



BIOLOGICAL RESOURCES ASSESSMENT

**Rancho Road Cannabis Expansion Project
(APN: 090-241-003)
San Luis Obispo County, California**

Prepared for:
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“As a County-approved biologist, I hereby certify that this Biological Resources Assessment was prepared according to the guidelines established by the County of San Luis Obispo Department of Planning and Building and that the statements furnished in the report and associated maps are true and correct to the best of my knowledge and belief; and I further certify that I was present throughout the site visit(s) associated with this report.”

A handwritten signature in black ink, appearing to read "Amy Ray", is written over a horizontal line.

Signature line

28 August 2018

Date



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EXECUTIVE SUMMARY

This Biological Resources Assessment report was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) at the request of Helios Dayspring (owner) for the expansion of existing cannabis cultivation operations (project) located at 510 Rancho Road near the unincorporated community of Nipomo, San Luis Obispo County, California (APN: 090-241-003) (property). The proposed project includes the construction of two 22,000 square foot greenhouses for cannabis cultivation to be placed within a regularly farmed agricultural field and disturbed grassland. The project also includes a soil storage site and water tank. In addition, the project includes approximately 5 acres of existing hoop house structures for proposed and existing cannabis cultivation. The project has been designed to avoid impacts to areas of intact native habitat and sensitive resources to the greatest extent feasible.

Terra Verde staff completed a biological survey within the proposed project area on August 6, 2018, which will be used to inform and refine the design and planning phase. The survey area included the proposed project footprint and an approximate 50- to 100-foot buffer where access was feasible, and a visual scan of the surrounding areas. The survey included an inventory of botanical and wildlife species observed, including an assessment of habitat with a focus on the potential for special-status species to occur. Further, the survey included a preliminary jurisdictional assessment of hydrologic resources identified on site.

Suitable to marginally suitable habitat for a total of four special-status botanical species and four special-status wildlife species, as well as nesting birds, is present within the survey area. One California Department of Fish and Wildlife Special Animal, monarch butterfly (*Danaus plexippus*), was observed on site. This species is also a candidate for listing under the federal Endangered Species Act. No other special-status species were observed during the survey. Hydrologic resources on site include two U.S. Geological Survey (USGS) blue line streams and two ephemeral swales.

As currently designed, the potential for impacts to sensitive resources from construction of the greenhouses is considered low. Direct and indirect impacts to special-status wildlife could result from construction-related disturbances, such as trampling or crushing from vehicles and/or noise that may deter wildlife from the area. No direct impacts are proposed to the USGS blue line streams or the ephemeral swales, though indirect impacts (e.g., silt, sedimentation, and/or chemical run-off) may occur as a result of upland activities. No direct impacts to sensitive plants or habitats, including jurisdictional drainages or mature blue gum (*Eucalyptus globulus*) trees, are expected; however, indirect impacts have the potential to occur, particularly during the construction phase. A series of avoidance, minimization, and mitigation measures have been recommended to reduce potential impacts to a less than significant level.



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1.0 INTRODUCTION

This Biological Resources Assessment report was prepared by Terra Verde Environmental Consulting, LLC (Terra Verde) at the request of Helios Dayspring (owner) for the proposed expansion of existing cannabis cultivation operations (project) located at 510 Rancho Road (APN: 090-241-003) east of the unincorporated community of Nipomo, San Luis Obispo County, California (see Appendix A – Figure 1: Project Vicinity Map). Specifically, the proposed project includes existing hoop house structures currently being used for cannabis cultivation, the conversion of existing hoop houses for cultivation, as well as the establishment of new greenhouses where existing infrastructure does not currently exist. The existing hoop houses and the new proposed greenhouses are collectively referred to as the expansion area. The expansion area is split between a regularly farmed agricultural field and a disturbed (grazed and tilled) grassland. The farmed agricultural field and the disturbed grassland are located east of existing cannabis infrastructure (Site 1) and south of existing citrus orchards (Site 2), respectively. Site 1 will include utilizing existing hoop house structures. Site 2 will include the construction of new greenhouses for the blooming/flowering and drying phases (see Appendix A – Figure 2: Project Survey Area Map and Appendix B – Preliminary Site Plans). The proposed project includes the following components:

1. Convert existing hoop house structures to cannabis cultivation (Site 1).
2. Existing cannabis cultivation facilities (i.e., hoop houses) within a regularly farmed agricultural field at Site 1.
3. Construction of new water tank at Site 1.
4. Establish approximately one acre of new cannabis cultivation facilities within two 22,000 square foot greenhouses located in a disturbed grassland area immediately south of existing citrus orchards at Site 2.
5. Establish a soil storage location at Site 2.

The proposed project will establish a total of approximately six acres of cannabis cultivation within existing and proposed facilities (i.e., greenhouses and hoop houses). No tree trimming and/or removal of vegetation are expected to occur as a result of project activities within Site 1 or Site 2; however, if the disturbed grassland is left fallow for at least one growing season, vegetation removal may be necessary at Site 2. No new access roads or improvements to existing access roads are proposed as a part of this project. The current project design has been modified to avoid and/or minimize impacts to areas of intact native habitat and sensitive resources, to the extent feasible.

1.1 *Purpose of the Biological Resources Assessment*

The purpose of this report is to identify sensitive resources that occur, or have potential to occur, within the proposed project site and surrounding areas. A sensitive resource is defined here as one that is of management concern to local, county, state, and/or federal resource



agencies. Recommended avoidance and minimization measures have been provided in Section 4.2 and are intended to reduce potential impacts to sensitive resources to the extent feasible. As necessary, this report may be used to support the environmental review process and future project permitting.

1.2 Existing Conditions

The project area is located within the Nipomo U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle. It is situated between the unincorporated community of Nipomo and the foothills of the Temettate Ridge. Elevations within the survey area range from approximately 158 to 172 meters (518 to 563 feet). The majority of the project area consists of anthropogenic/disturbed areas including active agricultural fields and disturbed grasslands. The immediate surrounding area includes existing cannabis cultivation facilities, citrus orchards, and one residential home site. The regularly farmed agricultural field (Site 1) is partially covered with existing hoop house infrastructure with the remaining land open but supporting only limited vegetation cover due to ongoing agricultural operations. The disturbed grassland (Site 2) is moderately vegetated with non-native annual grasses and forbs (see Appendix A – Figure 2). A review of historical aerial imagery from Google Earth (1994-2018) indicates that the agricultural field has been regularly farmed since at least 1994 while the disturbed grassland has been historically grazed with new land disturbance (tilling) visible since 2016.

The immediate surrounding area consists primarily of undeveloped land (i.e., agriculture) with rural residential homes scattered throughout. Two unnamed ephemeral USGS blue line streams are present within the survey area, herein after referred to as Drainage 1 and Drainage 2. Drainage 1 borders the northern boundary of the survey area and Drainage 2 borders the southwestern boundary of the survey area. Both drainages originate in the eastern foothills of the Temettate Ridge, flowing southwest for approximately three miles before reaching Nipomo Creek and eventually the traditionally navigable waters of the Pacific Ocean. In addition, two ephemeral swales, here in after referred to as Swale 1 and Swale 2, are present west and southwest of the disturbed grassland (Site 2) and appear to eventually connect with Nipomo Creek.

2.0 METHODOLOGY

Prior to conducting the field survey, Terra Verde staff reviewed the following resources:

- Aerial photographs (Google Earth, 1994-2018) and project site plans
- USGS Nipomo 7.5-minute topographic quadrangle map
- Online Soil Survey of San Luis Obispo County, California (Natural Resources Conservation Service [NRCS], 2018)
- Consortium of California Herbaria (CCH) online database of plant collections (CCH, 2018)



- California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDDB) list of state and federally listed special-status species documented within the Nipomo 7.5-minute quadrangle and the surrounding eight quadrangles (Arroyo Grande NE, Caldwell Mesa, Guadalupe, Huasna Peak, Oceano, Santa Maria, Tar Spring Ridge, Twitchell Dam,) (CDFW, 2018)
- CNDDDB map of special-status species that have been documented within a 5-mile radius of the project site (CDFW, 2018) (see Appendix A – Figure 3: 5-mile CNDDDB Map)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants for the Nipomo 7.5-minute quadrangle and the surrounding eight quadrangles (CNPS, 2018a)
- U.S. Fish and Wildlife Service (USFWS) Critical Habitat Portal (USFWS, 2018a)
- USFWS National Wetland Inventory map (USFWS, 2018b)

A list of regionally-occurring, special-status species was compiled based on records reported in the scientific database queries (see Appendix C – Regionally-occurring Special-status Species Table). This species list was utilized to focus the field survey effort as well as to determine the appropriate survey period for special-status plant species with the potential to occur on site.

Following the literature review and desktop analysis, Terra Verde completed a survey on August 6, 2018, which focused on the identification of sensitive habitats and special-status plant and wildlife species, as well as an assessment of potentially jurisdictional features. Where the survey included existing cultivations sites, the survey area was limited to existing pads and an approximate 50-foot buffer. Where the survey included the proposed new expansion areas, the survey area included the entire proposed disturbance footprint, an approximate 100-foot buffer on all sides where access was feasible, and a visual scan of the surrounding habitat features (see Appendix A – Figure 2).

Table 1. Summary of Field Survey

Date	Survey Type	Staff	Site Conditions	Survey Area
August 6, 2018	Botanical and wildlife inventory, habitat assessment, preliminary jurisdictional determination	Riley Chestnut Amy Golub	Temp: 95-100 F Wind: 15-20 mph Visibility: Clear	Project site and buffer

The survey was pedestrian in nature and lasted approximately two hours. During the survey, all detected plant and wildlife species and their sign were documented (see Appendix D – Botanical and Wildlife Species Observed) and photographs were taken at representative locations (see Appendix E – Representative Site Photographs). Visibility was suitable to detect potentially occurring wildlife species during the survey. Botanical species identifications and taxonomic nomenclature followed *The Jepson Manual: Vascular Plants of California*, 2nd edition (Baldwin et al., 2012), as well as taxonomic updates provided in the Jepson eFlora (Jepson



eFlora, 2018). In addition, vegetation communities and land cover types were characterized, and natural communities were classified using the second edition of *A Manual of California Vegetation* (MCV) classification system (Sawyer et al., 2009).

The habitat requirements for each regionally-occurring, special-status species listed in Appendix C were analyzed and compared to the type and quality of habitats observed during the field survey. The potential for many species to occur within the project site was eliminated due to lack of suitable habitat, elevation, appropriate soils/substrate, and/or known distribution of the species. Special-status species for which suitable habitat was identified on site are discussed in-depth in the following section, and those determined to have no potential to occur based upon a lack of suitable habitat are not discussed any further in this Biological Resources Assessment.

2.1 Sufficiency of Biological Data

The field survey that Terra Verde conducted is of sufficient detail and biological expertise to identify potentially occurring special-status wildlife species and assess habitats and site conditions for the presence of sensitive resources and/or for the potential to support special-status species. However, surveys did not take place during the typical blooming period (i.e., April – June) for a majority of the special-status plants with potential to occur. However, it should be noted that a reference population of Pismo clarkia (*Clarkia speciosa* subsp. *immaculata*), a federally endangered and state rare species, was visited immediately prior to survey efforts and was observed to be in bloom. As such, it is assumed this species would have been detectable at the time of the survey.

Migratory and transient wildlife species such as many avian species and large mammals may only be seasonally present within the project area. Further, some species are nocturnal, and/or highly transient and may have not been detected during the survey effort. As such, recommendations have been made for the avoidance of sensitive species and resources deemed to have potential to occur, based on an assessment of habitat present at the site.

3.0 RESULTS

This section provides a summary and analysis of the background research and field survey results. The discussion includes a description of soils, terrestrial and aquatic habitat types, direct and indirect observations of wildlife and plant species, and a discussion of the potential for special-status species to occur. Any anticipated impacts to migration corridors and habitat connectivity are also discussed.

3.1 Habitats and Resources Observed

Overall, the survey area exhibited little variation in habitat types. In total, two soil units and three natural vegetation communities were documented within the survey area. The majority of the survey area consists of anthropogenic/disturbed areas immediately abutting natural



vegetation communities. Anthropogenic/disturbed land cover types and natural vegetation communities observed on site provide suitable to marginally suitable habitat for a variety of common and special-status plant and wildlife species.

3.1.1 Soils

The NRCS online soil report revealed two soil units within the survey area (see Appendix A – Figure 4: Soils Map). The primary characteristics of these soil units are described below.

