacity is moderate to very high. Surface run-off is medium and the hazard of water erosion is slight or moderate. Local road and street design can require that the bas material be replaced or covered with a more suitable material so that maintenance is minimized. This soil is in capability units IIe-5 (15), irrigated, and IIIe-5 (15), non-irrigated.

4.0 Special Status Species

The CNDDB and the CNPS On-line Inventory of Rare and Endangered Plants of California contain records for 106 special status species and 9 sensitive natural communities within the designated search area. The search area includes the following seven USGS 7.5-minute quadrangles surrounding the Study Area: Morro Bay South, San Luis Obispo, Lopez Mountain, Port San Luis, Arroyo Grande NE, Oceano, and Pismo Beach. Four additional special status species were added to the list from our knowledge of the area. These species are marked with an asterisk (*) in Table 4. Because the search area is so large over varied terrain, species with very restricted habitat requirements far from the Study Area are often reported in the search results. Appropriate habitat and soil conditions are present in the Study Area for six special status plants and 17 special status animals (Tables 3 and 4). One special status plant species, Congdon's tarplant (*Centromadia parryi* subsp. *congdonii*), was detected in the Study Area. CNDDB listed sensitive natural communities that do not occur in the Study Area (Section 4.8). Figures 4 and 5 in Section 11.0 depict the current GIS data for special status species and critical habitat mapped in the vicinity of the Study Area by the CNDDB and the U.S. Fish and Wildlife Service (USFWS). A Biological Resource Map indicating locations of habitat types and special status species detected on the Study Area in 2014 is provided in Section 11.0.

4.1 Introduction to California Rare Plant Ranks (Formerly CNPS Lists)

Plant species are considered rare when their distribution is confined to localized areas, there is a threat to their habitat, they are declining in abundance, or they are threatened in a portion of their range. The California Rare Plant Rank (CRPR) categories range from species with a low threat (CRPR 4) to species that are presumed extinct (CRPR 1A). CRPR 1B plants are rare throughout their range. All but a few species are endemic to California. All of them are judged to be vulnerable under present circumstances, or to have a high potential for becoming vulnerable.

4.2 Introduction to CNDDB Definitions

"Special Plants" is a broad term used to refer to all the plant taxa inventoried by the CNDDB, regardless of their legal or protection status (CDFW April 2013). Special Plants include vascular plants and high priority bryophytes (mosses, liverworts, and hornworts).

"Special Animals" (SA) is a general term that refers to all of the animal taxa inventoried by the CNDDB, regardless of their legal or protection status (CDFW January 2011). The Special Animals list is also referred to by the California Department of Fish and Wildlife (CDFW) as the list of "species at risk" or "special status species." These taxa may be listed or proposed for listing under the California and/or Federal Endangered Species Acts, but they may also be species deemed biologically rare, restricted in range, declining in abundance, or otherwise vulnerable by one or more resource agency.

Each species included on the Special Animals list has a corresponding Global and State Rank (refer to Table 4). This ranking system utilizes a numbered hierarchy from one to five following the Global (G-rank) or State (S-rank) category. The threat level of the organism decreases with an increase in the rank number (e.g., 1=Critically Imperiled, 5=Secure). In some cases where an uncertainty exists in the designation, a question mark (?) is placed after the rank. More information is available at www.natureserve.org.

Animals listed as California Species of Special Concern (CSSC) may or may not be listed under the Federal Endangered Species Act (FESA). They are considered rare or declining in abundance in California. The Special Concern designation is intended to provide regulatory agencies, biologists, land planners, and managers with lists of species that require special consideration during the planning process to avoid continued population declines and potentially costly listing under federal and state endangered species laws. For many species of birds, the primary emphasis is on the breeding population in California. For some species that do not breed in California, but winter here, emphasis is on wintering range. The CSSC designation thus may include a comment regarding the specific protection provided such as specific nesting or wintering habitats or areas.

Animals listed as "Watch List" (WL) species are either: 1) not on the current Special Concern list, but were on previous lists and they have not been state listed under the California Endangered Species Act (CESA); or 2) were previously state or federally listed and now are on neither list; or 3) are on the list of "Fully Protected" species.

The classification of "Fully Protected" Species was the State's initial effort in the 1960s to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, mammals. amphibians and reptiles, birds and mammals. Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no provision of the Fish and Game Code authorizes the issuance of permits or licenses to take any Fully Protected species.

4.3 Potential Special Status Plant List

Table 3 lists 106 special status plant species reported from the project vicinity. Federal and California State status, global and State rank, and CNPS ranking status for each species are given. Typical blooming period, habitat preference, potential habitat on-site, and whether or not the species was observed in the Study Area are also provided.

TABLE 3. SPECIAL STATUS PLANT LIST. We list 106 special status plants reported from the vicinity of the site or known from the region with potential to occur in the Study Area. Potentially suitable habitat is present in the Study Area for six special status plant species. One special status plant species was detected in the Study Area.

	Common Name Scientific Name	Fed/State Status Global/State Rank CRPR	Blooming Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
1.	**Adobe Sanicle** *Sanicula maritima*	None/ CR G2/CR 1B.1	February - May	Coastal, grassy, open wet meadows, ravines; ±150 m. CCo (SLO County)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
2.	**Adobe Yampah** *Perideridia pringlei*	None/ None G3/None 4.3	April – June	Grassy slopes, serpentine outcrops; 300-1800 m. The, SCoR, WTR.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
3.	**Arroyo de la Cruz Manzanita** *Arctostaphylos cruzensis*	None/ None G3/None 1B.2	December - March	Sandy bluffs; <150 m. c CCo (s Monterey, nw SLO Counties)	No. Sandy bluff habitat is not present in the Study Area.	No	No Effect
4.	**Beach Spectaclepod** *Dithyrea maritima*	None/ CT G2/CT 1B.1	March - May	Sea shores, sandy soils on dunes near the shore; <50 m s CCo, SCo, Baja CA.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
5.	**Betty's Dudleya** *Dudleya abramsii* subsp. *bettinae*	None/ None G3T1/None 1B.2	May - July	Rocky outcrops in serpentine grassland; <50-180 m. Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
6.	**Bishop Manzanita** *Arctostaphylos obispoensis*	None/ None G3?/None 4.3	February - March	Rocky, gen serpentine soils, chaparral, open close-cone forest near coast; 60-950 m; SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State Rank CRPR	Blooming Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
7.	**Black-flowered Figwort** *Scrophularia atrata*	None/ None G2/None 1B.2	March - July	Closed-cone coniferous forest, riparian scrub, dune habitats; in sand, diatomaceous shales, calcareous and other soil types. 10-250 m. s SCoROs	No. Appropriate habitat is not present in the Study Area.	No	No Effect
8.	**Blochman's Dudleya** *Dudleya blochmaniae* subsp. *blochmaniae*	None/ None G2T2/None 1B.1	April - June	Open, rocky slopes, often serpentine or clay soils; <450 m. s CCo, SCo	No. Appropriate habitat is not present in the Study Area.	No	No Effect
9.	**Blochman's Leafy Daisy** *Erigeron blochmaniae*	None/ None G2/None 1B.2	July - August	Sand dunes and hills; <30 m. s CCo	No. Appropriate habitat is not present in the Study Area.	No	No Effect
10.	**Blochman's Ragwort** *Senecio blochmaniae*	None/ None G3/None 4.2	May - October	Sand dunes, coastal floodplains; <150 m. CCo	No. Appropriate soils and habitat are not present in the Study Area.	No	No Effect
11.	**Branching Beach Aster** *Corethrogyne leucophylla*	None/ None G3Q/None 3.2	May - December	Coastal dunes, scrub. <2500 m. s SN, SnJV, CW, SW, n Baja.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
12.	**Brewer's Calandrinia** *Calandrinia breweri*	None/ None G4/None 4.2	February – May	Sandy to loamy soil, disturbed sites, burns; <1200m. NCoR, c SNF, SnFrB, SCoRO, SCo, WTR; n Baja CA	No. Suitable soil types are not found in the Study Area.	No	No Effect
13.	**Brewer's Spineflower** *Chorizanthe breweri*	None/ None G2/None 1B.3	May - August	Chaparral, foothill woodland on serpentine; <800 m. Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
14.	**California Sawgrass** *Cladium californicum*	None/ None G4/None 2B.2	June - September	Freshwater and alkali marshes and seeps; 2150m. CCo, SCoRO, SCo, WTR, D; to UT, AZ, TX, n. Mex	No. Appropriate habitat is not found in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State Rank CRPR	Blooming Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
15.	**California Seablite** *Suaeda californica*	FE/ None G1/None 1B.1	July - October	Margins of coastal salt marshes; <5 m. CCo	No. Coastal salt march habitat is not present in the Study Area.	No	No Effect
16.	**California Spineflower** *Mucronea californica*	None/ None G3/None 4.2	March - August	Sandy soil in coastal scrub, chaparral; 0-1400 m. CS, SW	No. Appropriate soil and habitat are not present in the Study Area.	No	No Effect
17.	**Cambria Morning-glory** *Calystegia subacaulis* subsp. *episcopalis*	None/ None G3T3/None 4.2	April - May	Dry, open scrub, woodland, or grassland; <500 m. c SCoRO Endemic to SLO County	Unlikely. Suitable soil and habitat types are present in the Study Area, but area is disturbed.	No	No Effect
18.	**Caper-fruited Tropidocarpum** *Tropidocarpum capparideum*	None/ None G1/None 1B.1	March - April	Alkaline clay soil in valley and foothill grassland; 1-455 m. SCoRO, nw SnJV	No. Alkaline soils are not present in the Study Area.	No	No Effect
19.	**Carlotta Hall's Lace Fern** *Aspidotis carlotta-halliae*	None/ None G3/None 4.2	N/A	Generally serpentine slopes, crevices, outcrops; 100-1400 m. CW	No. Suitable habitat is not present in the Study Area.	No	No Effect
20.	**Carmel Valley Bush-mallow** *Malacothamnus palmeri var. involucratus*	None/ None G3T2Q/None 1B.2	May - October	Chaparral, cismontane woodland, coastal scrub; 30-1100 m. s CCo, SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect
21.	**Catalina Mariposa Lily** *Calochortus catalinae*	None/ None G3/None 4.2	February - June	Heavy soil in open grassland or shrubland; <700 m.	No. The Study Area is outside the known range of this species.	No	No Effect
22.	**Chaparral Ragwort** *Senecio aphanactis*	None/ None G3?/None 2B.2	January - April	Drying alkaline flats, chaparral, cismontane woodland, coastal scrub; <400 m. CW, SCo, ChI	No. Appropriate habitat is not present in the Study Area.	No	No Effect
23.	**Club-haired Mariposa Lily** *Calochortus clavatus* var. *clavatus*	None/ None G4T3/None 4.3	April – June	Generally serpentine; <1300m. s SCoRO, n SCoRI, WTR, SnGb	No. Appropriate habitat is not present in the Study Area.	No	No Effect

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24.	**Coast Woolly-headsheads** *Nemacaulis denudata* var. *denudata*	None/ None G3G4T2/None 1B.2	April-September	Coastal dunes; 0-100 m.	No. Appropriate dune habitat is not present in the Study Area.	No	No Effect
25.	**Coastal Goosefoot** *Chenopodium littoreum*	None/ None G2/None 1B.2	June – October	Generally sandy soils, dunes; <40m. s CCo	No. Appropriate dune habitat is not present in the Study Area.	No	No Effect
26.	**Congdon's Tarplant** *Centromadia parryi* subsp. *congdonii*	None/ None G3T2/None 1B.1	May - November	Mesic grassland, open ground; <100 m. CW	Yes. Appropriate habitat is present in the Study Area.	**Yes**	May Adversely Affect
27.	**Coulter's Goldfields** *Lasthenia glabrata* subsp. *coulteri*	None/ None G4T2/None 1B.1	February - June	Saline places, vernal pools; <1000 m. s SCoRO, SCo, n ChI, PR, w DMoj	No. Suitable soil and habitat types are not found in the Study Area.	No	No Effect
28.	**Coulter's Saltbush** *Atriplex coulteri*	None/ None G2/None 1B.2	March - October	Coastal bluff scrub, coastal dunes, coastal scrub, valley and foothill grassland; <500 m. SCo, ChI; Baja CA.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
29.	**Crisp Monardella** *Monardella undulata* subsp. *crispa*	None/ None G3T2/None 1B.2	April – November	Active dunes; <100 m. s CCo (San Luis Obispo and Santa Barbara Counties)	No. Appropriate dune habitat is not present in the Study Area.	No	No Effect
30.	**Cuesta Pass Checkerbloom** *Sidalcea hickmanii* subsp. *anomala*	None/ CR G3T1/CR 1B.2	May - June	Closed-cone-conifer forest, gen serpentine; 600-800 m. Endemic to SLO County	No. Closed-cone conifer forest is not present in the Study Area.	No	No Effect
31.	**Cuesta Ridge Thistle** *Cirsium occidentale* var. *lucianum*	None/ None G3G4T2/None 1B.2	April – July	Chaparral, woodland or forest openings, often on serpentine; 500-750m. s SCoRO (s Santa Lucia Range, San Luis Obispo, CA)	No. Appropriate habitat and elevation is not found in the Study Area.	No	No Effect

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32.	**Dacite Manzanita** *Arctostaphylos tomentosa* subsp. *daciticola*	None/ None G4T1/None 1B.1	March	Chaparral; <300 m. s CCo (w Los Osos Valley, SLO County)	No. Occurs only on Dacite outcrops on Hollister Peak.	No	No Effect
33.	**Diablo Canyon Blue Grass** *Poa diaboli*	None/ None G2/None 1B.2	March - April	Coastal scrub, chaparral, cismontane woodland in shale. 120-400 m. CCo.	No. The Study Area is outside the known range of the species.	No	No Effect
34.	**Douglas' Fiddleneck** *Amsinckia douglasiana*	None/ None G3/None 4.2	March – June	Unstable shaly sedimentary slopes; (100) 150–1600 m. SCoR, w WTR	No. Suitable soils are not present in the Study Area.	No	No Effect
35.	**Douglas' Spineflower** *Chorizanthe douglasii*	None/ None G3/None 4.3	April - July	Foothill woodland, pine forest, chaparral, sandy or gravelly soils; 200-1600 m. e SCoRO, SCoRI	No. Appropriate habitat is not present in the Study Area.	No	No Effect
36.	**Dune Larkspur** *Delphinium parryi* subsp. *blochmaniae*	None/ None G4T2/None 1B.2	April - May	Coastal chaparral, sand. 0-200 m. s CCo	No. Suitable soil and habitat types are not present in the Study Area.	No	No Effect
37.	**Dunedelion** *Malacothrix incana*	None/ None G3/None 4.3	Year Round	Sandy coastal dunes; <300 m. CCo, Sco	No. Suitable dune habitat is not present in the Study Area.	No	No Effect
38.	**Dwarf Calycadenia** *Calycadenia villosa*	None/ None G3/None 1B.1	May - October	Dry, rocky hills, ridges, in chaparral, woodland, meadows and seeps; <1100 m. c&s SCoRO	No. Suitable soil and habitat types are not present in the Study Area.	No	No Effect
39.	**Dwarf Soaproot** *Chlorogalum pomeridianum* var. *minus*	None/ None G5T2/None 1B.2	May - August	Serpentine outcrops in chaparral; gen <750 m. NCoRI, SnFrB, SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect
40.	**Eastwood's Larkspur** *Delphinium parryi* subsp. *eastwoodiae*	None/ None G4T2/None 1B.2	March – May	Coastal chaparral, grassland, on serpentine; 100-500m sCCo, SCoRO (San Luis Obispo County)	No. Appropriate habitat is not present in the Study Area.	No	No Effect

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41.	**False Gray Horsehair Lichen** *Bryoria pseudocapillaris*	None/ None G3/None 3.2	n/a	Usually on conifers. Found on coastal dunes and North Coast coniferous forest. NCo, CCo	No. Appropriate habitat is not present in the Study Area.	No	No Effect
42.	**Gambel's Water Cress** *Nasturtium gambelii*	FE/ CT G1/CT 1B.1	April - September	Marshes, stream banks, lake margins; <1250 m. s CCo, SCo, to Mexico	No. Appropriate habitat is not present in the Study Area.	No	No Effect
43.	**Guirado's Goldenrod** *Solidago guiradonis*	None/ None G3/None 4.3	September – October	Near streams in asbestos-laden soils; 600-900 m. SCoRI	No. Appropriate soils and habitat are not found in Study Area.	No	No Effect
44.	**Hardham's Evening-primrose** *Camissoniopsis hardhamiae*	None/ None G1Q/None 1B.2	April - May	Decomposed carbonate soils, in chaparral, cismontane woodland. Monterey, SLO Counties	No. Suitable soils are not present in the Study Area.	No	No Effect
45.	**Hoffmann's Sanicle** *Sanicula hoffmannii*	None/ None G3/None 4.3	March – May	Shrubby coastal hills, pine woodland; <500m. CCo, SCo, n ChI	No. Appropriate habitat is not present in the Study Area.	No	No Effect
46.	**Hooked Popcornflower** *Plagiobothrys uncinatus*	None/ None G2/None 1B.2	April - May	Canyon sides, chaparral; on sandstone 300-600 m. n SCoR (Gabilan Range, Santa Lucia Mountains)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
47.	**Hoover's Bent Grass** *Agrostis hooveri*	None/ None G2/None 1B.2	April - July	Sandy soil in oak woodland habitat; <600 m. Endemic to SLO & SB Counties.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
48.	**Hoover's Button-celery** *Eryngium aristulatum* var. *hooveri*	None/ None G5T1/None 1B.1	July	Vernal pools, lagunas; 0-1000 m. s SnFrB, SCoR	Unlikely. Vernal wetland habitat is present in the Study Area; however, it is chronically disturbed and unlikely to support this species.	No	No Effect
49.	**Indian Knob Mountainbalm** *Eriodictyon altissimum*	FE/ CE G1/CE 1B.1	March - June	Sandstone ridges, chaparral; 250± m. Endemic to SLO County	No. Appropriate habitat is not found in the Study Area.	No	No Effect

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50.	**Island Mountain-mahogany** *Cercocarpus betuloides* var. *blancheae*	None/ None G5T3/None 4.3	March - April	Chaparral; <600 m.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
51.	**Jones' Layia** *Layia jonesii*	None/ None G1/None 1B.2	March - May	Open serpentine or clay slopes; <400 m. Endemic to SLO County	Unlikely. Suitable soil and habitat types are present in the Study Area, but area is chronically disturbed.	No	No Effect
52.	**Kellogg's Horkelia** *Horkelia cuneata var. sericea*	None/ None G4T2/None 1B.1	April - September	Old dunes, coastal sand hills; <200 m. CCo	No. Suitable soil and habitat type not present in the Study Area.	No	No Effect
53.	**La Graciosa Thistle** *Cirsium scariosum var. loncholepis*	FE/ CT G5T1/CT 1B.1	April – September	Marshes, dune wetlands; <50m. s CCo (sw San Luis Obispo, nw Santa Barbara counties)	No. Suitable marsh or dune wetland habitat is not found in the Study Area.	No	No Effect
54.	**La Panza Mariposa Lily** *Calochortus simulans*	None/ None G2/None 1B.3	April - May	Grassland, oak woodland & pine forest, on sand, granite, or serpentine; <1100 m. Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
55.	**Lompoc Ceanothus** *Ceanothus cuneatus* var. *fascicularis*	None/ None G5T3/None 4.2	February - April	Chaparral on coastal sandy mesas; <400 m. s Cco	No. Suitable soil and habitat type not present in the Study Area.	No	No Effect
56.	**Marsh Sandwort** *Arenaria paludicola*	FE/ CE G1/CE 1B.1	May - August	Boggy meadows, marshes; <300 m. s CCo (Nipomo Mesa, SLO County, Santa Ana River, SCo)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
57.	**Mesa Horkelia** *Horkelia cuneata var. puberula*	None/ None G4T1/None 1B.1	February - September	Dry, sandy coastal chaparral; gen 70-700 m. SCoRO, SCo.	No. Suitable soil and habitat types are not present in the Study Area.	No	No Effect