Soil Unit 206: Santa Lucia very shaly clay loam; 9 to 15 percent slopes

The parent material of this soil type is residuum weathered acid shale. The drainage class of this unit is well drained, and it is composed mostly of very channery clay loam. This soil type tends to occur on backslope, summits and side slope hills at elevations between 30 and 762 meters. This soil type is not considered prime farmland.

Soil Unit 224: Zaca clay, 9 to 15 percent slopes

The parent material of this soil type is residuum weathered from calcareous mudstone, sandstone, and/or shale. The drainage class of this unit is well drained, and it is mostly composed of clay. This soil type tends to occur on backslope, summits, crests, and side slopes at elevations between 61 and 457 meters. This soil type is considered farmland of statewide importance.

3.1.2 Hydrologic Features

Drainages

As mentioned above, Drainages 1 and 2 and Swales 1 and 2 occur within the survey area. Drainage 1 appears to originate east of the project site and flows southwest for approximately three miles before eventually converging with Nipomo Creek (see Appendix A – Figure 5: Hydrological Resources Map). The drainage was observed with a well-defined bed and bank, evidence of an ordinary high water mark (OHWM) (debris wracking, scour, shelving, change in channel sediment texture [cobble channel bottom]), and connectivity to the traditionally navigable waters of the Pacific Ocean via Nipomo Creek. Drainage 1 was dominated by blue gum (*Eucalyptus globulus*), with scattered elderberry (*Sambucus nigra* subsp. *caerulea*) and coast live oak (*Quercus agrifolia*) in the canopy layer and poison oak (*Toxicodendron diversilobum*) in the understory. No flowing water was present within the drainage at the time of the survey.

Drainage 2 originates northeast of the property and connects with Nipomo Creek south of the project site. This drainage also exhibited a well-defined bed and bank, evidence of an OHWM (debris wracking, scour, shelving), and connectivity to traditionally navigable waters of the Pacific Ocean via Nipomo Creek. Drainage 2 was dominated by poison hemlock (*Conium maculatum*), with scattered patches of arroyo willow (*Salix lasiolepis*). No flowing water was present within the drainage at the time of the survey.



Swales

Swales 1 and 2 also appear to connect with Nipomo Creek south of the project site. Based on the topographic map, Swale 1 is the headwaters of a USGS blue line stream located south of the project area. Further, USFWS wetland inventory maps indicate that this feature is identified as a riverine wetland. However, within the project area, Swale 1 was particularly difficult to identify in the landscape, lacking a well-defined bed and bank, and was observed with similar vegetation (i.e., non-native grasses) to upland areas. Swale 2 was slightly more defined in the landscape, though also lacked evidence of a well-defined bed and bank and a difference in vegetation as compared to upland areas. No flowing water was present within either of the swales at the time of the survey and neither displayed an OHWM. Thus, it is unlikely that these two swales would be considered jurisdictional by the regulatory agencies.

3.1.3 Vegetation Communities

Vegetation communities and land cover types were assessed and classified based on vegetation composition, structure, and density. A majority of the survey area consists of sparse, ruderal vegetation, which is subject to regular and ongoing anthropogenic disturbance (farming and grazing). Natural vegetation communities and habitats occur immediately outside of the disturbed areas in association with the two blue line drainages and the disturbed grassland on site. The overall survey area included the following natural vegetation communities: eucalyptus grove, poison hemlock patch, and perennial rye grass fields (see Appendix A – Figure 6: Vegetation Communities Map). All natural vegetation communities and land cover types identified within the survey area are described in further detail below.

A total of 38 vascular plant species have been identified within the survey area, of which 30 (78 percent) are non-native and 15 (39 percent) are listed on the California Invasive Plant Council's Invasive Plant Inventory. A majority of the survey area consisted of maintained, anthropogenic landscapes, which is reflected by the limited number of taxa documented as well as the large proportion of non-native, invasive taxa observed.

Anthropogenic / Developed (10.15 acres)

This land cover type was observed within Site 1 and throughout the northern portion of the survey area and describes areas with sparse vegetation cover, or areas occupied by anthropogenic structures and void of vegetation. Specifically, existing structures including hoop houses and buildings are included in this land cover type, as well as dirt ranch roads and paved roads.

This land cover type does not correspond to a natural vegetation community though provides marginally suitable habitat.

Active Agriculture (4.91 acres)

This land cover type was observed in the surrounding existing anthropogenic infrastructure within Site 1. This area supports minimal or weedy vegetation and is characterized by regular,



ongoing anthropogenic disturbances (i.e., tilling). This area generally provides the same type and quality of habitat throughout. At the time of the survey, the agriculture field was void of vegetation and did not provide any cover.

This land cover type does not correspond to a natural vegetation community in the MCV classification system but may provide marginally suitable habitat for ground-nesting birds and wildlife foraging and cover if left fallow.

Eucalyptus Groves (2.75 acres)

The eucalyptus grove was observed in the northern portion of the survey area in association with Drainage 1 and along the fence line of the agricultural field. As described in Section 3.1.2, Drainage 1 is dominated by eucalyptus trees with sparse occurrences of blue elderberry and coast live oak in the canopy and western poison oak in the understory. Herbaceous cover in this community is limited with smilo grass (*Smilo miliacea*), lamb's quarters (*Chenopodium album*), and poison hemlock observed in sparse cover.

This species composition was used in determining the vegetation community classification, which most closely corresponds with the *Eucalyptus* spp. – *Ailanthus altissima* – *Robinia pseudoacacia* Woodland Natural Alliance (Eucalyptus – tree of heaven – black locust grove) in the MCV classification system. This community occurs throughout California, planted as trees, groves, and windbreaks. This community is naturalized in uplands and bottomlands and occurs adjacent to stream courses, lakes, or on levees below 1,900 meters. This community provides habitat for nesting birds, small mammals, reptiles, and other wildlife.

Poison Hemlock Patch (0.76 acre)

The poison hemlock patch was observed in the southeastern portion of the survey area in association with Drainage 2. The community is dominated by poison hemlock with sparse occurrences of coyote brush (*Baccharis pilularis*) and remnant arroyo willows scattered throughout. The vegetation cover within this community is dense with little species diversity.

This species composition was used in determining the vegetation community classification, which most closely corresponds with the *Conium maculatum* – *Foeniculum vulgare* Herbaceous Semi-Natural Alliance (Poison hemlock or fennel patches) in the MCV classification system. This community occurs throughout California in all topographies including wetlands at elevations below 1,000 meters. This community provides habitat for nesting birds, small mammals, reptiles, and other wildlife.

Perennial Rye Grass Fields (11.21 acres)

The perennial rye grass field was observed within the disturbed grassland located in the southern portion of the survey area where the greenhouse cultivation area is proposed (Site 2). This community was dominated by rye grass (*Festuca perennis*) with Mediterranean hoary mustard (*Hirschfeldia incana*) as a co-dominant and sparse occurrences of curly dock (*Rumex crispus*) scattered throughout. This community supported substantially more vegetation cover



as compared to the agricultural field located in the eastern portion of the survey area, likely due to a difference in past land use (i.e., grazing and/or tilling vs. regular agriculture).

The species composition observed at the time of the survey was used in determining the vegetation community classification, which most closely corresponds with the *Lolium perenne* Herbaceous Semi-Natural Alliance (Perennial rye grass fields) in the MCV classification system. This community occurs throughout California in lowlands with periodic flooding and disked fields at elevations below 1,000 meters. This community provides habitat for nesting birds, small mammals, reptiles, and other wildlife.

Ruderal Herbaceous (14.7 acres)

This land cover type was observed in an agricultural field located in the eastern portion of the survey area where existing and proposed hoop houses are to be located (Site 1). This land cover type describes areas supporting minimal or weedy vegetation and is characterized by regular, ongoing anthropogenic disturbances (i.e., regular agriculture). This area varied somewhat in species composition and cover, but generally provides the same type and quality of habitat throughout. At the time of the survey, vegetation cover was sparse and was comprised of non-native weedy species including Mediterranean hoary mustard, white horehound (*Marrubium vulgare*), lamb's quarters, and wall barley (*Hordeum murinum*). Where hoop house structures were present, vegetation cover was absent. The lack of vegetation cover and dominance of non-native, weedy species reflect the historic and ongoing anthropogenic disturbance in this area.

This land cover type does not correspond to a natural vegetation community in the MCV classification system, but may provide marginally suitable habitat for ground-nesting birds and wildlife foraging and cover.

3.1.4 Wildlife

The terrestrial habitat observed within and adjacent to the survey area provides suitable habitat for a variety of common and special-status wildlife species. In particular, the stands of mature blue gum trees adjacent to the survey area provides suitable nesting opportunity for a variety of nesting raptor species. Non-native grassland habitat observed within and adjacent to the survey areas may also provide suitable habitat for ground nesting birds and transient species foraging in the area.

During the field survey, all invertebrate and vertebrate species observed, including those detected by indirect sign (i.e., tracks, scat, skeletal remains, dens, burrows, or vocalizations) were documented. Numerous avian species were observed, including California scrub jay (*Aphelocoma californica*) and red-tailed hawk (*Buteo jamaicensis*). California ground squirrel (*Otospermophilus beecheyi*) and Botta's pocket gopher (*Thomomys bottae*) were also observed throughout the survey area. Monarch butterfly (*Danaus plexippus*), was also observed on site. A



comprehensive list of all the wildlife species observed within the survey area is included in Appendix C.

3.2 Sensitive Resources

The results of the desktop research of the area surrounding the proposed project site indicated that 5 sensitive natural communities, 60 special-status plant species, and 34 special-status wildlife species occur regionally. A review of the habitat requirements for each of these species in comparison with site conditions narrowed the list to 4 sensitive plants and 4 sensitive wildlife species that have potential to occur within the overall survey area. Based on a lack of diagnostic species and/or substrate, no other sensitive natural communities are expected to occur. Those sensitive species determined to have a potential to occur on site are discussed further below.

3.2.1 Special-status Plant Species

The surveys completed within the proposed project areas occurred outside the typical blooming period for a majority of regionally-occurring special-status plant species. As such, the potential for special-status plants to occur within the survey area is based on the presence of potentially suitable habitat, proximity to nearby CNDDDB documented occurrences, and local biological knowledge. Based on this evaluation and a review of the relevant literature, it was determined that four special-status plant species have a low potential to occur within the overall project and survey area, unless their absence can be confirmed through appropriately timed surveys. Special-status plant species include those that are listed as threatened or endangered on the California or federal Endangered Species Acts, as well as those that are assigned a CRPR by the CNPS. The CRPR listing statuses are based on the degree of rarity (Lists 1A through 4) and threat level (0.1, 0.2, and 0.3) as designated by CNPS (CNPS, 2018b).

The following paragraphs provide a description of the special-status plant species that have potential to occur on site.

Miles' Milk-vetch (*Astragalus didymocarpus* var. *milesianus*), CRPR 1B.2

Miles' milk-vetch is an annual herb that is endemic to the central and southern coast of California. Its known range is concentrated along the Outer South Coast Ranges of San Luis Obispo and Santa Barbara Counties. This species typically occurs in clay soils in association with grassy areas and scrub near the coast. It has been documented at elevations below 400 meters and the typical blooming period is from March to May (Jepson eFlora, 2018). Documented threats to this species include development (CNPS, 2018a). According to CNDDDB records (CDFW 2018), the nearest documented occurrence was recorded in 1936 and is greater than five miles northeast of the project site. Although marginally suitable habitat for this species is present within the perennial rye grass fields on site, the lack of recent nearby documented occurrences and disturbed conditions within the perennial rye grass fields make it unlikely for this species to occur. As such, this species is not expected to occur.



Cambria Morning-glory (*Calystegia subacaulis* subsp. *episcopalis*), CRPR 4.2

Cambria morning-glory is a perennial herb that is endemic to central California. Its known range is concentrated along the coastal ridges and foothills of the Outer South Coast Ranges of San Luis Obispo County. This species typically occurs in clay soils in association with various vegetation communities including grassland, chaparral, and woodland. It has been documented at elevations up to 500 meters and is known to tolerate disturbance. The typical blooming period is from April to June (Jepson eFlora, 2018). Documented threats to this species include development, alteration of fire regimes, and competition from non-native species (CNPS, 2018a). According to CCH records (2018), the nearest documented occurrence of this species is a herbarium specimen collected in 2006 approximately three miles northwest of the project site. This species was not observed during the survey effort; however, the survey was conducted outside of the typical blooming period for this species. At the time of the survey, the perennial rye grass field (Site 2) appeared to provide marginally suitable habitat for this species due to a lack of recent tilling and/or grazing activities. If standard land management practices are consistently implemented (i.e., tilling and grazing), the potential for this species to occur is considered low.