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58.	**Michael's Rein Orchid** *Piperia michaelii*	None/ None G3/None 4.2	April - August	Dry oak woodland habitat in SLO County; 3-915 m. NCo, SNF, CCo, SnFrB, n SCo, WTR, S. Cruz Is.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
59.	**Miles' Milk-vetch** *Astragalus didymocarpus* var. *milesianus*	None/ None G5T2/None 1B.2	March - June	Clay or serpentine soils in coastal scrub, grassy areas near coast. 0-90 m. Endemic to SLO County	Unlikely. Suitable habitat is present in the Study Area, but area is chronically disturbed.	No	No Effect
60.	**Monkey-flower Savory** *Clinopodium mimuloides*	None/ None G3/None 4.2	June – October	Moist places, streambanks, chaparral, woodland; 400-1800 m. CCo, SCoRO, WTR, SnGb	No. Potential higher elevation habitat is not present in the Study Area.	No	No Effect
61.	**Monterey Ceanothus** *Ceanothus rigidus*	None/ None G3/None 4.2	February - June	Sandy soils, closed-cone coniferous forest, chaparral, coastal scrub; <550 m.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
62.	**Morro Manzanita** *Arctostaphylos morroensis*	FT/ None G2/None 1B.1	December - March	Sand dunes; <200 m. s CCo (Morro Bay, SLO County)	No. The Study Area is outside the known range of this species.	No	No Effect
63.	**Most Beautiful Jewelflower** *Streptanthus albidus* subsp. *peramoenus*	None/ None G2T2/None 1B.2	April - June	Open, grassy or ±barren slopes, often serpentine; ±150-800 m. c SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect
64.	**Mouse-gray Dudleya** *Dudleya abramsii subsp. murina*	None/ None G3T2/None 1B.3	May - June	Serpentine outcrops; 120-300 m. Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
65.	**Nipomo Mesa Lupine** *Lupinus nipomensis*	FE/ CE G1/CE 1B.1	March - May	Stabilized sand dunes; <25m. s CCo (Nipomo dunes, sw SLO County)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
66.	**Ocean Bluff Milk-vetch** *Astragalus nuttallii* var. *nuttallii*	None/ None G3T3/None 4.2	January - November	Rocks, coastal bluff scrub, coastal dunes; 3-120 m.	No. Coastal bluff scrub or coastal dune habitat is not present in the Study Area.	No	No Effect

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67.	**Ojai Fritillary** *Fritillaria ojaiensis*	None/ None G2/None 1B.2	March - May	Rocky slopes, river basins; 300-500 m. SCoRO, WTR	No. Appropriate habitat is not present in the Study Area.	No	No Effect
68.	**Oso Manzanita** *Arctostaphylos osoensis*	None/ None G1/None 1B.2	February - March	Chaparral, woodland; 300-500 m. s CCo (w Los Osos Valley, SLO County)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
69.	**Palmer's Monardella** *Monardella palmeri*	None/ None G2/None 1B.2	June - August	Serpentine soils in chaparral, forest; 200-800 m. SCoRO	No. Appropriate soils and habitat is not present in the Study Area.	No	No Effect
70.	**Palmer's Spineflower** *Chorizanthe palmeri*	None/ None G3?/None 4.2	May – August	Serpentine; 60-700m. SCoRO (w Monterey, w San Luis Obispo cos.)	No. Suitable soil and habitat is not present in the Study Area.	No	No Effect
71.	**Paniculate Tarplant** *Deinandra paniculata*	None/ None G3G4/None 4.2	May - November	Vernally mesic or sandy soils in coastal scrub and grassland habitats; <1320 m.	No. Suitable soils and habitat are not present in the Study Area.	No	No Effect
72.	**Pecho Manzanita** *Arctostaphylos pechoensis*	None/ None G2/None 1B.2	November - March	Shale outcrops, chaparral, coniferous forest; <850 m. s CCo (Pecho Hills, SLO)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
73.	**Peninsular Spineflower** *Chorizanthe leptotheca*	None/ None G4/None 4.2	May - August	Alluvial fan, granitic soils, sand or gravel; chaparral, coast scrub, lower montane coniferous forest; 300-1900 m. e PR	No. Appropriate habitat is not present in the Study Area.	No	No Effect
74.	**Pismo Clarkia** *Clarkia speciosa subsp. immaculata*	FE/ CR G4T1/CR 1B.1	May - July	Sandy hills near coast; <100 m. s CCo (±Pismo to Edna, SLO County)	No. Appropriate habitat is not present in the Study Area.	No	No Effect
75.	**Point Reyes Ceanothus** *Ceanothus gloriosus* var. *gloriosus*	None/ None G3G4T3/None 4.3	March - May	Sandy places, coastal bluffs, closed-cone-pine forest; < 500 m. s NCo, n CCo (Marin Co.)	No. Suitable soil and habitat type not present in the Study Area.	No	No Effect

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76.	**Popcorn Lichen** *Cladonia firma*	None/ None G4/None 2B.1	n/a	Reported in maritime chaparral and dune scrub typically in stabilized dunes, grows on soil and detritus.	No. Appropriate habitat is not found in the Study Area.	No	No Effect
77.	**Potbellied Spineflower** *Chorizanthe ventricosa*	None/ None G3/None 4.3	May - Sept	Serpentine; 500-1000 m. SCoRI	No. Appropriate habitat is not present in the Study Area.	No	No Effect
78.	**Red Sand-verbena** *Abronia maritima*	None/ None G4?/None 4.2	February - October	Coastal dunes; <100m sCCo, Sco, ChI; Baja CA	No. Suitable coastal dune habitat is not present in the Study Area.	No	No Effect
79.	**Saline Clover** *Trifolium hydrophilum*	None/ None G2/None 1B.2	April – June	Salt marshes, open areas in alkaline soils; <300m. ScV, nw SnJV, CW	No. Alkaline soils are not present in the Study Area.	No	No Effect
80.	**Salt Marsh Bird's-beak** *Chloropyron maritimum* subsp. *maritimum*	FE/ CE G4?T1/CE 1B.2	May - October	Coastal salt marshes;<10 m. SCo, n Baja CA	No. Salt march habitat is not found in the Study Area.	No	No Effect
81.	**San Benito Fritillary** *Fritillaria viridea*	None/ None G2/None 1B.2	March - May	Serpentine slopes; 200-1500 m. SCoR (San Benito, SLO Counties)	No. Serpentine slopes are not present in the Study Area.	No	No Effect
82.	**San Bernardino Aster** *Symphyotrichum defoliatum*	None/ None G2/None 1B.2	July - November	Vernally mesic grasslands near ditches, streams, springs, or disturbed areas; 2-2040 m.	No. Mesic soils area not present in the Study Area.	No	No Effect
83.	**San Francisco Gumplant** *Grindelia hirsutula var. maritima*	None/ None G5T1Q/None 3.2	August - September	Sandy or serpentine slopes, sea bluffs; <400 m. n CCo	No. The Study Area is outside the known range of this species.	No	No Effect
84.	**San Joaquin Spearscale** *Atriplex joaquinana*	None/ None G2/None 1B.2	April - October	Alkaline soils; <300 m. s ScV, SnJV, SCoRI (e slope).	No. Suitable soil type not found in the Study Area.	No	No Effect

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85.	**San Luis Mariposa Lily** *Calochortus obispoensis*	None/ None G2/None 1B.2	May - July	Chaparral, coastal scrub, valley and foothill grassland, often on serpentine but also sandstone; 100-500 m. SCoRO Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
86.	**San Luis Obispo County Lupine** *Lupinus ludovicianus*	None/ None G1/None 1B.2	April - July	Open, grassy limestone in oak woodland; 50-500 m. Endemic to SLO County	No. Appropriate habitat is not present in the Study Area.	No	No Effect
87.	**San Luis Obispo Fountain Thistle** *Cirsium fontinale* var. *obispoense*	FE/ CE G2T2/CE 1B.2	February - July	Serpentine seeps and streams; <300 m. Endemic to SLO County	No. Suitable serpentine seeps are not present in the Study Area.	No	No Effect
88.	**San Luis Obispo Monardella** *Monardella undulata* subsp. *undulata*	None/ None G2/None 1B.2	April - September	Stabilized dunes, coastal scrub, stabilized sandy soils; <200 m. CCo.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
89.	**San Luis Obispo Owl's-clover** *Castilleja densiflora* var. *obispoensis*	None/ None G5T2/None 1B.2	April	Coastal grassland, <100 m. Endemic to SLO County.	Unlikely. Suitable soil and habitat types are present in the Study Area, but soils are chronically disturbed.	No	No Effect
90.	**San Luis Obispo Sedge** *Carex obispoensis*	None/ None G2G3/None 1B.2	April - June	Serpentine springs, stream sides; <600 m. Endemic to SLO County	No. Suitable serpentine seeps are not present in the Study Area.	No	No Effect
91.	**Sand Almond** *Prunus fasciculata var. punctata*	None/ None G5T3/None 4.3	March – April	Sandy soils in maritime chaparral, cismontane woodland, coastal dunes, coastal scrub.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
92.	**Sand Mesa Manzanita** *Arctostaphylos rudis*	None/ None G2/None 1B.2	November - February	Sandy soils, chaparral. <100m. s CCo (Nipomo, Burton Mesa, Pt. Sal, sw SLO, nw SB Counties	No. Appropriate habitat is not present in the Study Area.	No	No Effect

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93.	**Santa Lucia Bush-mallow** *Malacothamnus palmeri var. palmeri*	None/ None G3T2Q/None 1B.2	May - July	Chaparral, cismontane woodland, coastal scrub; 30-1100 m. s CCo, SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect
94.	**Santa Lucia Manzanita** *Arctostaphylos luciana*	None/ None G3/None 1B.2	February - March	Shale outcrops, slopes, chaparral, 500-700 m. Cuesta Pass, SLO County.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
95.	**Santa Margarita Manzanita** *Arctostaphylos pilosula*	None/ None G3/None 1B.2	December - March	Shale outcrops, slopes, chaparral; 300-1100 m. s SCoRO Endemic to SLO County	No. Suitable shale slopes are not present in the Study Area.	No	No Effect
96.	**Short-lobedlobed Broomrape** *Orobanche parishii* subsp. *brachyloba*	None/ None G4?T3/None 4.2	April-October	Sandy habitats; coastal bluff scrub; coastal dunes. Parasitic on shrubs. 3-305 m. SCo; ChI; Baja.	No. Appropriate dune and shrub host habitat is not present in the Study Area.	No	No Effect
97.	**Small-leavedleaved Lomatium** *Lomatium parvifolium*	None/ None G3/None 4.2	February – May	Pine woodland, serpentine outcrops; 70-150 m. CCo, SCoR	No. Suitable pine woodland is not present in the Study Area.	No	No Effect
98.	**South Coast Branching Phacelia** *Phacelia ramosissima* var. *austrolitoralis*	None/ None G5?T3/None 3.2	March – August	Chaparral, Coastal dunes, coastal scrub, coastal salt marshes and swamps; rocky or sandy. 5-300 m. CCo, SCo, ChI.	No. The Study Area is outside the known range of the species.	No	No Effect
99.	**Southern Curly-leaved Monardella** *Monardella sinuata* subsp. *sinuata*	None/ None G2/None 1B.2	April - September	Sandy soils, coastal strand, dune and sagebrush scrub, coastal chaparral and woodland; <300 m. Cco, SCoRO, extirpated SCo.	No. Appropriate soils and habitat are not present in the Study Area.	No	No Effect
100.	**Splitting Yarn Lichen** *Sulcaria isidiifera*	None/ None G1/None 1B.1	n/a	Chaparral, cismontane woodland, on branches of oaks, chamise, Ceanothus; 20-30 m. Los Osos, SLO County.	No. Oak woodland and Ceanothus scrub are not present in the Study Area.	No	No Effect

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101.	**Stinkbells** *Fritillaria agrestis*	None/ None G3/None 4.2	March – June	Clay (gen serpentine) banks, depressions; <500 m. NCoRO , SNF, GV, CW	No. Appropriate habitat is not present in the Study Area.	No	No Effect
102.	**Straight-awned Spineflower** *Chorizanthe rectispina*	None/ None G1/None 1B.3	May - July	Chaparral, dry woodland in sandy soil; 200-600 m. SCoRO	No. Appropriate habitat is not present in the Study Area.	No	No Effect
103.	**Suffrutescent Wallflower** *Erysimum suffrutescens*	None/ None G3/None 4.2	January - July	Coastal dunes and bluffs; 0-150 m. CCo, SCo	No. Appropriate habitat is not found in the Study Area.	No	No Effect
104.	**Surf Thistle** *Cirsium rhothophilum*	None/ CT G1/CT 1B.2	April - June	Dunes, bluffs; <20 m. s CCo (s SLO, n SB Counties)	No. Suitable dune or coastal bluff habitat is not present in the Study Area.	No	No Effect
105.	**Twisted Horsehair Lichen** *Bryoria spiralifera*	None/ None G3/None 1B.1	n/a	Usually on conifers. North Coast coniferous forest. NCo, CCo	No. Appropriate habitat is not present in the Study Area.	No	No Effect
106.	**Woodland Woolythreads** *Monolopia gracilens*	None/ None G2G3/None 1B.2	March – July	Chaparral, serpentine grassland, cismontane woodland, sandy to rocky soils; SnFrB, SCoR	No. Appropriate habitat is not present in the Study Area.	No	No Effect

Habitat characteristics are from the Jepson Manual and the CNDDB.
*not listed in the CNDDB or CNPS for the search area, but possibly for the location.

Abbreviations:

CCo: Central Coast
NCo. North Coast
SCo: South Coast
SCoR: South Coast Ranges
SCoRO: Outer South Coast Ranges
SCoRI: Inner South Coast Ranges
SnFrB: San Francisco Bay
TR: Transverse Ranges
WTR: Western Transverse Ranges
SnJV: San Joaquin Valley
ScV: Sacramento Valley
SLO: San Luis Obispo
SN: Sierra Nevada
SnJt: San Jacinto Mtns
SnBr: San Bernardino
Teh: Tehachapi Mtn Area
CW: Central West
SW: South West
DMoj: Mojave Desert
PR: Peninsular Range

State/Rank Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened
CE: California Endangered
CR: California Rare
CT: California Threatened
Cand. CE: Candidate for California Endangered
Cand. CT: Candidate for California Threatened

California Rare Plant Ranks:

CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
CRPR 2A: Plants presumed extirpated in California, but common elsewhere
CRPR 2B: Plants rare, threatened, or endangered in California, but more common elsewhere
CRPR 4: Plants of limited distribution - a watch list

CRPR Threat Ranks:

0.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
0.2 - Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
0.3 - Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

4.4 Special Status Plants

Six special status plant species could occur in the Study Area based on an analysis of known ecological requirements of these species and the habitat conditions that were observed in the Study Area. One special status plant species, Congdon's tarplant, was detected in the Study Area during botanical surveys in spring 2014. We discuss each species and describe habitat, range restrictions, known occurrences, and survey results for the Study Area. To be consistent with regulatory agencies' botanical survey guidelines, seasonally timed floristic surveys were conducted in spring and summer 2014.

A. Cambria Morning-glory (*Calystegia subacaulis* subsp. *episcopalis*) is a CRPR list 4.2 subspecies endemic to San Luis Obispo County. It occurs in coastal grassland, coastal prairie, open scrub, and woodland habitats, blooming from April to June. Its rarity status relates to the limited distribution of this subspecies, although it may be found commonly within its range and preferred habitat type. The plant forms a small rosette and a conspicuous cream colored flower. The nearest occurrence is from the Tank Farm that directly borders the Study Area to the north and the attached field northwest of San Luis Obispo Airport (CNDDB #6). Cambria morning-glory is very unlikely to occur in plowed ground. Low quality potential habitat may be present in ruderal areas of the Buckley Extension. Cambria morning-glory was not detected in the Study Area despite bordering a known occurrence.

B. Congdon's Tarplant (*Centromadia parryi* subsp. *congdonii*) is a CRPR list 1B.1 subspecies. Congdon's tarplant ranges from Contra Costa County south to San Luis Obispo County. It has no state or federal status. The CNDDB Rarity-Endangerment-Distribution code (R-E-D) lists this subspecies as 3-3-3, meaning it is distributed in one to several highly restricted occurrences (or present in such small numbers that it rarely seen or reported), is endangered throughout its range, and is endemic to California. The CNDDB lists four occurrences for Congdon's tarplant in San Luis Obispo County. The numerous specimens at the Robert F. Hoover Herbarium at Cal Poly are from only three different localities in San Luis Obispo County. A literature search revealed a total of seven known localities for this rare subspecies in the County, all of which occur in the Los Osos Valley. The nearest CNDDB occurrence is from within and directly adjacent to the Study Area; from 2004, 2005 and 2011, Congdon's tarplant was recorded southeast of Los Verdes Montessori School and both sides of Buckley Road near Vachell Lane and Jesperson Road (CNDDB #69). Also, in 2003, 2010, and 2011, it was observed in the Tank Farm area, north and directly adjacent to the Study Area (CNDDB #64).

One patch of Congdon's tarplant was detected and mapped in the Study Area during our late spring and early summer surveys. This patch consisted of approximately 500-750 individuals in a ruderal scrape on the south edge of the Study Area, bordering Buckley Road (Figure 5; Photos 7 and 8). The patch was approximately 70 feet long and 19 feet wide. In February 2014, a single dried individual was detected uprooted in the agricultural land habitat about 500 feet west of the mapped patch. The 2013-2014 rain season was below average for the San Luis Obispo area and it is possible that in years of average or greater rainfall, Congdon's tarplant occurs at other locations within the Study Area.

C. Hoover's Button-celery (*Eryngium aristulatum* var. *hooveri*) is a CRPR list 1B.1 subspecies known from vernal pool and vernal wetland habitats from Alameda County to San Luis Obispo County. Three localities are documented in the CNDDB in San Luis Obispo County, two of which support extant populations. Laguna Lake was thought to hold the last known site in the County until a population was reported in 2003 in wetlands on private property along Tank Farm Road (CNDDB #10). The latter occurrence is about 0.5 miles north of the Study Area in swales near wetlands. Moderately appropriate wetland habitat has historically been present in the northeast, southwest, and southeast corners of the Study Area, however, several drought years in a row and periodic plowing have degraded wetland habitat on-site. Hoover's button celery was not detected in the Study Area during our spring and summer 2014 floristic surveys, and is not expected to occur due to agricultural disturbance to wetlands.

D. Jones's Layia (*Layia jonesii*) is a CRPR list 1B.2 species endemic to San Luis Obispo County. It grows on open slopes with serpentine or heavy clay soils, blooming from March to May. The proposed Buckley Road extension just enters the border of the nearest CNDDB occurrence for Jones's layia. This occurrence is from 0.75 miles south of Mine Hill, in San Luis Obispo (CNDDB #4) and has an accuracy of 1 mile, making it difficult to ascertain the exact site of the occurrence. Another occurrence occurs just over one mile northwest of the Study Area with a one mile accuracy (CNDDB #3). Potentially suitable serpentine-derived soils are present in the Buckley Extension area; however this area is disturbed and weedy. Jones' layia was not detected during the spring 2014 botanical surveys and is unlikely to occur at the project site.

E. Miles' Milk-vetch (*Astragalus didymocarpus* var. *milesianus*) is a CRPR list 1B.2 variety known from Ventura, Santa Barbara and San Luis Obispo Counties. It is an annual species that occurs in clay soils in coastal scrub communities, or in grassland habitat near serpentine outcrops. It blooms from March to June. The nearest CNDDB occurrence is 1.2 miles north near the South Hills Natural Reserve (CNDDB #7). Appropriate clay soils occur on-site; however, Miles' milk-vetch was not detected in the Study Area during our appropriately timed 2014 botanical surveys.

F. San Luis Obispo Owl's-clover (*Castilleja densiflora* subsp. *obispoensis*) is a CRPR list 1B.2 subspecies endemic to San Luis Obispo County. It is an April-blooming annual wildflower that occurs in coastal grasslands in sandy or clay soils and typically found at or near the coast. The nearest occurrence is a 2005 report from 1.2 miles north of the Study Area near the City of San Luis Obispo's South Hills Open Space (CNDDB #4). San Luis Obispo owls-clover is very unlikely to occur in chronically plowed ground. Low quality potential habitat may be present in ruderal areas of the Buckley Extension. San Luis Obispo owl's-clover was not detected in the Study Area during appropriately timed 2014 botanical surveys.

4.5 Potential Special Status Animals List

Table 4 lists 50 special status animal species reported from the project vicinity. Federal and California State status, global and State rank, and CDFW listing status for each species are given. Typical nesting or breeding period, habitat preference, potential habitat on-site, and whether or not the species was observed in the Study Area are also provided.

TABLE 4. SPECIAL STATUS ANIMAL LIST. Fifty special status animals known or reported from the region are listed. Eleven special status animals could occur in the Study Area based on review of preferred habitat types, and three species are not likely to occur but warrant further discussion due to the soil and habitat conditions present in the Study Area. Three species that do not have appropriate soil and habitat conditions present in the Study Area but were observed on-site also warrant further discussion.

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
1.	**American Badger** *Taxidea taxus*	None/None G5/S4 CSSC	February - May	Needs friable soils in open ground with abundant food source such as California ground squirrels.	No. Soils are appropriate but abundant food source is not present in the Study Area.	No	No Effect
2.	**Atascadero June Beetle** *Polyphylla nubila*	None/None G1/S1 SA	n/a	Known only from sand dunes in Atascadero and San Luis Obispo, San Luis Obispo County.	No. Appropriate sand dune habitat is not present in the Study Area.	No	No Effect
3.	**Big Free-tailed Bat** *Nyctinomops macrotis*	None/ None G5/S2 CSSC	Spring - Summer	Low lying arid areas in Southern California with rock outcrops or cliffs.	No. Appropriate arid habitat is not present in the Study Area.	No	No Effect
4.	**Black Legless Lizard** *Anniella pulchra nigra*	None/None G3G4T2T3Q/S2 CSSC	May - September	Inhabits sandy soil/dune areas with bush lupine and mock heather, from Morro Bay to Monterey Bay.	No. Appropriate dune habitat is not present in the Study Area.	No	No Effect
5.	**Burrowing Owl** *Athene cunicularia*	None/None G4/S3 CSSC	March 15 - August 15	Burrows in squirrel holes in open habitats with low vegetation.	Unlikely. Few squirrel burrows exist, and poor foraging habitat is present in the Study Area.	No	No Effect
6.	**California Black Rail** *Laterallus jamaicensis coturniculus*	None/ CT G4T1/S1 FP	March 15 - August 15	Occurs in tidal salt marsh heavily grown to pickleweed, also in freshwater and brackish marshes near the coast.	No. Suitable tidal saltmarsh is not present in the Study Area.	No	No Effect
7.	**California Clapper Rail** *Rallus longirostris obsoletus*	FE/CE G5T1/S1 FP	March 15 - August 15	Saltwater & brackish marshes traversed by tidal sloughs.	No. Saltwater and brackish habitat is not found in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
8.	**California Horned Lark** *Eremophila alpestris actia*	None/None G5T3Q/S3 WL	March 15 - August 15	Nests on the ground in open habitats. More common in the interior.	Yes. Suitable wintering and nesting habitat is present in the Study Area.	Yes (not nesting)	Potential Adverse Effect can be Mitigated
9.	**California Least Tern** *Sternula antillarum browni*	FE/CE G4T2T3Q/S2S3 FP (Nesting)	March 15 - August 15	Nests on sand beaches, alkali flats, bare flat ground from San Francisco Bay to N. Baja California. Colonial breeder.	No. Appropriate sand beach habitat is not present in the Study Area.	No	No Effect
10.	**California Linderiella** *Linderiella occidentalis*	None/ None G3/S2S3 SA	Rainy Season	Seasonal pools in unplowed grasslands with alluvial soils.	No. Appropriate unplowed pool habitat is not present in the Study Area.	No	No Effect
11.	**California Red-legged Frog** *Rana draytonii*	FT/None G2G3/S2S3 CSSC	January - September	Lowlands and foothills in or near sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11-20 weeks for larval development.	Yes. Moderately appropriate habitat is present in the Study Area.	Protocol Surveys Recom-mended	To Be Determined
12.	**Coast Horned Lizard** *Phrynosoma blainvillii*	None/None G3G4/S3S4 CSSC	May - September	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes.	No. Appropriate sandy wash habitat is not present in the Study Area.	No	No Effect
13.	**Coast Range Newt** *Taricha torosa*	None/None G4/S4 CSSC	December - May	Slow moving streams, ponds, and lakes with surrounding evergreen/oak forests along coast.	No. Suitable evergreen or oak forest is not present in the Study Area.	No	No Effect
14.	**Cooper's Hawk** *Accipiter cooperii*	None/None G5/S3 WL (Nesting)	March 15 - August 15	Oak woodland, riparian, open fields. Nests in dense trees, esp. coast live oak.	Yes. Appropriate habitat is present in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
15.	**Ferruginous Hawk** *Buteo regalis*	None/None G4/S3S4 WL (Wintering)	October - April (Wintering)	Winters locally in open grassland or savannah habitats. More common in interior SLO County than coast.	Yes. Potential wintering habitat is present in the Study Area.	No	Potential Adverse Effect can be Mitigated
16.	**Foothill Yellow-legged Frog** *Rana boylii*	None/None G3/S2S3 CSSC	March - September	Partly shaded, shallow streams and riffles with rocky substrate. Min. 15 weeks for larval development.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
17.	**Globose Dune Beetle** *Coelus globosus*	None/None G1G2/S1S2 SA	n/a	Coastal sand dune habitat. Inhabits foredunes and sand hummocks.	No. Suitable dune habitat is not present in the Study Area.	No	No Effect
18.	**Loggerhead Shrike** *Lanius ludovicianus*	None/ None G4/S4 CSSC (Nesting)	March 15 - August 15	Open areas with appropriate perches, near shrubby vegetation for nesting.	Yes. Appropriate habitat is present in the Study Area.	No	Potential Adverse Effect can be Mitigated
19.	**Merlin** *Falco columbarius*	None/None G5/S3 WL (Wintering)	September - April (Wintering)	Winters on seacoasts, estuaries, woodlands, savannas, grassland edges, deserts.	Yes. Appropriate wintering habitat is present in the Study Area.	No	Potential Adverse Effect can be Mitigated
20.	**Mimic Tryonia (=California Brackishwater Snail)** *Tryonia imitator*	None/None G2G3/S2S3 SA	n/a	Inhabits coastal lagoons, estuaries, salt marshes from Sonoma to San Diego Counties.	No. Suitable brackish water habitat is not present in the Study Area.	No	No Effect
21.	**Monarch Butterfly** *Danaus plexippus*	None/None G5/S3 SA	September - March (aggregations)	Roosts located in wind-protected tree groves with nectar and water nearby.	No. Aggregate habitat is not present in the Study Area.	No	No Effect
22.	**Morro Bay Blue Butterfly** *Plebejus icarioides moroensis*	None/None G5T2/S2 SA	n/a	Inhabits stabilized dunes and surrounding areas in coastal SLO County (Morro Bay) and nw SB County.	No. Stabilized dunes do not occur near the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
23.	**Morro Bay Kangaroo Rat** *Dipodomys heermanni morroensis*	FE/CE G3G4T1/S1 FP	n/a	Coastal sage scrub on the south side of Morro Bay. Needs sandy soil, but not active dunes, prefers early seral stages.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
24.	**Morro Shoulderband (=Banded Dune) Snail** *Helminthoglypta walkeriana*	FE/ None G1/S1 SA	n/a	Restricted to the coastal strand and sage scrub habitats in the immediate vicinity of Morro Bay.	No. The Study Area is outside the known range of this species.	No	No Effect
25.	**Nuttall's Woodpecker*** *Picoides nuttallii*	None/None G5/SNR SA (Nesting)	March 15 - August 15	Nests in standing snag or hollow tree in oak woodland and oak forest habitats.	No. Appropriate foraging habitat is present in the Study Area. However, appropriate oak snag and hollow nesting habitat is not present.	Yes (not nesting)	No Effect
26.	**Oak Titmouse*** *Baeolophus inornatus*	None/None G5/S3? SA (Nesting)	March 15 - August 15	Nests in cavities in oak woodland habitat. Non-migratory.	No. Appropriate foraging habitat is present in the Study Area. However, appropriate oak cavity nesting habitat is not present.	Yes (not nesting)	No Effect
27.	**Oregon Vesper Sparrow*** *Pooecetes gramineus affinis*	None/None G5T?/S? CSSC (Wintering)	March 15 - August 15	Winters in grassland habitats and may frequent agricultural fields.	Yes. Appropriate wintering habitat is present in the Study Area.	Yes	Potential for Adverse Effect
28.	**Oso Flaco Flightless Moth** *Areniscythris brachypteris*	None/None G1/S1 SA	n/a	Open, coastal sand dune slopes in San Luis Obispo County.	No. Dune habitat is not present in the Study Area.	No	No Effect
29.	**Oso Flaco Patch Butterfly** *Chlosyne leanira elegans*	None/None G4G5T1T2/S1S2 SA	n/a	Sand dune habitat around Oso Flaco Lake, SLO County. Larval food plant is Castilleja affinis.	No. Dune habitat is not present in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
30.	**Oso Flaco Robber Fly** *Ablautus schlingeri*	None/None G1/S1 SA	n/a	Sand dunes.	No. Appropriate sand dune habitat is not present in the Study Area.	No	No Effect
31.	**Pallid Bat** *Antrozous pallidus*	None/None G5/S3 CSSC	Spring - Summer	Rock crevices, caves, tree hollows, mines, old buildings, and bridges.	Yes. Appropriate old buildings and tree hollows are present in the Study Area.	No	No Effect
32.	**Prairie Falcon** *Falco mexicanus*	None/ None G5/S3 WL (Nesting)	March 15 - August 15	Inhabits dry, open terrain. Nests on cliffs near open areas for hunting.	No. Open appropriate open, dry terrain is not present in the Study Area.	No	No Effect
33.	**Purple Martin** *Progne subis*	None/None G5/S3 CSSC (Nesting)	March 15 - August 15	In San Luis Obispo County prefers nesting in Sycamore trees along riparian corridors.	No. Suitable sycamore tree habitat is not found in the Study Area.	No	No Effect
34.	**San Diego Desert Woodrat** *Neotoma lepida intermedia*	None/None G5T3?/S3? CSSC	n/a	Moderate to dense canopies preferred. Abundant in rocky areas, outcrops. Ranges from San Diego to SLO Counties.	No. Appropriate habitat is not found in the Study Area.	No	No Effect
35.	**San Luis Obispo Pyrg** *Pyrgulopsis taylori*	None/None G1/S1 SA	n/a	Freshwater habitats in San Luis Obispo County.	No. Only seasonal freshwater habitat is found in the Study Area.	No	No Effect
36.	**Sandy Beach Tiger Beetle** *Cicindela hirticollis gravida*	None/None G5T2/S1 SA	n/a	Adjacent to non-brackish water near the coast from San Francisco to N. Mexico. Clean, dry, light-colored sand in the upper zone.	No. Appropriate habitat is not found in the Study Area.	No	No Effect
37.	**Sharp-shinned Hawk** *Accipiter striatus*	None/None G5/S3 WL (Nesting)	March 15 - August 15	Riparian, coniferous, and deciduous woodlands near water.	Yes. Appropriate nesting and foraging habitat is present in the Study Area.	Yes (not nesting)	Potential Adverse Effect can be Mitigated

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
38.	**Silvery Legless Lizard** *Anniella pulchra pulchra*	None/None G3G4T3T4Q/S3 CSSC	May - September	Sandy or loose loamy soils under coastal scrub or oak trees. Soil moisture essential.	No. Appropriate oak or shrub habitat does not occur in the Study Area.	No	No Effect
39.	**Steelhead - South/Central California Coast DPS** *Oncorhynchus mykiss irideus*	FT/None G5T2Q/S2 CSSC	February - April	Fed listing refers to runs in coastal basins from Pajaro River south to, but not including, the Santa Maria River.	No. Waters within the Study Area are outside known Steelhead critical habitat.	No	No Effect
40.	**Tidewater Goby** *Eucyclogobius newberryi*	FE/None G3/S2S3 CSSC	n/a	Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
41.	**Townsend's Big-eared Bat** *Corynorhinus townsendii*	None/Cand. CT G3G4/S2S3 CSSC	Spring - Summer	Caves, buildings, and mine tunnels. Cave like attics as day roosts. On coast roosts are normally within 100 m. of creeks.	Unlikely. Moderately appropriate old building habitat is present near the Study Area.	No	No Effect
42.	**Tricolored Blackbird**[#] *Agelaius tricolor*	None/Cand. CE G2G3/S1S2 CSSC (Nesting)	March 15 - August 15	Requires open water, protected nesting substrate, & foraging area with insect prey near nesting colony.	Unlikely. Appropriate foraging habitat is present; however, nesting habitat is not present in the Study Area.	Yes (not nesting)	No Effect
43.	**Vernal Pool Fairy Shrimp** *Branchinecta lynchi*	FT/None G3/S2S3 SA	Rainy Season	Clear water sandstone depression pools, grassed swale, earth slump, or basalt flow depression pools.	No. Appropriate vernally pooling water habitat is not present in the Study Area.	No	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
44.	**Western Mastiff Bat** *Eumops perotis californicus*	None/None G5T4/S3? CSSC	Spring - Fall	Roosts in crevices in cliff faces, high buildings, trees, and tunnels. Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral.	No. Appropriate cliff and cave roosting habitat is not present in the Study Area.	No	No Effect
45.	**Western Pond Turtle (=Pacific Pond Turtle)** *Emys* (=*Acrinemys*) *marmorata*	None/None G3G4/S3 CSSC	April - August	Permanent or semi-permanent streams, ponds, lakes.	Yes. Appropriate semi-permanent stream habitat does occur in the Study Area.	No	Potential Adverse Effect can be Mitigated
46.	**Western Snowy Plover** *Charadrius alexandrinus nivosus*	FT/None G3T3/S2 CSSC (Nesting)	March 15 - August 15	Sandy beaches, salt pond levees, and shorelines of large alkali lakes. Needs friable soils for nesting.	No. Appropriate sandy beach habitat is not present in the Study Area.	No	No Effect
47.	**Western Yellow-billed Cuckoo** *Coccyzus americanus occidentalis*	PT/CE G5T3Q/S1 SA (Nesting)	March 15 - August 15	Nests in riparian jungles of willow, cottonwood, w/ blackberry, nettles, or wild grape understory. Typically found in larger river systems.	No. Appropriate habitat is not present in the Study Area.	No	No Effect
48.	**White Sand Bear Scarab Beetle** *Lichnanthe albipilosa*	None/ None G1/S1 SA	n/a	Found only in coastal sand dunes of SLO County, near Dune Lake, some distance from the surf.	No. Appropriate sand dune habitat is not present in the Study Area.	No	No Effect
49.	**White-tailed Kite** *Elanus leucurus*	None/None G5/S3 FP (Nesting)	March 15 - August 15	Nests in dense tree canopy near open foraging areas.	No. Appropriate nesting habitat is not present in the Study Area.	Yes (not nesting)	No Effect

	Common Name Scientific Name	Fed/State Status Global/State CDFW Rank	Nesting/ Breeding Period	Habitat Preference	Potential Habitat?	Detected in Study Area?	Effect of Activity
50.	**Yellow Warbler*** *Setophaga petechia*	None/None G5T3?/S2 CSSC (Nesting)	March 15 - August 15	Nests in riparian plant associations, including willows, cottonwoods, etc.	Yes. Appropriate nesting habitat is present in the willow riparian habitat present in the Study Area.	No	No Effect

Habitat characteristics from the CNDDB.
*not listed in the CNDDB or CNPS for the search area, but possibly for the location.
#Advanced as a Candidate for California Endangered on December 10, 2015.

Abbreviations:

FE: Federally Endangered
FT: Federally Threatened
PE: Proposed Federally Endangered
PT: Proposed Federally Threatened

CE: California Endangered
CT: California Threatened
Cand. CE: Candidate for California Endangered
Cand. CT: Candidate for California Threatened

SA: CDFW Special Animal
CSSC: CDFW Species of Special Concern
FP: CDFW Fully-Protected
WL: CDFW Watch List

4.6 Special Status Animals

Eleven special status animals could occur in the Study Area based on review of preferred habitat types, and three species are not likely to occur but warrant further discussion due to the soil and habitat conditions present in the Study Area. Three species that do not have appropriate soil and habitat conditions present in the Study Area but were observed on-site also warrant further discussion. We discuss each species and describe habitat, range restrictions, known occurrences, and survey results.

A. Burrowing Owl (*Athene cunicularia*) is a small CSSC owl that nests in abandoned holes in the ground, most notably those of the California ground squirrel. Burrowing owls are a common resident in local areas of the interior, from the Bitterwater Valley to the Carrizo Plains and elsewhere. Less frequent reports are from coastal grasslands. One record of burring owl near the Study Area exists where 2 adults were observed wintering at Camp San Luis Obispo, 7.3 miles north (CNDDB #573). Low quality habitat is present in the Study Area and few ground squirrel holes were observed. While transient owls could use the Study Area for wintering or nesting, this species is not expected to be present at the Project site or impacted by the Project. No signs of burrowing owls were found in the Study Area during our 2014 wildlife surveys.

B. California Horned Lark (*Eremophila alpestris actia*) is a CDFW Watch List species known from Sonoma County south to San Diego County, as well as east to the foothills of the Sierra Nevada Mountains. It breeds in open, flat habitats with short vegetation, including grasslands, alkali flats, fallow grain fields, and meadows. They are known to make local movements through the seasons, and may not breed in all areas they are observed. A group of several horned larks were observed in the Study Area during February and March 2014 wildlife surveys. No nesting was observed during the 2014 surveys.

C. California Red-legged Frog (*Rana draytonii*) is listed as threatened under FESA and as a CSSC by CDFW. This species is known from San Luis Obispo Creek and some of its tributary drainages. It generally requires seasonal pools or streams that hold water until late summer for successful breeding. Bullfrogs and introduced fish are detrimental to this species and have severely reduced populations in many areas.

The seasonal drainage in the Study Area does not provide adequate pool habitat for breeding California red-legged frogs. However, during the rainy season, transient individuals could move through the drainage intermittently. The drainage connects to San Luis Obispo Creek, approximately 1.2 miles downstream. One adult and one juvenile California red-legged frog were found in San Luis Obispo Creek 1.3 miles upstream from this confluence (CNDDB #895). This occurrence is located about 0.5 miles straight-line distance northeast of the Study Area. The drainages in the Study Area were dry during our site surveys in spring and summer 2014 and no California red-legged frogs were observed. Protocol surveys for California red-legged frogs are recommended.

D. Cooper's Hawk (*Accipiter cooperii*) is a CDFW Watch List species for nesting habitat. that occurs regularly in San Luis Obispo County during the winter months and during spring and fall migration. It is generally regarded as a regular but uncommon nesting species in San Luis Obispo County. Cooper's hawks frequent oak and riparian woodland habitats, and increasingly in urban areas, where they prey primarily upon birds. This raptor has become a successful adaptor to urban/suburban landscapes. The nearest recorded occurrence of a nesting Cooper's hawk is in Morro Bay, 9.5 miles to the northwest (CNDDB #24). Moderately appropriate tree canopy is present in riparian habitat within the Study Area for nesting Cooper's hawks. There are no reports in the CNDDB of Cooper's hawks nesting in the south San Luis Obispo area, and Cooper's hawks were not observed in the Study Area during our 2014 surveys.

E. Ferruginous Hawk (*Buteo regalis*) is a CDFW Watch List species that winters in grassland habitats in San Luis Obispo County and elsewhere in California. It does not breed in San Luis Obispo County. Ferruginous hawks prefer short-grass habitats such as grasslands and fallow farm fields where they often perch on the ground and hunt by coursing low over the fields. They are regular but never abundant winter residents in the interior portion of the County and even less abundant coastally. The regularly planted and plowed agricultural land found in the Study Area is poor foraging habitat for ferruginous hawks, and while incidental or occasional use could occur seasonally from October through February, this species is not expected to be present at the Project site or impacted by the Project. Ferruginous hawks were not observed during our February to June 2014 wildlife surveys.

F. Loggerhead Shrike (*Lanius ludovicianus*) is a CSSC and resident in arid regions of San Luis Obispo County and elsewhere in California. It requires open areas with appropriate perches for hunting, and shrubby trees or bushes for nesting. Appropriate nesting habitat is present in Study Area for loggerhead shrikes. No shrikes were observed in the Study Area in 2014.

G. Merlin (*Falco columbarius*) is a CDFW Watch List species that winters in various habitats in San Luis Obispo County. Merlins do not breed locally. Moderately appropriate wintering habitat is present on and surrounding the Study Area. Merlins may use habitats in the Study Area seasonally for foraging and roosting, but will not breed on-site and were not observed in the Study Area during our winter and spring surveys.

H. Nuttall's Woodpecker (*Picoides nuttallii*) is a Watch List species for several organizations, including the USFWS, due to regional reduction in preferred oak woodland habitats. Nuttall's woodpeckers remain fairly common residents in oak woodland habitats throughout Santa Barbara and San Luis Obispo Counties. Oak woodland habitat is not present in the Study Area; however, moderate foraging habitat is present in the cottonwood and willow trees of the drainage and the trees bordering the Study Area to the south and to the east. Nuttall's woodpeckers were observed in the Study Area during the winter and spring 2014 wildlife surveys. No nesting woodpeckers were observed.

I. Oak Titmouse (*Baeolophus inornatus*) is a Watch List species for several organizations including the USFWS. This small bird is an obligate cavity-nester within oak trees. It is a common species in oak woodlands on the central coast, but is tracked by the USFWS due to regional losses of oak woodland habitat. No appropriate oak cavity nesting habitat exists in the Study Area. However, oak titmice were observed in the Study Area foraging in the willows of the drainage.

J. Oregon Vesper Sparrow (*Pooecetes gramineus affinis*) is a CSSC songbird and is an obligate grassland species, feeding on invertebrates and seeds. Wintering habitat is generally considered to be mainly open ground with little vegetation including stubble fields, meadows, and road edges. One Oregon vesper sparrow was observed during the February 2014 wildlife survey.

K. Pallid Bat *(Antrozous pallidus)* is a CSSC. This large, long-eared bat occurs throughout the state from deserts to moist forests. Pallid bats are primarily a crevice roosting species and selects roosts where they can retreat from view. They frequently occur in oak woodlands where they roost in tree cavities. These roosts are generally day or night roosts for one or a few bats. Attics may be used as roosts and during hot days they may emerge from crevices and roost on open rafters. Communal wintering or maternity colonies are more common in rock crevices and caves. This species has been recorded at 22 localities in San Luis Obispo County (Pierson 2002). Pallid bats were not observed in the Study Area during our 2014 wildlife surveys.

L. Sharp-shinned Hawk (*Accipiter striatus*) is a CDFW Watch List species that frequents open oak and riparian woodland habitats. It is a regular fall and winter migrant in San Luis Obispo County that seldom remains in the area through the nesting season. One CNDDB occurrence does exist, however, at Nipomo mesa from 2003 (CNDDB #9). One sharp-shinned hawk was observed in the Study Area; however, it was not nesting, and would be very unlikely to nest on-site in the future.