Based on the presence of marginally suitable habitat at the time of the survey, it is evident that the disturbed grassland has potential to provide marginally suitable habitat for this species. As such, recommended avoidance and minimization measures are provided in Section 4.2 below.

Small-flowered Morning-glory (*Convolvulus simulans*), CRPR 4.2

Small-flowered morning-glory is an annual herb that is native to California and Baja California. Known populations are concentrated along the southern coast of California between Los Angeles and Baja, with scattered populations occurring throughout the Inner and Outer South Coast Ranges and in the Sierra Nevada foothills. This species typically occurs on clay soils in grassland, coastal sage scrub, and chaparral communities at elevations ranging from 30 to 875 meters. The typical blooming period is from April to June (Jepson eFlora, 2018). According to CCH (2018) records, the nearest documented occurrence of this species is a herbarium specimen collected in 1998 approximately 15 miles southeast of the project site. Although marginally suitable habitat for this species is present on site, the lack of nearby documented occurrences makes it unlikely for this species to occur.

Black-flowered Figwort (*Scrophularia atrata*), CRPR 1B.2

Black-flowered figwort is a perennial herb that is endemic to San Luis Obispo and Santa Barbara Counties. It occurs along the immediate coast in calcium- and diatom-rich soils in association with various habitats, including chaparral, coastal dunes, coastal scrub, riparian scrub, and closed-cone coniferous forest. It has been documented at elevations below 400 meters. The typical blooming period is from April to July (Jepson eFlora, 2018). Documented threats to this species include energy development and mining (CNPS, 2018a). According to CNDDDB records (CDFW, 2018), the nearest documented occurrence of this species is greater than five miles northwest of the project site. Although marginally suitable habitat for this species is present



within the drainages on site, the lack of nearby documented occurrences and dominance of non-native species along the banks of Drainage 1 and 2 makes it unlikely for this species to occur. As such, this species is not expected to occur.

3.2.2 Special-status Wildlife Species

A list and description of the four sensitive wildlife species with potential to occur, including a description of their habitats, conservation status, and their likelihood for occurrence within the survey area, is provided below.

Sensitive Mammal Species

Pallid Bat (*Antrozous pallidus*), State Status – Species of Special Concern (CSC)

Pallid bat is common at low elevations throughout California and occurs in a variety of habitats including grasslands, shrublands, woodlands, and mixed conifer forest. This species is most common in open, dry habitats with rocky areas for roosting, but may occasionally have day roosts in hollow trees and buildings. Night roosts generally occur in more open areas such as porches and open buildings (Zeiner et al., 1988-1990a).

According to CNDDDB records (CDFW, 2018), there is a single documented occurrence of this species approximately 13 miles southeast of the site. Suitable roosting habitat is present in the cavities of coast live oak trees along the northern end of the survey area, as well as within the crevices of existing man-made structures on site. As such, recommended avoidance and minimization measures are provided in Section 4.2 below.

American Badger (*Taxidea taxus*); State Status – CSC

American badger is a non-migratory species that occurs throughout most of California. This species is highly mobile, can occupy a variety of habitat types, and generally occurs in grasslands, meadows, savannahs, open-canopy, desert scrub, and open chaparral. This species requires friable soils in areas with low to moderate slopes (Zeiner et al., 1988-1990b).

According to CNDDDB records (CDFW, 2018), this species has been documented approximately eight miles east of the project site. Suitable habitat, as well as a prey base (e.g., pocket gopher and squirrel), is present for this species within the grasslands surrounding the existing hoop house structures and within Site 2. As such, there is potential for this species to be encountered on site. Recommended avoidance and minimization measures are provided in Section 4.2 below.

Sensitive Reptile Species

Northern California Legless Lizard (*Anniella pulchra*), State Status – CSC

Northern California legless lizard is known to occur from the northern end of the San Joaquin Valley, south through the Inner and Outer South Coast Ranges at elevations below 1,800 meters (Nafis, 2018). This species requires sandy or loose loamy soils within coastal dune scrub, coastal sage scrub, chaparral, woodland, riparian, or forest habitats. It requires cover such as logs, leaf litter, or rocks and will cover itself with loose soil. Relatively little is known about the specific



behavior and ecology of this species, but it is thought to be a diurnal species that breeds between the months of March and July. It gives birth to live young in the early fall. Population declines have been attributed to agricultural development, sand mining, use of off-road recreational vehicles, and habitat loss through the spread of invasive, non-native vegetation such as iceplant (*Carpobrotus* spp.) (Zeiner et al., 1988-1990c).

According to CNDDDB records (CDFW, 2018), the nearest documented occurrence of this species is approximately 4.6 miles northwest of the project area. Blue gum tree stands and riparian habitat containing downed woody debris and leaf litter in the northern portion of the project area may provide suitable habitat for this species. As such, recommended avoidance and minimization measures are provided in Section 4.2 below.

Sensitive Invertebrate Species

Monarch Butterfly (*Danaus plexippus*); State Special Animal (Overwintering); Federal Candidate Species

Monarch butterflies begin migrating in early November to over-wintering sites in southern California and Mexico. They fly north for breeding as milkweeds (*Asclepias* spp.) come into bloom in the spring. Wintering monarchs have very specific habitat requirements for overwintering sites, including dappled sunlight, high humidity, fresh water, and an absence of freezing temperature or high winds (Sakai and Calvert, 1991). Overwintering sites are typically located within 1.5 miles of the Pacific Ocean, in areas with moderate temperatures. In central and southern California, they typically aggregate on Monterey pine (*Pinus radiata*) and blue gum trees (Xerces Society, 2017).

According to CNDDDB (CDFW, 2018) records, several overwintering populations of monarchs have been documented within a 5-mile radius of the project site. One individual monarch butterfly was observed by Terra Verde during the August 2018 field survey. It is unknown whether the site currently supports an overwintering population; however, suitable habitat is present within blue gum stands on site. As such, recommended avoidance and minimization measures are provided in Section 4.2 below which will avoid or minimize potential impacts to overwintering monarch butterflies if they are present.

Migratory Nesting Birds and Sensitive Avian Species

Migratory Nesting Birds

In addition to those species protected by the state or federal government, all native avian species are protected by state and federal legislature, most notably the Migratory Bird Treaty Act and the California Fish and Game Code. Collectively, these and other international regulations make it unlawful to collect, sell, pursue, hunt, or kill native migratory birds, their eggs, nests, or any parts thereof.

Avian species can be expected to occur within the project area during all seasons and throughout construction of the proposed project. The potential to disrupt these species is highest February 1 through September 15, when nests are likely to be active and eggs and



young are present. Grassland habitat provides particularly suitable habitat for common passerines and ground nesting birds, while the blue gum stands provide suitable nesting habitat for raptors. Recommended avoidance and mitigation measures for the protection of migratory nesting birds are provided in Section 4.2 below.

3.2.3 Sensitive Habitats

Federal and State Waters and Wetlands

As mentioned above, two USGS blue line streams and two swale features occur within the survey area. Drainages 1 and 2 exhibited a well-defined bed and bank, evidence of an OHWM, and a significant nexus to traditionally navigable waters of the U.S. (i.e., the Pacific Ocean via Nipomo Creek). Based on the above, these streams fall within the jurisdiction of the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and CDFW. If impacted, these streams would be subject to regulatory agency permitting pursuant Section 401/404 of the Clean Water Act and Section 1602 of the Fish and Game Code.

Swales 1 and 2 lacked evidence of a well-defined bed and bank or evidence of an OHWM. As such, it is unlikely that either of these features would be considered jurisdictional under CDFW, Regional Water Quality Control Board, or the U.S. Army Corp of Engineers.

No wetlands were observed within the survey area.

USFWS-designated Critical Habitats

No USFWS-designated critical habitat for federally threatened or endangered species occurs within the project area.

3.3 Habitat Connectivity

Maintaining connectivity between areas of suitable habitat is critical for dispersal, migration, foraging, and genetic health of plant and wildlife species. The project site is located approximately 11 miles west of the Los Padres National Forest, outside of Nipomo, California. The project site is located in a semi-rural area of San Luis Obispo County, beyond the community of Nipomo, surrounded by agricultural operations and rural residences. Existing barriers to migration to and from non-developed portions of the project site, particularly for wildlife, are influenced by the high density of agriculture in the region, which typically correlates with a high frequency of land manipulation, wildlife-exclusion fences, and pest management activities. As a result, natural habitat features are currently fragmented on all sides of the project site.

New localized barriers may be created by the conversion of the grassland and open agricultural fields to permanent or semi-permanent structures, which may deter general wildlife movement through the area; however, no large-scale passage barriers are proposed. The proposed project is not expected to increase the overall level of fragmentation in the region. No passage barriers through aquatic features are proposed as a part of the project.



4.0 IMPACT ASSESSMENT AND MITIGATION

4.1 *Summary of Potential Impacts*

The proposed project has the potential to directly and/or indirectly impact sensitive resources including special-status wildlife species, special-status plants, sensitive habitats (i.e., jurisdictional features), and nesting birds. Direct impacts to sensitive resources could result from injury or death via project-related disturbances such as trampling or crushing from vehicles or other project activities. Short-term indirect impacts to sensitive biological resources could result from project-related noise, harassment, dust emissions, silt and sedimentation, or other disruption during project activities. Potential long-term direct and indirect impacts to wildlife may occur as a result of pesticide and rodenticide use to control unwanted pests, agricultural chemical use, loss of habitat, and increased long-term anthropogenic activities. As long as the disturbed grassland (Site 2) continues to be maintained utilizing standard land use management practices (i.e., repeated cycles of grazing and tilling), no vegetation removal or trimming will be necessary at this location. However, if the disturbed grassland is allowed to go fallow without grazing or tilling for at least one growing season, herbaceous vegetation removal may be necessary at this location.

The total area of new proposed disturbance is expected to be six acres.

4.1.1 **Impacts to Special-status Plants**

Special-status Plants

No special-status plants were documented within the survey area during the site survey, which occurred outside the typical blooming period (April – June) for a majority of special-status species with potential to occur. Marginally suitable habitat for Cambria morning-glory was observed within the perennial rye grass fields (Site 2) at the time of the survey; however, it is expected that suitable conditions may not be consistently present on site as a result of ongoing agricultural activities. It is expected that these activities would reduce the potential for this species to establish and/or persist in the project area. If land management practices change and grassland habitat is present prior to the start of construction activities within Site 2, Cambria morning-glory may become established and be directly and/or indirectly impacted by project activities. Direct impacts to Cambria morning-glory may occur if the seed bank is reduced or mature individuals are removed during project implementation.

4.1.2 **Impacts to Special-status Wildlife**

American Badger

Direct impacts to American badger may occur as a result of construction related activities including crushing, trampling, and/or entombment. Increased short-and long-term anthropogenic activity in the vicinity of viable populations located outside of project area also



have a potential to indirectly impact these species by removal of habitat and potential primary and secondary exposure to agricultural chemicals including rodenticides.

Pallid Bat and Northern California Legless Lizard

As designed, no direct impacts to these species are expected to occur as a result of project related activities. If project designs change and impacts occur to the understory of blue gum trees or any trees or buildings containing roosting cavities, direct and indirect impacts may occur as a result of project-related disturbances or removal of habitat. Further, potential exposure to agricultural chemicals may have indirect and direct impacts on these special-status species.

Monarch Butterfly

Overwintering habitat is present for monarch butterflies within stands of blue gum trees along the northern boundary of the project site. Impacts to this species may occur as a result of dust impacts during construction. As currently designed, no modification or removal of suitable overwintering habitat is expected to occur.

Sensitive and Nesting Birds

Direct impacts to bird species are most likely to occur if construction activities take place during the typical avian nesting season, generally February 1 through September 15. No tree trimming/removals are proposed as a part of the project. However, direct and indirect impacts may occur due to habitat loss at Site 2 (e.g., perennial rye grass fields) or project-related disturbances that may deter nesting or cause nests to fail.

4.1.3 Impacts to Sensitive Communities and Habitats

Federal and State Waters and Wetlands

The drainages and swale features are the only hydrologic resources present within the survey area. Based on the presence of a well-defined bed and bank, evidence of an OHWM, and a significant nexus to traditionally navigable waters, both Drainages 1 and 2 are considered waters of the state and waters of the U.S. Though no direct impacts are proposed to the drainages, indirect impacts may occur to waters of the state and waters of the U.S. as a result of silt and sedimentation from project activities.

4.2 Recommended Avoidance, Minimization, and Mitigation Measures

The following avoidance, minimization, and mitigation measures are recommended to reduce the anticipated impacts to the maximum extent feasible.



4.2.1 General Avoidance and Minimization Measures

Measure 1: Site Maintenance and General Operations

The following general measures are recommended to minimize impacts during active construction:

- The use of heavy equipment and vehicles shall be limited to the proposed project limits and defined staging areas/access points. The boundaries of each work area shall be clearly defined and marked with high visibility fencing. No work shall occur outside these limits.
- Signs shall be posted at the boundary of the work area adjacent to Drainage 1 and Drainage 2 indicating the presence of sensitive resources.
- Staging of equipment and materials shall occur in designated areas at least 50 feet from drainages or swales.
- Secondary containment such as drip pans shall be used to prevent leaks and spills of potential contaminants.
- Washing of concrete, paint, or equipment, and refueling and maintenance of equipment shall occur at least 50 feet from drainages or swales. Sandbags and/or absorbent pads shall be available to prevent spilled fuel from leaving the site.
- Any chemicals used shall be prevented from entering drainages or swales.
- Construction equipment shall be inspected by the operator daily to ensure that equipment is in good working order and no fuel or lubricant leaks are present.

4.2.2 Recommendations for Avoiding Impacts to Special-status Plants

Measure 2: Survey for Special-status Plants

If suitable habitat for Cambria morning-glory is present within the perennial rye grass fields during the spring season immediately prior to the start of project activities, an appropriately-timed botanical survey shall be conducted by a qualified botanist during the typical blooming period (i.e., April – June) for the species. The survey shall be conducted in all areas proposed for temporary or permanent construction activity, including temporary access roads, staging yards, and laydown areas, and shall include the following:

- As a primary goal, any sensitive plant species encountered during the survey(s) shall be flagged for avoidance, and construction activities shall avoid the marked areas to the maximum extent feasible.
- If no special-status plants are observed, no further action is required.
- If sensitive plant individuals or populations are identified on site and cannot be avoided during construction (i.e., if avoidance is deemed infeasible), a topsoil salvage plan shall be developed prior to the onset of construction and implemented during construction. The topsoil salvage plan shall, at a minimum, provide details of topsoil salvage procedures and location of proposed topsoil placement.



4.2.3 Recommendations for Avoiding Impacts to Special-status Wildlife

Measure 3: Preconstruction Survey for American Badger

A qualified biologist shall conduct a pre-activity survey within 30 days prior to the start of greenhouse construction to ensure American badger are not present during the start of construction. If dens are discovered, they will be inspected to determine if they are currently occupied. If dens are determined to be inactive by the qualified biologist, they will be excavated by hand to prevent re-occupation prior to construction. If the qualified biologist determines that potential dens may be active during the non-breeding season, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage the use of these dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five-day period. After the qualified biologist determines that badgers have stopped using active dens within the project boundary, the dens shall be hand-excavated with a shovel to prevent re-use during construction. If badgers are found during their breeding and rearing season (May to December), dens shall be avoided by a 150-foot buffer to protect them from construction activities. If these dens cannot be avoided after the breeding season has concluded, the above procedure will be followed.

Measure 4: Surveys and Protection for Monarch Butterfly

If work is scheduled to occur during the monarch butterfly overwintering period (November to February) within 50 feet of *Eucalyptus* sp. trees, a qualified biologist shall survey the tree grove for any roosting butterflies. If roosting butterflies are detected, a 50-foot buffer shall be placed around the grove and the following dust control measures shall be implemented to avoid and/or minimize dust emission impacts. If no roosting butterflies are found, then no further action is needed.

During any clearing and earth moving operations, water trucks or sprinkler systems shall be used in sufficient quantities to significantly reduce dust from leaving the site. Increased watering frequency will be required whenever there are high wind conditions. The entire area of disturbed soil shall be wet down in such a manner as to create a crust at the end of each day's activities.



Measure 5: Preconstruction Survey for Sensitive and Nesting Birds

If work is planned to occur between February 1 and September 15, a qualified biologist shall survey the new proposed expansion area for nesting birds within one week prior to activity beginning on site. If nesting birds are located on site, they shall be avoided until they have successfully fledged or the nest is no longer deemed active. A non-disturbance buffer of 50 feet will be placed around non-listed, passerine species, and a 250-foot buffer will be implemented for raptor species. All activity will remain outside of that buffer until a qualified biologist has determined that the young have fledged or that proposed construction activities would not cause adverse impacts to the nest, adults, eggs, or young. If special-status avian species are identified, no work will begin until an appropriate buffer is determined in consultation with the CDFW, and/or the USFWS.

4.2.4 Recommendations for Avoiding Impacts to Sensitive Habitats

Measure 6: Avoidance and Protection of Federal and State Waters and Wetlands

All proposed permanent and/or temporary features shall be located a minimum of 50 feet from the edge of the drainages. If work must occur during the rainy season, temporary stabilization Best Management Practices (BMPs) shall be implemented, as necessary, to prevent erosion and sedimentation into the drainages and swales. Acceptable stabilization methods include the use of weed-free, natural fiber (i.e., non-monofilament) fiber rolls, jute or coir netting, and/or other industry standard BMPs. The BMPs shall be installed and maintained until the disturbance areas are stabilized.

5.0 CONCLUSION

In total, it was determined that suitable habitat exists on site for four special-status plant species and four special-status wildlife species, including two mammals, one reptile, and one invertebrate. One CDFW Special Animal, monarch butterfly was observed on site and marginally suitable habitat for one special-status plant, Cambria morning-glory, is present in the perennial rye grass fields on site. In addition, two jurisdictional Drainages 1 and 2 are present adjacent to the proposed expansion areas. The project has been designed to avoid impacts to sensitive resources and habitats to the extent feasible. All proposed project activities are expected to maintain a minimum 50-foot setback from the drainages. Based on the current project designs, it is expected that implementation of the recommended mitigation measures will avoid and/or minimize impacts to potentially occurring sensitive resources to a less than significant level.



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APPENDIX A – PROJECT MAPS

Figure 1: Project Vicinity Map

Figure 2: Project Survey Area Map

Figure 3: 5-mile CNDDDB Map

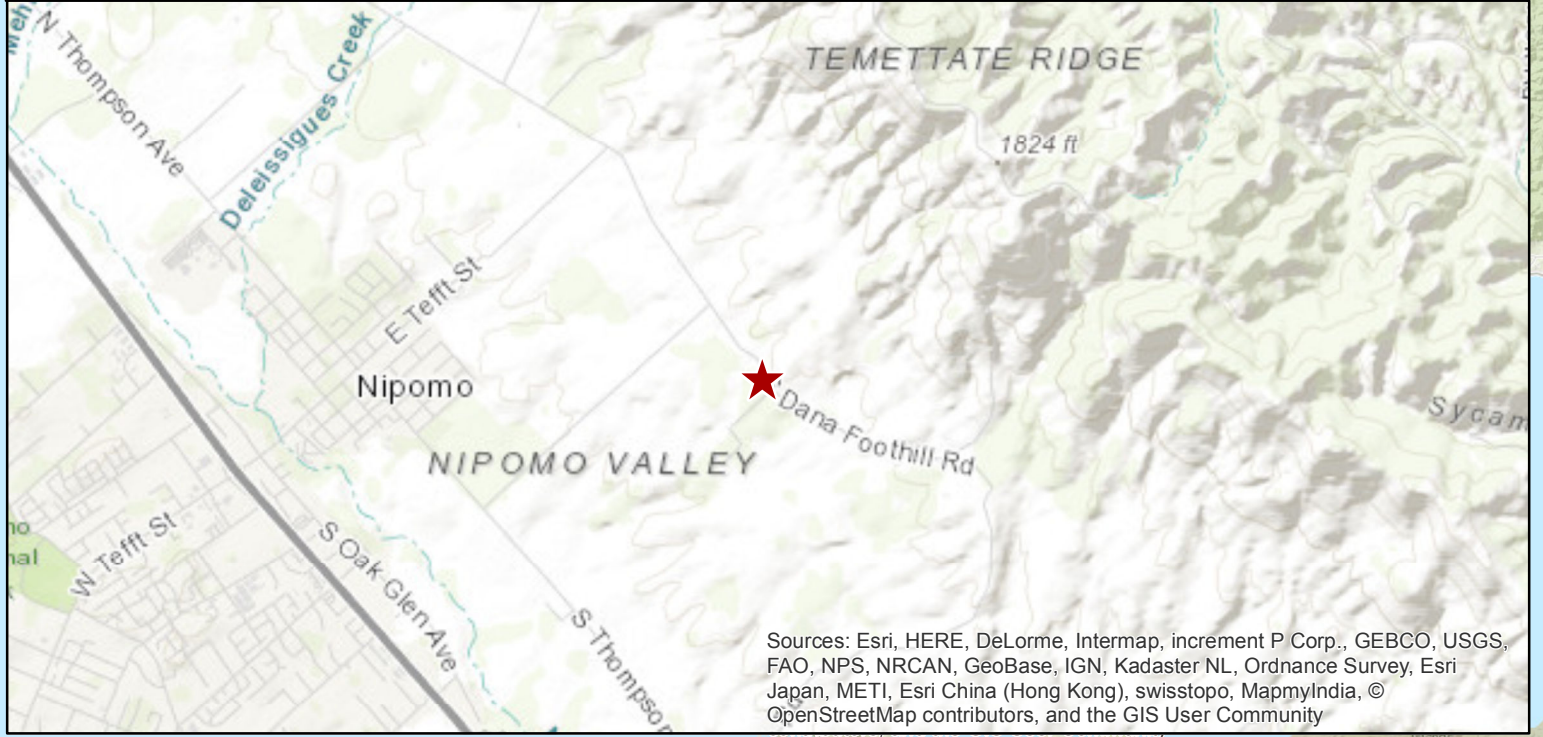
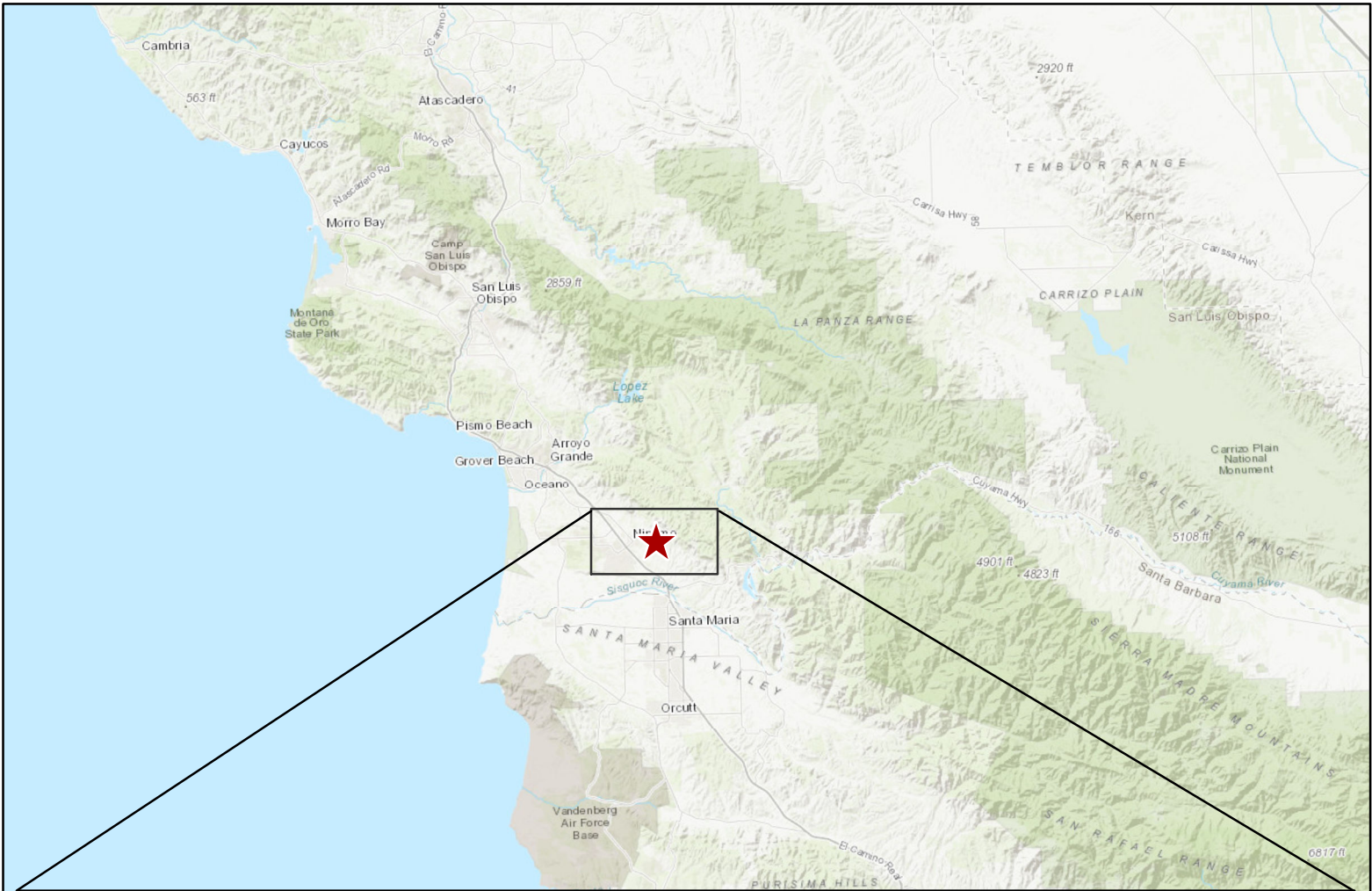
Figure 4: Soils Map