M. Townsend's Big-eared Bat *(Corynorhinus townsendii*) is a medium-sized, CSSC bat with large rabbit-like ears. The subspecies are not distinguishable in the field. Both these subspecies have been recorded in a number of different habitats in California. In our area they are both found consistently in the vicinity of creek beds where they use the riparian corridor for foraging. Typical roost sites are in caves or buildings with cave-like features. Townsend's big-eared bat is sedentary and is presumed to spend the winter within 25 miles of its summer roosts. This bat has been recorded in at least six localities within San Luis Obispo County (Pierson 2002). Althouse and Meade, Inc. biologists working with Paul Collins of the Santa Barbara Museum of Natural History recorded a winter roost for a solitary male in Santa Margarita where the bat was found roosting in a cave-like arch of an adobe wall. Townsend's big-eared bat could possibly occur in the structures in the Study Area, but would be unlikely.

N. Tricolored Blackbird (*Agelaius tricolor*) is a candidate for listing under CESA, while nesting tricolored blackbirds are a CSSC species that requires open water, protected nesting substrate, and foraging area with insect prey near nesting colony. No open water nesting habitat is present in the Study Area, however, moderate foraging habitat does exist in the Study Area. A small flock of tricolored-blackbirds was observed foraging in the Study Area and were not observed nesting during our winter to summer 2014 surveys.

O. Western Pond Turtle (*Emmys* [=*Actinemys*] *marmorata*) is a CSSC turtle inhabiting ponds and slow moving streams with adequate pools. Pond turtles will move up seasonal streams during the winter months, and can over-summer in underground burrows during dry years when ponds are empty. Evidence exists that the drainage at the southwest corner of the Study Area commonly backs up where on-site water leaves the site. This creates potentially appropriate pools for western pond turtles to winter. Standing water was not observed during our 2014 surveys; however these surveys were conducted during a year with less than average rainfall. Pond turtles were not observed in the Study Area during 2014, however, CNNDB contains numerous records in the vicinity of the Study Area, including one occurrence about 0.5 mile northwest at the confluence of Prefumo Creek and San Luis Obispo Creek (CNDDB #1162), 1 mile upstream of where the on-site drainage meets San Luis Obispo Creek. Western pond turtles were not observed in the Study Area during the 2014 surveys but could be present in the ephemeral drainage.

P. Yellow Warbler (*Setophaga petechia*) is a CSSC songbird with a restricted breeding range in Central and Southern California. The status of this subspecies of yellow warbler is described by the CNDDB as "restricted range, rare". They frequent riparian habitats, nesting in sycamores, cottonwoods, willows, and other riparian trees. There are no breeding records in the CNDDB for yellow warbler in SLO County; however yellow warbler is a regular spring and fall migrant that will breed in the County. The riparian habitat found in the on-site drainage is suitable for nesting and foraging yellow warblers. Yellow warbler was not observed in the 2014 wildlife surveys conducted of the Study Area.

Q. White-tailed Kite (*Elanus leucurus*) is a Fully Protected species that nests primarily in evergreen trees, especially coast live oaks, near meadows, marshes, or grasslands. The nearest record of nesting white-tailed kites is 5.6 miles north of Avila Ranch at Camp San Luis Obispo from 1995 and 1997 (CNDDB #55). Appropriate foraging habitat is present in the Study Area and poor quality nesting habitat may be present in cottonwood trees throughout the drainage. A white-tailed kite was observed foraging in the Study Area during our February 2014 survey. No kites were observed nesting.

4.7 Special Status Species Not Expected to Occur

The remaining 133 special status species reported to occur in the seven USGS quadrangles around the Project site are not expected to occur in the Study Area due to the absence of required soil type, lack of appropriate habitat, or because the Study Area is substantially outside the known range of the species.

4.8 Potential Sensitive Natural Communities

The CNDDB reports nine sensitive natural communities in the seven USGS quadrangles around the Project site (Table 5). None of these sensitive natural communities are found in the Study Area. The City of San Luis Obispo's 2014 Land Use and Circulation Update Draft Program Environmental Impact Report (EIR) mentions potential impact from Avila Ranch development to Coastal and Valley Freshwater Marsh habitat associated with San Luis Obispo Creek. However, the Avila Ranch Study Area and proposed Project do not contain Coastal and Valley Freshwater Marsh habitat. Avila Ranch does contain riparian/ephemeral drainage and wetland habitats described in Sections 5.2 and 5.3, respectively, of this report.

TABLE 5. SENSITIVE NATURAL COMMUNITIES LIST. Nine sensitive natural communities are reported from the seven quadrangles surrounding the Study Area.

	Common Name	Federal/State Status Global/State Rank	Potential Habitat?	Effect of Proposed Activity
Sensitive Natural Communities				
1.	**Central Dune Scrub**	None/none G2/S2.2	No. Dune habitat is not present in the Study Area.	No Effect
2.	**Central Foredunes**	None/none G1/S1.2	No. Dune habitat is not present in the Study Area.	No Effect
3.	**Central Maritime Chaparral**	None/none G2/S2.2	No. Chaparral habitat is not found in the Study Area.	No Effect
4.	**Coastal and Valley Freshwater Marsh**	None/none G3/S2.1	No. Permanently flooded marsh habitat is not found in the Study Area.	No Effect
5.	**Coastal Brackish Marsh**	None/none G2/S2.1	No. Brackish marsh habitat is not found in the Study Area.	No Effect
6.	**Northern Coastal Salt Marsh**	None/none G3/S3.2	No. Salt marsh habitat is not found in the Study Area.	No Effect
7.	**Northern Interior Cypress Forest**	None/none G2/S2.2	No. Naturally occurring cypress trees do not occur in the Study Area.	No Effect
8.	**Serpentine Bunchgrass**	None/none G2/S2.2	No. Serpentine rock and soil does occur in the Study Area, but not with sufficient cover of bunchgrass.	No Effect
9.	**Valley Needlegrass Grassland**	None/none G3/S3.1	No. Valley needlegrass grassland does not occur in the Study Area.	No Effect

5.0 Habitat Types

We describe five habitat types throughout the two parts of the Study Area and provide approximate acreages for each habitat type present during 2014 (Table 6): agricultural land, riparian/ephemeral drainage, wetland, ruderal, and developed. The Biological Resource Map provided in Section 11.0 indicates the locations of each habitat type in the Study Area as of 2015. Sensitive natural communities do not occur in the Study Area.

TABLE 6. HABITAT DATA. The approximate acreage and location are provided for all habitat types occurring in the Study Area.

Habitat Type	Avila Ranch (acres)	Buckley Road Extension (acres)
Agricultural Land – Farmed Wetland, State	2.83	0.00
Agricultural Land – Non-Wetland	141.42	4.36
Riparian/Ephemeral Drainage – Federal Wetland	2.99	0.03
Riparian/Ephemeral Drainage – Willow Wetland, State	1.84	0.06
Ruderal/Disturbed	0.37	1.94
Developed	0.00	0.84
Study Area Total	**149.45**	**7.23**

5.1 Agricultural Land – Farmed Wetland, State

Potential farmed wetlands (one or two wetland indicators) occupy approximately 2.83 acres of agricultural land on Avila Ranch. One wetland occurs where nuisance water drains from the neighboring Lockheed (Dioptics) facility. Another is located at the northeast corner of Vachell Lane and Buckley Road. These wetlands are not distinctive due to constant disturbance from agricultural practices. One potential wetland originates at the east end of the Study Area, collects in a bowl in the cropland, and then flows to a ruderal scrape along Buckley Road. The source of moisture is likely from stormwater and on-site and off-site irrigation. Farmed wetlands in the Study Area contain minimal hydric soil indicators, if any, occasional wetland plants, and/or or signs of inhibited crop growth.

5.2 Agricultural Land – Non-Wetland

Most of the Study Area is intensively farmed agricultural lands occurring over approximately 141.4 acres on Avila Ranch and 4.4 acres on the Buckley Road extension. Agricultural land has been planted with safflower (*Carthamus tinctorius*) and cultivated pea (*Pisum sativum*). A large stand of artichoke (*Cynara cardunculus*) occurs just off-site to the north, and a single fava bean plant (*Vicia faba*) was found in the agricultural land suggesting these were also cultivated in the Study Area at some time. Different portions of the Study Area were tilled, planted, and irrigated throughout the spring and summer 2014 biological surveys.

Non-crop plants found in the agricultural land include bindweed (*Convolvulus arvensis*), California burclover (*Medicago polymorpha*), bird's foot trefoil (*Lotus corniculatus*), wild geranium (*Geranium molle*), and stickwort (*Spergula arvensis*), among others. Disturbed ruderal habitat occurs along the periphery of the Avila Ranch Study Area, with particularly heavy disturbance along the southern border where the Study Area meets the shoulder of Buckley Road and along the northern border where the Study Area interfaces existing development. Plants occurring along the perimeter include herbs such as English plantain (*Plantago lanceolata*), scarlet pimpernel (*Anagallis arvensis*), poison hemlock (*Conium maculatum*), prickly sow-thistle (*Sonchus asper* subsp. *asper*), and non-native grasses including slender wild oats (*Avena barbata*), various barleys (*Hordeum* spp.), and bromes (*Bromus* spp.). In general, agricultural land may provide habitat and be utilized by small mammals, reptiles, amphibians, and birds.

5.3 Riparian / Ephemeral Drainage – Federal Wetland

Tank Farm Creek is an ephemeral drainage feature strongly affected by farming activities and the construction of Buckley Road. Riparian vegetation is dominated by arroyo willow (*Salix lasiolepis*) with scattered Fremont cottonwood (*Populus fremontii*) trees and is limited to a narrow corridor along each bank of the drainage. The drainages contain California bulrush (*Schoenoplectus californicus*) with occasional stands of cattails (*Typha angustifolia*). California bulrush marsh is a widespread emergent marsh type that grows throughout California (Sawyer et al. 2009).

The northern 300-foot reach of the drainage (North-South Drainage in Figure 6) appears heavily disturbed from recent channel maintenance. This area is dominated by weedy riparian species such as poison hemlock, bristly ox-tongue (*Helminthotheca echioides*), and Fuller's teasel (*Dipsacus sativus*). Similar disturbed areas occur in smaller reaches of the drainage. The northern reach also contains willow canopy with hydric soil present. Wetland vegetation and hydric soils also dominate a farm ditch identified as the East-West Drainage in Figure 6 that converges with Tank Farm Creek at the confluence with the North-South Drainage. Approximately 2.99 acres of Riparian/Ephemeral Drainage – Federal Wetland occurs on Avila Ranch, with another 0.03 acres occurring on the Buckley Road extension site.

5.4 Riparian/Ephemeral Drainage – Willow Wetland, State

Tank Farm Creek contains about 1.84 acres of potential willow wetland, waters of the State, based on the 2015 wetland delineation by Althouse and Meade, Inc. Directly surrounding most of the drainage is arroyo willow dominated riparian habitat with areas of thick willow vegetation and sporadic cottonwood trees. Tank Farm Creek parallels Buckley Road at the southern end of the Study Area, and contains mature willows and cottonwoods that form a dense canopy. These areas did not contain hydric soils and therefore are not potential Federal Wetlands. Downed wood and thicket-like conditions in riparian vegetation and within seasonally wet portions of the drainage provide habitat for small mammals, reptiles, and amphibians including western pond turtle. The riparian canopy provides excellent nesting and foraging habitat for songbirds.

A 2002 wetland delineation conducted by Olberding Environmental, Inc. identified an additional wetland in the northeastern portion of the Study Area. This area did not show indications of wetland habitat at the time of the 2015 wetland delineation (Althouse and Meade, Inc.).

5.5 Ruderal / Disturbed

Ruderal / Disturbed habitat occurs over about 2.31 acres of the Study Area. This primarily occurs in the future Buckley Extension area near both Buckley Road and South Higuera Road. The area directly west of Buckley Road is a disturbed field near a state-owned residence. Just south of this area, a ruderal field was being grazed by sheep during our April 2014 survey. This grazing field was dominated by Italian thistle (*Carduus pycnocephalus*) and milk-thistle (*Silybum marianum*) with sporadic patches of non-native annual grasses. The ruderal habitat east, adjacent to South Higuera Street was dominated by poison-hemlock, black mustard, sweet fennel, and red-stem filaree (*Erodium cicutarium*). A small stand of fiddleneck was the only California-native plant observed in this area.

During the February 2014 survey, Congdon's tarplant was observed dried and uprooted in the agricultural land within the Avila Ranch portion of the Study Area. In late spring and early summer, a new patch of approximately 750 individuals was observed growing in a ruderal scrape along the southern edge of the Study Area (Figure 5; Photos 7 and 8). Patches of Congdon's tarplant are previously known from the Study Area (CNDDB #69).

5.6 Developed

Developed habitat is any habitat associated with human structures, associated infrastructure and ornamental landscaped vegetation. This habitat occurs in the area of the future Buckley Road Extension. There is a State-owned residence, a Caltrans move-on office trailer and a gravel road leading to the house. Ornamental plants and cypress trees are planted in the surrounding area. A gravel parking lot is close to the residence. Many active cliff swallow nests are located in the eaves of the residence. This structure could also house roosting bats. There is no developed habitat in the Avila Ranch portion of the Study Area

6.0 Botanical Survey Results

Botanical surveys conducted in February through July 2014 identified 88 species, subspecies, varieties, and hybrids of vascular plant taxa in the Study Area (Table 7). The list includes 20 species native to California and 68 introduced (naturalized or planted) species. One special status plant species occurs in the Study Area. Native plant species account for approximately 23 percent of the taxa within the Study Area; introduced species account for approximately 77 percent. Rainfall amounts in the San Luis Obispo area for the 2013 to 2014 season were less than average, which influences what species may be detectable.

TABLE 7. VASCULAR PLANT LIST. The 88 species of vascular plants identified in the Study Area consist of 20 native species and 68 planted or introduced species. The vascular plant list is separated into general life form categories, within which the taxa are listed alphabetically by scientific name. The portion of the Study Area where each species was seen is indicated.

Scientific Name	Status	Origin	Common Name	Avila Ranch	Buckley Extension
Trees – 9 Species					
Hesperocyparis sp.	None	Planted	Cypress		✓
Pinus sp.	None	Planted	Pine		✓
Platanus racemosa	None	Planted	Western sycamore		✓
Populus fremontii subsp. *fremontii*	None	Native	Fremont cottonwood	✓	
Prunus persica	None	Planted	Peach tree		✓
Quercus agrifolia var. *agrifolia*	None	Native	Coast live oak	✓	
Salix lasiolepis	None	Native	Arroyo willow	✓	✓
Schinus molle	None	Planted	Pepper tree		✓
Washingtonia sp.	None	Planted	Fan palm		✓
Shrubs – 5 Species					
Baccharis pilularis	None	Native	Coyote brush	✓	✓
Juniperus sp.	None	Planted	Juniper		✓
Lonicera sp.	None	Planted	Ornamental Honeysuckle		✓
Opuntia sp.	None	Introduced	Prickly pear	✓	
Rhamnus crocea	None	Native	Redberry		✓
Herbs – 59 Species					
Acmispon americanus var. *americanus* [=*Lotus purshianus* var. *purshianus*]	None	Native	Spanish clover	✓	
Amaranthus albus	None	Introduced	Tumbleweed amaranth	✓	
Ambrosia psilostachya	None	Native	Western ragweed	✓	✓
Amsinckia lycopsoides	None	Native	Fiddleneck	✓	✓
Anagallis arvensis	None	Introduced	Scarlet pimpernel	✓	✓

Scientific Name	Status	Origin	Common Name	Avila Ranch	Buckley Extension
Asclepias fascicularis	None	Native	Narrow-leaved milkweed	✓	
Brassica nigra	None	Introduced	Black mustard	✓	✓
Brassica pekinensis	None	Planted	Napa cabbage	✓	
Carduus pycnocephalus	None	Introduced	Italian thistle	✓	✓
Carthamus tinctorius	None	Introduced	Safflower	✓	✓
Carex sp.	None	Native	Sedge	✓	
Centaurea melitensis	None	Introduced	Tocolote	✓	✓
Centaurea solstitialis	None	Introduced	Yellow star thistle		✓
Centromadia parryi subsp. *congdonii*	**1B.1**	Native	Congdon's tarplant	✓	
Chenopodium sp.	None	Introduced	Pigweed	✓	✓
Cichorium intybus	None	Introduced	Chicory	✓	
Cirsium vulgare	None	Introduced	Bull thistle	✓	
Conium maculatum	None	Introduced	Poison hemlock	✓	✓
Convolvulus arvensis	None	Introduced	Bindweed	✓	✓
Cynara cardunculus	None	Introduced	Artichoke	✓	
Cyperus eragrostis	None	Native	Umbrella sedge	✓	
Datura wrightii	None	Native	Jimsonweed		✓
Dipsacus sativus	None	Introduced	Fuller's teasel	✓	✓
Epilobium brachycarpum	None	Native	Annual willow-herb	✓	
Erigeron [=*Conzya*] *canadensis*	None	Native	Common horseweed		✓
Erodium cicutarium	None	Introduced	Redstem filaree	✓	✓
Euphorbia peplus	None	Introduced	Petty spurge	✓	
Foeniculum vulgare	None	Introduced	Fennel	✓	✓
Geranium dissectum	None	Introduced	Geranium	✓	
Geranium molle	None	Introduced	Geranium	✓	
Hedera helix	None	Introduced	English ivy		✓
Helminthotheca [=*Picris*] *echioides*	None	Introduced	Bristly ox-tongue	✓	✓
Hirschfeldia incana	None	Introduced	Mustard	✓	✓
Kickxia elatine	None	Introduced	Fluellin	✓	
Lotus corniculatus	None	Introduced	Birdfoot trefoil	✓	✓
Malva nicaeensis	None	Introduced	Bull mallow	✓	
Malvella leprosa	None	Native	Alkali mallow	✓	
Marrubium vulgare	None	Introduced	Horehound		✓
Matricaria discoidea [=*Chamomilla suaveolens*]	None	Introduced	Pineapple weed	✓	✓
Medicago polymorpha	None	Introduced	California burclover	✓	

Scientific Name	Status	Origin	Common Name	Avila Ranch	Buckley Extension
Melilotus albus [=M. alba]	None	Introduced	White sweet clover	✓	
Melilotus indicus [*=M. indica*]	None	Introduced	Annual sweetclover	✓	✓
Melilotus officinalis	None	Introduced	Yellow sweetclover	✓	
Pisum sativum	None	Introduced	Cultivated pea	✓	
Plantago lanceolata	None	Introduced	English plantain	✓	✓
Polygonum aviculare subsp. *depressum* [*=P. arenastrum*]	None	Introduced	Common knotweed	✓	
Raphanus sativus	None	Introduced	Wild radish	✓	✓
Ricinus communis	None	Introduced	Castor bean	✓	
Rumex crispus	None	Introduced	Curly dock	✓	✓
Schoenoplectus [*=Scirpus*] *californicus*	None	Native	California tule	✓	
Silybum marianum	None	Introduced	Milk thistle	✓	✓
Sisymbrium irio	None	Introduced	London rocket	✓	✓
Sonchus asper subsp. *asper*	None	Introduced	Prickly sow-thistle	✓	✓
Sonchus oleraceus	None	Introduced	Common sow thistle		✓
Spergula arvensis	None	Introduced	Stickwort	✓	
Typha angustifolia	None	Native	Narrow-leaved cattail	✓	
Vicia faba	None	Introduced	Fava bean	✓	
Vicia sativa	None	Introduced	Common vetch	✓	
Xanthium strumarium	None	Native	Cocklebur	✓	
Grasses – 15 Species					
Avena barbata	None	Introduced	Slender wild oat	✓	
Avena fatua	None	Introduced	Wild oat	✓	✓
Bromus diandrus	None	Introduced	Ripgut brome	✓	✓
Bromus hordeaceus	None	Introduced	Soft chess brome	✓	
Bromus madritensis subsp. *rubens [B. rubens]*	None	Introduced	Red top brome	✓	✓
Cynodon dactylon	None	Introduced	Bermuda grass	✓	
Elymus glaucus	None	Native	Blue wildrye	✓	
Festuca arundinacea	None	Introduced	Tall fescue	✓	
Festuca perennis [*=Lolium multiflorum*]	None	Introduced	Italian rye grass	✓	✓
Hordeum murinum	None	Introduced	Foxtail barley	✓	✓
Hordeum vulgare	None	Introduced	Barley	✓	
Phalaris aquatica	None	Introduced	Harding grass	✓	✓
Polypogon monspeliensis	None	Introduced	Annual beardgrass	✓	✓

Scientific Name	Status	Origin	Common Name	Avila Ranch	Buckley Extension
Stipa [=*Piptatherum*] *miliaceum*	None	Introduced	Smilo grass	✓	✓
Sorghum halepense	None	Planted	Johnson grass	✓	

7.0 Wildlife Survey Results

At least 106 animal species could occur in the Study Area (Table 8). These include 3 amphibians, 10 reptiles, 71 birds, and 22 mammals. Small mammal trapping studies were beyond the scope of this report, although several species are likely to occur. We provide this list as a guide to the wildlife observed in the Study Area and to the species that could be present at least seasonally. Other species could occur as transients, particularly avian fauna.

Wildlife species detected in the Study Area include 1 amphibian, 2 reptiles, 50 birds, and 3 mammals. Throughout the agricultural land, western bluebirds, barn swallows, horned larks, and rock pigeons were observed foraging. The ruderal area around the periphery provided habitat for black-tailed jackrabbits and song sparrows. The riparian habitat around the seasonal drainage is excellent habitat for songbirds and small mammals with yellow-rumped warbler, oak titmouse, and pacific-slope flycatcher observed foraging throughout. We expect that several species of songbird nest in these riparian willows and other birds, such as woodpeckers, nest just offsite and forage in the Study Area.

TABLE 8. WILDLIFE LIST. At least 106 animal species could occur in the Study Area. The Special Status column indicates listing status of the organism under the Federal Endangered Species Act, the California Endangered Species Act, or by CDFW or other organizations. Species observed at the site during our surveys are designated by the check symbol (**✓**) in the fourth column.

Common Name	Scientific Name	Special Status	Found On-site	Habitat Type
Amphibians – 3 Species				
California (Western) Toad	*Bufo boreas halophilus*	None		Grassland, woodland
Sierran Treefrog [=Pacific Chorus Frog]	*Pseudacris sierra* [formerly *P. regilla*]	None	✓	Many habitats near water
California Red-legged Frog	*Rana draytonii*	FT		Streams, creeks, and ponds
Reptiles – 10 Species				
Western Pond Turtle	*Actinemys marmorata*	CSSC		Lakes, ponds, streams
Northern Pacific Rattlesnake	*Crotalus oreganus oreganus*	None		Dry, rocky habitats
California Alligator Lizard	*Elgaria multicarinata multicarinata*	None		Open grassland, woodland, chaparral
California Nightsnake	*Hypsiglena ochrorhyncha nuchalata*	None		Chaparral; grassland; arid, rocky areas
California Kingsnake	*Lampropeltis getula californiae*	None	✓	Woodland, grassland, streams

Common Name	Scientific Name	Special Status	Found On-site	Habitat Type
San Diego Gopher Snake	*Pituophis catenifer annectens*	None		Woodland, grassland, rural
Skilton's [=Western] Skink	*Plestiodon [=Eumeces] skiltonianus skiltonianus*	None		Woodland, grassland, chaparral, inland and coastal
Coast Range [=Western] Fence Lizard	*Sceloporus occidentalis bocourtii*	None	✓	Wide range; variety of habitats
Coast Garter Snake	*Thamnophis elegans terrestris*	None		Many habitats near water
California Red-sided Garter Snake	*Thamnophis sirtalis infernalis*	None		Many habitats near water
Birds – 71 Species				
Cooper's Hawk	*Accipiter cooperii*	WL (Nesting)		Oak, riparian woodland
Sharp-shinned Hawk	*Accipiter striatus*	WL (Nesting)	✓	Oak, riparian woodland
Red-winged Blackbird	*Agelaius phoeniceus*	None	✓	Marshes, fields
Tricolored Blackbird	*Agelaius tricolor*	CSSC (Nesting Colony)	✓	Marshes, fields
Western Scrub Jay	*Aphelocoma californica*	None	✓	Oak, riparian woodlands
Oak Titmouse	*Baeolophus inornatus*	SA (Nesting)	✓	Oak woodland
Cedar Waxwing	*Bombycella cedrorum*	None		Wooded habitat with berry bushes; urban
Great Horned Owl	*Bubo virginianus*	None		Woodland, grassland
Bufflehead	*Bucephala albeola*	None	✓	Ponds, lakes
Red-tailed Hawk	*Buteo jamaicensis*	None	✓	Open, semi-open country
Red-shouldered Hawk	*Buteo lineatus*	None	✓	Oak, riparian woodlands
Ferruginous Hawk	*Buteo regalis*	WL (Wintering)		Grasslands, open fields
California Quail	*Callipepla californica*	None		Shrubby habitats
Anna's Hummingbird	*Calypte anna*	None	✓	Many habitats
Lesser Goldfinch	*Carduelis psaltria*	None	✓	Riparian, oak woodlands
American Goldfinch	*Carduelis tristis*	None	✓	Weedy fields, woodlands
House Finch	*Carpodacus mexicanus*	None	✓	Riparian, grasslands, chaparral, and woodlands
Turkey Vulture	*Cathartes aura*	None	✓	Open country
Hermit Thrush	*Catharus guttatus*	None		Woodland and brush
Wrentit	*Chamaea fasciata*	None		Riparian, chaparral
Killdeer	*Charadrius vociferous*	None	✓	Mud flats, stream banks
Northern Flicker	*Colaptes auratus*	None	✓	Woodlands
Band-tailed Pigeon	*Columba fasciata*	None		Woodlands, urban trees
Rock Dove	*Columba livia*	None	✓	Urban areas
American Crow	*Corvus brachyrhynchos*	None	✓	Many habitats, esp. urban

Common Name	Scientific Name	Special Status	Found On-site	Habitat Type
White-tailed Kite	*Elanus leucurus*	Fully Protected	✓	Nests in dense live oaks
Pacific-slope Flycatcher	*Empidonax difficilis*	None	✓	Riparian, oak woodlands
California Horned Lark	*Eremophila alpestris actia*	WL	✓	Grassland, oak savanna
Brewer's Blackbird	*Euphagus cyanocephalus*	None	✓	Open habitats
Merlin	*Falco columbarius*	SA (Wintering)		Open country with adjacent woodlands
American Kestrel	*Falco sparverius*	None	✓	Open, semi-open country
Common Yellowthroat	*Geothlypis trichas*	None	✓	Marshes, streamsides
Barn Swallow	*Hirundo rustica*	None	✓	Riparian, grasslands, lakes
Bullock's Oriole	*Icterus bullockii*	None	✓	Oak, riparian woodlands
Hooded Oriole	*Icterus cucullatus*	None		Urban, mixed woodland
Dark-eyed Junco	*Junco hyemalis*	None		Oak woodland
Loggerhead Shrike	*Lanius ludovicianus*	CSSC		Nests in shrubs, trees near open areas
Song Sparrow	*Melospiza melodia*	None	✓	Oak, riparian woodland
Northern Mockingbird	*Mimus polyglottos*	None	✓	Riparian, chaparral and woodlands. Also urban
House Sparrow	*Passer domesticus*	None		Urban
Savannah Sparrow	*Passerculus sandwichensis*	None	✓	Open habitats, marshes, grasslands
Cliff Swallow	*Petrochelidon pyrrhonota*	None	✓	Urban; open areas near water
Nuttall's Woodpecker	*Picoides nuttallii*	SA (Nesting)	✓	Oak, riparian woodlands
Downy Woodpecker	*Picoides pubescens*	None	✓	Oak, riparian woodlands
Hairy Woodpecker	*Picoides villosus*	None		Oak, riparian woodlands
California Towhee	*Pipilo crissalis*	None	✓	Brushy habitats
Spotted Towhee	*Pipilo maculatus*	None	✓	Dense brushy areas
Chestnut-backed Chickadee	*Poecile hudsonica*	None	✓	Mixed woods
Blue-gray gnatcatcher	*Polioptila caerulea*	None	✓	Chaparral
Vesper Sparrow	*Pooecetes gramineus*	CSSC (Wintering)	✓	Open habitats
Bushtit	*Psaltriparus minimus*	None	✓	Woodlands, chaparral
Great-tailed Grackle	*Quiscalus mexicanus*	None	✓	Rural and developed areas, agricultural, urban areas
Ruby-crowned Kinglet	*Regulus calendula*	None	✓	Oak, riparian woodlands
Black Phoebe	*Sayornis nigricans*	None	✓	Near water
Say's Phoebe	*Sayornis saya*	None	✓	Open country, grassland
Yellow-rumped Warbler	*Setophaga coronata*	None	✓	Woodlands, brush, open country
Yellow Warbler	*Setophaga petechia*	CSSC		Riparian woodlands

Common Name	Scientific Name	Special Status	Found On-site	Habitat Type
Townsend's Warbler	*Setophaga townsendii*	None		Riparian, oak woodlands
Western Bluebird	*Sialia mexicana*	None	✓	Woodland near open areas
Eurasian Collared Dove	*Streptopelia decaocto*	None		Urban areas
Western Meadowlark	*Sturnella neglecta*	None	✓	Open habitats, grasslands
European Starling	*Sturnus vulgaris*	None	✓	Agricultural, livestock areas
Bewick's Wren	*Thryomanes bewickii*	None	✓	Riparian woodland, scrub
Western Kingbird	*Tyrannus verticalis*	None		Grasslands, savanna
Cassin's Kingbird	*Tyrannus vociferans*	None		Open and semi-open areas
Barn Owl	*Tyto alba*	None		Agricultural, woodlands
Orange-crowned Warbler	*Vermivora celata*	None	✓	Oak, riparian woodlands
White-winged Dove	*Zenaida asiatica*	None	✓	Open habitats, urban areas
Mourning Dove	*Zenaida macroura*	None	✓	Open and semi-open habitats
Golden-crowned Sparrow	*Zonotrichia atricapilla*	None		Dense woodlands, brushy areas
White-crowned Sparrow	*Zonotrichia leucophrys*	None	✓	Oak, riparian woodlands
Mammals – 22 Species				
Townsend's Big-eared Bat	*Corynorhinus townsendii*	SSC		Arid western desert scrub and pine forest regions
California Vole	*Microtus californicus*	None		Grassland meadows
Big-eared Woodrat	*Neotoma macrotis*	None		Wooded habitats
Pallid Bat	*Antrozous pallidus*	CSSC		Riparian, woodland, urban
Coyote	*Canis latrans*	None		Open woodlands, brushy areas, wide ranging.
California Pocket Mouse	*Chaetodipus californicus*	None		Chaparral, brush habitats
Townsend's Big-eared Bat	*Corynorhinus townsendii*	CSSC		Arid western desert scrub and pine forest regions
Virginia Opossum	*Didelphis virginiana*	None		Woodlands, streams
Feral Cat	*Felis catus*	None		Varied
Hoary Bat	*Lasiurus cinereus*	None		Variety of habitats, roosts in foliage
Black-tailed Jackrabbit	*Lepus californicus*	None	✓	Grasslands
California Vole	*Microtus californicus*	None		Grassland meadows
California Myotis	*Myotis californicus*	None		Tunnels, hollow trees, buildings, bridges
Big-eared Woodrat	*Neotoma macrotis*	None		Wooded habitats
Mule Deer	*Odocoileus hemionus*	None		Many habitats
Little Pocket Mouse	*Perognathus longimembris longimembris*	None		Grassland, alkali and coastal scrub habitats
Deer Mouse	*Peromyscus maniculatus*	None		All dry land habitats

Common Name	Scientific Name	Special Status	Found On-site	Habitat Type
California Ground Squirrel	*Spermophilus beecheyi*	None	✓	Grasslands
Desert Cottontail	*Sylvilagus audubonii*	None	✓	Brushy habitats
Brush Rabbit	*Sylvilagus bachmani*	None		Brushy habitats
Brazilian Free-tailed Bat	*Tadarida brasiliensis*	None		Variety of habitats; roosts in bridges, buildings, caves
Botta's Pocket Gopher	*Thomomys bottae*	None		Variety of habitats

8.0 Project Overview

8.1 General Discussion

The Project includes residential and commercial development, open spaces, parks, and roads on lands currently used for agriculture. Open spaces are proposed on both sides of Tank Farm Creek. The Buckley Road extension will result in demolition of a residence, impacts to agricultural land, and removal of weedy vegetation on serpentine rock near South Higuera Street.

Tank Farm Creek includes wetland and riparian habitats. The northern reach, a channelized section, is to be realigned and restored closer to its historic tributary site. The proposed drainage realignment would provide a local movement corridor from open spaces near Buckley Road, through the Study Area to existing habitat on the adjacent Tank Farm site. Realignment of the channelized reach of Tank Farm Creek is consistent with 2014 LUCE recommendation that wildlife corridors be preserved or created by interconnecting open spaces and conserved wildlife habitat. A bridge spanning the drainage is proposed for traffic from Venture Lane to Buckley Road. Proposed activities may require review under various regulatory authorities including the California Environmental Quality Act (CEQA), Federal Endangered Species Act, Clean Water Act, and California Fish and Game Code. The regulatory review framework is described below.

8.2 Regulatory Framework

8.2.1 CEQA Guidance

The California Environmental Quality Act was incorporated into Public Resources Code (PRC) Sections 21000–21177 in 1970. CEQA applies to projects that are funded by or require permit approval from a California public agency. Its purpose is to help inform government decision makers of potential environmental impacts caused by projects and to aid in selecting less environmentally adverse alternatives. CEQA requires the agencies to evaluate potential environmental effects of the project. The lead agency must identify other State and local agencies (known as responsible agencies) that will be issuing a discretionary approval subject to CEQA for an activity that is part of the project.

A significant effect is defined in Section 15382 of the CEQA Guidelines: "Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance." The City of San Luis Obispo is the lead agency for this project and is in the process of completing an EIR for the Avila Ranch Specific Plan (SP-4) as described in the 2014 LUCE. Section 15380 of the CEQA Guidelines formally defines the terms *species*, *endangered*, *rare*, and *threatened* as they pertain to CEQA. Section 15065 describes situations when a mandatory finding of significance will lead to an environmental impact report. Significant impacts typically require mitigation measures to avoid, minimize, or offset the significant impact, if practicable.

8.2.2 Federal and State Resource Protections

The agencies that administer FESA and CESA formally list plant and animal species determined to be threatened or endangered, and have adopted regulations to implement these laws to protect such species. Other federal and state statutes providing protection for species and/or their habitats include, but are not limited to, the Federal Clean Water Act (for protection of waters of the United States, including wetlands), Bald and Golden Eagle Protection Act (BGEPA), Migratory Bird Treaty Act (MBTA), Executive Order 11990 (wetlands protection), California Fish and Game Code sections 1601 – 1616 et. seq. (lake and streambed alteration), Porter-Cologne Water Quality Act, and the Natural Community Conservation Planning (NCCP) Act.

Flora and Fauna

All of the plants constituting California Native Plant Society (CNPS) CRPR 1B meet the definitions of Section 1901, Chapter 10 of the California Native Plant Protection Act (CNPPA) in the California Fish and Game Code or Sections 2062 and 2067 (California Endangered Species Act) of the California Fish and Game Code, and are eligible for State listing. Species considered by the CNPS to be "rare, threatened or endangered in California" (CRPR Lists 1A, 1B and 2) meet the definition of rare or endangered under CEQA §15380(b) and (d). Most native species of birds are protected from disturbance by The Migratory Bird Treaty Act of 1918, (as regulated by the USFWS). Provisions of the California Fish and Game Code provide special protection to certain enumerated species such as:

- Section 3503 protects eggs and nests of all birds.
- Section 3503.5 protects birds of prey and their nests.
- Section 3511 lists fully protected birds.
- Sections 3513 protects all birds covered under the federal Migratory Bird Treaty Act.
- Section 3800 defines nongame birds.
- Section 4700 lists fully protected mammals.
- Section 5050 lists fully protected amphibians and reptiles.
- Section 5515 lists fully protected fish species.

9.0 Potential Impacts to Biological Resources

Construction of the proposed residential and commercial development and extension of Buckley Road could affect common and special status species, nesting birds, agricultural lands, wetland, and riparian/stream habitat. Project disturbance may occur primarily in active agricultural land habitat, but may also impact segments of the riparian and wetland habitat where the ephemeral drainage is realigned to the historical site at the tank farm spillover. Small amounts of developed and ruderal habitat will also be affected by the proposed extension of Buckley Road. Additional impact analysis may be required following the results of recommended protocol level surveys for the federally threatened California red-legged frog.

9.1 Habitat Impacts

The proposed Project would primarily affect agricultural land, riparian/ephemeral drainage, and wetland habitat. Ruderal and developed habitat would be impacted by the proposed Buckley Road Extension. Habitat types mapped within the Study Area and discussed in this Section are overlaid on a high-resolution aerial photograph provided as a Biological Resource Map in Section 11.0. A preliminary site plan is provided in Attachment A. Table 9 summarizes habitat acreage impacts.

TABLE 9. WETLAND AND RIPARIAN HABITAT IMPACT DATA. Approximate permanent impact acreage and location are provided for wetland and riparian habitat types in the Study Area that require mitigation.

Habitat Type	Permanent Impact (acres)
Agricultural Land – Farmed Wetland, State	0.86
Riparian/Ephemeral Drainage – Federal Wetland	0.86
Riparian/Ephemeral Drainage – Willow Wetland, State	0.07
Totals:	**1.77**

9.1.1 Agricultural Land – Farmed Wetland, State

Approximately 0.86 acres of farmed wetlands may be permanently impacted by the proposed Project. This area is located on the Avila Ranch portion of the Project Site; there are no farmed wetlands on the proposed Buckley Road extension.

9.1.2 Riparian/Ephemeral Drainage – Federal Wetland

Riparian areas provide habitat to many wildlife species, potentially including nesting birds, bats, small mammals and amphibians such as the California red-legged frog. The proposed project would directly affect approximately 0.86 acres of existing riparian /ephemeral drainage habitat. Permanent impacts will occur along the northern reach of Tank Farm Creek and the east-west farmed ditch. Impacts would ultimately be offset by revegetation, enhancement, creation of riparian habitat along the impacted creek segments and by relocating the north-south drainage to a more historical route (Section 10).

9.1.3 Riparian/Ephemeral Drainage – Willow Wetland, State

Approximately 0.07 acre of willow wetland, State, would be impacted by the Avila Ranch portion of the Project. Multi-use paths will be built along Tank Farm Creek and will be bridged across the creek twice. Up to thirteen stormwater outfalls that convey filtered water may be installed within Tank Farm Creek. These impacts would ultimately be offset by revegetation, enhancement, and creation of riparian habitat along the impacted creek segments and in the relocation area.

9.2 Nesting Birds

Removal of riparian vegetation along Tank Farm Creek and demolition of structures in the proposed Buckley Road extension could adversely affect nesting birds if implemented during the nesting season (March 15 through August 15). These impacts include removal of nesting habitat, disturbance of active nests causing abandonment and mortality of eggs or nestlings, and/or direct mortality of nestlings. Although the agricultural land is regularly tilled, ground nesting birds are not likely to but could be adversely affected by the proposed Project. Mitigation measures for nesting birds are listed in Section 10.2.

9.3 Special Status Species

9.3.1 Special Status Plants

Seven special status plant species could occur based on an analysis of known ecological requirements of these species and the habitat conditions that were observed in the Study Area. Seasonally timed floristic surveys were conducted in spring 2014 to determine the presence or absence of these species. Only one special status species, Congdon's tarplant, was mapped in the Study Area.

A small patch of Congdon's tarplant was mapped in the southern portion of the Study Area in 2014. The patch measured approximately 1,330 square feet and consisted of about 750 plants near Buckley Road adjacent to the agricultural land and associated with ruderal habitat. One individual dried plant from the previous year was observed upturned in the soil of agricultural land habitat in February, about 500 feet west of the known patch. Based on preliminary site plans, development of agricultural land and surrounding ruderal habitat may adversely affect this special status subspecies. Mitigation measures for Congdon's tarplant are provided in Section 10.3.1.

9.3.2 Special Status Birds

Nesting and wintering habitat for special status birds is present in the Study Area. Construction activities could result in nest abandonment or loss of special status bird species if appropriate preconstruction surveys, setback requirements, and management practices are not implemented.

Cooper's hawk, sharp-shinned hawk, yellow warbler, and California horned lark could nest in riparian or agricultural land habitat within the Study Area. Nesting habitat may be affected by the proposed Project. Avoidance of the breeding season or preconstruction surveys are recommended prior to activities that affect trees and potentially occupied structures during the nesting season, March 15 to August 15.

Several special status bird species could winter or were observed foraging during the winter within the Study Area. Appropriate habitat is present for ferruginous hawk and merlin to forage during winter in the Study Area, and a single Oregon vesper sparrow was observed foraging in the agricultural land in February 2014. The proposed Project may impact special status bird species by the removal of wintering and foraging habitat. The nearby Tank Farm, South Hills Natural Area, and surrounding agricultural lands may provide wintering and foraging habitat near the Study Area. Mitigation measures for birds are listed in Section 10.2.

9.3.3 Special Status Bats

Pallid bat is a CDFW species of special concern and Townsend's big-eared bat is a candidate for listing as threatened under CESA. Both are known to roost in buildings and bridges, and pallid bat may roost in trees. The Study Area contains structures in developed areas and some trees with appropriate day roosting habitat. Maternal bat colonies are protected by CDFW but are not expected to occur in the Study Area. Potentially adverse effects to special status bats and maternal bat colonies can be avoided (see Section 10.3.3).

9.3.4 Special Status Reptiles and Amphibians

Two species of special status reptiles and amphibians may occur in the Study Area. Potential habitat for western pond turtle and California red-legged frog is present in the Study Area.