Figure 5: Hydrological Resources Map

Figure 6: Vegetation Communities Map



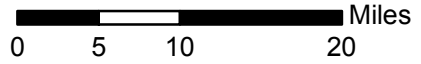
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Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

510 Rancho Road Cannabis Expansion Project
Figure 1: Project Vicinity Map

 Project Location





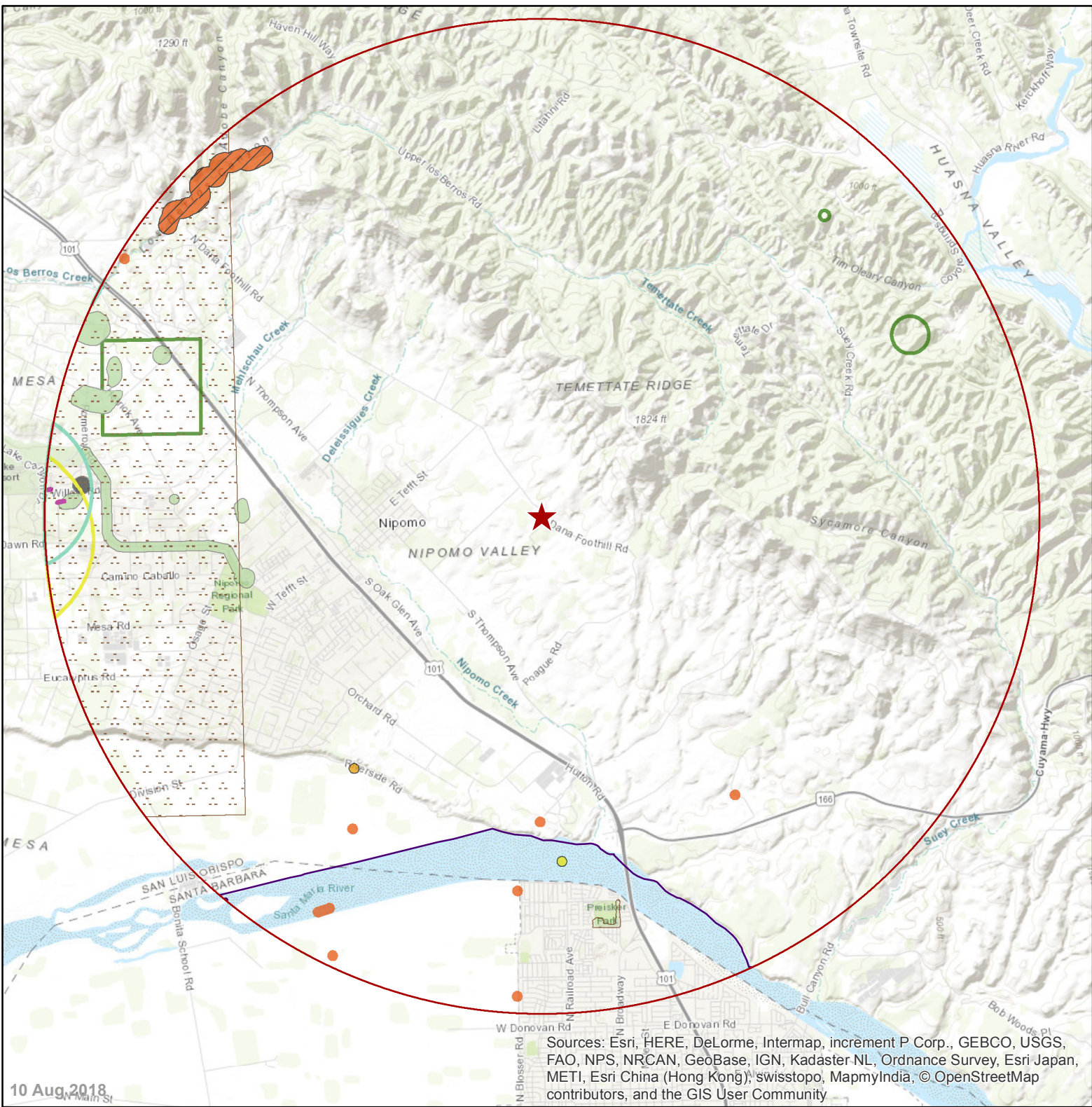
510 Rancho Road Cannabis Expansion Project
Figure 2: Survey Area Map

Survey Area
 - - - Swale*
— Drainage Feature

Feet
 0 250 500 1,000



*Limits approximated by Terra Verde.
 Stream data: County of San Luis Obispo, 2006; accessed August 2018.

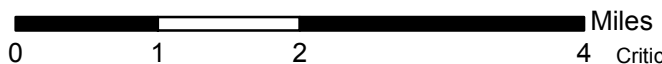


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10 Aug 2018

**510 Rancho Road Cannabis Expansion Project
Figure 3: 5-mile CNDDB and Critical Habitat Map**

- ★ Project Location
- 5-mile Buffer
- Steelhead Critical Habitat
- California Red-legged Frog
- Coast Horned Lizard
- Dune Larkspur
- Kellogg's Horkelia
- Sand Mesa Manzanita
- Santa Margarita Manzanita
- Monarch Butterfly
- Northern California Legless Lizard
- Steelhead - S/Cen CA
- Western Spadefoot Toad
- Pismo Clarkia



CNDDB data: California Department of Fish and Wildlife, 2013; accessed August 2018.
Critical habitat data: US Fish & Wildlife Service, Geospatial Services 2005; accessed August 2018.



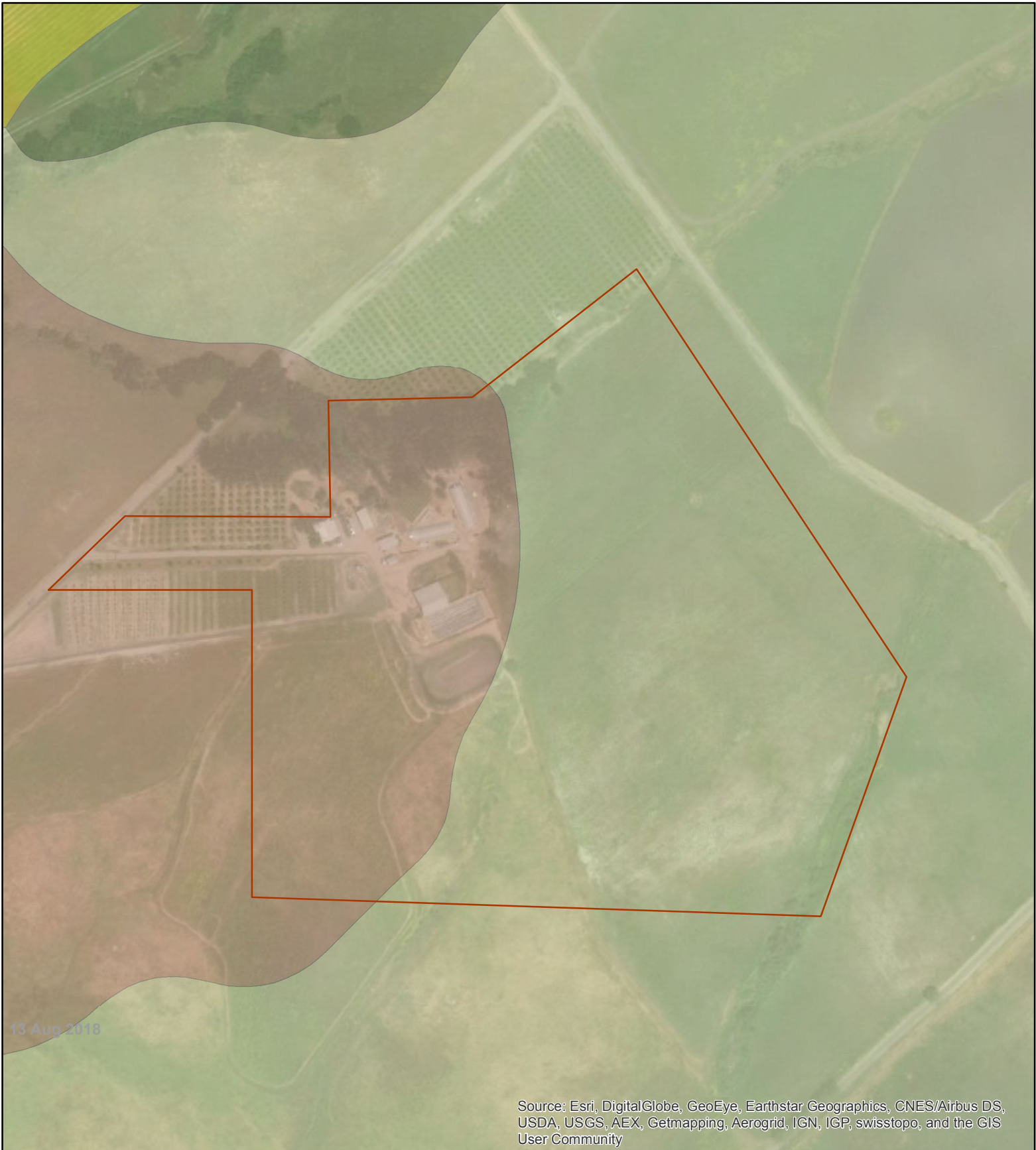
**510 Rancho Road Cannabis Expansion Project
Figure 4: Hydrologic Resources Map**

Survey Area
 ----- Swale*
 — Drainage
 Wetland

Feet
 0 250 500 1,000

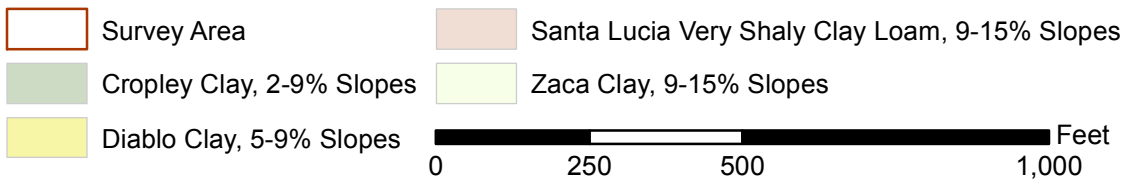


*Limits approximated by Terra Verde.
 Stream data: County of San Luis Obispo, 2006; accessed August 2018.
 Wetland data: U.S. Fish & Wildlife Service National Wetlands Inventory, 2017; accessed August 2018.



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community










**510 Rancho Road Cannabis Expansion Project
Figure 5: Soils Map**

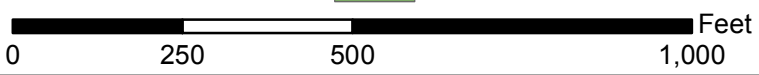


Soils data: U.S. Dept. of Agriculture, Natural Resources Conservation Service, updated 2010; accessed August 2018.



510 Rancho Road Cannabis Expansion Project
Figure 6: Vegetation Communities and Sensitive Resources Map

- | | | |
|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|  Survey Area |  Anthropogenic / Developed |  Perennial Rye Grass |
|  Swale* |  Active Agriculture |  Poison Hemlock Patch |
|  Drainage Feature |  Eucalyptus Grove |  Ruderal Herbaceous |



*Limits approximated by Terra Verde.
 Stream data: County of San Luis Obispo, 2006; accessed August 2018.