Tank Farm Creek may provide wet season habitat for western pond turtles and California red-legged frogs. While only shallow (2-5 inches) pools lacking connectivity were observed in the drainage during the 2014 surveys, appropriate semi-permanent pool habitat may be present during years of average rainfall. Also, rainfall during 2012-2014 was less than average. Pool habitat is expected to be present through spring during years of average rainfall.

The removal of riparian and wetland habitat for the realignment of the drainage source could directly impact California red-legged frog and western pond turtles. Additionally, any changes to the flow and hydrology as well as sediment deposition downstream from the work may impact these species. These two species were not observed in the Study Area during the 2014 wildlife surveys. Measures to avoid or minimize impacts to these species are provided in Section 10.3.4.

10.0 Recommendations and Mitigation Measures

Riparian and wetland habitat, and special status species are present in the Study Area. This section provides recommendations and mitigation measures to reduce the effect of the Project on biological resources. Where potentially adverse impacts to biological resources could occur during construction of the Project or due to the presence of the Project, we provide biological resource (BR) mitigation measures designed to offset the adverse effect.

10.1 Habitats

The proposed Project would primarily affect agricultural land, riparian and wetland habitats. Areas outside proposed construction, landscaping, and facilities would be retained as natural open space and for on-site mitigation. We provide the following recommendations to avoid, minimize, and/or mitigate potential Project effects on habitats. Mitigation recommendations for farmed wetlands, Federal wetlands, and State wetlands are provided in Section 10.1.1 to avoid redundancy. Mitigation recommendations provided in Sections 10.1 and 10.2 address potential adverse effects of habitat removal on special status species and nesting birds.

10.1.1 Agricultural Land – Farmed Wetland, State; Riparian/Ephemeral Drainage – Federal Wetland; and Riparian/Ephemeral Drainage – Willow Wetlands, State

Approximately 0.86 acres of Agricultural Land – Farmed Wetland, State may be impacted by the project. Approximately 0.86 acre of Riparian/Ephemeral Drainage – Federal Wetland and 0.07 acre of Riparian/Ephemeral Drainage – Willow Wetland, State may be impacted by the project. The project proposes to create and restore approximately 2.4 acres of state wetland (one or two wetland indicators) and 2.6 acres of federal wetland (three wetland indicators).

BR-1. Where the project impacts riparian areas, ephemeral drainages, and/or wetland habitats, the Applicant shall obtain all required permits from the USACE, CDFW, and Regional Water Quality Control Board (RWQCB).

BR-2. To minimize impacts on riparian habitat and seasonal drainages, prepare a restoration and enhancement plan. This plan may be included as part of the wetland mitigation, maintenance, and monitoring plan described in BR-11, below. Temporary impacts to wetland and riparian habitat shall be mitigated at a minimum 1 to 1 mitigation ratio for restoration (area of restored habitat to impacted habitat). Permanent impacts to state farmed wetland or riparian habitat will be mitigated at a 1.5 to 1 ratio (area of restored and enhanced habitat to impacted habitat). Permanent impacts to federal wetland shall be mitigated at a minimum 3 to 1 ratio (1:1 area of created to impacted habitat plus 2:1 area of created/enhanced habitat to impacted habitat). Appropriate restoration and enhancement activities include planting appropriate native species, correcting bank stabilization issues, and providing habitat enhancements. Appropriate wetland and riparian habitat creation includes establishment of on-site wetland that supports obligate and facultative wetland plants such as willows, cottonwoods, rushes, and creeping wildrye.

BR-3. A wetland mitigation, maintenance, monitoring, and reporting plan (MMRP) shall be prepared and approved by the City and other jurisdictional agencies.

a. Mitigation areas shall be established within the Project boundaries, adjacent to and contiguous with existing wetlands to the maximum extent possible. Habitats suitable for Congdon's tarplant and other native wetland species shall be created on-site. Mitigation sites shall be placed within deed-restricted area(s), and shall be maintained and monitored for a minimum of five years. If sufficient on-site mitigation area is not practicable, an off-site mitigation plan shall be prepared and approved by permitting agencies.

b. Creation of the restored northern reach of Tank Farm Creek shall be implemented during Phase 1. Other mitigation for permanent impacts to wetlands shall also be implemented during Phase 1.

c. A weed management plan and weed identification list will be included in the mitigation area maintenance plan.

BR-4. Riparian habitat not proposed to be impacted except at the bridge locations shall be protected by placement and maintenance of construction barrier fencing during all phases of construction. Where practicable, barrier fencing shall be placed a minimum of 20 feet from the habitat boundary.

BR-5. To minimize impacts on riparian habitat and seasonal drainages, a restoration and enhancement plan shall be prepared. This plan may be included as part of the wetland mitigation, maintenance, and monitoring plan described in BR-11, below. The reconstructed stream channel shall be engineered to provide similar characteristics to the existing channel, including sinuosity, gradient, and channel capacity. The reconstructed stream channel shall be vegetated with appropriate riparian tree and shrub species.

BR-6. Trees four inches diameter-at-breast-height (DBH) shall be replaced in-kind at a minimum ratio of 3:1 (replaced:removed). Trees 24 inches or greater DBH shall be replaced in-kind at a minimum ratio of 10:1. Willows and cottonwoods may be planted from live stakes following guidelines provided in the California Salmonid Stream Habitat Restoration Manual for planting dormant cuttings and container stock (CDFW 2010). Permanent impacts to riparian vegetation shall be mitigated at a 3:1 ratio to ensure no net loss of acreage and individual plants.

BR-7. Replacement trees may be planted in the fall or winter of the year in which trees were removed. All replacement trees will be planted no more than one year following the date upon which the native trees were removed. Replacement plants shall be monitored for 5 years with a goal of at least 70 percent survival at the end of the 5-year period. Supplemental irrigation may be provided during years 1 to 3; however, supplemental watering shall not be provided during the final two years of monitoring.

BR-8. A seed mix shall be applied to all areas of the Project resulting in any exposed slopes or exposed areas on stream banks. The seed mix shall contain a minimum of three locally-native grass species and may contain one or two sterile non-native grasses not to exceed 25 percent of the total seed mix by count. Seeding shall be completed no later than November 15 of the year in which Project Activities occurred. All exposed areas where seeding is considered unsuccessful after 90 days shall receive a second application or seeding, straw, or mulch as soon as is practical.

BR-9. To minimize impacts to riparian habitat, stockpile sufficient emergent vegetation (e.g., tules) for later planting in the realigned reach of Tank Farm Creek. Stockpiled vegetation should be placed in earthen basins with the roots covered with moist soil and maintained in a moist condition during construction operations.

BR-10. An existing smooth steel culvert pipe currently used for farm access across Tank Farm Creek should be removed. The channel shall be restored to match upstream and downstream conditions, including channel width and gradient, and vegetated with riparian vegetation.

BR-11. A construction completion report will be prepared by the Project biologist based on as-built drawings and site inspections. A report will be submitted to the permitting agencies within 60 days of final installation of plant material. The report shall include as-built plans prepared after restoration grading and mitigation site plantings are complete. The as-built plans shall be prepared by landscape and grading contractors responsible for realignment and restoration within Tank Farm Creek.

BR-12. Mitigation areas shall be maintained monthly for the first three years and quarterly thereafter. Maintenance shall include eradication of noxious weeds found on California Department of Food and Agriculture Lists (CDFA) A and B. Noxious weeds on CDFA list C may be eradicated or otherwise managed.

BR-13. Mitigation implementation and success shall be monitored quarterly for the first two years, semi-annually during the third year, and annually the fourth and fifth years. Annual reports documenting site inspections and site recovery status shall be prepared and sent to the County and appropriate agencies.

BR-14. After all habitat restoration is completed, a conservation easement shall be placed over the natural open space areas of the project with the City and CDFW named as third-party beneficiaries.

10.1.2 Ruderal / Disturbed

Loss of ruderal habitat usually does not require mitigation except where it affects special status species or important wildlife populations. Congdon's tarplant was found within ruderal habitat and may be mitigated on an individual basis (refer to Section 10.3.1 rare plant mitigation). Impacts to Ruderal/Disturbed habitat are minor and mitigation is not required.

10.1.3 Developed

The Project would alter existing developed lands for other land uses. Conversion of developed habitat to other uses does not typically require mitigation. Buildings in the Study Area support cliff swallow nests and may provide bat roosting habitat.

BR-15. Conduct bat surveys in buildings proposed for demolition. Install bat exclusion devices between August and November. Remove buildings between November and March, if bats are present. If demolition of structures must occur during the bat breeding season, buildings must be inspected and deemed clear of bat colonies/roosts within 7 days of demolition.

10.2 Nesting Birds

Migratory non-game native bird species are protected by international treaty under the Federal Migratory Bird Treaty Act (MBTA) of 1918 (50 C.F.R. Section 10.13). Sections 3503, 3503.5 and 3513 of the California Fish and Game Code (FGC) prohibit take of all native birds and their active nests, including raptors and other migratory non-game birds (as listed under the Federal MBTA). "Take" is defined in Section 86 of the FGC as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

BR-16. Within one week of ground disturbance or tree removal/trimming activities, if work occurs between March 15 and August 15, nesting bird surveys shall be conducted. To avoid impacts to nesting birds, grading and construction activities that affect trees and grasslands shall not be conducted during the breeding season from February 15 to August 15. If construction activities must be conducted during this period, nesting bird surveys shall take place within one week of habitat disturbance. If active nests are located, no construction activities shall occur within 50 feet of nests until chicks are fledged. Construction activities shall observe a 200-foot buffer for active raptor nests. A preconstruction survey report shall be submitted to the lead agency immediately upon completion of the survey. The report shall detail appropriate fencing or flagging of the buffer zone and make recommendations on additional monitoring requirements**.** A map of the Project site and nest locations shall be included with the report. The Project biologist conducting the nesting survey shall have the authority to reduce or increase the recommended buffer depending upon site conditions. A report of findings and recommendations for bird protection will be submitted to the City prior to vegetation removal.

10.3 Recommendations and Mitigation Measures for Special Status Species

10.3.1 Special Status Plants

One special status plant species, Congdon's tarplant, was detected in the Study Area. Congdon's tarplant grows well in disturbed sites where water ponds until late spring, and propagation is not difficult. The City of San Luis Obispo has successfully reintroduced over 1,000 Congdon's tarplant individuals in created wetland depressions at a site with similar soil and hydrology within a mile of the Study Area. The following mitigation measures shall be implemented for Congdon's tarplant to reduce the overall effect of the project on this rare species:

BR-17. A Mitigation Monitoring and Reporting Plan (MMRP) shall be prepared that provides for the retention of Congdon's tarplant within the Study Area.

BR-18. If Congdon's tarplant is found in areas proposed for building, the affected individuals shall be replaced at a 1:1 ratio through seeding in a suitable conserved natural open space area. Implementation of the mitigation and monitoring plan will reduce impacts to Congdon's tarplant to a less than significant level.

- The mitigation plan may be incorporated into the wetland mitigation plan described in BR-8 above, wherein vernal wetland sites will be created, and Congdon's tarplant seeds from the site will be reintroduced.
- The plan shall be subject to approval by the City.
- The mitigation site shall be within a deed-restricted area, and shall be maintained and monitored for a minimum of five years.
- The plan shall provide for the annual success over an area of at least 1,330 square feet with approximately 500-750 individuals (the current aerial extent).

10.3.2 Bats

Roosting bats and/or maternal bat colonies may be present in developed structures or trees with appropriate cavities or loose bark in the Study Area.

BR-19. Upon project approval, a qualified biologist shall conduct a survey of existing structures in the Study Area to determine if roosting bats are present. If possible, the survey shall be conducted during the non-breeding season (November through March). The biologist shall have access to all interior attics, as needed. If a colony of bats is found roosting in any structure, further surveys shall be conducted sufficient to determine the species present and the type of roost (day, night, maternity, etc.) If the bats are not part of an active maternity colony, passive exclusion measures may be implemented with approval from CDFW. November is the best time of the year to exclude bats from a roost because it is after the breeding season and before winter hibernation (not all species hibernate).

BR-20. If bats are roosting in a structure in the Study Area during the daytime but are not part of an active maternity colony, then exclusion measures must include one-way valves that allow bats to get out but are designed so that the bats may not re-enter the structure.

BR-21. If a bat colony is excluded from the Study Area, appropriate alternate bat habitat shall be installed in the Study Area. To the extent practicable, alternate bat house installation shall be installed near the on-site drainage.

BR-22. Prior to removal of any trees over 20 inches DBH, a survey shall be conducted by a qualified biologist to determine if any tree proposed for removal or trimming harbor sensitive bat species or maternal bat colonies. If a non-maternal roost is found, the qualified biologist, with prior approval from CDFW, shall install one-way valves or other appropriate passive relocation method. For each occupied roost removed, one bat box shall be installed in similar habitat and shall have similar cavity or crevices properties to those which are removed, including access, ventilation, dimensions, height above ground, and thermal conditions. Maternal bat colonies may not be disturbed.

10.3.3 Special Status Reptiles and Amphibians

Potential habitat for western pond turtle and California red-legged frog is present in the Study Area. Construction activities could result in the loss of foraging and breeding habitat.

Western Pond Turtle

If work is proposed in or near the seasonal drainage or riparian habitat while surface water is present, the following mitigation measures shall be implemented to reduce the potential for impacts to pond turtle:

BR-23. A pre-construction survey shall be conducted within 48 hours prior to starting work in or within 50 feet of habitats likely to support western pond turtle such as seasonal drainages and riparian. The survey shall be conducted by a qualified biologist approved to relocate western pond turtles should they occur. If western pond turtles are located during the pre-construction survey, a biologist shall monitor ground-breaking work conducted within 50 feet of turtle habitat. If western pond turtles are found in the work area, construction in the immediate area shall cease until the animal is captured and relocated to the nearest suitable habitat.

BR-24. If necessary, silt fence may be installed adjacent to western pond turtle habitat to prevent overland movements of pond turtles (and other small animals) if concern arises that western pond turtle overland movement could allow them access to construction areas.

California Red-legged Frog

Potential habitat for California red-legged frogs (CRLF) is present in the Study Area although this species was not observed during spring 2014 wildlife surveys. Regulatory agencies may require additional measures as part of permits to construct drainage crossing.

BR-25. Prior to the onset of construction activities, a qualified biologist shall conduct training sessions to familiarize all construction personnel with identification of California red-legged frogs, their habitat, general provisions and protections afforded by the Federal Endangered Species Act, measures necessary to protect California red-legged frogs, and a review of the project boundaries.

BR-26. Within 48 hours of construction activities that may impact California red-legged frog habitat, the project site shall be surveyed for California red-legged frogs by a qualified biologist. If any California red-legged frogs are found, work within 25 linear feet in any direction of the frog shall not start until the frog has moved from the area, and the U.S. Fish and Wildlife Service shall be consulted for appropriate action.

BR-27. If California red-legged frogs are found on the Project site, the Project proponent will obtain a Biological Opinion from the USFWS and any additional authorization required by other regulatory agencies.

BR-28. Frog-exclusion fencing can be used as a barrier to overland movements of frogs if concern arises that movements could allow them access to construction areas. Frog exclusion fencing must be a smooth material installed with no gaps, and must extend at least 18 inches above ground. These fences may be opened during periods of no construction (e.g. on weekends) to prevent entrapment of CRLF.

BR-29. USFWS-approved biological monitor(s) shall be present on-site during all construction activities occurring within 50 feet of drainages and in the riparian zone. Prior to the start of construction activities each day, biologist(s) will survey the work sites for CRLF before work starts including inspecting parked vehicles and equipment. California red-legged frogs captured during surveys or construction activities will be relocated to the nearest suitable habitat outside of the project area. Relocation of CRLF will require a Biological Opinion from U.S. Fish and Wildlife Service.

10.4 Construction Stormwater

The following recommendations and minimization measures are provided to ensure that habitat impacts do not occur from Project-related sediment and erosion.

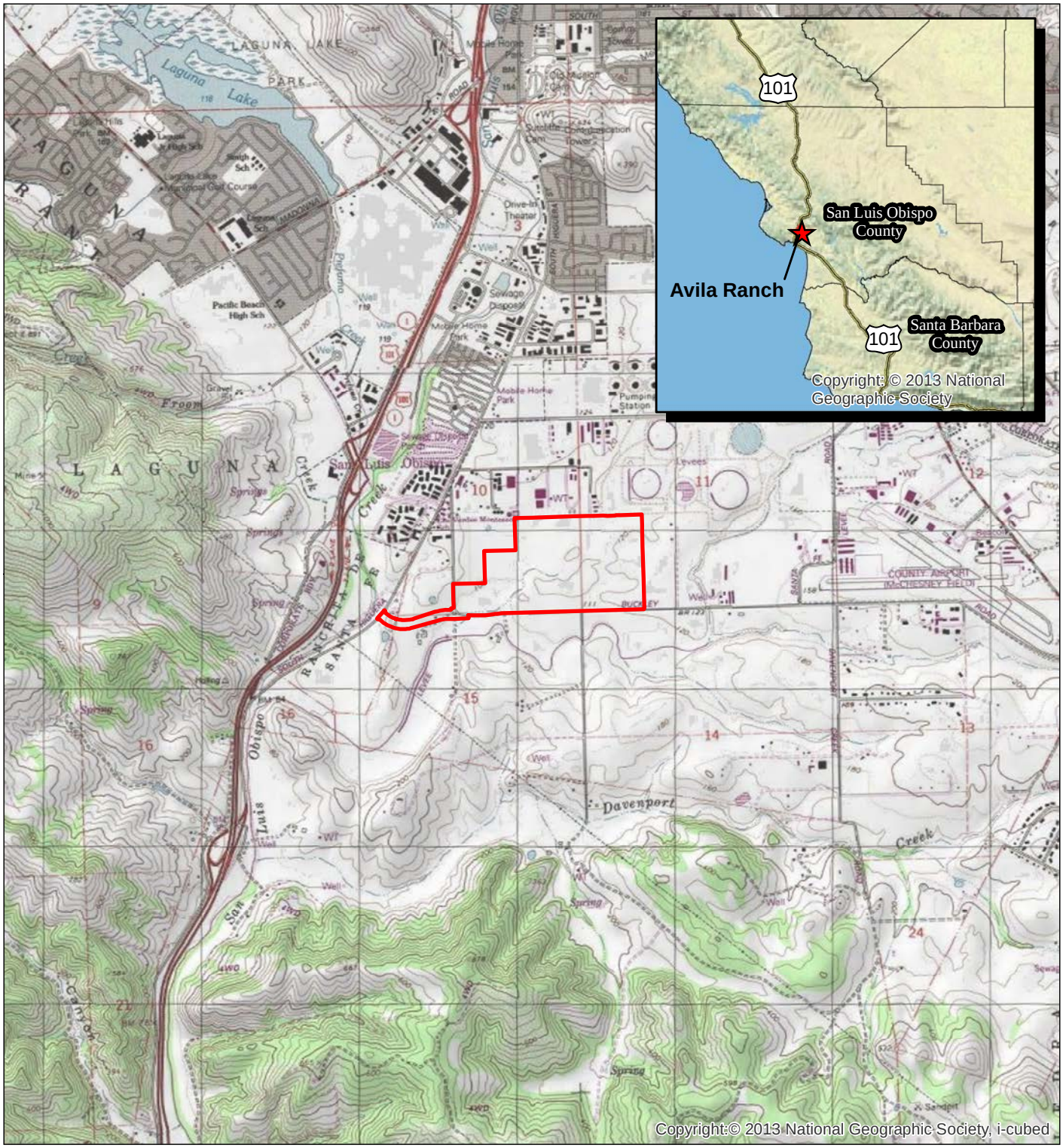
BR-30. Soil disturbance for the Project exceeds one acre. Prior to the onset of construction, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared. The SWPPP shall contain Best Management Practices (BMPs) to prevent pollutants from leaving the site and entering waters of the State.

BR-31. Biodegradable fiber rolls shall be installed pursuant to Caltrans Fiber Roll Detail SC-5, available at http://www.dot.ca.gov/hq/construc/stormwater/SC-05.pdf. To minimize the risk of ensnaring wildlife, all erosion control mats or blankets, fiber rolls, or similar erosion control products shall be comprised entirely of natural-fiber, biodegradable materials. No "photodegradable" or other plastic erosion control materials shall be used.