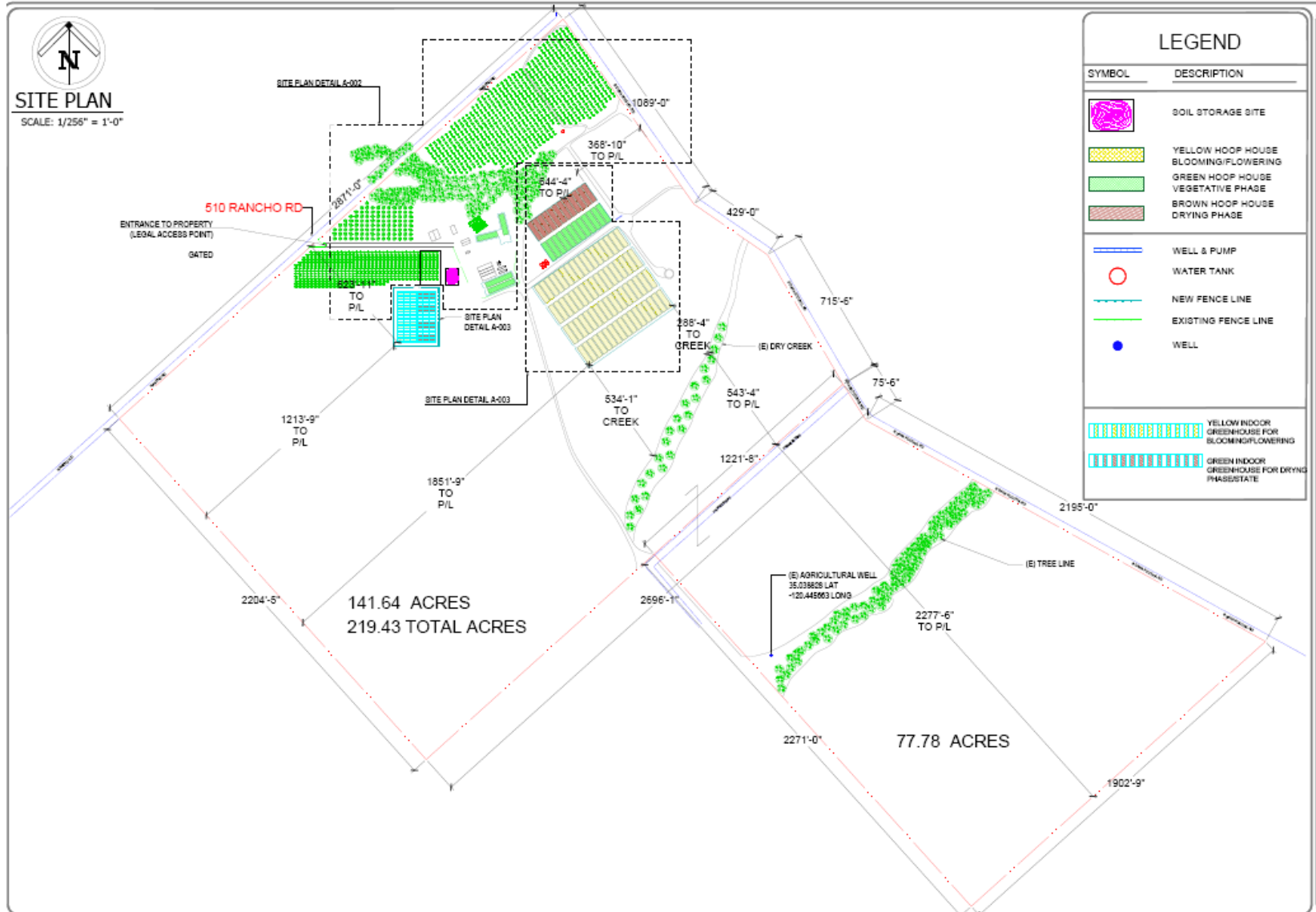


APPENDIX B – Preliminary Site Plans



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510 Rancho



NHD Streams





APPENDIX C – Regionally-occurring Special-status Species Table



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Regionally occurring special-status species list for the Nipomo and surrounding 7.5-minute quadrangles: Arroyo Grande NE, Caldwell Mesa, Guadalupe, Huasna Peak, Oceano, Santa Maria, Tar Spring Ridge, Twitchell Dam.

SENSITIVE VEGETATION COMMUNITIES AND HABITATS			
Community/ Habitat¹	Description²	Observed on Site?³	Comments / Potential for Occurrence
California Natural Diversity Database (CNDDDB)-designated Sensitive Natural Communities			
Central Dune Scrub	Restricted to coastal areas with stabilized back dunes, slopes, ridges, and flats. Vegetation consists of shrubs, subshrubs, and herbs less than a meter tall. Indicator species include <i>Ericameria ericoides</i> , <i>Lupinus chamissonis</i> , and <i>Artemisia</i> sp.	No	Diagnostic species and substrate are not present on site; this community is not present within the survey area.
Central Foredunes	Adjacent to shoreline with harsh environmental conditions such as strong, salt-laden breezes and salt water inundation. Characterized by plants that are prostrate; with deep taproots; fleshy roots, stems, and leaves, and leaves covered with thick mats of gray hairs. Often referred to as pioneer dune community or coastal strand.	No	Diagnostic species and substrate are not present on site; this community is not present within the survey area.
Coastal and Valley Freshwater Marsh	Dominated by perennial, emergent, and tall monocots that often form closed canopies. Tend to be <i>Typha</i> -dominated and permanently flooded with fresh water, which results in deep peaty soils.	No	Diagnostic species and substrate are not present on site; this community is not present within the survey area.
Southern Vernal Pool	Floristically transitional between northern and southern California pool. Includes habitats similar to seasonal wetlands such as seeps and vernal marshes to coastal marine terrace deposits. Comprised of sandy/permeable basins or relatively impervious clay-rich soils.	No	Diagnostic species and substrate are not present on site; this community is not present within the survey area.
USFWS-designated Critical Habitat for Special-status Species			
<i>Oncorhynchus mykiss irideus</i> Steelhead – South-central California Coast DPS	These fish live in the ocean as adults but migrate to freshwater streams or creeks that have cool, flowing water, access to the ocean, and available food sources, in order to spawn. Critical habitat has been designated within San Luis Obispo Creek.	No	Designated critical habitat within Santa Maria River located south of the project site, not within overall survey and project area.

¹List of sensitive vegetation communities and habitats obtained from CNDDDB and USFWS Critical Habitat Portal (CDFW, 2018; USFWS, 2018a).

²Community and habitat descriptions acquired from CNDDDB (CDFW, 2018).

³Communities/habitats observed during field survey indicated with **bold** font and gray highlight and are discussed further in the report.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name¹	Listing Status²	Blooming Period³	Habitat Type³	Observed/Habitat Present?⁴	Comments / Potential for Occurrence
<i>Abronia maritima</i> Red sand-verbena	CRPR 4.2	February – October	Coastal dunes. Elevation: < 100 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Agrostis hooveri</i> Hoover's bent grass	CRPR 1B.2	April – August	Dry, sandy soils, open chaparral, oak woodland. Elevation: < 600 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Amsinckia douglasiana</i> Douglas' fiddleneck	CRPR 4.2	March – June	Unstable, shaly, sedimentary slopes. Elevation: 150 – 1,600 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Aphyllon parishii</i> subsp. <i>brachylobum</i> Short-lobed broomrape	CRPR 4.2	May – August	Sandy soil near ocean, generally on <i>Isocoma menziesii</i> . Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Arctostaphylos luciana</i> Santa Lucia manzanita	CRPR 1B.2	January – March	Shale outcrops, slopes, and upland chaparral near the coast. Elevation: 100 – 800 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Arctostaphylos obispoensis</i> Bishop manzanita	CRPR 4.3	February – March	Rocky, generally serpentine soils, chaparral, open closed-cone forest near coast. Elevation: 60 – 950 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Arctostaphylos pilosula</i> Santa Margarita manzanita	CRPR 1B.2	December – March	Shale outcrops, slopes, chaparral. Elevation: 30 – 1,250 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Arctostaphylos purissima</i> La Purisima manzanita	CRPR 1B.1	January – March	Sandstone outcrops, sandy soils, chaparral. Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name ¹	Listing Status ²	Blooming Period ³	Habitat Type ³	Observed/Habitat Present? ⁴	Comments / Potential for Occurrence
<i>Arctostaphylos rudis</i> Sand mesa manzanita	CRPR 1B.2	November – February	Sandy soils, chaparral. Elevation: < 380 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Arenaria paludicola</i> Marsh sandwort	Fed: Endangered State: Endangered CRPR: 1B.1	May – August	Wet meadows, marshes. Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Astragalus didymocarpus</i> var. <i>milesianus</i> Miles' milk-vetch	CRPR 1B.2	March – May	Grassy areas near the coast, clay soils in coastal scrub. Elevation: < 400 meters.	No / Yes	Suitable habitat on site; not detected during survey.
<i>Astragalus nuttallii</i> var. <i>nuttallii</i> Ocean bluff milk-vetch	CRPR 4.2	All year	Rock, sandy areas, bluffs, coastal scrub. Elevation: < 250 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Atriplex serenana</i> var. <i> davidsonii</i> Davidson's saltscale	CRPR 1B.2	April – October	Coastal bluff scrub and coastal scrub, alkaline soils. Elevation: < 200 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Calochortus obispoensis</i> San Luis mariposa lily	CRPR 1B.2	May – June	Dry serpentine, generally open chaparral. Elevation: 100 – 500 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Calochortus palmeri</i> var. <i>palmeri</i> Palmer's mariposa lily	CRPR 1B.2	May – July	Meadows, vernal moist places in yellow-pine forest, chaparral. Elevation: 1,200 – 2,200 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Calochortus simulans</i> La Panza mariposa lily	CRPR 1B.3	May – July	Sand (often granitic), grassland, and yellow pine forest. Elevation: < 1,100 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name ¹	Listing Status ²	Blooming Period ³	Habitat Type ³	Observed/Habitat Present? ⁴	Comments / Potential for Occurrence
<i>Calystegia subacaulis</i> subsp. <i>episcopalis</i> Cambria morning-glory	CRPR 4.2	April – June	Dry, open scrub and woodland, chaparral, coastal prairie, grassland; usually in clay soil. Elevation: < 500 meters.	No / Yes	Suitable habitat on site; not detected during survey.
<i>Castilleja densiflora</i> subsp. <i>obispoensis</i> San Luis Obispo owl's-clover	CRPR 1B.2	March – June	Coastal grassland. Elevation: < 400 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Ceanothus cuneatus</i> var. <i>fascicularis</i> Lompoc ceanothus	CRPR 4.2	February – May	Sandy substrates in coastal chaparral. Elevation: < 275 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Ceanothus gloriosus</i> var. <i>gloriosus</i> Point Reyes ceanothus	CRPR 4.3	March – May	Sandy places, coastal bluffs, closed-cone-pine forest. Elevation: < 500 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Centromadia parryi</i> subsp. <i>congdonii</i> Congdon's tarplant	CRPR 1B.1	June – October	Terraces, swales, floodplains, grassland, and disturbed sites. Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Chenopodium littoreum</i> Coastal goosefoot	CRPR 1B.2	June – October	Generally sandy soils and dunes. Elevation: < 40 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Chorizanthe breweri</i> Brewer's spineflower	CRPR 1B.3	March – July	Gravel or rocks, typically on serpentine soil. Elevation: 60 – 800 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Chorizanthe palmeri</i> Palmer's spineflower	CRPR 4.2	May – August	Serpentine. Elevation: 60 – 700 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name ¹	Listing Status ²	Blooming Period ³	Habitat Type ³	Observed/Habitat Present? ⁴	Comments / Potential for Occurrence
<i>Chorizanthe rectispina</i> Straight-awned spineflower	CRPR 1B.3	May – July	Sand or gravel. Elevation: 200 – 600 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Cirsium rhotophilum</i> Surf thistle	State: Threatened CRPR 1B.2	April – August	Dunes and bluffs. Elevation: < 60 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Cirsium scariosum</i> var. <i>loncholepis</i> La Graciosa thistle	Fed: Endangered State: Threatened CRPR 1B.1	April – September	Marshes, dune wetlands. Elevation: < 50 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Cladium californicum</i> California sawgrass	CRPR 2B.2	June – September	Alkaline marshes and swamps. Elevation: < 2,150 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Clarkia speciosa</i> subsp. <i>immaculata</i> Pismo clarkia	Fed: Endangered State: Rare CRPR 1B.1	May – July	Sandy coastal hills. Elevation: < 100 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Convolvulus simulans</i> Small-flowered morning-glory	CRPR 4.2	April – June	Clay substrates, occasionally serpentine, annual grassland, coastal-sage scrub, chaparral. Elevation: 30 – 875 meters.	No/ Yes	Suitable habitat present on site; not detected during survey.
<i>Deinandra increscens</i> subsp. <i>villosa</i> Gaviota tarplant	Fed: Endangered State: Endangered CRPR 1B.1	June – September	Coastal bluffs, fields. Elevation: 30 – 50 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Deinandra paniculata</i> Paniculate tarplant	CRPR 4.2	May – November	Grassland, open chaparral and woodland, disturbed areas, often in sandy soils. Elevation: < 1,320 meters.	No / No	No suitable habitat on site; lacks suitable soils. Not detected during survey.
<i>Delphinium parryi</i> subsp. <i>blochmaniae</i> Dune larkspur	CRPR 1B.2	April – May	Coastal chaparral, coastal dunes, sand. Elevation: < 200 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES

Scientific/Common Name¹	Listing Status²	Blooming Period³	Habitat Type³	Observed/ Habitat Present?⁴	Comments / Potential for Occurrence
<i>Delphinium parryi</i> subsp. <i>eastwoodiae</i> Eastwood's larkspur	CRPR 1B.2	March – May	Coastal chaparral and grassland on serpentine. Elevation: 100 – 500 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Delphinium umbracolorum</i> Umbrella larkspur	CRPR 1B.3	April – June	Moist oak forest. Elevation: 400 – 1,600 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Dithyrea maritima</i> Beach spectaclepod	State: Threatened CRPR 1B.1	March – August	Seashores and coastal sand dunes. Elevation: < 50 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Dudleya abramsii</i> subsp. <i>murina</i> Mouse-gray dudleya	CRPR 1B.3	May – June	Serpentine outcrops. Elevation: 120 – 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Dudleya blochmaniae</i> subsp. <i>blochmaniae</i> Blochman's dudleya	CRPR 1B.1	April – June	Open, rocky slopes, often serpentine or clay-dominated. Elevation: < 450 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Erigeron blochmaniae</i> Blochman's leafy daisy	CRPR 1B.2	July – October	Sand dunes and hills, coastal dunes, and coastal scrub. Elevation: < 70 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Erysimum suffrutescens</i> Suffrutescent wallflower	CRPR 4.2	December – August	Stabilized coastal sand dunes, coastal scrub. Elevation: < 150 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Horkelia cuneata</i> var. <i>puberula</i> Mesa horkelia	CRPR 1B.1	March – July	Dry, sandy, coastal chaparral. Elevation: 70 – 870 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Horkelia cuneata</i> var. <i>sericea</i> Kellogg's horkelia	CRPR 1B.1	April – August	Old dunes, coastal sand hills. Elevation: < 200 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Lupinus ludovicianus</i> San Luis Obispo County lupine	CRPR 1B.2	April – July	Open, grassy areas, on limestone, in oak woodland. Elevation: 50 – 500 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name ¹	Listing Status ²	Blooming Period ³	Habitat Type ³	Observed/Habitat Present? ⁴	Comments / Potential for Occurrence
<i>Lupinus nipomensis</i> Nipomo Mesa lupine	Fed: Endangered State: Endangered CRPR 1B.1	March – May	Stable dunes. Elevation: < 25 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Malacothamnus jonesii</i> Jones' bush-mallow	CRPR 4.3	May – July	Open chaparral in foothill woodland. Elevation: 250 – 830 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Malacothrix incana</i> Dunedelion	CRPR 4.3	All year	Dunes. Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Monardella sinuata</i> subsp. <i>sinuata</i> Southern curly-leaved monardella	CRPR 1B.2	April – September	Sandy soils, coastal strand, dune and sagebrush scrub, coastal chaparral and oak woodland. Elevation: < 300 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Monardella undulata</i> subsp. <i>crispa</i> Crisp monardella	CRPR 1B.2	April – November	Active dunes. Elevation: < 100 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Monardella undulata</i> subsp. <i>undulata</i> San Luis Obispo monardella	CRPR 1B.2	April – September	Stabilized dunes, coastal scrub, stabilized sandy soils. Elevation: < 200 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Mucronea californica</i> California spineflower	CRPR 4.2	March – August	Sand. Elevation: < 1,000 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Nasturtium gambelii</i> Gambel's water cress	Fed: Endangered State: Threatened CRPR 1B.1	May – August	Marshes, streambanks, lake margins. Elevation: < 350 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Nemacaulis denudata</i> var. <i>denudata</i> Coast woolly-heads	CRPR 1B.2	March – August	Beaches. Elevation: < 100 meters.	No / No	No suitable habitat on site; not detected during survey.

SPECIAL-STATUS BOTANICAL SPECIES					
Scientific/Common Name ¹	Listing Status ²	Blooming Period ³	Habitat Type ³	Observed/Habitat Present? ⁴	Comments / Potential for Occurrence
<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i> Robbins' nemacladus	CRPR 1B.2	April – May	Dry, gravelly slopes. Elevation: 350 – 1,700 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Phacelia hubbyi</i> Hubby's phacelia	CRPR 4.2	April – July	Generally open gravelly or rocky slopes, chaparral, grassland. Elevation: < 1,000 meters.	No / No	Suitable habitat on site; not detected during appropriately timed survey.
<i>Prunus fasciculata</i> var. <i>punctata</i> Sand almond	CRPR 4.3	March – April	Sandy soils, scrubland, oak woodland. Elevation: < 200 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Scrophularia atrata</i> Black-flowered figwort	CRPR 1B.2	April – July	Calcium, diatom-rich soils in forest, scrub, chaparral, riparian, and dune habitats. Elevation < 400 meters.	No / Yes	Suitable habitat on site; not detected during survey.
<i>Senecio aphanactis</i> Chaparral ragwort	CRPR 2B.2	February – May	Alkaline flats, dry open rocky areas. Elevation: 10 – 800 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Senecio astephanus</i> San Gabriel ragwort	CRPR 4.3	April – June	Steep rocky slopes in chaparral/coastal-sage scrub and oak woodland. Elevation: 400 – 1,500 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Senecio blochmaniae</i> Blochman's ragwort	CRPR 4.2	May – November	Coastal sand dunes, sandy floodplains. Elevation: < 150 meters.	No / No	No suitable habitat on site; not detected during survey.
<i>Symphotrichum defoliatum</i> San Bernardino aster	CRPR 1B.2	July – November	Grassland, disturbed places. Elevation: < 2,050 meters.	No / No	Not within known species range; nearest occurrence > 18 miles away. Not detected during survey.

¹List of regionally-occurring special-status species acquired from CNDD (CDFW, 2018), CCH (2018), and CNPS Rare and Endangered Plant Inventory (CNPS, 2018), and local expert knowledge.

²Listing status obtained from CNPS Rare and Endangered Plant Inventory (CNPS, 2018).

³Blooming period and habitat type obtained from Jepson eFlora (2018) and occasionally supplemented with information provided by CNPS (Jepson eFlora, 2018; CNPS, 2018).

⁴Species observed during field survey indicated with **bold** font; species determined to have suitable habitat present on the site, even marginally suitable habitat, indicated with gray highlight. Species highlighted gray are discussed further in the report.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name ¹	Listing Status ¹	Nesting/ Breeding Period ²	Habitat Type ²	Observed/ Habitat Present? ³	Comments / Potential for Occurrence
<i>Ablautus schlingeri</i> Oso Flaco robber fly	State: Special Animal	Unknown	Occurs on sand dunes in the vicinity of Oso Flaco Lake.	No / No	No suitable habitat on site; not expected to occur.
<i>Accipiter striatus</i> Sharp-shinned hawk	State: Watch List	March – June	Native to aspen, pine, and fir forests. Attracted to urban, rural and agricultural areas for food. Elevation from sea level to mountains.	No / No	Suitable foraging habitat present within agricultural and riparian areas. Outside of known nesting range.
<i>Actinemys marmorata</i> Western pond turtle	Federal: Candidate for Listing State: CSC	April – August	Riparian areas such as ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches with either a rocky or muddy bottom. Prefers shallow pools with logs or rocks for basking. Can enter brackish or even seawater.	No / No	No suitable habitat on site; not expected to occur.
<i>Agelaius tricolor</i> Tricolored blackbird	State: CSC	Spring – Fall	Nests near water sources such as marshes, grassland, and wetlands. Requires access to substrates, usually aquatic, to build nests. Forages for insects and plant matter on agricultural sites and grasslands. Very colonial.	No / No	No suitable habitat on site; not expected to occur.
<i>Ambystoma californiense</i> California tiger salamander	Federal: Threatened State: Threatened	December – February	Grassland, oak savannah, edges of mixed woodland and lower elevation coniferous forest.	No / No	No suitable habitat on site; not expected to occur.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name¹	Listing Status¹	Nesting/ Breeding Period²	Habitat Type²	Observed/ Habitat Present?³	Comments / Potential for Occurrence
<i>Anaxyrus californicus</i> Arroyo toad	Federal: Endangered State: CSC	March – July	Washes, arroyos, sandy streamsid es, and riparian areas with willows, sycamores, oaks, and cottonwoods. Also require exposed sandy streamsid es with stable terraces for burrowing and scattered vegetation for shelter.	No / No	No suitable habitat on site; not expected to occur.
<i>Anniella pulchra</i> Northern California legless lizard	State: CSC	March – July; live birth September – November	Moist warm loose soil with plant cover and under leaf litter. Found in beach dunes, chaparral, foothill woodlands, desert scrub, sandy washes, and stream terraces.	No / Yes	Suitable habitat present within eucalyptus leaf litter on site; not observed during survey
<i>Antrozous pallidus</i> Pallid bat	State: CSC	Spring/Winter	Low elevations of California within grasslands, shrublands, woodlands, and forests. Most common in dry habitats with rocky areas for roosting.	No / Yes	Marginally suitable roosting habitat present within eucalyptus stands on site; not observed during survey
<i>Areniscythis brachypteris</i> Oso Flaco flightless moth	State: Special Animal	Unknown	Dunes along the Central Coast of San Luis Obispo. Larvae eat and are reared on a variety of dune vegetation.	No / No	No suitable habitat on site; not expected to occur.
<i>Athene cunicularia</i> Burrowing owl	State: CSC	March – July	Open, dry grasslands and deserts. Will use the burrows of other terrestrial animals. Also found in cleared residential areas such as vacant lots and golf courses.	No / No	May be observed foraging in winter, outside of known nesting range; not expected to occur.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name¹	Listing Status¹	Nesting/ Breeding Period²	Habitat Type²	Observed/ Habitat Present?³	Comments / Potential for Occurrence
<i>Baeolophus inornatus</i> Oak titmouse	State: Special Animal	February – September	Mixed oak woodland, oak woodland, coniferous forests, or shrub habitat immediately adjacent to woodland habitats. Typically nests in natural cavities of trees and less frequently, artificial structure.	No / No	No suitable habitat on site; not expected to occur.
<i>Branchinecta lynchi</i> Vernal pool fairy shrimp	Fed: Threatened	Rainy season	Vernal pools and depressions in grasslands.	No / No	No suitable habitat on site; not expected to occur.
<i>Buteo swainsoni</i> Swainson's hawk	State: Threatened	March – September	Prairie and grassland habitat for foraging. Also utilize converted agricultural land. Require scattered stands of trees near grassland or agricultural fields for nesting.	No / No	No suitable habitat on site and not known to occur in this area in recent past; not observed during survey.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	Federal: Threatened State: CSC	March – September	Coastal beaches, sand spits, dunebacked beaches, sparsely vegetated dunes, beaches at creek mouths, and estuaries.	No / No	No suitable habitat on site; not expected to occur.
<i>Cicindela hirticollis gravida</i> Sandy beach tiger beetle	State: Special Animal	Unknown	Found in moist sand near the ocean, for example in swales behind dunes or upper beaches beyond normal high tides. Adjacent to non-brackish water near the coast from San Francisco to northern Mexico.	No / No	No suitable habitat on site; not expected to occur.
<i>Chlosyne leanira elegans</i> Oso Flaco patch butterfly	State: Special Animal	Unknown	Dunes within Oso Flaco lake system.	No / No	No suitable habitat on site; not expected to occur.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name¹	Listing Status¹	Nesting/ Breeding Period²	Habitat Type²	Observed/ Habitat Present?³	Comments / Potential for Occurrence
<i>Coelus globosus</i> Globose dune beetle	State: Special Animal	Unknown	Occupies coastal dunes. Lives in tunnels beneath and sand and relies on native vegetation for food.	No / No	No suitable habitat on site; not expected to occur.
<i>Danaus plexippus</i> Monarch butterfly	Federal: Candidate for Listing State: Special Animal	Spring	Relies on milkweed for larval development and protected stands of trees for roosting, often blue gum eucalyptus. Found in fields, meadows, weedy areas, marshes, and along roadsides.	Yes / Yes	Suitable habitat within eucalyptus trees on site; observed during survey. Unknown if species overwinters on site.
<i>Eucyclogobius newberryi</i> Tidewater goby	Federal: Endangered State: CSC	Year-round (April – May)	Found in shallow water lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels. Can tolerate an array of different conditions depending on seasonal changes.	No / No	No suitable habitat on site; not expected to occur.
<i>Falco mexicanus</i> Prairie falcon	State: Watch List	February – July	Primarily inhabits dry grasslands, woodlands, savannahs, cultivated fields, lake shores, and rangelands. Primarily nests on cliffs, canyons, and rock outcrops.	No / No	No suitable nesting habitat on site; not expected to occur.
<i>Gila orcuttii</i> Arroyo chub	State: CSC	February – August	Slow flowing or backwater areas with sand or mud substrate.	No / No	No suitable habitat on site; not expected to occur.
<i>Gymnogyps californianus</i> California condor	Federal: Endangered State: Endangered Fully Protected	February – September	Rocky, open-country scrubland, coniferous forest and oak savannah.	No / No	No suitable nesting habitat on site; not expected to occur.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name ¹	Listing Status ¹	Nesting/ Breeding Period ²	Habitat Type ²	Observed/ Habitat Present? ³	Comments / Potential for Occurrence
<i>Laterallus jamaicensis coturniculus</i> California black rail	State: Threatened Fully Protected	February – June	Nests in high portions of salt marshes, shallow freshwater marshes, wet meadows, flooded grassy vegetation. Requires dense cover for predator protection.	No / No	No suitable habitat on site; not expected to occur.
<i>Lichnanthe albipilosa</i> White sand bear scarab beetle	State: Special Animal	Unknown	Inhabits coastal dunes of San Luis Obispo County, in the vicinity of dune lakes.	No / No	No suitable habitat on site; not expected to occur.
<i>Oncorhynchus mykiss irideus</i> Steelhead south/central California coast DPS	Federal: Threatened State: CSC	February – April	Federal listing refers to runs in coastal basins from Pajaro River south to, but not including, the Santa Maria River.	No / No	No suitable habitat on site; not expected to occur.
<i>Phrynosoma blainvillii</i> Coast horned lizard	State: CSC	May – September	Inhabits open, loose, sandy soil and low vegetation in valleys, foothills, and semiarid mountains below 2,438 meters. Found in grasslands, coniferous forests, woodlands, and chaparral, and frequently found near ant hills.	No / No	No suitable habitat on site; not expected to occur.
<i>Plebejus icarioides moroensis</i> Morro Bay blue butterfly	State: CSC	March – July	Found on the immediate coast of San Luis Obispo and Santa Barbara Counties. Silver dune lupine (host plant).	No / No	No suitable habitat present; not expected to occur.
<i>Rana draytonii</i> California red-legged frog	Fed: Threatened State: CSC	January – July	Most common in ponds of woodlands and grasslands. Found in habitats adjacent to streams or water access.	No / No	No suitable breeding habitat on site or within surrounding area; not expected to occur.

SPECIAL-STATUS WILDLIFE SPECIES

Scientific/Common Name¹	Listing Status¹	Nesting/ Breeding Period²	Habitat Type²	Observed/ Habitat Present?³	Comments / Potential for Occurrence
<i>Spea hammondi</i> Western spadefoot	State: CSC	Rainy Season	Persist in upland refugium (i.e., underground burrows with sandy or gravelly soils) for the majority of the year and emerge during periods of rainfall to breed in temporary pools or pools in intermittent streams.	No / No	No suitable habitat on site; not expected to occur.
<i>Sternula antillarum browni</i> California least tern	Federal: Endangered State: Endangered Fully Protected	April – June	Seacoasts, beaches, bays, estuaries, lagoons, and lakes. Needs sandy or gravelly areas to construct nests.	No / No	No suitable habitat on site; not expected to occur.
<i>Taricha torosa</i> California newt	State: CSC	December – April	Slow moving streams, ponds, and lakes with surrounding evergreen/oak forests along coast. Aquatic when breeding.	No / No	No suitable habitat on site; not expected to occur.
<i>Taxidea taxus</i> American badger	State: CSC	Late Summer – Early Fall	Dry, open fields with friable soil for tunneling and foraging.	No / Yes	Suitable habitat present within grassland on site; not observed during survey.
<i>Thamnophis hammondi</i> Two-striped gartersnake	State: CSC	Spring	Primarily inhabits aquatic habitats and forages under water. May occur around pools, creeks, cattle tanks, and other water sources, often in rocky areas.	No / No	No suitable habitat on site; not expected to occur.
<i>Tryonia imitator</i> Mimic tryonia	State: Special Animal	Unknown	Found in brackish salt marshes, coastal lagoons and estuaries; able to withstand a wide range of salinities.	No / No	No suitable habitat on site; not expected to occur.

¹List of regionally-occurring special-status species and listing status acquired from CNDDDB (2018) and local expert knowledge. Obscure bumblebee (*Bombus caliginosus*) was omitted from this list due to scarcity of available biological information. Further research is necessary within the home ranges of these species to identify specific conservation needs and appropriate protection measures.

²Life history information obtained from multiple sources, including Cornell Lab of Ornithology Online (Cornell, 2018) and California Herps- A Guide to Amphibians and Reptiles of California (Nafis, 2018).

³Species observed during field survey indicated with **bold** font; species determined to have suitable habitat present on the site, even marginally suitable habitat, indicated with gray highlight. Species highlighted gray are discussed further in the report.



APPENDIX D – Botanical and Wildlife Species Observed



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List of Botanical Species Observed at the 510 Rancho Road Improvement and Expansion Project Site
August 6, 2018

Family	Scientific Name	Common Name	Cal-IPC Status ¹	Origin
Adoxaceae, Muskroot Family	<i>Sambucus nigra</i> subsp. <i>caerulea</i>	Blue elderberry	--	Native
Amaranthaceae Amaranth Family	<i>Amaranthus albus</i>	Tumbleweed	--	Naturalized
Anacardiaceae, Sumac Family	<i>Schinus molle</i>	Pepper tree	Lim	Naturalized
	<i>Toxicodendron diversilobum</i>	Western poison oak	--	Native
Apiaceae Carrot Family	<i>Conium maculatum</i>	Poison hemlock	Mod	Naturalized
	<i>Foeniculum vulgare</i>	Fennel	Mod	Naturalized
Apocynaceae Dogbane Family	<i>Asclepias fascicularis</i>	Narrow-leaf milkweed	--	Native
Asteraceae Sunflower Family	<i>Baccharis pilularis</i>	Coyote brush	--	Native
	<i>Erigeron bonariensis</i>	Flax-leaved horseweed	--	Naturalized
	<i>Helminthotheca echioides</i>	Bristly ox-tongue	Lim	Naturalized
	<i>Heterotheca grandiflora</i>	Telegraph weed	--	Native
	<i>Lactuca serriola</i>	Prickly lettuce	--	Naturalized
	<i>Pseudognaphalium luteoalbum</i>	Jersey cudweed	--	Naturalized
	<i>Sonchus asper</i> subsp. <i>asper</i>	Prickly sow thistle	--	Naturalized
Brassicaceae, Mustard Family	<i>Hirschfeldia incana</i>	Mediterranean hoary mustard	Mod	Naturalized
Cactaceae Cactus Family	<i>Opuntia ficus-indica</i>	Mission prickly-pear	--	Naturalized / Ornamental
Chenopodiaceae, Goosefoot Family	<i>Chenopodium album</i>	Lamb's quarters	--	Naturalized
Convolvulaceae, Morning-glory Family	<i>Convolvulus arvensis</i>	Bindweed	--	Naturalized
Cupressaceae Cypress Family	<i>Sequoia sempervirens</i>	Coast redwood	--	Native / Ornamental
Euphorbiaceae, Spurge Family	<i>Euphorbia lathyris</i>	Caper spurge	Watch	Naturalized
Fagaceae, Oak Family	<i>Quercus agrifolia</i> var. <i>agrifolia</i>	Coast live oak	--	Native
Lamiaceae, Mint Family	<i>Marrubium vulgare</i>	White horehound	Lim	Naturalized



Family	Scientific Name	Common Name	Cal-IPC Status ¹	Origin
Malvaceae, Mallow Family	<i>Malva parviflora</i>	Cheeseweed	--	Naturalized
Myrsinaceae Myrsine Family	<i>Lysimachia arvensis</i>	Scarlet pimpernel	--	Naturalized
Myrtaceae Myrtle Family	<i>Eucalyptus globulus</i>	Blue gum	--	Naturalized / Ornamental
Plantaginaceae, Plantain Family	<i>Plantago lanceolata</i>	English plantain	Lim	Naturalized
Poaceae, Grass Family	<i>Avena</i> sp.	Oat	Mod	Naturalized
	<i>Cynodon dactylon</i>	Bermuda grass	Mod	Naturalized
	<i>Bromus diandrus</i>	Ripgut brome	Mod	Naturalized
	<i>Bromus madritensis</i> subsp. <i>rubens</i>	Red brome	High	Naturalized
	<i>Festuca perennis</i>	Rye grass	Mod	Naturalized
	<i>Hordeum murinum</i>	Wall barley	Mod	Naturalized
	<i>Stipa miliacea</i> var. <i>miliacea</i>	Smilo grass	--	Naturalized
Polygonaceae Buckwheat Family	<i>Rumex crispus</i>	Curly dock	Lim	Naturalized
	<i>Polygonum aviculare</i>	Knotweed	--	Naturalized
Rutaceae Rue Family	<i>Citrus</i> sp.	Lemon tree	--	Orchard
Salicaceae, Willow Family	<i>Salix lasiolepis</i>	Arroyo willow	--	Native
Solanaceae Nightshade Family	<i>Solanum douglasii</i>	Douglas' nightshade	--	Native

¹Taxa included on the California Invasive Plant Council (Cal-IPC invasive Plant Inventory (Cal-IPC, 2018) are indicated above with a listing rank. Cal-IPC rankings included on this list are defined as:

- **Limited (Lim):** invasive but minor statewide ecological impacts, or insufficient information to justify a higher score.
- **Moderate (Mod):** substantial and apparent, but generally not severe ecological impacts on physical processes, plant and animal communities, and vegetation structure.
- **High:** severe ecological impacts on physical processes, plant and animal communities, and vegetation structure.
- **Watch:** species that pose a high risk of becoming invasive in the future in California.



List of Wildlife Species Observed at the 510 Rancho Road Expansion Project Site
August 6, 2018

Family	Scientific Name	Common Name	*Listing Status Federal/State
Birds	<i>Aphelocoma californica</i>	California scrub jay	--
	<i>Buteo jamaicensis</i>	Red-tailed hawk	--
	<i>Calypte anna</i>	Anna's hummingbird	--
	<i>Cathartes aura</i>	Turkey vulture	--
	<i>Corvus brachyrhynchos</i>	American crow	--
	<i>Falco sparverius</i>	American kestrel	--
	<i>Melanerpes formicivorus</i>	Acorn woodpecker	--
	<i>Sayornis nigricans</i>	Black phoebe	--
	<i>Spinus psaltria</i>	Lesser goldfinch	--
	<i>Zenaida macroura</i>	Mourning dove	--
Mammals	<i>Lepus californicus</i>	Black-tailed jackrabbit	--
	<i>Spermophilus beecheyi</i>	California ground squirrel	
	<i>Thomomys bottae</i>	Botta's pocket gopher	
Reptiles	<i>Sceloporus occidentalis</i>	Coast range fence lizard	--
Invertebrates	<i>Apis</i> sp.	Honey bee	--
	<i>Danaus plexippus</i>	Monarch butterfly	Candidate



APPENDIX E – Representative Site Photographs



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Photo 1. Existing hoop house structure adjacent to Drainage 1, view north (August 6, 2018).



Photo 2. Drainage 1 along the northern boundary of the project site, view east (August 6, 2018).



Photo 3. Hoop houses constructed on the eastern end of the project site (Site 1), view south (August 6, 2018).



Photo 4. Disturbed/tilled area surrounding Site 1, view east (August 6, 2018).



Photo 5. Ruderal herbaceous habitat bordering the eastern portion of Site 1, view south (August 6, 2018).



Photo 6. View of Drainage 2 bordering the southern boundary of Site 1 (August 6, 2018).



Photo 7. Highly disturbed/tilled area immediately west of Site 1, view north (August 6, 2018).



Photo 8. View of Swale 1 and perennial rye grassland within proposed expansion area at Site 2, view west (August 6, 2018).



Photo 9. View of Swale 2, note this feature has been recently tilled and is very faint in the landscape (August 6, 2018)



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