11.0 Figures

- Figure 1. USGS Topographic Map
- Figure 2. Aerial Photograph
- Figure 3. USDA Soil Map
- Figure 4. Animals - CNDDB & FWS Critical Habitat Map
- Figure 5. Plants - CNDDB & FWS Critical Habitat Map
- Figure 6. Biological Resources (Habitat) Map
- Figure 7. Habitat Impacts Map

Figure 1. USGS Topographic Map



Avila Ranch
San Luis Obispo

Map Updated: December 30, 2015 01:36 PM

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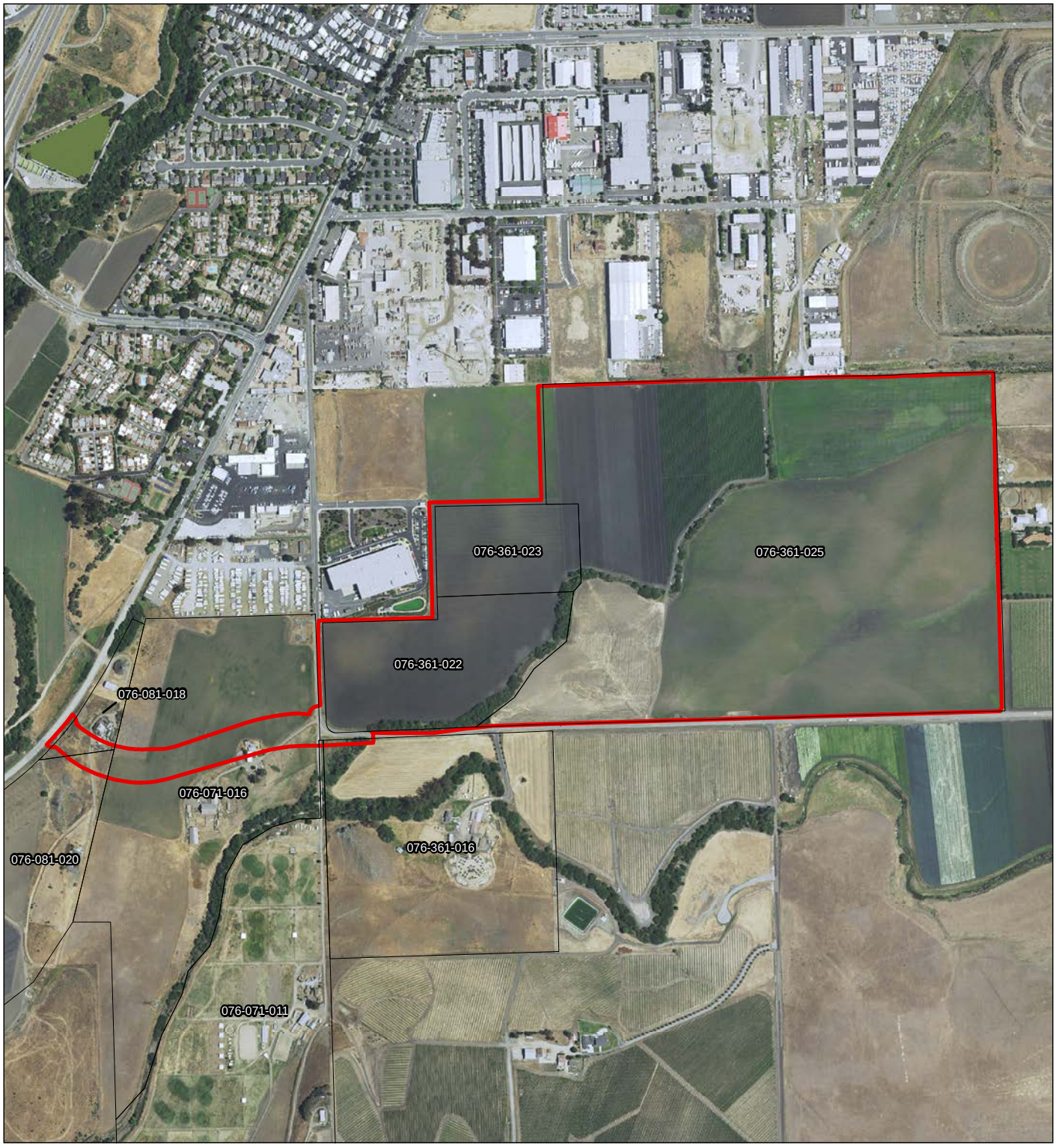
Figure 2. Aerial Photograph



Avila Ranch
San Luis Obispo

2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: December 30, 2015 01:00 PM

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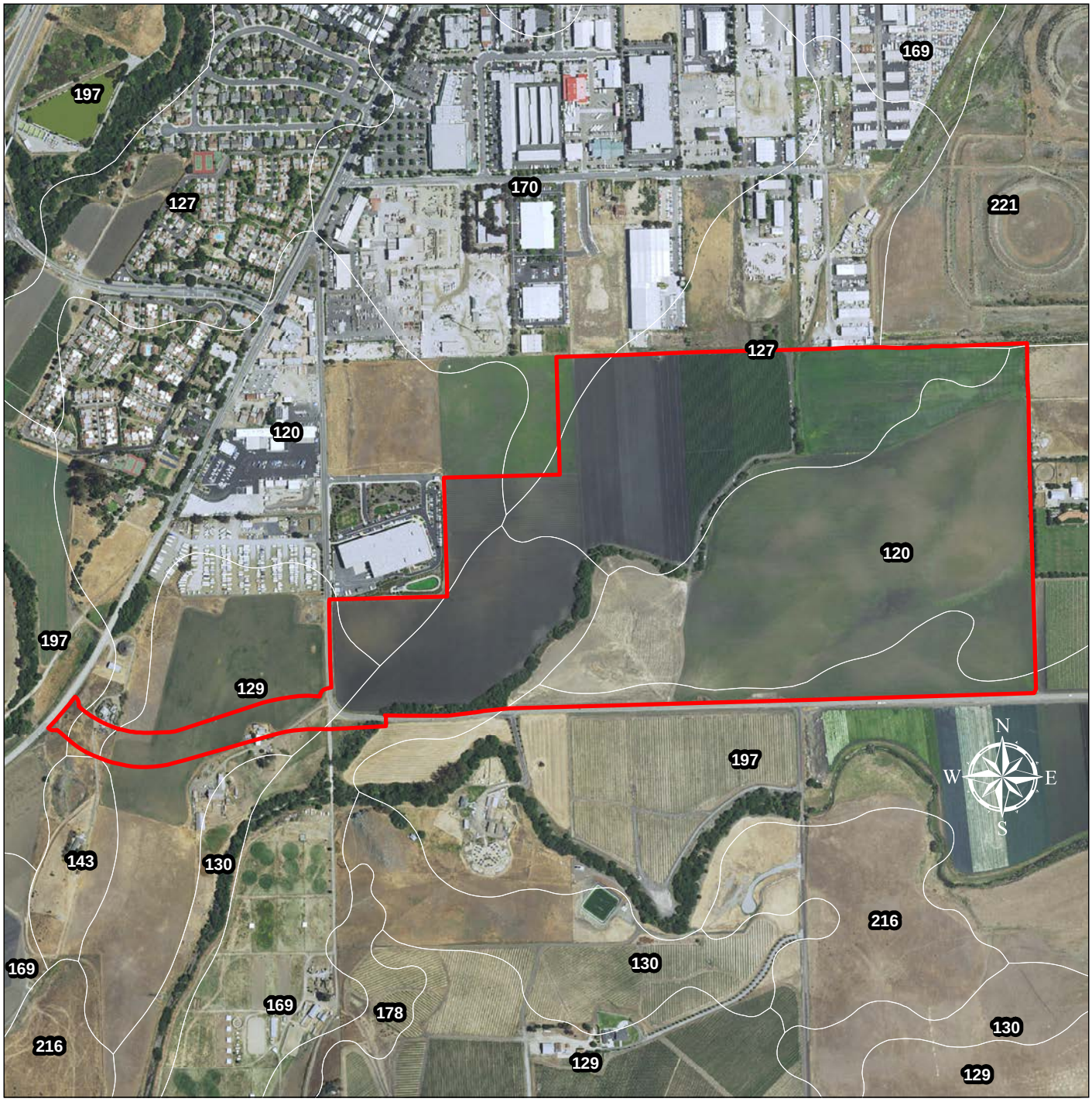
Figure 3. USDA Soils Map



Study Area

120: Concepcion loam, 2 to 5 percent slopes
127: Cropley clay, 0 to 2 percent slopes
129: Diablo clay, 5 to 9 percent slopes
169: Marimel sandy clay loam, occasionally flooded
170: Marimel silty clar loam, drained
197: Salinas silty clay loam, 0 to 2 percent slopes
221: Xererts-Xerolls-Urban land complex, 0 to 15 percent slopes

0 0.25 0.5 1 Mile

Avila Ranch
San Luis Obispo

Soil Survey of San Luis Obispo County
Coastal Soils
2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: December 30, 2015 01:03 PM

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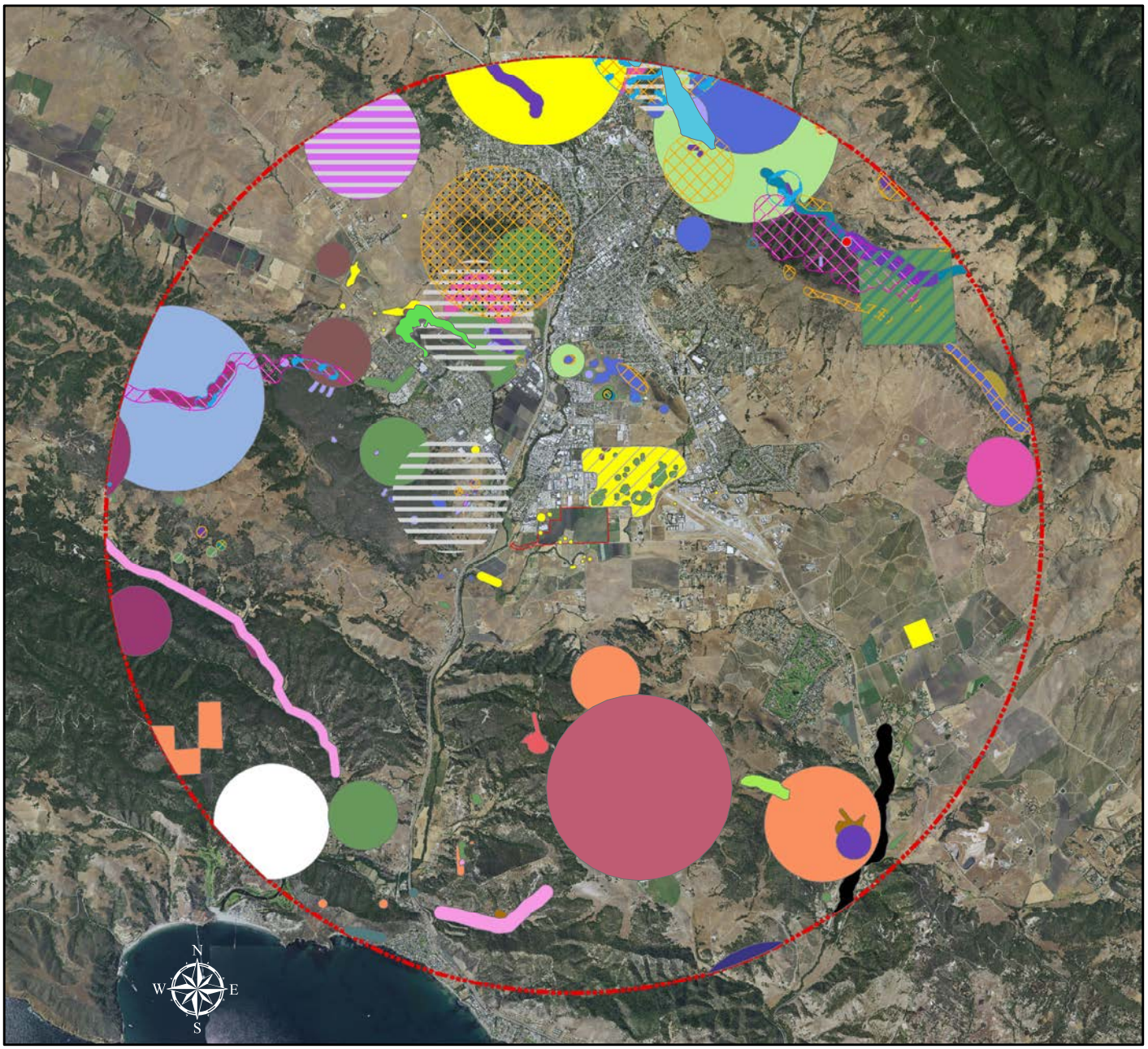
Figure 4. CNDDB and FWS Critical Habitat-Plants



0 1 2 4 Miles

- Study Area
- 5-mile Buffer
- Adobe sanicle
- Black-flowered figwort
- Blochman's dudleya
- Brewer's spineflower
- Cambria morning-glory
- Chaparral ragwort
- Congdon's tarplant
- Dune larkspur
- Dwarf soaproot
- Eastwood's larkspur
- Hoover's bent grass
- Hoover's button-celery
- Indian Knob mountainbalm
- Jones' layia
- La Panza mariposa-lily
- Mesa horkelia
- Miles' milk-vetch
- Morro manzanita
- Most beautiful jewelflower
- Mouse-gray dudleya
- Ojai fritillary
- Palmer's monardella
- Pecho manzanita
- Pismo clarkia
- Saline clover
- San Benito fritillary
- San Luis Obispo County lupine
- San Luis Obispo fountain thistle
- San Luis Obispo owl's-clover
- San Luis Obispo sedge
- San Luis mariposa-lily
- Santa Margarita manzanita
- Southern curly-leaved monardella
- Umbrella larkspur

Avila Ranch
San Luis Obispo

2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: December 30, 2015 03:07 PM

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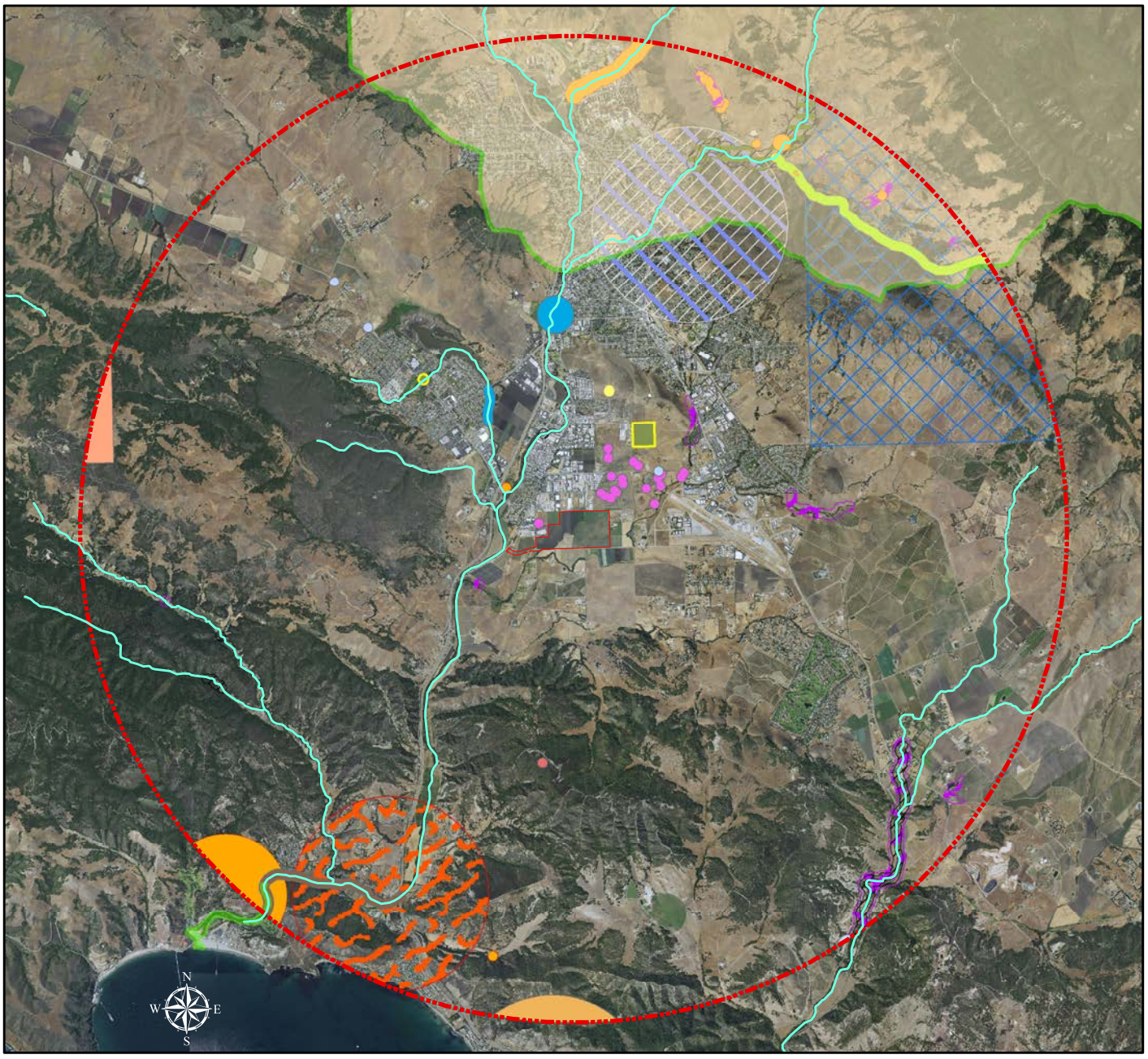
Figure 5. CNDDB and FWS Critical Habitat Map-Animals



- Study Area
- 5-Mile Buffer
- Steelhead critical habitat
- California red-legged frog critical habitat
- American badger
- Atascadero June beetle
- California red-legged frog
- Coast Range newt
- Townsend's big-eared bat
- black legless lizard
- coast horned lizard
- ferruginous hawk
- foothill yellow-legged frog
- loggerhead shrike
- monarch - California overwintering population
- pallid bat
- prairie falcon
- steelhead - south-central California coast DPS
- tidewater goby
- vernal pool fairy shrimp
- western mastiff bat
- western pond turtle
- western yellow-billed cuckoo

Avila Ranch
San Luis Obispo

2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: December 30, 2015 02:18 PM

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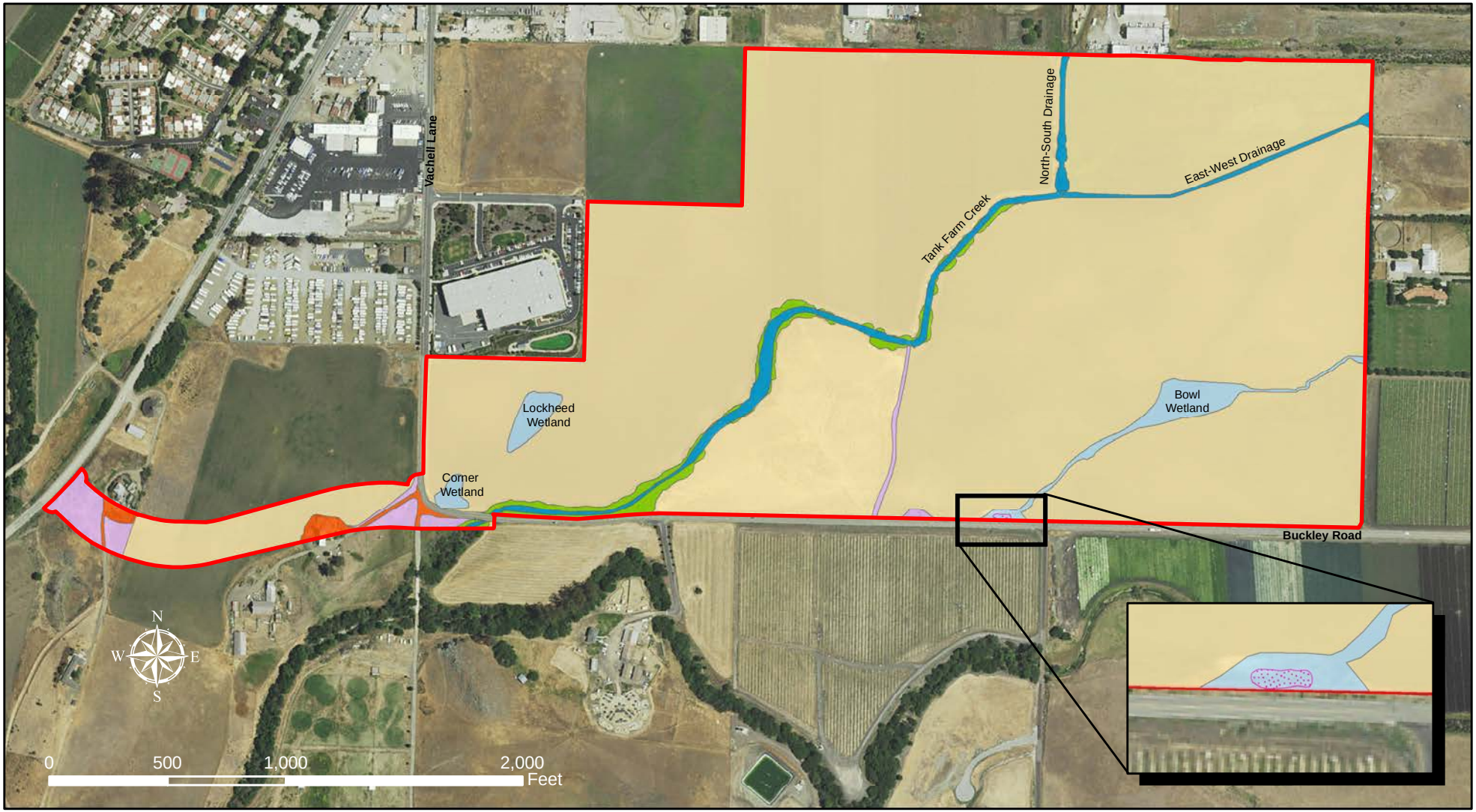
Figure 6. Biological Resources (Habitat) Map



Study Area
Agricultural Land- Farmed Wetland, State
Agricultural Land- Non-Wetland
Congdon's Tarplant
Developed
Riparian/Ephemeral Drainage- Federal Wetland
Riparian/Ephemeral Drainage- Willow Wetland, State
Ruderal/Disturbed

Avila Ranch
San Luis Obispo

2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: January 07, 2016, 12:06 PM

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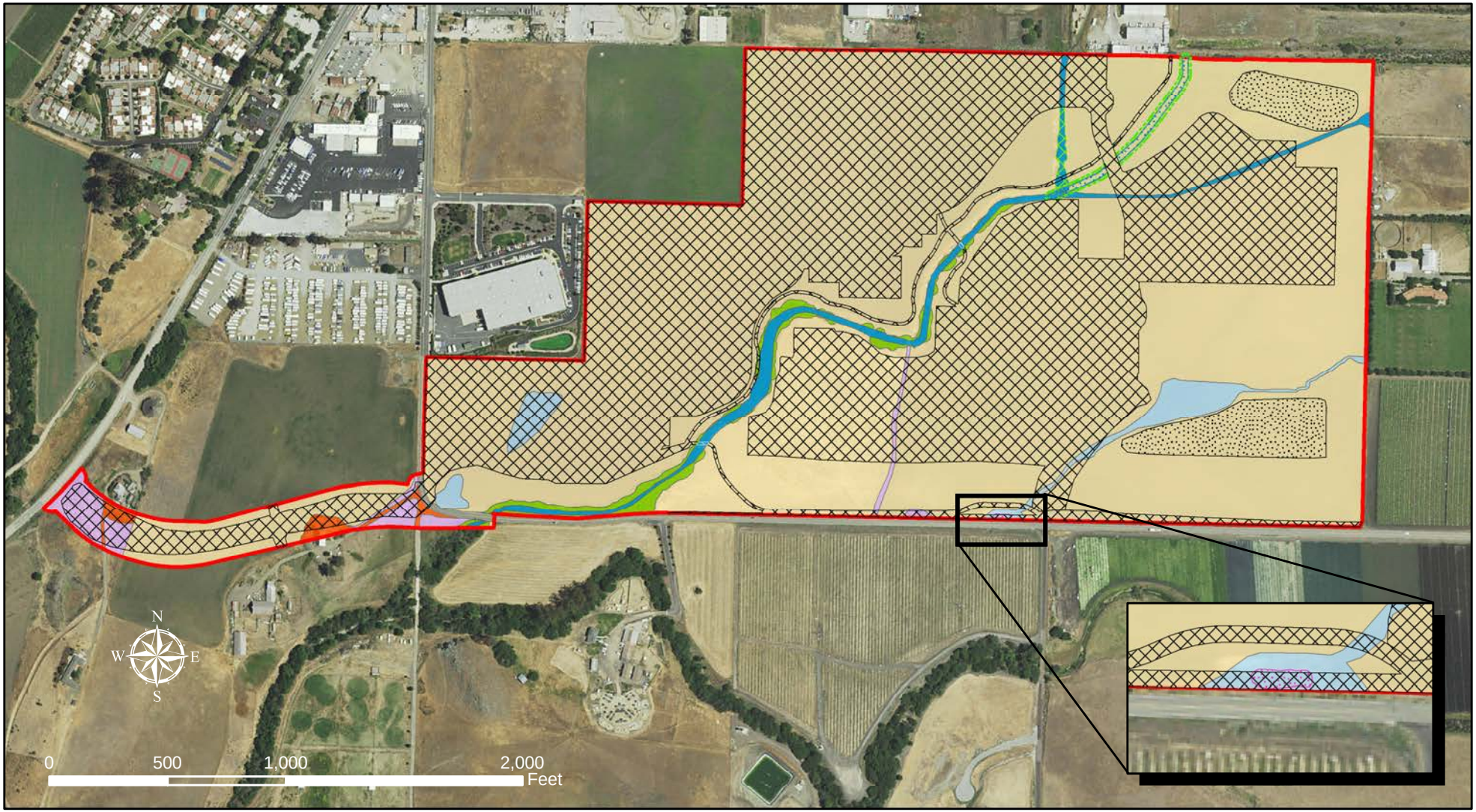
Figure 7. Biological Resources (Habitat) Impacts



Study Area

Impact Type
- Bridge
- Permanent
- Relocation
- Restored Channel
- Restored Riparian
- Temporary

Habitat Type
- Agricultural Land- Farmed Wetland, State
- Agricultural Land- Non-Wetland
- Congdon's Tarplant
- Developed
- Riparian/Ephemeral Drainage- Federal Wetland
- Riparian/Ephemeral Drainage- Willow Wetland, State
- Ruderal/Disturbed

Avila Ranch
San Luis Obispo

2014 San Luis Obispo County
NAIP Aerial Photography
Map Updated: December 31, 2015 11:46 AM

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12.0 Photographs

Photo 1. View of ruderal habitat at the proposed Buckley Road Extension near South Higuera Street. Photo taken 3/18/2014.

Photo 2. View northeast of plowed agricultural land, previously planted in safflower. Photo taken 2/27/2014.

Photo 3. View east of a disturbed patch of artichoke along northern border of the Study Area. Photo taken 2/27/2014.

Photo 4. View west of agricultural land and bordering ruderal habitat along Buckley Road to the south of the Study Area. Photo taken 2/27/2014.

Photo 5. View northeast of ephemeral wetland habitat supplied by nuisance water from neighboring facility (seen on left). Photo taken 2/27/2014.

Photo 6. View west of irrigated agricultural land found east of the seasonal drainage. Photo taken 2/27/2014.

Photo 7. Congdon's tarplant in a ruderal scrape at the southern end of the Study Area. Photo taken 6/26/2014.

Photo 8. Congdon's tarplant in a ruderal scrape at the southern end of the Study Area. Photo taken 5/28/2014.

Photo 9. View west of Wetland #3. Photo taken 1/14/2014.

Photo 10. View west of the developed habitat found at the site of the proposed Buckley Road extension. Photo taken 5/28/2014.

Photo 11. View south of Tank Farm Creek with aquatic and riparian vegetation. Photo taken 6/26/2014

Photo 12. Riparian vegetation is thick with arroyo willows throughout most of the habitat. Photo taken 6/26/2014

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Attachment A – Avila Ranch Development Plan

Avila Ranch Development Plan (RRM Design Group September 25, 2015; P-2)

AVILA RANCH DEVELOPMENT PLAN | Site Plan

0 100 200 400
SCALE: 1:200 (18"x24" sheet)

September 25, 2015
#1011023

rrm design group

P-2

Attachment B – Hydrology—Avila Ranch and San Luis Obispo Tank Farm Figures

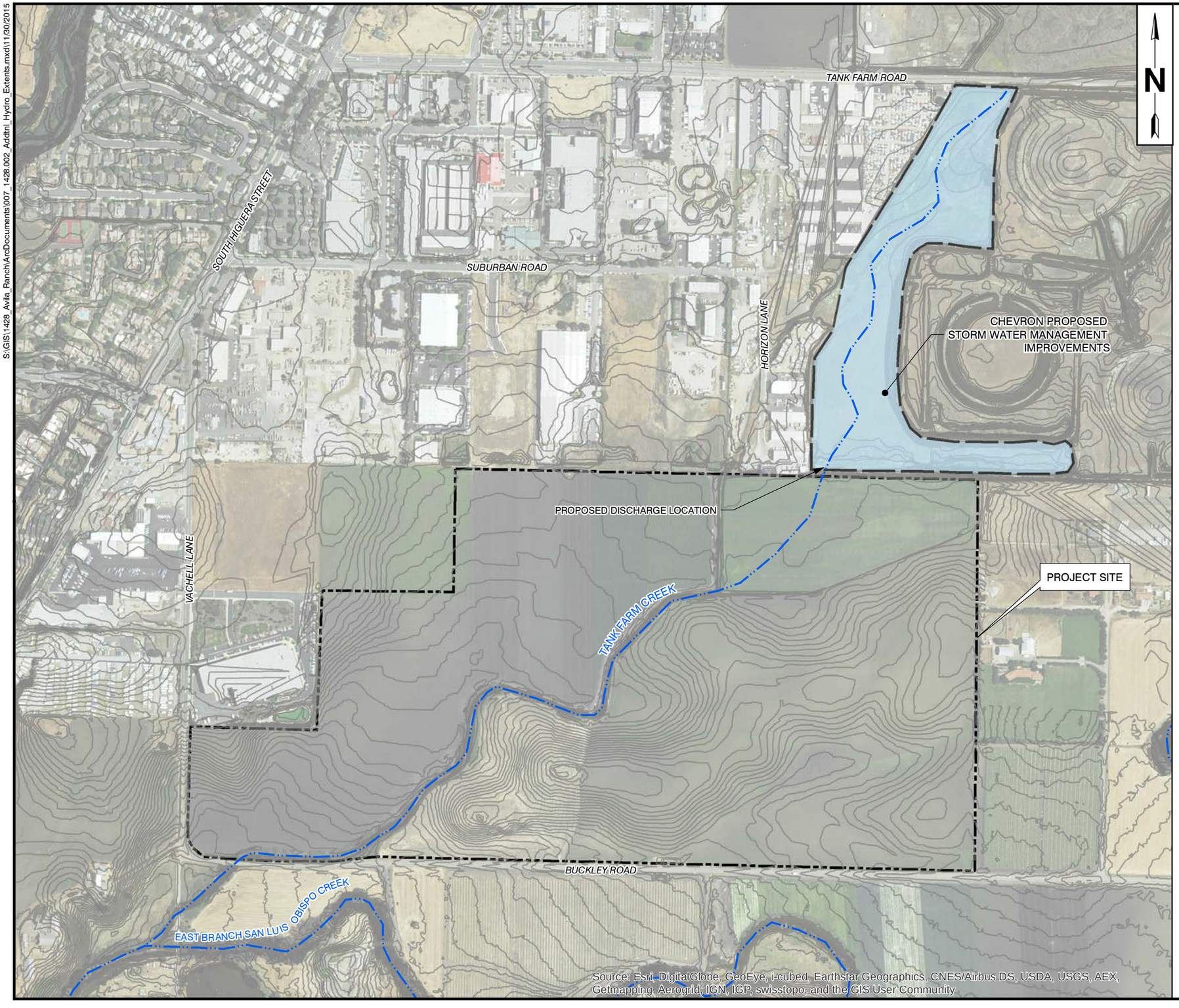
- Existing Drainage Conditions (Figure 2 dated 9/14/2015 from Cannon 2015 Avila Ranch Draft Drainage Report, December 17).
- Proposed Storm Water Management Improvements (Figure 2 from Avocet's December 1 Technical Memorandum included in the Cannon 2015 Drainage Report).
- Wetland Delineation for Avila Ranch (Exhibit A from Althouse and Meade December 2015)

Cannon

0 250 500 1,000 1,500 2,000
Feet

Figure 2
AVILA RANCH
EXISTING DRAINAGE CONDITIONS
9/14/2015

S:\GIS\1428_Avila_Ranch\ArcDocuments\007_1428.002_Addtnl_Hydro_Extents.mxd\11/30/2015



N

LEGEND

- CREEKS
- PROPOSED STORM WATER MANAGEMENT IMPROVEMENTS
- AVILA RANCH PROJECT BOUNDARY
- TOPOGRAPHIC CONTOURS

NOTE: THIS ANALYSIS ONLY CONSIDERS STORMWATER MANAGEMENT IMPROVEMENTS SOUTH OF TANK FARM ROAD ONLY. ADDITIONAL IMPROVEMENTS PROPSOED NORTH OF TANK FARM ROAD ARE BEYOND THE SCOPE OF THE CURRENT ANALYSIS.

0 250 500 1,000 Feet

APPROXIMATE SCALE

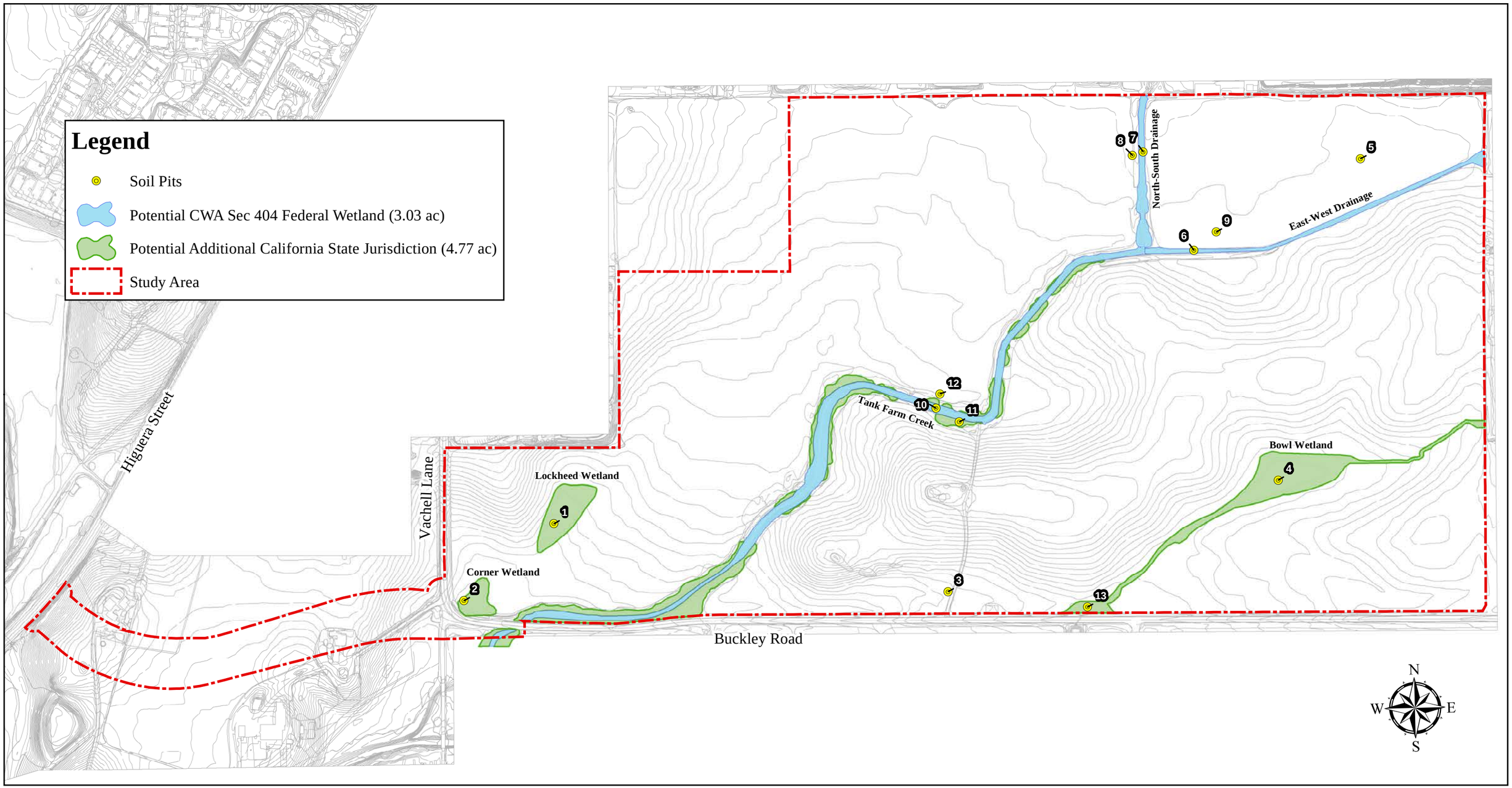
FIGURE 2

EXTENT OF ADDITIONAL HYDROLOGY INVESTIGATION

AVILA RANCH
ADDITIONAL HYDROLOGY SUPPORT
PREPARED FOR
CANNON
SAN LUIS OBISPO, CALIFORNIA

AVOCET ENVIRONMENTAL, INC.

Exhibit A. Delineation of Potentially Jurisdictional Wetlands and Waters



0 0.1 0.2 0.4 0.6 0.8 1 Mile

Avila Ranch LLC
San Luis Obispo, CA

Map Updated: December 31, 2015 04:16 PM

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BIOLOGICAL AND ENVIRONMENTAL SERVICES

Attachment C – Statement of Qualifications of Report Contributors

Althouse and Meade, Inc. Staff Qualifications

LynneDee Althouse, M.S. – Principal Scientist

LynneDee Althouse is a consulting biologist, restoration ecologist, botanist, soil scientist, and Clean Water Act specialist with extensive experience, having conducted hundreds of surveys and restoration projects in Santa Barbara, San Luis Obispo, Kern, Monterey, San Joaquin, Kings, and Ventura Counties.

LynneDee is an expert botanist and a soil scientist with a strong background in watershed ecology. She has extensive experience regarding the flora of central and coastal California, including the Carrizo Plain. She has been a lecturer in conservation planning at U.C. Santa Barbara, and has taught natural history and soil science at California Polytechnic State University, San Luis Obispo. She has trained many students and employees to become environmental professionals, including conservation planners and restoration ecologists.

LynneDee is an expert on permit compliance. She regularly works with the California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), State Parks, U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS), and the U.S. Army Corps of Engineers (USACE) regarding permitting issues, and frequently works with the California Coastal Commission (CCC) and County and City governments.

Mike Hill, M.S. – Steelhead & CRLF Biologist/Erosion Control Specialist/Regulatory Specialist

Mike has over 31 years of experience as a fisheries biologist and regulatory specialist, with an emphasis on streambed erosion. Mike earned his Bachelor of Science in Fisheries from Humboldt State University and his Masters of Science in Agriculture with a specialization in Soil Science from California Polytechnic State University at San Luis Obispo. He has extensive experience in permitting, particularly with preparing streambed alteration agreements including development of mitigation measures to ensure protection of resources as well as monitoring projects in process. He is an expert in watershed management and protection including site rehabilitation, erosion and sediment control practices, cumulative watershed effects, stream habitat assessment, and stream/riparian restoration techniques. Mike is also trained in wildlife observation and monitoring. He has been approved by USFWS to monitor San Joaquin kit fox and is qualified to conduct steelhead and California red-legged frog surveys. He has written numerous biological assessments, and is an expert in the preparation of environmental documents pursuant to CEQA. Mike is a Certified Fisheries Professional, Certified Professional in Erosion and Sediment Control, and a Qualified Storm Water Pollution Prevent Plan (SWPPP) Developer/Practitioner.

Jacqueline Tilligkeit, M.S. – GIS Manager / Wetlands Scientist

Jacqueline is A&M's Geographic Information Systems (GIS) Program Manager, a wetland and soil scientist, and a data manager with 9 years of experience. She earned her Bachelor of Science degree in Earth Science with a minor in Environmental Studies and a concentration in GIS from California Polytechnic State University, San Luis Obispo. In 2010 she returned to Cal Poly and received her Master of Science degree in Agriculture with a concentration in Soil Science studying physical properties of soil and their effect on erodibility. Additional previous research involved satellite imagery, forest health, air quality, chemical soil properties, and

erosion control. Jacqueline has experience since 2005 managing large spatial databases and producing high quality graphic maps for online applications, reports, brochures, posters, and field use. Jacqueline has experience with using Trimble GeoXTs for data collection, technical writing, spatial analysis, wildlife and construction monitoring, oak tree assessments, and wetland delineations.

Katie Tierney, M.S. – Rangeland Plant Scientist

Katie is a rangeland, plant, and animal scientist with experience in livestock and land management. She earned her Bachelor of Science degree in Animal Science with a minor in Rangeland Resource Management from California Polytechnic State University, San Luis Obispo. While earning her Master of Science degree in Animal and Range Sciences from Montana State University, Bozeman, she completed research on cattle grazing behavior and invasive weed management. Katie has experience with restoration and grazing plans, ruminant nutrition, invasive weed management, soil carbon sequestration, permit applications, GIS, environmental compliance, data management, and technical writing. She has worked on American beaver habitat studies, collected field data to map vegetation and plant communities in the Sierra Nevada Mountains, and has been a part of an international research trip on land and water management in China. Additional experience includes construction and wildlife monitoring for species such as the San Joaquin kit fox, American badger, and burrowing owl in the Carrizo Plain area.

Kyle Weichert, M.S. – Biologist

Kyle earned his Bachelor and Masters of Science degree in Biological Sciences from California Polytechnic State University, San Luis Obispo. His master's thesis involved a study of western fence lizard physiological ecology. Kyle has nine years' experience preparing biological report writing, conducting botanical and wildlife surveys, acoustic monitoring of bats, blunt-nose leopard lizard surveys (Level 1), rattlesnake handling and behavioral studies, avian surveys, small mammal trapping, spotlighting surveys, vegetation surveys, outreach and education, biological construction monitoring, and environmental compliance. He also has specific experience with San Joaquin kit fox, American badger, burrowing owl, California red-legged frog, rare plants, and infrared wildlife detection camera systems.